

BRADLEY MURPHY DESIGN LTD 6 The Courtyard, Dark Lane, Hatton Warwickshire CV35 8XB

e: <u>info@bradleymurphydesign.co.uk</u> t:+44 (0)1926 676496 www.bradleymurphydesign.co.uk

ECOLOGICAL ASSESSMENT (including initial bat) One YMCA, Welwyn Garden City

September 2019

BMD.19.048.RPE/P1.801.-.Ecology & Bat



DOCUMENT HISTORY

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Declaration of compliance with professional code of ethics or conduct

The information which we have prepared and provided is true and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bonafide opinions.

Every reasonable attempt has been made to comply with the relevant best practice guidelines and BS42020:2013 (Biodiversity: Code of practice for planning and development).

Bradley Murphy Design Ltd

6 The Courtyard Hatton Technology Park Dark Lane Hatton Warwickshire CV35 8XB

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EXECUTIVE SUMMARY

Client	One YMCA				
Consultant	Bradley Murphy Design Ltd.				
Site					
Location	One YMCA, Peartree Lane, High Wycombe, Hertfordshire. AL7 3UL				
National Grid Reference	Approx. centre TL 244 126				
Over-view	The Site comprises a 125 bed hostel with communal facilities, maintenance facilities and				
	office space.				
Landscape context	The Site is located in an urban environment within Welwyn Garden City.				
DEVELOPMENT & PLANNING BACKGR	lound				
Proposed works	Development proposals comprise replacing the 125 bed YMCA hostel with new apartment				
	buildings to provide 43 residential units with associated car parking and landscaping. A 5-				
	storey block will be erected at the rear of the Site and a three-storey private apartment				
	block erected at the front of the Site.				
Planning stage	Initial Planning Stage.				
ECOLOGICAL BACKGROUND					
General	Bradley Murphy Design are not aware of any previous assessments for the Site.				
SURVEY					
Objectives	1. To provide an ecological baseline, including nature conservation value, of the site with				
	a focus on habitats and potential for protected and notable species. Particular				
	attention will be paid to the potential for the Site to support roosting bats.				
	2. To identify the need and level of more detailed species-specific surveys for a planning				
	application.				
	3. To guide the initial stages of master planning and indicative mitigation required to				
	ensure net biodiversity gain is achieved and favourable conservation status of species				
	utilising the site as a result of the proposed development.				
	4. To provide specialist advice and make appropriate recommendations to ensure				
	compliance with wildlife law and recognised best practice.				
Approach	Desk based assessment using the online resources, including the MAGIC database and data				
	from the Local Biological Record Centre (Herts Environmental Records Centre)				
	Habitat assessment – based on JNCC Phase 1 Habitat Survey				
	Initial assessment of structures and trees for their likelihood of supporting bat roosts				
Data	Evaluation of naditats based on the FEPs				
Date	19/08/2019				
Results	The site comprises a complex of one and two storey buildings with two internal courtyards				
	and associated call parking facilities. Security fercing and a series of species poor nedges				
	isolated babitate confined to the courtwards. Habitate present included amonity grassland				
	introduced chrubs species poor bedges and scattered trees				
	The nearest statutory nature conservation site is: Sherrads Park Wood SSSI located				
	approximately 1.4 km north west of the Site. The closest pon-statutory designated site was				
	Twentieth Mile Bridge Allotments I WS located approximately 0.5 km south west of the Site				
	No Priority Habitats occur on /adjacent to the Site				
	The Site has/has the notential to support the following Protected and Notable Species: Rate				
	and nesting hirds				
Conclusions	The development of the Site is not considered to have a negative ecological impact on the				
	local area if best practice is followed.				
Recommendations					

The following surveys will be required to fully inform a planning application and to refine the extent and implications of ecological constraints to the proposed development: Nocturnal Bat Survey.

Opportunities for enhancement include the use of appropriate native trees and shrubs in the proposed landscaped areas and provision of bat and bird boxes across the Site at suitable locations.



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1. INTRODUCTION

1.1 Background Information

- 1.1.1 Bradley Murphy Design (BMD) was commissioned by One YMCA in August 2019 to undertake an Ecological Assessment of a Site off Peartree Lane, Welwyn-Garden-City. The Site, hereafter referred to as 'the Site', is approximately centred on national grid reference: TL 244 126. A plan depicting the Site's location is provided in the Appendix.
- 1.1.2 The following assessments were completed in August 2019:
 - Desk based assessment
 - Habitat survey
 - Initial assessments of structures and trees.
- 1.1.3 This report presents the approach, results and evaluation of the assessments and survey undertaken at the Site in order to determine the ecological baseline and nature conservation value of the Site with particular reference to bats. Other ecological assessments are reported in separate documents. The data will:
 - Enable the identification of the need and level of more detailed species-specific surveys where required for a successful determination of a planning application
 - Enable potential ecological constraints to the proposed development to be identified
 - Further guide the master planning to ensure that net biodiversity gain is met (an obligation of the NPPF, 2019) through design and mitigation hierarchy (avoid, mitigate, compensate).

1.2 Proposed Development

1.2.1 Development proposals comprise replacing the 125 bed YMCA hostel with new apartment buildings to provide 43 residential units with associated car parking and landscaping. The one and two storey buildings onsite will be demolished and a 5-storey block erected at the rear of the Site and a three-storey private apartment block erected at the front of the Site.

1.3 Site Context

Historic Context

1.3.1 The historic County Series Maps indicate that the Site was part of a large agricultural field parcel associated with Peartree Farm throughout the 1800's until the 1930's. By 1938 the Site had been developed for residential use and a youth hostel established on site. A large residential development had been developed to the east of the Site and Industrial/commercial businesses to the west. By 1960 these developments had expanded significantly. The Site itself however remains relatively unchanged since 1938 aside from minor extensions and additions to the built footprint.



Present Context

- 1.3.2 The Site comprises a 125 bed hostel with communal facilities, maintenance facilities and office space. A network of predominantly two storey buildings accommodate these facilities with two internal courtyards and several car parking facilities.
- 1.3.3 The Site is located on the transition between the residential area of Peartree to the east and the predominantly commercial/industrial area to the west. Immediately to the east of the Site is Peartree Lane with residential properties and associated gardens beyond. Immediately to the south of the Site is a residential home, associated car park and a small area of trees and scrub. Immediately to the north is a mix of industrial and residential land use with associated car parking and residential gardens
- 1.3.4 The broader landscape was dominated by industrial units to the north, residential to the east and south and the city centre of Welwyn Garden City with residential developments to the west beyond the commercial/industrial area.

Bat roosts and species overview

1.3.5 Different species of bat have different roosting preferences. Table 1.1 provides a summary of bats that have potential to occur on Site and the roost locations they are typically associated with.

Table 1.1 Summary of roosting opportunities on Site important to different bat species that have potential to occur on Site based on their geographical range (adapted from Collins, 2016)

Summer roosts				Winter roosts			
Trees	House/ buildings	Barn-type buildings	Bat boxes	Caves/ mines	Buildings	Walls/ cavity	Trees
	Primary locations						
	Trees	Summer Trees House/ buildings I I	Summerrosts Trees House/ buildings Barn-type buildings Image: Constraint of the second sec	Summer roosts Trees House/ buildings Barn-type buildings Bat boxes Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer roots Image: Summer root Image: Summer roots Image: Summer roots Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root Image: Summer root	Summer roosts Trees House/ buildings Barn-type buildings Bat boxes Caves/ mines Image: Summer of the stress of	Summer rootsts Caves/ mines Buildings Trees House/ buildings Barn-type boxes Bat boxes Caves/ mines Buildings Image: standing stan	Summer roots Winter roots Trees House/ buildings Barn-type buildings Bat boxes Caves/ mines Buildings Walls/ cavity Image: state sta



2. APPROACH

2.1 Introduction

- 2.1.1 This report has been produced with reference to current guidelines for ecological and bat assessments (e.g. CIEEM, 2017 and 2017a, Collins, 2016) although adapted to be appropriate for the conditions on Site. Reference was also made to BS42020:2013: Biodiversity Code of Practice for Planning and Development. The assessment comprised the following:
 - Desk study
 - Extended Phase 1 Habitat Survey
 - Initial bat scoping assessment:
 - A habitat assessment of the site and immediate environs
 - Initial assessment of buildings and trees for their potential to support roosting bats.
- 2.1.2 Table 2.1 summarises the geographical extent of the study.

Table 2.1 Geographical extent of study

Element	Study area
Desk study	1 – 5 km. See Table 2.2 for specific details
Detailed Extended Phase 1 Habitat Survey	Site boundary
Local site context (broad habitat types)	Approx. 50 m from Site boundary (identified from within Site only)

2.1.3 Full survey methodologies are provided in Appendix B and summarised below. Details of dates, surveyors, weather conditions and a review of survey limitations are provided in Appendix C. Definitions of technical terms used in this report are provided in the Glossary in Section 8. Common names of species are used throughout the report with scientific names provided in Section 8.2.

2.2 Desk Study

2.2.1 The desk study involved gathering and analysing existing ecological focused data within the Site boundary and extending to 5 km. The results of the desk study aid in the interpretation of the survey results. Table 2.2 provides a summary of the data and their sources reviewed in the desk study.

2.3 Extended Phase 1 Habitat Survey

2.3.1 An Extended Phase 1 Habitat Survey was undertaken at the Site in accordance with industry standards (JNCC, 2010) and best practice guidance although adapted to be appropriate to the Site.



