

Heathrow Garden Centre, Sipson Road, London

Phase 2 Ecology Report

Produced for Lewdown Holdings Ltd
By Applied Ecology Ltd

June 2015

Document Control:

Version	Date	Version Details	Prepared by	Checked by	Approved by
1.0	07.10.2014	Final	CW	DP	DP
2.0	10.06.2015	Final – breeding bird survey results added	RD	DP	DP

Prepared for: Lewdown Holdings Ltd

Title: Heathrow Garden Centre, Sipson Road, London – Phase 2 Ecology Report

Project number: AEL0924

Document version: 2.0

Document status: Final

Document date: 10 June 2015

Signed on behalf of Applied Ecology Ltd:



Dr Duncan Painter

Director

APPLIED ECOLOGY LTD

St. John's Innovation Centre
Cowley Road
Cambridge
CB4 0WS

Tel: 01223 422 116

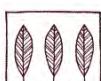
Fax: 01223 420 844

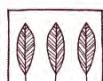
Mobile: 07725 811 777

Email: info@appliedecology.co.uk

Contents

1	Introduction	3
	Reptile Legislation	3
	Bat Legislation	4
	Bird Legislation	4
2	Survey Approach	7
	Reptile Survey	7
	Bat Survey	8
	Breeding Bird Survey	8
3	Survey Findings	10
	Reptiles	10
	Bats	10
	Birds	11
4	Conclusions & Recommendations	13
	Conclusions	13
	Recommendations	14
	Appendix 1	16





1 Introduction

- 1.1 Applied Ecology Ltd (AEL) was commissioned by Lewdown Holdings Ltd in August 2013 to complete a reptile and bat survey of a former garden centre site located off Sipson Road London, located approximately 1km to the north of Heathrow Airport (central grid reference: TQ 07319 78141). The site location is shown in **Figure 1.1**.
- 1.2 The survey site was subject to a walkover survey by AEL in April 2012¹, which identified the presence of habitat of potential value to reptiles, and recommended that a specific reptile survey be completed during the reptile active period (March–October) to confirm reptile presence / absence and a bat activity survey.
- 1.3 At the request of the client a breeding bird survey was undertaken in May–June 2015 to assess populations of breeding birds at the site, in particular to check for the presence of nightingale *Luscinia megarhynchos*.
- 1.4 This report summarises the findings of the specific reptile, bat and bird surveys. The potential effects of development on reptiles, bats and birds are assessed with recommendations, where necessary, as to appropriate mitigation in line with best practice guidelines.

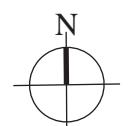
Reptile Legislation

- 1.5 All UK native reptile species are protected by law. The Wildlife & Countryside Act 1981 (and later amendments) provides the legal framework for this protection. Sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* are rare species that have restricted distributions in the UK and the greatest level of legal protection but do not occur in London.
- 1.6 The more widespread and common reptile species, namely common lizard, slow-worm, grass snake and adder are protected against deliberate or reckless killing and injury. Natural England (formerly English Nature²) considered that reptiles are likely to be threatened and the law breached by activities such as the following:
 - Archaeological and geotechnical investigations
 - Clearing land, installing site offices or digging foundations
 - Cutting vegetation to a low height
 - Laying pipelines or installing other services
 - Driving machinery over sensitive areas
 - Removing rubble, wood piles and other debris.
- 1.7 Under the Wildlife & Countryside Act 1981, a conviction can result in a fine, and/or up to six months imprisonment for each offence. Harm to more than one animal may be taken as separate offences.

¹ Applied Ecology Ltd (April 2012). *Sipson Village – Ecology Report*. Issued to Lewdown Holdings Ltd on 11 May 2012.

² English Nature (2004) *Reptiles: guidelines for developers*.





Heathrow Garden Centre

Figure 1.1: Site location

Bat Legislation

Wildlife & Countryside Act

1.8 The Wildlife and Countryside Act 1981 (as amended) provides the main legal framework for nature conservation and species protection in the UK. All UK native species of bat are listed in Schedule 5 of the WCA. The legislation protects bats and their roosts under Section 9 of the Act, such that it is an offence to:

- Intentionally kill, injure or take a bat
- Possess, control or sell any live or dead specimen or anything derived from a bat
- Intentionally damage, destroy or obstruct access to any structure or place used for shelter or protection (i.e. a roost) by a bat
- Deliberately, or intentionally disturb a bat while it is occupying a roost

The Habitats Directive (1992)

1.9 The European Community Council Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC) aims to protect the European Union's biodiversity. It requires member states to provide strict protection for specified flora and fauna (i.e. European Protected Species) outside of designated sites.

