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31036/A5/MM
28th July 2021

Dear Caroline,

LAND NORTH WEST OF BICESTER- SUBMISSION OF "ANY OTHER INFORMATION" IN RESPECT OF A SUBMITTED ENVIRONMENTAL STATEMENT

We write, on behalf of Firethorn Developments Limited, in respect of the Environmental Statement (ES) submitted in support of the proposed development on land North West of Bicester, reference: 21/01630/OUT.

At the time of the planning application's submission on 6th May 2021, breeding bird and bat surveys had not yet been fully completed. The enclosed new Appendix to the ES, 10.8, contains the results of the surveys completed post submission. The submitted ES Biodiversity chapter was based on the results of the surveys completed before the submission of the application and the findings of the new Appendix 10.8 do not change the ES's conclusions.

Regulation 25 of the *Town and Country Planning (Environmental Impact Assessment) Regulations 2017*, as amended, sets out specific steps to be followed with regard to advertising and consulting on further information submitted in support of an ES. The information attached to this letter and provided in support of the submitted ES is not considered to be substantive however, Regulation 25(2) states that "*Paragraphs (3) to (11) apply in relation to further information **and any other information...***" Therefore, in order to ensure no opportunity for challenge to the planning application it is recommended that this information be advertised and published for consultation.

We look forward to receiving your response and if you have any queries in the meantime, please do not hesitate to contact me.

Yours sincerely,

Mary Mescall

Mary Mescall
Associate Environmental Planner

Encl. Appendix 10.8 Breeding Bird and Bat Survey Results Report

Land at North West Bicester

**Addendum to Chapter 10 of
ES Chapter 31036/A5/ES2021**

July 2021

Quality Management

Client:	Firethorn Developments Ltd.
Project:	North West Bicester
Report Title:	Addendum to Chapter 10 of ES Chapter 31036/A5/ES2021
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Contents

Text:

1	Introduction	1
2	Legislation	2
3	Bats	3
4	Breeding Birds.....	8
5	Mitigation and Enhancement Measures	12
6	Conclusions	15

Plans:

Plan 1	Bat Survey Transect
Plan 2	Static Detector Locations
Plan 3	Breeding Bird Survey Results

1 Introduction

1.1 Background

1.1.1 Aspect Ecology has been undertaking breeding bird and bat surveys, on behalf of Firethorn Developments Ltd., in association with the proposed development at Land at North West Bicester, centred at grid reference SP 575 252, hereafter referred to as 'the site'. Surveys were undertaken throughout 2020 and early 2021 to inform the Environmental Statement (ES) for the scheme (submitted in April 2021). This report details the results of additional surveys, undertaken in May 2021, post-submission of the ES.

1.1.2 The site is proposed for development of a new neighbourhood of up to 550 homes, associated access and landscaping.

1.2 Site Overview

1.2.1 The site is located to the north west of Bicester, Oxfordshire, south west of the B4100. The site is bound to the north-west by arable land and to the south-west by a watercourse, beyond which lies further agricultural land. The B4100 bounds a portion of the north-eastern boundary of the site whilst the Bicester Exemplar Scheme, comprising residential dwellings and active construction areas bound the remaining north-eastern boundary and south-eastern boundary.

1.2.2 The site itself is approximately 22ha in size, divided into two parcels and comprises a number of grassland fields and arable land, intersected and bound by hedgerows. A number of small areas of scrub and woodland are also present, whilst a watercourse flows off-site adjacent to the southern and eastern boundaries.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of surveys carried out, post-submission of the ES, to supplement information previously gathered (in 2020 and early 2021) regarding bat activity and breeding birds within the site. These surveys were undertaken to collect data to industry best-practise standards, as not all survey windows could be accommodated before submission of the ES. As such, the 2020 and early 2021 data were used to inform the impact assessment, whilst the project committed to collecting the remaining (May 2021) data and reviewing these in line with the previous assessment/assumptions.

1.3.2 The findings of the May 2021 surveys are reviewed in the context of the assessment in the ES to determine if predicted outcomes (regarding effects and significance) were appropriate/accurate. Furthermore, the 2021 data are used to determine if mitigation measures proposed in the ES are still considered appropriate.

2 Legislation¹

Bats

2.1.1 All British bats are classed as European Protected Species and therefore receive protection under The Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence to:

- Deliberately kill, injure or capture bats;
- Deliberately disturb bats, including in particular any disturbance which is likely to impair their ability to survive, to reproduce or to rear or nurture their young, or their ability to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance; or
- Damage or destroy a breeding site or resting place of a bat.

