

Cox and Wyman, Cardiff Road,
Reading

Ecological Appraisal

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Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Thames Properties Ltd. in March 2016 to undertake an ecological appraisal in respect of proposed redevelopment of land at Cardiff Road, Reading.
- ii) **Proposals.** The proposals are for residential redevelopment of the site for residential use, along with associated landscaping and ancillary facilities.
- iii) **Survey.** The site was surveyed in April 2016 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys undertaken in respect of roosting bats and Badger.
- iv) **Ecological Designations.** The site itself is not subject to any statutory or non-statutory ecological designations. The nearest statutory designation is Lousehill Copse LNR, located approximately 2.5km south west of the site, whilst the nearest non-statutory designation is Cow Lane Depot Local Wildlife Site (LWS), located approximately 0.25km south west of the site. These, and any other such designations, are well separated from the site and are therefore considered highly unlikely to be subject to effects as a result of construction. In terms of the completed development, given the nature and scale of the proposals for redevelopment, significant effects as a result of increased recreational pressure are considered highly unlikely.
- v) **Habitats.** The site is dominated by buildings and hardstanding, along with small areas of amenity grassland and planting, trees, scrub, tall ruderal vegetation and an amenity hedgerow, all considered to be of negligible to low ecological value. Habitats of elevated value in the context of the site are present in the form of trees at the site boundaries, albeit these are considered to be of negligible to low value at the local level. As such, any proposed losses of habitats are considered to be of minor significance and will be offset by new landscape planting, incorporating native species.
- vi) **Protected Species.** The habitats within the site have been recorded to support a small number of common foraging bats and foraging and nesting bird species. As such, appropriate mitigation measures, including check surveys prior to vegetation clearance and building demolition and timings of works.
- vii) **Enhancements.** The proposals present the opportunity to secure a net gain for biodiversity, including through additional native planting and the provision of new roosting/nesting opportunities for bats and birds.
- viii) **Summary.** In summary, the proposals have sought to minimise ecological impacts and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm to biodiversity. On the contrary, the opportunity exists to provide a net gain for biodiversity as part of the proposals.

1 Introduction

1.1 Background & Proposals

- 1.1.1 Aspect Ecology was commissioned by Thames Properties Ltd in March 2017 to undertake an ecological appraisal in respect of proposed development of the Cox and Wyman site at Cardiff Road, Reading, centred at grid reference SU70937411 (see Plan 5150/ECO1).
- 1.1.2 The proposals are for residential redevelopment of the site for 96 dwellings, along with associated landscaping and ancillary facilities.

1.2 Site Overview

- 1.2.1 The site measures approximately 1.31ha in size and is located in the north of Reading in Berkshire. The site is bounded by roads, including Meadow Road to the north, Addison Road to the east, Cardiff Road to the south and Milford Road to the west. Within a wider context, the site is surrounded by existing residential, commercial and industrial development, along with the railway to the south (see Plan 5150/ECO1).
- 1.2.2 The site itself is dominated by existing buildings and associated areas of hardstanding, along with small areas of amenity grassland and planting, trees, scrub, tall ruderal vegetation and an amenity hedgerow.

1.3 Purpose of the Report

- 1.3.1 This report documents the methods and findings of the baseline ecology surveys and desktop study carried out in order to establish the existing ecological interest of the site, and subsequently provides an appraisal of the likely ecological effects of the proposals. The importance of the habitats and species present is evaluated. Where necessary, avoidance, mitigation and compensation measures are recommended so as to safeguard any significant existing ecological interest within the site and where appropriate, opportunities for ecological enhancement are proposed with reference to national conservation priorities and local Biodiversity Action Plans (BAPs).

2 Methodology

2.1 Desktop Study

- 2.1.1 In order to compile background information on the site and its immediate surroundings Thames Valley Environmental Records Centre (TVERC) was contacted, with data requested on the basis of a search radius of 2.5km for designations and 1.5km for species.
- 2.1.2 Where information has been received from TVERC this is discussed in text and reproduced where appropriate at Appendix 5150/2 and on Plan 5150/ECO2.
- 2.1.3 Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England, with an extended search radius (5km). This information is also reproduced at Appendix 5150/2 and where appropriate on Plan 5150/ECO2.
- 2.1.4 In addition, the Woodland Trust database was searched for any records of veteran trees within or adjacent to the site.

2.2 Habitat Survey

- 2.2.1 The site was surveyed in April 2017 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify the main habitats and ecological features present.
- 2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology¹, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal² to record details on the actual or potential presence of any notable or protected species or habitats.
- 2.2.3 Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified. The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) Checklist.

2.3 Faunal Surveys

- 2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded. Specific attention was also paid to the potential presence of any protected, rare or notable species, and specific consideration was given to bats and Badger *Meles meles* as described below.

¹ Joint Nature Conservation Committee (2010) 'Handbook for Phase 1 habitat survey: A technique for environmental audit.'

² Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) 'Guidelines for Preliminary Ecological Appraisal.'

Bats³

Visual Inspection Surveys

- 2.3.2 Buildings.** Buildings within the site were subject to specific external and, where appropriate, internal inspection surveys in April 2017 using ladders, torches and binoculars where necessary.
- 2.3.3** During the external inspections, particular attention was given to any potential roost features or access points, such as broken or lifted roof tiles, lifted lead flashing, soffit boxes, etc. and for any external signs of use by bats such as accumulations of bat droppings or staining. Binoculars were used to inspect any inaccessible areas more closely where appropriate.
- 2.3.4** During the internal inspections, evidence for the presence of bats was searched for with particular attention paid to any relevant potential roost features and locations, such as ridge boards, rafters, purlins, gable walls and mortise joints. Specific searches were made for bat droppings that can indicate present or past use and extent of use, whilst other signs that can indicate the possible presence of bats were also searched for, e.g. presence of stained areas, feeding remains, corpses, etc.
- 2.3.5** Based on the results of the building investigations, the buildings were assessed in terms of their potential value to support roosting bats and were classified as being of high, moderate, low or negligible potential value (see Table 2.1 below). This assessment informed the level of further survey work required.

Table 2.1. Building classification based on potential value for roosting bats.

Potential Value for Roosting Bats	Criteria
High	Building with multiple roosting opportunities for one or more bat species (including breeding and/or hibernation roosts); good connectivity to high quality foraging habitat.
Moderate	Building with some roosting opportunities for one or more bat species; some connectivity to high or moderate quality foraging habitat.
Low	Building providing poor quality roosting habitat, either with very limited roosting opportunities or unlikely to support roosting bats due to nature of construction or exposed conditions (e.g. open, draughty buildings); connectivity to poor quality foraging habitat or limited connectivity to higher quality foraging habitat.
Negligible	Building with no or very limited roosting opportunities for roosting bats; isolated from any suitable foraging habitat.

- 2.3.6 Trees.** An examination of the trees within the site was undertaken as part of the habitat surveys in April 2017 to identify any features which could be of potential value to roosting bats such as splits, cracks, rot holes, coverings of Ivy, peeling bark or similar. The suitability for the trees to support roosting bats has been ranked in accordance with the criteria set out in the 2016 BCT guidance as set out within Table 2.2 below.

³ Based on: English Nature (2004) 'Bat Mitigation Guidelines' and Bat Conservation Trust (2016) 'Bat Surveys – Good Practice Guidelines'

Table 2.2. Tree classification based on potential suitability for roosting bats.

Potential Suitability for Roosting Bats	Criteria
High	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
Low	A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential.
Negligible	No features present likely to be used by roosting bats.

Dusk Emergence/ Dawn Re-entry Survey

2.3.7 Buildings identified to be of elevated potential to support roosting bats (buildings B1b and B2) were subject to a single dusk emergence/dawn re-entry survey work in May 2017, in line with BCT guidance, in order to confirm presence/likely absence of roosting bats.

2.3.8 Surveyors employed the use of Bat Box Duet (and MP3 recorders) and/or Echometer detectors to aid identification of any bats observed. At dusk, surveyors were in place at sunset, remaining in place for approximately 2 hours. At dawn, surveyors were in place approximately 1.5 hours before sunrise and remained in place until 15 minutes after sunrise. This survey method aims to identify any roosting bats emerging from or returning to potential roost sites in buildings.

2.3.9 This survey work was carried out during suitable weather conditions, as set out in Table 2.1 below.

Table 2.1. Details of weather conditions and timings of the bat emergence/re-entry survey work undertaken at the site in May 2017 (BF0 = calm, BF12 = hurricane force).

Date	Start & end times (& time of sunset)	Structure reference / location	Equipment used	Weather
16/05/2017	20:45- 23:02 (21:02)	B2	EM3	17°C, 5% CC, BF2-3, dry
17/05/2017	03:30 – 05:13 (04:58)	B1b and B2	EM3	13°C, 5% CC, BF1-2, dry

Badger (*Meles meles*)⁴

2.3.10 The site was searched thoroughly for evidence of Badger activity in April 2017, in order to build a picture of the use of the site by Badger, by recording the following:

- Badger setts (either active or disused);
- Well-worn paths and push-throughs;
- Snagged hair;
- Footprints;
- Latrines; and

⁴ Based on: Mammal Society (1989) 'Occasional Publication No. 9 – Surveying Badgers'

- Foraging signs.

2.3.11 The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the site by Badger.

2.4 Survey Constraints/Limitations

2.4.1 All of the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent at different seasons. However, the Phase 1 survey was undertaken during the optimal seasonal period for botanical work, therefore allowing a robust assessment of the intrinsic ecological interest of the site to be made.

2.4.2 During the survey work undertaken access could not be obtained to the internal area of building B3, a substation, due to health and safety reasons (building marked with Asbestos warning signs). However, this building was subject to a full external inspection survey, on the basis of which, it is considered to be of negligible potential value to roosting bats. As such, the lack of access to the internal area of this building is not considered to represent a constraint to the assessment.

2.4.3 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, site management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.

