Land south of Mortimers Lane, Fair Oak

Ecological Appraisal

Prepared by:
The Environmental Dimension Partnership Ltd

On behalf of:
Bloor Homes Limited

July 2025

Report Reference
edp7852_r011c

Document Control

DOCUMENT INFORMATION

Client	Bloor Homes Limited
Report Title	Ecological Appraisal
Document Reference	edp7852_r011c

VERSION INFORMATION

	Author	**Formatted**	**Peer Review**	**Proofed by/Date**
011_DRAFT	MNe/KJa	FMi	TWi	-
001a	MNe/KJa	-	-	GLe 281024
001b	MNe/KJa	-	-	FMi 081124
001c	MNe	-	-	FMi 040725

DISCLAIMER TEXT

No part of this report may be copied or reproduced by any means without prior written permission from The Environmental Dimension Partnership Ltd. If you have received this report in error, please destroy all copies in your possession or control and notify The Environmental Dimension Partnership Ltd.

This report (including any enclosures and attachments) has been prepared for the exclusive use and benefit of the commissioning party and solely for the purpose for which it is provided. No other party may use, make use of or rely on the contents of the report.

We do not accept any liability if this report is used for an alternative purpose from which it is intended, nor to any third party in respect of this report.

Opinions and information provided in the report are those of The Environmental Dimension Partnership Ltd using due skill, care and diligence in the preparation of the same and no explicit warranty is provided to their accuracy. It should be noted, and it is expressly stated that no independent verification of any of the documents or information supplied to The Environmental Dimension Partnership Ltd has been made.

Contents

Section 1 Introduction 5
Section 2 Baseline Methodology 8
Section 3 Baseline Results 14
Section 4 Impact Assessment, Mitigation and Enhancements 30
Section 5 Summary and Conclusions 42

APPENDICES

Appendix EDP 1 Development Framework Plan

Appendix EDP 2 Illustrative Masterplan (edp7852_d038a 30 October 2024 NWa/WGa)

Appendix EDP 3 Habitat Survey

Appendix EDP 4 Hedgerow Survey

Appendix EDP 5 Breeding Bird Survey

Appendix EDP 6 Winter Bird Survey

Appendix EDP 7 Bat Surveys

Appendix EDP 8 Biodiversity Net Gain Assessment

Appendix EDP 9 Nutrient Neutrality Budget Calculator (.xlsx)

Appendix EDP 10 GCN Surveys

PLANS

Plan EDP 1: Habitat Survey
(edp7852_d011i 03 July 23025 VMS/MNe)

Plan EDP 2: eDNA Survey 2025
(edp7852_d043 23 May 2025 PDr/MNe)

Plan EDP 3: Dormouse Survey Plan
(edp7852_d026c 01 July 2025 VMS/KJa)

Plan EDP 4: Statutory Designated Sites
(edp7852_d012c 01 July 2025 DJo/MNe)

Plan EDP 5: Non-Statutory Designated Sites
(edp7852_d013c 01 July 2025 DJo/MNe)

Plan EDP 6: Breeding Bird Survey Map 2023
(edp7852_d036c 01 July 2025 GYo/KJa)

Plan EDP 7: Bat Transect and Static Locations 2023
(edp7852_d025c 01 July 2025 VMS/KJa)

Plan EDP 8: Bat Activity Survey April 2023
(edp7852_d029c 01 July 2025 GYo/KJa)

Plan EDP 9: Bat Activity Survey (TDD) May 2023
(edp7852_d030c 01 July 2025 GYo/KJa)

Plan EDP 10: Bat Activity Survey June 2023
(edp7852_d031c 01 July 2025 GYo/KJa)

Plan EDP 11: Bat Activity Survey July 2023
(edp7852_d032c 01 July 2025 GYo/KJa)

Plan EDP 12: Bat Activity Survey August 2023
(edp7852_d033c 01 July 2025 GYo/KJa)

Plan EDP 13: Bat Activity Survey September 2023
(edp7852_d034c 01 July 2025 GYo/KJa)

Plan EDP 14: Bat Activity Survey October 2023
(edp7852_d035c 01 July 2025 GYo/KJa)

Plan EDP 15: Pre-development Habitat Plan
(edp7852_d039b 01 July 2025 GYo/LNe)

Plan EDP 16: Post-development Habitat Plan
(edp7852_d040a 01 July 2025 GYo/LNe)

Section 1
Introduction

1.1 This Ecological Appraisal has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Bloor Homes Limited (hereafter referred to as "the Applicant"). This Appraisal considers the ecological implications of proposed development at Land south of Mortimers Lane, Fair Oak (hereafter referred to as "the Site").

1.2 This report has been prepared with reference to the following key guidance:

- Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal[1];
- CIEEM Guidelines for Ecological Impact Assessment[2];
- British Standard: Biodiversity - Code of Practice for Planning and Development[3]; and
- British Standard: Process for designing and implementing Biodiversity Net Gain[4].

1.3 EDP is an independent environmental planning consultancy with offices in Cirencester, Cardiff and Cheltenham. The practice provides advice to private and public sector clients throughout the UK in the fields of landscape, ecology, archaeology, cultural heritage, arboriculture, rights of way and masterplanning. Details of the practice can be obtained at our website (www.edp-uk.co.uk).

SITE CONTEXT

1.4 The Site is centred approximately at Ordnance Survey Grid Reference (OSGR) SU 50676 18652. The local planning authority (LPA) is Eastleigh Borough Council. The location and extents of the Site are shown on the Development Framework Plan (**Appendix EDP 1**) and described in the material supporting the planning application, particularly the Design and Access Statement.

1.5 The Site is bound to the north by Mortimers Lane (B3037). Further North beyond Mortimers Lane lays the residential development known as 'Pembers Hill Park'. A group of Grade II listed buildings, associated with the Mortimer farmstead, lies to the north-east and are subject to a recent planning approval for alterations, extensions and conversion of four existing barns and the construction of five new dwellings within their curtilage.

[1] CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester
[2] CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester
[3] BSI (2013) *Biodiversity - Code of Practice for Planning and Development*. BS 42020:2013. British Standards Institute
[4] BSI (2021) *Process for designing and implementing Biodiversity Net Gain. Specification*. BS 8683:2021. British Standards Institute

1.6 To the east lies East Horton Golf Club. Characteristic of all golf courses, the course has been sculpted and heavily managed and maintained.

1.7 Abutting the Site to the west are two recent residential development known as 'Pembers Hill Drive' and 'East Knowle'.

1.8 Further west lays Knowle Hill Conservation Area which includes a car park, picnic area and permissive footpaths which lead through woodland to Knowle Park, a 14ha country park and important local recreational asset.

1.9 Immediately south of the Site sits East Horton Business Park, Deer Farm Park Industrial Estate, a new development of fifteen business units abutting the southern site boundary and form an extension to East Horton Business Park. This Site was granted planning permission for general industrial buildings (Use Class B2) in July 2023 and has since been built out.

1.10 Adjacent to the business park lays the Knowle Lane Local Wildlife Site (LWS). Designated on account of the woodland and grassland it supports. It includes a woodland and large pond.

1.11 The Site comprises improved grassland fields which are bounded by a hedgerows, treelines and woodland edge habitat.

DEVELOPMENT PROPOSALS

1.12 The development proposals are for the delivery of up to 245 dwellings (Use Class C3), up to 350sqm multi-functional space, mobility infrastructure (Use Class Sui Generis), with associated open space, landscaping, infrastructure, and vehicular access off Mortimers Lane, Fair Oak; All matters reserved except for vehicular access off Mortimers Lane and pedestrian/cycle connections to the site boundary. The proposals are to be the subject of an outline planning application, and the Development Framework Plan is provided as **Appendix EDP 1** to this report.

1.13 The ecological sensitivities of the Site have influenced the illustrative masterplan through an iterative design process. Thus, the masterplan incorporates a degree of 'inherent' mitigation to avoid or reduce the severity of potential ecological impacts. It is anticipated that future reserved matters will allow the incorporation of requisite mitigation measures to avoid ecological impacts and secure enhancements.

SCOPE OF THE ASSESSMENT

1.14 This Ecological Appraisal describes the current ecological interest within and around the Site, which has been identified through standard desk- and field-based investigations. It then considers the potential ecological impacts and opportunities for ecological enhancement based on the development framework plan (incorporating inherent mitigation) in the context of relevant legislation and planning policy. Finally, this Appraisal identifies the necessary additional measures to avoid, mitigate or provide compensation for potential impacts, and the mechanisms for securing such measures.

1.15 The remainder of this report is structured as follows:

- **Section 2** summarises the methodology employed in determining the baseline ecological conditions within and around the Site (with further details provided within Appendices and on Plans where appropriate);

- **Section 3** summarises the baseline ecological conditions (with further details also provided within Appendices and on Plans where appropriate) and identifies and evaluates any pertinent ecological features/receptors;

- **Section 4** describes how the development design has responded to the ecological constraints and any embedded/inherent mitigation, and then considers the potential impacts of the proposals on pertinent ecological features;

- **Section 5** proposes mitigation and enhancement measures for the current and possible future planning stages, in the context of relevant legislation and planning policy, and mechanisms to secure their delivery; and

- **Section 6** summarises the Mitigation and Enhancement Strategy for the Site and provides the overall conclusions of the Appraisal.

Section 2
Baseline Methodology

2.1 This section of the Ecological Appraisal summarises the methodologies employed in determining the baseline ecological conditions within and around the Site. This has been undertaken by appropriately qualified ecologists using relevant best practice methodologies wherever possible. Reasons for any departure from best practice methodology are given and normally relate to the timing of EDP's commission and/or the availability of access to parts of the Site or wider study area. Full details of the techniques and process adopted are, where appropriate, provided within Appendices and on Plans to the rear of this report.

DESK STUDY

2.2 The desk study is an important element of undertaking an initial ecological appraisal of a site proposed for development, which entails the initial collation and review of contextual information, such as designated sites, together with known records of important habitats or species.

2.3 The desk study involved collating biodiversity information from the following sources:

- Hampshire Biological Records Centre (HBIC);
- Multi-Agency Geographic Information for the Countryside (MAGIC) website[5]; and
- National Biodiversity Network (NBN) Atlas website[6].

2.4 The desk study was undertaken during November 2022 and August 2024 and involved obtaining the following information:

- International statutory designations (15km radius around site);
- National statutory designations and non-statutory local sites (2km radius);
- Annex II bat species[7] records (5km radius);
- All other protected, priority and notable species records (2km radius); and
- All other notable habitat records (500m radius).

2.5 These search areas are considered sufficient to cover the potential zones of influence[8] of the proposed development in relation to designated sites, habitats and species.

[5] www.magic.gov.uk
[6] www.nbnatlas.org
[7] Bat species listed in Annex II of the EC Habitats Directive, namely Greater horseshoe, Lesser horseshoe, Barbastelle and Bechstein's bats
[8] Zone of Influence - the areas and resources that may be affected by the proposed development

2.6 The adopted Eastleigh Borough Council (EBC) Local Plan 2016-2036 and EBC Biodiversity Supplementary Planning Document (SPD) 2009 were also reviewed as part of the desk study to understand local priorities with regard to protection of ecological features/biodiversity.

HABITAT SURVEY

2.7 Initial Phase 1 Habitat surveys, based on JNCC Phase 1 Habitat survey[9] methodology were undertaken in November 2023, June 2023.

2.8 The main habitats within the Site, together with their dominant/characteristic plant species, were identified by undertaking an update baseline habitat surveys 23 July 2024 and 25 July 2025. This survey was undertaken following the guidance for habitat surveys as set out in The Statutory Biodiversity Metric User Guide, for which the habitat definitions primarily rely on descriptions set out in the UK Habitat Classification and habitat conditions as set out for the Statutory Biodiversity Metric.

2.9 During the survey, habitat type and condition were also recorded to meet the Statutory Biodiversity Metric data requirements for calculating biodiversity net gain/loss. This was undertaken with reference to the Metric user guide[10] and UK Habitat Classification System[11] which underpins the Metric.

2.10 The habitat surveys were also used to assess the potential of the site to support protected and notable species.

2.11 Full details of the habitat survey methodology are provided within **Appendix EDP 3**.

DETAILED SURVEYS

2.12 The scope of further surveys undertaken within the Site was defined following the initial studies described above. The surveys 'scoped in' based upon the findings of the habitat survey are summarised in turn below, with reference to sources of further detailed information where applicable.

Breeding Bird Survey

2.13 The Site contains habitats which are suitable for nesting birds including hedgerows, trees and woodland edge habitat. The grassland within the site was also noted to be of potential to ground nesting birds. Breeding bird surveys were therefore undertaken with reference to standard methodology, entailing a modified Common Bird Census (CBC)[12] 'territory mapping' approach. This involved the completion of three visits to the Site, undertaken monthly between April and June 2023 to coincide with the height of the breeding bird season for lowland Britain.

[9] JNCC (2010) Handbook for Phase 1 habitat survey
[10] DEFRA (February 2024) Statutory Biodiversity Metric User Guide
[11] UKHab Ltd (July 2023) UK Habitat Classification Version 2.0 [https://www.ukhab.org]
[12] Marchant, J. (1983). *Common Bird Census Method*. BTO

2.14 Full details of the breeding bird survey methodology, and any limitations encountered, are provided in **Appendix EDP 5**.

Wintering Bird Survey

2.15 The Site also contains suitable habitat for wintering birds, including grassland. There is estuarine/coastal habitat in the vicinity which includes designations on account of the overwintering bird populations they support. Whilst the Site lies outside of existing and recognised areas of supporting habitat (also known as functionally linked land), there does remain a potential for the grassland habitat to support qualifying bird species.

2.16 A single pilot surveys was undertaken in undertaken 31 January 2023. Full details of the winter bird survey methodology, and any limitations encountered, are provided in **Appendix EDP 6**.

Bat Surveys

2.17 During the habitat survey, seven trees present within, or immediately adjacent to, the Site were identified as having potential to support roosting bats. In addition, a number of habitats present within the Site, including hedgerows, treeline and woodland edge habitat, were identified as being of moderate suitability to support foraging and commuting bats. The following surveys for bats were therefore undertaken, with reference to best practice guidelines at the point of survey[13]:

Bat Roost Inspection Surveys - Trees

- Preliminary ground level roost assessment of trees for bat roosting suitability, undertaken on 04 May 2023.

Bat Activity Surveys:

- Manual transect surveys conducted in April, May, June, July, August, September and October; and

- Automated detector surveys conducted in April, May, June, July, August, September and October.

2.18 Full details of the bat survey methodologies, and any limitations encountered, are provided in **Appendix EDP 7**.

2.19 Updated guidelines for bat surveys have recently been published, however, all bat surveys described in this report were conducted prior to this and therefore the 2016 guidelines will continue to be referred to in this assessment, and cross-referenced with latest guidance where appropriate. If further surveys are necessary, they will be completed in line with the 2023 guidance[14].

[13] Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust, London

[14] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

Dormouse Survey

2.20 Owing to the southernly location of the Site, the presence of woodland in the local area, and records of dormouse (*Muscardinus avellanarius*) the potential suitability of the hedgerows/treelines across the Site for, a nest tube survey to determine the presence/likely absence of the species was undertaken in accordance with best practice guidelines[15].

2.21 A total of 51 standard nest tubes, each comprising a wooden tray and nesting tube made from plastic tree guard material, were deployed throughout the Site in all suitable habitat at approximately 20m intervals on 16 May 2023 see **Plan EDP 3**. Nest tubes were erected at approximately 1.5m to 2m above ground and tied to suitable branches located within the hedgerows or lower branches of trees. Tubes were left *in situ* and checked for evidence of use by dormouse during suitable weather conditions on six separate occasions between June and November.

2.22 With reference to the best practice guidelines, a total survey effort score can be derived by adding together the index of probability in detecting dormouse presence within nest tubes for each of the months during which the nest tubes were deployed (assuming a minimum deployment of 50 nest tubes). These guidelines recommend that a score of at least 20 is achieved to provide a robust assessment of presence/absence. As illustrated in **Table EDP 2.1** the total survey effort score is 21 which exceeds this minimum.

Table EDP 2.1: Dormouse survey effort

Month	Index of Probability	Visit Details	Weather Conditions During Survey
May	1	51 Tubes deployed 16 May 2023	N/A
June	2	Tubes checked 19 June 2023	No rain/wind, cloud 10 – 15%, temp. 19 - 21°C.
July	2	Tubes checked 24 July 2023	Light rain/wind, cloud 100%, temp. 17°C
August	5	Tubes checked 21 August 2023	Light wind no rain, cloud 60-100%, temp. 19 – 24°C
September	7	Tubes checked 27 September 2023	Light wind no rain, cloud 80-100%, temp. 14 - 15°C
October	2	Tubes checked 11 October 2023	Light wind no rain, cloud 90-100%, temp. 16°C
November	2	Tubes checked 29 November 2023	Light wind no rain, cloud 10-20%, temp. 7 - 8°C
Total survey effort score	**21**		

[15] Bright, P.W, Morris, P.A. and Mitchell-Jones, T. (2006). *The Dormouse Conservation Handbook Second Edition*. English Nature, Peterborough.

Limitations

2.23 The survey visits were completed in suitable weather conditions and the minimum survey effort score of 20 was exceeded. The survey is therefore not subject to any significant limitations.

Badger Survey

2.24 A survey to record any evidence of badger (*meles meles*) activity within the Site, and within 30m of the Site where access was permitted, was undertaken during the Habitat survey.

2.25 During the survey, any signs of badger activity such as holes, latrines, trails, snuffle holes and hairs on fencing or vegetation were recorded. Where holes of a size and shape consistent with badgers were identified, the following signs of badger activity were searched for in order to determine whether they were currently in use:

- Fresh spoil outside entrances;
- Bedding material (typically dried grass) outside entrances;
- Holes being cleared of leaf litter/other debris;
- Badger guard hairs; and
- Footprints and fresh tracks leading to/from the holes.

Limitations

2.26 Badger surveys can be undertaken at any time of year and are, therefore, not limited by seasonal factors.

Great Crested Newt Survey

2.27 An initial assessment of the Site's suitability to support great crested newt (*Triturus cristatus*) was undertaken during the habitat survey and with reference to desk study records as described above. No waterbodies were identified within the boundaries of the Site. However, 16 waterbodies were identified adjacent and within a 500m radius of the Site, of which 12 are within 250m.

2.28 eDNA sampling was undertaken on all waterbodies within 500m of the Application Site (but not separated from the Site by significant dispersal barriers) to which access was granted. A total of 12 ponds were accessed, with four ponds to the south-east of the Application Site discounted due to being beyond 250m from the Application Site boundary and separated from the Application Site by a stream.

2.29 With reference to **Plan EDP 2** the waterbodies accessed are **P1** – **P12**.The location of the waterbodies immediately adjacent to the Site is shown on **Plan EDP 1**.

ECOLOGICAL SURVEYS SCOPED OUT

2.30 **Table EDP 2.2** summarises other survey types which, whilst occasionally required to inform a planning submission for development sites, are not deemed to be necessary/appropriate in this case.

Table EDP 2.2: Ecology Surveys Scoped Out

Survey Type	Reasons for Scoping Out
Otter (*Lutra lutra*)/Water Vole (*Arvicolaamphibicus*)	There is no suitable habitat present on or immediately adjacent to the Site to support the species. The ditches present have been identified to be either mostly dry or supporting low levels of water. Both species are thus presumed absent from the Site such that no further survey is recommended.
Reptiles	The Site was found to be largely suboptimal for reptiles, the management regime (mixed grazing and hay production) results in only temporary opportunities for reptiles. Sensitive habitat removal will be implemented to safeguard any incidental individuals should they be present.
Invertebrates	The farmed habitats on-site are likely to support common and widespread opportunities for invertebrates. The mature trees on-site may also offer opportunities, however these are mostly at the site boundary/off-site and will be mostly retained.

Section 3
Baseline Results

3.1 This section of the Ecological Appraisal summarises the baseline ecological conditions determined through the course of desk-based and field-based investigations described in **Section 2**. In particular, this section identifies and evaluates those ecological features/receptors that lie within the Site's potential zone of influence, and which are pertinent in the context of the proposed development. Further technical details are, where appropriate, provided within Appendices and on Plans to the rear of this report.

3.2 Where a particular ecological feature/receptor has been confirmed to be present, or presence is inferred based on habitat suitability, its ecological importance is assessed. The level of ecological importance assigned to each ecological feature is based upon established geographical value systems and the uses the following scale: International and European (highest) > National > Regional > County > District > Local > Site > Negligible (lowest).

DESIGNATED SITES

3.3 Information regarding designated sites was obtained during the desk study. Statutory designations (those receiving legal and planning policy protection) and non-statutory designations (those receiving planning policy protection only) are discussed in turn below.

Statutory Designations

3.4 Statutory designations represent the most significant ecological receptors. Internationally important statutory designations include Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites (including potential SPAs, possible SACs and proposed Ramsar sites). These designations are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations). These designations are referred to as 'habitats sites' in the National Planning Policy Framework (NPPF, July 2021) and development which would adversely affect a habitats site (alone or in combination) cannot benefit from the NPPF presumption in favour of sustainable development.

3.5 Nationally important statutory designations include Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs). NNRs are also SSSIs, both of which are protected under the Wildlife and Countryside Act 1981 (as amended). The NPPF states that development which would adversely affect as SSSI should not normally be permitted.

3.6 Local level statutory designations include Local Nature Reserves (LNRs) and are generally considered to be of importance at the County level or lower. LNRs are designated under the National Parks and Access to the Countryside Act 1949, however protection of LNRs is given via local planning policies and/or by-laws.

3.7 No part of the Site is covered by any statutory designations and there are no county important designations within 2km of the Site. However, there are five internationally important designations within 15km of the Site and two nationally important designations within 5km . Also, the Site lies within the impact risk zone of the River Itchen SSSI. These sites are summarised in **Table EDP 3.1** and illustrated on **Plan EDP 4**.

Table EDP 3.1: Statutory Designations Within the Site's potential Zone of Influence

Designation	Approx. distance from Site	Interest Feature(s)
Internationally Important Statutory Designated Sites (within 15km of the Site)		
River Itchen SAC (303.99ha)	3.3km East	A sub-type 1 chalk river with associated fens and deciduous forest along the river corridor. Notable for supporting populations of southern damselfly (*Coenagrion mercuriale*) and bullhead (*Cottus gobio*), other notable species present include white-clawed crayfish (*Austropotamobius pallipes*) and otter (*Lutra lutra*).
Solent and Southampton Water SPA and Ramsar (5,399.6ha)	6.0km South	A series of estuaries and harbours with extensive mudflats and saltmarshes, with adjacent coastal habitat including shingle beeches, saline lagoons, reedbeds and damp woodland. The site is notable for waterfowl, including breeding populations of multiple gull and tern species as well as providing opportunities for overwintering species.
Solent Maritime SAC (1,1240.83ha)	6.0km South	A major estuarine system on the south coast of England, encompassing eight estuaries across two physiographic sub-types and a hydrographic regime unique in Britain and Europe. Notable for supporting four cord-grass species in close proximity. The only site for smooth cord-grass (*Spartina alterniflora*) in the UK, one of two for small cord-grass (*S. maritima*). In addition, despite colonisation by cord-grass, the site also contains a large amount of ungrazed Atlantic salt meadow.
Emer Bog SAC (37.56ha)	10.7km West	Comprised of a hollow filled with a bog and transitional mires with scattered willow scrub (*Salix sp.*) surrounded by open heathland and mature willow woodland. Flora is dominated by bottle sedge *(Carex rostrata*) and marsh cinquefoil (*Potentilla palustris*), with occasional bogbean (*Menyanthes trifoliata*) in pools and white sedge (*Carex curta*) towards the edges of the bog.

Designation	Approx. distance from Site	Interest Feature(s)
Portsmouth Harbour SPA Ramsar (1,249.60ha)	14.6km South-east	An industrialised estuary with associated mudflats, tidal creeks, islands and inlets. Mudflats with extensive beds of eelgrass (*Zostera sp.*), combined with reedbeds, provide ample overwintering opportunities for waterfowl. Notable species including dark-bellied brent goose (*Branta bernicla bernicla*), red-breasted merganser (*Mergus serrator*), black-tailed godwit (*Limosa limosa islandica*) and dunlin (*Calidris alpina alpina*).
Nationally Important Statutory Designated Sites (within 5km of the Site)		
River Itchen SSSI (748.43ha)	3.3km East	A sub-type 1 chalk river with associated fens and deciduous forest along the river corridor. Notable for supporting populations of southern damselfly and bullhead, other notable species present include white-clawed crayfish and otter.
Moorgreen Meadows SSSI (14.32ha)	4.3km South-west	Neutral meadows and alder (*Alnus sp.*) woodland bordering a tributary of the river Hamble. The meadows sit on a bed of alluvial and clay with thin layers of peat. Flora comprises at least 17 species of co-dominant herbs and grasses. Notably, the site supports an isolated population of northern marsh orchid (*Dactylorhiza purpurella*), alongside other species of the same genus. All of which regularly hybridize.

Non-statutory Designations

3.8 Non-statutory designations are also commonly referred to in planning policies as 'local sites', although such designations are typically considered to be of importance at a County level. In Hampshire, such designations are termed Local Wildlife Sites (LWSs). Additional sites such as non-designated nature reserves (e.g. Wildlife Trust nature reserves) and Ancient Semi-natural Woodland (ASNW) are considered here when not covered by other designations. The importance of LWSs is recognised in the NPPF and in the Eastleigh Borough Local Plan, specifically Policy DM11, Nature Conservation.

3.9 No part of the Site is covered by any non-statutory designations, however Land at Knowle Lane, Fair Oak LWS lies adjacent to the southern site boundary. There are 24 LWSs located within 2km of the Site, as summarised in **Table EDP 3.2** and shown on **Plan EDP 5**.

Table EDP 3.2: Non-Statutory Designations Within 2km of the Site

Designation	Approx. distance from Site	Interest Feature(s)
Land at Knowle Lane, Fair Oak LWS	Adjacent to southern Site boundary	A narrow band of deciduous woodland and rush pasture surrounding a pond.
Knowle Lane Open Space LWS	0.1km West	A small patch of deciduous woodland with scattered open areas of grassland and several public footpaths. West of Knowle Lane.
Moplands Copse LWS	0.3km East	Small patch of lowland mixed deciduous woodland bounded by a golf course and semi-improved grassland.
Gore Copse LWS	0.3km North-west	A narrow band of lowland mixed deciduous woodland along a stream corridor.
Dunley Copse LWS	0.4km South	Lowland mixed deciduous woodland, with portions of ancient woodland in the middle of East Horton golf course.
Knowlehill Copse LWS	0.4km South-west	A small patch of lowland mixed deciduous woodland along the northern side of Knowle Park.
Tippers Copse LWS	0.4km North	A small block of lowland mixed deciduous woodland in the corner of an arable field.
Hall Lands Copse LWS	0.6km North-west	Mixed deciduous and wet woodland, most considered ancient woodland, bounded by arable fields.
Barnhurst Meadow LWS	0.6km East	A series of lowland meadows with a tiny portion of rush pasture west of Alma Lane.
Stroud Wood, Fair Oak and Horton Heath LWS	0.6km North-east	A tiny block of lowland mixed deciduous woodland bounded by fields of semi-improved grassland.
Parker's Copse/Fir Plantation/Greenwood LWS	0.6km South-east	An expansive block of woodland incorporating fir plantation woodland, lowland mixed deciduous woodland and the Greenwood ancient woodland.
Park Hills Wood LWS	0.7km North	A large band of lowland mixed deciduous woodland with portions of ancient woodland, bounded by arable fields and adjacent to Chestnut Gully Wood LWS.
Lower Itchen Headwater, Stocks Farm LWS	1.0km West	c.400m of stream corridor north of Winchester Road.
Chestnut Gully Wood LWS	1.4km North-west	A block of mixed lowland deciduous woodland with thins strips of lowland meadow bounded by arable fields.

