



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

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

**ECOLOGICAL ASSESSMENT
Harefield Composting Facility, Uxbridge**

February 2023

BMD.21.0069.RPE/P1.802.-.Ecology

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

Company No. 7788475

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EXECUTIVE SUMMARY

Client	Envar Composting Ltd.
Consultant	Bradley Murphy Design Ltd.

SITE

Location.....	West London Composting, New Years Green Lane, Harefield
National Grid Reference ...	Approx. centre TQ 06995 88414
Over-view	The Site is dominated by worked ground with patches of semi-natural habitat comprising ruderal, scrub and poor semi-improved grassland. In the north of the Site, HS2 is currently active and some areas of the Site were restricted and worked ground. There is also an area of hardstanding and limited habitat areas within a composting site under active management associated with a previously submitted ecological assessment (BMD.21.0069.RPE/P1.801.-Ecology).
Landscape context.....	The Site is to the north of New Years Green Lane, situated to the west of the town of Ruislip, in a rural location. The Site is surrounded by horse paddocks and arable fields. Habitat within the wider environs comprise villages, arable fields, hedgerows, ponds, and pockets of woodland. To the north of the Site is an area of ongoing construction works associated with HS2.

DEVELOPMENT & PLANNING BACKGROUND

Proposed works	Planning Application seeking planning permission to regularise the buildings/infrastructure on the existing green waste composting site and extend the maturation yard to the north and east including landscaping and BNG area
Planning stage	Planning

ECOLOGICAL BACKGROUND

General.....	A previous ecological report was undertaken by BMD in March 2022 (Ref: BMD.21.0069.RPE/P1.801.-Ecology). Various other Ecological assessments have taken place in the locality associated with HS2.
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SURVEY

Objectives	<ol style="list-style-type: none">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.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 online resources, including the <i>MAGiC</i> database, and data from HS2 London-West Midlands Environmental Statement (2013). Habitat assessment – based on JNCC Phase 1 Habitat Survey. Evaluation of habitats based on the Biodiversity Metric 3.1.
Date.....	2nd November 2022.
Results.....	The Site is approximately 7 ha in size. An area (referred to as the maturation area), comprising mainly hard-standing, a small water body (with high nutrient content), and screening machinery. Elsewhere are areas of semi-natural habitat comprising ruderal, scrub and poor semi-improved grassland. HS2 is currently active within the north of the Site and some areas of the Site were restricted and worked ground. The Site has the potential to support the following Protected and Notable Species: <ul style="list-style-type: none">• Amphibians (excluding great crested newt);• Bats;• Nesting birds;• Reptiles; and• Other notable mammals, including hedgehog.
Conclusions	The development of the Site is not considered to have a negative ecological impact on the local area if best practice mitigation is followed and biodiversity net gain will be achieved.

RECOMMENDATIONS

No further surveys are considered to be required at this stage.
Ecological clerk of works will be required during the proposed works.

Opportunities for enhancement include the use of appropriate native trees and shrubs in landscaped areas where feasible.

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1. INTRODUCTION

1.1 Background Information

1.1.1 Bradley Murphy Design (BMD) was commissioned by Envar Composting Ltd. in February 2022 to undertake an Ecological Assessment of their Site at Harefield Composting Facility, New Years Green Lane, Uxbridge. The Site, hereafter referred to as 'the Site', is approximately centred on national grid reference: TQ 07102 88155. A plan depicting the Site's location is provided in the Appendix.

1.1.2 The following assessments were completed within March 2022 and November 2022:

- Desk based assessment (March 2022); and
- Habitat survey (November 2022).

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. 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; and
- Further guide the scheme proposals to ensure that net biodiversity gain is met (an obligation of the NPPF, 2021) through design and mitigation hierarchy (avoid, mitigate, compensate).

1.2 Proposed Development

1.2.1 Planning Application seeking planning permission to regularise the buildings/infrastructure on the existing green waste composting site and extend the maturation yard to the north and east including landscaping and BNG area.

1.3 Site Context

Historic Context

1.3.1 A review of readily available historical maps and aerial imagery indicated that the Site composed part of an arable field complex associated with St Leonard's Farm and Elm Tree Farm which connected to the still present Newyears Green Lane within the late 18th century. The Site remained in this state until the mid-19th century where it became part of an industrialised composting development, this subsequently led to the majority of the Site being transformed to hardstanding, where it has remained in this state until present day.

1.3.2 The local area and greater landscape within the vicinity of the Site has undergone very little landscape change throughout time according to readily available historical maps and aerial imagery. Exceptions to this include: the erection of multiple developments within the 19th century along Harvil Road, Newyears Green Lane and Breakspear Road which transformed some of the

arable landscape to hardstanding developments; slight urban expansion along the outskirts of Ruislip situated approximately 560 m east from the Site and the urban expansion of the perimeters of the town of Ickenham situated approximately 1.8 km southeast from the Site. The Chiltern Main Line railway line that runs west-east into Ruislip lies approximately 690 m south of the Site and has been present within the landscape since at least the late 18th century, alongside a block of ancient woodland associated with Ruislip Woods located approximately 160 m north of the Site which has remained untouched since at least the late 18th century also.

Present Context

1.3.3 The Site is an area of semi-natural habitat comprising ruderal, scrub and poor semi-improved grassland. In the north of the Site, HS2 is currently active within the Site and some areas of the Site were restricted and worked ground. There is also an area of hardstanding and limited habitat areas within a composting site under active management associated with a previously submitted ecological assessment (BMD.21.0069.RPE/P1.801.-.Ecology).

1.3.4 The Site is approximately a 7 ha parcel of presently developed/disturbed land associated with an active Composting Facility. Situated in a semi-rural context within the London Green Belt northwest of the London Borough of Hillingdon, the Site lies approximately 2.3 kilometres southeast of the village of Harefield, 1 kilometre north of the locality of Ickenham and 500 m west of Ruislip. The Site comprises of an existing maturation area of bare ground with limited ephemeral and colonising vegetation with peripheral areas of mixed planting. There is then further areas of grassland, ruderal and scrub around the peripheries of the Site. The existing compost maturation area is located on Pylon Farm. Ongoing HS2 works are present within and adjacent to the Site.

1.3.5 The majority of the Site is bounded by open arable land to the north, northeast and northwest, with four residential units situated to the southwest along Newyears Green Lane and St Leonard's Farm to the east of the Site. Ongoing construction works are present to the north of the Site associated with the major infrastructure project HS2.

1.3.6 Open-source mapping indicate no known waterbodies located within 500 m of the Site.

1.3.7 Within the wider context, the landscape surrounding the Site consists of primarily arable landscape and hedgerows, with some patches of developed land situated along roadways such as a composting facility that lies approximately 320 m southeast from the Site along Breakspear Road and a recycling site that lies along Newyears Green Lane approximately 550 m southwest of the Site. Furthermore, a large block of ancient woodland (Bayhurst Woods) associated with Ruislip Woods is located adjacent to the north of the Site, and the Chiltern Main Line railway that runs west-east into Ruislip is located approximately 1 km south of the Site. Denham Country Park lies approximately 2 km southwest of the Site and contains multiple man-made lakes, the Grand Union Canal, the River Misbourne and the River Colne which flows 2.5 kilometres west of the Site in a north-south course. The Grand Union Canal also follows the same course as the River Colne through the Country Park.

1.4 Ecological Context

1.4.1 A previous ecological report was undertaken by BMD in March 2022. This ecological appraisal concluded:

- No further surveys are considered necessary in order for the LPA to validate this activity.
- No statutory or Non-statutory Nature Conservation Sites will be negatively impacted by the proposed works.
- The Site lies within the Impact Risk Zone (IRZ) of two statutory designated sites of nature conservation importance: Ruislip Woods SSSI, NNR & LNR and the Mid Colne Valley SSSI. The proposed application is included on the list of developments that are considered likely to cause a risk to the corresponding SSSI's, therefore, Natural England should be consulted during the application.
- No S41/Priority Habitats will be negatively impacted by the proposed works.
- No protected or notable species will be negatively impact if appropriate mitigation and precautions are followed, as set out in this report.

1.5 Compliance with Policy, Guidance and Legislation

1.5.1 A summary of national planning policy and wildlife legislation relating to development projects in England is provided in Appendix A. The protocols, evaluations and recommendations contained within this report were made in accordance with these policies and legislation.

2. APPROACH

2.1 Introduction

2.1.1 This report has been produced with reference to current guidelines for ecological assessments (e.g. CIEEM, 2017 and 2017a) 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; and
- Extended Phase 1 Habitat Survey.

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 9. Common names of species are used throughout the report with scientific names provided in Section 9.2.