2.5 Principles of Ecological Evaluation

2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2016)⁵. In evaluating ecological features and resources the following key factors are taken into account:

2.5.2 Geographic Frame of Reference. The value of an ecological feature or resource is determined within a defined geographical context using the following frame of reference:

- International;
- National;
- Regional;
- County (or Metropolitan);
- District (or Unitary Authority, City or Borough);
- Local (or Parish); or
- At the Site level only.

⁵ Chartered Institute of Ecology and Environmental Management (CIEEM) (2016) 'Guidelines for Ecological Impact Assessment in the UK and Ireland – Terrestrial, Freshwater and Coastal'; 2nd edition

- 2.5.3 Within this frame of reference, certain sites may carry a statutory ecological designation, e.g. Special Area of Conservation (SAC) for internationally important sites or Site of Special Scientific Interest (SSSI) for sites of national importance.
- 2.5.4 Sites of more localised nature conservation importance do not receive statutory protection but may be designated by Local Planning Authorities or other bodies, e.g. Wildlife Trusts. Such non-statutory designations or 'Local Sites'⁶ include Local Wildlife Sites (LWSs) and Sites of Nature Conservation Interest (SNCIs), for example.
- 2.5.5 ***Biodiversity Value: Habitats.*** In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
- 2.5.6 Regard should also be given to habitats listed as priorities for conservation in accordance with Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', as the likely effect of a development on such habitats is a potential material consideration within the planning process. Certain habitats may also be listed within regional or local Biodiversity Action Plans (BAPs), albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
- 2.5.7 ***Biodiversity Value: Species.*** The assessment of the value of a species is based on factors including distribution, status, historical trends, population size and rarity. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
- 2.5.8 Regard should also be given to species listed as priorities for conservation in accordance with Section 41 of the NERC Act 2006, so called 'Species of Principal Importance' or 'Priority Species'. Certain species may also be listed within regional or local BAPs, albeit as with habitats the listing of a particular species under a BAP does not in itself imply any specific level of importance.
- 2.5.9 ***Secondary or Supporting Value.*** Some habitats or features that are of no intrinsic biodiversity value may nonetheless perform an ecological function, e.g. as a buffer. In addition, certain features of the landscape which by virtue of their linear or continuous nature (e.g. rivers) or their function as 'stepping stones' (e.g. small woods) may be of value for the migration, dispersal and genetic exchange of wild species.

2.6 National Policy Approach to Biodiversity in the Planning System

- 2.6.1 The National Planning Policy Framework (NPPF)⁷ describes the Government's national policies on 'conserving and enhancing the natural environment' (Chapter

⁶ DEFRA (2006) 'Local Sites – Guidance on their Identification, Selection and Management'

⁷ Department for Communities and Local Government (2012) 'National Planning Policy Framework'

11). NPPF is accompanied by Planning Practice Guidance on 'Biodiversity, ecosystems and green infrastructure' (2014) and ODPM Circular 06/2005⁸.

- 2.6.2 NPPF takes forward the Government's strategic objective to halt overall biodiversity loss⁹, as shown at Paragraph 109, which states the planning system should contribute to and enhance the natural and local environment by:

'minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'.

- 2.6.3 The approach to dealing with biodiversity in the context of planning applications is set out at Paragraph 118:

'When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

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

- 2.6.4 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2013¹⁰, which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

- 2.6.5 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2013, section 5.5).

2.7 Local Policy

- 2.7.1 Current planning policy within Reading Borough Council comprises a number of plan documents. Policies relevant to nature conservation are set out below:

Reading Borough Local Development Framework: Core Strategy (Adopted January 2008, with alteration adopted 27th January 2015)

- 2.7.2 **Core Policy CS36** relates to features of biodiversity within the site and states:

⁸ ODPM (2006) 'Circular 06/2005: Planning for Biodiversity and Geological Conservation – A Guide to Good Practice'

⁹ DEFRA (2011) 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services'

¹⁰ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2013

“a) Development should retain, protect and incorporate features of biodiversity or geological interest (including protected species and their habitats) found within the application site into their schemes.

On sites with recognised biodiversity or geological value, development will not be permitted where there would be a direct or indirect adverse impact on the site, unless it can be clearly demonstrated that: -

- i. The need for development clearly outweighs the need to protect the value of the site; and*
- ii. Appropriate compensation, impact minimisation, mitigation and compensation are provided.*

b) Local Nature Reserves and Wildlife Heritage Sites will be safeguarded and where possible, enhanced. Permission will not be granted for any development that would adversely affect a designated nature reserve or Wildlife Heritage Site.

c) Any development that would sever or threaten the integrity of an established wildlife link, as indicated on an adopted proposals map, will not be permitted. Where applicable, developments should be designed to protect, consolidate, extend and enhance the network of wildlife links and corridors in and adjoining the Borough, working with neighbouring authorities where appropriate.”

2.7.3 Core Policy CS38 relates to trees, hedges and woodlands and states:

“Individual trees, groups of trees, hedges and woodlands will be protected from damage or removal, and the Borough’s vegetation cover will be extended.”

3 Ecological Designations

3.1 Statutory Designations

- 3.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 5150/ECO2.

Description

- 3.1.2 No statutory ecological designations are present within or adjacent to the site. The nearest identified statutory ecological designation is Lousehill Copse Local Nature Reserve (LNR), located approximately 2.5km south west of the site. Lousehill Copse LNR comprises areas of deciduous woodland and open meadow with Gorse *Ulex europaeus* and Broom *Cytisus scoparius* scrub, along with streams, boggy areas and relics of old ponds. This designation is completely surrounded by existing residential development.
- 3.1.3 The next nearest identified statutory ecological designation is McIlroy Park LNR, located approximately 2.8km west of the site. This designation comprises areas of grassland, with Heather *Calluna vulgaris* and Broom scrub and areas of deciduous woodland (including an area of ancient and semi-natural woodland) at the edges. This designation is completely surrounded by existing residential development.
- 3.1.4 The nearest European-level ecological designations are Hartslock Wood Special Area of Conservation (SAC) and Thames Basin Heaths Special Protection Area (SPA), located approximately 9.6km to the north west and 11.5km to the south, respectively.

Evaluation

- 3.1.5 The site itself is not subject to any statutory ecological designations.
- 3.1.6 Lousehill Copse LNR and McIlroy Park LNR are located approximately 2.5km and 2.8km from the site, respectively, and will therefore not be directly affected by the proposed redevelopment of the site. The designations are also well separated from the site by existing residential development within Reading, as well as a number of roads and a railway line. As such, no significant effects such as dust deposition and noise levels from the construction of the development are anticipated. In terms of the completed development, the designations comprise a number of paths/tracks and are surrounded by existing residential development within Reading, such that they are likely subject to regular recreational use. As such, given the scale and separation of the site, it is considered highly unlikely that these designations will be subject to significant levels of increased recreational pressure as a result of the proposed development.
- 3.1.7 The nearest European-level ecological designations are Hartslock Wood SAC and Thames Basin Heaths SPA, located approximately 9.6km to the north west and 11.5km to the south, respectively. At these distances, and given the scale of the proposals, no adverse effects on European-level ecological designations are anticipated.
- 3.1.8 This is further supported by a review of Natural England's SSSI Impact Risk Zones (IRZs), which have been devised by Natural England to determine whether

development is likely to indirectly affect the integrity of the SSSI designation, taking into account the type and scale of the development. In the present case, Natural England has not identified the potential for impacts arising from residential development at the location of the site.

- 3.1.9 As such, it is considered highly unlikely that the proposals would result in any significant adverse effect on these or indeed any other more distant statutory ecological designations and statutory designations are therefore not considered to pose a constraint to the proposed redevelopment of the site.

3.2 Non-statutory Designations

- 3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 5150/ECO2.

Description

- 3.2.2 No non-statutory ecological designations are present within or adjacent to the site.
- 3.2.3 The nearest identified non-statutory designation is Cow Lane Depot Local Wildlife Site (LWS), located approximately 0.25km south west of the site. This designation comprises an isolated mosaic of habitats, including scrub, mature trees, open standing water and ruderal and tall herb grassland. The habitats have also been recorded to support Priority Species Reed Bunting *Emberiza schoeniclus*.
- 3.2.4 The next nearest identified non-statutory designation is Grass Hill and Warren Court Wood and Woodrow Court Woods, located approximately 0.75km north of the site, which form part of The Warren Woodlands Complex LWS. These areas comprise, mixed broadleaved woodland. Badger setts have also been recorded within Grass Hill and Warren Court Wood.

Evaluation

- 3.2.5 The site itself is not subject to any non-statutory ecological designations.
- 3.2.6 Cow Lane Depot LWS is located approximately 0.25km from the site and will therefore not be directly affected by the proposed redevelopment of the site. The designation is also well separated by existing development within Reading, such that no significant effects such as dust deposition and noise levels from the construction of the development are anticipated. In terms of the completed development, the designation appears to be under private ownership and fenced off. As such, it is considered highly unlikely that this designation will be subject to significant levels of increased recreational pressure as a result of the proposed development.
- 3.2.7 The Warren Woodlands Complex LWS is located approximately 0.7km from the site and will therefore not be directly affected by the proposed redevelopment of the site. The designation is also well separated by existing development within Reading, such that no significant effects such as dust deposition and noise levels from the construction of the development are anticipated. In terms of the completed development, the sections of the LWS close to the site do not appear to comprise public rights of way, whilst the individual areas of the designation are small and would be unlikely to act as a particular draw to residents. In any event, other recreational opportunities (e.g. River Thames walk) are available in the local area.

- 3.2.8 As such, it is considered highly unlikely that the proposals would result in any significant adverse effect on these or indeed any other more distant non-statutory ecological designations and non-statutory designations are therefore not considered to pose a constraint to the proposed redevelopment of the site.

3.3 Ancient Woodland and Notable Trees

Description

- 3.3.1 No areas of ancient woodland are present within or adjacent to the site. The nearest identified areas of ancient woodland are located approximately 2.5km north east and north west of the site in the form of a small area of ancient and semi-natural woodland (approximately 0.4ha) and Chazey Wood Ancient Replanted Woodland (ARW), respectively.
- 3.3.2 No notable trees have been identified within the vicinity of the site.