Conservation of Habitats and Species Regulations (SI 2010/490)

1.10 The Conservation of Habitats and Species Regulations formally transpose the requirements of the Habitats Directive into national law. They build on existing nature conservation legislation for the protection of habitats and species by introducing requirements for assessing plans and projects affecting European designations and licensing certain activities affecting European Protected Species. All bat species are listed as 'European protected species of animals'.

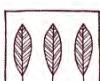
1.11 Licences to permit illegal activities relating to bats and their roost sites can be issued for specific purposes and by specific licensing authorities in each EU country under the auspices of the Conservation of Habitats and Species Regulations. These are sometimes called 'derogation licences' or 'European Protected Species' (EPS) licences, and in England, are issued by Natural England.

Bird Legislation

Wildlife & Countryside Act

1.12 All UK species of wild bird, their nests and eggs are protected by law (for the whole or part of the year) by the Wildlife and Countryside Act 1981 (as amended and strengthened by the Countryside and Rights of Way (CROW) Act 2000). The Act makes it an offence (with exception to species listed in Schedule 2) to intentionally:

- kill, injure, or take any wild bird,



- take, damage or destroy the nest of any wild bird while that nest is in use or being built (also [take, damage or destroy the nest of a wild bird included in Schedule ZA1] under the Natural Environment and Rural Communities Act 2006), or
- take or destroy an egg of any wild bird.

1.13 Special penalties are available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young. The Secretary of State may also designate Areas of Special Protection (subject to exceptions) to provide further protection to birds. The Act also prohibits certain methods of killing, injuring, or taking birds, restricts the sale and possession of captive bred birds, and sets standards for keeping birds in captivity.

Population status

1.14 The population status of birds regularly found in the UK, Channel Islands and the Isle of Man is reviewed every five years to provide an up-to-date assessment of conservation priorities³. A total of 247 species has been assessed and placed onto one of three lists of Conservation Concern. Red, Amber and Green. Forty species are Red-listed, 121 are Amber-listed and 86 are Green-listed.

1.15 Seven quantitative criteria are used to assess the population status of each species and to place it on the Red, Amber or Green list. These are: global conservation status, recent decline, historical decline, European conservation status, rare breeders, localised species and international importance.

- Red-listed species are those that are Globally Threatened according to the IUCN criteria; those whose populations or ranges have declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.
- Amber-listed species are those with an unfavourable conservation status in Europe; species whose populations or ranges have declined moderately in recent years; those whose populations have declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.
- Green-listed species are those that do not fulfil any of the Red- or Amber-list criteria and they are not considered further in this report.

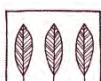
The Habitats Directive (1992)

1.16 The European Community Council Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC) aims to protect the European Union's biodiversity. It requires member states to provide strict protection for specified flora and fauna (i.e. European Protected Species) outside of designated sites.

The Birds Directive

1.17 The European Union meets its obligations for bird species under the Bern Convention and Bonn Convention and more generally by means of Directive 2009/147/EC (Birds Directive)

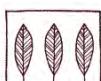
³ Gregory, R D; Wilkinson, N I; Noble, D G; Robinson, J A; Brown, A F; Hughes, J; Procter, D A; Gibbons, D W and Galbraith, C A (2002) The Population Status of Birds in the United Kingdom, Channel Islands and Isle of Man: an Analysis of Conservation Concern 2002–2007. British Birds 95: 410–450



on the conservation of wild birds (the codified version of Council Directive 79/409/EEC as amended). The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal mechanisms for their achievement are at the discretion of each Member State (in the UK delivery is via several different statutes).