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 area	Source ²	Justification of search area
Species			
Protected & Notable Species	1 km	A, B, E	The Site is anticipated to have low ecological value and the habitats on site are largely hardstanding, common and widespread. However, given the habitats within the local proximity of the Site there is potential for protected and notable species to be present/utilise the habitats onsite.
European Protected Species Licence Applications (excl. bats)	1 km	B	The Site has low potential to provide terrestrial habitat for great crested newts. Impacts on newt populations/ meta populations 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 Species Licence Applications (bats)	5 km	B	There is potential that the Site supports features that may be used by bat species. 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 Species	1 km	A	The Site has the potential to support non-native invasive species.
Habitats			
UK Priority Habitats	1 km	B	Parts of the Site are previously developed with areas of previous agricultural use. As such is unlikely to support long established habitats such as priority woodland. There is potential for mosaic features to have developed over the short to medium term e.g. open mosaic habitats
Ancient Woodland	1 km	B	
Other notable habitats	1 km	A, B, D	
Change over time/landscape context	1 km	C	To provide an indication of ecosystem connectivity into the wider landscape and subsequent movement of protected and notable species.
Sites			
Statutory Protected Sites – Impact Risk Zones	Site	B	To assess whether any SSSI/SACs are likely to be impacted upon by the works.
Non-statutory Protected Sites (e.g. LWS)	1 km	A	As habitats above.
Statutory Protected Sites	2 km (5 km for bats)	B	These sites may have been designated for their populations of European Protected Species (EPS). As the Site has potential to support EPS a wider consideration of statutory protected sites is required.
Notes			
1. See glossary for definitions and species and habitats considered.			
2. A. London-West Midlands Environmental Statement [reviewed 17/11/2022].			
B. MAGIC (Multi-Agency Geographic Information for the Countryside) [accessed 17/11/2022].			
C. Readily available aerial images and current/historic map sources			
D. Woodland Trust Ancient Tree Inventory			
E. PTES The Big Hedgehog Map [accessed: 17/11/2022]			

2.4 Limitations

2.4.1 A summary of all limitations considered is provided in Appendix C.

2.4.2 Full considerations of limitations are provided in Appendix C; in brief it is considered that none of the limitation identified were sufficient to negatively affect the overall outcome of the assessment.

2.5 Evaluation and Review

2.5.1 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 in the Biodiversity Metric 3.1; and
 - potential to support protected and notable species.
- Species – focusing on protected and notable species
 - evidence on Site; and
 - potential to occur on Site based on habitats, connectivity and known records.
- Potential constraints to development (legal and policy implications relating to wildlife).
- Potential for biodiversity enhancement.

2.5.2 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.

3.1.2 Local records from Greenspace Information for Greater London are fully reviewed/detailed in BMD.21.0069.RPE-TN.801.EcoHeadlines.

Statutory designated sites of nature conservation importance

3.1.3 The Site itself does not lie within any statutory designated sites of nature conservation importance.

3.1.4 There are five statutory designated sites of nature conservation importance within 2 km of the Site according to *MAGIC*. These sites are summarised in Table 3.1.

Table 3.1 Statutory designated sites of nature conservation importance within 2 km of the site

Site	Designation ¹ & area	Proximity (distance/direction) & connectivity to Site	Summary description ²
Ruislip Woods	NNR, part LNR & SSSI ~307.45 ha	Adjacent to the northern boundary of the Site Good connectivity to the Site.	The site is designated for its four ancient semi-natural woodland blocks which further contain a mosaic of habitats such as acidic grass-heath and wetland areas. The site is particularly beneficial for flora and insect species diversity, including many rare individuals such as the great oak beauty and heath spotted orchid.
Frays Valley	LNR ~71.87 ha	~1.5 km southwest Some connectivity via arable landscape, hedgerows, a railway corridors, waterbodies and woodland parcels.	The site is designated for its mosaic of habitats including ancient wet woodland, meadows and lakes besides the Grand Union Canal which is managed using conservation grazing and is used by many rare species such as water vole and siskin.
Denham Quarry Park	LNR ~9.61 ha	~1.9 km southwest Some connectivity via arable landscape, hedgerows, a railway corridors, waterbodies and woodland parcels.	Connected to Denham Country Park, the sites are designated for their parkland, meadows, quarries and the Colne and Melbourne rivers that pass through. They are used by a variety of wildlife including species of damselflies and dragonflies, alongside wetland bird species.

Site	Designation ¹ & area	Proximity (distance/direction) & connectivity to Site	Summary description ²
Denham Country Park	LNR ~19.82 ha	~1.9 km southwest Some connectivity via arable landscape, hedgerows, a railway corridors, waterbodies and woodland parcels.	Connected to Denham Quarry Park, the sites are designated for their parkland, meadows, quarries and the Colne and Melbourne rivers that pass through. They are used by a variety of wildlife including species of damselflies and dragonflies, alongside wetland bird species.
Fray's Farm Meadows	SSSI ~26.3 ha	~1.9 km southwest Some connectivity via arable landscape, hedgerows, a railway corridors, waterbodies and woodland parcels.	The site is designated for its relatively unimproved wet alluvial grassland habitats which are particularly rare in the London area. Many scarce plants species such a ragged robin and marsh marigold thrive here and the increase of washland area loss in London means this site is increasingly valuable.
Notes			
1. Refer to glossary for definitions. 2. As provided by MAGIC [reviewed 17/11/2022].			

3.1.5 The Site lies within the Impact Risk Zone (IRZ) of two statutory designated sites of nature conservation importance: Ruislip Woods SSSI, NNR & LNR and the Mid Colne Valley 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 proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
- **Minerals, Oil & Gas:** Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
- **Rural Non-Residential:** Large non-residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.
- **Residential:** Any residential developments of 50 units or more.
- **Rural Residential:** Any residential development of 10 or more houses outside existing settlements/urban areas.
- **Air Pollution:** Any development that could cause AIR POLLUTION or DUST either in its construction or operation (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores).
- **Combustion:** All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

- **Waste:** Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.
- **Composting:** Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Including: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
- **Discharges:** Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream.
- **Water Supply:** Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply.

3.1.6 The proposed application is included on the list of developments that are considered likely to cause a risk to the corresponding SSSI's, therefore, consultation with Natural England will be required during the planning application.

Non-statutory designated sites of nature conservation importance

3.1.7 There are a number of non-statutory designated sites of nature conservation importance within 1 km of the Site as located using open source data chiefly HS2 London - West Midlands Environmental Statement (2013). These sites are summarised in Table 3.2. Further details of Non-statutory designated sites of nature conservation importance are found in BMD.21.0069.RPE-TN.801.EcoHeadlines.

Table 3.2 Non-statutory designated sites of nature conservation importance (Local Wildlife Sites only) within 1 km of the site

Site	Designation ¹ & area	Proximity (distance/direction) & connectivity to Site	Summary description ²
Brackenbury Railway Cutting SBI.II	Sites of Borough Importance (Grade II)	~930 m southwest Good connectivity to the Site via woodland parcels, woodland edges, arable landscape and a railway corridor.	The site comprises a broad, wooded railway cutting. The dense tree and scrub cover is dominated by pedunculate oak, elder and English elm. An oak dominated coppice situated by the roadside to the south-west is also included in the site.
Newyears Green SBI.I	Sites of Borough Importance (Grade I)	~600 m southwest Good connectivity to the Site via woodland parcels, woodland edges, grassland and arable landscape.	This covert comprises a canopy species dominated by pedunculate oak, ash and hornbeam. Also present is the locally scarce, buckthorn, and musk thistle which is in the field between the ditch and Highway Farm buildings.
Ruislip Golf Course and Old Priory Meadows SBI.I	Sites of Borough Importance (Grade I)	~810 m southeast Some connectivity to the Site via woodland parcels, woodland edges, arable landscape and waterbodies.	The site is made up of two sections on opposing banks of the River Pinn. The area to the west of the river comprises of Old Priory meadow, a site rich in wildflowers. A pond beside the railway embankment once supported great crested newts, but the current status is uncertain.
Notes			
1. Refer to glossary for definitions.			
2. As provided by the HS2 London-West Midlands Environmental Statement [reviewed 17/11/2022].			

Priority habitats

3.1.8 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:

- **Lowland Meadows:** two parcels, the closest of which is located approximately 840 m southeast of the Site.
- **Deciduous Woodland:** Thirty-three blocks of sixty-three parcels, the nearest of which is located adjacent to the Site.

Notable habitats

3.1.9 The following non-priority but notable habitats occur within 1 km of the Site:

- **Ancient: Semi-natural:** three parcels, the majority associated with Ruislip Woods where the closest parcel is adjacent to the north of the Site
- **No main habitat but additional habitat exists:** three parcels, the closest of which is located approximately 330 m southwest of the Site.
- **Open mosaic:** One parcel located approximately 330 m southwest of the Site.

3.1.10 A review of the Woodland Trust Ancient Tree Inventory highlighted three known ancient, veteran or notable trees within 1 km of the Site, these include: Two veteran pedunculate oaks, the closest of which is located approximately 890 m northwest of the Site and one notable wild service tree located approximately 350 m northwest from the Site.

Protected Species

3.1.11 There are no records of GCN within the Site boundaries according to *MAGIC*, however there is one licence that was returned within 1 km of the Site. This granted licence application allowed the destruction of a resting place between the 25/02/2013 and the 01/12/2013 and is located 740 m south of the Site with slight connectivity via hedgerows and a waterbody located 450 m southeast of the Site.