Evaluation

- 3.3.3 The nearest identified areas of ancient woodland are located approximately 2.5km from the site. At this distance, it is considered highly unlikely that the proposals would result in any significant adverse effect on these or indeed any other more distant areas of ancient woodland and ancient woodland is therefore not considered to pose a constraint to the proposed redevelopment of the site.
- 3.3.4 No notable trees have been identified within the vicinity of the site and therefore notable trees are not considered to pose any constraints to the proposed redevelopment of the site.

3.4 Summary

- 3.4.1 In summary, the site itself is not subject to any statutory or non-statutory ecological designations, whilst it is considered unlikely that any such designations in the surrounding area will be significantly affected by the proposals.

4 Habitats and Ecological Features

4.1 Background Records

- 4.1.1 Information returned from TVERC does not include any specific records of protected, rare or notable plant species from within or immediately adjacent to the site. A number of records of notable/priority species were returned for the wider search area including Frogbit *Hydrocharis morsusranae*, Mountain Currant *Ribes alpinum*, Narrow-leaved Bitter-cress *Cardamine impatiens*, Summer Snowflake *Leucojum aestivum subsp. aestivum*, Bluebell *Hyacinthoides non-scripta* and Stinking Hellebore *Helleborus foetidus*. None of these records relate to the site or site surrounds, whilst no evidence for the presence of any of these species within the site was recorded during the survey work undertaken.

4.2 Overview

- 4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of intrinsic ecological value, such as in relation to the presence of rare plant communities or individual plant species of elevated interest. The likely effects of the proposals on the habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in Section 5 below.
- 4.2.2 The following habitats/ecological features were identified within/adjacent to the site:
- Buildings and Hardstanding;
 - Amenity Grassland and Planting;
 - Trees;
 - Scrub;
 - Tall Ruderal Vegetation; and
 - Amenity Hedgerow.
- 4.2.3 The locations of these habitat types and features are illustrated on Plan 5150/ECO3 and described below.

4.3 Priority Habitats

- 4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in the UK. This list is largely derived from the 'Priority Habitats' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.
- 4.3.2 Of the habitats within the site, none are considered to qualify as UK Priority Habitats.

4.4 Buildings and Hardstanding

Description

- 4.4.1 A number of buildings are present within the site (labelled B1-B3 on Plan 5150/ECO3). Full descriptions of building are provided within at Appendix 5150/4.
- 4.4.2 Buildings B1 and B3 were recorded to be in active use, whilst building B2 was not in use at the time of survey. The buildings were recorded to support negligible vegetation, save for occasional Butterfly-bush *Buddleja davidii*.
- 4.4.3 Areas of hardstanding are also present within the site largely in the form of tarmacked areas, as well as gravel areas and concrete building foundations. Overall, areas of hardstanding were recorded to be in a good state of repair, although a number of cracks are present. Hardstanding was recorded to support occasional vegetation, largely restricted to the margins. Species recorded include Fescue *Festuca* sp., Meadow-grass *Poa* sp., Dandelion *Taraxacum officinale*, Black Nightshade *Solanum nigrum*, Herb-Robert *Geranium robertianum*, Cleavers *Galium aparine*, Stinging Nettle *Urtica dioica*, Dove's-foot Crane's-bill *Geranium molle*, Yellow Corydalis *Pseudofumaria lutea*, Fern, Pineappleweed *Matricaria discoidea*, Bitter-cress *Cardamine* sp., Ragwort *Senecio jacobaea*, Smooth Sow-thistle *Sonchus oleraceus*, Sow-thistle *Sonchus* sp., Groundsel *Senecio vulgaris*, Willowherb *Chamerion* sp., Red Dead-nettle *Lamium purpureum* and Ivy-leaved Toadflax *Cymbalaria muralis*.

Evaluation

- 4.4.4 The buildings and hardstanding support a limited range of common species of negligible botanical interest.
- 4.4.5 As such, buildings and hardstanding are considered to be of negligible ecological value at the site level and therefore these habitats are not considered to pose a constraint to the proposals.

4.5 Amenity Grassland and Planting

Description

- 4.5.1 An area of amenity grassland and planting is present within the west of the site (see Plan 5150/ECO3).
- 4.5.2 The area of amenity grassland did not appear to have been subject to recent management, with a sward height of approximately 20-30cm at the time of survey. The sward was also noted to be tussocky in places, likely a result of the lack of recent management. The sward was largely recorded to be dominated by grasses, including Perennial Rye-grass *Lolium perenne*, Yorkshire-fog and Cock's-foot *Dactylis glomerata*, along with locally dominant patches of herbs/tall ruderal species. Herb/ruderal species recorded include Dandelion, Hogweed *Heracleum sphondylium*, Cleavers, Yarrow *Achillea millefolium*, White Dead-nettle *Lamium album*, Creeping Buttercup *Ranunculus repens*, Meadow Buttercup *Ranunculus acris*, Broad-leaved Dock *Rumex obtusifolius*, Ribwort Plantain *Plantago lanceolata*, Clover *Trifolium* sp., Black Nightshade, Ragwort and Cow Parsley *Anthriscus sylvestris*. Scattered Bramble

Rubus fruticosus agg. was also recorded to be occasionally encroaching in the area of amenity grassland.

- 4.5.3 A small area of amenity planting is also present comprising non-native species, including Firethorn *Pyracantha* sp., *Kerria japonica* and *Mahonia* sp. Areas of amenity planting do not appear to have been subject to management at the time of survey.

Evaluation

- 4.5.4 The area of amenity grassland within the site is small and isolated in nature. The sward was recorded to be dominated by grass species, along with a range of common herb / ruderal species of limited botanical interest, which form locally dominant patches in places. Areas of amenity planting comprised largely non-native, ornamental species.
- 4.5.5 Overall, it is considered that areas of amenity grassland and planting are of negligible to low ecological value at the site level and therefore these habitats are not considered to pose a constraint to the proposals.
- 4.5.6 Nevertheless, areas of amenity planting provide opportunities for nesting birds and therefore in order to avoid an offence under the Wildlife and Countryside Act 1981 (as amended), a number of recommendations in respect of vegetation clearance and nesting birds are set out at Section 6 below.

4.6 Trees

Description

- 4.6.1 A number of trees are present within the site (see Plan 5150/ECO3).
- 4.6.2 Trees within the site were recorded to comprise native species including semi-mature Silver Birch *Betula pendula* and semi-mature Hornbeam *Carpinus betulus*.

Evaluation

- 4.6.3 A number of semi-mature trees are present within the site, comprising a low diversity of common native species. Native semi-mature trees are of inherently elevated ecological value. Trees may also offer cover and foraging opportunities for faunal species, albeit this is limited by the small extent of this habitat.
- 4.6.4 Overall, the trees are considered to be of low ecological value at the local level, although are considered to be of elevated ecological value within the context of the site.
- 4.6.5 The majority of trees are to be retained under the proposals. As such, mitigation measures are set out at Section 6 below to safeguard the retained trees during construction. Trees provide opportunities for nesting birds and therefore in order to avoid an offence under the Wildlife and Countryside Act 1981 (as amended), a number of recommendations in respect of vegetation clearance and nesting birds are set out at Section 6 below.

- 4.6.6 In the long-term, tree planting and an orchard will be included under the proposals which will more than compensate for any tree losses and provide net gains for biodiversity at the site.

4.7 Scrub

Description

- 4.7.1 Areas of dense and scattered scrub are present at the site, largely at the site boundaries (see Plan 5150/ECO3). Areas of scrub comprise common and widespread species including Butterfly-bush, Elder *Sambucus nigra*, Hornbeam, False Acacia *Robinia pseudoacacia* and Bramble.

Evaluation

- 4.7.2 Area of scrub within the site are small in extent and support a limited range of common native and non-native species.
- 4.7.3 As such, it is considered that the areas of scrub within the site are of low ecological value at the site level and therefore this habitat is not considered to pose a constraint to the proposals.
- 4.7.4 Nevertheless, areas of scrub provide opportunities for nesting birds and therefore in order to avoid an offence under the Wildlife and Countryside Act 1981 (as amended), a number of recommendations in respect of vegetation clearance and nesting birds are set out at Section 6 below.

4.8 Tall Ruderal Vegetation

Description

- 4.8.1 Areas of tall ruderal vegetation are present at the eastern and southern site boundary (see Plan 5150/ECO3).
- 4.8.2 Areas of tall ruderal vegetation were recorded to comprise Cleavers, Ragwort, Creeping Thistle *Cirsium arvense*, Dock *Rumex* spp., Stinging Nettle, Dandelion, Green Alkanet *Pentaglottis sempervirens*, Burdock *Arctium* sp., Creeping Buttercup, Mugwort *Artemisia vulgaris* and grasses.

Evaluation

- 4.8.3 Areas of tall ruderal vegetation within the site comprise a low diversity of common plant species and represents a habitat type that rapidly colonises.
- 4.8.4 As such, it is considered that the areas of tall ruderal vegetation within the site are of negligible ecological value at the site level and therefore this habitat is not considered to pose a constraint to the proposals.

4.9 Amenity Hedgerow

Description

- 4.9.1 A single amenity hedgerow (labelled hedgerow H1 at Plan 5150/ECO3) is present within the south west of the site.

- 4.9.2 The hedgerow measures approximately 4m in height and did not appear to be subject to regular management, being bushy in nature. The hedgerow comprises exclusively of Cypress *Cupressus* sp. The ground flora associated with the hedgerow is patchy and comprises species consistent with those recorded within areas of hardstanding.

Evaluation

- 4.9.3 The hedgerow within the site comprises a single, non-native species and therefore cannot qualify as important under the Hedgerow Regulations 1997 or a UK Priority Habitat. The hedgerow may offer cover and foraging opportunities for faunal species, albeit this is limited by the small extent of this habitat.
- 4.9.4 Overall, the amenity hedgerow is considered to be of negligible to low ecological value at the local level.
- 4.9.5 Nevertheless, the hedgerow may provide opportunities for nesting birds and therefore in order to avoid an offence under the Wildlife and Countryside Act 1981 (as amended), a number of recommendations in respect of vegetation clearance and nesting birds are set out at Section 6 below.