1.18 The main provisions of the Directive include:

- The maintenance of the populations of all wild bird species across their natural range (Article 2) with the encouragement of various activities to that end (Article 3).
- The identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex I of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance (Article 4). (Together with Special Areas of Conservation designated under the Habitats Directive, SPAs form a network of European protected areas known as Natura 2000).
- The establishment of a general scheme of protection for all wild birds (Article 5).
- Restrictions on the sale and keeping of wild birds (Article 6).
- Specification of the conditions under which hunting and falconry can be undertaken (Article 7). (Huntable species are listed on Annex II of the Directive).
- Prohibition of large-scale non-selective means of bird killing (Article 8).
- Procedures under which Member States may derogate from the provisions of Articles 5–8 (Article 9) — that is, the conditions under which permission may be given for otherwise prohibited activities.
- Encouragement of certain forms of relevant research (Article 10 and Annex V).
- Requirements to ensure that introduction of non-native birds do not threaten other biodiversity (Article 11).



2 Survey Approach

Reptile Survey

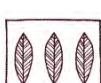
- 2.1 A seven-visit reptile presence/absence survey of all accessible land within the site boundary was completed by AEL in line with guidelines provided by the Herpetofauna Groups of Britain and Ireland⁴ (HGBI), as per the current recommendation provided on the Natural England website, as well as advice provided in the more recent Advice Sheet produced by Froglife⁵.
- 2.2 The optimal months for surveying reptiles are April, May and September. During these months the recommended times to check artificial refuges are from 08:30 to 11:00 in the morning, and from 16:00 to 18:30 in the evening, to avoid the heat of the midday sun. Note that checking at other times is acceptable providing weather conditions are suitable. Surveys should also ideally take place when the air temperature is between 9°C and 18°C. However, changes in weather type can also influence the results, with the likelihood of seeing reptiles increasing, for example, on hot days following a cooler spell; or in showery weather conditions following a prolonged dry spell.
- 2.3 In terms of the current survey, 57 artificial reptile refuges (roofing felt mats) measuring 0.5m x 1m were installed in all areas of suitable habitat across the site on 4 September 2014, at a density of over 100 refuges per hectare of suitable habitat – see **Figure 2.1** for locations.
- 2.4 The refuges were left in situ for two weeks to allow any reptiles present sufficient time to locate them prior to the first survey visit, which took place on 18 September 2014.
- 2.5 During each visit, all refugia were checked for reptiles basking on or sheltering underneath them and the number, age category, species and location was recorded.
- 2.6 The remaining six survey visits to check for the presence of reptiles were completed on 19, 22, 23, 24, 25 and 26 September 2014 in weather conditions that were optimal for completing reptile survey on each occasion.

Limitations

- 2.7 Reptile survey in the south-west corner of the site could not be completed as access was restricted at the time of the survey. As this represented a relatively small proportion of the overall site, we consider that the results of the wider site survey are likely to be representative of the wider site as a whole, and the lack of survey access is not a significant limitation.

⁴ Herpetofauna Groups of Britain and Ireland (1998). *Evaluating local mitigation/translocation programmes: Maintaining best practice and lawful standards*. HGBI advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth. Unpubl.

⁵ Froglife (1999) *Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.





Key

- site boundary
- location of reptile refugia
- no survey access



Heathrow Garden Centre

Figure 2.1: Reptile refugia locations

Bat Survey

- 2.8 In line with BCT survey guidelines for buildings of low bat roost potential⁶, a bat roost emergence survey of the only building on site was completed on 4 September 2014, and was combined with a transect bat activity survey of the wider site.
- 2.9 Weather conditions were suitable for bats to be active with an air temperature at the start of the survey of 21.8°C falling to 19.3°C by the end of the survey, with no measurable wind, 100% cloud cover and no rain.
- 2.10 The emergence survey commenced 15 minutes before sunset (sunset was at 19:41) and lasted for 45 minutes, thereafter the surveyors slowly patrolled a transect route around the site until 21:30.
- 2.11 The emergence and transect survey was completed by two surveyors who were each equipped with a hand-held Pettersson D230 bat detector set in frequency division mode and ear-phones. The surveyors maintained fixed locations during the emergence survey, with locations chosen to ensure maximum coverage of the building.
- 2.12 The activity transect was walked by the same two surveyors who were each equipped with a hand-held Pettersson D230 bat detector and an Anabat SD2 detector that recorded all bat calls. The same transect was walked by both surveyors but in opposite directions.
- 2.13 Prior to the survey commencing eight static (1.5m high tripod mounted) time synchronised Anabat Express electronic bat detectors placed around the site to record automatically all bat calls and the time they were recorded.
- 2.14 The survey set-up including the location of the surveyors and the activity transect is shown by **Figure 2.2**.
- 2.15 All bats seen and heard and their activity and direction of flight were noted by the surveyors during the survey.
- 2.16 All bat calls recorded by the detectors were analysed using Analook computer software.