Designation	Approx. distance from Site	Interest Feature(s)
Wyvern Technology College Meadow LWS	1.4km South-west	A field of mixed deciduous woodland, wet woodland, lowland meadow, rush pasture and streams.
Ponds and Meadow adjacent to Wyvern Technology College LWS	1.5km South-west	A pond surrounded by wet woodland and lowland mixed deciduous woodland between Wyvern Technology College and Quobleigh Pond and Woods LWS.
Quobleigh Pond and Woods LWS	1.5km South-west	A series of ponds and streams surrounded by a mix of wet and lowland mixed deciduous woodland.
Lower Upham Meadows LWS	1.6km North-east	A single field of lowland meadow bisected by a ditch.
Alma Meadows (North)	1.6km North-east	A small field of lowland meadow with scattered trees east of Alma Lane.
Hardings Lane Wooded Bank LWS	1.7km North-west	A mature treeline c.240m long running beside a footpath.
Deeps Copse/Deeps Bushes Copse LWS	1.7km North	A large block of ancient woodland north of Portsmouth Road, adjacent to Upham Copse LWS.
Upham Copse LWS	1.8km North	A smaller block of ancient woodland adjacent to Deeps Copse, part of South Downs National Park.
Crowdhill Copse LWS	1.8km West	A spur of lowland mixed deciduous woodland off Stoke Park Woods LWS, incorporating a portion of Stoke Park Woods ancient woodland, bounded by arable fields and a residential area.
Stoke Park Woods LWS	1.8km West	A large area of ancient woodland hosting multiple footpaths and a bike park, including wet woodland and lowland mixed deciduous woodland.

3.10 Given the geographical context and nature of these LWSs, impacts are considered unlikely impacts from developments can largely be ruled out. However, the Land at Knowle Hill, Fair Oak LWS sits immediately adjacent to the Site, and so is considered further within this assessment.

HABITATS

3.11 There are several mechanisms by which habitats that lie outside of statutory and non-statutory designations are protected, or by which their importance is recognised at a national level. This includes the following:

- 'Important' hedgerows are protected from removal (out with the planning process) by the Hedgerows Regulations 1997;
- Certain habitats are listed as priority habitats, the conservation of which public authorities in England must have due regard to as part of policy or decision making under Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006;
- The recently enacted Environment Act 2021 introduces a mandatory minimum 10% biodiversity net gain requirement for all new developments that are subject to the Town and Country Planning Act 1990;
- Paragraph 186 of the NPPF includes a presumption against development which results in significant harm to biodiversity (including habitats), or results in the loss of irreplaceable habitat[16]. This paragraph also encourages development to secure measurable net gains for biodiversity; and
- The importance of protecting habitats, and networks of habitats, is reflected in the Eastleigh Borough Local Plan, specifically Policy DM11.

3.12 The distribution of different habitat types within and adjacent to the Site is illustrated on **Plan EDP 1**. The habitats are further described in **Appendix EDP 3** alongside illustrative photographs and species lists.

3.13 A summary and qualitative assessment of the existing habitats, using Defra Statutory Metric terminology, is provided in **Table EDP 3.3**. Further details of the habitat condition assessment, with reference to the criteria contained within the Technical Annexes of the Statutory Metric, are provided within **Appendix EDP 8**.

[16] Irreplaceable habitats are technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.

Table EDP 3.3: Summary of Existing Habitats Within the Site

DEFRA Statutory Metric			Area/Length	Distribution	Intrinsic Ecological Importance*
Habitat Type	**Distinctiveness**	**Condition**			
Modified grassland	Low	Poor	11.05 ha	The Site is dominated by grassland fields.	Site
Native species-rich hedgerow	Medium	Good	0.074km	Located at the northern Site boundary	Local
Line of Trees	Low	Moderate	0.445km	Located along the eastern Site boundary	Local
Line of Trees associated with bank or ditch	Low	Poor	0.105km	Passing through the centre of the northern part of the Site	Local
Ditch	Medium	Poor	0.342km	Located at the southern Site boundary	Site

*Importance irrespective of any protected, priority or other notable species which may be present

3.14 As noted within **Table EDP 3.3**, the Site is mostly made up of habitats which are of less than Local, or negligible, intrinsic importance. However, the hedgerows are considered to be of Local importance. Furthermore, a number of the habitats, including those which are of limited intrinsic importance, also require consideration in relation to their importance in maintaining populations of protected, priority or other notable species. This is discussed further below.

PROTECTED, PRIORITY OR OTHER NOTABLE SPECIES

3.15 Certain species receive legal protection in the UK and are commonly known as 'protected species'. In reality, the level of protection for different species varies considerably, from protection solely against 'killing and injury' to full protection of the species and their places of refuge. Where pertinent, details of legal protection afforded to species/species-groups are provided below.

3.16 In addition to protected species there are other species/species-groups that do not receive legal protection, but which are notable owing to their conservation status. This includes priority species, the conservation of which public authorities in England must have due regard to under the NERC Act (2006). The NPPF recognises species as an important component of biodiversity, as does the Eastleigh Borough Local Plan, specifically Policy DM11.

3.17 The likelihood of presence, or confirmed presence, of protected, priority or other notable[17] wildlife species within the Site is summarised below with reference to desk study records, habitat suitability and detailed surveys where relevant. Further details are made available within the appendices and plans where referenced.

Breeding Birds

3.18 All wild birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended) (WCA). This makes it an offence to:

- Intentionally kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while it is in use or being built;
- Take, damage or destroy the egg of any wild bird; or
- To have in one's possession or control any wild bird (dead or alive) or egg, or any part of a wild bird or egg.

3.19 In addition, further protection is afforded to those wild bird species listed on Schedule 1 of the WCA, prohibiting any intentional or reckless disturbance to these species while it is nest building, or at a nest containing eggs or young, or to recklessly disturb the dependent young of such a bird. A number of species are also included as priority species.

3.20 A large number of records of bird species were retrieved during the desk study, including several species of note that were either a WCA Schedule 1 species, a priority species or included on the

[17] Notable species are those which are not legally protected but are formally identified as being of conservation concern

latest Red and Amber lists of Birds of Conservation Concern[18]. Records of notable species with possible suitable breeding habitats on Site include linnet (*Linaria cannabina*), house sparrow (*Passer domesticus*), mistle thrush (*Turdus viscivorus*), song thrush (*Turdus philomelos*) and yellowhammer (*Emberiza citronella*).

3.21 The full results of the breeding bird survey are provided in **Appendix EDP 5** and on **Plan EDP 6**. In summary, a total of three bird species of note were recorded as breeding or probably breeding on-site. This includes no WCA Schedule 1 species, one priority species and two other species of conservation concern. Those species of note include house sparrow, woodpigeon (*Columba palumbus*) and wren (*Troglodytes troglodytes*).

3.22 Overall, the assemblage of breeding bird species recorded on-site is as expected given the low diversity of breeding habitats available. Of the probable breeding species, none are of particular note due to their common regional status. Therefore, the breeding bird assemblage on-site is judged to be of Site level importance.

Wintering Birds

3.23 Wintering birds do not receive direct legal protection; however, they may form part of a protected assemblage originating from a statutory designation in the vicinity.

3.24 The desk study found estuarine/coastal habitat in close proximity to the Site. The Solent and Southampton Water SPA and Ramsar site lies 6km south and supports overwintering bird assemblages.

3.25 The full results of the wintering bird survey are provided in **Appendix EDP 6**. In summary, a total of seven bird species were recorded on-site. This includes two WCA Schedule 1 species, four priority species and one other species of conservation concern. Those species of note include:

- WCA Schedule 1 species include: fieldfare and redwing in low numbers; and
- Priority species include: common starling, dunnock, herring gull and house sparrow – all in relatively low numbers.

3.26 A further seven species not of conservation importance were also recorded.

3.27 Overall, the assemblage of wintering bird species recorded on-site is being typical for farmland on a suburban edge. The breeding bird assemblage on-site is therefore judged to be of Local level importance.

Bats

3.28 All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) (referred to as the

[18] Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747.

'Habitats Regulations'). This affords strict protection to bats and their roosts, and makes it an offence to:

- Deliberately capture, injure or kill a wild animal of an EPS;
- Deliberately disturb wild animals of an EPS wherever they are occurring, in particular, any disturbance which is likely to impair their ability to survive, to breed or reproduce, to significantly affect the local distribution or abundance of the species to which they belong, or in the case of hibernating or migratory species, to hibernate or migrate; or
- Damage or destroy a breeding site or resting place of a wild animal of an EPS.

3.29 Additional protection for bats is also afforded under the WCA, making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place. In addition, soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*), greater horseshoe bat (*Rhinolophus ferrumequinum*), barbastelle bat (*Barbastella barbastellus*), Bechstein's bat (*Myotis bechsteinii*), noctule (*Nyctalus noctula*), and lesser horseshoe bat (*Rhinolophus hipposideros*) are also listed as priority species.

3.30 The desk study returned many records for bat species relating to common and widespread species including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared (*Plecotus auritus*), serotine (*Eptesicus serotinus*), Natterer's (*Myotis nattereri*), daubenton's bat (*Myotis daubentonii*). The locations of these bat records are deemed sensitive so lack location names, however there are records of a mixed soprano and common pipistrelle roost from 2015 c.0.1km west of the Site and a brown long-eared maternity roost to thec.0.1km east of the Site recorded in 2021.

3.31 In addition, there are records from 2017 of maternity roosts of soprano pipistrelle, brown long-eared bat, common pipistrelle and regular serotine roost c.0.1km east of the Site. Given this proximity and the foraging/commuting opportunities within the Site it is likely these species will be present within the Site. Finally, there are three records of western barbastelle (*Barbastella barbastellus*) recorded in 2016, the closest a single bat in a day roost c.2.2km east of the Site.

3.32 Seven records within 2km of the Site relating to European Protected Species Mitigation Licences (EPSML) issued for bats were returned from the data search on MAGIC. These include common pipistrelle, soprano pipistrelle and brown long-eared roosts. The closest of which is located approximately 800m to the south of the Site, pertaining to non-breeding roosts of common and soprano pipistrelle. All other EPSML records are located further away from the Site to the east, south and west.

Bat Roosting

Trees

3.33 A total of 14 trees were identified with suitable features for bat roosting, however the majority of these sit just outside the red line boundary. Full details are provided within **Appendix EDP 7** with tree locations shown on **Plan EDP 1**.

Bat Foraging/Commuting Activity

3.34 Overall, the habitats present within the Site were assessed as being of Moderate suitability for foraging and commuting bats, primarily based on the woodland edge habitat present, mature tree lines, and general connectivity to local parcels of woodland.

3.35 The findings of the manual transect and automated detector surveys are provided in detail within **Appendix EDP 7** with the transect route and locations of the automated detector surveys shown on **Plan EDP 7**. The approximate distribution and diversity of bat species recorded during the transect surveys are illustrated on **Plan EDP 8** to **Plan EDP 14**.

3.36 In summary, levels of bat activity recorded during the manual transects were generally low to moderate and comprised common pipistrelle, soprano pipistrelle, serotine, Myotis spp., and Nathusius' pipistrelle. Activity was generally concentrated on boundary habitats including the hedgerow, lines of mature trees and woodland edges. Species diversity was lowest in April and October, where only common pipistrelle were recorded, and highest in June and July where four species/species groups were recorded.

3.37 Levels of bat activity recorded during the automated detector surveys were generally low to moderate and primarily comprised common pipistrelle, with soprano pipistrelle and *Myotis* spp. the next abundant. Serotine, *Plecotus* spp., noctule, barbastelle and Nathusius' pipistrelle were recorded infrequently. The number of calls recorded was higher at Location 1 from April to June, and higher in Location 2 from July to October, reflecting a change of use in the latter half of the active period.

3.38 Taking into account the diversity of bat species utilising the Site and the extent of their roosting, foraging and commuting activity, the overall bat species assemblage using the Site is considered to be of Local importance.

Dormouse

3.39 Hazel dormouse is an EPS receiving strict protection under the Habitats Regulations as summarised above in respect of bats. Additional protection is also afforded to this species under the WCA as summarised above in respect of bats. This species is also listed as a priority species.

3.40 A single record for dormouse was returned within 2km of the Site's boundaries during the desk study. In addition, a record relating to a EPSML issued for dormouse was returned from the data search on MAGIC, approximately 3.5km south of the Site.

3.41 The habitats on Site are of moderate suitability for dormice comprising the hedgerow and mature tree lines, with connectivity to offsite woodlands and wider hedgerow network. However, the dormouse nest tube survey found no evidence of dormouse. A small number of wood mice (*Apodemus sylvaticus*) and evidence of their activity (including nests and food caches) were also recorded.

3.42 Based on the survey results above, dormice are not considered to be present within the Site.

Otter

3.43 Otter is an EPS receiving strict protection under the Habitats Regulations as summarised above in respect of bats. Additional protection is also afforded to this species under the WCA as summarised above for bats. This species is also listed as a priority species.

3.44 Nine records of otter were returned within 2km of the Site, the closest record being 0.6km from the Site within the River Hamble.

3.45 The habitats on-site are not considered to be suitable for otter. The ditch which bisects the northern part of the Site is scrubby over and was found to be mostly dry across all site visits. The ditch which sits just off-site was found to be typically wet but only ever supporting shallow water within a very narrow channel, with no opportunities for resting places or holts. Its considered unlikely this ditch would be used for commuting otter on any significant basis, given its condition and general lack of connectivity to more significant water courses.

Water Vole

3.46 Water vole and their burrows receive protection under Schedule 5 of the WCA. This makes it an offence to:

- Intentionally kill, injure or take (capture) a water vole;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a water vole uses for shelter or protection; and
- Intentionally or recklessly disturb water voles while they are in a place of shelter or protection.

3.47 Water vole is also listed as a priority species.

3.48 Eight historical records of water vole were returned within 2km of the Site's boundaries, the closest record being 0.6km from the Site which appear to be associated with the East Horton golf course golf club from 1999.

3.49 The habitats on-site are not considered to be suitable for water vole for similar reasons as stated above regarding otter. The wet ditch which sits just off-site, adjacent the southern boundary supports only shallow, sluggish water. There is a notable absence of suitable marginal vegetation, possibly as a result of regular maintenance for drainage purposes.

Badger

3.50 Badgers and their setts are protected under the Protection of Badgers Act 1992, which makes it an offence (*inter-alia*) to:

- Wilfully kill, injure, take, or cruelly ill-treat a badger; and
- Damage or interfere with a sett, by doing one of the following things:
    - Damage a badger sett or any part of it;

- Destroy a badger sett;
- Obstruct access to, or any entrance of, a badger sett;
- Cause a dog to enter a badger sett; or
- Disturb a badger when it is occupying a sett.

3.51 The 1992 Act defines a badger sett as "*any structure or place which displays signs indicating current use by a badger*".

3.52 The protection afforded to badgers is primarily due to animal welfare issues and history of persecution rather than concerns over their unfavourable nature conservation status.

3.53 The desk study returned a number of badgers records from within the 2km search area. Largely these records are at least ten years old and document single instances of badger sightings. However, the most recent record from 2017 is also the closest at 0.5km of the Site indicating they likely are present in the wider landscape.

3.54 The badger survey recorded no badger setts within the Site, however evidence of commuting and occasional foraging badger was identified, including push throughs and a single print. The Site is therefore considered suitable for foraging and edge habitats may be suitable for sett building.

3.55 Taking into account the common status of badger within the country and district and the extent within the Site, the overall population is considered to be no greater than Site level importance, if present.

Other Mammal

3.56 The desk study returned a number of notable mammals within 2km and dated within the last decade, including 22 records of hedgehog (*Erinaceus europaeus*) of which the closest was approximately 1km, recorded in 2022.

3.57 Given the habitats present on the Site, it is considered suitable for foraging hedgehog. If present, hedgehog would be considered no greater than Site level importance.

Great Crested Newt

3.58 Great crested newt is an EPS receiving strict protection under the Habitats Regulations as summarised above in respect of bats. Additional protection is also afforded to this species under the WCA as summarised above in respect of bats. This species is also listed as a priority species.

3.59 The desk study returned four records of great crested newt, three of these are located c.1.7km away from around Quobleigh Pond LWS the most recent was from 2020 of a population of 300 individuals. The fourth record is from 2011 from 1.3km West of six individuals in a pond next to Greenwood LWS. There are however four suitable ponds within 0.2km of the Site with no major barriers to access.

3.60 Two nearby records relating to EPSMLs issued for great crested newt were returned from the data search on MAGIC, both located approximately 1.5km and 1.6km to the south-west and dated 2009 and 2018.

3.61 The Site does not support any waterbodies, and so no opportunities for breeding amphibians are present. All ponds surveyed between 250m and 500m returned negative eDNA results. Great crested newts are therefore considered absent from the Site, both within their breeding and terrestrial phases.

Reptiles

3.62 All species of common reptile, namely common lizard (*Zootoca vivipara*), slow-worm, grass snake (*Natrix helvetica*) and adder (*Vipera berus*), receive at least limited protection from harm under the WCA, making it an offence to cause intentional killing and injuring of these species. In addition, these species are also listed as priority species.

3.63 The desk study returned no records of reptiles within the Site. However, multiple records of grass snakes (*Natrix helvetica*), common lizards (*Zootoca vivipara*) and slow worms (*Anguis fragilis*) within the 2km search radius. Indicating low numbers of common reptile species are likely present within the Site.

3.64 The Site is suboptimal for reptiles, due to the Site being historically grazed and hay management regime implemented. The habitat surveys in June 2023 found the grassland sward to be dense and coarse, dominated by tall palatable grasses.

3.65 The management regime of the Site (i.e. a mix of grazing and hay production), results in only temporary opportunities for reptiles, and so it's only likely to support occasional foraging reptiles, rather than a permanent population.

3.66 Given their assumed limited density within the Site and relative widespread distribution across the County, the populations of common lizard, grass snake and slow-worm (if present) within the Site are judged to be of no greater than Local importance.

Invertebrates

3.67 A large number of invertebrates records were returned within 2km of the Site, with 160 records dated within the last decade. Of note, stag beetle was recorded approximately 400m from the Site in 2017, with Jersey tiger (*Euplagia quadripunctaria*), silver-washed fritillary (*Argynnis paphia*), white admiral (*Limenitis camilla*), cypress groundling (*Gelechia senticetella*) and *Oedemera femoralis* recorded within 1km within the last decade.

3.68 The vast majority of habitat within the Site offer only opportunities for common and generalist species of invertebrates. On that basis, the invertebrate assemblage present within the Site is assumed to be of negligible importance.

Rare/Scarce Plant Species

3.69 The desk study returned a number of records of rare and scarce plants within 2km. Of these, nine species were returned, dated within the last decade, including: strawberry clover (*Trifolium fragiferum*), butcher's-broom (*Ruscus aculeatus*), box (*Buxus sempervirens*),

lesser spearwort (*Ranunculus flammula*), white ramping-fumitory (*Fumaria capreolata*), annual beard-grass (*Polypogon monspeliensis*) Jersey cudweed (*Gnaphalium luteoalbum*), red hemp-nettle (*Galeopsis angustifolia*) and *Lapsana communis*. Butcher's-broom and white ramping-fumitory were the closest, recorded approximately 500m to the north-east from the Site. A single specimen of butchers's-broom was recorded on-site at TL1.

Invasive Species

3.70 HBIC returned many records of invasive species within 2km of the Site, notably Japanese knotweed (*Fallopia japonica*), butterfly bush (*Buddleia davidii*), false-acacia (*Robinia pseudoacacia*) and Himalayan cotoneaster (*Cotoneaster simonsii*) c.0.3km West of the Site, and three-cornered garlic c.0.4km to the west.

SUMMARY OF KEY SURVEY FINDINGS

3.71 The key ecological features/receptors pertinent to the development proposals, based on the survey findings described above, are set out in **Table EDP 3.4**.

Table EDP 3.4: Summary of Ecological Features

Feature	Key Attributes	Ecological Importance
Statutory Designated Sites		
River Itchen SAC and SSSI	3.3km off-site. Chalk river with associated fens and woodland. Supports white-clawed crayfish, otter, bullhead and notable invertebrates, including Southern Damselfly	International
Solent and Southampton Water SPA, Ramsar	6km off-site. A series of estuaries and harbours with extensive mudflats and saltmarshes and other associated habitats. Notable for breeding waterfowl and overwintering species.	International
Solent Maritime SAC	6km off-site. A major estuarine system with ungrazed Atlantic salt meadow. Notable for cord-grasses.	International
Portsmouth Harbour SPA Ramsar	14km off-site. An industrialised estuary with associated mudflats, tidal creeks, islands and inlets which support overwintering waterfowl.	International
Moorgreen Meadows SSSI	4.3km off-site. Neutral meadows and alder woodland. Of botanical interest, including orchids.	National

Feature	Key Attributes	Ecological Importance
Non-Statutory Designated Sites		
Land at Knowle Lane, Fair Oak LWS	Adjacent to southern site boundary. A narrow band of deciduous woodland and rush pasture surrounding a pond.	County
Habitats		
Intact species-rich hedgerow with trees	H1, located along the northern Site boundary. Classified as 'Important' under hedgerow regulations.	Local
Line of Trees	Mature lines of trees delineating field boundaries	Local
Scattered Broadleaved Trees	Scattered trees along the fence lines and western site boundary.	Local
Ditches	One dry ditch (bisecting east-west through the middle of the Site) and one wet ditch along the southern site boundary.	Site
Modified grassland	Historically grazed and hay management regime being recently implemented. The grassland sward was dense and coarse, dominated by tall palatable grasses.	Site
Broadleaved woodland	Immediately off-site. One parcel lies to the east of the Site boundary and the second lies to the south of the Site boundary.	Local
Ponds	Located at off-site but in close proximity to Site boundary	Local (off-site)
Species		
Breeding birds	Abundance and diversity consistent with extent and diversity of habitats onsite.	Local
Wintering birds	Low diversity and abundance, reflective of habitats present.	Local
Bats	Seven trees with high or moderate suitability for roosting bats were recorded. Foraging and commuting bats recorded along the boundaries, including small numbers of Annex II barbastelle.	Local
Badger	No setts present. Some suitability for commuting and foraging.	Local
Reptiles	Suboptimal habitats present on-site.	Local (if present)

Section 4
Impact Assessment, Mitigation and Enhancements

4.1 This section of the Ecological Appraisal first considers any avoidance/mitigation which is embedded within development design, as represented by the Development Framework Plan provided as **Appendix EDP 1**. It then considers the likely impacts of the development proposals on the pertinent ecological features identified in **Section 3** in the absence of additional mitigation.

EMBEDDED MITIGATION

4.2 EDP has provided input throughout the iterative design process so Development Framework Plan (**Appendix EDP 1**) although illustrative, reflects some important measures to avoid, mitigate or compensate for ecological impacts as well as other measures designed to provide long-term ecological enhancements. This embedded mitigation comprises the following:

- Open spaces for recreation to minimise impacts on off-site designations – including Public Open Space (POS) through the centre of the scheme, with additional green space at the entrance, buffering Mortimer's Farm, and in the southern corner to buffer the off-site woodland;
- Retention/buffering of valuable habitats (including habitats known to support protected/notable species) – including buffering the off-site ditches and woodlands and creations of new woody corridors to improve general connectivity;
- Avoidance of trees with roosting bat potential where possible, using existing gaps in treeline TL1 (see **Plan EDP 1**);
- Inclusion of natural/informal greenspace within the development where the creation or enhancement of ecologically valuable/biodiverse habitat is proposed; and
- Inclusion of Sustainable urban Drainage System (SuDS) to maintain run-off rates and to maintain or improve the quality of surface water discharging and designed for biodiversity and wildlife.

IMPACTS ON DESIGNATED SITES

Statutory Designations

4.3 As described in **Section 3**, there are six statutory designated sites within the potential zone of influence of the Site. The potential impacts on these designations, in the absence of additional mitigation, are discussed below.

International Designations

River Itchen SAC and SSSI

4.4 The River Itchen SAC, and the SSSI which underpins it, lies approximately 3.3km to the west of the Site. Therefore, there is the potential for likely significant effects (LSE) on this international site.

4.5 Given the River Itchen is a freshwater system, phosphorus is the key limiting nutrient in the system, and nitrogen is already present in excess (as a result of agricultural practices). On that basis, the SAC itself is unlikely to be significantly impacted directly by nitrogen deposition as a result of increased traffic.

4.6 However, a qualifying feature of the SAC is the southern damselfly (*Coenagrion mercuriale*) which is sensitive to nitrogen deposition; increased traffic can adversely impact the breeding habitats of this species.

4.7 The Eastleigh Local Plan 2016 – 2036 was adopted in April 2022; during its preparation, a Habitats Regulation Assessment (HRA)[19] was prepared to demonstrate that the quantum of development proposed as part of the Local Plan would not lead to any harm on internationally designated sites. The HRA included consideration of both the River Itchen SAC and was supported by an air quality assessment that included dispersion modelling of road traffic emissions. The air quality assessment considered traffic associated with all development (completed, permitted and new allocations, totalling ~11,000 new dwellings) outlined in the Local Plan, and assessed the impacts both 'in isolation' (i.e. the Local Plan on its own), and 'in combination' (i.e. the impacts associated with both the Local Plan and other plans and projects).

4.8 The air quality assessment concluded that impacts on concentrations of nitrogen oxides (NOx) and ammonia, and deposition fluxes of nutrient nitrogen could not be discounted based on comparison with the critical levels/loads and published screening criteria, and that consideration of the effects on the specific ecosystems as part of the HRA was necessary.

4.9 The HRA, prepared by Urban Edge Environmental Consulting, concluded with respect to the River Itchen SAC that:

- Ammonia concentrations were only predicted to exceed the critical load adjacent to the M27, and that elevated ammonia levels were not considered likely to be significant in this location (Paragraph 6.2.29);
- It is not clear how concentrations of atmospheric NOx affect aquatic and semi-aquatic vegetation; thus, concentrations of NOx were not considered further (Paragraph 6.2.31); and
- The key impact pathway will be via deposition of nutrient nitrogen (from both NOx and ammonia), therefore an Appropriate Assessment was undertaken.

4.10 As part of the air quality assessment, areas where dispersion modelling demonstrated that the additional traffic would lead to changes greater than 1% of the nutrient nitrogen critical load

[19] Urban Edge Environmental Consulting (2021), HRA for the Eastleigh Borough Local Plan: Main Modifications Stage

(15 kgN/ha/yr), and the critical load would be exceeded were identified (Figures 7.1 and 7.2 of the HRA). As part of the Appropriate Assessment stage, these areas were coupled with survey data recording the presence of the Southern damselfly to identify Southern damselfly habitats that could be affected by the implementation of the Local Plan. The HRA determined that approximately 1,900m of supporting watercourses within the SAC, with a further 850m outside the SAC, would experience changes in nutrient nitrogen deposition fluxes greater than 1%. Further interrogation of the predicted changes in critical load from additional traffic determined that the maximum change would be 1.33% (0.2 kgN/ha/yr); such a change was described in the HRA as 'not substantial' (Paragraph 7.2.13).

4.11 The HRA concluded that this level of change, coupled with the habitat conditions at the affected areas, would have "no adverse effect on the integrity of the SAC for this species as a consequence of predicted changes in air quality".

4.12 During the course of the preparation of the HRA, an area of land, referred to as the "Strategic Growth Option" (SGO) to the north of Bishopstoke and Fair Oak, was removed from the Local Plan allocation. This land was identified to supply 3,350 dwellings and link road, and was associated with a large volume of traffic assessed as part of the air quality assessment for the HRA.

4.13 The proposed development is located within the SGO Draft Policy Area identified in the original Local Plan; therefore, to a certain degree, the effects of the development on the designated sites have already been quantified as part of the HRA. Nonetheless, a review of EBC's planning portal identifies that since September 2022, only eight major planning applications have been submitted. In total, the applications propose ~250 residential units (comprising retirement units, dwellings and care home beds), which constitutes a small (~7%) of the SGO allocation that was removed from the Local Plan. As such, it is reasonable to conclude that there remains a substantial buffer between the quantum of development assessed in the HRA and the quantum of development coming forward within EBC, such that the conclusions of the HRA are unlikely to be affected by the proposed development.