4.10 Habitat Evaluation Summary

- 4.10.1 A summary of the evaluation of the habitats and ecological features present at the site is set out at Table 4.1 below.

Table 4.1. Summary of habitat and ecological features evaluation.

Habitat	Value	Level
Buildings and Hardstanding	Negligible	Site
Amenity Grassland and Planting	Negligible to Low	Site
Trees	Low	Local
Scrub	Low	Site
Tall Ruderal Vegetation	Negligible	Site
Amenity Hedgerow	Negligible to Low	Local

5 Faunal Use of the Site

5.1 Overview

- 5.1.1 During the survey work, general observations were made of any faunal use of the site with specific attention paid to the potential presence of protected or notable species. Specific survey work was also undertaken in respect of bats and Badger.

5.2 Priority Species

- 5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in the UK. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.

5.3 Bats

- 5.3.1 **Legislation.** All British bats are classed as European Protected Species under the Conservation of Habitats and Species Regulations 2010 (as amended) and are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, both bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 5150/3 for detailed provisions). If proposed development work is likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. A number of bat species are also considered Priority Species and bats as a species group are included under the Reading BAP.

- 5.3.2 **Background Records.** No specific records of bats from within or adjacent to the site were returned from the desktop study. Information received from TVERC includes a number of records of Daubenton's Bats *Myotis daubentonii* which relate to the 1km x 1km grid square covering the site. However, it is considered likely that these are associated with the River Thames to the north. A number of other records of bats were returned by TVERC, including records of Serotine *Eptesicus serotinus*, Daubenton's Bat, Noctule *Nyctalus noctula*, *Myotis* sp., Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Pipistrelle *Pipistrellus* sp., Nathusius Pipistrelle *Pipistrellus nathusii*, Brown Long-eared Bat *Plecotus auritus*, Long-eared Bat *Plecotus* sp. and an unidentified Chiroptera (bat) records. Of these, the closest specific record returned is for a Noctule Bat, located approximately 0.45km north east of the site and dated 1999.

5.3.3 Survey Results and Evaluation

Roosting - Buildings

- 5.3.4 Three buildings are present within the site (labelled B1-B3 at Plan 5150/ECO3). A detailed visual inspection was undertaken of these buildings. The results of these investigations, including descriptions of individual buildings, are set out at Appendix 5150/4.

- 5.3.5 Building B3 and the majority of building B1 were recorded to support few architectural features of bat potential and are of a construction type generally not favoured by bats. Nevertheless, building B2 and a small section of building B1 (labelled B1b on Plan 5150/ECO3) were recorded to provide roosting opportunities and were therefore assessed to be of low potential to support roosting bats.
- 5.3.6 As such, in line with best practice guidance, buildings B1b and B2 were subject to dusk emergence / dawn re-entry surveys in May 2017 to confirm the presence or absence of roosting bats.
- 5.3.7 No evidence for the presence of roosting bats was recorded during the specific emergence or re-entry survey work undertaken.
- 5.3.8 As such, the site is considered to be of negligible value to roosting bats in buildings at the local level and this species group is therefore not considered to pose a constraint to the proposals.

Roosting - Trees

- 5.3.9 None of the trees within the site were assessed as suitable to support roosting bats.
- 5.3.10 As such, the site is considered to be of negligible value to roosting bats in trees at the local level and this species group is therefore not considered to pose a constraint to the proposals.

Foraging / Commuting

- 5.3.11 The site is dominated by buildings and hardstanding, along with areas of amenity grassland and tall ruderal vegetation, which provide negligible opportunities for foraging and commuting bats. The trees, hedgerow, amenity planting and scrub may provide minor opportunities for this species group, albeit this is limited by the small extent of such habitats.
- 5.3.12 Bat activity within the site was incidentally recorded during the emergence/re-entry survey work undertaken. This survey work recorded very low levels of activity by common urban species comprising a total of 3 Pipistrelle passes at dusk (one of which confirmed as Common Pipistrelle) and single Pipistrelle pass at dawn.
- 5.3.13 As such, the site is considered to be of negligible value to foraging and commuting bats at the local level and this species group is therefore not considered to pose a constraint to the proposals.
- 5.3.14 In any event, tree and shrub planting, an orchard and wildflower grassland are included under the proposals, which would likely provide a betterment for this species group in the long-term.

5.4 Badger

- 5.4.1 **Legislation.** Badger receive legislative protection under the Protection of Badgers Act 1992 (see Appendix 5150/3 for detailed provisions). The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly.

- 5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. Guidance on the types of activity that should be licensed is laid out in the relevant best practice guidance.^{11, 12}
- 5.4.3 **Background Records.** No specific records of Badger within or adjacent to the site were returned from the desktop study. A number of records of Badger were returned from the wider search area, the closest of which is located within a 1km x 1km grid square located immediately east of the site and dated 2012.
- 5.4.4 **Survey Results and Evaluation.** No Badger setts or potential evidence of Badger was recorded within or adjacent to the site, whilst the site provides very limited foraging opportunities for this species.
- 5.4.5 As such, the site is considered to be of negligible value to Badger at the local level and this species is therefore not considered to pose a constraint to the proposals.
- 5.4.6 In any event, tree and shrub planting, an orchard and wildflower grassland are included under the proposals, which would likely provide a betterment for this species in the long-term.

5.5 Other Mammals

- 5.5.1 **Legislation.** Other mammals receive legislative protection including Dormouse *Muscardinus avellanarius*, Water Vole *Arvicola terrestris*, and Otter *Lutra lutra* whilst a number of other UK mammal species do not receive direct legislative protection relevant to development activities but may receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). In addition, a number of these mammal species are Priority Species.
- 5.5.2 **Background Records.** No specific records of other mammals from within or adjacent to the site were returned from the desktop study. A number of unspecific records of Priority Species, including Otter, Water Vole (both also protected under Schedule 5 of the Wildlife and Countryside Act 1981) and Hedgehog were returned from within the local area. The closest specific record returned by the desktop study is for Otter, located approximately 0.8km east of the site and dated 2010.
- 5.5.3 **Survey Results and Evaluation.** No evidence of any other protected, rare or notable mammal species was recorded within the site. A number of other small mammal species, such as Fox *Vulpes vulpes* and Brown Rat *Rattus norvegicus* likely make some use of the site, albeit such species remain common in both a local and national context, and as mentioned above do not receive specific legislative protection in a development context. As such, these species are not a material planning consideration and the loss of potential opportunities for these species to the proposals is of negligible significance.
- 5.5.4 Background information includes records of Water Vole and Otter. However, the site and its immediate surrounds are not considered to provide opportunities for such species.
- 5.5.5 Background information also includes records of Hedgehog within the local area. Hedgehog is a Priority Species, albeit remains common and widespread in England.

¹¹ English Nature (2002) 'Badgers and Development'

¹² Natural England (2011) 'Badgers and Development: A Guide to Best Practice and Licensing', Interim Guidance Document

The site offers potential opportunities for this species, in the form of areas of dense scrub and amenity planting, albeit these are very limited in extent. As such, it is considered that this species would make no more than occasional use of the site.

5.5.6 As such, the site is considered to be of negligible ecological value to other mammals at the local level and are therefore not considered to pose a constraint to the proposals.

5.5.7 In any event, tree and shrub planting, an orchard and wildflower grassland are included under the proposals, which would likely provide a betterment for this species group in the long-term.

5.6 Birds

5.6.1 **Legislation.** All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 5150/3 for detailed provisions).

5.6.2 **Conservation Status.** The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status¹³. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also Priority Species.

5.6.3 **Background Records.** A record of a Swift in flight was returned by TVERC adjacent to the south of building B1c. A number of other records of birds were returned from within the wider area by TVERC, including the Wildlife and Countryside Act 1981 (as amended) species Black Redstart, Honey-buzzard, Red Kite, Kestrel and Peregrine. A number of Priority Species were also returned, including Lapwing *Vanellus vanellus*, Skylark *Alauda arvensis*, Dunnock *Prunella modularis*, Song Thrush *Turdus philomelos*, Spotted Flycatcher *Muscicapa striata*, Starling *Sturnus vulgaris*, House Sparrow *Passer domesticus* and Reed Bunting *Emberiza schoeniclus*. A number of records of Red and Amber-listed birds were also returned.

5.6.4 **Survey Results and Evaluation.** The site provides opportunities for nesting birds in the form of buildings, trees, scrub and amenity planting, whilst the trees, amenity planting and scrub also provide limited foraging opportunities. Indeed, a small number of birds recorded to make use of the site including Blackbird *Turdus merula*, Swift *Apus apus*, Feral Pigeon *Columba livia domestica*, Jackdaw *Corvus monedula* and Woodpigeon *Columba palumbus*, whilst Swift were also recorded to be nesting in building B2. In addition, Herring Gull *Larus argentatus* was recorded flying over the site.

5.6.5 As such, the site is considered to be of negligible to low ecological value to birds at the local level and this species group is not considered to pose a constraint to the proposals.

¹³ Eaton MA, Brown AF, Noble DG, Musgrove AJ, Hearn R, Aebischer NJ, Gibbons DW, Evans A and Gregory RD (2009) 'Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man' British Birds 102, pp.296-341

- 5.6.6 Nevertheless, nesting birds are protected under the provision of Wildlife and Countryside Act 1981 (as amended) and therefore a number of recommendations are set out at Section 6 to ensure nesting birds are safeguarded throughout construction and therefore avoid committing an offence under the legislation protecting this group.
- 5.6.7 In the long term, given the nature and setting of the site, it is likely that the site is used by species associated within urban habitats, such that the site would support a similar assemblage of bird species following the redevelopment. Further, tree and shrub planting, an orchard and wildflower grassland are included under the proposals, which would likely provide a betterment for this species group in the long-term.