Table 2.2 Desk study data sources

Data ¹	Search	Source ²	Justification of search area			
	area					
Species						
Protected & Notable	1 km	A, B & F	The Site is anticipated to have low to negligible ecological value given			
Species			the highly urbanised nature of the Site, limited natural habitat present			
			and species poor and common nature of those habitats present.			
European Protected	1 km	В	The Site supported no standing water or suitable terrestrial habitat for			
Species Licence			great crested newts. Impacts on newt populations/ meta populations			
Applications (excl. bats)			can be accumulative arising from other developments off site.			
			A review of licence applications within the local area can provide			
			indicative implications if great crested newt habitat is confirmed on			
			Site. It also helps in reviewing the conservation status of the species in			
			the area.			
European Protected	5 km	В	There is potential that the Site supports features that may be used by			
Species Licence			bat species and that would be lost through the proposed works. Bats			
Applications (bats)			can travel a number of kilometres from their roosts in a single night to			
			forage. A wider search area provides an indication of the potential			
			value the site may have for foraging bats based on known roosts that			
			have been affected by other development in the area.			
Non-native Invasive	1 km	А	The Site has the potential to support non-native invasive species.			
Species						
Habitats		<u> </u>				
UK Priority Habitats	1 km	B. D	The Site is anticipated to have limited ecological value.			
Ancient Woodland	1 km	В				
Other notable habitats	1 km	A.B.F	-			
	-	.,,,,,,				
Change over	1 km	C	To provide an indication of ecosystem connectivity into the wider			
time/landscape context			landscape and subsequent movement of protected and notable			
			species.			
Sites	1					
Statutory Protected Sites	Site	В	To assess whether any SSSI/SACs are likely to be impacted upon by the			
– Impact Risk Zones			works.			
Non-statutory Protected	1 km	A	As habitats above.			
Sites (e.g. LWS)						
Statutory Protected Sites	1 km	В	The proposed development is small, within previously built up land			
	5 km		and is well contained so unlikely to have a notable impact on nearby			
	(bats)		SSSI features so a 1 km search zone is considered sufficient.			
			However, the Site has the potential to support bats/bat roosts so a			
			wider consideration of statutory protected sites that have been			
			designated for their bat populations is required.			
Notes	Notes					
² A. Local Biological Records Centre:	Herts Environme	ental Records Cent	re.			

B. MAGIC (Multi-Agency Geographic Information for the Countryside) [accessed 21/08/2019].

C. Readily available aerial images and current/historic map sources

D. Draft Natural England Open Mosaic Habitats Inventory Database [downloaded 21/08/2019]

E. Woodland Trust Ancient Tree Inventory

F. Natural England Class Licence database [downloaded August 2019]



2.4 Initial Bat Scoping Assessment

- 2.4.1 The Site was assessed for habitats and features that are required to support bats throughout their seasonal life cycles, i.e. during their active period and hibernation period. Habitat connectivity to the wider landscape was also reviewed. The assessment took account of the requirements of different species relevant to the geographical location of the Site.
- 2.4.2 Following the habitat assessment targeted surveys were conducted in line with current best practice and professional judgement on structures and trees within the Site to determine the likelihood of such features being used by roosting bats. For buildings this involved both internal and external inspections, including any roof voids and basements where present and access permitted.

2.5 Limitations

- 2.5.1 A summary of all limitations considered is provided in Appendix C.
- 2.5.2 The Site was fully accessible and the survey was conducted within the recommended period for Phase 1 Habitat Surveys and preliminary bat roost inspections.

2.6 Evaluation and Review

- 2.6.1 Upon completion of the desk study and field surveys the evaluation and review will consider each of the following:
 - Habitats
 - reviewed in relation to S41 Priority Habitats descriptions
 - reviewed in relation to Local Biodiversity Plans
 - condition assessed using criteria used to inform FEPs (i.e. that used in Biodiversity Impact Assessment Matrices)
 - potential to support protected and notable species
 - Species focusing on protected and notable species
 - evidence on Site
 - potential to occur on Site based on habitats, connectivity and known records
 - structures and trees were categorised as having negligible, negligible to low, low, low to moderate, moderate, moderate to high or confirmed bat roost potential (see the Glossary for definitions)
 - Potential constraints to development (legal and policy implications relating to wildlife)
 - Potential for biodiversity enhancement.
- 2.6.2 The majority of impacts associated with development relate to species, including through habitat loss, fragmentation and deterioration, as well as direct harm and indirect effects. Therefore, until any necessary species-specific surveys, based on the outcome of this habitat focused ecological assessment, are completed it is not feasible to identify specific impacts in relation to developing the Site.



3. RESULTS

3.1 Desk Study

3.1.1 Full documentation of the data considered as part of this Ecological Assessment is provided in Appendix D. This section presents the key findings of significance to development at the Site. Species records are considered within the last 10 years (from date of desk study). The exception to this is species that are typically under recorded and/or have low dispersal rates, such as dormouse and white clawed-crayfish. Other exceptions would be species likely to have strong associations with the habitats on site, such as black redstarts and derelict buildings and structures on urban sites.

Statutory designated sites of nature conservation importance

- 3.1.2 The Site itself does not lie within any statutory designated sites of nature conservation importance.
- 3.1.3 There are no statutory designated sites within 1 km of the Site.
- 3.1.4 No statutory designated sites within 5 km were designated for bats.
- 3.1.5 The Site lies within the Impact Risk Zone (IRZ) of two Statutory designated sites. It is located within the 1-2 km impact zone of Sherrardspark Wood SSSI and the 2-3 km impact zone of Tewinbury SSSI. The following have been identified as potential risks and causes of risk to this designated site if such development takes place within the area under assessment:
 - *Infrastructure*: Pipelines, pylons, and overhead cables. Any transport proposals including road, rail, and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
 - Wind and Solar Energy, Minerals, Oil and Gas: Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to condition etc. Oil and gas exploration/extraction.
 - Air Pollution: Any development that could cause AIR POLLUTION or DUST either in its construction or operation (including: industrial/commercial processes, livestock & poultry units with floor space >500m², slurry lagoons> 200 m² & manure stores >250 t)
 - **Combustion**: General combustion processes >20 MW energy input Including: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/combustion.
 - Waste: Landfill. Including: inert landfill, non-hazardous landfill, hazardous landfill.
 - **Composting**: Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
 - **Discharges**: Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).
 - *Water Supplies*: Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more



Non-statutory designated sites of nature conservation importance

3.1.6 There were four non-statutory designated sites within 1km of the Site as provided by Herts Environmental Records Centre received 21/08/2019. These sites are summarised in Table 3.1.

 Table 3.1 Statutory designated sites of nature conservation importance within 1 km of the site

Site	Designation ¹ &	Proximity	Summary description ²					
	area	(distance/direction) &						
		connectivity to Site						
Twentieth Mile	LWS	c. 470 m SW	No details for designation available.					
Bridge Allotments								
	0.62 ha	Limited connectivity,						
		residential development						
		between sites.						
Watch Mead	LWS	c. 660 m E	Disused railway supporting unimproved neutral					
Disused Railway			grassland, species present included agrimony, common					
	0.95 ha	Limited connectivity,	knapweed, common sorrel, dog's mercury and orpine,					
		residential development	a Herts vulnerable species.					
		between sites.						
Dismantled	LWS	c. 950 m NW	Dismantled railway route supporting old, possibly					
Railway E. of			ancient woodland. Hornbeam and pedunculate oak					
Sherrards Park	2.94 ha	No connectivity, Railway	dominate alongside occasional wild cherry and silver					
Wood.		line and large urban	birch. Understory supports hazel and holly with ground					
		expanse between site.	flora comprising bluebell, yellow archangel, and wood					
			anemone.					
Blackfan Valley	LWS	c. 990 m NE	Public open space including mown grassland,					
			secondary broadleaved, old scrub, tree planting and a					
	13.28 ha	No connectivity,	concrete reservoir/lake.					
		residential development						
		and large-scale						
		infrastructure between						
		Sites.						
Notes	Notes							
1. Refer to glossary for defi	initions							

2. As provided the Herts Environmental Records Centre

Priority habitats

- 3.1.7 UK Priority habitats returned by the desk study are listed in Appendix D. In summary, the following UK Priority Habitats occur (as depicted on *MAGIC*) within 1 km of the Site:
 - Deciduous Woodland: 12 parcels The closet parcel was a small block located approximately 100 m south west of the site associated with Peartree Primary School;
- 3.1.8 There were no mapped Open Mosaic Habitats (OMH) within 1 km of the Site as depicted on Natural England's Draft OMH Inventory Database (downloaded 17/01/2018).

Notable habitats

3.1.9 A review of the Woodland Trust Ancient Tree Inventory highlighted no known ancient, veteran or notable trees within or adjacent to the site.



Protected Species

- 3.1.10 No statutory designated sites within 5 km of the Site are designated for bats.
- 3.1.11 A search on *MAGIC* returned 10 licence applications within 5 km of the Site relating to bats as detailed in Table 3.2. No licence applications for great crested newt were present within 1 km of the Site.

Species	Date	Proximity (distance/direction) &	Licenced activity
		connectivity to Site	
Common	2016 - 2022	1.8 km S	Damage to and Destruction of a resting
pipistrelle			place.
		Limited connectivity, large residential	
		development between sites.	
Brown long	2014	2 km E	Damage of a resting place.
eared & Soprano			
pipistrelle		Connectivity limited by residential	
		development and large-scale	
		infrastructure including train line	
		between sites.	
Brown long	2014 - 2020	3 km NW	Destruction of a resting place.
eared &			
Common		Limited connectivity with large residential	
pipistrelle		development and industrial estate	
		between sites.	
Common	2016 – 2021	3.5 km N	Destruction of a breeding site and resting
pipistrelle &			place.
Soprano		Direct connectivity via railway track.	
pipistrelle			
Common	2017 – 2018	3.7 km S	Destruction of a resting place.
pipistrelle			
		Limited connectivity with residential	
		development and several large arable	
		field parcels between sites.	
Brown long	2012 – 2014	3.7 km NE	Destruction of a resting place.
eared &			
Common		Residential and industrial land use	
pipistrelle		between sites with very limited	
		connectivity.	
Brown long	2017 – 2027	3.8 km N	Destruction of a breeding site and resting
eared &			place.
Common		Direct connectivity via railway track.	
pipistrelle			
Brown long	2016 – 2021	4.6 km S	Destruction of a resting place.
eared & Soprano			
pipistrelle		Residential and industrial land use	
		between sites with very limited	
		connectivity.	
Brown long	2016	4.8 km N	Destruction of a resting place.
eared			
		Direct connectivity via railway track.	