2.1.2 In addition, all British bats are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Damage or destroy, or obstruct access to, any structure or place which any bat uses for shelter or protection; or
- Disturb bats while occupying a structure or place used for that purpose.

2.1.3 If proposed development work is likely to destroy or disturb bats or their roosts a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats.

2.1.4 A number of bat species are also considered S41 Priority Species under the Natural Environment and Rural Communities (NERC) Act 2006.

Birds

2.1.5 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.

¹ See Appendix 5903/1 for detailed provisions

3 Bats

3.1 Methodology

Bat Survey Overview

3.1.1 Specific survey work in the form of dusk activity surveys was undertaken in August and September 2020, the results of which are included within the Baseline Preliminary Ecological Appraisal report and ES Chapter. A subsequent dawn activity survey was carried out in May 2021.

2021 Dawn Activity Survey

3.1.2 A dawn activity survey was undertaken by two surveyors on 28th May 2021, to ascertain the level of usage of the site by foraging or commuting bats.

3.1.3 Surveyors used an Anabat Scout handheld bat detector to aid identification of any bats observed. The survey method involves walking a planned transect route with key listening points, specifically covering habitats / features with particular potential for foraging / commuting bats. The transect was walked from 2 hours before dawn, with a five minute stop at each listening point. The transect route is shown below on Plan 1.

Plan 1: Bat activity transect route



3.1.4 This survey work was carried out during suitable weather conditions, as set out in Table 3.1 below.

Table 3.1. Manual walked transect survey details.

Date	Start & end times & time of sunset	Equipment used	Weather
28/05/2021	Start time: 02:55 End time: 05:19 Sunset: 04.55	Anabat Scout	Dry, 90% cloud, BF1, 10°C

BF0 = calm, BF12 = hurricane force.

3.1.5 An automated static detector survey was also carried out, during which Song Meter 4 (SM4) detectors were positioned at two locations within the site from 28th May to 4th June 2021 to record any bat activity. The two SM4 detectors were deployed in the same locations as previously used in August and September 2020 (for consistency and to aid comparison of results). These are shown on Plan 2. The detectors were set to switch on approximately 30 minutes before sunset and switch off approximately 30 minutes after sunrise. The weather conditions recorded during the static detector deployments are provided in Table 3.2 below.

Plan 2. Static Detector Locations.



Table 3.2. Automated detector survey details.

Deployment Night	Weather Conditions			
	Wind (BF)	Temp (°C)	Cloud Cover (%)	Precipitation
28/05/2021	1 – 2	10 – 12	50 – 100	Dry
29/05/2021	1 – 2	9 – 16	20 – 35	Dry
30/05/2021	2	7 – 15	0	Dry
31/05/2021	2 – 3	9 – 16	5 – 85	Dry
01/06/2021	3	10 – 16	5 – 10	Dry
02/06/2021	2	12 – 15	15 – 80	Dry

03/06/2021	2	11 – 13	60 – 100	Dry
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3.1.6 All bat calls were analysed to verify the species recorded during the survey work. Where recordings could not be reliably attributed to species (such as for *Myotis* species) or where overlaps between otherwise distinguishable species occur (such as in Pipistrelle bat calls around 40kHz or 50kHz) calls were identified to genus level.

3.2 Results

Survey Results

3.2.1 The May 2021 manual/walked activity survey recorded a single Noctule *Nyctalus noctula* pass during the survey, with a summary of the May 2021 manual activity survey provided in Table 3.3 below.

Table 3.3. Results of the dawn walked transect in May 2021.

Species	Number of Passes Recorded	Approximate % of Total Passes Recorded
Noctule	1	100
Total	1	100

"Big Bat" sp. refers to Serotine and Leisler's bats

3.2.2 A much lower level of bat activity was recorded during the May 2021 manual activity survey, compared to the 50 and 90 registrations recorded during the August and September 2020 dusk activity surveys respectively.

3.2.3 Across the three surveys, a total of at least six species were recorded with Common Pipistrelle being the most frequently recorded species.

3.2.4 Results of the automated static bat surveys from the two static detectors deployed in August 2020, September 2020 and May 2021 are summarised in Table 3.4 below. The results of the August and September 2020 have been included, however these are discussed in detail in the Baseline Preliminary Ecological Appraisal and as such are not evaluated separately within this report.