4.14 Notwithstanding the above, an assessment of the air quality impacts on the River Itchen and Solent Maritime SAC will be submitted during determination. In line with the HRA, the assessment will quantify the impact of emissions associated with additional traffic on the local road network on concentrations of NOx and ammonia, and nutrient nitrogen deposition fluxes. Detailed consideration of such potential impacts will be included within a shadow Habitats Regulations Assessment (sHRA), to be submitted separately, which will inform the outline planning application.

4.15 Notably, the Site falls outside the River Itchen catchment, such that impacts as a result of increased phosphates are not anticipated.

Solent and Southampton Water SPA and Ramsar/Solent Maritime SAC/Portsmouth Harbour SPA and Ramsar

4.16 Following the release of Natural England's 'Advice on Achieving Nutrient Neutrality for New Development in The Solent Region' (version 3, March 2020) consideration must be afforded to the Solent and Southampton Water SPA and Ramsar Site, Solent Maritime SAC, and Portsmouth Harbour SPA and Ramsar Site.

4.17 It has been established that these 'Solent sites' are suffering from high levels of nitrogen and phosphorus input – primarily as a result of agricultural activity – which is causing eutrophication and adversely impacting these statutory sites of European/international importance. As it stands, there is uncertainty as to whether new growth within the region will further deteriorate designated sites.

4.18 In light of the potential impacts new development might have on these Solent sites, and given the strict protection afforded to SACs, SPAs and Ramsar sites by the Conservation of Habitats and Species Regulations 2017 (as amended), the interim and precautionary position is that all new development within the Solent region must achieve 'nutrient neutrality'. This is to ensure that wastewater from new development will - at the very least - not add to the existing nutrient burden on the Solent sites.

4.19 As such, in line with adopted interim guidance, the development proposals will demonstrate their ability to achieve nutrient neutrality via a nutrient budget.

4.20 The nutrient budget for the Site has been calculated using Natural England Nutrient Neutrality Budget Calculator for the Solent Marine Sites[20]. **Table EDP 4.1** below summarises the nutrient budget calculations.

Table EDP 4.1: Total Nutrient Budget Calculations

Total nutrient budget calculations	
Description of values generated	**Values generated**
Wastewater TN load (kg TN/year):	185.56
Net land use TN change (kg TN/year):	-43.79
TN budget:	141.77
TN budget + 20% buffer:	170.12
Annual nutrient budget	
The total annual nitrogen load to mitigate is (kg TN/yr):	170.12
Pre-2030 nutrient budget	
The total annual nitrogen load to mitigate is (kg TN/yr):	720.61

Based on the development delivering 245 units, the development will generate approximately 142kg per year of additional nitrogen. With the requisite 20% buffer, the total nitrogen budget is 170.12kg TN/yr. The pre-2030 nutrient budget for Chickenhall Wastewater Treatment Works (WwTW) is **720.61kg**, and represents the total amount of nutrient mitigation required before the changing permit date for Chickenhall WwTW. The Nutrient Neutrality Budget Calculator (.xslx) is included at **Appendix EDP 9**.

4.21 Consultation with EBC has identified that nutrient credits are available for purchase through the EBC 'nutrient offset scheme' and are specifically available for purchase within the Fair Oak area.

[20] https://www.gov.uk/government/publications/solent-nutrient-neutrality-calculator (Jan 2024)

Any such measures will be detailed within a Nutrient Mitigation Strategy which can be secured via Condition, such that no likely significant effects on Solent sites are anticipated. The sHRA submitted during determination will also detail any mitigation necessary to ensure no LSE on Solent Sites.

4.22 Further consultation with Southern Water in October 2024 suggested that the St. Johns Crowborough WwTW is currently proposed as the drainage point for the Site. This is yet to be confirmed and given St. Johns Crowborough WwTW sits 144km east of the Site, it would suggest sewage is being deliberately pumped outside the Solent catchment area. The issue is under investigation and any further updates will be provided via an addendum report.

4.23 In any event, there is no reason to suggest that the nitrogen budget (if required) could not be mitigated through the existing off-setting strategies.

4.24 With respect to the Solent Maritime SAC, the Local Plan HRA concluded that

- The only feature sensitive to ammonia concentrations was Desmoulin's whorl snail, which is not present in the study area (Paragraph 4.3.25), and thus ammonia was not considered further (Paragraph 6.2.35); and

- With respect to nutrient nitrogen deposition, exceedances of the critical load were only predicted adjacent to the M27. No saltmarsh habitat is present at this location, and thus, it was concluded that there would be no likely significant effect, and no further assessment was necessary (Paragraph 6.2.42).

4.25 As with the River Itchen SAC above, the SGO Draft Policy Area removal from the local plan is considered to allow significant headroom within the HRA assessment such that no likely significant effects on the Solent Maritime SAC are considered likely.

Emer Bog SAC

4.26 Given Emer Bog SAC lies over 10km from the Site, it is considered unlikely that the proposed development will have any significant impacts.

National Designations

4.27 Any potential impacts on SSSIs which underpin European and internationally designated Sites will be considered within the sHRA used to inform the outline planning application.

Moorgreen Meadows SSSI

4.28 The closest SSSI to the Site lies approximately 4.3km to the south-west of the Site, with limited direct connectivity. There is therefore a significant degree of separation between the Site and this SSSI, such that impacts are considered unlikely.

4.29 Subject to the implementation of best practice during construction and standard engineering protocols, it is considered that impacts on this national designation can be fully avoided.

Non-statutory Designations

4.30 The closest non-statutory site is the Land at Knowle Lane, Fair Oak LWS which comprises a band of deciduous woodland, rush pasture and a pond, situated to the immediate south of the

Site. It's possible that construction activity could impact this LWS without appropriate mitigation. Although there is currently no public access, this Site may be subject to recreational use or vandalism without appropriate mitigation.

4.31 It is considered that construction impacts on LWS designations can be fully avoided, subject to the implementation of best practice during construction and standard engineering protocols. Where necessary fencing and/or strategic planting can be used to deter access into Land at Knowle Lane, Fair Oak LWS (as appropriate).

IMPACTS AND MITIGATION: HABITATS

4.32 As described above with respect to embedded mitigation, the development design follows the mitigation hierarchy. In addition, it also follows the Biodiversity Gain Hierarchy as set out in the Town and Country Planning (Development Management Procedure) (England) Order 2015. The scheme has sought to retain the most important habitats within the proposed layout, namely the majority woody boundaries. Where these effects cannot be avoided, mitigation, and then enhancements, have been provided within the Site (as described within Section 5).

4.33 Based on the Illustrative Masterplan, assumptions can be made regarding the habitats present post-development, made up of habitats retained in their current state (with no change), habitats retained and enhanced, and newly created habitats. A preliminary assessment of the predicted habitat losses/gains as a result of the proposed development has been undertaken using the Statutory Biodiversity Metric. This assessment considers all habitats proposed to be lost, retained, enhanced, or created through the proposed development.

4.34 A full account of the habitat impacts as result of the proposed development is provided in the indicative BNG Assessment provided in **Appendix EDP 8**. A full copy of the Biodiversity Metric spreadsheet (report ref: edp7852_r016) has also been submitted to the LPA with the planning application and is available on request. **Table EDP 4.1** provides a summary of the net impacts on habitats.

Table EDP 4.2: Indicative Net Impact on Habitats

	Habitat Units	**Hedgerow Units**	**Watercourse Units**
Total Net Unit Change	+2.32	+0.72	+0.16
Total Net % Change	+10.33%	+5.63%	+15%
Trading Rules Satisfied	Yes	No	Yes

4.35 Based on the Biodiversity Metric calculations described above the net impact on habitats, following implementation and maturation of the proposed landscaping, is predicted to be positive. A shortfall in hedgerow units has been identified, which is discussed further at **Appendix EDP 8**. In addition, in the absence of further mitigation measures, there is a risk of the following:

- Damage/deterioration/pollution of retained habitats from adjacent construction activities; and

- Not achieving target condition for retained and new habitats due to inappropriate management.

4.36 Measures will be required to protect the retained habitats from damage and disturbance during the construction phase. This can be achieved through a combination of the following:

- Tree protection measures (for trees and hedgerows), to within an Arboricultural Method Statement (AMS) or an equivalent document at the detailed design stage;

- Additional physical protection for wider habitats such as grasslands and water courses, to be detailed within an Ecological Construction Method Statement (ECMS) or an equivalent document. The ECMS will define Ecological Protection Zones (EPZs), in which construction activities will be excluded or carefully controlled in order to avoid or minimise harm to habitats; and

- General environmental protection measures, including control of dust and other pollutants, to be detailed in a Construction Environmental Management Plan (CEMP).

4.37 The AMS, ECMS and CEMP are standard documents which are capable of being secured by planning conditions.

4.38 Detailed specifications for new planting and other habitat creation should be provided with a detailed Soft Landscaping Scheme secured by a suitably worded planning condition.

4.39 In addition, measures to restore and enhance existing habitats, to ensure successful establishment of new habitats, and to maintain the value of all ecological features in the long-term will be delivered through a Landscape and Ecology Management Plan (LEMP), or an equivalent document, which can be secured by planning condition.

IMPACTS AND MITIGATION: PROTECTED, PRIORITY OR OTHER NOTABLE SPECIES

4.40 The applicant is a signatory of the Homes for Nature initiative[21], developed by the Future Homes Hub's On-Site Nature Measures Working Group. The Homes for Nature commitment ensures this development will see an integrated bird nesting features installed on every new property, as well as hedgehog highways created as standard. In addition to these enhancement measures, and as encouraged by the initiative, the proposals will also include additional measures such as new bat roosting opportunities and reptile and amphibian hibernacula. All such measures are outline below.

Breeding Birds

4.41 Breeding birds utilise the boundary hedgerows which are mostly proposed for retention and buffering as part of the development proposals.

4.42 Whilst the majority of opportunities will be retained, some losses of suitable habitat will occur as a consequence of development meaning there is a risk of damaging, destroying or disturbing

[21] https://www.futurehomes.org.uk/homes-for-nature

active bird's nests if these works take place during the peak nesting bird season (March – August inclusive).

4.43 The loss of suitable habitats (namely hedgerow/treelines and associated scrub) proposed as a result of the development proposals is minimal. Given the amount of retained habitat and the suitability of the surrounding countryside it is considered that birds present on the Site will not be significantly impacted by the proposed development.

4.44 The wintering bird population recorded within the Site is typical and well-suited to semi-urban environments, such that opportunities for such species are unlikely to be displaced as a result of the proposals.

4.45 The habitat protection measures described above will avoid harm to breeding birds present with retained habitats. However, some removal of hedgerow which is capable of supporting nesting birds will be required to facilitate development. Any removal of these habitats should be undertaken between September and February inclusive to avoid the bird breeding season. Any habitat removed outside of this period should be inspected by a suitably experienced ecologist prior to removal. Any habitat removed outside of this period should be inspected by a suitably qualified ecologist/Ecological Clerk of Works (ECoW) prior to removal. These measures can be delivered through the ECMS.

4.46 The provision of EPZs around the retained hedgerows and trees, as discussed previously, will protect any birds that are using these habitats during construction. The proposed enhancement of the existing hedgerows to the east and west; planting of new tree and scrub habitat; the creation of species-rich and structurally diverse grassland, and the creation of new wetlands in the SuDS basins will together enhance opportunities for foraging and nesting birds post-development.

4.47 Further enhancement of bird nesting opportunities can be achieved through the installation of bird boxes/bricks on retained trees and/or on new buildings. As per the Homes for Nature scheme, every building will support a nesting feature (e.g. swift brick). These measures/specifications can be delivered and secured through the LEMP.

4.48 Imbedded mitigation includes the retention and buffering of favourable habitats including the areas of woodland, hedgerows, grassland and scrub, which will benefit a variety of breeding and foraging bird species.

Roosting Bats

4.49 The proposed layout and the accompanying Arboricultural Impact Assessment (AIA) report prepared for the Site (edp7852_r014) indicates that most of the trees identified as having suitability to support roosting bats are to be retained as part of the proposed development. This includes trees within TL1 which will be breached to facilitate a road. Subject to sensitive lighting design, no impacts to roosting bats are anticipated by the proposed development.

4.50 Trees T12 – T14 will be lost to facilitate works at the site entrance. These trees are classified as PRF-I, and so further inspection will be needed immediately prior removal. Should these trees still be considered PFR-I at this time, then soft felling will be required under watching brief.

4.51 The roosting potential of trees can vary over time as a result of storms and natural decay. As such, should the proposals change or the requirement for any felling/pruning works be identified, an update tree roost assessment should be undertaken by a suitably experienced ecologist prior to these works to ensure there have been no changes to the roost suitability of the tree(s), and to advise on any required further survey/mitigation if required.

4.52 All retained trees must be suitably protected by fencing to ensure they are not accidentally damaged by construction activities. This can be achieved via the use of standard tree protection fencing, to be prescribed within a detailed AIA or equivalent document, secured via a planning condition.

4.53 Any works involving the felling or removal of limbs from any of the trees with bat roost suitability will be undertaken following a soft felling technique, following confirmation from an ecologist that doing so would not result in a potential offence. Details of soft felling techniques will be provided with the CEMP.

4.54 Enhancement of bat roosting opportunities can be achieved through installation of bat boxes/bricks on retained trees and/or on new buildings. These measures/specifications can be delivered through the LEMP.

Foraging/Commuting Bats

4.55 The manual transect and automated detector surveys recorded a bat population of moderate species diversity that is of Local ecological importance. As would be expected, commuting/foraging behaviour is largely focussed at the woody boundaries of the site, which will be retained and buffered from the development.

4.56 The removal of section of H1 is not considered to constitute a significant impact on commuting corridors and will not reduce the suitability of the Site for use by commuting bats. The proposed development will strengthen overall connectivity (including a new green corridor on the western boundary of the Site) and provide new opportunities for commuting and foraging bats, including new species-rich habitats and wetland features.

4.57 The introduction of artificial lighting during the construction and operational phases could prevent some species of bats from utilising the available habitat for foraging/commuting and the assemblage of bats could be restricted to those more commonly associated with urban environments such as common and soprano pipistrelle bats.

4.58 The habitat protection measures discussed previously, and to be included within an ECMS, are considered sufficient to ensure that all retained habitats suitable for foraging/commuting bats will be suitably protected to prevent accidental damage during construction.

4.59 Enhancement of bat foraging/commuting opportunities through the strengthening of the existing woody boundaries. Furthermore, the creation of species-rich hedgerows, SuDS/bioswales and species-rich wildflower meadow planting will create enhanced foraging opportunities for bats within the Site.

4.60 In addition to the above, a sensitive lighting scheme should be devised at the detailed design/Reserved Matters stage, which minimises light spill from street lighting onto

retained/new bat foraging habitat adjacent to the development area. Such a lighting scheme can be secured by planning condition.

Badgers

4.61 The proposed development might result in the minor loss of suitable foraging habitats across the grasslands, however, the boundary vegetation will be retained and enhanced, and new foraging opportunities will be introduced to the Site.

4.62 Losses to foraging and dispersal habitat are not considered likely to result in a significant impact to the local badger population. The provision of new habitats within the Site will likely be of value to the local badger population.

4.63 As badger can excavate new setts in a relatively short space of time the disturbance to or damage/destruction of additional active badger setts is possible during site clearance and the construction phase. An updated survey should be undertaken prior to any site clearance or construction activities commencing.

4.64 During the construction phase, fencing used for the EPZs discussed is likely to temporarily obstruct foraging/commuting routes. Furthermore, during construction there is a risk of mammals falling into any trenches or excavations on the Site. Therefore, it is recommended that the following precautionary measures set out within the ECMS are as followed:

- All fencing used during construction (perimeter and tree protection zones), contains sufficient gaps underneath to allow movement of badgers; and

- Good practice construction measures to ensure mammals cannot become trapped in excavations (e.g. through covering up at night, inserting an 'escape ramp' at 45 degrees or creating stepped edges).

Other Mammals

4.65 Vegetation clearance/construction could result in harm to hedgehogs which may be utilising the Site for foraging, dispersal, refuge, and hibernation.

4.66 Dispersal and foraging of hedgehogs will not be impacted as a result of the proposed development, given the ecological buffers present around the edge of the development footprint, which will maintain connectivity across the Site for terrestrial mammals.

4.67 As per the Homes for Nature initiative, hedgehog highways will be delivered across the site, ensuring continued foraging and dispersal opportunities for hedgehogs.

Reptiles

4.68 The vast majority of the habitat lost is unsuitable to support reptiles in any significant way. Therefore, if reptiles are present, they are likely to be confined to the more suitable habitats along the base of the hedgerows/treelines and grassland delineating the south and east of the site, which they are likely to favour for dispersal, foraging and refuge.

4.69 Areas of suitable habitat will be retained and not impacted by the proposed development, maintaining connectivity and refuge opportunities. The proposals are not expected to significantly reduce the overall carrying capacity for reptiles across the Site if present.

4.70 If clearance of vegetation suitable to support reptiles is required to facilitate the proposed development, then there is the potential to injure or kill reptiles during habitat clearance.

4.71 As a precaution, habitat clearance and manipulation will be undertaken a suitable time of year, ideally within the active season for reptiles (March – September), and done so in a step-wise manner to avoid impacts on reptiles at the construction phase. The working methodology for site clearance will be outlined within the ECMS. During the operational phase, new opportunities for reptiles will be made available, including foraging and basking spots, plus hibernacula in the form of log piles.

4.72 Log piles/hibernacula will be delivered within the south-eastern parts of the Site to create opportunities for reptiles which are currently absent.

Consultation

4.73 During consultation, the Ecology Officer at EBC requested confirmation on whether there are any likely in-combination effects on barn owls and bats as a result of urbanisation. The development of the eastern side of Fair Oak, most notably at Pembers Hill Farm (ref. RM/18/83278), Land at Knowle Lane (ref. RM/18/83737) and Land Adjacent the Mazels (ref. O/15/77465) resulted in the loss of agricultural land (both pasture and arable) which is extensive in the local area.

4.74 The site itself (until recently grazed and currently producing hay crop) is only of limited value to foraging bats, and where opportunities exist (i.e. the boundary vegetation), these will mostly be retained and enhanced for wildlife (including bats). Permitted development within the local area has not significantly impeded connectivity / green infrastructure, with strong green connectivity across the localised landscape, including connections to woodland.

4.75 No barn owls were recorded at Pembers Hill Farm, Knowle Lane or Adjacent the Mazels. Rough grassland habitats identified at Pembers Hill Farm were enhanced specifically for barn owls, with a nest box also erected, resulting in no residual impacts on this species. No barn owls have been recorded on the Site, and HBIC returned no high-resolution barn owl records from within or close to the site. The grassland with the site is suboptimal for foraging barn owls, with the majority supporting no litter layer which is a limiting factor in terms of vole (i.e. key prey) availability. As such, no impacts on barn owls are anticipated and no specific mitigation for barn owls is considered necessary. Based on the results of specific faunal and flora survey work, and the proposed strategy to improve the ecological value site boundaries, no in-combination impacts on these are any other protected species/groups are anticipated.

Summary

4.76 Potential impacts, and proposed avoidance or mitigation measures, in respect of protected, priority or other notable wildlife species are set out in **Table EDP 4.2**.

Table EDP 4.3: Species Impact and Mitigation

Species/species group	Potential/Actual Impacts	Avoidance/Mitigation Measures	Delivery Mechanism
Birds	Disturbance or damage to active birds' nests during vegetation clearance.	Sensitive timing and/or method of clearance to either avoid the nesting season (March-August inclusive) or check the affected areas for nests prior to clearance.	ECMS
	Small scale loss of nesting habitat	Limit losses woody vegetation. New habitat creation (native planting and grassland) within and adjacent to the Site. Provision of nest boxes on suitable mature trees and within the development footprint.	Soft landscape scheme, LEMP
Bats	Small scale loss of foraging or commuting habitat	New habitat creation (native planting and grassland) within and adjacent to the Site.	Soft landscape scheme, LEMP
	Reduced access to foraging or commuting habitat due to increased lighting	Minimise any new lighting associated with the development and design to avoid or minimise light spill onto foraging habitat.	Sensitive lighting design
	Impacts to trees with roosting potential	Losses and impacts to trees with roosting bat potential will be avoided, however should any trees require removal at the detailed design stage, then further survey work and, where necessary, a licence sought from Natural England. New roosting opportunities provided.	Soft landscape scheme, Sensitive lighting design, licenced removal (as necessary), LEMP
Badger	Disturbance/damage to active setts (not currently present)	Check within 30m of proposed works for badger setts prior to clearance and groundworks. Pre-commencement survey - if setts are found, exclusion of badgers prior to works and if necessary, excavation under supervision.	ECMS/Licenced method statement (if setts present)
Reptiles and amphibians (including Great Crested Newt)	Direct harm to reptiles or amphibians during vegetation clearance (low likelihood)	Check affected area for reptiles prior to clearance. Should any reptiles or amphibians be found relocate these to safe location (avoiding the hibernation period). Great crested new District Level Licence (DLL) will be applied for prior to any works on-site.	ECMS and DLL

Section 5
Summary and Conclusions

5.1 **Table EDP 5.1** provides an overview of Mitigation and Enhancement Strategy described in **Section 4**.

Table EDP 5.1: Summary of Proposed Mitigation and Enhancement

Mitigation Type	Key Principles	Mechanism(s) to Secure Delivery
Avoid by design	Retention of habitats with appropriate development buffers: • 0.34km field ditches; • 0.025km hedgerow; • 0.531km treelines.	Habitat retention embedded in Masterplan which will be an 'approved plan' to which future detailed designs must align
Avoid or minimise construction impacts	Sensitive methods of operation during enabling and construction works: • Control of working hours; • Minimise noise and vibration; • Air quality measures/dust suppression; • Control/eradication of invasive species; • Surface water management; • Storage of fuels/chemicals; and • Sensitive lighting.	CEMP secured via pre-commencement planning condition.
	Protection of retained habitats • Fencing and signage to create development exclusion zones.	Detailed AMS and ECMS secured via pre-commencement planning condition.
	Methods to avoid harming individuals or interfering with breeding of protected species prior to/during habitat destruction: • Pre-commencement checks/surveys; • Avoidance of trapping animals in excavations; • Timings to avoid sensitive periods/breeding seasons; • Phased vegetation clearance; • Maintaining dispersal routes; • Destructive searches; and • Supervision by Ecological Clerk of Works (ECoW).	ECMS secured via pre-commencement planning condition. .

Mitigation Type	Key Principles	Mechanism(s) to Secure Delivery
Mitigate or compensate for habitat loss and deliver net gains	Habitat enhancement: • Treeline. Habitat creation: • Wildflower grassland; • Native scrub; • Pond • Wetland SuDS; and • Urban trees.	Space for new habitat embedded in the Masterplan, which will be an 'approved plan' to which detailed designs must align. Landscape and Ecological Management Plan (LEMP) to be secured by planning condition.
	Habitat features to be provided in suitable locations: • Bat boxes and/or bat bricks; • Bird boxes; and • Reptile hibernacula.	LEMP to be secured by planning condition.
	Measures to maintain or enhance habitat connectivity: • Green corridor formed along the boundary to enhance connectivity between the two offsite woodlands.	LEMP to be secured by planning condition. Detailed engineering designs submitted as part of reserved matters applications.
	Lighting strategy to avoiding disturbance of nocturnal species, in particular foraging/commuting bats	Detailed lighting design to be secured by planning condition.
Maintenance, Monitoring and Management post-construction	Habitat-specific, namely measures to: • Enhance retained habitat, and to ensure new habitat becomes established, to achieve target condition; and • Monitor and maintain habitats in good ecological condition once enhanced/established.	LEMP to be secured by planning condition.
	Species-specific, namely measures to: • Maintain habitat features (boxes and hibernacula etc.) in good condition or replace as necessary.	LEMP to be secured by planning condition.

5.2 EDP concludes that, in light of the embedded mitigation and subject to the full implementation of the additional measures summarised above, the proposed development is capable of compliance with relevant planning policy and legislation and can deliver net benefits for wildlife and biodiversity.

Appendix EDP 1
Development Framework Plan

A1

PEMBERS HILL PARK

PEMBERS FARM AVENUE

SAMUEL JARVIS AVENUE

MORTIMERS LANE

MORTIMERS FARM DEVELOPMENT (CONSENTED SCHEME)

CWM AGGREGATES (CONSENTED SCHEME)

PEMBERS HILL DRIVE

KNOWLE LANE

EAST HORTON BUSINESS PARK

EAST HORTON GOLF CLUB

EAST HORTON BUSINESS PARK

DEER FARM PARK INDUSTRIAL ESTATE

REMEDIATED LANDFILL

EAST HORTON GOLF CLUBHOUSE & PARKING

Key

- Site Boundary
- **Gross Development Area**: Including Residential, Mobility Hub, Multi-functional Space, Incidental Public Open Space, Play Facilities, Drainage Features, Landscaping & Ancillary Infrastructure.
- **Strategic Public Open Space:** Including Play Facilities, Drainage Features, Pedestrian/ Cycle Links, Landscaping, Retained Vegetation (inc. Root Protection Areas) & Ancillary Infrastructure.
- Access Infrastructure & Roads Through Open Space
- Vehicular, Pedestrian & Cycle Access Point.
- Potential Agricultural, Pedestrian & Cycle Access Point
- Potential Pedestrian & Cycle Access Point
- Potential Pedestrian Connections to Site Boundary
- Mortimers Lane highway corridor works
- Existing Trees & Hedgerows to be retained
- Root Protection Areas (for the retained trees & hedgerows)
- Existing Trees & Hedgerows to be removed
- New Site Boundary Planting
- Indicative Locations of Play
- Indicative Location of Mobility Hub & Multi-functional Space

Notes:
- All Features & Areas Subject to a tolerance of +/- 5m.
- Utility and/or access infrastructure may need to be located in POS areas.

0 50 100m
1:1250 (at A1)

Copyright Brandt Urban Design Ltd © All Rights Reserved | Ordnance Survey © Crown copyright & database rights OS ACO0000869380 | Brandt Urban Design accepts no liability for any use of this document other than for its original purpose, or by the original client, or following Brandt Urban Designs' express agreement to such use.

brandt urban design.

Land South of Mortimers Lane, Fair Oak | **Development Framework**

www.brandturbandesign.co.uk | Author: TB | Checked: TB | Date: 17.06.25 | Scale: 1.1250 @ A1 | Drawing: P25-0002_DFP-01 | Revision: E | Client: Bloor Homes

Appendix EDP 2
Illustrative Masterplan
(edp7852_d038a 30 October 2024 NWa/WGa)



1. Existing vegetation will be retained across the site.
2. Buffer planting to south and western boundaries provides screening of site and completes woodland GI corridor around perimeter of development.
3. Development set back from north eastern corner to provide appropriate offset from Mortimers Farm.
4. Ecotone planting within and around SuDS feature enhances existing vegetation and creates informal character.
5. Central POS at heart of development with open spaces for informal recreation with provision of children's play facilities (LEAP) at appropriate 20m offset from dwellings.
6. Network of footpaths around the development to provide opportunities for informal recreation and promote healthy living - natural play trails of logs and boulders along routes.
7. Swale provides conveyance and treatment of storm water from POS linking to southern basin - marginal planting and grasses enhance BNG opportunities on site.
8. Southern basin to include retention feature to maximise POS allowing for creation of feature deck area as outlook point over extensive ecological planting - permanent wet areas/low flow channels maximise biodiversity opportunities.
9. Native hedgerow with tree planting to boundary of development along edge of track to retain rural character and provide visual separation to mortimers lane.
10. Drainage crates provide additional storage for surface water run-off.
11. Ornamental shrub planting will be incorporated across the site with flowering species to attract pollinating species whilst providing visual amenity throought the development.