3.1.12 There were no statutory designated sites within 5 km of the Site that are designated for bats.

3.1.13 A search on *MAGIC* returned a total of thirty-seven licence applications within 5 km of the Site relating to bats. Table 3.3 summarises the development bat licence applications within 5 km of the Site within the last 10 years.

Table 3.3 Development bat license applications within 5 km of the Site identified during the data search via *MAGIC*

Species	Date	Proximity (distance/direction) & connectivity to Site	Licenced activity
Soprano pipistrelle	24/04/2015- 21/04/2020	~4.7 km west Some connectivity to the Site via multiple waterbodies, woodland parcels and agricultural landscape.	Destruction of a resting place

Species	Date	Proximity (distance/direction) & connectivity to Site	Licenced activity
Soprano pipistrelle	08/01/2018-20/12/2022	~2.7 km west Good connectivity to the Site via agricultural landscape, woodland parcels and multiple waterbodies.	Impact on a breeding site Destruction of a breeding site
Soprano pipistrelle	13/11/2019-13/12/2019	~1.4 km southwest Good connectivity to the Site via the railway corridor, woodland parcels and arable landscape.	Unknown
Soprano pipistrelle	13/11/2019-13/12/2019	~1.4 km southwest Good connectivity to the Site via the railway corridor, woodland parcels and arable landscape.	Unknown
Soprano pipistrelle	13/11/2019-13/12/2019	~2.8 km northwest Good connectivity to the Site via agricultural landscape, woodland parcels and multiple waterbodies.	Unknown
Soprano pipistrelle	13/11/2019-13/12/2019	~2.8 km northwest Good connectivity to the Site via agricultural landscape, woodland parcels and multiple waterbodies.	Unknown
Daubenton's bat	10/01/2020-08/01/2025	~2.8 km southwest Some connectivity to the Site via woodland parcels, water bodies and hedgerows.	Destruction of a resting place
Soprano pipistrelle	20/04/2020-31/12/2030	~1.4 km southwest Good connectivity to the Site via the railway corridor, woodland parcels and arable landscape.	Unknown
Soprano pipistrelle	20/04/2020-31/12/2030	~1.4 km southwest Good connectivity to the Site via the railway corridor, woodland parcels and arable landscape.	Unknown
Soprano pipistrelle	20/04/2020-31/12/2030	~2.8 km northwest Good connectivity to the Site via agricultural landscape, woodland parcels and multiple waterbodies.	Unknown
Soprano pipistrelle	30/07/2020-31/12/2030	~2.8 km northwest Good connectivity to the Site via agricultural landscape, woodland parcels and multiple waterbodies.	Unknown
Soprano pipistrelle	20/04/2020-31/12/2030	~2.8 km northwest Good connectivity to the Site via agricultural landscape, woodland parcels and multiple waterbodies.	Unknown
Daubenton's bat	20/07/2020-31/12/2030	~2.7 km southwest Some connectivity to the Site via woodland parcels, water bodies and hedgerows.	Unknown
Common pipistrelle, soprano pipistrelle & brown long eared bat	21/07/2020-31/03/2026	~4.7 km west Some connectivity to the Site via multiple waterbodies, woodland parcels and agricultural landscape.	Destruction of a resting place

Species	Date	Proximity (distance/direction) & connectivity to Site	Licenced activity
Common pipistrelle & soprano pipistrelle	24/11/2014-31/03/2020	~4.9 km north Some connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Soprano pipistrelle	18/01/2016-17/01/2021	~4.4 km northeast Some connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Damage to a resting place Destruction of a resting place
Common pipistrelle & brown long eared bat	01/10/2017-30/09/2018	~4 km northeast Some connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Destruction of a resting place
Common pipistrelle	01/09/2018-30/09/2023	~4.2 km northeast Some connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Destruction of a resting place
Common pipistrelle, soprano pipistrelle, Daubenton's bat & brown long eared bat	03/02/2020-30/01/2030	~4 km northwest Some connectivity to the Site via multiple waterbodies, woodland parcels and agricultural landscape.	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Common pipistrelle, soprano pipistrelle & brown long eared bat	11/09/2014-01/10/2016	~3.5 km east Some connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Damage to a resting place
Common pipistrelle, soprano pipistrelle & brown long eared bat	07/10/2015-24/12/2017	~4.6 km northeast Some connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Damage to a resting place Destruction of a resting place
Common pipistrelle	01/09/2016-31/08/2021	~2.9 km northeast Good connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Destruction of a resting place
Common pipistrelle, soprano pipistrelle & brown long eared bat	16/06/2016-15/06/2021	~1.5 km north Good connectivity to the Site via Ruislip Woods, arable landscape and hedgerows.	Destruction of a resting place
Common pipistrelle	27/04/2017-31/08/2018	~2.9 km northeast Good connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Destruction of a resting place
Common pipistrelle	01/07/2017-31/08/2017	~4 km northeast Some connectivity to the Site via agricultural landscape, woodland	Destruction of a resting place

Species	Date	Proximity (distance/direction) & connectivity to Site	Licenced activity
		parcels, waterbodies and urban pathways.	
Soprano pipistrelle	18/12/2018-30/12/2023	~2.4 km west Good connectivity to the Site via agricultural landscape, woodland parcels and multiple waterbodies.	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Soprano pipistrelle	20/02/2019-30/12/2023	~2.4 km west Good connectivity to the Site via agricultural landscape, woodland parcels and multiple waterbodies.	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Soprano pipistrelle	14/11/2019-31/10/2024	~2.4 km west Good connectivity to the Site via agricultural landscape, woodland parcels and multiple waterbodies.	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Common pipistrelle & brown long eared bat	25/10/2019-17/10/2029	~2.7 km northeast Good connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Daubenton's bat	20/07/2020-31/12/2030	~1 km northwest Some connectivity to the Site via woodland parcels and hedgerows.	Unknown
Daubenton's bat	20/07/2020-31/12/2030	~1 km northwest Some connectivity to the Site via woodland parcels and hedgerows.	Unknown
Brown long eared bat & Leisler's bat	01/09/2020-31/12/2031	~2.6 km northeast Some connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Destruction of a resting place
Brown long eared bat & soprano pipistrelle	06/10/2020-31/12/2030	~1.3 km west Good connectivity to the Site via woodland parcels, residential pathways and arable landscape.	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Soprano pipistrelle	01/02/2013-30/09/2014	~2.4 km northeast Some connectivity to the Site via agricultural landscape, woodland parcels, waterbodies and urban pathways.	Impact on a breeding site Destruction of a breeding site Destruction of a resting place
Common pipistrelle & soprano pipistrelle	08/10/2012-01/09/2015	~2.5 km southeast Some connectivity via urban/residential corridors and features, the railway corridor and arable landscape.	Destruction of a resting place
Daubenton's bat	20/07/2020-31/12/2030	~2.7 km southwest Some connectivity to the Site via woodland parcels, water bodies and hedgerows.	Unknown
Soprano pipistrelle	30/07/2020-31/12/2030	~1.4 km southwest Good connectivity to the Site via the railway corridor, woodland parcels and arable landscape.	Unknown

Notable species

- 3.1.14 There is one grassland farmland bird assemblages with a maximum of two species, as depicted on *MAGIC*, which overlap with the Site itself. Species known to overlap with the Site itself includes lapwing and snipe, therefore there is potential that such species may occur on or use the Site if suitable habitat is present.
- 3.1.15 One live hedgehog record was recorded on the Big Hedgehog Map within 1 km of the Site (PTES, 2022) as of 17/11/2022. This record is located approximately 530 m west of the Site with good connectivity via hedgerows, treelines and arable field margins.

3.2 Extended Phase 1 Habitat Survey: Habitats

Site

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

3.2.2 The Site itself comprises two areas, each approximately 7 ha in size. The Site comprising poor semi-improved grassland, ruderal, some areas of scrub, areas of worked ground from adjacent HS2 works and hedgerows. There is also an area of hardstanding within the Site (referred to as the maturation area), comprising mainly hard-standing, a small water body within leachate storage tanks (with high nutrient content), and screening machinery.

3.2.3 The existing active part of the Site was assessed as part of a previous ecological report. Please see BMD.21.0069.RPE/P1.801.-Ecology for details. None of the habitats previously record was considered to be of elevated ecological importance.

3.2.4 Maturation area – a previous ecological report was undertaken in this area. Please see BMD.21.0069.RPE/P1.801.-Ecology for details. Further inspection from this area identified the underlying habitat within the maturation area is a sealed surface/hardstanding (Photograph 1).

3.2.5 Mixed parkland/scattered trees – landscape planting – around the peripheries of the maturation area was a mixed plantation for screening which largely comprises semi-mature cypress trees, hawthorn, blackthorn and goat willow. Ground flora associated with the tree belt was limited to hemlock and nettle.