3.1.12 Table 3.3 summarises the protected species records, provided by Hertfordshire Biological Records Centre (returned 21/08/2019) that occur within 1 km (extending to 2 km for bats) of the Site within the last 10 years.

Table 3.3 Protected species recorded within 1 km of the Site, extending to 2 km for bats (as provided Hertfordshire Biological Records Centre; 21/08/2019)

Species	Level of protection ¹	Summary of records ²				
		N-º. Distance, direction & date				
			Nearest	Most recent		
Amphibians & Reptiles			•			
Great crested newt	EU. UK. (En, L)	2	0.6 km SE (05/15)	0.9 km SE (1995)		
Grass Snake	UK (En)	1	0.6 km S (19/05/2015)	0.6 km S (19/05/2015)		
Slow worm	UK (En)	7	0.4 km SW (1997)	0.6 km (19/05/2015)		
Birds						
Peregrine falcon	. UK. (En, L)	55	0.7 km NE	0.7 km NE		
			(25/05/2015)	(25/05/2015)		
Bats						
Western barbastelle	EU. UK. (En, L)	2	2 km NW	2 km NW		
			(08/04/2017)	(08/04/2017)		
Lesser noctule	EU. UK. (En, L)	3	1.5 km NW	1.5 km NW		
			(26/11/2014)	(26/11/2014)		
Noctule	EU. UK. (En, L)	7	1.5 km W	1.8 km W		
			(12/08/2007)	(25/09/2013)		
Common pipistrelle	EU. UK. (En, L)	22	0.3 km S (06/10/2015)	0.3 km S (06/10/2015)		
Soprano pipistrelle	EU. UK. (En, L)	4	0.9 km N (08/05/2011)	2 km NW		
				(09/07/2015)		
Brown long eared bat	EU. UK. (En, L)	8	0.6 km N (06/10/1992)	(06/10/2015)		
Mammals (Excl. Bats)						
Badger	UK	19	0.6 km (03/09/2015)	Unspecified		
				(05/06/2016)		
Notes						
1. EU – European; UK – UK; (EN) – also a notable species in England, e.g. UK Priority/S41 species; (L)- also a Locally important species, e.g. LBAP. Refer to Glossary for details and definitions.						
2. As provided by Herts Environmental Records Centre						

Notable species

- 3.1.13 There is an arable farmland bird assemblage (of three species), as depicted by *MAGIC*, within 1 km of the Site. This assemblage included grey partridge, yellow wagtail and tree sparrow. Tree sparrow overlapped with the Site, therefore, there is potential that this species may occur on or use the Site if suitable habitat is present.
- 3.1.14 Table 3.4 summarises the notable species records, provided by Herts Environmental Records Centre (received 21/08/2019) that occur within 1 km of the Site and within the last 10 years. This Table excludes any species that are specifically protected (see Table 3.3).



Table 3.4 Notable species recorded within 1 km of the Site (as provided by Herts Environmental Records Centre; 21/08/2019)

Species		Sta	tus		Summary of records		
					N-°-	Distance, direction & date	
	BAP¹	S41	BoCC ²	Other ³		Nearest	Most recent
Amphibians & Reptiles						•	
Common toad	UK	 ✓ 		~		0.9 km (27/09/2016	0.9 km (27/09/2016)
Birds			1	1			
Dunnock			A		191	Unspecified	Unspecified
							(14/12/2016)
Starling			R		122	Unspecified	Unspecified
							(26/11/2016)
Song thrush	L		R		167	Unspecified	Unspecified
							(16/08/2016)
House sparrow		✓	R		110	Unspecified	Unspecified
							(17/02/2016)
Mammals (Excl. Bats)							•
West European	UK	✓			7	0.2 km S (28/12/2014)	0.9km W (05/2015)
hedgehog							
Notes 1. Biodiversity Action Plan: UK – 2. Birds of Conservation Concerr 3. Other- WCA Pafor to Closs our for definitions	UK; L – L n: R - Red	.ocal I listed; A	– Ambei	r listed			

Non-native invasive species

3.1.15 There are no recent records of non-native invasive species within 1 km of the Site.

3.2 Extended Phase 1 Habitat Survey: Habitats

Local context

- 3.2.1 The following habitats were recorded immediately adjacent to the Site:
 - North: Peartree Farm Road, hardstanding car park associated with adjacent industrial units.
 - East: Hardstanding pavement with narrow verge of amenity grassland adjacent to Peartree Lane with further amenity verge and residential properties beyond (Photograph 1).
 - South: Species poor hedge, car park associated with adjacent residential home and mosaic of trees, scrub and grassland (Photograph 2).
 - West: Species poor hedge, hardstanding car park and small wooded area.

Site

3.2.2 The Site comprised of a 0.7 ha parcel of land supporting buildings, hardstanding, car parks and associated landscape areas. The Site was generally well maintained with landscape areas comprising of species poor grassland, shrub beds and hedgerow boundaries.



3.2.3 A map depicting the distribution of the habitats, photographs and species recorded are provided in Appendix.

Site boundaries and internal linear features

3.2.4 The Site is bound to the south and west by security fencing (Photograph 3) and a species poor ornamental hedge comprised exclusively of privet along the eastern portion of the southern boundary (Photograph 4). Two species poor hedgerows extended along the majority of the western boundary with a small break towards the northern end. The southern section of the hedge was dominated by field maple and the northern section by hawthorn (Photograph 5). The hawthorn hedge continued along the northern boundary and was interspersed with semi mature trees including sycamore, cherry, beech and field maple (Photograph 6).

Hardstanding

- 3.2.5 Hardstanding paths were present providing access throughout the Site alongside several car parking areas. A large car park was located in the north of the Site. A narrow parking area was present along the southern boundary adjacent to amenity grassland and Peartree Road. A further small car parking area was located along the eastern boundary.
- 3.2.6 Several hardstanding paths were present within the internal courtyards and along the southern, western and northern Site perimeter.

Amenity grassland

- 3.2.7 Several small patches and narrow linear stretches of amenity grassland were present within the Site. Two internal courtyards bound by built structures in the central section of the Site supported patches of amenity grassland (Photographs 7 & 8).
- 3.2.8 A narrow linear stretch of amenity grassland was located along the majority of the western boundary (Photograph 9) adjacent to security fencing. Further patches were located between B6 and a car park in the north of the Site and along the eastern boundary adjacent to Peartree Lane (Photograph 10).

Scattered trees

3.2.9 Ornamental trees and fruit trees were present within the internal courtyards and small landscaped areas on Site. An Indian bean tree, weeping mulberry and silver birch tree were located in the western internal courtyard. A line of pollarded false acacia and a pear tree were located within the eastern internal courtyard (Photograph 11). A further semi-mature pear tree was located on a landscaped area leading to the eastern courtyard.

Bare ground

3.2.10 A small patch of bare ground, likely a former flower bed or vegetable patch was located within the eastern internal courtyard (Photograph 12).



Introduced Shrubs

3.2.11 Several patches of introduced shrubs were present within both internal courtyards on Site (Photographs 13).

<u>Other</u>

- 3.2.12 Several other habitats and features were present across the Site including a vegetable plot, pergola, wooden trough planters, a shed and two enclosed compost heaps.
- 3.2.13 A vegetable plot was located within the western courtyard (Target Note 1, photograph 14).
- 3.2.14 A pergola was located halfway along the southern boundary (Target Note 2, photograph 15). In close proximity was a shed (Target Note 3, photograph 16) with two accompanying enclosed compost heaps (Target Note 4, photograph 17).
- 3.2.15 Two wooden trough planters containing rhododendron and ornamental conifers were located within a narrow stretch of hardstanding between B7 and B8 (Target Note 5, photograph 18). Further planters were located within the two courtyard areas.

3.3 Extended Phase 1 Habitat Survey: Protected and Notable Species

- 3.3.1 There was no direct evidence of any protected and notable species on or immediately adjacent to the Site.
- 3.3.2 The potential for the habitats on Site to support other protected and notable species is discussed in Section 3.5-3.7 (bats) and Section 4: Evaluation.

3.4 Bat Assessment:

Landscape Habitat Review

- 3.4.1 The Site is located within a dense built environment; a review of readily available aerial images indicates the immediate landscape around the Site has been dominated by residential land to the east and industrial/commercial land to the west since the 1930's. As such bat habitat is limited due to lack of semi-natural habitats and significant habitat corridor features. There is potential for bats to access the Site via the main line railway which is approximately 0.5 km west of the Site. The closet woodland is located approximately 1.5 km north west of the Site. The most suitable bat high quality habitat lies to the west and south where the landscape opens up around 2 km from the Site with a high frequency of woodland blocks, golf courses and hedgerow bound field parcels. There are a number of water bodies associated with the golf courses and the River Lea which support good foraging and commuting opportunities for a number of bat species. The River Lea stretches along the southern outskirts of Welwyn Garden City and Stanborough Park which supports several large lakes, woodland blocks and rough grassland which present good roosting foraging and commuting habitat for bats.
- 3.4.2 Table 3.5 provides an overview of habitats within 5 km of the Site in terms of its value to bats.