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

date	**30 OCTOBER 2024**
drawing number	**edp7852_d038a**
scale	**1:1000 @ A1**
drawn by	**NWa**
checked	**WGa**
QA	**JFr**

client
Bloor Homes Limited

project title
Land south of Mortimers Lane, Fair Oak

drawing title
Illustrative Landscape Strategy

© The Environmental Dimension Partnership Ltd. © Crown copyright 2024 OS AC0000805001. © Crown copyright and database rights 2024 Ordnance Survey AC0000808122 Based on P23-2261_DE_100_C Testing Layout.

Appendix EDP 3
Habitat Survey

METHODOLOGY

A3.1 Initial Phase 1 Habitat surveys, based on JNCC Phase 1 Habitat survey methodology were undertaken in November 2023 and June 2023.

A3.2 The main habitats within the Site, together with their dominant/characteristic plant species, were identified by undertaking an update habitat survey on 23 July 2024 which confirmed no changes to baseline habitats. This survey was undertaken following the guidance for habitat surveys as set out in The Statutory Biodiversity Metric User Guide, for which the habitat definitions primarily rely on descriptions set out in the UK Habitat Classification and habitat conditions as set out for the Statutory Biodiversity Metric. Habitat condition assessments were undertaken using data obtained from June 2023 and July 2024.

A3.3 This method allows for an assessment of the main habitat types present on Site, including those listed as Priority Habitats or Irreplaceable Habitats. This survey was extended so that any evidence (actual or potential) for protected or notable species present on Site was recorded. Any evidence of Schedule 9 invasive non-native species as also recorded. Plant species lists and their abundance for each habitat type were recorded but only where pertinent to identify the habitat type or condition. It was not the aim of the survey to collate a comprehensive botanical or species inventory of the Site.

Limitations

A3.4 The initial habitat survey was originally undertaken during winter which is a suboptimal botanical period. However, considering the habitat types present, and the subsequent surveys within the core botanical period (to update and confirm findings), it is not considered to be a limitation.

RESULTS

A3.5 The principal habitats within the Site together with their dominant/characteristic plant species identified during the surveys are discussed in turn below. The type, distribution and species composition of the habitats present is discussed below. Information on habitat condition, as required for completion of the Biodiversity Metric, is included within **Appendix EDP 8**.

A3.6 The following should be read in conjunction with **Plan EDP 1** and illustrative photographs provided where appropriate.

Modified Grassland

A3.7 At the time of survey in November 2022, the grassland habitat which dominates the site was recorded to be modified in poor condition, with evidence of grazing still clear (short sward and manure). It is understood that the grassland management regime changed from pasture to hay crop in 2023, and so an updated grassland was undertaken in the optimal month of June 2023.

Following the release of the statutory metric, a further update survey was undertaken in July 2024 to assess habitats in line with the latest habitat condition assessments.

A3.8 The grassland across the majority of the Site is distinctly modified, dominated by perennial rye grass (*Lolium perenne*) and supporting a very limited presence of forb species, however a relatively higher number of grassland species were noted in the southern, and southern-eastern parts of the Site. Whilst the grassland in the southern part of the site was found to support additional species which are less indicative of improved conditions, including sweet vernal (*Anthoxanthum odoratum*) grass and, palatable grasses still dominate, and forb diversity is low. Given this abundance of palatable grasses and poor species-diversity across the Site, the grassland is recorded as modified grassland which condition assesses as 'poor'.

A3.9 Other grass species recorded within the fields include Yorkshire fog (*Holcus lanatus*), crested dog's tail (*Cynosurus cristatus*), rough meadow-grass (*Poa trivialis*), cock's-foot (*Dactylis glomerata*) meadow foxtail (Alopecurus pratensis), smooth meadow grass (*Poa pratensis*), false oat-grass (*Arrhenatherum elatius*), creeping bent (*Agrostis stolonifera*) and soft brome *(Bromus hordeaceus*). Herbaceous species are present but not abundant and include dandelion (*Taraxacum officinalis*), white clover (*Trifolium repens*), greater plantain (*Plantago major*), creeping buttercup (*Ranunculus repens*), chickweed (*Stellaria media*), broad-leaved dock, soft rush (*Juncus effusus*), common sorrel (*rumex acetosa*), broad-leaved dock (*Rumex obtusifolius*), daisy (*Bellis perennis),* creeping thistle (*cirsium arvense*), and common mouse-ear (*Cerastium fontanum*).



Image EDP A3.1: Example of modified grassland within the Site

A3.10 Given the comparatively species-poor composition of the grassland sward across these areas, and the common nature of this habitat within the local area, the grassland is judged to be of Site level importance.

Species-rich Intact Hedgerow

A3.11 A single hedgerow (see **H1** on **Plan EDP 1**) sits on the northern boundary of the Site. It's associated with a dry ditch and post and wire fence. It is regularly managed and supports semi-mature oak trees. A number of tree guards were recorded, although it considered this is the results of historical bolster planting, rather than an indication of its overall age.

A3.12 **H1** supports a seven woody species, such that it would be considered species-rich. Moreover, the feature qualifies as 'important' under the Hedgerow Regulations 1997 (see **Appendix EDP 4** for Hedgerow Survey).

A3.13 **H2** sits to the north of Mortimers Lane, and comprises hawthorn, sycamore, blackthorn, oak, field maple, willow sp., elm and elder. This feature is also associated with a dry ditch.

Mature Treelines

A3.14 **TL1** (as shown on **Plan EDP 1**) delineates the southern boundary of the northernmost field. It comprises a small number of mature Oak (*quercus robur*) and Ash trees (*Fraxinus excelsior*), some which appear to be in poor health. This feature is bordered by post and wire fencing on both flanks, and is associated with a shallow ditch which has been recorded as dry during most survey visits. Other species recorded include bracken (*Pteridium aquilinum*), hazel, field maple (*acer campestre*), and goat willow (*Salix caprea*), with a single instance of butchers broom (*Ruscus aculeatus*) also present. Notable ground flora included greater stitchwort (*Rabelera holostea*), bluebell (*Hyacinthoides non-scripta*), wood aneome *(Anemonoides nemorosa*) and primrose (*Primula vulgaris*).

A3.15 Two more treelines (**TL2** and **TL3**) are situated on the north-eastern and eastern boundaries of the Site, however these features do not sit fully within the Site boundary. They mostly comprise large mature oak trees with Hawthorn (Crataegus monogyna), dogwood *(Cornus sanguinea*), blackthorn (*Sambucus nigra*), holly (*Ilex aquifolium*), and hazel (*Corylus avellana*) scrub. These features are also associated with dry shallow ditches.

Ditches

A3.16 A wet ditch (**Image EDP A2.2**) sits on the southern boundary, which is steep sided and narrow channelled. This feature has been recorded as holding water on most survey visits to site, although water is typically shallow (moving west to east) and slow moving. Floating sweet-grass (*Glyceria fluitans*) was recorded withing the channel itselt, with bankside vegetation including greater willowherb (*Epilobium hirsutum*), soft rush, bristly ox-tonuge (*Helminthotheca echioides*), bramble (*Rubus fruticosus agg.*), Canadian fleabane (*Erigeron .canadensis)*, bulrush (*Typha latifoli*), tufted hair-grass (*Deschampsia cespitosa*), and pendulous sedge (*Carex pendula*).



Image EDP A3.2: Wet Ditch.

A3.17 As above, ditches are also present within the Site and associated with the mature treelines/hedgerow. These features are typically overshadowed and support limited species.

A3.18 The ditches on site meet the definition of the ditch within the Statutory Metric User Guide, the criteria of which are outlines in **Table EDP A3.1** below.

Table EDP A3.1: Statutory Metric User Guide Ditch Definition

Watercourse Type	Biodiversity metric watercourse definition	Distinctiveness
Ditch	Artificially created linear water-conveyancing features which are: • less than 5 metres wide; and • are likely to retain water for more than 4 months of the year. Do not record as a ditch if the watercourse meets the definition of: • a higher distinctiveness habitat; or • a canal.	Medium

A3.19 The profile of the southern ditch is very linear and steep-sided. A review of all recommended online mapping sources[22][23] and Ordnance Survey Baseline Mapping found no evidence to suggest this feature is a stream. Likewise, analysis of historic mapping also does not show it being mapped as a watercourse on the relevant plans.

A3.20 Given the long-term, historically farm-based nature of the site and wider area, it's considered this feature has been created to support the function of land drainage (i.e. a ditch), and is not therefore a modified stream.

[22] https://magic.defra.gov.uk/MagicMap.aspx
[23] https://www.google.co.uk/maps

Appendix EDP 4
Hedgerow Survey

METHODOLOGY

A4.1 An assessment of the hedgerow network on-site was undertaken on 23 July 2024 and 25 July 2025 to determine their importance with reference to the Wildlife and Landscape criteria provided in Part II of Schedule 1 of the Hedgerows Regulations 1997. The Hedgerows Regulations 1997 serve the purpose of ensuring the retention of important countryside hedgerows; their removal only being approved by the relevant local authority via a Hedgerow Removal Notice or as part of a planning permission.

A4.2 The aims of the hedgerow assessment were to:

- Identify hedgerows that are classified as important under the ecological criteria of the Hedgerows Regulations (1997); and
- Identify hedgerows that, although not deemed important under the ecological criteria of the Hedgerows Regulations (1997), have ecological value in terms of species diversity or as potential wildlife corridors.

A4.3 One hedgerow located along the northern Site boundary was surveyed against the Hedgerows Regulations 1997 criteria. Hedgerows qualify for assessment by exceeding 20m in length or by being connected at both ends to another hedgerow of any length. The middle 30m of all hedgerows up to 100m in length were surveyed, whilst the central 30m of each half of hedgerows up to 200m in length were surveyed. For hedgerows exceeding 200m in length, the central 30m section from each third of the hedgerow was surveyed. Hedgerows surveyed were assigned points dependent upon the number of qualifying 'features' as defined by the Hedgerows Regulations, with total scores per hedgerow determining their status.

A4.4 Qualifying as important under the ecological criteria requires the hedgerow to be greater than 30 years of age.

A4.5 Further to this a Hedgerow should be considered important should if it satisfies any of the following criteria:

- Must either contain (or have a record of having contained) species listed in Schedule 5 (animals) or 8 (plants) of the Wildlife and Countryside Act 1981 (as amended), birds categorised as declining breeders (Category 3) within the 'Red Data Birds in Britain' (Batten 1990), or any species categorised as 'endangered', 'extinct', 'rare' or 'vulnerable' by any of the British Red Data Books; or
- Contains one of the following criteria per average 30m section surveyed:
    - Seven Schedule 3 (woody) species;
    - Six Schedule 3 species and three listed features (see below);

- Six Schedule 3 species, including one of the following – black poplar (*Populus nigra* subsp. *betulifolia*), large-leaved lime (*Tilia platyphyllos*), small-leaved lime (T*ilia cordata*) or wild service-tree (*Sorbus torminalis*);

- Five Schedule 3 species and four listed features;

- Four Schedule 3 species, two listed features and lying adjacent to a bridleway or footpath; with

- Listed features are:

  a) A bank or wall which supports the hedgerow along at least one half of its length;

  b) Gaps which in aggregate do not exceed 10% of the length of the hedgerow;

  c) Where the length of the hedgerow does not exceed 50 metres, at least one standard tree;

  d) Where the length of the hedgerow exceeds 50 metres but does not exceed 100 metres, at least two standard trees;

  e) Where the length of the hedgerow exceeds 100 metres, such number of standard trees (within any part of its length) as would when averaged over its total length amount to at least one for each 50 metres;

  f) At least three woodland species within one metre, in any direction, of the outermost edges of the hedgerow;

  g) A ditch along at least one half of the length of the hedgerow;

  h) Connections scoring four points or more; and

  i) A parallel hedge within 15 metres of the hedgerow.

A4.6 It is recognised that, with reference to the Hedgerow Regulations (1997), certain animal species listed in the Wildlife and Countryside Act or by the Joint Nature Conservation Committee (JNCC) that could result in a hedgerow being recognised as important, may have gone unrecorded due to the timing and nature of the survey. Indeed, the use of the hedgerow by such species may be seasonal or at particular periods during the day. Whilst the full survey of such species falls outside the scope of the hedgerow survey, incidental sightings recorded during the hedgerow survey and records retrieved during the desk study were re-assessed for these species. In addition, data gained through relevant protected species surveys has also been considered.

Limitations

A4.7 No survey limitations were recorded during the survey of H1, however the position of H2 to next to a busy road presented H&S implications, such that a full assessment could not be completed. However, results have been inferred from the data collected, and a precautionary stance taken to compensate.

RESULTS

A4.8 The detailed results of the hedgerow surveys undertaken are provided in **Table EDP A4.1**. The location of hedgerows assessed within the Site is shown in **Plan EDP 1**.

A4.9 In summary, Hedgerow **H1** qualified as 'important' under the Hedgerows Regulations (1997) criteria, and **H2** has the potential to qualify as important under the Hedgerow Regulations.

A4.10 The hedgerow on-site has inherent ecological value and is a priority habitat in its own right. It has value in terms of the protected species it supports, or is likely to support. However, hedgerow are common within the District, so are only considered to have Local level importance.

Table EDP A4.1: Hedgerow survey results

Hedgerow number	Schedule 3 species recorded	Mean Count of Schedule 3 Species	Number of Schedule 2 Woodland Plants	Bank/Wall Present	Any Gaps are less than 10%	Standard Trees (min. 1/50m)	Ditch	Connections (4 or >4)	Parallel Hedge	Adjacent footpath, Bridleway, Road Used as Path, or BOAT	Contains rare or notable species	Important Hedgerow
H1	Blackthorn Elm Hazel Dog rose Hawthorn Field maple Oak (semi-mature trees)	7	0	No	No	Yes	No	2	No	No footpath/ bridleway. South of Road B037	No	Yes

Appendix EDP 5
Breeding Bird Survey

METHODOLOGY

A5.1 Survey visits were spread evenly between late March and early July to cover the main bird breeding season. Visits were started within half an hour from dawn and timed to ensure they were completed prior to 11 a.m. to cover the peak activity period. The dates and timings of the three breeding bird survey visits, and the weather conditions encountered, are summarised in **Table EDP A5.1**.

Table EDP A5.1: Breeding Bird Survey Visit Details

Visit Number	Date	Timing of Survey	Wind Speed (Beaufort Scale)	Cloud Cover (%)	Precipitation
1	19/04/23	06:00-07:30	1-2	25-50	Nil
2	04/05/23	05:30-07:00	1-2	25-50	Nil
3	07/06/23	04:50-06:20	1-2	0-25	Nil

A5.2 During each visit the Site was walked at a slow pace to enable all birds detected to be identified and located. Frequent stops were made to scan suitable habitats and to listen for singing and calling birds. All areas of suitable breeding habitat within the Site boundary and immediately adjacent areas were approached to within 50m.

A5.3 During the survey the location and activity of each bird detected (including those seen or heard) was recorded and mapped using standard two-letter British Trust for Ornithology (BTO) species codes. The breeding status of each bird species identified at the Site was determined according to the nature and frequency of the behavioural elements recorded, as set out in **Table EDP A5.2**.

Table EDP A5.2: Field evidence used to determine bird breeding status

Breeding Status	Examples of Behaviour Exhibited
Confirmed	• Distraction display; • Nest building; • Nest with eggs; • Nest with young; • Used nest; • Recently fledged young; and • Adult carrying faecal sac/food.

Breeding Status	Examples of Behaviour Exhibited
Probable	• Pair observed in suitable nesting habitat in breeding season; • Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two different occasions, a week or more apart at the same place; • Courtship and display; • Visiting a probable nest site; • Agitated behaviour or anxiety calls from adults; • Brood patch on adult examined in the hand; and • Nest building or excavating nest-hole.
Possible	• Species observed in breeding season in possible nesting habitat; • Male in song; and • Adult giving alarm call.
Non-breeder	• Feeding birds only; • Birds flying over only; and • Lack of suitable breeding habitat.

A5.4 To inform the assessment in this report, the numbers of potential territories identified, the abundance of species at the County and National level, the quality of the habitat present and the geographical range of the birds concerned have been considered, based on national and regional accounts.

A5.5 The conservation status of each species of bird was also taken into account and the following lists were considered:

- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) – affords greater protection to certain breeding species that are considered appropriately at risk nationally and are listed additional legal protection accordingly;
- Priority species;
- Birds of Conservation Concern[24] - under this approach UK bird populations are assessed, using quantitative criteria, to determine the population status of each species and then placed on one of three lists; Red, Amber or Green; and
- Local conservation status as listed in the Hampshire Bird Report[25].

Limitations

A5.6 As with all breeding bird surveys following this technique, the process is open to some subjectivity in interpretation except where active nests are located. Therefore, recorded locations indicate the 'centre' of a territory and not necessarily the breeding location.

A5.7 Following best practice, the survey visits were timed to start around first light, to coincide with the period of peak activity for birds, most particularly passerine songbird species. They were

[24] Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747.

also undertaken during suitable weather conditions, i.e. days/periods with strong winds and heavy or persistent rain were generally avoided. The results are therefore not significantly limited by seasonal or climatic factors.

RESULTS

A5.8 A total of 22 bird species were recorded during the surveys, the species of important nature conservation status were then analysed in terms of their breeding status, of which none were confirmed as breeding on or immediately adjacent to the Site, three were recorded as probably breeding and two were recorded as possibly breeding. Full details of each species recorded, including their breeding status on-site and their conservation status, are provided in **Table EDP A5.3**. The distribution of these species recorded within the Site is shown on **Plan EDP 5**.

A5.9 Of the probable/possible breeding species, none are of particular note due to their common regional status.

A5.10 The Site offers some foraging opportunities for herring gull and greylag goose (which were recorded flying over the Site) but not in notable numbers. These species are considered to be non-breeders due to lack of suitable breeding habitat on-site.

A5.11 The abundance and diversity of bird species recorded on-site was consistent with the extent and diversity of nesting habitats present. The majority of species recorded were associated with the hedgerows and trees. The limited extent, or absence, of other suitable habitats such as wetland, limits the ability of the Site to support large breeding populations of habitat specialist species. For this reason, the breeding bird assemblage is judged to be of no greater than Local ecological importance.

Table EDP A5.3: Breeding Bird Survey Results 2023 – Notable Species Only

Common Name	Scientific Name	UK Status	Regional Status[25]	On-site Status	Estimated No. Breeding Pairs	Survey Observations
Dunnock	*Prunella modularis*	S.41 Amber List	Abundant resident.	Possible breeder	1-3	Scattered individuals recorded within hedgerows on two surveys.
Greylag goose	*Anser anser*	Sch 1 Amber List	Moderately common and increasing feral resident.	Non-breeder	N/A	A pair recorded foraging during one survey.
Herring gull	*Larus argentatus*	S.41 Red List	Common winter visitor and passage migrant; moderately common and increasing breeder.	Non-breeder	N/A	A small group recorded foraging on two surveys.
House sparrow	*Passer domesticus*	S.41 Red List	Abundant but declining resident.	Probable breeder	3-6	Pairs and individuals recorded on all three surveys within the western hedgerows.
Kestrel	*Falco tinnunculus*	Amber List	Common but declining resident, passage migrant and winter visitor.	Non-breeder	N/A	An individual recorded within a tree on the first survey but not recorded since. Some trees have the potential to support this species but no possible breeding behaviour observed.
Song thrush	*Turdus philomelos*	S.41 Amber List	Numerous resident, passage migrant and winter visitor.	Possible breeder	0-1	An individual recorded adjacent to the southern Site boundary on the first survey.
Woodpigeon	*Columba palumbus*	Amber List	Abundant resident, passage migrant and winter visitor.	Probable breeder	2-5	Individuals recorded throughout the Site within hedgerows and trees.

[25] Hampshire Bird Report 2022. Hampshire Ornithological Society.

Common Name	Scientific Name	UK Status	Regional Status[25]	On-site Status	Estimated No. Breeding Pairs	Survey Observations
Wren	*Troglodytes troglodytes*	Amber List	Abundant resident.	Probable breeder	2-4	Individuals recorded throughout the Sites hedgerows.

Table EDP A5.4: Breeding Bird Survey Results - Green Listed Species

Common Name	Scientific Name
Barn swallow	*Hirundo rustica*
Blackbird	*Turdus merula*
Blackcap	*Sylvia atricapilla*
Blue tit	*Cyanistes caeruleus*
Buzzard	*Buteo buteo*
Carrion crow	*Corvus corone*
Chaffinch	*Fringilla coelebs*
Chiffchaff	*Phylloscopus collybita*
Collard dove	*Streptopelia decaocto*
Eurasian Nuthatch	*Sitta europaea*
Goldfinch	*Carduelis carduelis*
Great tit	*Parus major*
Magpie	*Pica pica*
Robin	*Erithacus rubecula*

Appendix EDP 6
Winter Bird Survey

METHODOLOGY

A6.1 The species targeted were those of nature conservation importance (i.e. WCA Schedule 1, priority species and Red and Amber listed species of conservation concern), including the species whose main habitat is farmland, but also those species that use farmland in large numbers in winter but for which it is not necessarily their main habitat.

A6.2 The survey was conducted by an experienced surveyor and involved the completion of a single visit to the Site. The survey was conducted over a pre-defined transect route designed to take surveyors to within 75m of the suitable habitats for the target species. However, there was some variation to these, at the discretion of the surveyor, according to the nature of the habitat present and the influence this had on bird detectability (e.g., height of crop/grassland). The surveyor used binoculars and telescopes. The surveyor recorded any Amber and Red list species encountered, along with any notable behaviour.

A6.3 The survey was undertaken on 31 January 2023 and began at 07:30 and ended 08:45, during which the visibility was clear with cloud cover of 20% and Beaufort Scale wind speed of 5.

A6.4 The first and last hours of daylight were not surveyed to avoid counting when birds are moving between foraging and roosting habitats. Registrations of target bird species were recorded and assigned to the location where they were first detected (if flushed). Flying birds were only recorded if they were clearly associated with the Site (e.g. just flushed or about to land).

A6.5 Following completion of all survey visits, an average (mean) count and maximum count of each species of conservation concern was calculated for the Site.

A6.6 To inform the assessment in this report, the abundance of species on-site, the abundance of species at the County and National level, the quality of the habitat present and the geographical range of the birds concerned have been considered, based on national and regional accounts.

A6.7 The conservation status of each species of bird was also taken into account and the following lists were considered:

- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) – affords greater protection to certain breeding species that are considered appropriately at risk nationally 2and are listed additional legal protection accordingly;
- Priority species;

- Birds of Conservation Concern[26] - under this approach UK bird populations are assessed, using quantitative criteria, to determine the population status of each species and then placed on one of three lists; Red, Amber or Green; and

- Local conservation status as listed in the Hampshire Bird Report[25].

Limitations

A6.8 Survey visits were completed on calm days with good visibility, and avoiding periods of heavy rain where possible, although some days of higher wind speed are expected due to the time of year. It is therefore considered that the results provide a representative overview of the wintering bird interest at the Site and have not been limited by seasonal or climatic factors.

A6.9 A limitation with surveying birds on arable land in winter is that birds vary in detectability. This is typically a function of the species size, species behaviour (including 'flushing' distance, flocking behaviour, crypticity), foraging ecology and field characteristics (including vegetation density and height, area of the field) [27]. As such, a simple 'field perimeter' based count can miss significant numbers of birds, particularly where the field vegetation is tall or dense. This is particularly true for certain bird species, including the Red-listed skylark, and the Amber-listed meadow pipit.

A6.10 It should be noted that for a large number of species, including thrushes, sparrows, finches and buntings in most field types, the overall majority (i.e. >90%) can be recorded using a 'perimeter count'. However, where detectability may be an issue, comparisons of bird densities or total numbers between fields will not be possible purely from using perimeter counts as the field characteristics, and hence detectability, vary between field parcels.

A6.11 The survey methodology therefore involved, where access allowed, walking to within a maximum distance of 75m of all suitable habitats for the target wintering bird species. However, with regard to the effect of vegetation density and height on the ability to record birds, the survey method relies on the judgement of an experienced surveyor to assess when a count is complete. As such, in fields with more ground cover, a greater frequency of transects across open areas (and hence reduced maximum distance) is required.

A6.12 'Double counting' could also affect results, particularly with the whole-area search approach where birds could be flushed from one field to another. With reference to Wilson *et al*. (1996) [28], although this source of error cannot be eliminated, it can be minimised by taking account of birds flushed to fields yet to be counted (namely through the detailed recording of bird movements on-site plans).

[26] Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747.

[27] Atkinson, P.W., Fuller, R.A., Gillings, S. & Vickery, J.A. (2006). Counting birds on farmland habitats in winter. *Bird Study*, 53:3, 303-309

[28] Wilson, J.D., Taylor, R. & Muirhead, L.B. (1996) Field use by farmland birds in winter: an analysis of field type preferences using re-sampling methods. Bird Study, 43, 320–332

RESULTS

A6.13 A total of seven bird species of nature conservation importance were recorded during the course of the winter bird survey (see **Table EDP A5.1**), with a further seven species not of conservation importance recorded incidentally (see **Table EDP A5.2**).

A6.14 The diversity and abundance of species recorded is considered to be fairly typical for a site of this size and type, although the surveys did record relatively small flocks of Red-and Amber list species including starling, redwing, fieldfare and house sparrow. Species were mainly recorded using the mature trees and hedgerow bordering the periphery of the Site.

A6.15 It is concluded that that the diversity and abundance of over-wintering birds within the Site reflects the diversity of habitats present but is not exceptional. The wintering bird assemblage present within the Site is judged to be of no greater than Local ecological importance.

Table EDP A6.1: Winter Bird Survey Results 2023, Notable Species Only

Common Name	Scientific Name	UK Status	Regional Status[25]	Distribution On-site	Abundance On-site
					Max. Count
Common starling	*Sturnus vulgaris*	S.41 Red List	Numerous but declining resident, passage migrant and winter visitor.	Eleven recorded within the grassland field south of Tree Line 1.	11
Dunnock	*Prunella modularis*	S.41 Amber List	Abundant resident.	Individuals recorded along the southern and eastern boundaries, associated with mature trees.	2
Fieldfare	*Turdus pilaris*	Schedule 1 Red List	Numerous to abundant winter visitor and passage migrant.	Two recorded along the northeast boundary of the Site, associated with mature trees.	2
Herring gull	*Larus argentatus*	S.41 Red List	Common winter visitor and passage migrant; moderately common and increasing breeder.	Recorded within the northern grassland field.	3
House sparrow	*Passer domesticus*	S.41 Red List	Abundant but declining resident.	Recorded along the western boundary, delineating residential settlements.	23
Redwing	*Turdus iliacus*	Schedule 1 Amber List	Numerous to abundant winter visitor and passage migrant.	Five recorded along the northeast boundary of the Site.	5
Woodpigeon	*Columba palumbus*	Amber List	Abundant resident, passage migrant and winter visitor.	Recorded along the northern and southern boundaries, associated with hedgerow and woodland.	21

Table EDP A6.2: Winter Bird Survey Results 2023, Unlisted Species

Common Name	**Scientific Name**
Blackbird	*Turdus merula*
Blue tit	*Cyanistes caeruleus*
Carrion crow	*Corvus corone*
Collared dove	*Streptopelia decaocto*
Jackdaw	*Coloeus monedula*
Magpie	*Pica pica*
Robin	*Erithacus rubecula*

Appendix EDP 7
Bat Surveys

METHODOLOGY

A7.1 The scope of bat surveys undertaken at the Site was determined following completion of the habitat survey and review of relevant desk study findings and with reference to best practice guidelines published by the Bat Conservation Trust[29].

Bat Roost Surveys

Preliminary Roost Assessment of Trees

A7.2 Owing to the presence of suitably mature trees within or adjacent to the Site, a preliminary ground level roost assessment of these trees was undertaken to record any external evidence of roosting bats or any features capable of supporting roosting bats.

A7.3 The survey was completed on 04 May 2023 by a bat licensed ecologist in accordance with the best practice guidelines referred to above. The trees were searched as thoroughly as possible from ground level with all elevations covered where these could be accessed.

A7.4 Suitable features for roosting bats recorded (where present) include the following:

- Loss/peeling/fissured bark;
- Natural holes e.g., rot holes, cavities and wounds from fallen limbs;
- Woodpecker holes;
- Cracks/splits or hollow tree trunks/limbs;
- Bat, bird or dormouse boxes; and
- Crevices formed by thick-stemmed ivy.

