



The Former Stag Brewery, Mortlake

Preliminary Ecological Appraisal

May 2020

Waterman Infrastructure & Environment Limited

Pickfords Wharf, Clink Street, London, SE1 9DG
www.watermangroup.com



Client Name: Reselton Properties Limited
Document Reference: WIE15582-102-R-1-2-3-PEA
Project Number: WIE15582-102

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Date	Prepared by	Checked by	Approved by
Second	May 2020	Sebastian Fitzgerald Senior Ecologist	Niall Machin Associate Director	Niall Machin Associate Director

Comments



Disclaimer

This report has been prepared by Waterman Infrastructure & Environment Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

Contents

1. Introduction	1
2. Methodology	3
3. Results	8
4. Assessment	25
5. Recommendations	27
6. Conclusions	35

Figures

Figure 1: 'Extended' Phase 1 Habitat Survey Features Plan (ref. WIE15582-102_GR_EC_1A)

Tables

Table 1: Geographical Scale of Important Ecological Feature Categories	3
Table 2: Legally Protected Species	3
Table 3: Bat Roost Potential Ratings.....	5
Table 4: Summary of Desk Study Records of Statutory and Non-statutory Designated Sites within 1km of the Site.....	8
Table 5: Summary of Desk Study Records of Flora and Fauna Within 2km of the Site	10
Table 6: Building and Wall Inspection Results	17
Table 7: Potential Important Ecological Features Anticipated to be Affected by the Development	25
Table 8: Ecological Features Scoped out of the Assessment	25
Table 9: Summary of Additional Ecological Assessments	35

Appendices

- A. Planning Policy and Summarised Flora and Fauna Legislation
- B. Ecologist CV
- C. Photographs

1. Introduction

- 1.1. This Preliminary Ecological Appraisal (PEA) has been prepared by Waterman Infrastructure & Environment Ltd (Waterman IE) on behalf of Reselton Properties Limited in support of three related planning applications for the comprehensive redevelopment of the former Stag Brewery Site in Mortlake ('the Site') within the London Borough of Richmond Upon Thames ('LBRuT').
- 1.2. The former Stag Brewery Site is centred on Ordnance Survey Grid Reference (NGR) TQ 204 760 and is bounded by Lower Richmond Road to the south, the River Thames and the Thames Bank to the north, Williams Lane to the west and Bulls Alley (off Mortlake High Street) to the east. The Site is bisected by Ship Lane. The Site currently comprises a mixture of large-scale industrial brewing structures, large areas of hardstanding and playing fields.
- 1.3. The redevelopment will provide homes (including affordable homes), complementary commercial uses, community facilities, a new secondary school alongside new open and green spaces throughout. Associated highway improvements are also proposed, which include works at Chalkers Corner junction.
- 1.4. The planning applications are as follows:
 - Application A – hybrid planning application for comprehensive mixed-use redevelopment of the former Stag Brewery site consisting of:
 - i. Land to the east of Ship Lane applied for in detail (referred to as 'Development Area 1' throughout); and
 - ii. Land to the west of Ship Lane (excluding the school) applied for in outline (referred to as 'Development Area 2' throughout).
 - Application B – detailed planning application for the school (on land to the west of Ship Lane).
 - Application C – highways and landscape works at Chalkers Corner are now anticipated to be progressed under Section 278 of the Highways Act 1980.
- 1.5. Full details and scope of all three applications are described in the submitted Planning Statement, prepared by Gerald Eve LLP.
- 1.6. A PEA report was submitted to LBRuT in February 2018 in support of the above applications (ref. WIE10667-100-R-1-3-1-PEA). However, given the time elapsed since the original 'Extended' Phase 1 Habitat Surveys were undertaken by Waterman in February 2016 and April 2017 (detailed within the 2018 PEA) and in light of the proposed amendments to the Development an update 'Extended' Phase 1 Habitat Survey has been undertaken at the Site. This PEA report now supersedes all previous versions.
- 1.7. This PEA includes an update ecological data search and an update 'Extended' Phase 1 Habitat Survey, which included preliminary bat roost inspection at buildings (including external and internal inspections) and at trees (ground based); and a survey for common invasive plants.
- 1.8. As detailed within industry guidance (CIEEM, 2017)¹, a PEA should be used to identify any ecological constraints and opportunities at a proposed development site. The results of the PEA should be used to inform the emerging scheme design process and suggest recommendations for ecological mitigation, compensation and enhancement measures.