3.2.6 Hedgerows – three hedgerows were recorded on Site (Photograph 2). All of these hedgerows were native hedgerows within, or partly within the Site and would qualify as Priority habitat under this description. Two of the hedgerows within the Site could not be inspected owing to on-going HS2 construction activities. Hedgerows able to be assessed onsite are categorised as species-poor hedgerows. Each hedgerow is described in more detail in the Appendix.

3.2.7 Ruderal – there were large areas of ruderal within the central sections of the application Site (Photograph 3). The ruderal was unmanaged and, in some areas, grew to over 1.5 meters. Species in these areas were largely dominated by common nettle, burdock, bristly ox-tongue, bramble, teasel, poison hemlock, ribwort plantain, fleabane and dock sp.

3.2.8 Other habitat (worked ground) - large areas of the northern and north eastern boundary of the Site are subject to ongoing HS2 construction works including a temporary haul route. These works areas comprise largely disturbed and bare ground (Photograph 4).

3.2.9 Pond - A single, ephemeral, pond (P1) was recorded adjacent to the Site (Photograph 5). This pond had dried out at the time of survey. It did not support any emergent or aquatic vegetation. Based on its current characteristics it is considered likely that it only very rarely holds water during the spring and summer. The verification survey confirmed that there is limited evidence which suggests the pond holds water for the majority of the year and P1 would therefore be considered highly unlikely to support amphibians.

3.2.10 Poor semi-improved grassland – there are four areas of grassland within the Site (Photograph 6). An area of grassland within the Site to the south of the HS2 works area is an area of finer grassland. Species here include tufted hairgrass, Yorkshire fog, common vetch, creeping buttercup, meadow buttercup, bristly ox-tongue, bramble and cleavers.

3.2.11 In the south of the Site there is another area of grassland which had limited species diversity. The ground in this area of the Site appeared to be seasonally inundated. Species here include Yorkshire fog, bristly ox-tongue, bramble, marsh willowherb, dock sp., scentless mayweed, fleabane sp., and cleavers. As the grassland extends towards the south eastern corner of the Site, there is transition into a more wetland habitat type which supports sedge sp.

3.2.12 To the north of the temporary haul route is an area of poor semi-improved grassland. Access to this area was largely restricted due to ongoing HS2 works. However previous data undertaken by HS2 and shown on map number (C252-ETM-EV-MAP-020-0019150-P06.00) show that the northern most fields were areas of improved grassland. Upon inspection on the day of survey the fields were noted to support poor semi-improved grassland. Species composition was limited given restricted access, however observed species included Yorkshire fog, cocks foot, perennial rye grass, thistle sp. and cleavers.

3.2.13 Scattered trees – within the Site and some scattered trees largely associated with areas of scrub (Photograph 7). Species include oak and elm.

3.2.14 Scrub – within the Site are areas of scrub which are associated with hedgerows and peripheries of the Site (Photograph 8). Largely the scrub within the Site comprises bramble, however in the south eastern corner of the Site is an area of scattered trees comprising of some additional bramble and willow scrub. In the south east corner of the Site there is a small area of dense scrub adjacent to an area of off-site broadleaved woodland associated with an ephemeral pond and adjacent hedgerows. Species in this area were largely willow sp. and included goat willow with an understory of sedge sp.

3.3 Extended Phase 1 Habitat Survey: Protected and Notable Species

3.3.1 There was direct evidence of the following protected, notable and invasive species on or immediately adjacent to the Site:

- **Nesting birds** – Multiple historic nests were present within the trees located on Site blocks within the Site. It is anticipated that nesting will be limited to common and widespread species.

3.3.2 Other species recorded during the survey are listed in Appendix E. The potential for the habitats on Site to support other protected and notable species is discussed in Section 4: Evaluation.

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
- 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 Due to the nature of the proposals, there will be habitat loss, however it is considered no areas of the site are of elevated ecological value which are due to be impacted. The main area of the Site impacted by development are confined to areas of bareground, hardstanding, ruderal, scrub and grassland.

4.2.2 No habitats on Site meet the appropriate criteria to be considered as UK Priority Habitats or Local BAP Habitats.

4.2.3 Table 4.1 provides a summary of the nature conservation importance of habitats within Site.

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

Habitat	Meets UK Priority/Local BAP habitat criteria	Condition ¹	Geographical context ²
Broadleaf woodland - semi natural	No	Poor	Site
Buildings	No	Poor	Site
Mixed parkland/scattered trees – landscape planting	No	Poor	Site
Hedgerows	Yes	Poor	Site
Pond	No	Poor	Site
Poor semi-improved grassland	No	Poor	Site
Ruderal	No	Poor	Site
Scattered trees	No	Poor	Site
Scrub			
Hardstanding	No	Poor	Site
Other habitat - HS2 working area	No	Poor	Site
Notes			

Habitat	Meets UK Priority/Local BAP habitat criteria	Condition ¹	Geographical context ²
1. As determined using the Biodiversity Metric 3.1 guidance. Where it is considered that the condition outcome is inappropriate justification is given in the text. See Appendix E for detailed habitat assessments across			
2. Geographic level at which the habitat is considered important			

4.2.4 The broad-leaved plantation and the landscape planting on Site was populated by native species. Due to recent planting with relatively young trees, including some failed tree species, the overall condition of the woodlands was poor. Furthermore, the ground flora lacked diversity in large areas and was dominated by ruderal species. Overall, the young plantations lacked distinct woodland character (lacks 3D structure and has poor ground flora) and has also been recently disturbed in certain areas.

4.2.5 The broadleaf woodland is considered to be poor condition as it is a very small area of broadleaf woodland with limited diversity and is inherently disturbed by the rest of the Site. The woodland was the only semi-natural habitats on Site and provided some diversity in canopy species and ground flora however lacked any distinctive woodland character or structure.

4.2.6 Hard standing and buildings were also present on the southern extent of the Site. The hard standing and buildings lacked diversity of species and varying mosaic features and was consequently considered to be poor condition.

4.2.7 There are areas of poor semi-improved grassland within the Site. These areas were all recorded as supporting low botanical species diversity, with the species present all recorded as being common in both a local and a national context. Furthermore, all these areas were small and adjacent to bare ground or other low value ecological features. Therefore, the semi-improved grassland present is considered to be 'Poor Semi-improved Grassland' (as per the JNCC classification) and of only limited ecological value.

4.2.8 There are also areas of dense scrub and ruderal within the Site. The scrub and ruderal habitat within the Site are common in the local landscape and had poor species diversity and therefore considered to be of poor condition and Site value only.

4.2.9 Areas of scattered trees were common habitats and were featured along boundaries and within the Site. Those present within the Site comprised a limited range of common species and were considered to be of Site value.

4.2.10 All Hedgerows on Site meet UK Priority Habitat criteria. These habitats are covered in more depth in section 4.4.

4.2.11 All the other habitat areas on Site are considered to be of poor condition owing to the lack of species associated with them.

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; and
- 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:

- Amphibians (including great crested newt): There are storage tanks within the Site which are completely sealed, thus they are unsuitable for any fauna. There was one ephemeral pond noted in the Site which is unlikely to hold water during the GCN breeding months and thus unlikely to support GCN. Elsewhere there are no other known aquatic waterbodies within and adjacent to the Site. Furthermore, dispersal capacity of newts is expected to be much reduced within the land parcels, owing to the absence of ponds and sub optimal habitat. Overall, the Site is considered to be negligible for great crested newt. There are some areas of terrestrial habitat within the Site including rough grassland areas which provide commuting links to the wider landscape such as the deciduous woodland to the north. However, the Site lacks suitable habitat to support significant populations of amphibians. Ultimately it is considered that the Site is unlikely to support great crested newt or large populations of amphibians, yet may provide some limited habitat for small populations of common amphibians.
- Bats (Brown long eared bat, soprano pipistrelle, common pipistrelle, Leisler's bat and Daubenton's bat): The habitats occurring on site have limited potential to support roosts of these species. The semi-mature trees lacked significant features that could be utilised by bats for summer roosting. No trees were recorded as providing features which could support roosting bats. Bats in the area may utilise the Site for foraging in close association with other habitat areas such as the grassland, scrub, adjacent deciduous woodland and hedgerows around the peripheries of the Site. There are no buildings with bat suitability on Site. All buildings on Site are considered negligible for roosting bats. An off-site mature oak tree along the eastern boundary of the northern aspect of the Site has some features which may provide opportunities for summer roosting bats. However, given the inherent disturbance and artificial lighting this tree is categorised as negligible suitability for roosting bats. The potential for commuting and foraging bats using the Site is estimated as low – moderate given the proximity to deciduous woodland to the north. However, the rest of the Site is considered to offer low suitability for foraging and commuting bats. This is owing to the presence of limited well-vegetated habitat corridors that run across the Site. There is also limited resources such as scattered vegetation within the Site. Commuting and foraging bats within the local landscape are considered likely to use the Site relatively frequently in association with wider commuting routes to habitat features in the areas such as woodland blocks to the north of the Site.