Table 3.4. Total bat registrations per survey session recorded throughout automated activity surveys at positions SD1 and SD2. See Plan 5903/ES1 for detector locations.

Detector Location	Species	No. Registrations			Total Registrations	Average Registrations per hour			% Detector Total	(% Overall Total)
		Aug 2020	Sept 2020	May 2021		Aug 2020	Sept 2020	May 2021		
SD1	Common Pipistrelle	44	30	13	87	0.62	0.33	0.19	6.25	(1.73)
	Soprano Pipistrelle	6	9	1	16	0.09	0.10	0.01	1.15	(0.32)
	Nathusius' Pipistrelle	0	0	0	0	0.00	0.00	0.00	0.00	(0.00)
	<i>Pipistrellus</i> sp.	0	0	0	0	0.00	0.00	0.00	0.00	(0.00)
	Noctule	49	241	286	576	0.69	2.63	4.13	41.35	(11.43)
	Serotine	0	0	1	1	0.00	0.00	0.01	0.07	(0.02)
	Unidentified Big Bat	11	536	142	689	0.16	5.86	2.05	49.46	(13.67)

	<i>Myotis</i> sp.	5	9	5	19	0.07	0.10	0.07	1.36	(0.38)
	<i>Plecotus</i> sp.	1	3	0	4	0.01	0.03	0.00	0.29	(0.08)
	Barbastelle	0	0	1	1	0.00	0.00	0.01	0.07	(0.02)
	Total:	116	828	449	1393				100.00	(27.63)
SD2	Common Pipistrelle	502	82	1477	2061	7.11	0.90	21.35	56.50	(40.88)
	Soprano Pipistrelle	49	107	556	712	0.69	1.17	8.04	19.52	(14.12)
	Nathusius' Pipistrelle	0	2	5	7	0.00	0.02	0.07	0.19	(0.14)
	<i>Pipistrellus</i> sp.	1	0	3	4	0.01	0.00	0.04	0.11	(0.08)
	Noctule	184	245	39	468	2.61	2.68	0.56	12.83	(9.28)
	Serotine	0	0	0	0	0.00	0.00	0.00	0.00	(0.00)
	Unidentified Big Bat	37	36	109	182	0.52	0.39	1.58	4.99	(3.61)
	<i>Myotis</i> sp.	59	22	39	120	0.84	0.24	0.56	3.29	(2.38)
	<i>Plecotus</i> sp.	3	76	12	91	0.04	0.83	0.17	2.49	(1.81)
	Barbastelle	0	0	3	3	0.00	0.00	0.04	0.08	(0.06)
	Total:	835	570	2243	3648				100.00	(72.37)
	OVERALL TOTAL:	951	1398	2692	5041					

3.2.5 The highest number of registrations, as shown in Table 3.4 above, were recorded at static detector location SD2 adjacent to the tree line and off-site watercourse in August 2020, September 2020 and May 2021. During May 2021, 64% of all registrations at the woodland location (SD1) were attributed to Noctule, 32% to 'Unidentified Big Bat', 3% to Common Pipistrelle, 1% to *Myotis* sp., with <1% for Soprano Pipistrelle *Pipistrellus pygmaeus*, Serotine *Eptesicus serotinus*, and Barbastelle *Barbastella barbastellus*. At the eastern field boundary (SD2), 66% of registrations were attributed to Common Pipistrelle, 25% to Soprano Pipistrelle, 5% to 'Unidentified Big Bat', 2% to Noctule and 2% to *Myotis* sp., with <1% attributed to Nathusius' Pipistrelle, *Pipistrellus* sp., Long-eared Bat *Plecotus* sp. and Barbastelle.

3.2.6 The average number of registrations per hour shows that the majority of species at the two locations recorded less than one registration per hour of the survey. In May 2021, Noctule and 'Unidentified Big Bat' recorded more than 1 registration per hour at SD1. At SD2, Common Pipistrelle, Soprano Pipistrelle and 'Unidentified Big Bat' recorded more than 1 registration per hour, with only Common Pipistrelle and Soprano Pipistrelle exceeding 5 registrations per hour.

3.3 Evaluation - Bats

3.3.1 The complete suite of manual and automated activity surveys at the site recorded a minimum of nine species across the site and generally low activity levels.