A7.5 Signs of roosting bat presence recorded (where present) include the following:

- Bat/s roosting *in situ*;
- Bat droppings within, around or beneath a potential roost feature;
- Staining around or beneath a feature;
- Audible squeaking from the roost at dusk or during warm weather; and

[29] Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust, London. Since the bat surveys have been undertaken, these guidelines have subsequently been superseded by: Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edition). The Bat Conservation Trust, London

- Large/regularly used roosts or may produce a distinctive odour.

A7.6 Based upon the evidence/features identified, each tree was assigned to one of the following categories:

- **Known or confirmed roost** - European Protected Species (EPS) licence likely to be required for works to tree to be completed lawfully;
- **High suitability** – One or more potential roost features present that are obviously suitable for use by larger numbers of bats on a more regular basis, and potentially for longer periods of time;
- **Moderate suitability** - One or more potential roost features present that could be used by bats but are unlikely to support a roost type of high conservation status (with respect to roost type only);
- **Low suitability** - A tree of sufficient size and age to contain potential roost features but with none seen from the ground, or features seen but with only very limited roosting potential; and
- **Negligible suitability** - No potential to support roosting bats.

A7.7 Due to the guidelines being superseded after the survey, these have been subsequently assessed against the new guidelines:

- **None – Either no PRFs in the tree or highly unlikely to be any**;
- **Further Assessment Required (FAR)** – Tree is of a size, age or condition that is likely to have PRFs, further assessment is therefore required to establish if PRFs are present in the tree;
- **PRF** – Tree supports at least one PRF which is visible from the ground; and
- **Confirmed roost** – Signs of roosting bat presence were found within or around a PRF.

A7.8 For those trees categorised as having a 'PRF', an estimate was made as to whether each PRF visible from the ground was likely to suitable for individual bats (PRF-I) or multiple bats (PRF-M). It should be noted that this categorisation from ground level is an estimate only, as it is often not possible to establish the internal extent of a tree feature from ground level.

Limitations

A7.9 As with any ground level assessments of trees, certain features may not be visible or fully visible from the ground. While this survey is best undertaken during the late autumn/winter when leaves have been shed and the view from ground level into the crown is best, this survey was undertaken in May. However, this is not considered a significant constraint for this survey given the densities of the canopies surveyed. Some ivy coverage limited the visibility of some of the stems, however, this is not considered to be a significant limitation.

A7.10 Bats are mobile animals and will move between a series of different tree roost sites, frequently establishing and occupying different potential roost features, depending on seasonal requirements and resources available locally. Furthermore, existing potential roost features on trees can be transient and new features formed regularly. This survey, therefore, only provides a snapshot of the conditions present at the Site at the time of survey.

A7.11 It should be noted that this type of assessment is based on features visible from ground level and is not considered to be a definitive bat roosting survey.

Bat Activity Surveys

A7.12 During the habitat survey, an initial assessment was undertaken of suitability of the habitats within and immediately adjacent to the Site for foraging and commuting bats. In accordance with the best practice guidelines referred to above, the Site was assigned to one of the following categories:

- **High suitability** – Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, treelined watercourses and grazed parkland. Site is close to and connected to known roosts;

- **Moderate suitability** - Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water;

- **Low suitability** - Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub; and

- **Negligible suitability** - Negligible habitat features on Site likely to be used by commuting or foraging bats.

A7.13 Having determined that the overall suitability of the Site as Moderate, a proportionate level of survey effort was expended in terms of the number and frequency of manual transect surveys and automated detector surveys. These are described in further detail below.

Transect Surveys

A7.14 Manual transect surveys were undertaken across the Site with the objective of identifying important foraging areas and/or commuting routes used by bats. A total of seven dusk surveys and one dawn survey were undertaken over the course of the active bat season in 2023.

A7.15 Details of the survey type, date, timing, and weather conditions during each of the transect surveys are given in **Table EDP A7.1**. All visits were completed in weather conditions that were generally suitable for such surveys.

Table EDP A7.1: Date, Timing and Weather Conditions during Transect Surveys

Survey Date	Sunset/ Sunrise Time	Start - Finish Time	Weather Conditions			
			Temp (°c)	Cloud Cover (%)	Wind (Beaufort Scale)	Precipitation
13.04.23	19:57	19:42 – 21:57	14-6	10-20	1	Nil
16.05.23	20:49	20:49 – 22:49	14-11	0-50	0-1	Nil
17.05.23	05:12	03:12 – 05:12	9	0	0-1	Nil
19.06.23	21:23	21:23 – 23:23	17-19	40-80	0	Nil
18.07.23	21:11	21:11 – 23:11	18	90-100	0-1	Nil
15.08.23	20:26	20:26 – 22:26	19-15	20-50	0-1	Nil
27.09.23	18:53	18:53 – 20:53	20-17	90-95	5-4	Rain first 10 minutes only
11.10.23	18:22	18.22 – 20:22	19-17	100	3-0	Two small rain showers lasting 5-10 minutes each.

A7.16 During each survey a single transect routes was walked by a pair of surveyors, with the route designed to provide coverage of the most suitable foraging or commuting habitats on the Site; namely hedgerow, tree-lines and offsite woodland edge. The transect routes are illustrated on **Plan EDP 6**. The transect routes were walked by experienced bat surveyors and an assistant at a slow and steady pace for two hours after sunset or two hours before sunrise. All bats were recorded, and their behaviour marked on survey maps, in order to characterise the value of the Site and its component habitats for foraging and commuting bats.

A7.17 The transect surveys were conducted using Elekon Batlogger M bat detectors. Observations of the time, location, and activity of all bats seen or heard were noted. Bats were identified on the basis of their characteristic echolocation calls, which were recorded and analysed using computer sonogram analysis (BatExplorer) to confirm species identification. Species of *Myotis* and *Plecotus* bats are difficult to tell apart solely from their echolocation calls and were therefore grouped as such.

Limitations

A7.18 The first transect survey in April started with temperatures above the recommended '10°C at sunset'. However, during the survey, temperatures dropped to 6°C. Bat activity is known to reduce below 10°C and stop at 6°C[30]. Very few bats were recorded during this survey. This is not considered a limitation due starting the survey within temperatures outlined in the guidelines, and temperatures are considered likely to drop below this starting level during the survey. Poorer weather conditions are often associated with the start and end of the activity season.

[30] Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust, London. Footnote 16.

A7.19 During the September and October transect surveys, small rain showers were recorded during the surveys. These were all short in duration and did not affect overall survey results, and therefore not considered to be a significant limitation to the surveys.

Automated Detector Surveys

A7.20 To supplement the bat transect survey data, bat activity within the Site was also sampled using Anabat Express detectors (hereafter referred to as 'automated detectors'), which are deployed in fixed locations to automatically trigger and record bat echolocation calls over multiple nights at a time. In this case, automated detectors were deployed at two locations within the Site during each survey, as shown on **Plan EDP 6**, which were judged to be representative of the habitats within the Site. The automated detectors were fixed in secure locations, with an external microphone attached c.1-2m above ground, where possible, and directed away from the tree/branch to maximise detection sensitivity. In total seven surveys were completed over the course of the active bat season in 2023, each comprising sampling by automated detectors for at least five consecutive nights. Details of dates, sampling locations and weather conditions during each of the surveys are given in **Table EDP A7.2**.

Table EDP A7.2: Automated Detector Survey Details

Sampling Period Dates	Location (Reference number and OS grid reference)		Microphone		Adjacent habitat
			Height (m)	Direction	
13.04.23 – 20.04.23	L1	SU 50600 18833	2.0	SW	Improved grassland
	L2	SU 50773 18437	2.0	N	Improved grassland. Woodland with pond to south.
16.05.23 – 23.06.23	L1	SU 50600 18833	1.5	SE	Improved grassland
	L2	SU 50773 18437	1.0	NW	Improved grassland. Woodland with pond to south.
19.06.23 – 30.06.23	L1	SU 50600 18833	2.0	SE	Improved grassland
	L2	SU 50773 18437	1.8	N	Improved grassland. Woodland with pond to south.
18.07.23 – 24.07.23	L1	SU 50600 18833	1.5	S	Improved grassland
	L2	SU 50773 18437	1.5	N	Improved grassland. Woodland with pond to south.
15.08.23 – 21.08.23	L1	SU 50600 18833	1.5	S	Improved grassland
	L2	SU 50773 18437	1.75	N	Improved grassland. Woodland with pond to south.
21.09.23 – 26.09.23	L1	SU 50600 18833	1.8	S	Improved grassland
	L2	SU 50773 18437	1.8	N	Improved grassland. Woodland with pond to south.
03.10.23 – 10.10.23	L1	SU 50600 18833	2.0	S	Improved grassland
	L2	SU 50773 18437	2.0	N	Improved grassland. Woodland with pond to south.

A7.21 The sound files recorded by the automated detectors were filtered for each of the UK's bat species/species groups using AnalookW software's filter function. The parameters for the species filters are based on those proposed by Chris Corben and Kim Livengood[31] and have been fine-tuned using known call parameters for each of the species. All files were checked manually using sonogram analysis in accordance with published guides to confirm the species identification of each bat call.

Limitations

A7.22 The identification of calls and species using AnalookW software is dependent upon the quality of the recording made which can be influenced by the following factors, which may limit levels of activity and species recorded:

- Weather conditions - rainfall and wind;
- Distance of bat from the detector's microphone;
- Presence of obstructions through which the noise must pass i.e., trees/leaves; and
- Proximity of other noise sources such as roads.

A7.23 One of the Anabat Expresses failed after the first night in September.

RESULTS

Bat Roost Surveys

Preliminary Roost Assessment of Trees

A7.24 The preliminary ground level roost assessment of trees identified a total of seven trees with suitable features for bat roosting. Of this total, six were found to be of High suitability, with one Moderate. Further details on each of these trees are provided in **Table EDP A7.3** and their locations are shown on **Plan EDP 1**.

A7.25 All other trees were found to be of negligible suitability for roosting bats and have not been mapped/described.

[31] Taken from Analook W training course and workshop, September 2013

Table EDP A7.3: Details of Trees with Bat Roost Suitability

Tree/Group Ref. No.	Tree Species	Potential Roost Features	Roosting Suitability of Tree (Colins 2016)*[1]	Roosting Suitability of Tree (Colins 2023)*[2]
T1	Ash	Multi-stemmed tree with multiple woodpecker holes and welds and compression forks between adjacent limbs. Limited ivy coverage on stems.	High	PRF (likely PRF-M)
T2	Oak	Terminal deadwood with internal cavity.	High	PRF (likely PRF-M)
T3	Oak	Lifting bark plate. Some limited ivy coverage.	High	PRF (likely PRF-M)
T4	Oak	A number of features, including split wood which may lead to cavity.	High	PRF (likely PRF-M)
T5	Oak	Dense ivy over mature main stem. Damage to bark visible at base indicating basal rot and general poor health, with potential significant cavity	High	PRF (likely PRF-M)
T6	Oak	-	Moderate	PRF (likely PRF-I)
T7	Ash	Multiple woodpecker holes on twin stems.	High	PRF (likely PRF-M)
T8	Ash	Dying tree with a number of woodpecker holes	High	PRF (likely PRF-M)
T9	Oak	Minor splits/cracks, considered likely superficial.	Low	PRF (likely PRF-I)
T10	Oak	Rot holes on main stem	Low	PRF (likely PRF-I)
T11	Oak	A number of gaps/rot features/and splits	Moderate	PRF (likely PRF-I)
T12	Willow sp.	Knot hole on main stem, with decay creating crevices and a possible cavity, west facing and 4m high.	Low	PRF-I

Tree/Group Ref. No.	Tree Species	Potential Roost Features	Roosting Suitability of Tree (Colins 2016)*1	Roosting Suitability of Tree (Colins 2023)*2
T13	Willow sp.	Pruning cut, desiccation and large split in limb, north facing 5m high. Lifted bark on main stem.	Low	PRF-I
T14	Willow sp.	Snapped limb with possible crevices, north facing 8m high. Plus, lifted bark on same branch	Low	PRF-I

*1 The survey was undertaken in line with the latest guidelines available: Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust, London

*2 The assessment has been regraded following the new guidelines: Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. The Bat Conservation Trust, London

Bat Activity Surveys

A7.26 As noted above in relation to the scope/design of the bat activity surveys, the initial habitat assessment of the Site found the Site to be of Moderate suitability for foraging and commuting bats. This is due to the hedgerow and mature tree lines bounding the Site, with wider connectivity to nearby woodland and hedgerows.

A7.27 The results of the transect surveys are illustrated on **Plans EDP 7 - 13** and results of the automated detector surveys are provided, in detailed and summary form, within **Tables EDP A7.4** to **A7.11**. These results are also described below for the assemblage as whole and on a species-by-species basis. The species accounts also draw upon information collated during the desk study and published data on national conservation status[32].

Overall Diversity, Abundance and Distribution

A7.28 A total of eight bat species/species groups (*Myotis* and *Plecotus* bat species were not identified to species level), were confirmed to be present foraging and/or commuting within the Site during the transect and/or automated detector surveys.

A7.29 Levels of bat activity recorded during the transect surveys were generally low to moderate, with relatively higher levels recorded in summer months and relatively lower levels recorded in spring and autumn. The distribution of this activity was concentrated along tree lines and woodland edges. Common pipistrelle comprised the majority of recordings, and the sole species recorded in April and October. Soprano pipistrelle, serotine and *Myotis* spp. were recorded infrequently, and a single registration of Nathusius' pipistrelle were recorded in July.

A7.30 With reference to the automated detector data tables, the vast majority of recorded bat passes were of common pipistrelle (73.3% of all passes) with soprano pipistrelle, *Myotis* spp. the next most abundant (13.9% and 9.3% respectively). Serotine comprised 2% of all recorded activity, with a small proportion of *Plecotus* spp., noctule, barbastelle and Nathusius' pipistrelle (all accounting for less than 1%).

A7.31 Levels of bat activity recorded during the automated detector surveys were generally low to moderate, with activity fairly stable across the survey period with the exception of lower levels recorded in April. The number of calls recorded was higher at Location 1 from April to June, and higher in Location 2 from July to October, reflecting a change of use in the latter half of the active period.

Species/Species Groups Recorded

Pipistrellus spp.

A7.32 Several records of licences for common and soprano pipistrelles within 2km of the Site were returned by MAGIC, and a number of records were returned during the desk study within 5km, including a mixed soprano and common pipistrelle roost from 2015 c.0.1km west of the Site.

[32] CIEEM (2023) Bat Mitigation Guidelines. and https://www.bats.org.uk/our-work/national-bat-monitoring-programme/reports/nbmp-annual-report

A7.33 Common pipistrelle were the most actives species recorded one the Site each month and comprising 73.3% of all bat passes recorded.

A7.34 Common pipistrelle and soprano pipistrelle populations in England are considered to be increasing and stable, and widespread within the south of England. Nathusius' pipistrelle is considered to be rare (with information on population trends data deficient).

A7.35 Based on the relative abundance of common, soprano and Nathusius' pipistrelles onsite, they are considered to be of Local level importance.

Myotis spp.

A7.36 A number of *Myotis* spp. records were returned in the desk study within 5km, including Brandt's bat, Daubenton's bat, Natterer's bat and whiskered bat.

A7.37 *Myotis* spp. comprised approximately 9% of all species recorded during the static detector survey and were only recorded during the May, August and September transect surveys. It is considered likely that these records are unlikely to pertain to the rare (Annex II) Bechstein's bat due to the lack of ancient woodland bordering the Site.

A7.38 The more common *Myotis* spp. bat populations in England are considered stable and are widespread in southern England.

A7.39 Based on the relative abundance of *Myotis* spp. onsite, they are considered to be of Site level importance.

Serotine

A7.40 A large number of serotine records were returned within the desk study within 5km.

A7.41 Serotine comprised 2% of all species recorded during the static detector survey, and were recorded in low numbers during the transect surveys between May and August inclusive.

A7.42 Serotine populations in England are considered stable, and are rare in southern England.

A7.43 Based on the relative abundance of serotine onsite, they are considered to be of Local level importance.

Noctule

A7.44 A large number of noctule records were returned within the desk study within 5km.

A7.45 Noctule comprised less than 1% of all species recorded during the static detector survey, and were not recorded during the transect surveys.

A7.46 Noctule populations in England are considered stable, and are widespread in southern England.

A7.47 Based on the relative abundance of noctule onsite, they are considered to be of Site level importance.

Plecotus spp.

A7.48 A large number of brown long-eared records were returned within the desk study within 5km, including a maternity roost approximately 0.1km to the west of the Site recorded in 2021.

A7.49 *Plecotus* spp. comprised less than 1% of all species recorded during the static detector survey and were not recorded during the transect surveys. It is considered likely that these records pertain to the more common brown long-eared bat rather than the rarer grey long-eared bat due to the geographical location of the Site and results of the desk study.

A7.50 Brown long-eared bat populations in England are considered stable and are widespread in southern England.

A7.51 Based on the relative abundance of long-eared bats onsite, they are considered to be of Site level importance.

Barbastelle

A7.52 No barbastelle records were returned within 5km from the desk study.

A7.53 Barbastelle. comprised less than 1% of all species recorded during the static detector survey and using both Locations and in all months surveyed except May and June. They were not recorded during the transect surveys.

A7.54 Barbastelle are an Annex II species whose populations in England are considered data deficient to assess overall trends and are rare in southern England.

A7.55 Based on the relative abundance of barbastelle onsite, they are considered to be of Site level importance.

Automated Detector Data Tables

Table EDP A7.4: Automated Detector Survey Results April 2023

Location	Bat Species	Number of Bat Passes Recorded per Night								Total (and %)
		13/04	14/04	15/04	16/04	17/04	18/04	19/04	20/04	
1	Barbastelle	1								1 (0.29)
	Common pipistrelle	1		80	114	64	15	28	4	306 (90.27)
	Plecotus spp.				1					1 (0.29)
	Myotis spp.				3	1				4 (1.18)
	Noctule			3	2	2				7 (2.06)
	Soprano pipistrelle			4	1	2		1		8 (2.36)
	Serotine	2	1	4	1	3		1		12 (3.54)
	Total	**4**	**1**	**91**	**122**	**72**	**15**	**30**	**4**	**339**
2	Barbastelle			1	1					2 (1.03)
	Common pipistrelle	2		40	43	37	3	36		161 (82.99)
	Plecotus spp.		1	1	2	1				5 (2.58)
	Myotis spp.			2						2 (1.03)
	Nathusius' pipistrelle					1				1 (0.52)
	Noctule			1	2	2				5 (2.58)
	Soprano pipistrelle			2	2	3		5		12 (6.19
	Serotine			3	1	1		1		6 (3.09)
	Total	**2**	**1**	**50**	**51**	**45**	**3**	**42**		**194**

Table EDP A7.5: Automated Detector Survey Results May 2023

Location	Bat Species	Number of Bat Passes Recorded per Night								Total (and %)
		16/05	17/05	18/05	19/05	20/05	21/05	22/05	23/05	
1	Common pipistrelle	585	701	489	522	75	88	57	32	2549 (91.13)
	Plecotus spp.	9								9 (0.32)
	Myotis spp.	12	7	11	11	4	11	5	5	66 (2.36)
	Nathusius' pipistrelle		1							1 (0.04)
	Noctule	2		1	1					4 (0.14)
	Pipistrellus spp. social call					1				1 (0.04)
	Soprano pipistrelle	5	13	38	13	5	11	16	5	106 (3.79)
	Serotine	31	8	4	2	3	2	7	4	61 (2.18)
	Total	**644**	**730**	**543**	**549**	**88**	**112**	**85**	**46**	**2797**
2	Common pipistrelle	90	59	82	132	89	31	29	15	527 (80.70)
	Plecotus spp.			1						1 (0.15)
	Myotis spp.	1		1				1		3 (0.46)
	Nathusius' pipistrelle		1							1 (0.15)
	Noctule			3	2	3	2	2		12 (1.84)
	Soprano pipistrelle	33	5	12	11	12	3	3	1	80 (12.25)
	Serotine	1	3	4	5	4	2	9	1	29 (4.44)
	Total	**125**	**68**	**103**	**150**	**108**	**38**	**44**	**17**	**653**

Table EDP A7.6: Automated Detector Survey Results June 2023

Location	Bat Species	Number of Bat Passes Recorded per Night												Total (and %)
		19/06	20/06	21/06	22/06	23/06	24/06	25/06	26/06	27/06	28/06	29/06	30/06	
1	Common pipistrelle	48	242	247	214	147	344	175	157	125	280	281	39	2299 (96.03)
	Plecotus spp.			1	1	1		1			2	1	1	8 (0.33)
	Myotis spp.		4		4	1	1			2	1	1		14 (0.58)
	Noctule									1		1		2 (0.08)
	Soprano pipistrelle	2	3	4	12	11	2	4	7	5	1	5	3	59 (2.46)
	Serotine		2	1	2	1		3	2		1			12 (0.50)
	Total	**50**	**251**	**253**	**233**	**161**	**347**	**183**	**166**	**133**	**285**	**289**	**43**	**2394**
2	Common pipistrelle	19	50	48	39	32	45	48	63	56	133	128	3	664 (73.21)
	Myotis spp.	1		2		2	1		1	1	1	2		11 (1.21)
	Noctule	3				4	2	1			4			14 (1.54)
	Soprano pipistrelle	1	16	46	2	22	23	18	22	20	16	13		199 (21.94)
	Serotine	1	4			1	2	2	1		8			19 (2.09)
	Total	**25**	**70**	**96**	**41**	**61**	**73**	**69**	**87**	**77**	**162**	**143**	**3**	**907**

Table EDP A7.7: Automated Detector Survey Results July 2023

Location	Bat Species	Number of Bat Passes Recorded per Night							Total (and %)
		18/07	19/07	20/07	21/07	22/07	23/07	24/07	
1	Barbastelle				5	1			6 (1.08)
	Common pipistrelle	31	111	88	43	6	36	38	353 (63.72)
	Myotis spp.	1	51	10	6	1	1	2	72 (13)
	Noctule					1			1 (0.18)
	Serotine	5	8	9	12	1	20	2	57 (10.29)
	Soprano pipistrelle	3	18	22	18	3		1	65 (11.73)
	Total	**40**	**188**	**129**	**84**	**13**	**57**	**43**	**554**
2	Barbastelle		1						1 (0.04)
	Common pipistrelle	187	119	55	71	282	1080	53	1847 (69.59)
	Plecotus spp.		1		5	3	2		11 (0.41)
	Myotis spp.	2	5	1	4	47	320	4	383 (14.43)
	Nathusius' pipistrelle					1	1		2 (0.08)
	Serotine	5	7	9	7		62	1	91 (3.43)
	Soprano pipistrelle	41	35	4	4	72	141	22	319 (12.02)
	Total	**235**	**168**	**69**	**91**	**405**	**1606**	**80**	**2654**

Table EDP A7.8: Automated Detector Survey Results August 2023

Location	Bat Species	Number of Bat Passes Recorded per Night							Total (and %)
		15/08	16/08	17/08	18/08	19/08	20/08	21/08	
1	Barbastelle		1				1		2 (0.11)
	Common pipistrelle	63	375	423	127	96	121	78	1283 (71.72)
	Plecotus spp.	1	4	1	1		6	4	17 (0.95)
	Myotis spp.	5	26	20	16	14	19	10	110 (6.15)
	Nathusius' pipistrelle			1					1 (0.06)
	Noctule							1	1 (0.06)
	Pipistrellus spp. social call							1	1 (0.06)
	Soprano pipistrelle	26	117	108	33	10	19	16	329 (18.39)
	Serotine	10	3	13	2	6	10	1	45 (2.52)
	Total	**105**	**526**	**566**	**179**	**126**	**176**	**111**	**1789**
2	Barbastelle		1	1	1			1	4 (0.28)
	Common pipistrelle	50	50	64	90	532	78	36	900 (62.72)
	Plecotus spp.	2	4	2	17	11	4	2	42 (2.93)
	Myotis spp.	5	8	6	5	111	18	18	171 (11.92)
	Nathusius' pipistrelle			1			1		2 (0.14)
	Noctule		1					2	3 (0.21)
	Pipistrellus spp. social call					5	3	1	9 (0.63)
	Soprano pipistrelle	5	3	10	12	204	14	19	267 (18.61)
	Serotine	8	7	5	10	4	2	1	37 (2.58)
	Total	**70**	**74**	**89**	**135**	**867**	**120**	**80**	**1435**

Table EDP A7.9: Automated Detector Survey Results September 2023

Location	Bat Species	Number of Bat Passes Recorded per Night						Total (and %)
		21/09	22/09	23/09	24/09	25/09	26/09	
1	Barbastelle	3	No data					3 (0.39)
	Common pipistrelle	403						403 (52.34)
	Plecotus spp.	2						2 (0.26)
	Myotis spp.	309						309 (40.13)
	Soprano pipistrelle	50						50 (6.49)
	Serotine	3						3 (0.39)
	Total	**770**						**770**
2	Barbastelle			5	4	3	1	13 (1.02)
	Common pipistrelle	19	24	365	470	73	31	982 (79.96)
	Plecotus spp.		1		2	1	1	5 (0.39)
	Myotis spp.	3	3	4	13	1	1	25 (1.96)
	Pipistrellus sp. social call			3	10			13 (1.02)
	Soprano pipistrelle	7	11	84	123	10	1	236 (18.50)
	Serotine	1	1					2 (0.16)
	Total	**30**	**40**	**461**	**622**	**88**	**35**	**1276**

Table EDP A7.10: Automated Detector Survey Results October 2023

Location	Bat Species	Number of Bat Passes Recorded per Night								Total (and %)
		03/10	04/10	05/10	06/10	07/10	08/10	09/10	10/10	
1	Barbastelle		8				7		1	16 (0.62)
	Common pipistrelle	41	86	221	325	241	71	68		1053 (60.69)
	Plecotus spp.	6	6	4	3	2	4	4		29 (1.67)
	Myotis spp.	91	5	36	25	121	241	27	26	572 (32.97)
	Pipistrellus sp. social call	3	3	2	2	2	2	1		15 (0.86)
	Soprano pipistrelle	6	3	3	2	1	3	5	1	24 (1.38)
	Serotine	4	5	2	4	2	4	3	2	26 (1.50)
	Total	**151**	**116**	**268**	**361**	**369**	**332**	**108**	**30**	**1735**
2	Common pipistrelle	16	148	89	687	125	6	5		1076 (49.86)
	Plecotus spp.				1					1 (0.05)
	Myotis spp.	2	13	3	67	6	2	2		95 (4.40)
	Soprano pipistrelle	11	161	240	521	51				984 (45.60)
	Serotine		1		1					2 (0.09)
	Total	**29**	**323**	**332**	**1277**	**182**	**8**	**7**		**2158**

Table EDP A7.11: Monthly Summary of Automated Detector Surveys

Survey Month	Species	Total Number of Passes	Adjusted Passes (5 nights)	% of Month Total
April (8 nights)	Barbastelle	3	1.9	0.56
	Common pipistrelle	467	291.9	87.95
	Plecotus spp.	6	3.8	1.13
	Myotis spp.	6	3.8	1.13
	Nathusius' pipistrelle	1	0.6	0.19
	Noctule	12	7.5	2.26
	Soprano pipistrelle	18	11.3	3.39
	Serotine	18	11.3	3.39
	Total	**531**	**331.9**	**100%**
May (8 nights)	Common pipistrelle	3076	1922.5	89.16
	Plecotus spp.	10	6.3	0.29
	Myotis spp.	69	43.1	2.00
	Nathusius' pipistrelle	2	1.3	0.06
	Noctule	16	10.0	0.46
	Pipistrellus spp. social call	1	0.6	0.03
	Soprano pipistrelle	186	116.3	5.39
	Serotine	90	56.3	2.61
	Total	**3450**	**2156.3**	**100%**
June (12 nights)	Common pipistrelle	2963	1234.6	89.76
	Plecotus spp.	8	3.3	0.24
	Myotis spp.	25	10.4	0.76
	Noctule	16	6.7	0.48
	Soprano pipistrelle	258	107.5	7.82
	Serotine	31	12.9	0.94
	Total	**3301**	**1375.4**	**100%**
July (7 nights)	Barbastelle	7	5.0	0.22
	Common pipistrelle	2200	1571.4	68.58
	Plecotus spp.	11	7.9	0.34
	Myotis spp.	455	325.0	14.18
	Nathusius' pipistrelle	2	1.4	0.06
	Noctule	1	0.7	0.03
	Soprano pipistrelle	384	274.3	11.97
	Serotine	148	105.7	4.61
	Total	**3208**	**2291.4**	**100%**
August (6 nights)	Barbastelle	6	4.3	0.19
	Common pipistrelle	2183	1559.3	67.71

Survey Month	Species	Total Number of Passes	Adjusted Passes (5 nights)	% of Month Total
	Plecotus spp.	59	42.1	1.83
	Myotis spp.	281	200.7	8.72
	Nathusius' pipistrelle	3	2.1	0.09
	Noctule	4	2.9	0.12
	Pipistrellus spp. social call	10	7.1	0.31
	Soprano pipistrelle	596	425.7	18.49
	Serotine	82	58.6	2.54
	Total	**3224**	**2302.9**	**100%**
September (8 nights)	Barbastelle	16	13.3	0.78
	Common pipistrelle	1385	1154.2	67.69
	Plecotus spp.	7	5.8	0.34
	Myotis spp.	334	278.3	16.32
	Pipistrellus spp. social call	13	10.8	0.64
	Soprano pipistrelle	286	238.3	13.98
	Serotine	5	4.2	0.24
	Total	**2046**	**1705.0**	**100%**
October	Barbastelle	16	10.0	0.41
	Common pipistrelle	2129	1330.6	54.69
	Plecotus spp.	30	18.8	0.77
	Myotis spp.	667	416.9	17.13
	Pipistrellus sp. social call	15	9.4	0.39
	Soprano pipistrelle	1008	630.0	25.89
	Serotine	28	17.5	0.72
	Total	**3893**	**2433.1**	**100%**

Evaluation of Overall Bat Assemblage

A7.56 There are several opportunities for bats to be roosting onsite within trees. Bats have been recorded to use the site throughout the active period, with activity levels highest at Location 1 for the first half of the survey period, and becoming greater at Location 2 for the second half of the survey period. The mature lines of trees and hedgerow, and the offsite woodlands which are adjacent to the Site are being utilised by foraging and commuting bats.