¹ CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal*. Technical Guidance Series. Chartered Institute of Ecology and Environmental Management, Winchester.

- 1.9. The PEA will also detail the requirement for further ecological surveys to determine if any Important Ecological Features (IEFs) are present within the identified Zone of Influence (Zol). If IEFs are present and the Development would result in significant adverse impacts upon them, an Ecological Chapter would be required in support of the Environmental Impact Assessment (EIA), as the scheme has been judged to qualify under the EIA regulations 2011².
- 1.10. The purpose of this report is to:
- Identify the potential for IEFs to be present within the identified Zol and any resulting constraints to the Development;
 - Inform master-planning to allow significant ecological effects to be avoided or minimised wherever possible;
 - Allow any further ecological assessments needed to inform an Ecology Chapter in support of the EIA, to be identified and appropriately designed, as required;
 - Allow likely mitigation measures (in line with the Mitigation Hierarchy³) to be developed, to ensure compliance with nature conservation legislation and planning policy (**Appendix A**);
 - Allow likely ecological opportunities and enhancement measures to be developed to ensure compliance with nature conservation legislation and planning policy; and
 - Form a basis for agreeing the scope of the Ecology Chapter in support of the EIA with relevant consultees, as/if required.

² HMSO (2011) 'Town and Country Planning (Environmental Impact Assessment) Regulations 2011'.

³ BS 42020:2013 Clause 5.2

2. Methodology

Scope of the Assessment

- 2.1. This section summarises the methodologies used for undertaking the PEA based on current guidelines.
- 2.2. The ZoI is the area(s) over which ecological features may be impacted by the biophysical changes caused by the proposed Development. Based on the scale and nature of the Development, it has been assessed that the ZoI arising from these works is unlikely to be greater than 2km from the Site. Therefore, this distance has been used to collect the ecological data search information.
- 2.3. The 'Extended' Phase 1 Habitat survey area comprised primarily the Site and adjacent land, with land beyond this and within the ZoI reviewed through aerial photography⁴. As referenced in industry guidance, potential IEFs that are anticipated to be affected by the Development have been identified and recommended for further assessment. In this report, designated sites, habitats and species that fall into the categories in **Table 1** and **Table 2** have been identified as being ecologically important and / or legally protected / controlled and form the scope of data gathering during the data search and Site surveys.

Table 1: Geographical Scale of Important Ecological Feature Categories

Geographical Level of Importance	Category
International	Statutory designated sites: Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites (including candidate SACs and proposed SACs, SPAs and Ramsar sites).
National	Statutory designated sites: Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR); Ancient Woodland; Habitats and species of principal importance for the conservation of biodiversity as listed on Schedule 41 of the NERC Act, 2006, including ecologically important hedgerows under the Hedgerow Regulations 1997; and Red List and rare species (using IUNC criteria ⁵) and Birds of Conservation Concern (Red List ⁶).
County	Local Nature Reserves (LNR); Non-statutory designated wildlife sites: known as Sites of Importance for Nature Conservation (SINC's) in London; and Local Biodiversity Action Plan (LBAP) habitats and species.

Table 2: Legally Protected Species

Legislation (Summarised in Appendix A)
Species included on Schedules II and V of The Conservation of Habitats and Species Regulations 2017; Species included on Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended), excluding species that are only protected in relation to their sale (Section 9[5] and 13[2]); and Badgers, which are protected under the Protection of Badgers Act 1992.

⁴ Google Maps <https://www.google.co.uk/maps>

⁵ <http://www.iucnredlist.org/technical-documents/categories-and-criteria>

⁶ https://www.rspb.org.uk/birds-and-wildlife/bird-and-wildlife-guides/bird-guide/status_explained.aspx