Zone	Review
0 – 1 km	The landscape from 0-1 km is predominantly a dense built landscape with limited suitability for bats to the
	north due to large industrial/commercial type buildings and limited natural greenspace areas. The nearby
	railway line represents a suitable commuting corridor and the high frequency of tree lined streets and
	occasional small public green spaces provide some foraging and roosting potential particularly to the south
	of the Site which comprises of residential development with gardens and tree lined streets. Mature trees
	and more traditional buildings may provide roosting sites for bat species.
1 – 2 km	The landscape is predominantly the same at this range as at 0 – 1 km, however, it does open up to the north
	west and north-east with a large woodland block and golf course providing potential higher value roosting
	and foraging habitats These features connecting into open countryside beyond the extent of Welwyn
	Garden City with large blocks of woodland extending northwards and eastwards into Burnham Green and
	Marden Hill.
2 – 5 km	Landscape opens into a rural landscape with high frequency of woodland blocks, hedgerow bound field
	parcels and small villages and towns. This landscape supports suitable habitat for a range of bat species and
	connects to open countryside. The A1(M) corridor bisects this area to the west at around 2.5km and is likely
	to form a dispersal barrier to bat commuting to the west. To the east is a large area of woodland and open
	water associated with Panshanger Park with lakes, woodland, meadows amd Mimram River, providing a
	range of foraging and roosting opportunities for bats.

Table 3.5 Habitat review for its potential value for bats within 5 km of the Site

3.5 Habitat Assessment

- 3.5.1 The habitats on Site and those immediately adjacent to the Site were evaluated for their potential to support foraging bats:
- 3.5.2 The majority of the Site comprised built structures and hardstanding access paths with very limited natural habitats present. The natural habitats present were small, isolated, heavily managed and largely ornamental and of negligible value for bats. Some scattered trees were present within the main Site, however, these were all immature and had no bat roosting potential. Built structures on Site offered the most potential for bats as potential roosting sites as did mature trees along Pear Tree Lane.

3.6 Structure Assessment

- 3.6.1 This Section provides an overview of each of the structures assessed for their potential to support bats. An overview of building categorisation is provided on drawings BMD.19.048.DRE.900 and BMD.19.048.DRE.901 in the Appendix (plans).
- 3.6.2 The buildings on Site were all in active use, generally in good condition, subject to disturbance, illumination from a range of light sources including security lighting and had limited access points for bats. As such, most buildings were considered unsuitable for roosting bats and categorised as having negligible bat roosting potential. However, a small number of buildings with a higher frequency of access points and suitable roof voids were considered to offer 'Low' bat roosting potential and included Buildings B2, B3ii & B4.
- 3.6.3 No evidence of bats was found during the external and internal inspection which including endoscope checks of gaps/crevice features.
- 3.6.4 Table 3.6 provides a summary of structure assessments in relation to the value to bats.



3.7 Tree Assessment

- 3.7.1 This Section provides an overview of each of the trees assessed for their potential to support bats.
- 3.7.2 All the trees within the main body of the Site were either ornamental or fruit trees lacking the maturity and structure to support bat roosting features. Trees in the main body of the Site were also subject to high levels of disturbance and light spill from the surrounding built structures and as such were all categorised as having 'Negligible' bat roosting potential.
- 3.7.3 A line of mature, broadleaved trees including hornbeam, pedunculate oak and Norway maple were present along the eastern boundary of the Site. One of the trees, a mature pedunculate oak had a potential roost feature comprising un-occluded bark along the western aspect at approximately 7 m (Photograph 19 & 20, Target note 7). The tree was considered to have low bat roosting potential and only suitable for single bats on a transient basis.



Table 3.6 Summary of structure assessments on 19/08/2019 in relation to the value to bats

Building	Building/ structure style	Notes	Category	Photograph
Ref				
B1	Single storey, brick-built structure with	Brickwork and tiles generally in good order, tiles sealed at ends and	Negligible	
	tiled pitch roof. In active use as a	soffit boards in good condition.		
	workshop.			And States
		Internal space light and in regular use.		
	Three separate internal roof voids (i –			
	iii).	Void i; Small void, internally boarded, heavily cobwebbed.		
		Void ii; No access but well-sealed and considered similar to void i.		VNCA
		Void iii; Open up to apex used as games room, boarded against tiles.		
		No evidence of bats. Potential roost features on external soffits		13 Mail
		examined with endoscope and no bats present and no signs of		
		access/use.		
B2	Single storey, brick-built structure with	Brickwork and tiles generally in reasonable condition and soffit boards	Low	
	tiled pitch roof. In active use as	generally tight.		
	communal facilities.			
		Void lined and in good condition with internal light system. Potential		
	One long internal roof void.	access points via slipped tiles, gaps around air vent stacks and holes in		
		soffit boards.		
		Internal void cob-webbed with small skylight in northern end. No		
		evidence of bats or use by bats.		
		External potential roost features included occasional gaps and puck		
		holes, examined with endoscope and no bats present.		



Building	Building/ structure style	Notes	Category	Photograph
Ref				
B3	Modern, single storey, brick-built structure, with tiled pitch roof and small flat roofed annex to north. In active use as recreational area, toilets block and office space. Two separate roof voids present.	Brickwork and tiles generally in reasonable condition and soffit boards generally tight. Access via small holes in brickwork, gaps in brick vents, and puck holes. Void i; No internal void, open up to high suspended ceiling with small apex void above. Wooden and steel beams above and old lighting fixtures above the suspended ceiling. Void ii; Small void above suspended ceiling at northern end of the building. No internal membrane, draughty, light and heavily cobwebbed. No evidence of bats, potential roost features examined with endoscope and no bats present.	Low (B3ii) Negligible (B3i)	
B4	Large, two storey, brick built structure with a tiled pitched roof. In active use as kitchen and recreational area with bedrooms on 1st floor. Long roof void present along entire length.	Brickwork and tiles generally in good condition and no external roosting features noted. Internally, void unlined with access to tiles with numerous small gaps and larger gaps also present. Void accessible with board walks and containing heating/lighting systems. No evidence of bats observed during the external and internal inspections.	Low	



Building	Building/ structure style	Notes	Category	Photograph
Ref				
B5	Small single storey building with tiled pitched roof.	Brickwork and tiles generally in good condition and no external roosting features. No obvious access points due to weal sealed brickwork and soffits. Void, clean, tidy, occasional cobwebs strung across void. Rodent droppings present. No evidence of bats or potential roost features.	Negligible	
B6	Large, modern, two story, brick-built structure with tiled pitched roof. In active use as residential block. Roof void present.	 Brickwork in excellent condition, tiles sealed and in good condition and no external roosting features. Soffit boards tight and in good condition. No obvious access points externally. Internal void tidy, clean and well-sealed with limited space due to wooden trusses. Occasional cobwebs across internal space. Walkways and lighting system installed for access throughout the void. No evidence of bats or potential roost features. 	Negligible	





Building	Building/ structure style	Notes	Category	Photograph
Ref				
B7	Large, modern, two story, brick-built	Brickwork in excellent condition, tiles sealed and in good condition	Negligible.	
	structure with tiled pitched roof.	and no external roosting features. Soffit boards tight and in good		
		condition.		
	In active use as residential block.			
		No obvious access points externally other than two puck hole		
	Roof void present.	features. Checked with endoscope and no signs of use by bats,		
		cobwebs present within.		
		Large open void with lights and new lining with no signs of use by bats.		
				CIDITAL ANALA
B8	Large, t-shaped, modern, two storey	Brickwork and cladding generally tight and in good condition.	Negligible.	
	breeze block built structure with flat			
	concrete roof. Brick cladding along	Large gap at northern end and occasional gaps where cladding coming		
	majority of building.	away, examined with endoscope and no bats present.		
	Currently in active use as a residential	No evidence of bats recorded.		
	block.			
	No internal roof void.			
				1 Cart Burger and The

One YMCA Welwyn-Garden-City Hertfordshire Ecological Assessment (including initial bat)



Building Ref	Building/ structure style	Notes	Category	Photograph
В9	Small, brick built out building with pitched tiled roof. Small roof void.	Brickwork and tiles in excellent condition, tiles sealed at ends. No obvious access points, no external roosting features. Small roof void well sealed. No evidence of bats.	Negligible.	



4. EVALUATION

4.1 Introduction

- 4.1.1 This Section reviews the results of the desk study and field surveys in relation to the proposed development proposals; it:
 - Determines the ecological importance of habitats at an appropriate geographic level
 - Determines the likelihood of protected and notable species occurring on Site, with particular attention being paid to bats
 - Identifies any legal and policy implications for developing the Site in relation to nature conservation sites, habitats and species potentially associated with the Site
 - Identifies high-level biodiversity gain opportunities.