3.3.2 The May 2021 surveys did not identify any additional bat species to those in the August and September 2021 surveys, and activity levels in May 2021 were in line with those recorded in 2020. Common and Soprano Pipistrelle activity was slightly higher in the May 2021 surveys, but not enough to change the significance of the baseline findings. Surveys in May 2021 also confirmed continued use of the same areas of the site by bats, and did not identify any new areas of importance in terms of commuting (as evidenced by the manual activity survey).

3.3.3 As part of the design mitigation for the development, in-built green infrastructure corridors and buffer zones, including a key dark buffer zone, have been incorporated

into the site design. These took into account the main bat activity corridors identified during the August and September 2020 survey work. The results of the May 2021 are in accordance with the findings of the previous surveys and, as such, it is considered that the recommendations included within the ES Chapter and associated Baseline Preliminary Ecological Appraisal are still accurate and appropriate.

- 3.3.4 As per the conclusions of the ES Chapter, it is considered that gaps are already present within the on-site hedgerows and therefore any gaps required to facilitate the creation of pedestrian footpaths or roads would not be wide enough to sever or fragment commuting routes to a significant extent. The completed development will result in the loss of some habitats which would support an invertebrate prey biomass for foraging bats, such as semi-improved grassland. However, given the generally low levels of bat activity recorded within the site, it is considered that the habitats present do not form an important part of the bats foraging resource and as such are not considered likely to affect the conservation status of local bat populations.
- 3.3.5 During the construction phase, temporary loss of habitats which may provide a prey resource will occur. However, given the relatively low levels of bat activity and the further high quality habitats (e.g. watercourses) present within the wider off-site area, it is not considered that such a temporary loss of habitat would adversely affect local bat populations. Furthermore, it is considered that lighting during the construction phase would only be required during working hours (typically Monday – Friday 08:00 to 15:30 and Saturday 08:00 to 13:00) in the winter months when there are reduced daylight hours (e.g. lighting may be required from 08:00 to 09:00). At this time of year, bats would be hibernating and therefore are much less likely to be utilising foraging / commuting routes.
- 3.3.6 As such, the findings of this report are in agreement with the assessment in the ES Chapter which considers that the potential for adverse effects to occur is significantly reduced, such that it is unlikely that construction lighting would affect the conservation status of the local bat population. As such, construction effects on foraging / commuting bats are considered to be negligible and non-significant as per the findings of the ES Chapter.
- 3.3.7 The results of the May 2021 survey do not alter the findings of the ES Chapter which conclude that in the absence of mitigation, there is the potential for poorly designed lighting outside of the key dark buffer zone incorporated as part of the inherent design mitigation, to affect commuting and foraging bats. In the absence of suitable long-term management, retained habitats within the site may also deteriorate in quality such that they become less suitable for commuting and foraging bats, or for example inappropriate vegetation removal may open up gaps in commuting routes to an extent that bats would no longer use them.
- 3.3.8 Therefore, the findings of this report agree with the ES Chapter assessment that in the absence of mitigation, effects on commuting and foraging bats during the completed development phase are considered to be moderate adverse and long-term which is significant at the local level. As such, it is considered that the mitigation measures proposed within the ES Chapter will reduce the effect to a level which is not significant. The May 2021 survey results do not alter the ES Chapter assessment and as such these measures have been reproduced at Section 5 below.

4 Breeding Birds

4.1 Methodology

Previous Survey Overview

- 4.1.1 The use of the site by breeding birds was assessed in June 2020 and April 2021, the results of which are included within the Baseline Preliminary Ecological Appraisal report and ES Chapter. A subsequent breeding bird survey was carried out in May 2021.

Breeding Bird Survey – May 2021

- 4.1.2 The survey involved walking a route over the site and recording all ‘registrations’ of birds either seen or heard. The sightings or ‘registrations’ were recorded on a plan using standard BTO codes for each bird species and appropriate abbreviations.
- 4.1.3 This survey methodology has the advantage over other survey methods of mapping each registration to a specific point and this therefore illustrates those areas containing the highest density and diversity of bird species.