A7.57 Taking into account the diversity of bat species utilising the Site and the extent of their roosting, foraging and commuting activity, the overall bat assemblage using the Site is judged to be of Local importance.

Appendix EDP 8
Biodiversity Net Gain Assessment

METHODOLOGY

A8.1 The Biodiversity Net Gain (BNG) assessment has been undertaken to objectively measure the net biodiversity impacts of the proposed development and to assess the scheme's ability to deliver net biodiversity gain. The BNG assessment has been undertaken using the Statutory Biodiversity Metric published by the Department for the Environment Farming and Rural Affairs (DEFRA) on 29 November 2023 (last updated 12 February 2024). The assessment has been undertaken by an ecological consultant suitably experienced in these types of assessment, and with reference to the Statutory Biodiversity Metric User Guide[33] and current best practice guidance[34].

A8.2 The biodiversity metric tool uses habitat as a proxy for wider biodiversity with different habitat types scored according to their relative biodiversity potential. There are three different types of biodiversity unit which can be measured in the biodiversity metric tool, namely habitat units; hedgerow units and watercourse units.

A8.3 Factors such as distinctiveness, size, condition, and strategic significance, affect the unit score, and in the case of newly created or enhanced habitats the risk (time and difficulty) to reach target habitat condition affects the resulting score. The council has not yet published a Local Nature Recovery Strategy, therefore we have used the following documentation to assign strategic significance for biodiversity enhancements within the biodiversity metric:

- Local Plans and Neighbourhood Plans;
- Priority Biodiversity Areas and Links Maps; and
- Biodiversity Action Plan.

A8.4 The total number of 'biodiversity units' pre- and post-development are calculated in the biodiversity metric tool and used to calculate the total net change as a result of the proposed development.

A8.5 The biodiversity metric tool only considers direct impacts on biodiversity through impacts on their supporting habitats. Indirect impacts are not included. The metric does take account of habitat creation or enhancement delivered as part of a development for other schemes, such as:

- To comply with statutory obligations or policies (such as green infrastructure, sustainable drainage, or nutrient mitigation);

[33] DEFRA. The Statutory Biodiversity Metric User Guide. February 2024

[34] Biodiversity Net Gain: Good practice principles for development © CIEEM, CIRIA, IEMA, 2016. https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf

- As mitigation or compensation for protected sites and species (for example EPS mitigation licensing or suitable alternative natural green space (SANG)); or

- River basin management plan (RBMP) mitigation and enhancement.

A8.6 However, rules apply as to how much of this habitat creation or enhancement can be counted towards a development's BNG contribution[35].

A8.7 The provision of specific habitat features such as nesting and roosting sites (e.g. bird and bat boxes), basking sites (e.g. log piles) and hibernation sites (e.g. hibernaculum) are not counted in the biodiversity metric tool.

A8.8 The application to be made is for outline planning permission, with full details of landscaping and layout reserved for later approval. Therefore, at the outline planning stage, the proposed design is illustrative and subject to change following receipt of detailed technical information at the Reserved Matters stage. The draft BNG calculations provided alongside this report are therefore also indicative and will need to be updated once detailed design information is available. A final biodiversity metric calculation will be prepared alongside the Biodiversity Gain Plan and submitted to the LPA to discharge the general biodiversity gain condition applied to the planning permission if granted.

A8.9 The following sections break down the various components of the BNG Assessment to provide further clarity on how individual elements have been entered into the Metric. The following should be read in conjunction with the Statutory Biodiversity Metric (Report ref: edp7852_r012), a copy of which has been submitted to the LPA alongside the planning application and is available on request.

On-site Baseline

A8.10 The pre-development (baseline) biodiversity value of the Site was calculated using the information derived from the baseline habitat survey completed on 07 June 2023 as described within **Appendix EDP 3**.

A8.11 In this case all three unit types (Habitat Units, Hedgerow Units and Watercourse Units) were measured. QGIS software (using Natural England's QGIS Template) was used to accurately measure the area/length of existing habitats. The measured habitat areas/lengths were entered into the Metric as illustrated on **Plan EDP 15**. The detailed condition assessments of the baseline habitats are set out within **Table EDP A8.2** at the rear of this Appendix.

On-site Post-Intervention

A8.12 The anticipated post-development biodiversity value of the Site has been calculated based on the Illustrative Masterplan (as provided within **Appendix EDP 2**) and Landscape Strategy.

A8.13 Given the proposals are currently at the outline planning stage, and the development layout and landscape design are therefore illustrative, reasonable assumptions have been made using professional judgement on the type, extent and condition of habitats to be retained, enhanced, and newly created. A final version of the Metric will be undertaken and submitted with the

[35] https://www.gov.uk/guidance/what-you-can-count-towards-a-developments-biodiversity-net-gain-bng

Biodiversity Gain Plan (pre-commencement). The predicted post-development habitats were entered into the indicative Biodiversity Metric as illustrated on **Plan EDP 15**. The detail shown on **Plan EDP 16** is based on the Illustrative Masterplan and is an interpretation of what the Site can achieve in terms of post-development habitat and demonstrates the Sites ability to deliver net gains. Further details regarding the predicted habitats are set out below.

RESULTS

On-site Baseline

A8.14 The habitats present on-site are summarised in **Table EDP 3.3** within the main report. A full description of the baseline habitats is included in **Appendix EDP 3**. Justification for their conditions is shown in **Table EDP A8.2** at the rear of this Appendix.

Irreplaceable Habitats

A8.15 There are no irreplaceable habitats present within the Site.

Habitat Degradation

A8.16 No unauthorised activities have been carried out on-site prior to the latest baseline habitat survey completed on 23 July 2024, which have resulted in the deliberate loss or degradation of on-site biodiversity value. The relevant date used to calculate the on-site pre-development value is therefore taken as 23 July 2024.

On Site Post-Intervention

A8.17 Full details of the newly created and enhanced habitats will be provided as part of the Biodiversity Gain Plan (and accompanying HMMP) that will be produced as part of the standard pre-commencement condition. However, to provide an indicative BNG score the following assumptions have been made:

- The ratio of 'developed land sealed surface' to 'vegetated garden' within the residential development area has been input as 70:30, as recommended within the metric user guide;
- Modified grassland in ‘poor’ condition within formal green space. Although some of this may reach moderate condition if seeded with a flowering lawn mix, at this outline stage a precautionary condition of ‘poor’ has been selected;
- Creation of areas of neutral wildflower rich grassland (denoted as ‘other neutral grassland’) of moderate condition to be created at the Site boundaries, including areas surrounding attenuation basins and along retained hedgerows and tree lines;
- Sustainable urban drainage features designed to maximise biodiversity benefits, and achieve at least ‘moderate’ condition, through sensitive design and planting with diverse mix of native aquatic and semi-aquatic flora;
- Street trees to be planted throughout the road network and within the POS. Details regarding the number, locations and/or specification of street trees is unknown at the outline planning stage. For the purpose of the Biodiversity Metric calculations, estimations

have been made based on the Illustrative Masterplan to include 96 small trees of poor condition planted along streets, and 133 small trees of moderate condition planted within POS;

- Native scrub planting at the eastern, southern and western Site boundaries to bolster existing vegetation. Scrub to achieve at least 'moderate' condition through planting a mix of native species will be planted and a scalloped edge created with adjacent wildflower grassland in many areas;

- Existing hedgerow retained except for access;

- Existing tree lines retained, except for access, and enhanced through maintaining a naturally vegetated strip of at least 6m on both sides; and

- Ditch as the south of the Site enhanced by removal of riparian encroachment through creation of semi-natural habitat within 5m of the bank top.

A8.18 The target condition for newly created or enhanced habitats is provided within **Tables EDP A8.3 – A7.10** at the rear of this Appendix, along with justification for the target condition.

NET BIODIVERSITY IMPACT

A8.19 The predicted overall net change in biodiversity units, taking into account all proposed habitat retention, enhancement and creation, is summarised in **Table EDP A8.1**.

Table EDP A8.1: Biodiversity Metric Headline Results

	Habitat Units	**Hedgerow Units**	**Watercourse Units**
On-Site Baseline	22.45	12.72	1.09
On-Site Post-Intervention	24.78	13.44	1.26
On-Site Net Unit Change	+2.32	+0.72	+0.16
On-Site Net % Change	**+10.33%**	**+5.63%**	**+15%**

A8.20 The Metric has demonstrated that the proposed development, albeit in outline, is capable of delivering 10% net gain in biodiversity and watercourse units (in accordance with the Environment Act 2021). To ensure this is achieved full details will be set out within the Biodiversity Gain Plan and accompanying HMMP which will be submitted to and approved by the LPA pre-commencement as per the general biodiversity gain condition under the granted Planning Permission.

A8.21 The Metric has also demonstrated that the proposed development, albeit in outline with precautionary assumptions, is capable of delivering a 5.63% net gain to hedgerow units. This results in the shortfall of 0.56 units required to achieve 10% net gains.

A8.22 The Biodiversity Gain Plan to be prepared to discharge the general biodiversity gain condition to be applied to the planning permission if granted will include a final set of BNG calculations based on the final, detailed design for the proposed development. The detailed design of the development should be carried out in accordance with the assumptions made in this report

regarding habitat retention, enhancement and creation. Deviance from the assumptions made could result in a reduction in post-development biodiversity value below the target level, which would require alternative habitat provisions to address the shortfall in units and ensure the proposed development delivers the target level of biodiversity net gain.

A8.23 Due to the shortfall in hedgerow biodiversity units the Applicant intends to commit to delivering a net gain in biodiversity via an off-site solution to create/ enhance habitats as required, to generate the 0.56 unit shortfall. The offsetting scheme will be set out within the Biodiversity Gain Plan which will be submitted to and approved by the Local Planning Authority pre-commencement as per the general biodiversity gain condition under the granted Planning Permission.

HABITAT CONDITION ASSESSMENT TABLES

Baseline Habitats

Table EDP A8.2: Summary of Condition Assessment for On-site Baseline Habitats

Baseline Habitat	Field/ Parcel ID	Assessment Criteria Passed	Condition Assessment Result	Condition Assessment Score
Area Habitats				
Modified grassland	All fields/road verges	C (scrub cover), D (physical damage), F (cover of bracken), G (absence of invasive species)	Passes 4 criteria and fails criterion A	Poor
Hedgerows				
Native species-rich hedgerow	H1	A1 (height), A2 (width), B1 (gap hedge base), B2 (gap hedge canopy), C1 (undisturbed ground), D1 (invasive species),	Passes six criteria	Good
Native hedgerow with trees and ditch	H2 (north of Mortimers lane)	A1 (height), A2 (width), B1 (gap hedge base), C1 (undisturbed ground), C2 (nutrient-rich perennial), D1 (invasive species), D2 (damage), E1 (tree class), E2 (tree health)	No more than 2 failures in total; AND No more than 1 failure in any functional group.	Good
Line of trees associated with ditch	TL1	A (native species), C (veteran features/natural ecological niches)	Passes two of five criteria	Poor
Line of trees	Eastern site boundary features (partly off-site)	A (native species), B (continuous canopy), C (veteran features/natural ecological niches),	Passes three of five criteria	Moderate
Watercourses				
Ditch	Along southern boundary	A (water quality), B (range of plants), C (<10% filamentous algae/duckweed), H (absence non-natives)	Passes four of eight criteria	Poor

Habitat Creation

Table EDP A8.3: Condition Assessment for Created Modified Grassland (Poor Condition)

Condition Assessment Criteria		**Criterion Passed**
A	There are six-eight vascular plant species per m^2 present, including at least two forbs. Note - this criterion is essential for achieving Moderate or Good condition.	No – assumed to fail due to trampling. Within detailed design some areas seeded with flowering lawn mix may pass this criterion.
B	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble may be present).	Yes - all scrub will be removed.
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	No – assumed to fail due to trampling. Within detailed design some areas may pass this criterion.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)/	No
F	Cover of bracken Pteridium aquilinum is less than 20%.	Yes - all bracken will be removed.
G	There is an absence of invasive non-native plant species (as listed on Schedule 9 of the *Wildlife and Countryside Act* 1981 (as amended)).	Yes - all non-native species will be removed.
Number of Criteria Passed		**3 (not criteria A)**
Condition Assessment Result		**Poor**

Table EDP A8.4: Condition Assessment for Newly Created SuDS

Condition Assessment Criteria		**Criterion Passed**
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	Yes – semi-natural SuDS with varying marginal habitat are considered achievable.
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Yes – wetland grassland seeding and marginal planting.

Condition Assessment Criteria		Criterion Passed
C	Invasive non-native plant species (listed on Schedule 9 of WCA1) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of the total vegetated area.	Yes - all non-native species will be removed.
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife.	Yes – only native species
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.	Yes – wetland species seeded/planted
Number of Criteria Passed		**Five**
Condition Assessment Result		**Good**

Table EDP A8.5: Condition Assessment for Newly Created Mixed Scrub

Condition Assessment Criteria		Criterion Passed
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). - At least 80% of scrub is native, - There are at least three native woody species, - No single species comprises more than 75% of the cover (except hazel Corylus avellana, common juniper Juniperus communis, sea buckthorn Hippophae rhamnoides or box Buxus sempervirens, which can be up to 100% cover).	Yes - >3 native woody species planted, with no one species dominating.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	No – all planting at same time
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA5) and species indicative of suboptimal condition make up less than 5% of ground cover.	Yes - all non-native species will be removed.
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Yes – adjacent tall grassland
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	No – Areas are generally too small to achieve this effectively
Number of Criteria Passed		**Three**
Condition Assessment Result		**Moderate**

Table EDP A8.6: Condition Assessment for Newly Created Grassland (Other Neutral Grassland)

Condition Assessment Criteria		**Criterion Passed**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Yes – area to be sown with species rich grassland mix.
B	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No – not targeted through management
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	No – criterion not targeted.
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble) is less than 5%.	Yes - all bracken and scrub will be removed.
E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species4 (as listed on Schedule 9 of the *Wildlife and Countryside Act* 1981 (as amended)) are present, this criterion is automatically failed.	Yes - non desirable species to be removed and any physical damage to be restored.
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). Note - this criterion is essential for achieving Good condition for non-acid grassland types only. Yes – area to be sown with species rich grassland mix.	No – area to be sown with species-rich grassland mix, but may not reach this highest species diversity.
Number of Criteria Passed		**3**, including essential criterion A but not additional criterion F.
Condition Assessment Result		**Moderate**

Table EDP A8.7: Condition Assessment for Newly Planted Urban Trees – Street Trees

Condition Assessment Criteria		**Criterion Passed**
A	The tree is a native species (or at least 70% within the block are native species).	No – mix of species planted
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes – individual trees
C	The tree is mature (or more than 50% within the block are mature).	No – trees will not reach maturity in 30 years.

Condition Assessment Criteria		Criterion Passed
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	No – assumed to fail due to pruning in more formal amenity areas.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No – Assumed these will not have developed in 30 years
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	No – Some may pass this criterion but assumed to fail
Number of Criteria Passed		**1**
Condition Assessment Result		Poor

Table EDP A8.8: Condition Assessment for Newly Planted Urban Trees – POS

Condition Assessment Criteria		Criterion Passed
A	The tree is a native species (or at least 70% within the block are native species).	Yes – mix of species planted
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes – individual trees
C	The tree is mature (or more than 50% within the block are mature).	No – trees will not reach maturity in 30 years.
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Yes – low intensity pruning in POS.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No – Assumed these will not have developed in 30 years
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes – planted within grassland
Number of Criteria Passed		**4**
Condition Assessment Result		Moderate

Table EDP A8.9: Condition Assessment for Newly Created Hedgerows

Condition Assessment Criteria			**Criterion Passed**
A1	Height	>1.5m average along length	Yes - hedge to be managed at a height of greater than 1.5m.
A2	Width	>1.5m average along length	Yes - hedge to be managed at a width of greater than 1.5m.
B1	Gap - hedge base	Gap between ground and base of canopy <0.5m for >90% of length	Yes - any gaps to be gapped up.
B2	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5m	Yes - any gaps to be gapped up.
C1	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).	No - May be located adjacent to roads/footpaths
C2	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	No – due to potential nutrient enrichment from dog walking.
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)) and recently introduced species.	Yes – non-desirable species to be removed.
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Yes - any physical damage to be restored. Buffer strips to protect from future damage.
Number of Criteria Passed			**6**
Condition Assessment Result			**Moderate**

Table EDP A8.10: Condition Assessment for Enhanced Lines of Trees

Condition Assessment Criteria		**Criterion Passed**
A	At least 70% of trees are native species.	Yes – Currently passes and species retained.
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes – gap planting where necessary.

Condition Assessment Criteria		Criterion Passed
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Yes – Currently passes and no trees lost.
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice.	Yes – At least 6m of semi-natural habitat created
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	No - chance of failure due to ash dieback or other disease.
Number of Criteria Passed		**4**
Condition Assessment Result		**Moderate**

Appendix EDP 9
Nutrient Neutrality Budget Calculator (.xlsx)

Appendix EDP 10
GCN Surveys

METHODOLOGY

A10.1 eDNA is DNA that is collected from the environment in which an organism lives. In aquatic environments, animals including amphibians shed cellular material into the water via their saliva, urine, faeces, skin cells, etc. This eDNA may persist for several weeks, and can be collected through a water sample, and analysed to determine if the target species of interest is/has been present in the waterbody. eDNA sampling of waterbodies between 15 April and 30 June (inclusive) gives a highly reliable indication of the presence or likely absence of great crested newt.

A10.2 eDNA sampling was undertaken on all waterbodies within 500m of the Application Site (but not separated from the Site by significant dispersal barriers) to which access was granted. A total of 12 ponds were accessed, with four ponds to the south-east of the Application Site discounted due to being beyond 250m from the Application Site boundary and separated from the Application Site by a stream.

A10.3 The sampling was undertaken on 16 April 2025, using sampling kits obtained from SureScreen Scientifics and following a standard protocol set out by the Freshwater Habitats Trust which is approved by Natural England. Briefly, this protocol involves (per waterbody):

A10.4 Collecting 20 water samples from selected areas evenly spread around the accessible perimeter of the waterbody, including both open water and vegetated areas;

A10.5 Collecting a ladle of water at each sampling location, stirring the water column without stirring up sediment during collection;

A10.6 Shaking and inverting the combined samples thoroughly once all 20 ladles are collected; and

A10.7 Extracting 15ml of this mixed sample into six conical tubes, each containing preservative fluid, a shaking thoroughly to homogenize the sample.

A10.8 The water samples were then sent to SureScreen Scientifics be analysed for great crested newt eDNA, using real-time Polymerase Chain Reaction (PCR).

Limitations

A10.9 A total of 12 ponds were accessed, of which only seven were recorded to be holding sufficient water. The five dry waterbodies were newly created attenuation basins/swales and woodland pond associated with Pembers Hill development to the north of the Application Site. Given the attenuations basins are newly created, and all ponds are well separated from the Application Site by existing development, this is not considered a significant limitation to the survey work.

RESULTS

A10.10 The results of the surveys of waterbodies are set out in **Table EDP A10.1**. These should be read in conjunction with **Plan EDP 2**. In summary, no evidence of great crested newt was recorded during any of the surveys undertaken.

Table EDP A10.1: GCN eDNA Survey Results

Waterbody Ref. No.	eDNA Result
P1	Negative
P2	Negative
P3	Negative
P4	Negative
P5	Negative
P6	Dry
P7	Dry
P8	Dry
P9	Dry
P10	Negative
P11	Negative
P12	Dry

CONCLUSIONS

A10.11 No opportunities for breeding great crested newt are present within the Application Site. Whilst suboptimal opportunities for great crested newt in their terrestrial phase are present within the Application Site, all ponds within at least 250m of the Application Site Boundary either returned a negative eDNA result or were dry in mid-April (and therefore unsuitable for great crested newt breeding). Great crested newt are therefore concluded to be likely absent from at the Application Site and the immediate local area, and no mitigation is therefore required in respect of the proposed development.

Plans

Plan EDP 1: Habitat Survey
(edp7852_d011i 03 July 23025 VMS/MNe)

Plan EDP 2: eDNA Survey 2025
(edp7852_d043 23 May 2025 PDr/MNe)

Plan EDP 3: Dormouse Survey Plan
(edp7852_d026c 01 July 2025 VMS/KJa)

Plan EDP 4: Statutory Designated Sites
(edp7852_d012c 01 July 2025 DJo/MNe)

Plan EDP 5: Non-Statutory Designated Sites
(edp7852_d013c 01 July 2025 DJo/MNe)

Plan EDP 6: Breeding Bird Survey Map 2023
(edp7852_d036c 01 July 2025 GYo/KJa)

Plan EDP 7: Bat Transect and Static Locations 2023
(edp7852_d025c 01 July 2025 VMS/KJa)

Plan EDP 8: Bat Activity Survey April 2023
(edp7852_d029c 01 July 2025 GYo/KJa)

Plan EDP 9: Bat Activity Survey (TDD) May 2023
(edp7852_d030c 01 July 2025 GYo/KJa)

Plan EDP 10: Bat Activity Survey June 2023
(edp7852_d031c 01 July 2025 GYo/KJa)

Plan EDP 11: Bat Activity Survey July 2023
(edp7852_d032c 01 July 2025 GYo/KJa)

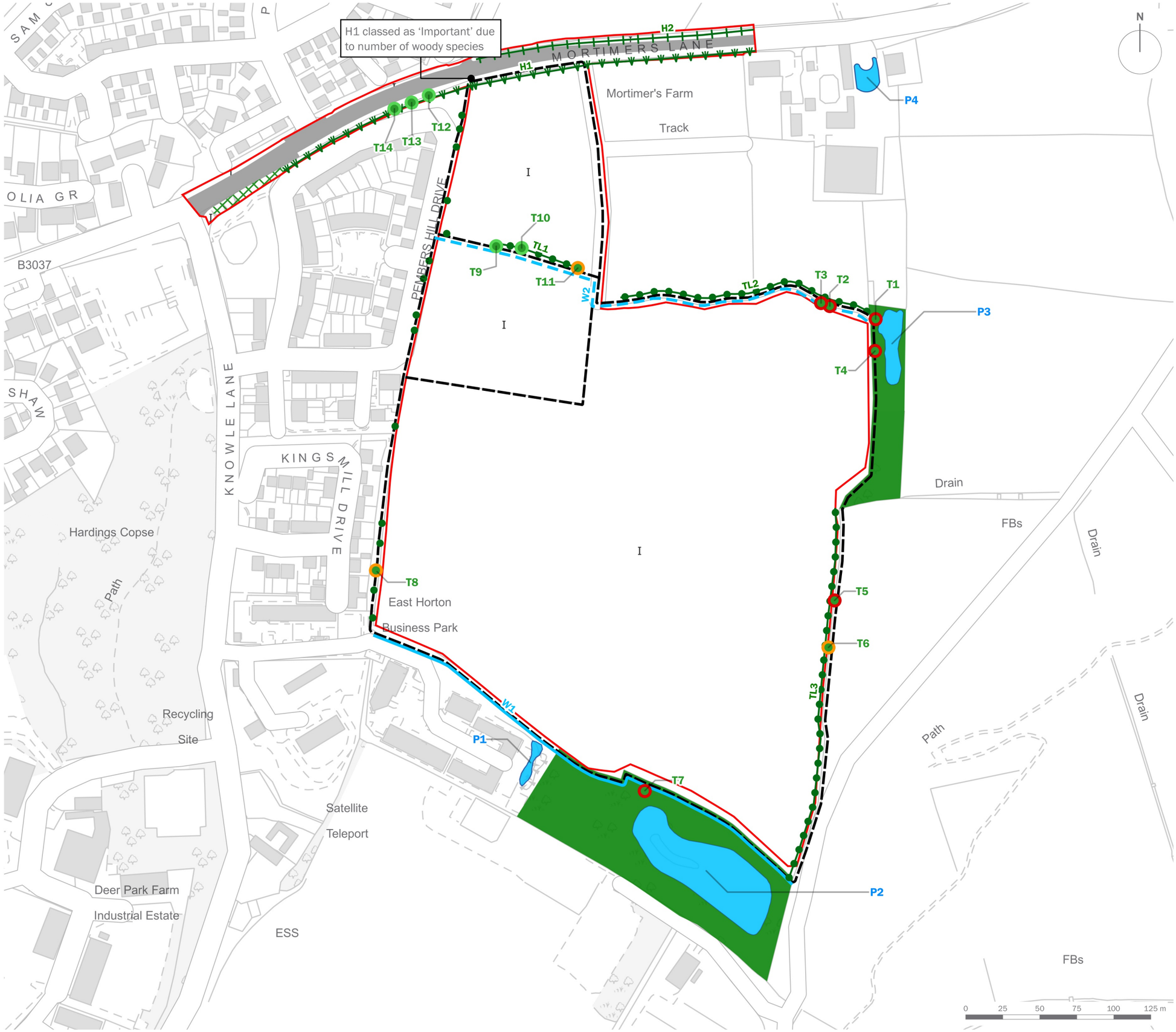
Plan EDP 12: Bat Activity Survey August 2023
(edp7852_d033c 01 July 2025 GYo/KJa)

Plan EDP 13: Bat Activity Survey September 2023
(edp7852_d034c 01 July 2025 GYo/KJa)

Plan EDP 14: Bat Activity Survey October 2023
(edp7852_d035c 01 July 2025 GYo/KJa)

Plan EDP 15: Pre-development Habitat Plan
(edp7852_d039b 01 July 2025 GYo/LNe)

Plan EDP 16: Post-development Habitat Plan
(edp7852_d040a 01 July 2025 GYo/LNe)