4.2 Habitats

- 4.2.1 The habitats onsite were species poor and heavily managed, as such none of the habitats meet the appropriate criteria to be considered as UK Priority Habitats or Local BAP Habitats.
- 4.2.1 The boundary hedges along the site boundaries were generally species poor and dominated by a single species and do not fall within the description of Hedgerows Priority Habitat or meet the criteria for classification as an *Important Hedgerow* under the ecological elements of Hedgerow Regulations 1997.
- 4.2.2 Table 4.1 provides a summary of the nature conservation importance of habitats within the Site

Habitat	Meets UK Priority/Local BAP habitat criteria	Condition ²	Geographical context ³
Amenity grassland	No	Poor	Site
Buildings	No	Poor	Site
Introduced shrub	No	Poor	Site
Hardstanding	No	Poor	Site
Scattered trees	No	Good	Site
Hedges	No	Poor	Site
Other	No	Poor	Site
Notes 1. Refer to Target notes on Phase 2. As determined using EEPs guid:	1 Habitat map in Appendix.	outcome is inannronriate just	ification is given in the text

Table 4.1 Ecological importance of habitats occurring on Site and geographical context

Geographic level at which the habitat is considered important

4.3 Species

4.3.1 This section considers the actual occurrence or potential occurrence of protected and notable species (including non-native invasive species) occurring on Site. It takes account of known data records and habitats on Site and connectivity, appropriate to given species, across the landscape. Species not



specifically listed in this Section are unlikely to occur on Site on account of at least one of the following factors:

- No habitat on Site to support the species
- No connectivity to suitable habitat beyond the Site boundary
- Site is outside of the species typical geographic range.
- 4.3.2 Based on the habitats recorded on Site and/or direct evidence the following additional protected and notable (including non-native invasive species) species occur, or have potential to occur, within the Site:
 - <u>Bats:</u> Potential roost features, albeit limited, within a tree along the eastern boundary and low roosting potential associated with some buildings. Bats are considered in further detail in Section 4.4.
 - <u>Nesting birds</u>: Potential nesting birds within hedges and scattered trees across the Site.
 - <u>Hedgehogs</u>: The landscaped areas may be used for foraging and commuting.
- 4.3.1 Based on the habitats recorded on Site, the Site is considered unlikely to support significant populations of other protected or notable species. The habitats were low in species diversity, are generally common and widespread and experience a high level of disturbance in terms of residents and maintenance (shrub areas, hedgerows, amenity grassland).
- 4.3.2 Table 4.2 provides a summary of protected and notable species (including non-native invasive species) considered in this assessment. Where there is potential for a species to occur but no current evidence the likely associated habitats and location within the Site are given. Associated habitats and location within the Site are also indicated where there is evidence of a species occurring n Site.

Species	Status ¹	Confirmed on Site	Potential to occur	Associated habitats/Location on Site
Bats	EU, UK	No	Low	Buildings & one tree feature
Breeding and nesting birds	UK	No	Moderate	Trees, introduced shrubs and hedges.
Hedgehogs	UK. N	No	Moderate	Within landscaped areas and borders
Notes 1. EU – European protected. UK	– UK protected. N – Notable specie	25		

 Table
 4.2
 Summary of protected and notable species (including non-native invasive species)

 considered in this assessment

4.4 Bats

- 4.4.1 This section provides a more detailed consideration of the Site and surrounding landscape in relation to supporting bats, taking account of both the desk study and field data.
- 4.4.2 There were no statutory nature conservation sites designated for their bat populations within 5 km of the Site.



- 4.4.3 Ten bat license applications were identified within 5 km of the Site. The range of species covered was limited to common pipistrelle, soprano pipistrelle and brown long eared. The closet application was approximately 1.8 km south of the Site which is unsurprising given the highly urbanised landscape surrounding the Site.
- 4.4.4 Bat records returned within 2 km of the Site were again fairly limited and included common pipistrelle, soprano pipistrelle, noctule, brown long eared and western barbastelle. There is not considered to be any potential for western barbastelle to utilise the Site given this species is a woodland specialist and very unlikely to utilise the features at the Site.
- 4.4.5 The other bat species returned in the desk study are all commonly found in urban environments and could potentially utilise the Site for roosting. The limited natural habitats on Site and in the immediate landscape limits the overall foraging and commuting value for bats and the Site is considered to offer negligible foraging and commuting opportunities for bats.
- 4.4.6 The Site offers limited roosting opportunity; only one tree was assessed to have 'Low' potential and three buildings of 'Low' bat roosting potential. Overall the Site is considered to offer low potential for roosting with the adjacent residential properties likely to offer more opportunities given the level of disturbance on Site.
- 4.4.7 Using Wrey *et al* (2010) as a guide it is considered that the Site is likely to be of local value for commuting and foraging bats and local value for roosting bats. However, in terms of roost opportunities and value it is considered that these are greater beyond the Site boundary. The current proposals are predominately restricted to the existing built footprint with only negligible value habitats impacted upon with mature tree features retained and as such the proposals are not anticipated to affect the conservation status of any bats that may occur locally. Key commuting routes (predominately the mature tree line along the eastern boundary) will be retained post development with lost trees replaced as part of the landscape proposals for the scheme.

4.5 Legal and Policy Implications

Nature conservation sites

4.5.1 The Site falls within the 1 – 2 km impact zone of Sherrardspark Wood SSSI and the 2 – 3 km impact zone of Tewinbury SSSI. However, the proposed development is not included on the list of developments that are considered likely to cause a risk to the corresponding SSSI. Therefore, no legal or policy implications are anticipated.

Habitats

4.5.2 None of the habitats identified on Site meet the definitions to be considered as Priority habitats and are not considered to be irreplaceable or priority habitats as defined by the NPPF.



Species

- 4.5.3 The potential presence of protected and/or notable species on Site means that they are a material consideration in the planning system through the NPPF and the Local Planning Policy. The following species have policy implications if impacted by the proposed development and include
 - Bats.
 - Hedgehog.
 - Nesting birds.
- 4.5.4 Any impact on these species is considered only likely to be minimal and to occur during the construction phase and as such can readily be minimised or avoided through appropriate timing of works and best practice. It is considered unlikely that the conservation status of these species will be negatively affected by the proposed development if best practice is followed. However, further surveys are required to determine the status of bats on Site.

Summary

4.5.5 There are no policy implications based on the current known ecological baseline of the Site.

4.6 Biodiversity enhancement and creation

- 4.6.1 Based on the habitats on Site and desk study data the following species-specific enhancement would be appropriate:
 - Bats:
 - Bat friendly planting in any soft landscaping, e.g. night scented species
 - Incorporate bat roosting features within the new building for species such as pipistrelles and brown long-eared bat.
 - Bat boxes installed on retained mature tree features.
 - Hedgehog
 - Ensure the developed area is permeable for hedgehogs through provision of wildlife highways
 - Provide potential future hibernation and nesting sites in soft landscaping areas.
 - Birds:
 - Boxes/integrated nesting features.



5. **RECOMMENDATIONS**

5.1 Surveys

5.1.1 Based on the evaluation documented in Section 4 further surveys are deemed appropriate and/or necessary to provide a fuller evaluation of the proposed development. Table 5.1 provides a summary of recommended surveys.

Species/Species group	Extent of survey ¹	Survey season & constraints	Number of surveys and survey period required
Bats	Focus on low potential	April to mid-October	One emergence survey
	buildings – B2, B3ii and B4	inclusive (May to Aug	between April - mid-
	-	considered optimal).	October, ideally May to
			August inclusive.
		Requires suitable weather	
		conditions	
Notes	1	1	1
1. Refer to Target notes on Phase 1 Habi	tat Plan and Building Plan in Appendix.		

Table 5.1 Recommended further surveys and survey constraints

5.2 Retention and Enhancement

- 5.2.1 It is recommended that the opportunities for species enhancement detailed in Section 4.6 are reviewed and considered when developing plans for development of the Site.
- 5.2.2 It is understood the mature broadleaved trees along the eastern boundary are to be retained as part of the development. However, if plans change and the mature pedunculate oak determined to have 'Low' bat roosting potential requires removal or tree works then current guidance and best practice require this to be done using soft-felling techniques with branches cut and gently lowered to the ground utilising a sling. Sections will be laid on the ground with holes/cracks facing upwards for as long as possible (ideally 24 hours in suitable weather conditions is preferable) to allow any bats to vacate the feature. Cutting through cavities will be avoided.

5.3 Mitigation

- 5.3.1 This Section is based solely on the current baseline data and will need to be reviewed and updated following the further survey works detailed in Section 5.1. It outlines recommended ecological control and protection measures to be undertaken to ensure:
 - No harm comes to faunal species (unprotected species as well as protected and notable species);
 - There is minimal habitat loss and disturbance;
 - No harm comes to the adjacent habitats;
 - Pollution risk is minimised;
 - Ecological best practice is followed;
 - Conformity with current planning requirements pertaining to wildlife; and,
 - No breaches of current wildlife legislation.



- 5.3.2 The following mechanisms will ensure implementation of the protection measures:
 - Licence applications any necessary licences will ensure compliance with European legislation (European Protected Species). The licence applications will provide detailed and specific protection measures and time frames for the given species. Based on current baseline data it is considered that a bat mitigation licence may be required prior to demolishing any of the buildings assessed as having 'Low' bat roosting. However, this will be subject to the findings of the further bat surveys recommended above.

Generic safeguarding measures

- 5.3.3 Ecological tool box talk:
 - To be given to all contractors on Site during their Site induction making them aware of potential for protected/notable habitats and species, the need for protective fencing and pollution awareness. This should cover birds, hedgehogs and bats, and retained habitats within the works areas and adjacent areas.
 - Following the tool box talk, Site contractors should have sufficient knowledge and confidence to provide a watching brief in low risk areas and during low risk operations and known when to contact a suitably qualified ecologist for guidance.

Habitats – Retained and adjacent to site

5.3.4 Trees/hedgerows:

- Tree and hedgerow root protection zones to be clearly marked with fencing throughout the development works, e.g. Heras fencing. Fencing to follow British Standard BS5837:2012 Trees in Relation to design, demolition and construction as presented in the accompanying Arboricultural Implications Assessment and Method Statement.
- No spoil to be deposited or works to take place within the root protection zones of retained trees and hedgerows.

Bats

5.3.5 Lighting:

- No additional lighting above the current level to be used between sunset and sunrise.
- Avoid illuminating the mature trees along the eastern boundary above current levels.