4.2 Results

Previous Survey Results

- 4.2.1 The first two of three proposed breeding bird surveys, undertaken in June 2020 and April 2021, recorded a total of 27 species within the Site (see Table 4.1 below). Sixteen of which were breeding or probably breeding and five considered to be possibly breeding. These species included Wood Pigeon, Great Tit, Chiffchaff, Whitethroat, Blackcap, Wren, Blackbird, Song Thrush, Robin, Chaffinch, Goldfinch, Red-legged Partridge, Greater Spotted Woodpecker, Magpie, Carrion Crow, Blue Tit, Long-tailed Tit, Goldcrest, Dunnock, Linnet, Bullfinch and Grey Heron. The remaining 6 species were recorded either adjacent to the site, flying over the site, or were represented by non-breeding individuals, including Red Kite, Grey Heron, Jackdaw, Skylark, Starling, and Meadow Pipit. Activity was dominated by common and widespread species, with activity focussed around the two patches of woodland, site boundaries and mature hedgerows. Territory numbers and distribution of the above species were estimated at the time of ES production (see Table 4.1), with final numbers to be confirmed following completion of the final survey.
- 4.2.2 Based on the survey data collected at the time of ES submission, the Site was considered to be of importance to breeding birds at no more than a Local level.

Table 4.1 Breeding Bird survey results from visits in June 2020 and April 2021

Species (and BTO species code)	RSPB listed	Est. no. pairs	Notes
Red kite (KT) <i>Milvus milvus</i>		0	Flying over.
Grey heron (H.) <i>Ardea cinerea</i>		0	Two in the eastern field in June.
Red-legged partridge (RL) <i>Alectoris rufa</i>	Feral	0-1	A pair in April.
Woodpigeon (WP) <i>Columba palumbus</i>		3+	In wood/mature hedgerow.
Great spotted woodpecker (GS) <i>Dendrocopos major</i>		0-1	
Magpie (MG) <i>Pica pica</i>		1+	
Jackdaw (JD) <i>Corvus monedula</i>		0	10 foraging in fields.

Species (and BTO species code)	RSPB listed	Est. no. pairs	Notes
Carrion crow (C.) <i>Corvus corone</i>		1+	
Blue tit (BT) <i>Cyanistes caeruleus</i>		4+	
Great tit (GT) <i>Parus major</i>		1+	
Skylark (S.) <i>Alauda arvensis</i>	Red	0	Noted in adjacent arable land.
Long-tailed tit (LT) <i>Aegithalos caudatus</i>		1	
Goldcrest (GC) <i>Regulus regulus</i>		0-1	
Chiffchaff (CC) <i>Phylloscopus collybita</i>		1+	
Blackcap (BC) <i>Sylvia atricapilla</i>		2+	
Whitethroat (WH) <i>Sylvia communis</i>		0-4	
Wren (WR) <i>Troglodytes troglodytes</i>		6+	
Starling (SG) <i>Sturnus vulgaris</i>	Red	0	10 foraging in fields.
Blackbird (B.) <i>Turdus merula</i>		1+	
Song thrush (ST) <i>Turdus philomelos</i>	Red	1+	
Robin (R.) <i>Erithacus rubecula</i>		4+	
Duncock (D.) <i>Prunella modularis</i>	Amber	3+	
Meadow pipit (MP) <i>Anthus pratensis</i>	Amber	0	A migrant in April.
Chaffinch (CH) <i>Fringilla coelebs</i>		1	
Linnet (L) <i>Linaria cannabina</i>	Red	0-1	
Goldfinch (GO) <i>Carduelis carduelis</i>		1	
Bullfinch (BF) <i>Pyrrhula pyrrhula</i>	Amber	1	

Combined survey results

- 4.2.3 A total of 29 species of birds was recorded during all three surveys, of which 17 appear to be breeding or probably breeding and five possibly breeding (i.e. habitat suitable to support the species is present). The remaining seven species were either recorded in adjacent areas or flying over the site, or were represented by non-breeding individuals. In addition, barn owl *Tyto alba* boxes were noted in the larger wood, but no obvious sign of usage by that species.
- 4.2.4 The May 2021 survey recorded two additional species, Rook and House Martin, but these were only recorded flying over, and foraging over, the site respectively. Similar species were observed in May, in similar numbers, as on the June 2020 and April 2021 surveys.
- 4.2.5 A summary of observations for each species across all three surveys is included in table 4.2, whilst the distribution of breeding birds is shown in plan 1.

Table 4.1 Combined breeding bird survey data (i.e. data in the Environmental Statement, supplemented with data from a survey in May 2021).