Ecological Data Search

- 2.4. The aim of the ecological data search is to collate existing ecological records for the Site and adjacent areas. Obtaining existing records is an important part of the evaluation process, as it provides additional information that may not be apparent during a site survey.
- 2.5. An ecological desk study was undertaken in July 2019, during which all records of protected species, and / or other notable fauna and flora within 2km of the Site were requested from Greenspace Information for Greater London (GIGL) via eCountability⁷.
- 2.6. Records of important statutory and non-statutory sites designated for their nature conservation value within 2km of the Site were also requested from GIGL and searched for on the Multi-Agency Geographic Information for the Countryside (MAGIC) website⁸.
- 2.7. Sites with statutory, national or international designations could typically include LNRs, Ancient Woodland, notified or candidate SSSIs, NNRs, SACs, SPAs or Ramsar sites.
- 2.8. Within London, non-statutory SINC sites are ranked at varying levels of nature conservation importance:
 - Sites of Metropolitan Importance (SMI) for Nature Conservation - important at the county scale for nature conservation;
 - Sites of Borough Grade 1 and Grade 2 Importance (SBI) for Nature Conservation - important at the district scale for nature conservation; and
 - Sites of Local Importance for Nature Conservation (SLINC) - important at the local scale for nature conservation.
- 2.9. Within London, Areas of Deficiency are defined as built-up areas more than one-kilometre actual walking distance from an accessible Metropolitan or Borough site. These aid the choice of SINC sites (see above).
- 2.10. In addition, Habitats of Principal Importance (HoPI) and Species of Principal Importance (SoPI) listed under Section 41 (S41) of the NERC Act, as well as Habitat Action Plans (HAPs) and Species Action Plans (SAPs) listed under the London and Richmond BAPs, were consulted to assign an ecological context to the Site.

'Extended' Phase 1 Habitat Survey

- 2.11. An 'Extended' Phase 1 Habitat Survey of the Site was undertaken on 17 July 2019 using the Joint Nature Conservancy Council (JNCC, 2010)⁹ standard 'Phase 1' survey technique. The Phase 1 Habitat Survey methodology was 'Extended' by undertaking an assessment of the Site to support protected and notable faunal species. All habitat types within the Site boundary were mapped (**Figure 1**) with target notes where appropriate. The survey of the Site was conducted under conditions deemed appropriate for survey, being warm, dry and sunny.
- 2.12. Where access allowed, adjacent habitats were also considered to assess the Site within the wider landscape, and to provide information with which to assess possible impacts of the proposed Development.

⁷ GIGL (22 July 2019). An Ecological Data Search for Stag Brewery – Report reference 13083.

⁸ Magic.defra.gov.uk. (2014). *Magic*. [online] Available at: <http://magic.defra.gov.uk/> [Accessed September 2017].

⁹ JNCC. (2010). *Handbook for Phase 1 Habitat Survey*. Nature Conservancy Council

Preliminary Bat Roost Inspections

- 2.13. A preliminary bat roost inspection of buildings, structures (i.e. the river wall) and trees (ground based) on and immediately adjacent to the Site was undertaken at the Site at the same time as the 'Extended' Phase 1 Habitat Survey. External inspections were undertaken at all buildings on Site with an internal inspection undertaken where required i.e. for example where buildings contained a roof void and access was possible and as permitted by H&S implications (see Constraints and Limitations section below). The survey was led by an experienced ecologist (CV provided in **Appendix B**) who holds a Natural England Class Level 2 Licence for all bat species and counties of England. The survey was based on current best practice guidelines (Collins. J, 2016)¹⁰.
- 2.14. An assessment of each building, structure and tree was made in terms of its suitability to support roosting bats. The survey consisted of a visual inspection (including the use of binoculars and torches where required) of the exterior of the building/structure and trees for suitable roosting features and evidence of bat use (e.g. droppings, scratch marks, staining and sightings). A number of factors were considered, including likely internal conditions; proximity to foraging habitats or cover; and potential for disturbance, such as high levels of night lighting. Notes were made relating to relevant characteristics of features providing potential access points and roosting opportunities for bats.
- 2.15. Each building / structure and tree was then assigned a preliminary roosting rating based on current best practice guidelines (Collins. J, 2016), in accordance with **Table 3**.

Table 3: Bat Roost Potential Ratings

Assigned Bat Roosting Potential	Description
Known or confirmed roost	Evidence of roosting bats within the building/structure or tree.
High	A building/structure or tree with one or more Potential Roost Features (PRFs) that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate	A building/structure or tree with one or more PRFs that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only).
Low	A building/structure with one or more PRFs that could be used by individual bats opportunistically. However, these PRFs do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Negligible	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. Building/structure or tree with negligible features likely to be used by roosting bats.

Invasive Plant Species Assessment

- 2.16. The list of invasive plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is extensive and these plants are found in a range of different habitats, including

¹⁰ Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1

aquatic habitats. The 'Extended' Phase 1 Habitat Survey checked for the presence of common invasive species including; Japanese knotweed *Fallopia japonica*, giant hogweed *Heracleum mantegazzianum* and Himalayan balsam *Impatiens glandulifera*.

- 2.17. Any incidental sightings of any such invasive plants species noted during the 'Extended' Phase 1 Habitat Survey were recorded.