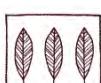
Breeding Bird Survey

- 2.17 A standardised BBS methodology⁷ was used as the basis for the survey, with three survey visits made over the recognised peak bird breeding period (May–June) in 2015.
- 2.18 The methodology was combined with aspects of the Common Birds Census⁸ in which the positions, age, sex and behaviour of individual birds were recorded on large-scale field maps, using a new map on each visit. All birds detected by sight and sound were recorded; however, species flying over the site were not transcribed onto the final map unless it was clear the birds were feeding over the site or were flying to or had originated on or near the site.

⁶ Hundt L (2012) *Bat Surveys: Good Practice Guidelines*, 2nd Edition. Bat Conservation Trust

⁷ Gilbert, G., Gibbons, D.W. & Evans, J (1998) *Bird Monitoring Methods: a manual of techniques for key UK species*. RSPB, Sandy, Bedfordshire.

⁸ Gilbert, G., Gibbons, D.W. & Evans, J (1998) *Bird Monitoring Methods: a manual of techniques for key UK species*. RSPB, Sandy, Bedfordshire.





Key

- site boundary
- no survey access
- building subject to a bat roost emergence survey
- surveyor locations during roost emergence survey
- tripod mounted Anabat Express electronic bat detector
- bat activity transect route

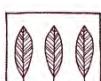


Heathrow Garden Centre

Figure 2.2: Bat roost emergence and transect survey

- 2.19 A transect route was planned to adequately cover all accessible parts of the site. The inaccessible area to the south-west of the site was surveyed mostly by listening for singing and calling birds.
- 2.20 Each survey started within half an hour of sunrise to coincide with the peak period of bird activity, and took approximately two hours to complete.
- 2.21 Every effort was made, using the surveyor's judgement and the BTO field recording methodology, to record any individual bird once only.
- 2.22 Once survey visits were completed, the information on each target species was transcribed from the field maps onto one map. Registrations fall into clusters of spatially distinct groups indicating the activity of particular individual or pairs of birds. For many species, dependant on breeding ecology, these clusters are indicative of territories, and were used to determine the numbers of breeding pairs⁹.
- 2.23 A total of three breeding season visits to the study area were completed, on 19 and 29 May and 6 June 2015.
- 2.24 Weather conditions during the surveys were generally fine with light cloud and free of rain. Visibility was good and these were suitable conditions for bird surveying.

⁹ Gilbert, G., Gibbons, D.W. & Evans, J (1998) Bird Monitoring Methods: a manual of techniques for key UK species. RSPB, Sandy, Bedfordshire.



3 Survey Findings

Reptiles

3.1 No reptiles were seen under or any of the artificial refugia on any of the seven survey occasions, and were not seen on land between the refugia.

Summary

3.2 Reptiles can be considered to be absent from the site on the basis of the current survey findings.

Bats

3.3 No bats were recorded roosting in the building during the emergence survey, with the automated detector left inside the building not recording any bat calls.

3.4 A total of four species of bat were recorded within the wider site during the survey.

3.5 The first recorded bat call was a noctule *Nyctalus noctula* bat at 19:48 (7 minutes after sunset) by the static detector on the western edge of the site. A single noctule was seen foraging at a height of approximately 30m above the site at 19:50. Noctule foraging calls were recorded by all of the static detectors located in the open with an average number of separate call files being 9 (range 1–9). A maximum of two individual bats were seen in the air at any one time.

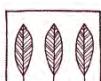
3.6 Small numbers of common pipistrelle *Pipistrellus pipistrellus* bats were recorded and seen commuting and foraging along the western scrub and tree border of the site from 20:04 (23 minutes after sunset). Common pipistrelle calls were recorded by three of the seven static detectors located along the western boundary and in the northeast corner of the site with an average number of separate call files being 11 (range 4–12). A maximum of two common pipistrelles were recorded in the air at any one time.