5.3.6 Trees:

- New features can occur in trees overtime e.g. if a limb falls or a woodpecker creates a cavity. Therefore, it is best practice to assess all trees prior to works and/or felling for the likelihood of bats using the tree for roosting.
- Depending on the findings of the inspection, further surveys or a soft fell approach of the tree may be required. If a confirmed tree roost is identified then a European Protected Species Licence may be necessary before works can re-commence.
- 5.3.7 General building and structure demolitions to be confirmed as an outcome of further survey.



Nesting Birds (General)

- 5.3.8 Works in close proximity to hedgerows, trees and buildings during the core nesting season (March to August inclusive):
 - Immediately prior to demolition works commencing (within 48 hours) an inspection by the Ecological Clerk of Works to check for any evidence of nesting or nest building birds. If evidence is found, works may be delayed.

5.3.9 Building demolitions:

- Immediately prior to works commencing (within 48 hours) an inspection by the Ecological Clerk of Works to check for any evidence of nesting or nest building birds. If evidence is found, works may be delayed
- 5.3.10 If nesting birds are found at any stage during construction works:
 - All works that are likely to cause disturbance and/or within the zone of influence of the birds, MUST stop and not re-commence until advice has been received from the Ecological Clerk of Works/Ecological Manager.
 - Depending on the species, situation, stage of nesting and works in immediate vicinity it is likely that an exclusion zone will be put up around the nest and works will be stopped or restricted within the exclusion zone.

Other fauna (including hedgehog)

- 5.3.11 Best practice to be followed in relation to hedgehog and fauna in general. This will be dependent of timings of works but likely to include the following measures:
 - Hedgehog:
 - If active hedgehogs are encountered works that are likely to cause disturbance and/or within the zone of influence of the hedgehog MUST stop and not re-commence until advice has been received from a suitably qualified ecologist.
 - If required, a suitably qualified ecologist will carefully move the hedgehog by hand from the construction area to nearby retained habitat features away from construction works.
 - If a hibernating hedgehog is encountered (i.e. during the months of November to February) works MUST stop and a suitably qualified ecologist will assess the situation and advise accordingly.

5.3.12 Throughout construction period:

- Creation of habitat that fauna (including small mammals and common amphibians) may use for refuge, e.g. piles of construction material or loose-packed spoil, to be avoided.
- If evidence of specifically protected species comes to light during the construction stage then works that are likely to cause disturbances to the animals should stop until advice has been sought from a suitably qualified ecologist.



6. CONCLUSIONS

6.1.1 Based on the current study:

- Bat surveys are considered necessary to determine the status of the species on Site and in order for the LPA to validate/grant planning permission.
- The Site falls within an IRZ for two statutory designated sites; Sherradspark SSSI and Tewinbury SSSI. However, the proposed development does not fall within the list of prohibited developments therefore no Statutory Nature Conservation Sites will be negatively impacted by the proposed works.
- No non-statutory nature conservation sites will be negatively impacted by the proposed works.
- No Priority Habitats were present on Site.
- No protected or notable species will be negatively impact if appropriate precautions are taken (pending the bat survey results).
- Although limited due to the nature of the Site and the proposals, there is some potential to provide biodiversity enhancements as a result of development.



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8. GLOSSARY

8.1 Scientific Terms and Acronyms

- **BoCC** Birds of Conservation Concern, the UK Red-list for birds, produced by the British Trust for Ornithology and last updated in December 2015.
- **CIEEM** Chartered Institute of Ecology and Environmental Management, the professional organisation and provider of professional codes of conduct for ecological consultancy.
- **CSZ Core Sustenance Zone** "the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence of the resilience and conservation status of the colony using the roosts" (Collins, 2016).

Defunct hedgerow A hedgerow which is not stock proof without the need for fencing.

- **EPS** European Protected Species For the purposes of this report EPS are species that require particular licences to allow certain works to go ahead. Species falling within the following situations are not considered as EPS within this report:
- Birds listed on Appendix 2 of the Bern Convention (European legislation). The protection requirements of this Appendix are fully integrated in UK law, notably through the Wildlife and Countryside Act 1981 (as amended).
- Birds listed on Annex 1 of the Birds Directive (European legislation). The protection of such species survival and reproduction within their geographic distribution is ensured through special conservation measures in relation to their habitats. Such measures are implemented through the establishment of Special Protection Areas. Therefore, any implications are considered at regional habitat and country level rather than individual bird/species level.
- FEP Farm Environment Plan.
- HERC Herts Environmental Record Centre
- Important hedgerow Any hedgerow which has existed for 30 years of more and satisfies a number of criteria listed within Part II of Schedule 1 to the Hedgerow Regulations 1997. For the purposes of this report, only wildlife and landscape criteria are considered; archaeological and historical criteria are not assessed.
- Intact hedgerow A hedgerow which is stock proof with the need for fencing.
- LBAP Local Biodiversity Action Plan.
- **Level of protection 'EU'** Protected under the Conservation of Habitats and Species Regulations (2017).
- Level of protection 'UK' Protected under the Wildlife and Countryside Act 1981 (as amended). LNR Local Nature Reserve. Statutory designation.
- NNR National Nature Reserve. Statutory designation.
- Non-native invasive species For the purposes of this report: species listed on Schedule 9 of the wildlife and Countryside Act 1981 (as amended). Widely naturalised species, such as grey squirrel, are excluded.
- **Notable species** A species which is listed as a UK Priority Species, carries an unfavourable conservation status (e.g. scarce, rare, threatened, Red-listed), is invasive or is otherwise worthy of note from an ecological perspective.
- NR Nationally Rare. Defined as a species which occurs in 15 or fewer hectares in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- NS Nationally Scarce. Defined as a species which occurs in 16-100 hectrads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.



- **OMH** Open Mosaic Habitat. A UK Priority Habitat characterised generally by a mosaic of colonising vegetation on previously developed land with loose and/or sandy soil. Generally of significantly elevated value to invertebrates.
- PRF Potential Roost Feature. A feature on a building or tree that has potential to support roosting bats.
- **Protected species** A species protected under specific UK or European legislation, including Habitats Directive, Wildlife and Countryside Act.
- **SAC** Special Area of Conservation. Designated under European Union Habitat Directive (92/43/EEC) to protect species and habitat of European interest.
- **SPA** Special Protection Area. A site designated under the European Union Directive on the Conservation of Wild Birds.

SSSI Site of Species Scientific Interest. Statutory designation of biological or geological importance. **UK Priority Habitat and species** A habitat or species identified as a priority for conservation in

accordance with Section 41 of the Natural Environment and Rural Communities Act (2006). Section 40 of the Act places a duty on public authorities to have regard for the conservation objectives of these habitats and species. (Also known as Section 41 (S41) habitats/species).

8.2 Bat Specific Terminology

- 8.2.1 The following categories are used to describe the level of roosting potential of buildings and trees; these are based on current best practice (adapted from Table 4.1, p. 35; Collins, 2016):
 - <u>Negligible</u>: Negligible features within the building likely to be used by roosting bats.
 - <u>Low</u>: A structure with one or more PRFs that could be used by individual bats opportunistically. However, these potential roost Sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
 - A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
 - <u>Moderate</u>: A structure or tree with one or more PRFs 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.
 - <u>High</u>: A structure or tree with one or more PRFs 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.
 - <u>Confirmed Roost</u>: Presence of bats or evidence of use by bats.
- 8.2.2 Bats have different types of roost at different stages in their life cycle and at different times of year. Table 8.1 details terms are used to describe types of bat roosts. These descriptions are based on current best practice (Collins, 2016 and Hundt, 2012).



Roost type	Period when used	Used by	Other comments
Transitional/	April –	A few individuals (occasional small	Used prior to hibernation or when wake for
occasional	September/October a	groups) for (generally) short	short periods during hibernation.
	few days prior or	periods of time.	Roosts are generally cool.
	following hibernation		
Maternity	May – August	Breeding females (females &	Males rarely present, although male long-
		dependent young).	eared bats, Daubenton's, Natterer's,
			horseshoe bats have been found in
			maternity roosts with numbers increasing
			through the active season.
Satellite	May – August	Females.	Located near maternity roosts & used by
		A few to small groups.	females as an alternative roost site.
Mating	Late summer to	Mating individuals.	Used by males of some species that defend
	through winter		a territory and display/call females to mate.
Hibernation	October - March	All. May get different species using	Cool, constant temperature with high
		same roost.	humidity.
Night	March – November	Single individual on occasion or	May be of high value to some species, such
		regularly used by a colony to	as lesser horseshoe, providing key resting
		rest/shelter during the night.	places with forging areas.
Day	March – November	Single bat or few individuals	Bats may have several day roosts, regularly
	(rarely found by night	(males) for resting/shelter during	used, switching daily or one used for several
	in summer)	the day.	weeks at a time.
Feeding	May – November	Single bat or few individuals or a	Often used by long-eared and horseshoe
		colony for resting/feeding at night.	bats.
		Rarely present during the day.	
Swarming	Late summer/autumn	Large numbers of different species	Generally, around caves & mines. Often
Sites		(both sexes) gather.	dominated by Myotis bats. Potentially
			important mating sites with bats travelling
			many kilometres to use. Some bats may
			remain to hibernate.