IEF Assessment

- 2.18. Data gathered as part of this PEA has been used to identify potential IEFs (i.e. designated sites, habitats and species as listed in **Tables 1 and 2**) that are anticipated to be affected by the Development within the Zol (up to 2km from the Site).
- 2.19. However, not all the IEFs within the Zol have the potential to be significantly affected by the Development, or the legislation pertaining to them to be contravened. Therefore, where features are unlikely to be affected by the Development, or where any effects that impact IEFs are unlikely to be significant¹¹, for the reasons listed below, such features have been scoped out of the assessment:
- No pathway of effect has been identified, for example the feature is sufficient distance from the Site or there is the presence of a barrier between its location and the Site¹² ; or
 - The feature is of insufficient biodiversity conservation value within the Zol, due to its quality, extent or population size¹³.
- 2.20. For all remaining features scoped into the assessment, the pathway of effect (e.g. habitat loss, lighting, noise etc.) and potential impact of this on the feature have been identified.

Constraints, Limitations and Assumptions

- 2.21. Due to the construction type of the buildings present on Site only three buildings (B8, B10 and B14) were suitable for internal inspections. However, due to a lack of floor levels and the presence of Asbestos Containing Materials (ACMs) no internal access to B8 was granted and no internal inspection to B14 was possible due to this building falling under private ownership.
- 2.22. Whilst access to the in south-western loft space of B10 was possible, only an inspection from the loft hatch was undertaken due to a lack of floorboards and unknown structural integrity of the loft space. No access to the remaining loft spaces (to the east and north of the south-western loft space) could be found at the time of survey.
- 2.23. All contractors, designers and the client should be aware of the following:
- The design recommendations within this report are assessed to be the most effective ecological solution at this stage of the project;
 - No other pre-construction information has been provided, obtained or referred to during the preparation of this report (including, but not limited to, services information, geotechnical reports and ordnance reports); and

¹¹ Positive or negative effects on ecological features that have the potential to influence a planning decision are considered to be significant

¹² Whilst the Zol of potential effects arising from the development is up to 2km from the Site, the ecological Zol (within which the feature could be affected) for each feature may vary and for some features may be much less, e.g. great crested newts generally move up to a maximum of 500m from a breeding pond and movement can be restricted by barriers such as busy roads and fast flowing rivers

¹³ E.g. whilst a Priority Species such as skylark *Alauda arvensis* or house sparrow *Passer domesticus* is of National importance (**Table 1 and 2**), the impact of development on individual or a small population of such a species, which are generally commonly found, is unlikely to be assessed as significant

- In deciding whether and how to progress with this project, it will be incumbent upon the client, designers and contractors to obtain and refer to relevant pre-construction and maintenance information, as required by the Construction (Design and Management) Regulations to ensure compliance.

3. Results

Desk Study

Statutory Sites

- 3.1. The Site is not located within or adjacent to any statutory designated sites however several such sites are located within 2km of the Site itself, as detailed in **Table 4** below.
- 3.2. The Site also lies within a SSSI impact risk zone for Richmond Park (located 1.3km south of the Site), however the proposed development type does not fall within the categories listed which trigger LPA consultation with Natural England regarding likely risks of impacts to the SSSI from a proposed development¹⁴.

Non-Statutory Sites

- 3.3. The Site is not subject to any non-statutory designations, however a number of such sites are present within located within 2km of the Site itself, as detailed in **Table 4**. It should be noted that the distances provided in **Table 4** are taken from the Site boundary and therefore are approximate.

Table 4: Summary of Desk Study Records of Statutory and Non-statutory Designated Sites within 1km of the Site

Site Name	Designation	Approximate Distance from Site (m)	Description / Citation
River Thames and Tidal Tributaries	Non-statutory SMI	Adjacent to the northern boundary of the Site.	The River Thames and the tidal sections of creeks and rivers which flow into it comprise a number of valuable habitats not found elsewhere in London. The mud-flats, single beach, inter-tidal vegetation, islands and river channel itself support many species of fish and birds and plants, creating a wildlife corridor running right across the capital.
North Sheen and Mortlake Cemeteries	Non-statutory SLI	140m north west of the Site.	These extensive cemeteries, which are bisected by Mortlake Road, are among the largest in the LBRuT. They are both in active use and managed relatively intensively, with most of the grasslands being mown frequently. They have considerable wildlife interest due to their large size and the diversity of plants and animals that they support.
Old Mortlake Burial Ground	Non-statutory SLI	435m south east of the Site.	This small cemetery is quite intensively managed, but its grasslands contain a reasonable diversity of wildflowers.
Kew Meadow Path	Non-statutory SBI Grade 2	500m north west of the Site.	This public footpath, totally unremarkable in appearance, is one of only a handful of British sites for the two-lipped door snail <i>Alinda biplicata</i> .
Dukes Hollow	Statutory LNR and non-statutory SMI	650m north-east of the Site.	The Site of a former boathouse burnt down in the 1970's, this site has developed into one of the most important wildlife refuges in urban west London, regularly inundated by the tidal Thames and supporting an unusual range of species. The most significant habitats include wet woodland and a rich