5.7 Amphibians

- 5.7.1 **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is fully protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2010 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 5150/3 for detailed provisions). Great Crested Newt is also a Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita* and Pool Frog *Pelophylax lessonae*.
- 5.7.2 **Background Records.** No records of Great Crested Newt were returned from the desktop study from within or adjacent to the site.
- 5.7.3 A small number of records of Smooth Newt *Lissotriton vulgaris*, Common Toad and Common Frog *Rana temporaria* were returned from the desktop study, the closest of which is for Common Frog, located approximately 0.45km north east of the site, dated 1996.
- 5.7.4 **Survey Results and Evaluation.** No ponds were recorded to be present within the site. Amphibians, including Great Crested Newt, can range some distance from their breeding ponds, although typically the majority of activity with regard to this species is located within 100 metres of the breeding pond with a maximum routine migratory range usually occurring within 250 metres of the pond. A review of the 1:25 000 scale OS map of the site and surrounding area, identified no waterbodies within 250m of the site.
- 5.7.5 In terms of terrestrial habitat, the site offers sub-optimal opportunities for amphibian species in the form of amenity grassland, amenity planting, tall ruderal vegetation and scrub, the value of which is limited by their small extent. Further, given the lack of suitable waterbodies in the site surrounds and the lack of connecting habitat, amphibian species, including Great Crested Newt, are considered unlikely to be present.
- 5.7.6 On this basis, the site is considered to be of negligible value to amphibian species, including Great Crested Newts at the local level and this species group is therefore not considered to pose a constraint to the proposals.

- 5.7.7 In any event, shrub planting and wildflower grassland are included under the proposals, which would likely provide a betterment for this species group in the long-term.

5.8 Reptiles

- 5.8.1 **Legislation.** All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2010 (as amended). All six reptile species are also Priority Species.
- 5.8.2 **Background Records.** No records of reptile species were returned from the desktop study from within or adjacent to the site. Information returned from the TVERC returned records for Slow-worm *Anguis fragilis*, Grass Snake *Natrix natrix*, and Common Lizard *Zootoca vivipara*, the closest of which is for Common Lizard located approximately 0.75km west of the site and dated 2010.
- 5.8.3 **Survey Results and Evaluation.** The site offers sub-optimal opportunities for reptile species in the form of amenity grassland, amenity planting, tall ruderal vegetation and scrub, the value of which is further limited by their small extent of these areas. Further, given the surrounding built development, the site is isolated from other areas of value to reptile species.
- 5.8.4 As such, the site is considered to be of negligible ecological value for reptile species at the local level and this species group is therefore not considered to pose a constraint the proposals.
- 5.8.5 In any event, shrub planting and wildflower grassland are included under the proposals, which would likely provide a betterment for this species group in the long-term.

5.9 Invertebrates

- 5.9.1 **Legislation.** A number of invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ram's-horn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2010 (as amended); refer to Appendix 5150/3 for detailed provisions. A number of invertebrates are also Priority Species.
- 5.9.2 **Background Records.** No specific records of invertebrates were returned from within or adjacent to the site. A number of records of Priority Species of invertebrates were returned within information received from TVERC. Of these, the closest record returned is for Stag Beetle *Lucanus cervus*, located approximately 0.4km from the site and dated 2002.
- 5.9.3 **Survey Results and Evaluation.** No evidence for the presence of any protected, rare or notable invertebrate species was recorded within the site.
- 5.9.4 The site is dominated by buildings and hardstanding, which provide negligible opportunities for this species group. A number of small areas of trees, hedgerow and

scrub are present within the site which may provide elevated opportunities in the context of the site, albeit this is limited by their small extent and low species diversity. Overall, the site contains few micro-habitats that would typically indicate any elevated potential for invertebrates¹⁴, such as a variable topography with areas of vertical exposed soil, areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; free-draining light soils; walls with friable mortar or fibrous dung. Accordingly, given the habitat composition of the site, it is considered unlikely that the proposals will result in significant harm to any protected, rare or notable invertebrate populations.

- 5.9.5 As such, the site is considered to be of negligible ecological value to invertebrates at the local level and this species group is therefore not considered to pose a constraint to the proposals.

5.10 Summary

- 5.10.1 A summary of the evaluation of the species present at the site is set out at Table 5.1 below.

Table 5.1. Summary of faunal evaluation.

Species / Group	Value	Level
Bats – Roosting (Buildings)	Negligible	Local
Bats – Roosting (Trees)	Negligible	Local
Bats – Foraging / Commuting	Negligible	Local
Badger	Negligible	Local
Other Mammals	Negligible	Local
Birds	Negligible to Low	Local
Amphibians	Negligible	Local
Reptiles	Negligible	Local
Invertebrates	Negligible	Local

¹⁴ Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

6 Mitigation Measures and Ecological Enhancements

6.1 Mitigation

- 6.1.1 Based on the habitats, ecological features and associated fauna identified within / adjacent to the site, it is recommended that the following mitigation measures (**MM1 – 3**) are implemented under the proposals. Further, detailed mitigation strategies or method statements can be secured via suitably-worded planning conditions, as recommended by relevant best practice guidance (BS 42020:2013).

Trees

- 6.1.2 **MM1 – Tree Protection.** All trees that are to be retained within the proposed development shall be protected during construction in line with standard arboriculturalist best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist. This will involve the use of protective fencing or other methods appropriate to safeguard the root protection areas of retained trees.

Bats

- 6.1.3 **MM2 – Lighting.** Lighting during construction and within the completed development will be kept to a minimum through the design and implementation of an ecologically sensitive lighting scheme in line with good practice guidance¹⁶. Directional lighting should be utilised where necessary in order to direct the light into the development and away from the retained and newly created boundary vegetation.

Nesting Birds

- 6.1.4 **MM3 – Timing of Works.** To avoid any potential offence under the Wildlife & Countryside Act, no clearance of suitable vegetation or demolition of buildings (particularly building B2) should be undertaken during the bird-nesting season (1st March to 31st August inclusive). If this is not practicable, any potential nesting habitat to be removed should first be checked by a competent ecologist in order to determine the location of any active nests. Any active nests identified would then need to be cordoned off (minimum 1 m buffer) and protected until the end of the nesting season or until the birds have fledged. These checking surveys would need to be carried out no more than three days in advance of vegetation clearance.

6.2 Ecological Enhancements

- 6.2.1 The National Planning Policy Framework (NPPF) encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national and local conservation priorities. The recommendations and enhancements summarised below are considered appropriate given the context of the site and the scale and nature of the proposals. Through implementation of the following ecological enhancements (**EE1 – EE4**), the opportunity exists for the proposals to deliver a number of net gains for biodiversity at the site.

Habitat Creation

- 6.2.2 **EE1 – New Planting.** It is recommended that where practicable, new tree and shrub planting (including within the orchard) comprise native species of local provenance, including trees and shrubs appropriate to the local area. Suitable species for inclusion within the planting could include native trees, such as Oak, Ash and Field Maple, whilst native shrub species of particular benefit would likely include fruit and nut bearing species which would provide additional food for wildlife, such as Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, Crab Apple *Malus sylvestris* and Hazel *Corylus avellana*.
- 6.2.3 **EE2 – Wildflower Grassland.** Areas of wildflower grassland could be created, particularly within the proposed Orchard. This area will be sown with local wildflower species appropriate for the habitat and soil type. Initial management should involve cutting to 7cm once the sward height reaches approximately 15cm for the first year. Subsequently, this area should be subject to low intensity mowing twice a year (July and September/October), with the cuttings removed.

Bats

- 6.2.4 **EE3 - Bat Boxes.** A number of bat boxes (see Appendix 5150/5 for suitable examples), will be incorporated within the proposed development. The provision of bat boxes will provide new roosting opportunities for bats in the site, including UK Priority Species, such as Soprano Pipistrelle. So as to maximise their potential use, the bat boxes should ideally be situated on suitable retained trees, erected as high up as possible and sited in sheltered wind-free areas that are exposed to the sun for part of the day, facing a south easterly, southerly or south westerly direction. Consideration should also be given to health and safety during the siting of boxes. In addition, where architectural design allows, a number of integrated bat boxes/roost features should be incorporated into a proportion of the new build (see Appendix 5150/5 for examples). The precise number and locations of boxes/roost features should be determined by a competent ecologist, post-planning as part of a suitably worded condition.