Table 8.1 Description of different types of roosts used by bats

8.3 Scientific Names

8.3.1 Scientific names of species mentioned in this report are outlined in Table 8.2.

8.3.2 Table 8.2 Scientific names of species mentioned within this report

English Name	Scientific Name
Bats	
Alcathoe bat	Myotis alcathoe
Barbastelle	Barbastella barbastellus
Bechstein's bat	Myotis bechsteinii
Brandt's bat	Myotis brandti
Brown long-eared bat	Plecotus auritus
Common pipistrelle	Pipistrellus pipistrellus
Daubenton's bat	Myotis daubentonii
Greater-horseshoe bat	Rhinolophus ferrumequinum
Grey long-eared bat	Plecotus austriacus
Leisler's bat	Nyctalus leisleri
Lesser horseshoe bat	Rhinolophus hipposideros
Long-eared sp.	Plecotus sp.
Nathusius' pipistrelle	Pipistrellus nathusii



English Name	Scientific Name
Natterer's bat	Myotis nattereri
Noctule bat	Nyctalus noctula
Pipistrelle sp.	Pipistrellus sp.
Serotine bat	Eptesicus serotinus
Soprano pipistrelle	Pipistrellus pygmaeus
Whiskered bat	Myotis mystacinus
Mammals	
Badger	Meles meles
Dormouse	Muscardinus avellanarius
Water vole	Arvicola amphibius
West-European hedgehog	Erinaceus europaeus
Plants	
Agrimoney	Agrimonia eupatoria
Beech	Fagus sylvatica
Cherry sp.	Prunus sp.
Common knapweed	Centaurea nigra
Common privet	Ligustrum vulgare
Common sorrel	Rumex acetosa
Common Bluebell	Hyancinthiodes no-scripta
Daisey	Bellis perennis
Dandelion	Taraxacum officinale
Dogs mercury	Mercurialis perennis
False acacia	Robinia pseudoacacia
Field maple	Acer campestre
Hawthorn	Crataegus monogyna
Hazel	Corylus avellana
Holly	llex auifolium
Hornbeam	Carpinus betulus
Indian Bean Tree	Catalpa bignonioides Aurea
Norway maple	Acer platanoides
Pear	Pyrus sp
Pedunculate oak	Quercus robur
Perennial rye	Lolium perenne
Silver birch	Betula pendula
Sycamore	Acer pseudoplatanus
Yarrow	Achillea millefolium
Yellow archangel	Lamium galeobdolon



APPENDICES



PLANS AND SITE PHOTOGRAPHS

Drawing BMD.19.048.DRE.900 Phase 1 Habitat Survey Plan Drawing BMD.19.048.DRE.901 Buildings Plan



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SITE BOUNDARY (OFFSET FOR CLARITY)

PHASE 1 HABITATS



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BARE GROUND

BUILDINGS (INC REFERENCE)

HARD STANDING

TREE (BROADLEAF)

AMENITY GRASSLAND

SPECIES-POOR HEDGE

INTRODUCED SHRUB

FENCE

OTHER HABITAT 1) VEGETABLE PLOTS 2) PLANTERS IN BOX

TARGET NOTES (1-5)

-- |----Rev Description Date

BN

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PHASE ONE HABITAT PLAN

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## **PHOTO SHEETS**



Photograph 1: Peartree Lane along eastern boundary, view looking north-east.



Photograph 2: Species poor hedge and car parking facilities adjacent to southern boundary, view looking north.



Photograph 3: Security fencing along southern and western boundaries.



Photograph 5: Western boundary hedge, view looking north.

Photograph 4: Species poor ornamental hedge along eastern portion of southern boundary.



Photograph 6: Western boundary hedge, view looking north.







Photograph 7: Eastern internal courtyard, view looking west.



Photograph 9: Amenity grassland along western boundary, view looking north.





Photograph 11: Line of pollarded false acacia in Photograph 12: Bare ground in eastern courtyard. eastern courtyard, view looking west.

Photograph 8: Western internal courtyard, view looking south.



Photograph 10: Amenity grassland with mature broadleaved trees along eastern boundary, view looking south











Photograph 15: Target note 2, Pergola half way along southern boundary, view looking east.



Photograph 17: Target note 4, wooden bound compost heaps along southern boundary.





Photograph 16: Target note 3, shed located along southern boundary.



Photograph 18: Target note 6, wooden planters between B7 & B8.







Photograph 19: Target note 7, Mature Photograph 20: Un occluded bark on western pedunculate oak along eastern boundary with aspect at approximately 7 m. 'Low' bat roosting potential.'



## A. POLICY AND LEGISLATION

A.1.1 Tables A.1 and A.2 provide a summary of wildlife legislation and policy of relevance to development at the Site.

# Table A.1 Overview of species/species groups relevant to the current proposals and associated legislation and policy

Species/Species group	European	UK1	Priority species ²
Bats (all species)	$\checkmark$	Full	Species dependent
Birds		Full	Species dependent, incl.
			House sparrow
Mammals (general)		Species dependent	Incl. hedgehog
Notes			

¹ Principally the Wildlife and Countryside Act: Full = full protection, either from the Wildlife and Countryside Act 1981 (as amended) alone or in combination between this act and European legislation; partial = partially protected.  $\checkmark$  = covered by other specific legislation.

² Includes over 900 species listed in accordance with section 41 of the NERC Act (2006). Species known or most likely to utilise the Site are indicated where appropriate.

### Table A.2 Relevant species legislation for development at the Site

Species /	Legislation ^{see notes}						
group	1	2	3	4	5	6	7
Bats (all			$\checkmark$	$\checkmark$	~	$\checkmark$	~
species)							
Birds (nesting)	$\checkmark$	$\checkmark$				$\checkmark$	
Hedgehog				~		$\checkmark$	~
Notes ¹ Wildlife and Countryside Act, 1981 (as amended) – Part 1 ² Wildlife and Countryside Act, 1981 (as amended) – Schedule 1 (some species, none recorded within the Site) ³ Wildlife and Countryside Act, 1981 (as amended) – Schedule 5, Section 9 (4b, 4c) and (5) ⁴ Wildlife and Countryside Act, 1981 (as amended) – Schedule 5, Section 11 ⁵ Conservation of Habitats and Species Regulations 2017 – Schedule 2 (European protected species) ⁶ Natural England and Rural Communities Act (2006) – Various species listed in accordance with Section 41							

#### A.1.2 The key national planning policies and documents are:

- The National Planning Policy Framework (2019); and
- The Natural Environment and Rural Communities (NERC) Act (2006).



## B. ASSESSMENT METHODOLOGIES

## B.1 Desk Study

- B.1.1 The desk study involved:
  - Gathering and analysing existing ecological data within the site boundary and extending to a radius of 5 km; and
  - Reviewing readily available habitat data within 1 km radius of the site boundary.
- B.1.2 The results of the desk study were used to aid in the interpretation of the survey results and were obtained from the following sources:
  - Herts Environmental Records Centre (HERC);
  - The Multi-Agency Geographical Information for the Countryside (*MAGIC*) web-based database;
  - The Draft Natural England Open Mosaic Habitat Database;
  - The Woodland Trust Ancient Tree Inventory;
  - Natural England Great crested newt class licence database;
  - Readily available maps (modern and historic);
  - Readily available aerial photographs.
- B.1.3 In terms of species, particular attention was given to the following species/species groups:
  - Amphibians;
  - Badgers;
  - Bats;
  - Birds;
  - Invertebrates (as appropriate based on geographic location and habitats present on Site);
  - Invasive species (as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended));
  - Plants (as appropriate based on geographic location and habitats present on Site);
  - Reptiles.
- B.1.4 Some species, such as the blue tit, may be listed on red data books but described as neither threatened nor near threatened; such species are not included in the protected and notable species tables within the desk study sections.
- B.1.5 For the purposes of this report species falling within the following situations are not indicated as having European level of protection in the desk study tables:
  - Birds listed on Appendix 2 of the Bern Convention (European legislation). The protection requirements of this Appendix are fully integrated in UK law, notably through the Wildlife and Countryside Act 1981 (as amended).
  - Birds listed on Annex 1 of the Birds Directive. The protection of such species survival and reproduction within their geographic distribution is ensured through special conservation measures



in relation to their habitats. Such measures are implemented through the establishment of Special Protection Areas. Therefore, any implications are considered at regional habitat and country level rather than individual bird/species level.

B.1.6 For the purposes of this report widely naturized non-native invasive species listed in Schedule 9 of the Wildlife and County Act, such as grey squirrel and muntjac, are excluded.

## B.2 Extended Phase 1 Habitat Survey

- B.2.1 The Extended Phase 1 Habitat Survey involved a walk-over of the Site recording and mapping the various habitats present (as defined by and in line with the standard methodology in JNCC, 2010) in each definable land parcel. Where applicable, land parcels were separated into their component habitats.
- B.2.2 In addition to the floristic component of each habitat or habitat parcel (where it had a different character), each was described in terms of its likely origin (e.g. self-established, planted), character, condition and management. The condition of the habitat was determined using professional judgement and criteria used to inform FEPs.
- B.2.3 Attention was also paid to the presence or potential for protected and notable species occurring on Site. This focused on the species/species groups as listed in paragraph B1.3.
- B.2.4 Target notes were used to aid the interpretation of mapped habitats to indicate notable features within the Site.

## B.3 Initial Bat Scoping Assessment

- B.3.5 The Site was assessed for the likelihood of it supporting roosting bats or of being of value to bats roosting off-Site in the local area. The assessment followed current best practice (Bat Conservation Trust, Collins 2016) and took the following into consideration:
  - Habitat context (the overall Site and its wider surroundings were evaluated for the potential to support commuting and/or foraging bat species);
  - Light levels;
  - Temperature stability;
  - Protection from the elements;
  - Access for bats into the interior of the building; and
  - Potential roost Sites in external and internal features of the building.

#### Habitats

B.3.6 A habitat assessment of the Site and immediate environs (up to 5 km) for its value to foraging and commuting bats was undertaken. This primarily utilised readily available aerial photography and maps. The purpose of this element is to enable an assessment of the relative value of the Site for bats in the local landscape.