- Birds: There is one grassland farmland bird assemblages with a maximum of two species, as depicted on MAGIC, which overlap with the Site itself. Species known to overlap with the Site itself includes lapwing and snipe, therefore there is potential that such species may occur on or use the Site if suitable habitat is available. The scrub, hedgerows and scattered trees on site provide some limited opportunities for common and widespread species such as feral pigeon and carrion crow which were observed during the survey. However, it is considered inherent disturbance from adjacent land will limit the number of breeding birds within the Site.
- Hedgehogs: One live hedgehog record was recorded on the Big Hedgehog Map within 1 km of the Site (PTES, 2022) as of 17/11/2022. This record is located approximately 529 m west of the Site. The Site does support areas of boundary habitat; however, they are considered to be limited for foraging and commuting hedgehogs. Therefore, it is considered only small numbers of hedgehog may use the Site for commuting given there is optimal habitat in the wider landscape.
- Reptiles: The areas of grassland, as well as some edge habitats provide some limited shelter, basking and foraging habitat for common reptile species such as grass snake and common lizard. Furthermore, the Site has connectivity to the wider landscape through adjacent woodland blocks, areas of scrub and hedgerows. In the locality of the Site there were brash/log piles which provided refugia for reptiles. Overall, there is some opportunity for reptiles to be present, however the Site is considered to provide opportunity for only a small number of individuals owing to the active nature and inherent disturbance associated with the Site and the more suitable habitat present in the wider landscape.
- Other Fauna: Adjacent to the Site boundary there was extensive evidence of deer and rabbits utilising the agricultural landscape.
- Invasive species: No invasive species were recorded during the walkover.

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.

4.3.2 Table 4.2 provides a summary of protected and notable 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 on Site.

Table 4.2 Summary of protected and notable species considered in this assessment

Species	Status ¹	Confirmed on Site ²	Potential to occur	Associated habitats/Location on Site
Amphibians (excluding great crested newt)	UK, N	No	Yes – common amphibians (terrestrial habitat only)	Hedgerows, wooded and grassland areas, and any features of artificial piles
Reptiles	UK, N	No	Yes – limited to edge habitats,	Hedgerows, wooded and

Species	Status ¹	Confirmed on Site ²	Potential to occur	Associated habitats/Location on Site
			grassland and scrub only	grassland areas, and any features of artificial piles
Bat	EU, UK, N	No	Yes – foraging only	Hedgerows, scattered trees and scrub
Hedgehog	UK, N	No	Yes	Hedgerows, wooded and grassland areas, and any features of artificial piles
Breeding and nesting Birds	UK, N	Yes	Yes	Semi mature trees, scrub, grassland and hedgerows
Notes				
1. EU – European protected. UK – UK protected. N – Notable species.				
2. Field – field evidence; Desk – desk study evidence.				

4.4 Legal and Policy Implications

Nature conservation sites

4.4.1 The Site lies within the Impact Risk Zone (IRZ) of two statutory designated sites of nature conservation importance: Ruislip Woods SSSI, NNR & LNR and the Mid Colne Valley SSSI. The proposed application is included on the list of developments that are considered likely to cause a risk to the corresponding SSSI's, therefore, consultation with Natural England will be required during the application.

4.4.2 The other nature conservation sites identified during the desk study are sufficiently removed from the Site to not be affected by the proposed development directly. Therefore, no legal or policy implications are anticipated.

4.4.3 One woodland located to the north of the Site is lowland deciduous woodland and meet the criteria for habitats of principal importance in England (Section 41 NERC Act 2006) and UK BAP habitats as well as being recorded as ancient woodland. Therefore, adequate buffering of this woodland will be required.

4.4.4 All hedgerows present within the Site comprise 80% or more cover of at least one woody UK native species and hence all hedgerows qualify as Priority Habitats under the NERC Act 2006.

4.4.5 Ruislip Woods SSSI is located adjacent to the Study area and without appropriate mitigation could be impacted by the proposed development. However, no significant direct impacts identified at this stage given the anticipated mitigation. The proposed development parcel is over 100 m away to the south and only habitat enhancement works is proposed adjacent to the SSSI.

Air Quality

4.4.6 A supplementing Air Quality Assessment (Entran, 2022) was undertaken associated with the proposals. This concluded:

Ruislip Woods SSSI / NNR is a nationally designated site comprising ancient woodland, acidic grassland and wetlands which support a range of rare plant and insect species. The boundary of the SSSI / NNR is approximately 50m from the proposed development and therefore, in accordance with the IAQM guidance, its sensitivity to dust impacts is therefore considered to be 'low'.

Based on the above information, it is considered that air quality and odour does not pose a constraint to development of the site as proposed.

4.4.7 It is considered that the impact of the increased area of the Site allows for increased storage and better compost process but does not in fact change the site throughput at any one time. Therefore, the emissions of the Site are broadly the same as the baseline levels, although the location of the emissions would be slightly different.

4.4.8 The Air Quality Assessment concludes that other sensitive ecological sites are located more than 1 km from the Site boundary and are considered to be sufficiently removed from the Site.

Habitats

4.4.9 None of the habitats other than hedgerows 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.

4.4.10 All the hedgerows assessed onsite do not qualify as being 'Species Rich' (i.e. contain five qualifying native woody species or more). The two hedgerows assessed do not contain enough qualifying native woody species and hence even with supporting secondary features taken into consideration these hedgerows would not qualify as 'Important' under the Regulations; no further survey of these features is warranted.

4.4.11 The majority of hedgerows onsite are currently proposed to be wholly retained; therefore, suitable buffering should be implemented to protect their integrity. Management involving native tree planting of hedgerows should be implemented to enhance the Priority habitats onsite to more favourable conditions.

4.4.12 Priority deciduous woodland as well as ancient woodland is present adjacent to the north of the Site. No known implications at this stage if appropriately buffered in line with current Ancient Woodland Standing Advice. Ancient Woodland or mature trees and tree groups would require a minimum 15 m buffer. No development is anticipated to occur within 15 m. Moreover, enhancements are proposed along the wooded edge.

4.4.13 H1 and a segment of H2 is proposed to be lost due to the nature of the proposals, however compensatory hedgerow planting is proposed for the wider site. Some areas of H2 and H3

onsite are currently proposed to be wholly retained; therefore, suitable buffering should be implemented to protect their integrity. Management involving native tree planting of hedgerows should be implemented to enhance the Priority habitats onsite to more favourable conditions.

Species

4.4.14 The potential presence of protected and/or notable species on Site means that are a material consideration in the planning system through the NPPF and the Local Planning Policy. The following species/species groups have policy implications if impacted by the proposed development and include:

- Amphibians;
- Bats;
- Nesting birds;
- Hedgehog; and
- Reptiles.

4.4.15 Any development of the Site could have impacts on the other listed species if confirmed to be present. While it is our professional opinion, based on current knowledge of the proposed works, that further surveys are not necessary to inform mitigation for any potential impacts on these other species, the LPA may request further species-specific surveys prior to determining a planning application associated with the Site.

5. OPPORTUNITIES FOR ACHIEVING BIODIVERSITY GAIN

5.1 Habitat retention and enhancement

5.1.1 Due to the nature of the proposals, there would be areas of clearance associated with the grassland, ruderal and areas of scrub. Where feasible the boundary areas and habitats should be retained.

5.1.2 Habitat creation within the Site proposals include:

- An area of new proposed broadleaved woodland to sit adjacent to the ancient woodland and strengthen the corridor in the area
- New native thicket planting is proposed along the Site boundaries, in order to widen the existing hedgerows here and to form a firm boundary to the development. This habitat will provide complimentary structural diversity to the adjacent ancient woodland.
- Landscape planting associated with peripheries of the developed area
- New species-rich native hedgerow planting

5.2 Species enhancement

5.2.1 Based on the habitats on the Site, desk study data and local records, the following species-specific enhancement would be appropriate:

- Amphibians:
 - Retention, protection and enhancement of sheltered movement corridors where possible, e.g. existing treelines to be retained; and,
 - Existing refugia, such as dead wood piles and half buried features, to be retained where possible.
- Bats (all species):
 - Retention, protection and enhancement of suitable onsite commuting, foraging, and roosting habitats, i.e. hedgerow, woodlands, and scattered trees; and,
 - Provisions for bat boxes on retained trees with the final installation details to be agreed with the project ecologist.
- Birds:
 - Retention, protection and enhancement of suitable onsite foraging and nesting habitats, i.e. hedgerow, grassland and woodlands; and,
 - Provisions for nest bird boxes on retained trees with the final installation details to be agreed with the project ecologist.
- Hedgehogs:
 - Retention, protection and enhancement of suitable onsite commuting, foraging and hibernation habitat, i.e. grassland and woodlands; and
 - Retention, protection and enhancement of sheltered movement corridors where possible, e.g. existing treelines to be retained.