Systematic List of Species (and BTO species code)	RSPB listed	Est. no. pairs	Notes
Red kite (KT) <i>Milvus milvus</i>		0	Flying over.
Grey heron (H.) <i>Ardea cinerea</i>		0	Two in the eastern field in June.
Red-legged partridge (RL) <i>Alectoris rufa</i>	Feral	0-1	A pair in April.
Woodpigeon (WP) <i>Columba palumbus</i>		3	In wood/mature hedgerow.
Great spotted woodpecker (GS) <i>Dendrocopos major</i>		0-1	
Magpie (MG) <i>Pica pica</i>		1	
Jackdaw (JD) <i>Corvus monedula</i>		0	Up to 10 foraging in fields.
Rook (RO) <i>Corvus frugilegus</i>		0	Recorded flying over.
Carrion crow (C.) <i>Corvus corone</i>		1	
Blue tit (BT) <i>Cyanistes caeruleus</i>		4	
Great tit (GT) <i>Parus major</i>		1	

Systematic List of Species (and BTO species code)	RSPB listed	Est. no. pairs	Notes
Skylark (S.) <i>Alauda arvensis</i>	Red	0-1	In arable land.
House martin (HM) <i>Delichon urbicum</i>	Amber	0	Recorded forging over the site.
Long-tailed tit (LT) <i>Aegithalos caudatus</i>		1	
Goldcrest (GC) <i>Regulus regulus</i>		0-1	
Chiffchaff (CC) <i>Phylloscopus collybita</i>		1	
Blackcap (BC) <i>Sylvia atricapilla</i>		3	
Whitethroat (WH) <i>Sylvia communis</i>		3	
Wren (WR) <i>Troglodytes troglodytes</i>		6	
Starling (SG) <i>Sturnus vulgaris</i>	Red	0	Foraging in fields, nesting in adjacent housing.
Blackbird (B.) <i>Turdus merula</i>		3	
Song thrush (ST) <i>Turdus philomelos</i>	Red	2	
Robin (R.) <i>Erithacus rubecula</i>		4	
Dunnock (D.) <i>Prunella modularis</i>	Amber	3	
Meadow pipit (MP) <i>Anthus pratensis</i>	Amber	0	A migrant in April.
Chaffinch (CH) <i>Fringilla coelebs</i>		2	
Linnet (LI) <i>Linaria cannabina</i>	Red	0-1	
Goldfinch (GO) <i>Carduelis carduelis</i>		1	
Bullfinch (BF) <i>Pyrrhula pyrrhula</i>	Amber	1	

Plan 3: Distribution of breeding birds across the site. Red, Amber and Green List species are shown in their respective colour. Infilled circles indicate species breeding or probably breeding, unfilled circles those possibly breeding. Species locations do not necessarily show nest sites, but show the location of each species within its presumed territory. For the key to species, see the systematic list.



4.3 Evaluation - Birds

4.3.1 The May 2021 survey does not alter the assessment or conclusions reached in the ES, based on the June 2020 and April 2021 survey data.

- 4.3.2 Overall, the site supports a distinctly modest assemblage of breeding birds, primarily due to its relatively small size, considered significant at the Local level. Most activity is associated with the patches of woodland and mature hedgerows, where breeding species include song thrush, dunnock and bullfinch, all of which are included on the RSPB Red or Amber Lists having undergone major or moderate declines in their UK populations. Nevertheless, they remain very common and widespread both locally and nationally.
- 4.3.3 The few species associated with open fields or peripheral hedges/scrub include skylark and linnet, both also Red List species, although they remain common and widespread both locally and nationally, as are all the remaining species recorded breeding or possibly breeding at the site.

5 Mitigation and Enhancement Measures

5.1 Overview

5.1.1 The latest 2021 surveys for bats and breeding birds do not alter the assessments or conclusions in the Environmental Statement. As such, mitigation and enhancement measures based on data collected at the time of submission are still considered proportionate and appropriate. They have not changed, but are included here for completeness.