Site Boundary

Broadleaved Semi-natural Woodland

Dense Continuous Scrub

I Improved Grassland

Standing Water

Hardstanding

Intact Species-rich Hedgerow and Trees

Intact Species-poor Hedgerow and Trees

Line of Trees

Wet Ditch

Dry Ditch

Fence

Scattered Trees (Broadleaved)

High Bat Roost Suitability

Moderate Bat Roost Suitability

Low Bat Roost Suitability

P1 Pond Number

H1 Hedgerow Number

T1 Bat Suitable Tree Number

TL1 Line of Trees Number

W1 Ditch Number

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

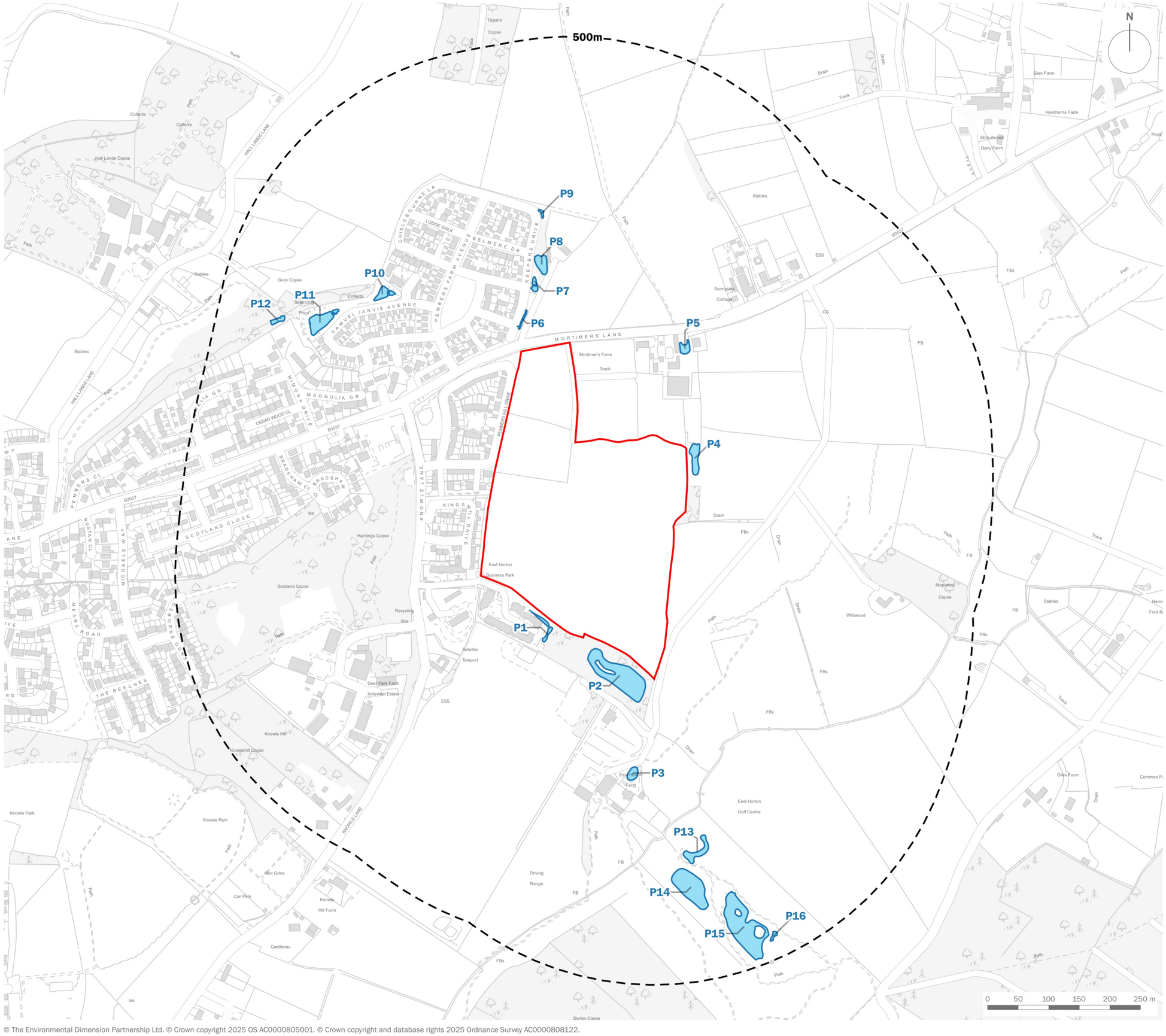
Habitat Survey

date	**03 JULY 2025**	drawn by	**VMS**
drawing number	**edp7852_d011i**	checked	**MNe**
scale	**1:2,500 @ A3**	QA	**DJo**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

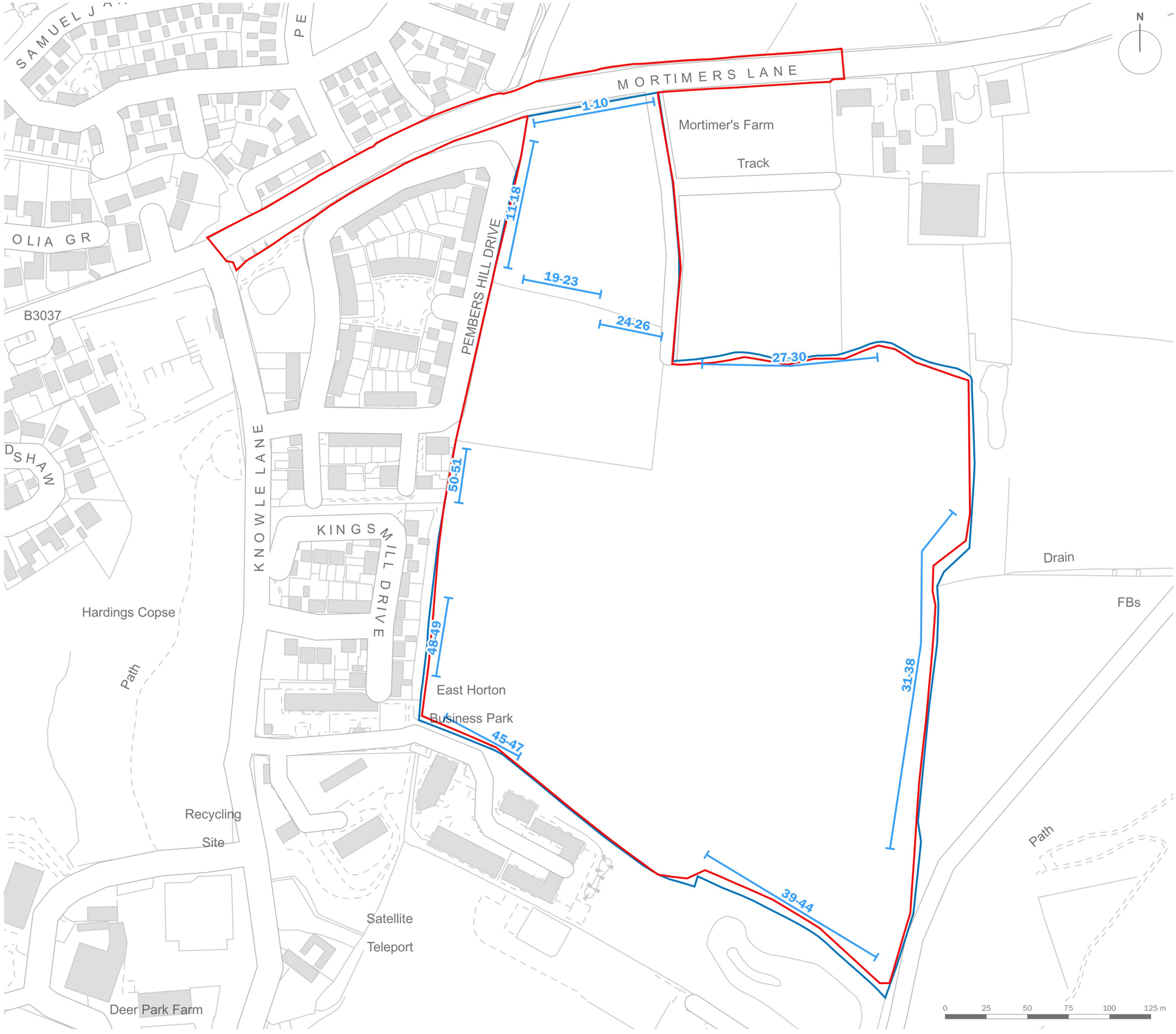
eDNA Survey 2025

date	**23 MAY 2025**	drawn by	**PDr**
drawing number	**edp7852_d043**	checked	**MNe**
scale	**1:6,000 @ A3**	QA	**DJo**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Study Area

1-10 Dormouse Tube Location

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

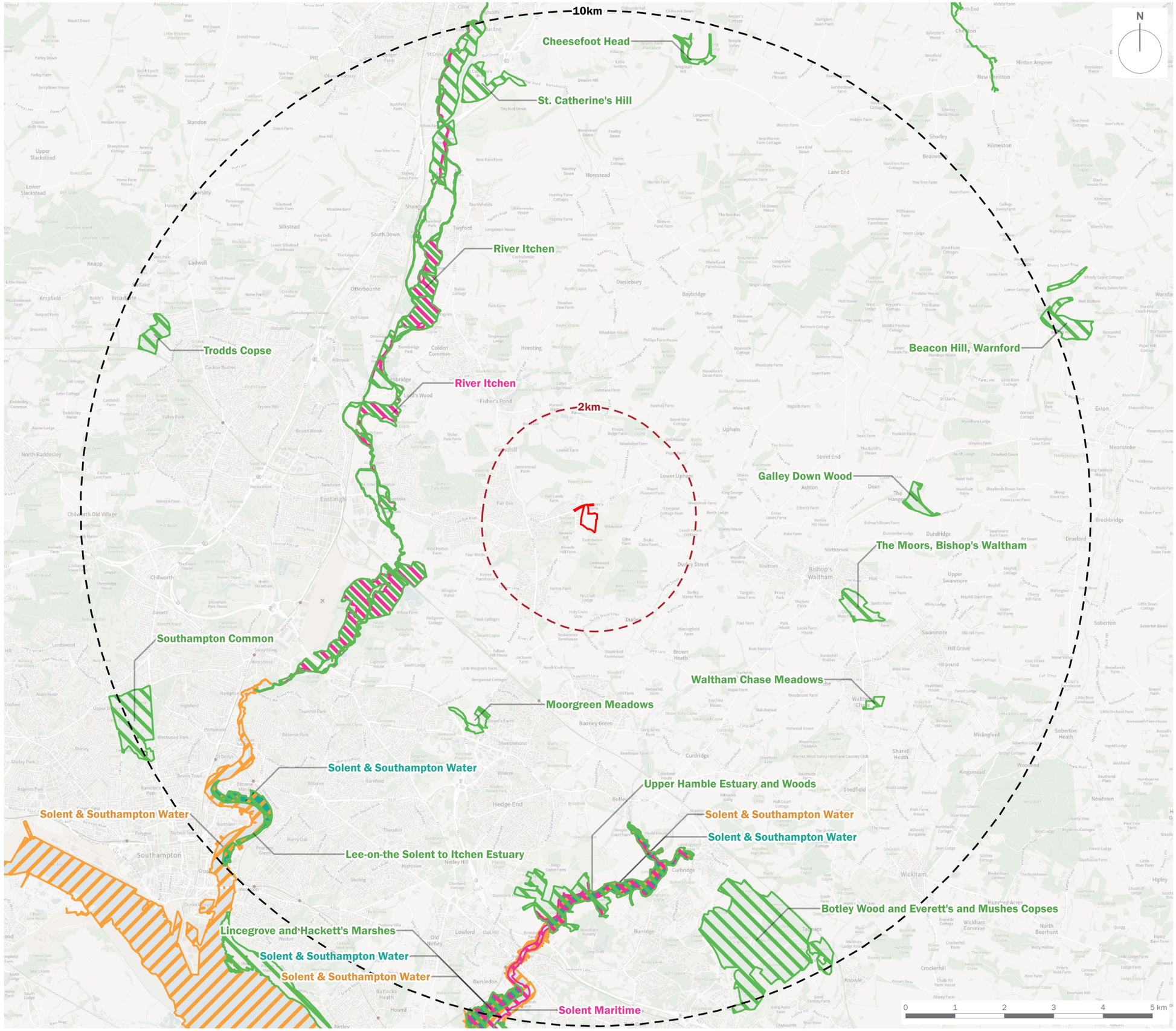
Dormouse Survey Plan

date	**01 JULY 2025**	drawn by	**VMS**
drawing number	**edp7852_d026c**	checked	**KJa**
scale	**1:2,250 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

10km Range Ring

2km Range Ring

Site of Special Scientific Interest (SSSI)

Special Protection Area (SPA)

Special Area of Conservation (SAC)

Ramsar Wetland

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

Statutory Designated Sites

date	**01 JULY 2025**	drawn by	**DJo**
drawing number	**edp7852_d012c**	checked	**MNe**
scale	**1:75,000 @ A3**	QA	**RBa**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

1km Range Ring

2km Range Ring

Local Wildlife Site

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

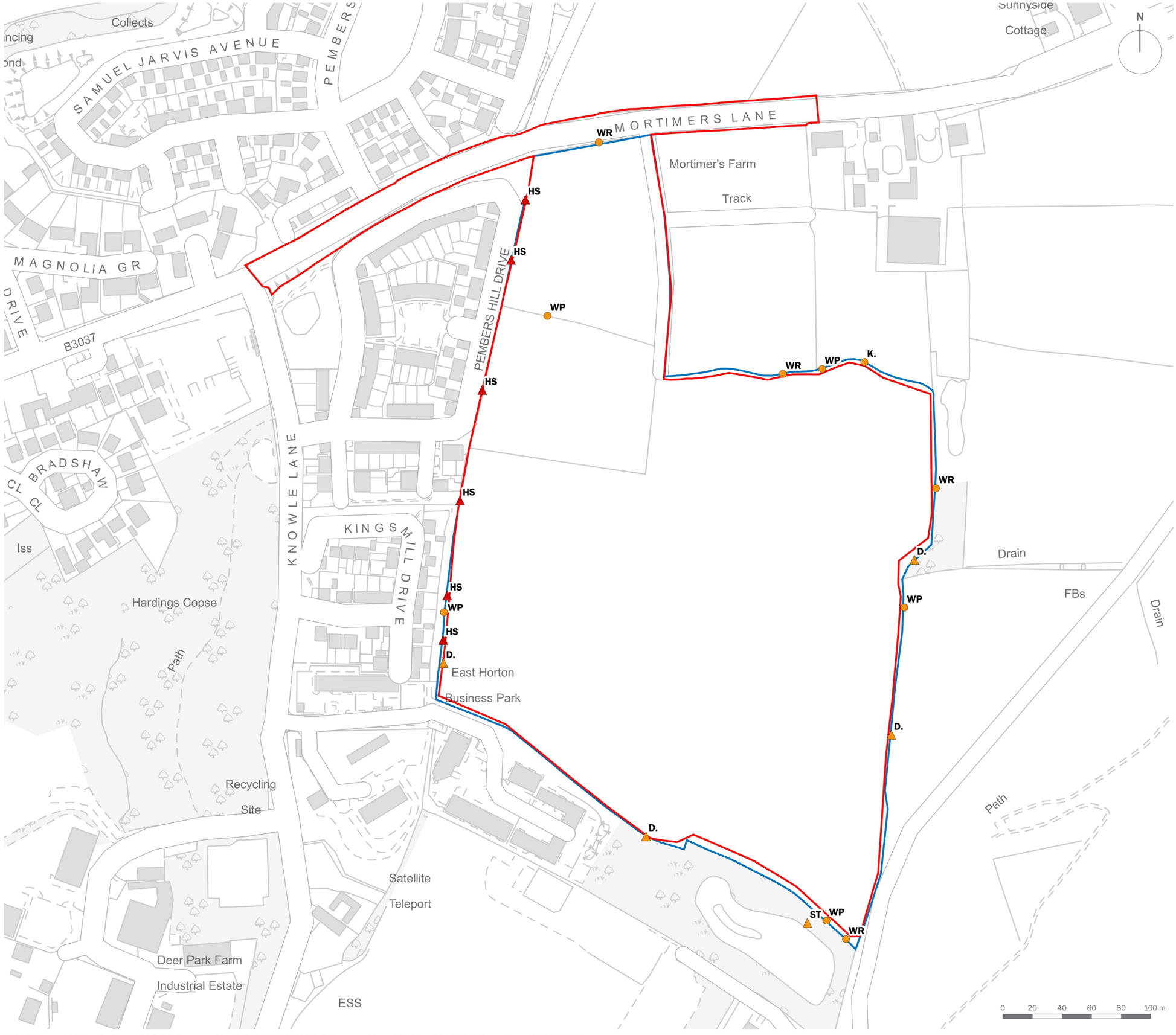
Non-statutory Designated Sites

date	**01 JULY 2025**	drawn by	**DJo**
drawing number	**edp7852_d013c**	checked	**MNe**
scale	**1:17,500 @ A3**	QA	**RBa**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Study Area

Conservation Status

Species of Principal Importance

Not Listed as Schedule 1 or SPI

Birds of Conservation Concern

Red List

Amber List

BTO Code	Common Name
D.	Dunnock
HS	House Sparrow
K.	Common Kestrel
ST	Song Thrush
WP	Woodpigeon
WR	Wren

NB. Points shown are an indicative point within a bird's territory and not necessarily the exact breeding location.

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

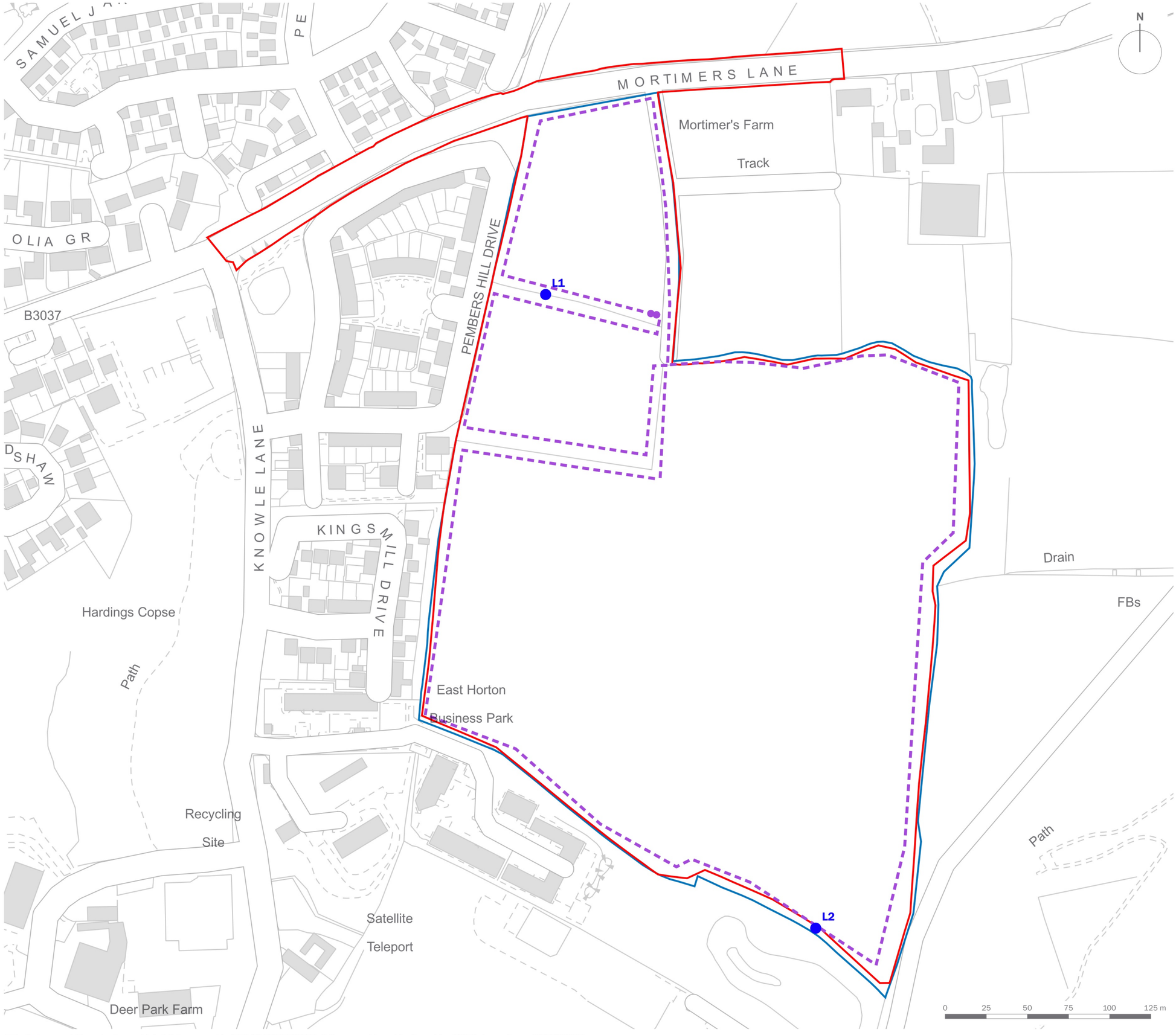
Breeding Bird Survey Map 2023

date	**01 JULY 2025**	drawn by	**GYo**
drawing number	**edp7852_d036c**	checked	**KJa**
scale	**1:2,500 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Study Area

Transect Route

L1 Static Bat Detector Location

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

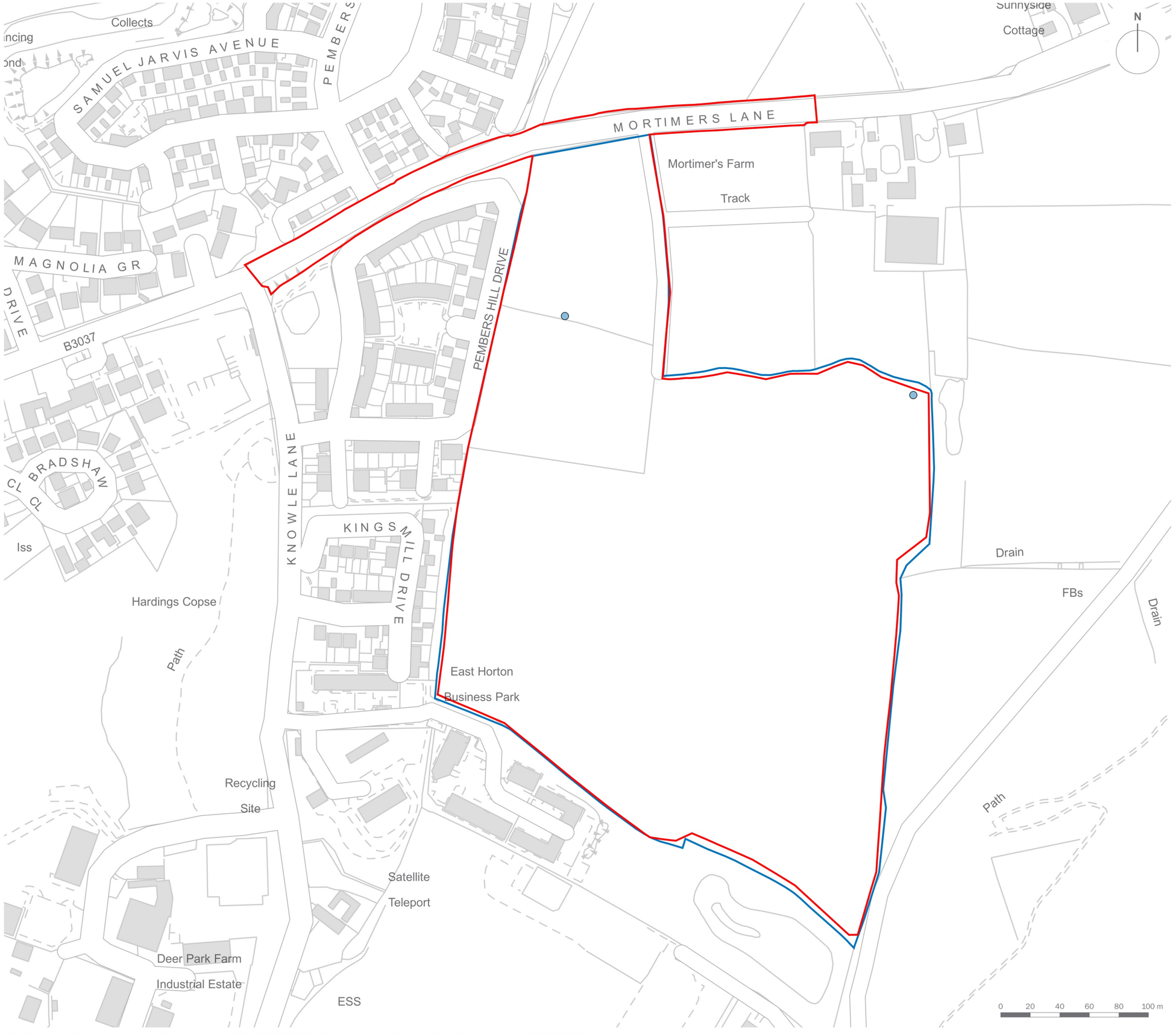
Bat Transect and Static Detector Locations 2023

date	**01 JULY 2025**	drawn by	**VMS**
drawing number	**edp7852_d025c**	checked	**KJa**
scale	**1:2,250 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Study Area

Common Pipistrelle

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

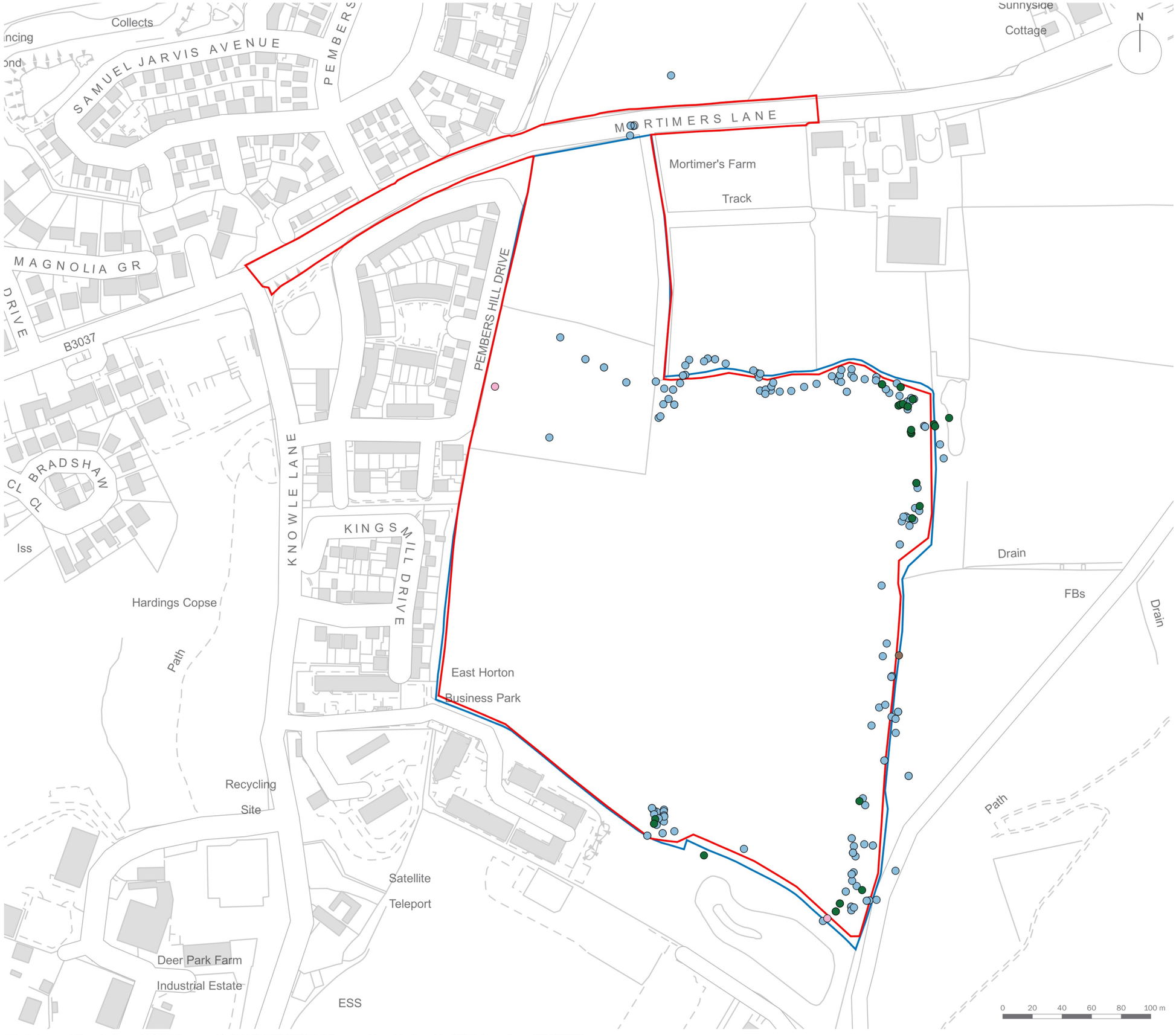
Bat Activity Survey April 2023

date	**01 JULY 2025**	drawn by	**GYo**
drawing number	**edp7852_d029c**	checked	**KJa**
scale	**1:2,500 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Study Area

Common Pipistrelle

Soprano Pipistrelle

Myotis spp.