- Invertebrates:
 - Retention, protection and enhancement of key onsite habitats, i.e. grassland and woodlands; and,
 - Provisions for artificial nesting and sheltering features in development buildings and landscaped areas. So-called 'Bee Blocks' (or similar units designed for solitary bee occupancy) should be included within onsite enhancement schemes, with the final installation details to be agreed with the project ecologist.
- Reptiles:
 - Installation of hibernacula features within the Site boundaries. Final installation details to be agreed with the project ecologist.
 - Retention, protection and enhancement of suitable onsite basking, commuting, and foraging habitat, i.e. grasslands, earth bunds, and woodland edges; and
 - Retention, protection and enhancement of sheltered movement corridors where possible, e.g. existing treelines to be retained.

6. RECOMMENDATIONS

6.1 Surveys

6.1.1 Based on the evaluation documented in Section 4 it is not considered that further surveys are deemed appropriate and/or necessary to provide a fuller evaluation of the proposed development at this stage. However, pre works checks detailed in Section 6.3 would be required.

6.2 Retention and Enhancement.

6.2.1 It is recommended that the opportunities for biodiversity enhancement detailed in Section 5 are reviewed and considered when developing the final proposal plans. Upon implementation within the Site, it is considered the features detailed in section 5 would provide a biodiversity net gain.

6.3 Mitigation

6.3.1 Due to the nature of the proposals, there will be habitat loss largely associated with ruderal, scrub and some bare ground. It is assumed that no invasive works are required in proximity to Ruislip Woods to the north of the Site. Some semi-natural habitat loss will be undertaken at the Site, therefore, the below mitigation should be followed.

6.3.2 This Section is based solely on the current baseline data set out above. 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.

6.3.3 The following mechanisms will ensure implementation of the protection measures:

- **Ecological Clerk of Works (ECoW)** appointment of a project ECoW whose role will include the delivery/management of the ecological requirements set out below.

6.3.4 The measures detailed below focus on legally protected and notable species but will also ensure harm and disturbance is minimised to other fauna, such as rabbits, deer and foxes that may utilise the Site.

Generic safeguarding measures

6.3.5 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 key species relevant to 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 know when to contact the Ecological Management Team for guidance and assistance.

6.3.6 Pollution:

- The former Pollution Prevention Guidelines (PPG) have been withdrawn while they are being reviewed and updated. Until such time as new guidance becomes available, standard industry best practice in relation to construction sites and dust production/water pollution must be adhered. Further guidance is to be documented in a Construction Environmental Management Plan (CEMP). Measures to include:
 - Throughout the construction period appropriate spill kits to be readily available at all times.
 - Fuel to be appropriately and safely stored to current construction site standard.
 - Dust damping measures.

6.3.7 Works between sunset and sunrise:

- To be avoided.
- If works cannot be avoided then there is to be no significant increase in external light and noise over and above what is anticipated in the area post construction.

Habitats – Retained and adjacent to site

6.3.8 Hedgerows:

- Retained habitat on the Site to be fenced off using high visibility fencing.
- No plant storage, plant movement or material storage to take place on retained habitats without prior consultation with the Ecological Clerk of Works.
- If plant transit is necessary across retained habitat appropriate protective matting to be used in order to avoid soil compaction where required.

6.3.9 Air and waterborne pollution:

- Standard industry best practice in relation to construction sites and dust production/water pollution will minimise impacts to retained/adjacent habitats.

Bats

6.3.10 Lighting:

- No additional flood lighting to be used between sunset and sunrise without agreement with the Ecological Clerk of Works.
- Retained wooded and tree areas to remain as dark corridors during works.

- If bats or evidence of roosting bats are found elsewhere at any stage on Site:
 - All works, that are likely to cause disturbance and/or within the zone of influence of the bats, MUST stop and not re-commence until advice has been received from the ECoW.
 - Liaison with NE may be necessary.
 - A European Protected Species Licence may be necessary before works can re-commence.

Nesting Birds (General)

6.3.11 Works in proximity to/impacting woodland, trees, scrub, bracken and rough grass during the core nesting season (March to August inclusive):

- 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.

6.3.12 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.

Reptiles and common amphibians

6.3.13 The following works to be undertaken during the reptile active period – March to October inclusive.

6.3.14 Displacement:

- As only small areas of suitable habitat are being affected, mitigation works will include displacement of reptiles/amphibians from work areas into adjacent retained habitats.
- Such works would be conducted during the reptile/amphibian active period (March to October inclusive).
- The works are described in detail in below (Other Fauna) and will include directional clearance of vegetation and phased height reduction which will encourage displacement of reptiles/amphibians (and other species) toward retained habitat features beyond the works area.
- Such works would be planned and overseen by an ECoW.

Other fauna (including hedgehog)

6.3.15 Dependant of timing of works but likely to involve the following (this method is consistent with other vegetation clearance approaches for other fauna groups, e.g. reptiles and will run in tandem where necessary):

6.3.16 Phase 1:

- Check for presence of common/ widespread/ highly mobile fauna. Any animals present to be removed or encouraged to move to a place of safety following best practice at the time.
- Check for potential refugia sites and dismantle with care and in a controlled manner. This typically needs to be completed using handheld tools.
- 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 the Ecological Clerk of Works/Ecological Manager.
 - If required, the Ecological Clerk of Works 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 the Ecological Clerk of Works will assess the situation. If the hedgehog can be left *in-situ* then the nesting material will be carefully replaced and suitable food/water will be left in the area as a precaution should the hedgehog come out of hibernation. The nest area will be monitored by the Ecological Clerk of Works until it is evident that that hedgehog has moved on. If the hedgehog is left *in-situ* then habitat connectivity must be maintained, i.e. it must not become isolated by being surrounded by areas of high-risk and/or low suitability. If there is an imperative reason for the clearance works to continue then the Ecological Clerk of Works would be required to carefully relocate the hedgehog within its nesting material to an appropriately sheltered location away from the works area. Food and water would be left in the vicinity of the relocation site as a precaution should the hedgehog come out of hibernation.

6.3.17 Phase 2:

- Second check for presence of common/widespread/highly mobile fauna. Any animals present to be removed to a place of safety following best practice at the time (see above for hedgehog requirements).
- Vegetation to be cut to ground level.

6.3.18 Phase 3:

- Vegetation to be maintained short at ground level until works commence within the area to ensure that it remains unfavourable for common/widespread/highly mobile fauna that may re-disperse into the area. Use of appropriate/approved herbicide may be acceptable; to be determined by the Ecological Manager/Landscape Architect at the time. If vegetation starts to grow the area will need to be re-checked for the presence of fauna before works commence.

6.3.19 Throughout construction period:

- Creation of habitat that fauna (including small animals, reptiles/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 development, then works that are likely to cause disturbance and/or within the zone of influence of the animals should stop until advice has been sought from the Ecological Clerk of Works.

7. CONCLUSIONS

7.1.1 Based on the current study:

- No further surveys are considered necessary in order for the LPA to validate this activity.
- No statutory Nature Conservation Sites will be negatively impacted by the proposed works.
- The Site lies within the Impact Risk Zone (IRZ) of two statutory designated sites of nature conservation importance: Ruislip Woods SSSI, NNR & LNR and the Mid Colne Valley SSSI. The proposed application is included on the list of developments that are considered likely to cause a risk to the corresponding SSSI's, therefore, Natural England should be consulted during the application.
- No Non-statutory Nature Conservation Sites will be negatively impacted by the proposed works.
- No S41/Priority Habitats will be negatively impacted by the proposed works.
- No protected or notable species will be negatively impacted if appropriate mitigation and precautions are followed, as set out in this report.
- With the implementation of the proposed biodiversity measures set out above, the proposal will be compliant with the NPPF and Policy G6 (D) of the London Plan and biodiversity net gain will be achieved.

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9. GLOSSARY

9.1 Scientific Terms and Acronyms

Badger sett An underground complex of tunnels utilised by badger as a den and accessed by one or more entrances at ground surface level.

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.

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.

HS2 High Speed Two Ltd

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.

Protected species A species protected under specific UK or European legislation, including Habitats Directive, Wildlife and Countryside Act.

PTES Peoples Trust for Endangered Species

SAC Special Area of Conservation. Designated under European Union Habitat Directive (92/43/EEC) to protect species and habitat of European interest.

SBI Site of Borough Importance. Borough sites are further divided into Borough Grade I and Borough Grade II categories; both types are of significant nature conservation value, but Borough I sites are of greater importance

SMI Site of Metropolitan Importance.

SNIC Sites of Importance for Nature Conservation.

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).

9.2 Scientific Names

9.2.1 Scientific names of species mentioned in this report are outlined in Table 9.1. This table excludes species recorded on Site; see Appendix E.