Birds

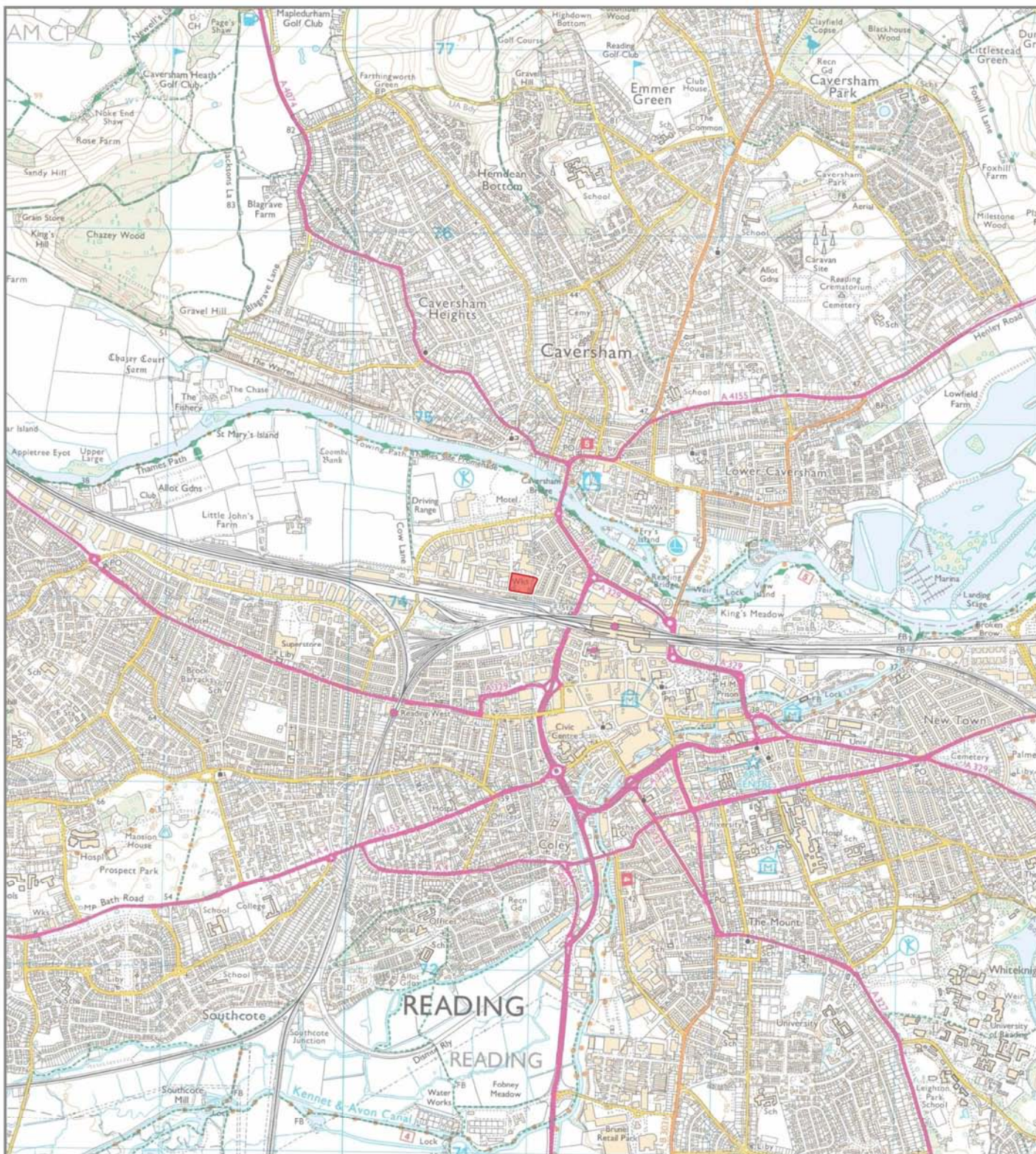
- 6.2.5 **EE4 - Bird Boxes.** A number of bird boxes (see Appendix 5150/6 for suitable examples), will be incorporated within the proposed development. The provision of bird boxes will provide new nesting opportunities for birds in the area, including UK Priority Species, such as House Sparrow and Swift. So as to maximise their potential use, the bird boxes should ideally be situated on suitable retained trees, erected as high up as possible and sited in sheltered wind-free areas. Consideration should also be given to health and safety during the siting of boxes. In addition, where architectural design allows, a number of integrated bird boxes/nesting features should be incorporated into a proportion of the new build (see Appendix 5150/6 for examples). The precise number and locations of boxes/roost features should be determined by a competent ecologist, post-planning as part of a suitably worded condition.

7 Conclusions

- 7.1.1 Aspect Ecology has carried out an ecological appraisal of the proposed development, based on the results of a desktop study, Phase 1 habitat survey and Phase 2 surveys in respect of roosting bats.
- 7.1.2 The available information confirms that no statutory or non-statutory nature conservation designations are present within or adjacent to the site, and none of the designations within the surrounding area are likely to be adversely affected by the proposals.
- 7.1.3 The Phase 1 habitat survey has established that the site is dominated by habitats of negligible-low ecological value and recommendations are set out to retain and protect those features of greatest relative value in the proposals. Where it has not been practicable to avoid loss of habitats, new habitat creation has been proposed to offset losses in the form of new tree and shrub planting.
- 7.1.4 The habitats within the site support protected species, including a small number of common foraging bats, which are protected under both national and European legislation. In addition, the habitats within the site have potential to support nesting birds. Accordingly, a number of mitigation measures have been proposed to minimise the risk of harm to protected species, with compensatory measures proposed, where appropriate.
- 7.1.5 In conclusion, the proposals have sought to minimise impacts and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered highly unlikely that the proposals will result in significant harm to biodiversity. On the contrary, giving the existing nature of the site as a building yard, the opportunity exists to provide a number of net gains for biodiversity as part of the proposals.

Plan 5150/ECO1:

Site Location



Key:



Site Location

aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Cox & Wyman, Cardiff Road,
Reading

Site Location

5150/ECO1

PROJECT

TITLE

DRAWING
NO.

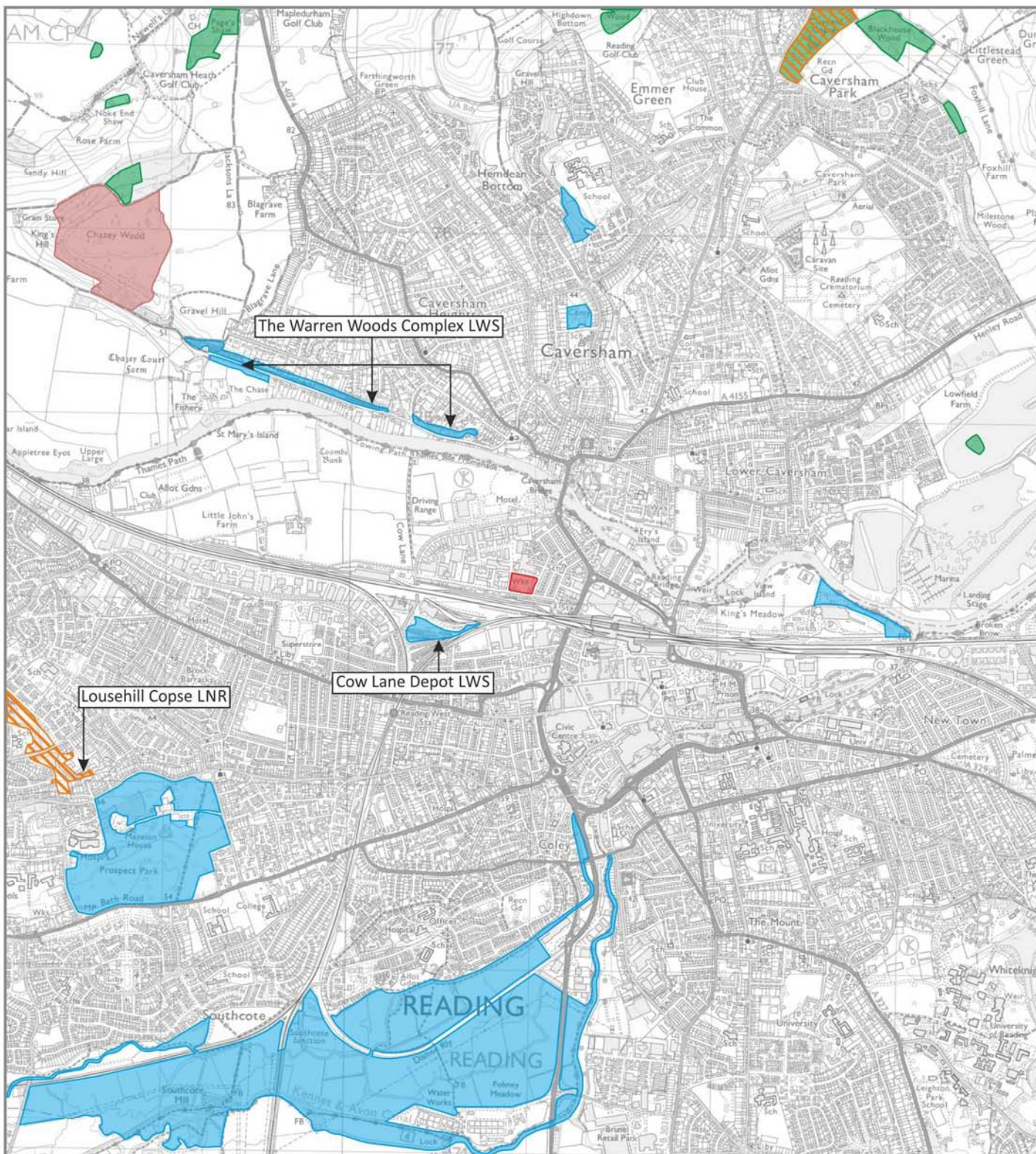
- REV.

September 2017 DATE



Plan 5150/ECO2:

Ecological Designations



Key:

- Site Location
- Local Nature Reserve (LNR)
- Local Wildlife Site (LWS)
- Ancient & Semi-Natural Woodland (ASW)
- Ancient Replanted Woodland (ARW)

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Reading

Ecological Designations

5150/ECO2

September 2017



Plan 5150/ECO3:

Habitats and Ecological Features



KEY:

-  Site Boundary
-  Building
-  Hardstanding
-  Amenity Grassland
-  Tree
-  Scattered Scrub
-  Tall Ruderal Vegetation
-  Hedgerow
-  Dense Scrub
-  Amenity Planting

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Cox & Wyman, Cardiff Road,
Reading
Habitats and Ecological Features

5150/ECO3

September 2017

PROJECT

TITLE

DRAWING
NO.

REV.

DATE



Plan 5150/ECO4:

Bat Survey Results: Emergence / Re-entry



KEY:

- Site Boundary
- Location of Surveyor (Dusk Survey)
- Location of Surveyor (Dawn Survey)

aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Cox & Wyman, Cardiff Road,
Reading

Bat Survey Results

5150/ECO4

September 2017

PROJECT

TITLE

DRAWING NO.

REV.