Serotine

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

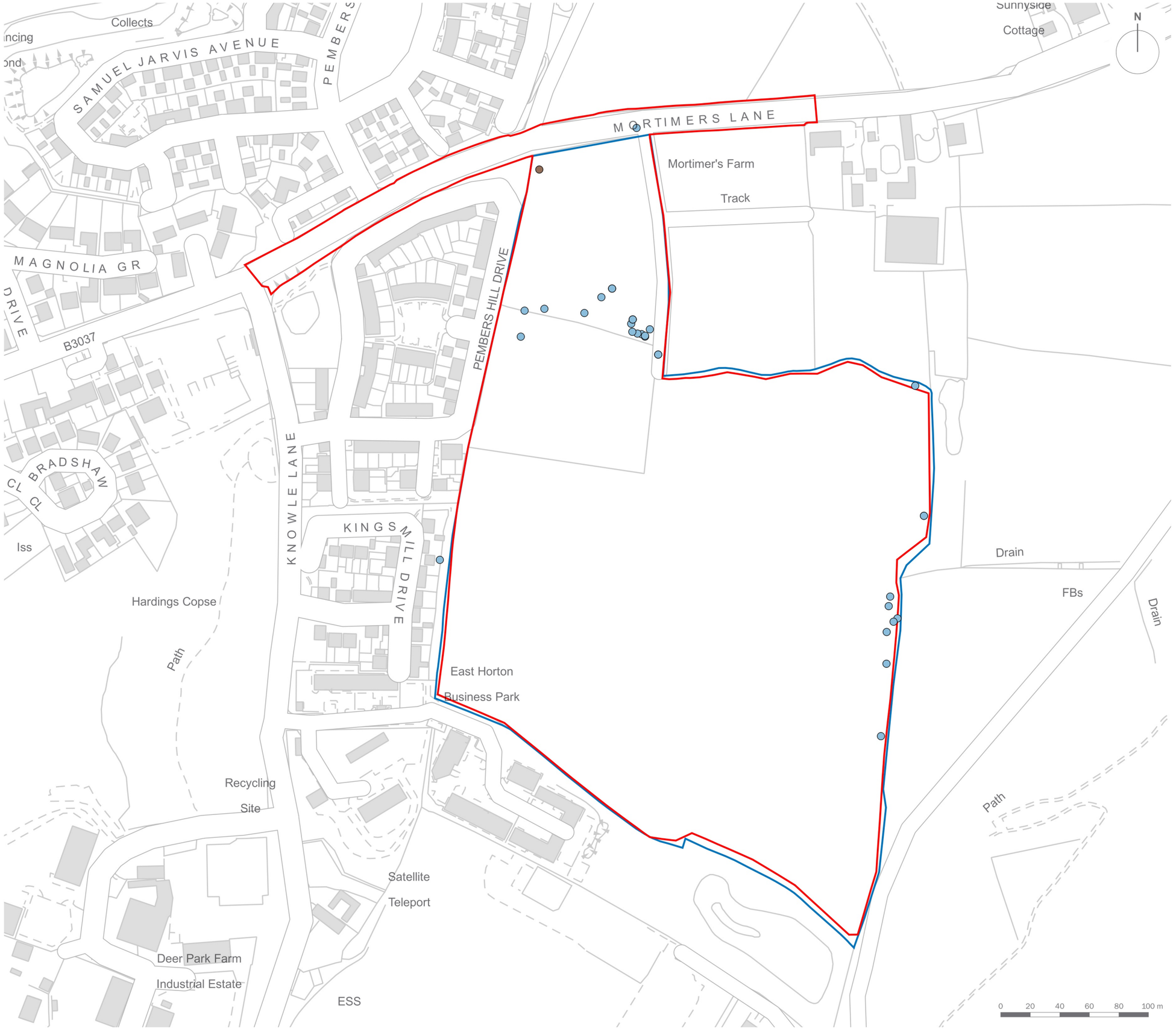
Bat Activity Survey (TDD) May 2023

date	**01 JULY 2025**	drawn by	**GYo**
drawing number	**edp7852_d030c**	checked	**KJa**
scale	**1:2,500 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

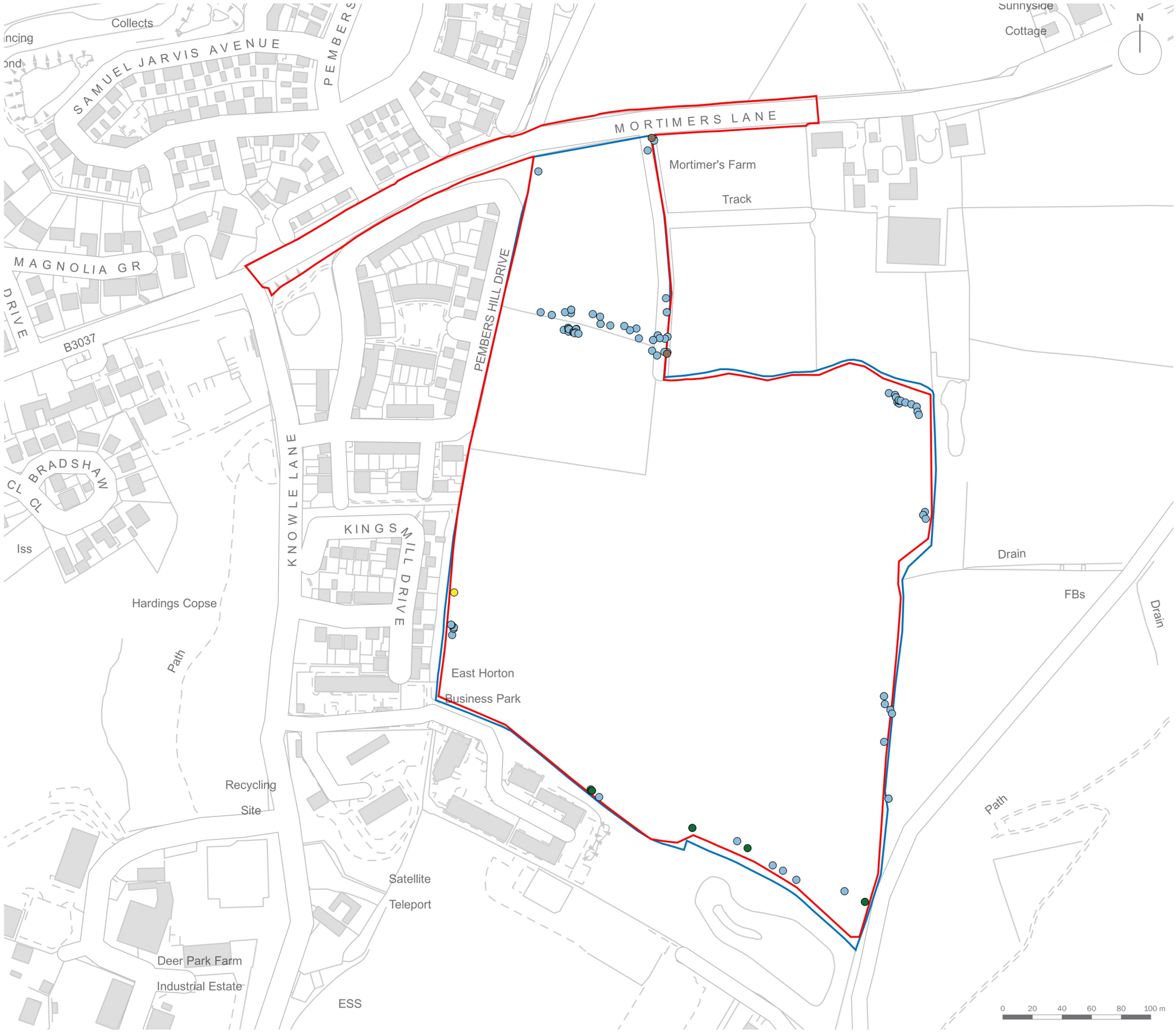
Bat Activity Survey June 2023

date	**01 JULY 2025**	drawn by	**GYo**
drawing number	**edp7852_d031c**	checked	**KJa**
scale	**1:2,500 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Study Area

Common Pipistrelle

Soprano Pipistrelle

Nathusius' Pipistrelle

Serotine

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

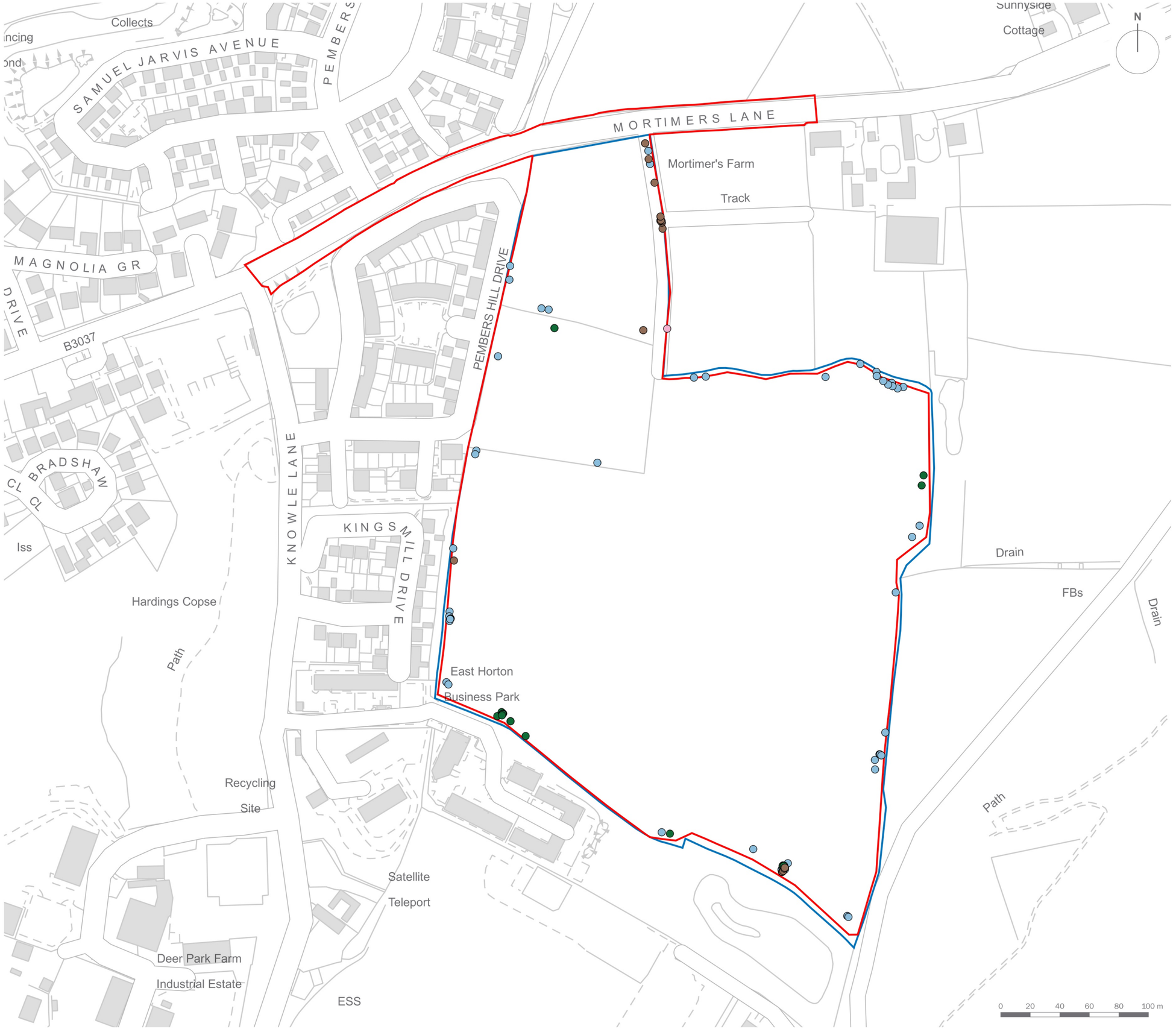
Bat Activity Survey July 2023

date	**01 JULY 2025**	drawn by	**GYo**
drawing number	**edp7852_d032c**	checked	**KJa**
scale	**1:2,500 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Study Area

Common Pipistrelle

Soprano Pipistrelle

Myotis spp.

Serotine

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

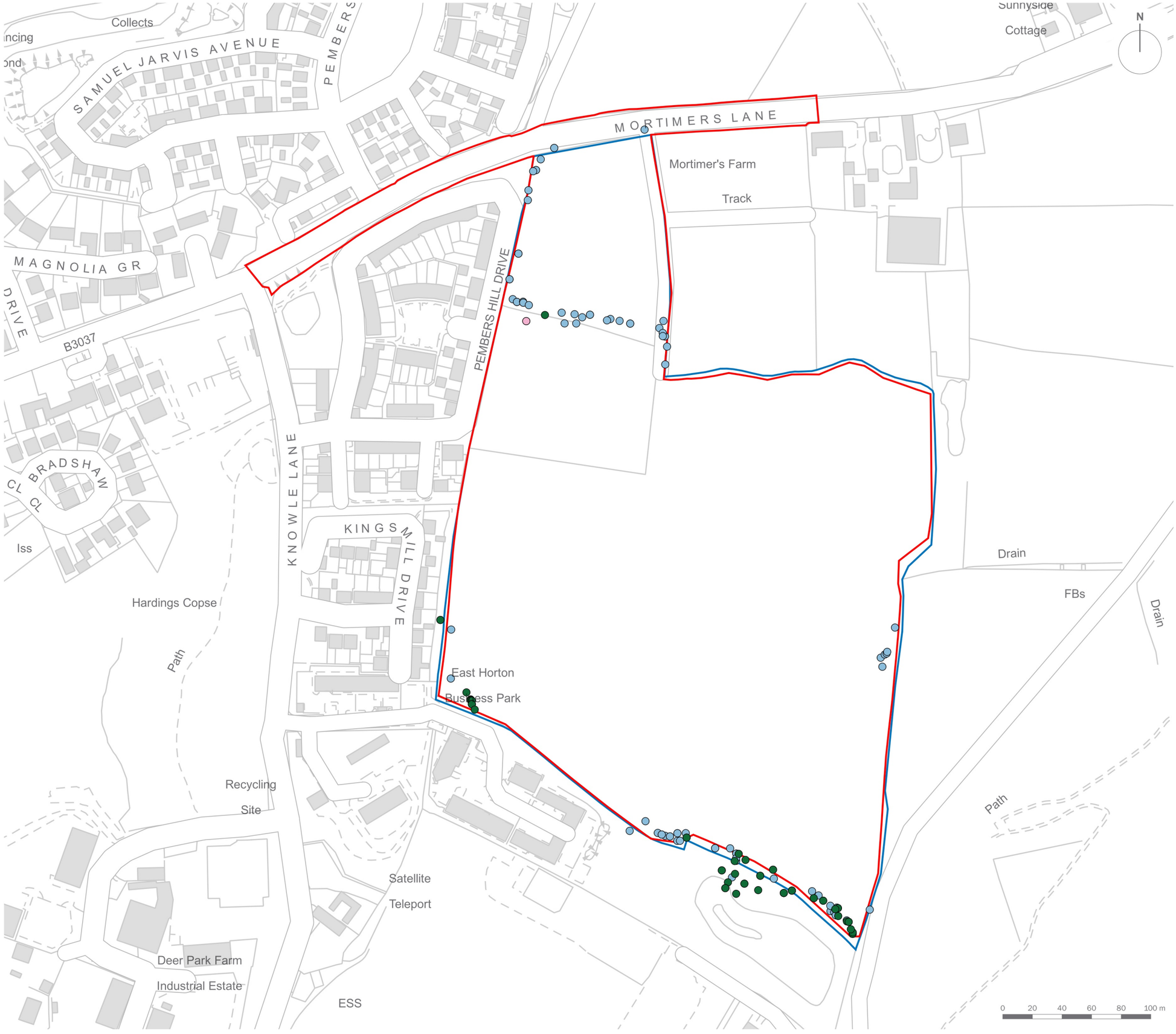
Bat Activity Survey August 2023

date	**01 JULY 2025**	drawn by	**GYo**
drawing number	**edp7852_d033c**	checked	**KJa**
scale	**1:2,500 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Study Area

Common Pipistrelle

Soprano Pipistrelle

Myotis spp.

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

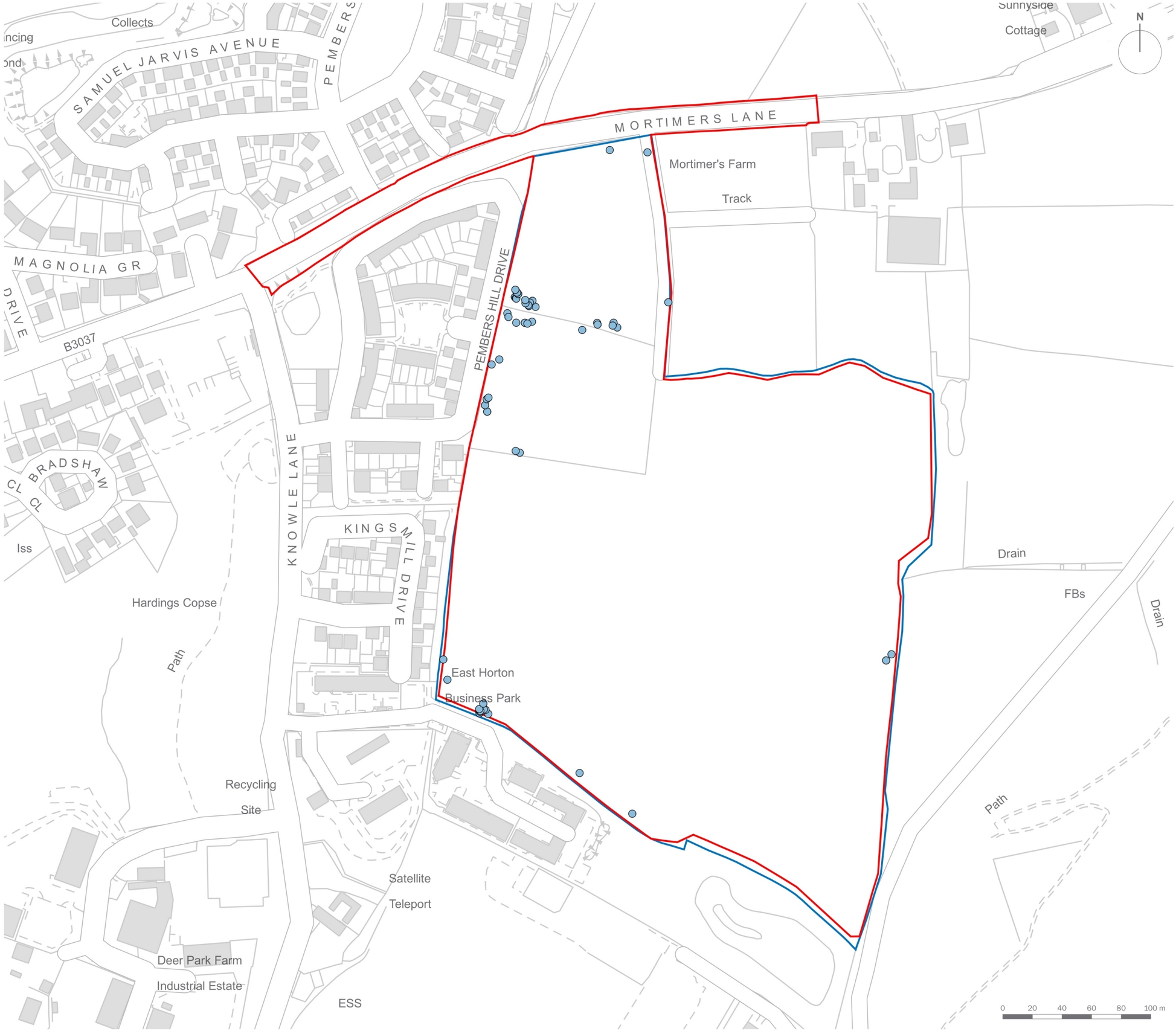
Bat Activity Survey September 2023

date	**01 JULY 2025**	drawn by	**GYo**
drawing number	**edp7852_d034c**	checked	**KJa**
scale	**1:2,500 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Study Area

Common Pipistrelle

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

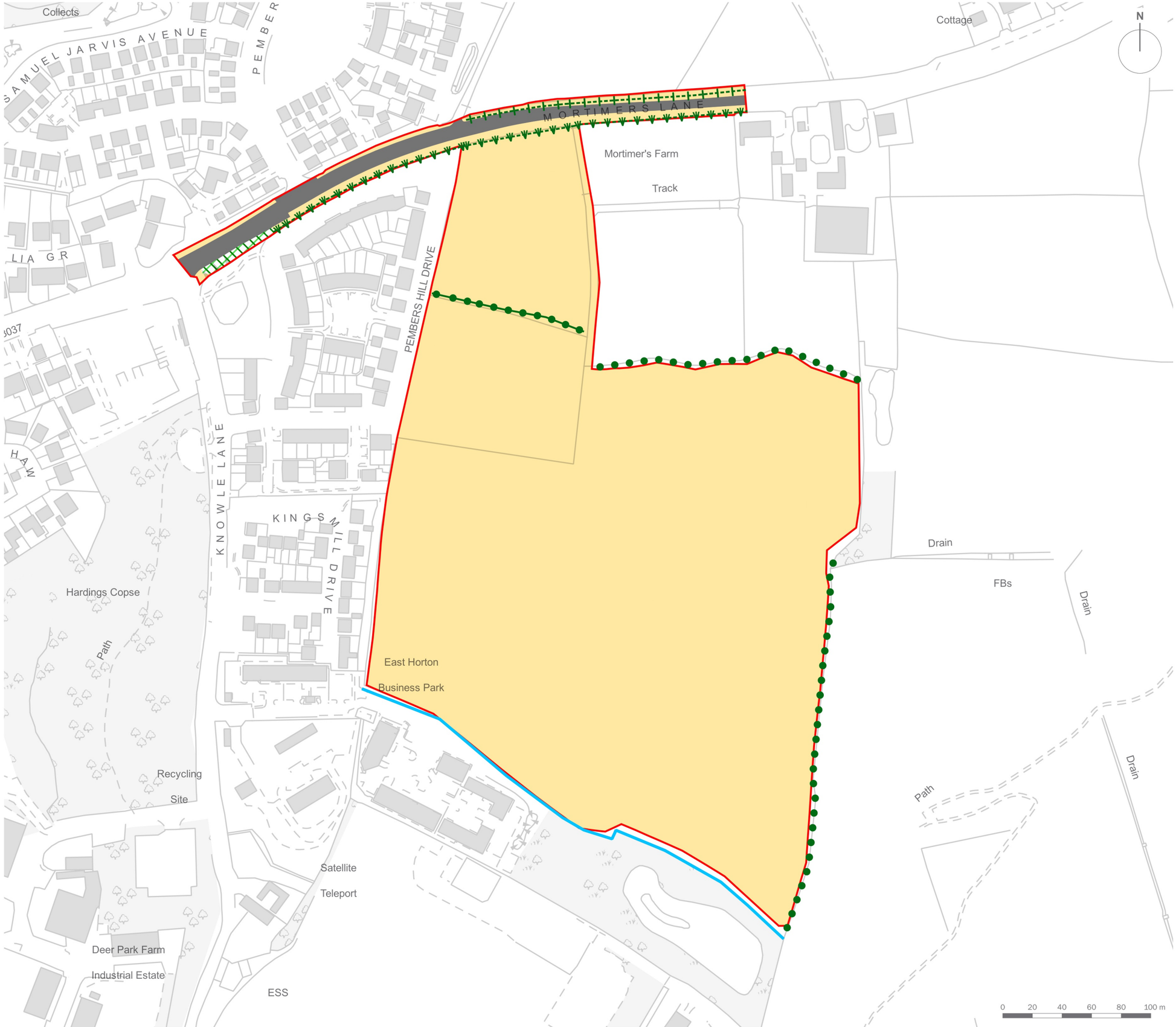
Bat Activity Survey October 2023

date	**01 JULY 2025**	drawn by	**GYo**
drawing number	**edp7852_d035c**	checked	**KJa**
scale	**1:2,500 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Modified Grassland

Bramble Scrub

Built Linear Features

Line of Trees

Line of Trees - Associated with Bank or Ditch

Native Hedgerow with Trees - Associated with Bank or Ditch

Species-rich Native Hedgerow with Trees - Associated with Bank or Ditch

Ditch

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

Pre-development Habitat Plan

date	**01 JULY 2025**	drawn by	**GYo**
drawing number	**edp7852_d039a**	checked	**LNe**
scale	**1:2,500 @ A3**	QA	**DJo**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.



Site Boundary

Lost Hedgerow

Retained Habitats

Bramble Scrub

Built Linear Features

Modified Grassland

Line of Trees - Associated with Bank or Ditch

Species-rich Native Hedgerow

Native Hedgerow with Trees - Associated with Bank or Ditch

Species-rich Native Hedgerow with Trees - Associated with Bank or Ditch

Enhanced Habitats

Line of Trees

Ditch

Created Habitats

Mixed Scrub

Other Neutral Grassland

Modified Grassland

Introduced Shrub

Sustainable Drainage System

Development Parcel: 70% Developed Land, 30% Vegetated Garden

Development Parcel: 70% Developed Land, 30% Vegetated Garden

Built Linear Features

Ponds (Non-priority Habitat)

Native Hedgerow with Trees

Native Hedgerow

Species-rich Native Hedgerow

Species-rich Native Hedgerow with Trees

Proposed Small Urban Tree

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

Post-development Habitat Plan

date	**01 JULY 2025**	drawn by	**GYo**
drawing number	**edp7852_d040a**	checked	**LNe**
scale	**1:2,500 @ A3**	QA	**DJo**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

© The Environmental Dimension Partnership Ltd. © Crown copyright 2025 OS AC0000805001. © Crown copyright and database rights 2025 Ordnance Survey AC0000808122.

the environmental dimension partnership

CARDIFF
02921 671900

CHELTENHAM
01242 903110

CIRENCESTER
01285 740427

info@edp-uk.co.uk
www.edp-uk.co.uk

The Environmental Dimension Partnership Ltd. Registered as a Limited Company in England and Wales. Company No. 09102431. Registered Office: Tithe Barn, Barnsley Park Estate, Barnsley, Cirencester, Gloucestershire GL7 5EG

REGISTERED ORGANISATION CIfA

URBAN DESIGN GROUP REGISTERED PRACTICE

IEMA Transforming the world to sustainability

Landscape Institute
Registered practice