Table 9.1 Scientific names of species mentioned within this report

English Name	Scientific Name
Amphibians & Reptiles	
Great crested newt	<i>Triturus cristatus</i>
Bats	
Brown long-eared bat	<i>Plecotus auritus</i>
Common pipistrelle	<i>Pipistrellus pipistrellus</i>
Daubenton's bat	<i>Myotis daubentonii</i>
Leisler's bat	<i>Nyctalus leisleri</i>
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
Birds	
Lapwing	<i>Vanellus vanellus</i>
Snipe	<i>Gallinago gallinago</i>
Mammals	
Badger	<i>Meles meles</i>
Deer	<i>Cervidae sp.</i>
Fox	<i>Vulpes vulpes</i>
Hedgehog	<i>Erinaceus europaeus</i>
Rabbit	<i>Oryctolagus cuniculus</i>
Plants	
Ash	<i>Fraxinus excelsior</i>
Buckthorn	<i>Rhamnus cathartica</i>
Elder	<i>Sambucus nigra</i>
English elm	<i>Ulmus procera</i>
Hornbeam	<i>Carpinus betulus</i>
Pedunculate oak	<i>Quercus robur</i>
Marsh marigold	<i>Caltha palustris</i>
Musk thistle	<i>Carduus nutans</i>
Ragged robin	<i>Silene flos-cuculi</i>
Wild service tree	<i>Sorbus torminalis</i>
Reptiles	
Common lizard	<i>Zootoca vivipara</i>
Grass snake	<i>Natrix helvetica</i>

APPENDICES

PLANS AND SITE PHOTOGRAPHS

Drawing BMD.21.0069.DRE.902: Phase 1 Habitat Survey

 Proposed extension boundary

Pre - Development Habitat Description

-  A1.1.1 - Broadleaved woodland - semi natural
-  A3.3 - Mixed parkland / scattered trees
-  A2.1 - Dense scrub
-  B6 - Poor semi-improved grassland
-  C3.1 - Tall ruderal
-  J3.6 - Building
-  J4 - Bare ground
-  J5 - Other habitat - sealed surface / hardstanding
-  Hedgerow
-  Dry ditch
-  Fence
-  A2.2 - Scattered scrub

Rev	Description

Purpose of Issue
PLANNING

BMD

Bradley Murphy Design Ltd
6 The Courtyard
Hatton Technology Park
Dark Lane
Hatton
Warwickshire
CV35 8XB

t: 01926 676496
e: info@bradleymurphydesign.co.uk
www.bradleymurphydesign.co.uk

Client
ENVAR COMPOSTING LTD

Project
HAREFIELD COMPOSTING FACILITY

Drawing Title
**PRE - DEVELOPMENT HABITAT PLAN :
HAREFIELD EXTENSION**

Drawn MP	Checked JW	Approved JW	Date 14/02/2023
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Job No. 21.0069	Scale 1:1,750	Sheet Size A3	Revision C
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Drawing Number BMD.21.0069.DRE.902			
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METRES

506800

507000

507200



Photograph 1: Area of active composting within the Site.



Photograph 2: Defunct species-poor hedgerow (H1) to the east of the present composting area at central Site.



Photograph 3: Ruderal and semi-improved grassland within northeast of the Site.



Photograph 4: Area of bare ground within the Site beyond the fencelines implemented by HS2.



Photograph 5: Location of ephemeral pond adjacent to the south east boundary of the Site.



Photograph 6: Example area of poor semi-improved grassland within the Site.



Photograph 7: Scattered trees within the central Site.



Photograph 8: Scattered scrub within areas of ruderal and scrub within the Site.

A. POLICY, LEGISLATION AND GUIDANCE

A.1 Overview

A.1.1 Tables A1.1 and A1.2 provide a summary of wildlife legislation and policy of relevance to development at the Site.

Table A1.1 Overview of species/species groups relevant to the current proposals and associated legislation and policy

Species/Species group	European	UK ¹	Priority species ²
Amphibians		Various	Incl. common toad
Bats (all species)	✓	Full	Species dependent
Birds		Full	Species dependent, incl. House sparrow
Invasive species	✓	✓	Various
Mammals (general)		Species-dependent	Incl. hedgehog
Plants	Various	Species-dependent	Various
Reptiles (excluding sand lizard and smooth snake)		Partial – incl. killing and injury	✓

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. ✓ = 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 A1.2 Relevant species legislation for development at the Site

Species / group	Legislation <small>see notes</small>													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Amphibians										✓				
Bats (all species)					✓		✓		✓	✓				✓
Birds (nesting)		✓	✓							✓				
Invasive species								✓			✓	✓	✓	
Invertebrates										✓				
Hedgehog							✓			✓				✓
Plants										✓				
Reptiles						✓				✓				

Notes

¹ Protection of Badgers Act 1992

² Wildlife and Countryside Act, 1981 (as amended) – Part 1

³ Wildlife and Countryside Act, 1981 (as amended) – Schedule 1 (some species, none recorded within the Site)

⁴ Wildlife and Countryside Act, 1981 (as amended) – Schedule 5, Section 9

⁵ Wildlife and Countryside Act, 1981 (as amended) – Schedule 5, Section 9 (4b, 4c) and (5)

⁶ Wildlife and Countryside Act, 1981 (as amended) – Schedule 5, Section 9 (1, in respect of killing and injuring) and (5)

⁷ Wildlife and Countryside Act, 1981 (as amended) – Schedule 6, Section 11

⁸ Wildlife and Countryside Act, 1981 (as amended) – Schedule 9, Section 14

⁹ Conservation of Habitats and Species Regulations 2017 – Schedule 2 (European protected species)

¹⁰ Natural England and Rural Communities Act (2006) – Various species listed in accordance with Section 41

¹¹ Invasive Species regulations: EU Regulation (1143/2014) on invasive alien (non-native) species

¹² Anti-social Behaviour, Crime and Policing Act 2014

¹³ Environmental Protection Act 1990

¹⁴ Wild Mammals (Protection) Act 1996

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

- The Environment Act (2021);
- The National Planning Policy Framework (2021); 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 5 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:

- The Multi-Agency Geographical Information for the Countryside (MAGIC) – web-based database;
- The Woodland Trust Ancient Tree Inventory;
- Natural England Great crested newt class licence database and District Licensing database;
- People's Trust for Endangered Species Big Hedgehog Map – web-based citizen science database of hedgehog sightings;
- Readily available maps (modern and historic); and
- 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); and
- 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. Species listed solely on Schedule 5 Section 9(5)a and 9(5)b are not considered to be protected species in the context of this report as offences detailed in these Sections relate to sale/intention to sell.

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 naturalised 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.2.7 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. 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.2.8 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.2.9 Target notes were used to aid the interpretation of mapped habitats to indicate notable features within the Site.

B.3 Evaluation

Habitats

B.3.10 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.3.11 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.3.12 The habitat condition assessments followed the habitat condition criteria set out in the Biodiversity Metric 3.1 guidance.

Species

B.3.13 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.
Reason for collection	To provide baseline ecological data to inform master planning, planning applications and appropriate mitigation in relation to proposed development.
Location	West London Composting, New Years Green Lane, Harefield Approx. centre TQ 06995 88414
Date	02/11/2022
Method of collection	Phase 1 Habitat Survey: JNCC (2010).
Who collected	Jonathan Wood BSc (Hons) MCIEEM

C.2 Survey Conditions

Date	Start Time	Preceding days	Cloud (%)	Sun	Temp. (°C)	Precipitation	Wind (Beaufort scale)
02/11/2022	10:00	Wet and windy	80	Some sun	8-12	Light rain	1 NE

C.3 Limitations Review

Consideration	Comment
Survey & data	
Personal competence, i.e. qualifications, training, skills, understanding, experience	<p>All survey works were undertaken by or directly supervised by personnel experienced in ecological surveying (see meta data; Section C1).</p> <p><u>Heather Ridgway BSc (Hons)</u> has over 1 years' experience in ecological consultancy, including an experience of performing and assisting the survey work and assessments undertaken at Site.</p> <p><u>Katie Dalton BSc (Hons) MRSB ACIEEM</u> has over 5 years' experience in ecological consultancy, including experience in undertaking a range of surveys and survey techniques, site assessments and technical reporting. Katie holds a level 2 bat class licence.</p> <p><u>Jonathan Wood BSc (Hons) ACIEEM</u> has over 7 years' experience in ecological consultancy, including an experience of performing and coordinating the survey work and assessments undertaken at Site.</p> <p><u>James Patmore CECOL CEnv MCIEEM</u> has over 20 years' experience in ecological consultancy, including an extensive amount of experience performing and directing the survey work and assessments undertaken at the Site.</p>
Resources (equipment and/or personnel)	Appropriate resources and suitably qualified personnel were used.
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 inappropriate surveys)	<p>The data used and collected were sufficient for the purpose of the works.</p> <p>The data held by PTES on the Big Hedgehog Map is the output of various surveys including citizen science and as such a degree of caution should be applied when depending solely on these data to inform impacts as data may not have been verified.</p> <p>Local wildlife sites data were provided by HS2 London-West Midlands Environmental Statement (2013). This data is considered sufficient for the assessment.</p>
Lack of statistical robustness and higher uncertainties	Statistical analysis of data was not deemed necessary for the purpose of the current works.
Old and out of date data	<p>The data used to complete this assessment was current and up to date.</p> <p>Local records data is yet to be reviewed but will be provided in an addendum report.</p>
Timing or seasonal constraints and suboptimal survey periods	The survey was conducted in November 2022. This is outside the appropriate survey period however based on habitat types present not seen as limitation
Partial use of and/or departures from good practice guidelines	All surveys accorded with the relevant best 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	<p>Some areas of the Site were excluded for inspection due to ongoing works of HS2.</p> <p>Restricted access is not considered to be significant on the assessment of the Site</p>
Unrealistic deadlines	No restrictions on survey data collected or analysed to date are as a result of unrealistic deadlines.
Unproven or untested measures for mitigation and compensation	N/A
Evaluation of conservation value and impacts	The evaluation of the conservation value of habitats and species associated (or potentially associated) with the Site and impacts of the development, are based on the current information available.