3.7 Very small numbers of soprano pipistrelle *Pipistrellus pygmaeus* calls were recorded by the static detectors from 20:13 (32 minutes after sunset). Soprano pipistrelle calls were recorded by five of the seven static detectors with an average number of call files per detector being 2 (range 1–4).

3.8 A single *Myotis* bat was seen and recorded by two of the static detectors commuting along the northern hedge boundary from east to west at 20:40 (59 minutes after sunset), before leaving the site about 20m east of the boundary with the M4, flying north across bramble scrub.

Summary

3.9 The site does not support day-roosting bats, but has habitat that is used by small numbers of bats for foraging and commuting purposes.



3.10 The site can be considered to be of local value for commuting and foraging bats on the basis of the number and species of bats present.

Birds

3.11 In total 23 bird species were recorded from within the site boundary, with 13 of these confirmed as breeding at the site, see **Table 3.1**

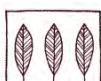
3.12 The Red-listed species recorded were linnet *Linaria cannabina*, whitethroat *Sylvia communis* and song thrush *Turdus philomelos*. Small breeding populations of each were present, with a pair of linnets nesting, four pairs of whitethroats breeding (and a peak count of five singing males on the first visit) and a single pair of song thrushes.

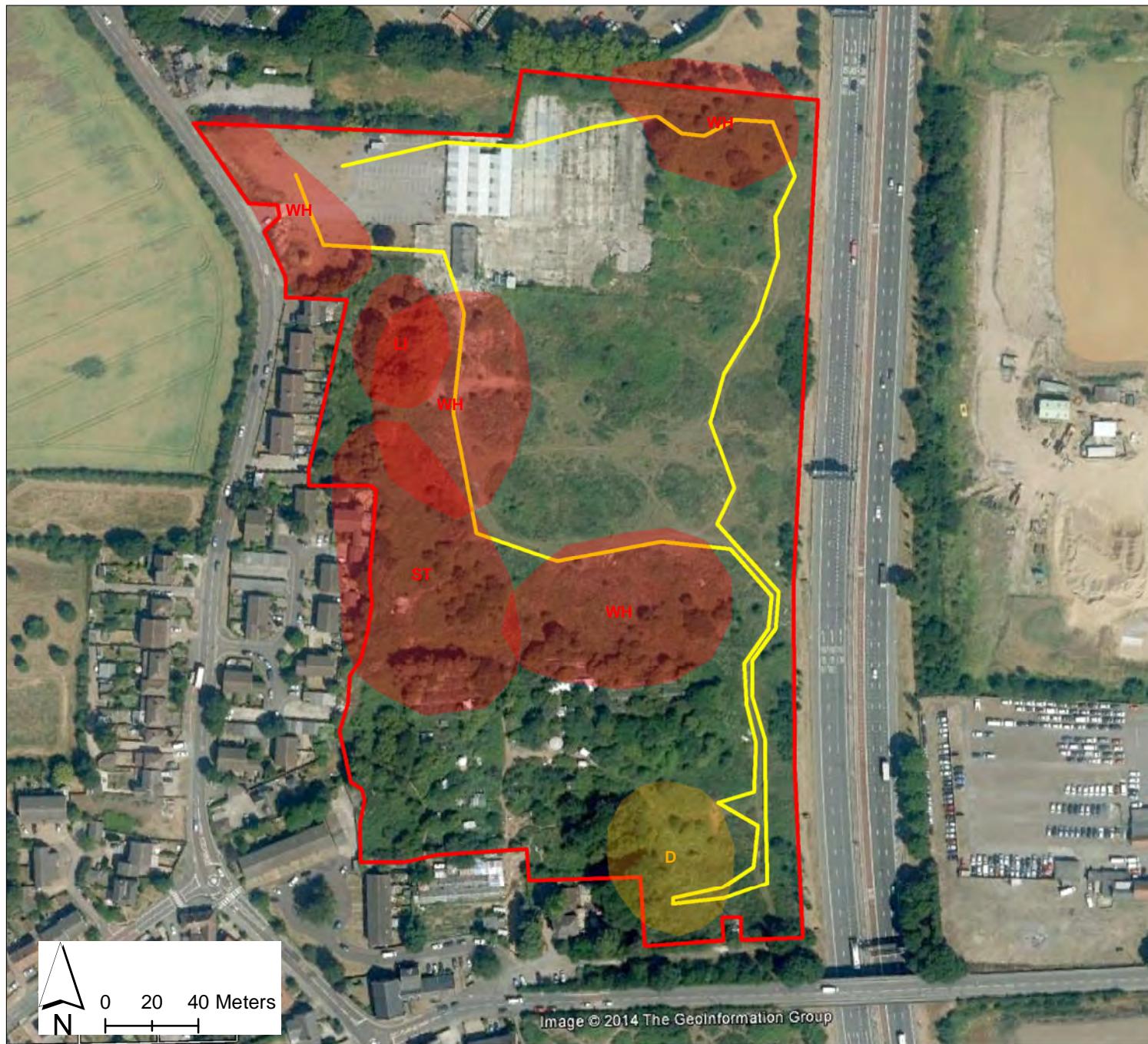
3.13 The Amber-listed species were dunnock *Prunella modularis*, green woodpecker *Picus viridis* and mistle thrush *Turdus viscivorus*. Of these only dunnock was found to be holding territory on the site, with up to three birds at the southern end on the third visit representing one or two pairs.