DATE



Appendix 5150/1:

Landscape Masterplan

LEGEND

- Site Boundary
- Material: Andover Washed infilla
Colour(s): Heather Porphyry
Size(s): 200x100x80mm. Herringbone.
- Material: Andover Washed infilla
Colour(s): Mid grey
Size(s): 200x100x80mm. Herringbone.
- Material: Andover Washed infilla
Colour(s): Mix of Pink granite, Heather Porphyry, Tuscan Porphyry
Size(s): 200x100x80mm. Herringbone.
- Material: Andover Textured
Colour(s): Cream
Size(s): 400x400x5mm. Stack Bond
- Material: Porous resin bound gravel
Colour(s): Gold
Size(s): 6mm aggregate, over porous base.
- Material: Wepour play surface
Colour: Varies
- Material: Textured Countryside kerb
Colour(s): Silver grey, Black fleck
Size(s): 914(l) x 290(w) x flush
- Material: Textured Countryside transition kerb
Colour(s): Silver grey, Black fleck
Size(s): 914(l) x 290(w) x 205(h)
- Material: Aluminium edge
Colour(s): Natural
Size(s): Top bead thickness min. 3mm
- Material: Timber hit & miss fence
Height: 1.8m ht. One privacy panel.
- Material: Timber hit and miss fence.
Height: 1.2m ht.
- Material: Low brick wall
Height: 600mm ht
- Material: Vertical bar railings, with final detail
Height: 1.2m ht.
Colour(s): Black
- Material: Low brick wall with railings.
Height: 1.2m ht. overall (600mm wall, 600mm railings)
- Material: Brick wall 1.8m
Height: 1.8m ht. Toothed detail beneath capping.
- Material: Pedestrian Single Gate.
Specification to match adjacent fence height, type and material.
- Material: Incidental play features
- Material: Bench seat
Specification: Steel with timber top
- SOFT LANDSCAPE
- Root Protection Area (RPA)
Refer to Arbores report and specification.
- Existing trees retained.
- Proposed trees.
Refer to planting schedule on drawing RG-L-03
- Proposed Hedge. Refer to drawing RG-L-03
- Proposed Shrub planting. Refer to drawing RG-L-03
- Proposed lawn area
- NOTES:

1. Drawing issued for planning and not to be used for construction.

2. Drawing to be read in conjunction and cross referenced with relevant consultants drawings.

3. For ecological mitigation measures refer to Aspect Ecology report.

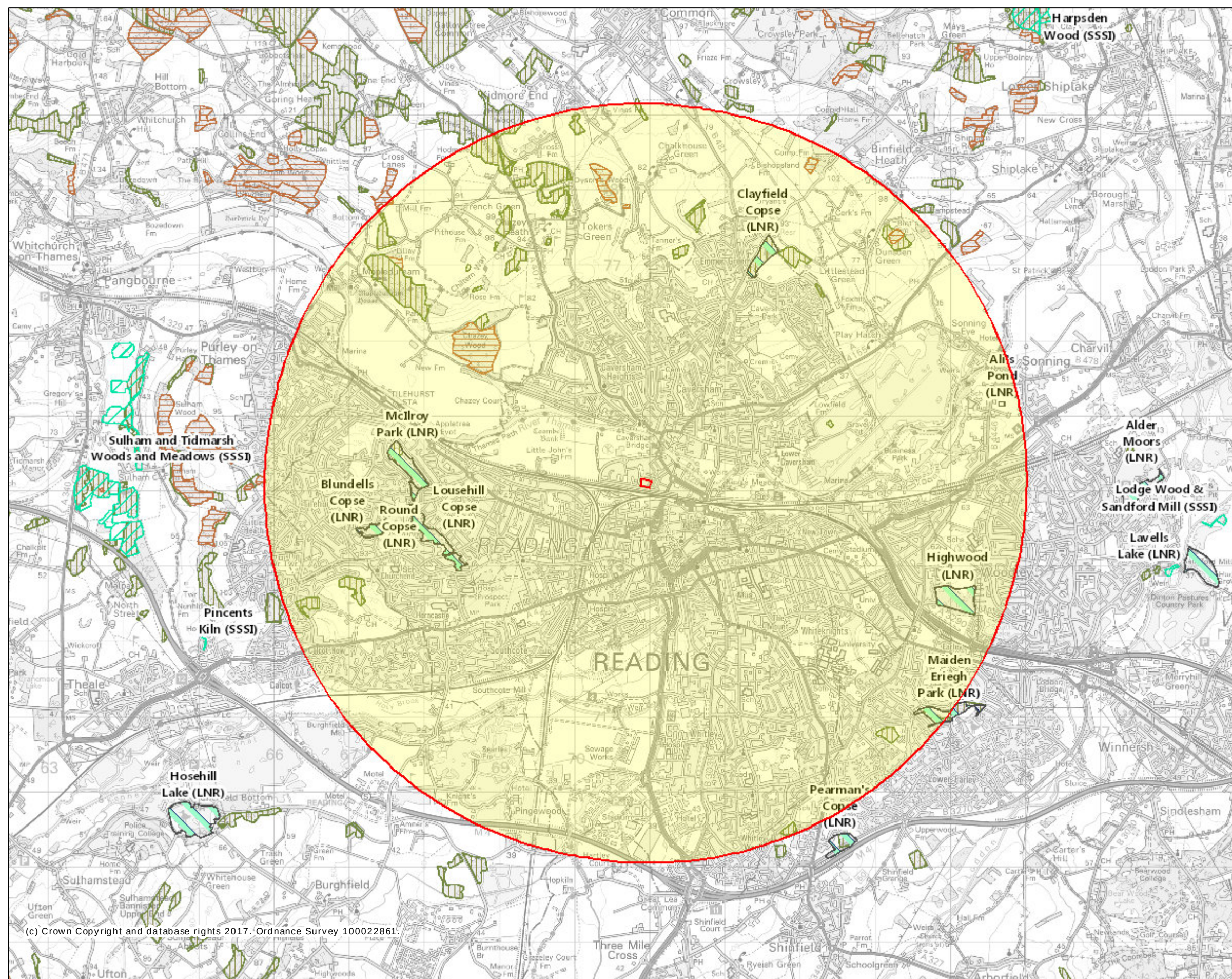
4. For soft landscape planting plan refer to RG-L-03.

FINAL COORDINATION

Project			
Cox & Wyman			
Reading			
Drawing Title			
Landscape			
General Arrangement			
Date	Scale	Drawn by	Check by
20.06.17	1:250 @A1	MV	MY
Project No	Drawing No	Revision	
24325	RG-L-01	D	

Appendix 5150/2:

Information obtained from Multi-Agency Geographic Information for
Countryside (MAGIC) database



Legend

- Local Nature Reserves (England)
- National Nature Reserves (England)
- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Projection = OSGB36

xmin = 461900

ymin = 168200

xmax = 479400

ymax = 179700

Map produced by MAGIC on 4 April, 2017.

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Site Check Report Report generated on Tue Apr 04 2017
You selected the location: Centroid Grid Ref: SU709741
 The following features have been found in your search area:

Local Nature Reserves (England) - points

Reference	1009619
Name	ALI'S POND
Hectares	0.43
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009619
Reference	1009369
Name	BLUNDELLS COPSE
Hectares	5.55
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009369
Reference	1008844
Name	CLAYFIELD COPSE
Hectares	8.65
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1008844
Reference	1008952
Name	HIGHWOOD
Hectares	15.23
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1008952
Reference	1009372
Name	LOUSEHILL COPSE
Hectares	13.03
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009372
Reference	1009628
Name	ROUND COPSE
Hectares	1.66
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009628
Reference	1009374
Name	MCILROY PARK
Hectares	11.98
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009374

Local Nature Reserves (England)

Reference	1009619
Name	ALI'S POND
Hectares	0.43
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009619
Reference	1009369
Name	BLUNDELLS COPSE
Hectares	5.55
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009369
Reference	1008844
Name	CLAYFIELD COPSE
Hectares	8.65
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1008844
Reference	1008952
Name	HIGHWOOD
Hectares	15.23
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1008952
Reference	1009372
Name	LOUSEHILL COPSE
Hectares	13.03
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009372
Reference	1009373
Name	MAIDEN ERIEGH PARK
Hectares	10.15
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009373
Reference	1009628

04/04/2017

Name	ROUND COPSE
Hectares	1.66
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009628
Reference	1009374
Name	MCILROY PARK
Hectares	11.98
Hyperlink	http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009374

National Nature Reserves (England) - points
No Features found

National Nature Reserves (England)
No Features found

Ramsar Sites (England) - points
No Features found

Ramsar Sites (England)
No Features found

Sites of Special Scientific Interest (England) - points
No Features found

Sites of Special Scientific Interest (England)
No Features found

Special Areas of Conservation (England) - points
No Features found

Special Areas of Conservation (England)
No Features found

Special Protection Areas (England) - points
No Features found

Special Protection Areas (England)
No Features found



Legend

- Priority Habitat Inventory - Calaminarian Grassland (England)
- Priority Habitat Inventory - Coastal and Floodplain Grazing Marsh (England)
- Priority Habitat Inventory - Good quality semi-improved grassland (Non Priority) (England)
- Priority Habitat Inventory - Lowland Calcareous Grassland (England)
- Priority Habitat Inventory - Lowland Dry Acid Grassland (England)
- Priority Habitat Inventory - Lowland Meadows (England)
- Priority Habitat Inventory - Purple Moor Grass and Rush Pasture (England)
- Priority Habitat Inventory - Upland Calcareous Grassland (England)
- Priority Habitat Inventory - Upland Hay Meadows (England)
- Priority Habitat Inventory - Lowland Heathland (England)
- Priority Habitat Inventory - Mountain Heaths and Willow Scrub (England)
- Priority Habitat Inventory - Upland Heathland (England)
- Priority Habitat Inventory - Blanket Bog (England)
- Priority Habitat Inventory - Lowland Fens (England)
- Priority Habitat Inventory - Lowland Raised Bog (England)
- Priority Habitat Inventory - Reedbeds (England)
- Priority Habitat Inventory - Upland Flushes, Fens and Swamps (England)
- Ancient Woodland (England)**
 - Ancient and Semi-Natural Woodland
 - Ancient Replanted Woodland
 - Priority Habitat Inventory - Deciduous Woodland (England)
 - Forestry Commission Legal Boundary (England)

Projection = OSGB36

xmin = 461900

ymin = 168200

xmax = 479400

ymax = 179700

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Appendix 5150/3:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2010 (as amended)
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett[#] (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CROW) Act for England and Wales 2000.** The CROW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2010 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 41 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to reproduce or to hibernate, or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal
21. The Regulations do provide a licensing system that permit otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