Consideration	Comment
	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* and other web-based data sources was completed on 21st March 2022. A summary of features checked is provided in Tables D1.1. to D1.5.

D.1.2 A review of the Woodland Trust Ancient Tree Inventory highlighted three known ancient, veteran or notable trees within or adjacent to the Site. This includes two veteran pedunculate oaks, the closest of which is located approximately 890 m northwest of the Site; and one notable wild service tree located approximately 350 m northwest from the Site.

Table D1.1 Statutory nature conservation sites within 2 km of the Site (extending to 5 km for European designated sites)

Site designation	Number of sites				
	Total	On Site	0-1 km	1-2 km	2-5 km
AONB	0	0	0	0	0
LNR	4	0	1	3	0
NNR	1	0	1	0	0
National Park	0	0	0	0	0
Ramsar	0	0	0	0	0
SSSI	2	0	1	1	0
SAC	0	0	0	0	0
SPA	0	0	0	0	0
Impact Risk Zone	Yes – Ruislip Woods SSSI, NNR & LNR & Mid Colne Valley SSSI.				

Table D1.2 Priority (and notable) habitats within 1 km of the Site

Broad category	Priority Habitat Inventory	Other habitats	On Site	0-1 km
Coastal	Saltmarsh		0	0
	Sand Dunes		0	0
	Vegetated Shingle		0	0
	Maritime Cliffs and Slopes		0	0
	Mudflats		0	0
	Saline Lagoons		0	0
Grassland	Calaminarian Grassland		0	0
	Coastal and Floodplain Grazing Marsh		0	0
			0	0
	Lowland Calcareous Grassland		0	0
	Lowland Dry Acid Grassland		0	0
	Lowland Meadows		0	2 parcels
	Purple Moor Grass and Rush Pasture		0	0
	Upland Calcareous Grassland		0	0
	Upland Hay Meadows		0	0
Heath	Lowland Heathland		0	0
	Mountain Heaths and Willow Scrub		0	0

Broad category	Priority Habitat Inventory	Other habitats	On Site	0-1 km
	Upland Heathland		0	0
Limestone pavements	Limestone Pavements		0	0
Marine	Intertidal Substrate Foreshore		0	0
Wetland	Blanket Bog		0	0
	Lowland Fens		0	0
	Lowland Raised Bog		0	0
	Reedbeds		0	0
	Upland Flushes, Fens and Swamps		0	0
Woodland		Ancient: Semi-natural	0	3 parcels
		Ancient: Replanted	0	0
	Deciduous Woodland		0	33 blocks of 63 parcels
		National Inventory of Woodland & Trees ¹	0	16 parcels
			0	0
	Traditional Orchards		0	0
	Wood pasture and Parkland BAP Priority Habitat		0	0
Trees ²		Ancient, veteran or notable trees	0	3
Other		Fragmented heath (Non-Priority)	0	0
		Grass Moorland (Non-Priority)	0	0
		No main habitat but additional habitat exists		3 parcels
	Open Mosaic Habitat		0	1 parcel
Notes				
1. Not notable habitats but provide information to guide mitigation				
2. Woodland Trust Ancient Tree Inventory				

Table D1.3 European Protected Species licence applications within 1 km and 5 km (bats) of the Site. NB excluding GCN, see Table D1.4.

Protected species licence applications	Number of applications				
	Total	On Site	0-1 km	1-2 km	2-5 km
Bat	37		✓	✓	✓
Species covered by the bat licences					
Alcathoe bat					
Barbastelle					
Bechstein's bat					
Brandt's bat					
Brown long-eared bat	9			✓	✓
Common pipistrelle	13			✓	✓
Daubenton's bat	6			✓	✓
Greater horseshoe bat					
Grey long-eared bat					
Leisler's bat	1				✓

Protected species licence applications	Number of applications				
	Total	On Site	0-1 km	1-2 km	2-5 km
Lesser horseshoe bat					
Nathusius pipistrelle					
Natterer's bat					
Noctule					
Pipistrelle sp.					
Serotine					
Soprano pipistrelle	25			✓	✓
Whiskered bat					

Table D1.4 Great crested newt data within 1 km of the Site

Data source	Number of records		
	Total	On Site	0-1 km
NE Class licence database ¹	0	0	0
NE country-wide survey data ²	0	0	0
Development licenses ¹	1	0	1

Notes

1. As depicted on MAGIC & local biological records
2. Downloaded February 2020

Table D1.5 Notable fauna in relation to the Site

Species	On Site	0-1 km
Farmland bird assemblages¹		
Arable (max number of species)		
Grassland (max number of species)	2	2
Black grouse		
Cirl bunting		
Corn bunting		
Curlew		
Grey partridge		
Lapwing	✓	✓
Redshank		
Snipe	✓	✓
Stone curlew		
Tree sparrow		
Turtle dove		
Twite		
Yellow wagtail		
Mammals		
European hedgehog ²	0	1

Notes

1. As depicted on MAGIC
2. As depicted on the Big Hedgehog Map (PTES, 2022).

E. DETAILED SURVEY RESULTS

E.1 Species Recorded on Site

English Name	Scientific Name
Birds	
Carrion Crow	<i>Corvus corone</i>
Feral pigeon	<i>Columba livia domestica</i>
Plants	
Blackthorn	<i>Prunus spinosa</i>
Black bryony	<i>Dioscorea communis</i>
Bramble	<i>Rubus fruticosus</i>
Bristly ox-tongue	<i>Helminthotheca echioides</i>
Burdock	<i>Arctium minus</i>
Cleavers	<i>Galium aparine</i>
Cock's foot	<i>Dactylis glomerata</i>
Common vetch	<i>Vicia sativa</i>
Creeping buttercup	<i>Ranunculus repens</i>
Dock sp.	<i>Rumex sp.</i>
Dogrose	<i>Rosa canina</i>
Elm	<i>Ulmus minor</i>
Fleabane	<i>Pulicaria dysenterica</i>
Goat willow	<i>Salix caprea</i>
Hawthorn	<i>Crataegus monogyna</i>
Hedge bindweed	<i>Calystegia sepium</i>
Ivy	<i>Hedera helix</i>
Marsh willowherb	<i>Epilobium palustre</i>
Meadow buttercup	<i>Ranunculus acris</i>
Nettle	<i>Urtica dioica</i>
Oak	<i>Quercus robur</i>
Poison hemlock	<i>Conium maculatum</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Scentless mayweed	<i>Tripleurospermum inodorum</i>
Sedge sp.	<i>Carex sp.</i>
Spear thistle	<i>Cirsium vulgare</i>
Teasel	<i>Dipsacus fullonum</i>
Tufted hairgrass	<i>Deschampsia cespitosa</i>
Willow sp.	<i>Salix sp.</i>
Yorkshire fog	<i>Holcus lanatus</i>

E.1.1 Table E1.2 shows target note descriptions of linear features within the Site which is solely comprised of hedgerows. Table E1.2 encompasses composition as well as conditions in these areas.

Table E1.1 Notable fauna in relation to the Site

Target Note ID	Description	Condition
H1	<p>Native defunct species-poor hedgerow with associated ditch</p> <p>A defunct hedgerow adjacent the hardstanding utilised for composting works with gaps present and high amount of nutrient enrichment due to the compost runoff. A shallow ditch is present along the east of this hedgerow.</p> <p>The hedgerow lacked woody species diversity, tree species included blackthorn, hawthorn and occasional young field maple. Climber species identified included: black briony, hedge bindweed, dog rose and English ivy. Ground cover was predominantly dominated by common stinging nettle, bitter dock, smooth hawksbeard with occasional bittersweet, scentless mayweed and poison hemlock.</p> <p>Failed B1, B2, C1, C2 and D2</p>	Poor
H2	<p>Native intact species-poor hedgerow</p> <p>A small intact hedgerow to the north of the water storage tanks onsite. This hedgerow lacked diversity and displayed evidence of nutrient enrichment throughout.</p> <p>Tree species included blackthorn and hawthorn, with occasional ivy cladding and dog rose. Typical ruderal species were associated with the understory, including cleavers, common nettle, common mugwort and ragwort. Some bryophyte presence was present along the understorey additionally.</p> <p>Failed C1, C2 and D2</p>	Poor
H3	<p>Native intact species-poor hedgerow</p> <p>Access to this hedgerow was restricted however observations indicate species composition was limited to blackthorn, hawthorn, with dog rose and ivy.</p> <p>Failed C1, C2 and D2</p>	Poor