3.14 No nightingales were recorded during the survey, though the dense scrub at the southern end of the site looks suitable for this species.

3.15 A further five species were recorded as foraging/commuting individuals flying over the site. These were grey heron *Ardea cinerea*, herring gull *Larus argentatus*, lesser black-backed gull *Larus fuscus*, mute swan *Cygnus olor* and swallow *Hirundo rustica*.

3.16 Indicative locations of the territories of all Red- and Amber-listed species recorded are detailed in **Figures 3.1**. Indicative territories are not intended to be precise representations of size and extent, but are based on spatially discrete clusters of observations made over the three visits conducted in 2015.





Heathrow garden centre, Sipson

Breeding Bird Survey species of conservation concern

Legend

site boundary

transect route

Estimated territories

red list species

amber list species

Bird species

LI linnet

ST song thrush

WH whitethroat

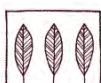
D dunnock

Figure 3.1

Map Scale @ A4: 1:2,500

Table 3.1 Bird species recorded and estimated breeding populations, listed alphabetically within decreasing order of conservation concern.

Species	UK Conservation Designation	Maximum count per visit			Estimated no. of breeding pairs	Confirmed breeding
		1st	2nd	3rd		
Linnet <i>Linaria cannabina</i>	Red	2	-	2	1	Yes
Whitethroat <i>Sylvia communis</i>	Red	5	3	4	4	Yes
Song thrush <i>Turdus philomelos</i>	Red	2	2	-	1	Yes
Dunnock <i>Prunella modularis</i>	Amber	1	3	1	1–2	Yes
Green woodpecker <i>Picus viridis</i>	Amber	-	-	1	-	-
Mistle thrush <i>Turdus viscivorus</i>	Amber	1	1	-	-	-
Blackbird <i>Turdus merula</i>	Green	4	2	2	2	Yes
Blackcap <i>Sylvia atricapilla</i>	Green	3	4	3	3–4	Yes
Blue tit <i>Cyanistes caeruleus</i>	Green	1	1	1	1	Yes
Carriion crow <i>Corvus corone</i>	Green	1	-	1	1	Yes
Chaffinch <i>Fringilla coelebs</i>	Green	-	1	-	0–1	-
Chiffchaff <i>Phylloscopus collybita</i>	Green	2	-	2	1–2	Yes
Collared dove <i>Streptopelia decaocto</i>	Green	2	-	1	0–1	-
Goldfinch <i>Carduelis carduelis</i>	Green	2	-	-	-	-
Great spotted woodpecker <i>Dendrocopos major</i>	Green	1	-	-	-	-
Great tit <i>Parus major</i>	Green	3	1	-	1	Yes
Greenfinch <i>Chloris chloris</i>	Green	1	-	3	0–2	-
Long-tailed tit <i>Aegithalos caudatus</i>	Green	-	-	2	0–1	-
Magpie <i>Pica pica</i>	Green	2	2	-	-	-
Ring-necked parakeet <i>Psittacula krameri</i>	Green	-	-	1	-	-
Robin <i>Erithacus rubecula</i>	Green	2	4	4	3	Yes
Woodpigeon <i>Columba palumbus</i>	Green	5	3	6	1–3	Yes
Wren <i>Troglodytes troglodytes</i>	Green	8	5	5	5–7	Yes



4 Conclusions & Recommendations

Conclusions

Reptiles

- 4.1 Given the absence of reptiles on site no further mitigation work or compensation is required.
- 4.2 Recommendations are given below to minimise the risk of reptile colonisation of the site.