¹⁴ <https://magic.defra.gov.uk/MagicMap.aspx>

Site Name	Designation	Approximate Distance from Site (m)	Description / Citation
			intertidal zone containing a number of locally scarce waterside plants, birds and molluscs.
Hounslow Loop Railsides	Non-statutory SBI Grade 2	710m north-east of the Site	Rail sides with a mix of grassland, scrub and tall herbs, forming an important green corridor.
Beverly Brook in Wandsworth	Non-statutory SBI Grade 1 and S	910m south-east of the Site	A wildlife rich brook in the west of Wandsworth borough forming a valuable green corridor.
Pensford Field	Non-statutory SLI	920m north-west of the Site	A community nature area with a colourful meadow and a pond.
Bank of England Sports Club Grounds	Non-statutory SBI2	980m south-east	Sports pitches with an area of woodland and some scattered trees, the most important part of the site for nature conservation is the secondary woodland on its eastern edge.
Barnes Common	Statutory LNR and non-statutory SMI	1,190m east of the Site	Barnes Common contains several habitats including acid grassland, acid scrub, woodland and neutral grassland. Part of the Common is a cemetery (Barnes Old Burial Ground). Barnes Common is of considerable value for educational purposes and informal enjoyment by the public.
Richmond Park	Statutory SAC, NNR and SSSI, Non-statutory SMI	1,330m south of the Site.	Richmond Park has been managed as a royal deer park since the seventeenth century, producing a range of habitats of value to wildlife such as a mosaic of dry acid grassland, marshy and unimproved neutral grassland. The primary reason for the SAC designation is the presence of stag beetle. Richmond Park is a site of national importance for the conservation of the fauna of invertebrates associated with the decaying timber of ancient trees. Richmond Park is also London's largest National Nature Reserve covering approximately 850 ha.
Leg of Mutton Reservoir	Statutory LNR, and Non-statutory SBI Grade 1	1,400m north east of the Site.	A former reservoir saved from development by local action. It supports a diverse bird assemblage.

Ancient Woodland

- 3.4. There is no Ancient Woodland within 2km of the Site.

Protected, BAP and Other Notable Species

- 3.5. Records of legally protected or otherwise notable species of flora and fauna within 2km of the Site were provided by GIGL. A summary of the most significant results of relevance to the Site are provided in **Table 5**. Full results can be obtained from the data providers but cannot be presented in this report as a result of copyright. For some records only a four-figure grid reference has been

provided by GIGL and therefore 'within 2km' has been stated in **Table 5**. It should be noted that the distances provided in **Table 5** are taken from the Site boundary and therefore are approximate.