5.2 Bats

Sensitive Lighting Scheme

5.2.1 A key dark corridor is incorporated through the site as part of the inherent design mitigation. Additionally, as per the recommendations within the ES Chapter, a sensitive lighting scheme will be produced to ensure that dark corridors are maintained which will be secured via a planning condition. The sensitive lighting scheme shall be produced in accordance with good practice guidance² and the design will incorporate the following measures:

- Appropriate luminaire specifications – consideration should be given to the type of luminaires used, in particular luminaries should lack UV elements and metal halide and fluorescent sources should be avoided in preference for LED luminaries;
- A warm white spectrum (ideally <2,700K) should be adopted to reduce the blue light component;
- Light barriers / screening – new planting (e.g. hedgerows and trees) or fences, walls and buildings can be strategically positioned to reduce light spill;
- Spacing and height of lighting units – increasing spacing between lighting units will minimise the area illuminated and allow bats to fly in the dark refuges between lights. Reducing the height of lighting will also help decrease the volume of illuminated space and give bats a chance to fly over lighting units (providing the light does not spill above the vertical plane). Low level lighting options should be considered for any parking areas and pedestrian / cycle routes, e.g. bollard lighting, handrail lighting or LED footpath lighting;
- Light intensity – light intensity (i.e. lux levels) should be kept as low as possible to reduce the overall amount and spread of illumination;
- Directionality – to avoid light spill lighting should be directed only to where it is needed. Particular attention should be paid to avoid the upward spread of light so as to minimise trespass and sky glow; and
- Dimming and part-night lighting – lighting control management systems can be used, which involves switching off/dimming lights for periods during the night, for example when human activity is generally low (e.g. 12.30 – 5.30am).

² Bat Conservation Trust and Institution of Lighting Professionals (2018) *Guidance Note 08/18. Bats and artificial lighting in the UK. Bats and Built Environment Series.*

The use of such control systems may be particularly beneficial during the active bat season (April to October). Motion sensors can also be used to limit the time lighting is operational.

LEMP

5.2.2 In the absence of mitigation, anthropogenic effects (e.g. trampling, littering, etc.) on retained and newly created habitats, in particular the woodland and grassland have been identified within the ES Chapter. To ensure the ongoing maintenance and management of the retained and new habitats that form key foraging and commuting habitats for bats, a LEMP (or similar) will be produced at the detailed stage, which will be secured via condition. Any LEMP for the site will include the following key aims as a minimum:

- Introduce and establish new habitats to benefit biodiversity and landscape amenity;
- Contribute to local and national objectives, i.e. create and improve the condition of Priority Habitats and local Priority Species as appropriate; and
- Introduce long-term management to achieve ongoing biodiversity and landscape benefits and ensure opportunities for biodiversity are enhanced under the completed development.

5.3 Breeding Birds

Timing of Works

5.3.1 To avoid an offence under the relevant legislation, no clearance of suitable vegetation 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 will 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 5m 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. These measures can be secured via a planning condition for a CEMP (or similar) and implementation of the measures would reduce the effects to a negligible level.

LEMP

5.3.2 The potential risk to breeding birds identified within the ES Chapter through inappropriate long-term management can be avoided by undertaking clearance / trimming of woody vegetation outside of the aforementioned nesting bird season, or clearance would be preceded by an inspection for nesting birds by a suitably qualified ecologist. The assessment within the ES Chapter conclude that the minor risk of increased predation by cats, particularly within the woodland, can be discouraged by new native thorny scrub planting at the woodland edge to discourage cats entering the habitat. Such measures can be secured via a planning condition for a LEMP as discussed above, which can be produced at the detailed stage.

Sensitive Lighting Scheme

- 5.3.3 To avoid the effects of lighting on nesting birds, particularly Barn Owl which is known to be present in the local area, it is the conclusion of the ES Chapter and this Addendum Report that the sensitive lighting scheme set out above would mitigate for any adverse effects on such species.

5.4 Ecological Enhancements

- 5.4.1 The ES Chapter recommends bat boxes or bricks are integrated into new buildings within the site or erected on retained trees to increase bat roosting opportunities within the site. The ES Chapter also recommends the inclusion of bird boxes, both on retained trees and integrated into new buildings, targeted at a variety of species including common garden birds, Swift and Barn Owl. The findings of the above survey work carried out in May 2021 concurs with these recommendations.

6 Conclusions

- 6.1 Aspect Ecology carried out further specific surveys for bats and breeding birds in May 2021. Previous surveys were undertaken for bats (August and September 2020) and breeding birds (June 2020 and April 2021), the results of which are included within the ES Chapter and Baseline Preliminary Ecological Appraisal produced by Aspect Ecology in April 2021. The results of the May 2021 surveys were in accordance with the results of previous surveys, do not change baseline conditions/assumptions and do not alter assessments of importance regarding either Group and/or their use of the site.
- 6.2 Based on the results of the May 2021 surveys, it is concluded that the conclusions, assessments and proposed mitigation measures detailed within the ES Chapter are still accurate and appropriate.

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