Appendix 5150/4:

Building descriptions and assessment of bat roosting potential

Building	Photograph(s)	Description	Features providing bat roosting potential / Evidence of Bats	Assessment of bat roosting potential
B1a		Building B1a is a two storey building of brick construction with a flat roof. The building supports a number of windows. The roof is fitted with a false ceiling with wooden boarding above. The space between the ceiling and the roof is partially filled with fibreglass insulation. Part of the building is in active use as an office and for storage, although parts of the building remain unused.	No access points were identified. Further, the building is of a construction type not normally favoured by roosting bats and does not support any loft voids. Further, the internal space is light in nature due to the presence of electric lighting and number of windows.	Negligible potential value for roosting bats.
B1b and c		Building B1b and c are single storey buildings of brick construction with multiple pitched roofs supporting corrugated asbestos sheeting. The buildings also support a number of metal garage doors, which appear to remain permanently open during the day. A small section of the roof is single sloping, and supports slate tiles. A number of skylights are also present throughout. Internally, the buildings are open to the roof. The roof is formed by metal beams. Electric lighting is fitted throughout the buildings. The buildings are in active use as a	Access points are available to the interior space via the open garage doors. However, the buildings are largely of a construction type not normally favoured by roosting bats and do not support any loft voids or enclosed spaces. Further, the internal space is light (due to the presence of electric lighting and skylights) and subject to noise disturbance throughout the day. A small section of building B1b in the south of the site supports a single sloping, slate roof. A number of gaps were recorded in the Slate roof tiles, whilst gaps and cracks were also recorded in the brick masonry at this	Negligible potential value for roosting bats, although section of slate-tiled building in the south of low value.

Building	Photograph(s)	Description	Features providing bat roosting potential / Evidence of Bats	Assessment of bat roosting potential
		warehouse, with some areas partitioned off for use as offices.	location. No evidence for the presence of bats was recorded during the external or internal inspections of this building.	
B1d		Building B1d is an open metal structure formed by metal frame with a flat roof formed by meatal beams and supporting corrugated metal sheeting. The structure is in active use as a working area.	The building is open and therefore accessible. However, the building is of a construction type not normally favoured by roosting bats and does not comprised any enclosed spaces. Further, the space is light, open to the elements and subject to noise disturbance throughout the day. No evidence for the presence of bats was	Negligible potential value for roosting bats.

Building	Photograph(s)	Description	Features providing bat roosting potential / Evidence of Bats	Assessment of bat roosting potential
			recorded during the external or internal inspections of this building.	
B1e	 	Building B1e is a brick building with a pitched roof supporting corrugated asbestos sheeting. The building also supports skylights, soffit boxes, chicken-wired metal louvres and a number of windows (including broken windows). Internally, the building is open to the roof. The building is in active use for storage and is very cluttered internally.	Opportunities were recorded in the form of a small number of gaps in the roof tiles and several windows were recorded to have been broken. However, the building is largely in a good state of repair, whilst the internal space was very cluttered and light in nature due to the presence of electric lighting and skylights. Further, the building is of a construction type not normally favoured by bats. No evidence for the presence of bats was recorded during the external or internal inspections of this building.	Negligible potential value for roosting bats.
B2		Building B2 is a two storey building of brick construction with a pitched roof supporting slate tiles and slate ridge tiles. The section of the building within the east was recorded to support a single sloping roof and supports a number of wooden garage doors. Internally, an enclosed space is present at the apex of the roof formed by a chipboard ceiling. This area was not	Access opportunities are available via gaps above/below an external door on the first floor, whilst a number of hole and gaps were recorded in the brick masonry. In addition, opportunities are available via a number of lifted tiles. No evidence of bats was recorded during the external or internal inspections of this building.	Low potential value for roosting bats.

Building	Photograph(s)	Description	Features providing bat roosting potential / Evidence of Bats	Assessment of bat roosting potential
		accessible. At the time of survey, the majority of the building did not appear to be in active use, although the eastern section was in use for storage.		
B3		Building B3 is a single storey building of brick construction with a single sloping roof supporting corrugated metal sheeting. The building is in active use as an electricity substation. Internal access was not available at the time of survey due to the presence of asbestos.	No features of bat potential were recorded at the time of survey, whilst the building is of a construction type not normally favoured by bats. No evidence for the presence of bats was recorded during the external or internal inspections of this building.	Negligible potential value for roosting bats.

Appendix 5150/5:

Examples of bat boxes

Bat Boxes

Schwegler bat boxes are made from 'woodcrete' and have the highest rates of occupation of all types of box.

The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting.

Boxes can be hung from a branch near the tree trunk or fixed using 'tree-friendly' aluminum nails.

Schwegler 2F Bat Box

The 2F from Schwegler is the most popular general purpose bat box. It is particularly attractive to the smaller British bats. A simple design made from strong, natural WoodcretePLUS material, with a narrow entrance slit on the front. Hang from a tree branch near the trunk, or fix to a trunk with the supplied 'tree-friendly' aluminium nail.

Woodcrete construction, 16cm diameter, 33cm height, 4kg weight.



2FN Bat Box

A large bat box featuring a wide access slit at the base as well as an access hole on the underside. Particularly successful in attracting Noctule and Bechstein's bats.

Woodcrete construction, 16cm diameter, height 36cm.

1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

Woodcrete (75% wood sawdust, concrete and clay mixture)

Width: 27cm

Height: 43cm

Weight: 7.3kg



Bat Boxes

Bat Brick House

The Bat Brick House is a cleverly designed bat box with a removable brick front, that provides a permanent roosting site suitable for most British bat species, as an integral part of the fabric of a building.

The brick bond of the host wall depends on the type of box, i.e. Stretcher Bond (SB) or Quarter Bond (QB).

The main housing of the box is made out of 100% recycled plastic. The front plate is bonded with slivers of bricks

matching the host wall, one of which will have a slot cut into it for access of bats. The box contains a removable Baffle board for bats to cling to, and an angled wooden base which enables self-cleaning.

Four stainless steel screws hold the removable brick-faced front plate to the box, meaning that the box blends in seamlessly with the host wall.

Available in SB to fit half bond brick work, and QB to fit english bond, old english and flemish bond. Both box types are designed for 3 inch or 75mm courses only.



Appendix 5150/6:

Examples of bird boxes

Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of box. They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. Boxes are made from 'Woodcrete'. This 75% wood sawdust, clay and concrete mixture is breathable and very durable making these bird boxes extremely long lasting.



1SP Sparrow Terrace

House sparrows are gregarious and prefer to nest close to each other, so this woodcrete box provides room for three families under one roof. Site on a building at a height of at least 2m (e.g. under eaves.)

Schwegler 9A/11 House Martin Nests

These woodcrete nests are durable and ready for immediate use when birds return each summer. Easily fixed under the eaves on the outside walls of buildings, at least 2 metres from the ground. The wooden backing board may be painted to match the building.



1B Bird Box

This is the most popular box for garden birds and appeals to a wide range of species. The box can be hung from a branch or nailed to the trunk of a tree with a 'tree-friendly' aluminium nail.

Available in four colours and three entrance hole sizes. 26mm for small tits, 32mm standard size and oval, for redstarts.

Schwegler No 17 Triple Cavity Swift Box

This box is constructed from plant-fibre based material. It can accommodate 3 pairs of swifts assisting the rapid formation of colonies. It should be sited 6-7m above the ground, near the roof of a building, ensuring unobstructed access for birds.



Dimensions: 150H x 900W x 150D mm. Weight 7kg

Bird Boxes

Bird Brick House

The Bird Brick House is a cleverly designed bird box with a removable brick front, that provides a permanent nesting site for hole-nesting birds, as an interegral part of the fabric of a building.



The brick bond of the host wall depends on the type of box, i.e. Stretcher Bond (SB) or Quarter Bond (QB).

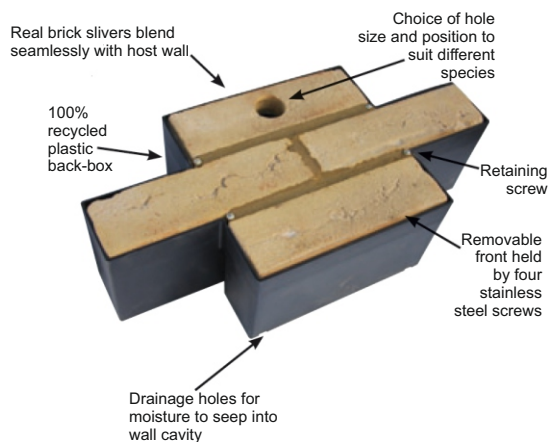
The main housing of the box is made out of 100% recycled plastic. The front plate is bonded with slivers of bricks matching the host wall, one of which will have a bird access hole cut into it (size depending on target bird species).

Four stainless steel screws hold the removable brick-faced front plate to the box, meaning that the box blends in seamlessly with the host wall whilst enabling easy cleaning and monitoring of the box.

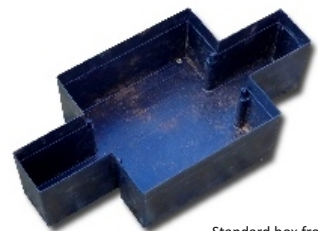
Available in SB to fit half bond brick work, and QB to fit english bond, old english and flemish bond. Both box types are designed for 3 inch or 75mm courses only.

Available in 5 entrance hole sizes:

25mm for blue, coal and marsh tits
28mm for great tits, tree sparrows and pied flycatchers
32mm for house sparrows and nuthatches
50mm for starlings
50mm oval hole for swifts



Standard box front on



Standard box front off



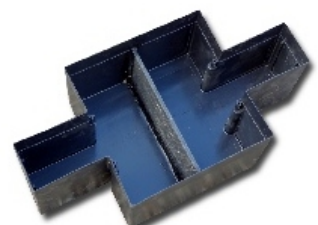
Swift box front on



Swift box front off



Sparrow box front on



Sparrow box front off

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