Bats

- 4.3 The one building on site possessed no evidence of day-roosting bats, and the bat roost emergence survey suggests the building is not used by day roosting bats.
- 4.4 Demolition of the building is considered unlikely to result in significant adverse impacts on roosting bats, but given the confirmed presence of bat activity close to the building, and the potential for bats to roost under roof tiles in the future, precautionary recommendations are provided below in relation to demolition.
- 4.5 Small numbers of bats were utilising the scrub and trees that form a natural border around the site as flyways and foraging areas. The western and northern boundaries of the site were of particular value in this respect and in overall terms the site can be considered to be of local value to foraging and commuting bats.

Birds

- 4.6 In spite of the presence of Red- and Amber-listed species none of the species recorded on the site can be considered particularly scarce or unexpected. The birds recorded represent a fairly typical assemblage of mostly common birds of gardens, woodland edge and scrub habitats.
- 4.7 Fuller¹⁰ devised standard procedures for evaluating breeding bird communities. Recording the number of species on a site can provide a simple measure of species diversity from which to confer a level of conservation importance to a site. For breeding birds, the standard qualifying levels provided by Fuller are as follows:
 - National Importance, 85+ species
 - Regional Importance, 70–84 species
 - County Importance, 50–69 species
 - Local Importance, 25–49 species
 - 0–24 species

¹⁰ Fuller, R. (1980) A method for assessing the ornithological interest of sites for conservation. Biological Conservation 17 (229–239)



4.8 Based on the habitats and bird species present on site at the time of our walkover survey, and likely use by migrant bird species, it is our professional opinion that the site supports 13–17 breeding species, meaning the site is of no particular importance with regard to its breeding birds.

Recommendations

Reptiles

4.9 To minimise the risk of reptiles colonising the site from outside locations, it is recommended that grassland areas are maintained as short sward (less than 150mm) by regular cutting during the growing season.

Bats

4.10 Roof and ridge tiles of the remaining standing building should be removed by hand while maintaining a close watching brief for the presence of bats under the tiles. Tile removal should stop and advice sought from a licenced bat worker in the event that a bat is found.

4.11 Consideration should be given to maintaining the connectivity of the natural borders by retaining trees and hedges around the edges of the site and enhancing these pathways by planting native trees and hedges where gaps exist in the borders. The development layouts shown in **Appendix 1** provide habitat features that will be of value to foraging bats – notably extensive woodland/shrub cover and open water.

4.12 Consideration should be given to the incorporation of enclosed bat boxes into the external walls of new buildings within the site.

4.13 Any artificial lighting of the site should be kept to a minimum and positioned in such a way to avoid illuminating the northern and western boundary scrub and trees.

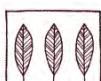
Birds

4.14 It is recommended that any operations that may disturb nesting bird habitat, such as work affecting trees, hedges or scrub, should be undertaken during the non-breeding season (i.e. between September and February inclusive).

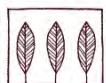
4.15 If this is not possible checks for nesting birds should be undertaken by a suitably qualified ornithologist immediately prior to the removal of such habitats. However, if this approach is adopted it may result in a delay of several weeks to any habitat clearance work should any nesting birds be encountered. At the very least an exclusion zone up to a suitable distance around any nests would be required to reduce disturbance and the chances of predation, and to prevent damage to nests or nestlings until they fledge.

4.16 The proposed redevelopment layouts for the site as shown in **Appendix 1** make allowances for a substantial proportion of greenspace, and are likely to enhance the value of the site for some bird species. Consideration should be given to establishing woodland/scrub areas composed of native species with a varied structure to support a varied avian assemblage.