## Buildings and structures

- B.3.7 All buildings and structures were inspected, both externally and internally (where safe access permitted), for their potential to support bats. Ladders, high-powered torches and endoscopes were used where necessary.
- B.3.8 The buildings and structures were thoroughly searched for signs of bats; including:
  - absence of cobwebs (high/dense occurrence of cobwebs often, although not conclusively, suggest no/limited bat use of features/roof voids);
  - potential access and egress routes for bats into and out of likely roosting sites (internally such features may be indicated by light shining into internal building voids from the exterior of the building or damage to the internal lining of the roof);
  - evidence of the use of potential access points by bats, such as scattered droppings, urine staining or scratching around entrances;
  - actual bats (live, corpses or skeletons);
  - feeding remains such as moth and butterfly wings;
  - bat droppings; and
  - potential roosting locations as bats and their signs are not always visible.
- B.3.9 Certain features and areas within buildings have stronger associations with finding bat evidence. Therefore, these locations were the focus of the survey, including but not restricted to:
  - Dividing walls/chimney breasts;
  - Underneath ridge beams;
  - Beneath hip joins and junctions; and
  - Timber/wall joints.

#### Trees

- B.3.10 Trees with potential to support roosting bats were assessed initially from ground level. Where safe access allowed direct inspection, using endoscope and torches, of features was undertaken from a ladder against the tree.
- B.3.11 Holes, crevices, hollows and cracks were inspected for their suitable for bats (e.g. dry and not exposed to the elements) evidence of bats (notably actual bats, droppings and urine stains).

## B.4 Evaluation

## Habitats

B.4.12 The habitats were assessed against the criteria and descriptions of Priority Habitats to determine if they could be considered as Priority Habitat and, therefore, likely to have greater implication on developing the Site.



- B.4.13 Habitats were also considered in relation to their wider landscape integration, notably connectivity and acting as a buffer to other habitats or protected sites.
- B.4.14 The habitat condition assessments and valuation used to inform FEP are also used in Biodiversity Impact Assessment Matrices. Therefore, have been used in this Ecological Assessment to help determine the importance of the habitats within the Site. In the majority of cases habitats were assessed at Site or local level. Exceptions may be where the habitats are good examples of a Priority habitat or a localised/rare habitat in the area whereby they may be considered at District or National level. Descriptions of national and local Priority Habitats will be used to value habitats on Site.

#### Species

B.4.15 The Site was assessed in terms of its potential to support protected and notable species with particular attention being paid to those listed in paragraph B1.3. It takes account of habitats present on Site, the desk study species data, connectivity to known records and other suitable habitat and geographic range of species. For example, a Site may have suitable habitat for sand lizard but is outside the species geographic distribution and as such would not be considered in the evaluation of the Site. Another example would be if water vole were returned in the desk study data but there was no watercourse within the site or within a zone of influence which may be indirectly affected by pollution run-off.



## C. METADATA, SURVEY CONDITIONS AND LIMITATIONS

## C.1 Metadata

Factor	Detail
Data	Habitats described and mapped in accordance to JNCC (2010)
	Target notes of specific features
	Bats: Landscape habitat review, habitat assessment, structure and building/tree assessment.
Reason for collection	To provide baseline ecological data to inform master planning, planning applications and
	appropriate mitigation in relation to proposed development.
Location	One YMCA, Peartree Lane, Welwyn garden City, Hertfordshire. AL7 3UL. Approximate central grid
	reference: TL 244 126
Date	19.08.2019
Method of collection	Phase 1 Habitat Survey: JNCC (2010)
	Initial bat assessments following current best practice (Collins, 2016)
Who collected	James Patmore CEcol CEnv MCIEEM
	Matt Harper BSc (Hons)

## C.2 Survey Conditions

Date	Start Time	Preceding days	Cloud (%)	Sun	Temp. (°C)	Precipitation
19/08/2019	09:00	Clear, sunny	30	Sunny	17	No



## C.3 Limitations Review

Consideration	Comment
Survey & data	
Personal competence, i.e.	All survey works were undertaken by or directly supervised by personnel experienced in ecological
qualifications, training, skills,	surveying with relevant licenses.
understanding, experience	James Patmore CEcol CEnv MCIEEM has over 17 years' experience in ecological consultancy,
	including an extensive amount of experience performing and directing the survey work and
	assessments undertaken at the Site. James holds a class 2 bat licence.
	Matt Harper has four years of experience in the consultancy sector and extensive experience
	undertaking ecological fieldwork over five survey seasons. This includes a suitable level of
	experience with all surveys undertaken at the Site.
Resources (equipment and/or	Appropriate resources and suitably qualified personnel were used.
personnel)	
Time spent surveying	Sufficient time was spent on site to undertake all surveys. No surveys were 'cut short'.
Data (e.g. arising from incomplete or	The data used and collected were sufficient for the purpose of the works.
inappropriate surveys)	
Lack of statistical robustness and	Statistical analysis of data was not deemed necessary for the purpose of the current works.
higher uncertainties	
Old and out of date data	The survey data in this report remains valid for 24 months.
Timing or seasonal constraints and	The survey was conducted in August, within the recommended survey period.
suboptimal survey periods	
Partial use of and/or departures from	All surveys accorded with the relevant best practice guidelines.
good practice guidelines	
Site conditions & other factors	
Adverse weather conditions	No significantly adverse weather conditions were encountered during the survey work undertaken
	at the Site that would be considered to have significantly adversely impacted the reliability and
	accuracy of data collected.
Restricted access to site or part of site	Access was not restricted.
Unrealistic deadlines	No restrictions on survey data collected or analysed to date are as a result or unrealistic deadlines.
Unproven or untested measures for	N/A
mitigation and compensation	
Evaluation of conservation value and	The evaluation of the conservation value of habitats and species associated (or potentially
impacts	associated) with the site and impacts of the development, are based on the current information
	available.
	This evaluation will need to be reviewed and updated as necessary should a considerable period of
	time (24 months) elapse and/or more data from other survey work (on and within 500 m of the site)
	becomes available.



## D. DESK STUDY SCOPING EXERCISE

D.1.1 A data search on *MAGIC* was completed on 21st August 2019. A summary of features checked is provided in Tables D.1. to D.4.

Table D.1 Statutory nature conservation sites within 2 km of the Site, extending to 10km for site designated for bats.

Site designation	Number of sites					
	Total	On site	0-1 km	1-2 km	2–5 km	5-10 km
LNR				1	1	
SSSI						
Impact Risk Zone	Yes – Sherrardspark Wood SSSI and Tewninbury SSSI.					

### Table D.2 Priority (and notable) habitats within 1 km of the Site

Broad category	Priority Habitat Inventory	Other habitats	On site	0-1 km
Coastal	Saltmarsh			
	Sand Dunes			
	Vegetated Shingle	]		
	Maritime Cliffs and Slopes	]		
	Mudflats	]		
	Saline Lagoons	]		
Grassland	Calaminarian Grassland			
	Coastal and Floodplain Grazing Marsh			
		Good quality semi-improved grassland (non-priority)		
	Lowland Calcareous Grassland			
	Lowland Dry Acid Grassland	1		
	Lowland Meadows	1		
	Purple Moor Grass and Rush Pasture	]		
	Upland Calcareous Grassland			
	Upland Hay Meadows	1		
Heath	Lowland Heathland			
	Mountain Heaths and Willow Scrub	]		
	Upland Heathland	1		
Limestone pavements	Limestone Pavements			
Marine	Intertidal Substrate Foreshore	]		
Wetland	Blanket Bog	1		
	Lowland Fens	1		
	Lowland Raised Bog			
	Reedbeds			
	Upland Flushes, Fens and Swamps			
Woodland		Ancient: Semi-natural		
		Ancient: Replanted		
	Deciduous Woodland			12
		National Inventory of Woodland & Trees		5
	Traditional Orchards		1	
	Wood pasture and Parkland BAP Priority Habitat			



Broad category	Priority Habitat Inventory	Other habitats	On site	0-1 km
Trees ¹		Ancient, veteran or notable trees		
Other		Fragmented heath (Non Priority)		
		Grass Moorland (Non Priority)		
		No main habitat but additional habitat exists		
	Open Mosaic Habitat ²			
Notes 1. Woodland Trust Anci 2. Natural England's Dr	Open Mosaic Habitat ²	shase (downloaded on the 17th January 2018)		

2. Natural England's Draft Open Mosaic Habitat (OMH) Inventory Database (downloaded on the 17th January 2018)

## Table D.3 European Protected Species licence applications/returns within 1 km (great crested newt) and 5 km (bats) of the Site

Protected species licence applications	Number of applications				
	Total	On site	0-1 km	1-2 km	2-5 km
Great crested newt -development licences	0				
Great crested newt -class licence returns	0				
Bat	10			2	8
Species covered by the bat licences					
Brown long-eared bat				$\checkmark$	$\checkmark$
Common pipistrelle				$\checkmark$	$\checkmark$
Soprano pipistrelle				$\checkmark$	$\checkmark$

#### Table D.4 Farmland bird assemblages in relation to the Site

Farmland bird assemblages	On site	0-1 km
Arable (max number of species)	0	0
Grassland (max number of species)	0	0
Black grouse		
Cirl bunting		
Corn bunting		
Curlew		
Grey partridge		$\checkmark$
Lapwing		
Redshank		
Snipe		
Stone curlew		
Tree sparrow	$\checkmark$	
Turtle dove		
Twite		
Yellow wagtail		$\checkmark$



## E. DETAILED SURVEY RESULTS

## E.1 Target Notes

- 1. A vegetable plot.
- 2. Pergola.
- 3. Wooden shed
- 4. Enclosed compost heaps
- 5. Two wooden trough planters containing rhododendron and ornamental conifers.
- 6. Pedunculate Oak with 'Low' bat roosting potential.