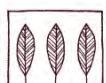
4.17 In particular, areas of relatively dense hedgerows, scrub or woodland understorey would provide secure nesting habitat for a number of species, including song thrush and



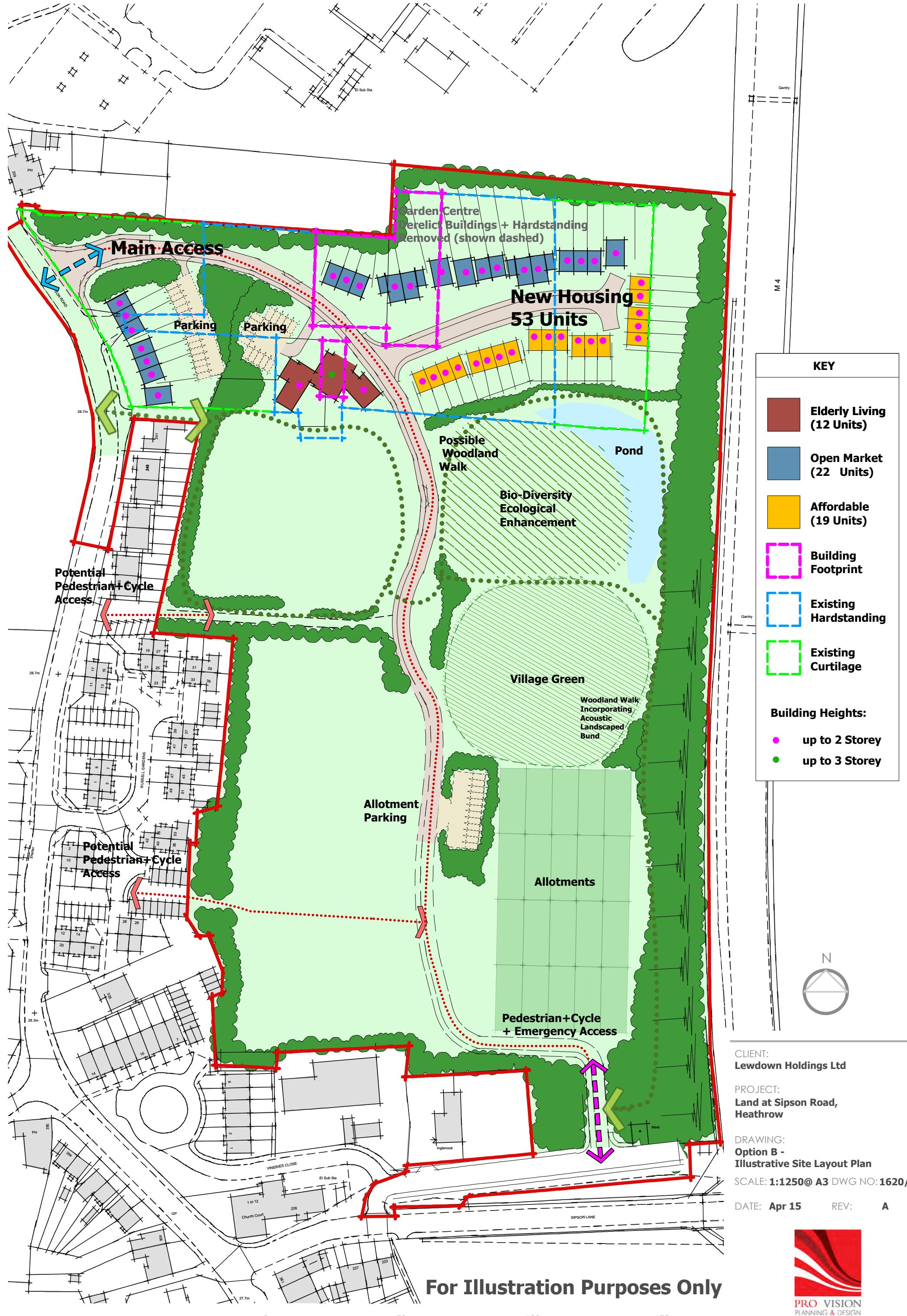
whitethroat – thick dense cover at the base of a hedge plays an important part in protecting nesting birds from predation.

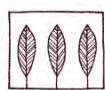


Appendix 1









© Applied Ecology Ltd, 2015