Table 5: Summary of Desk Study Records of Flora and Fauna Within 2km of the Site

Species	Location of Records Relevant to the Survey Area (m)
<p>Amphibians</p> <p>Records of common toad <i>Bufo bufo</i> and common frog <i>Rana temporaria</i>.</p>	<p>Nearest amphibian record (common frog) is 360m south-east (2002) of the Site.</p>
<p>Badger</p> <p>Eleven records of badger <i>Meles meles</i> within 2km of the Site recorded between 1999 and 2018.</p>	<p>Exact locations cannot be specified in this report owing to the confidentiality of this species.</p>
<p>Bats</p> <p>Records of serotine <i>Eptesicus serotinus</i>, myotis <i>Myotis</i> sp., pipistrelle <i>Pipistrellus</i> sp., brown long-eared bat <i>Plecotus auritus</i>, Natterer's bat <i>Myotis nattereri</i>, soprano pipistrelle <i>Pipistrellus pygmaeus</i>, Daubenton's bat <i>Myotis daubentonii</i>, Leisler's bat <i>Nyctalus leisleri</i>, noctule <i>Nyctalus noctula</i>, Nathusius's pipistrelle <i>Pipistrellus nathusii</i>, common pipistrelle <i>Pipistrellus pipistrellus</i>.</p>	<p>The nearest bat record to the Site is for a Nathusius pipistrelle recorded 274m east (2006) of the Site.</p> <p>All other bat species detailed adjacent have been recorded 284m or more from the Site.</p>
<p>Birds</p> <p>Records include kingfisher <i>Alcedo atthis</i>, pintail <i>Anas acuta</i>, lesser spotted woodpecker <i>Dendrocopos minor</i>, wigeon <i>Anas penelope</i>, gadwall <i>Anas strepera</i>, rook <i>Corvus frugilegus</i>, tree pipit <i>Anthus trivialis</i>, meadow pipit <i>Anthus pratensis</i>, swift <i>Apus apus</i>, tawny owl <i>Strix aluco</i>, lesser black-backed gull <i>Larus fuscus</i>, grey wagtail <i>Motacilla cinerea</i>, tree sparrow <i>Passer montanus</i>, linnet <i>Linaria cannabina</i>, spotted flycatcher <i>Muscicapa striata</i>, swallow <i>Hirundo rustica</i>, grey heron <i>Ardea cinerea</i>, kestrel <i>Falco tinnunculus</i>, brambling <i>Fringilla montifringilla</i>, house martin <i>Delichon urbicum</i>, redwing <i>Turdus iliacus</i>, house sparrow <i>Passer domesticus</i>, common starling <i>Sturnus vulgaris</i>, song thrush <i>Turdus philomelos</i>, stock dove <i>Columba oenas</i>, cuckoo <i>Cuculus canorus</i>, herring gull <i>Larus argentatus</i>, black redstart <i>Phoenicurus ochruros</i>, bullfinch <i>Pyrrhula pyrrhula</i>, marsh tit <i>Poecile palustris</i>, dunnock <i>Prunella modularis</i>, and mistle thrush <i>Turdus viscivorus</i>.</p>	<p>The nearest bird record to the Site is for lesser black-backed gull (164m north-east, 1999).</p> <p>All other bird species detailed adjacent have been recorded 200m or more from the Site or within 2km (where only a four figure Grid Reference has been provided).</p>
<p>Fungi</p> <p>Records of oak polypore <i>Piptoporus quercinus</i>, <i>Phleogena faginea</i>, <i>Corioloopsis gallica</i>, <i>Boletus ripariellus</i> and <i>Boletus declivatum</i>.</p>	<p>Nearest fungi records (<i>Boletus declivatum</i> and <i>Corioloopsis gallica</i>) are 1,456m north (1991 and 2004) of the Site.</p>
<p>Hedgehog</p> <p>Several records of hedgehog <i>Erinaceus europaeus</i> were returned within 2 km of the Site.</p>	<p>Nearest record is 360m south-east (2002) of the Site.</p>

Species	Location of Records Relevant to the Survey Area (m)
<p>Invertebrates</p> <p>Records of swollen spire snail <i>Mercuria cf. similis</i>, two-lipped door snail <i>Alinda biplicata</i>, depressed (or compressed) river mussel <i>Pseudanodonta complanata</i>, cardinal click beetle <i>Ampedus cardinalis</i>, stag beetle <i>Lucanus cervus</i>, small heath <i>Coenonympha pamphilus</i>, latticed heath <i>Chiasmia clathrate</i>, white admiral <i>Limenitis camilla</i>, grizzled skipper <i>Pyrgus malvae</i>, ear moth <i>Amphipoea oculea</i>, mottled rustic <i>Caradrina morpheus</i>, September thorn <i>Ennomos erosaria</i>, dusky thorn <i>Ennomos fuscantaria</i>, Autumnal rustic <i>Eugnorisma glareosa</i>, August thorn <i>Ennomos quercinaria</i>, rustic <i>Hoplodrina blanda</i>, rosy minor <i>Mesoligia literosa</i>, rosy rustic <i>Hydraecia micacea</i>, hedge rustic <i>Tholera cespitis</i>, feathered gothic <i>Tholera decimalis</i>, knotgrass <i>Acronicta rumicis</i>, oak hook-tip <i>Watsonalla binaria</i>, shoulder-striped wainscot <i>Mythimna comma</i>, spinach <i>Eulithis mellinata</i>, flounced chestnut <i>Agrochola helvola</i>, dark spinach <i>Pelurga comitata</i>, brown-spot pinion <i>Agrochola litura</i>, beaded chestnut <i>Agrochola lychnidis</i>, double-line <i>Mythimna turca</i>, crescent <i>Celaena leucostigma</i>, streak <i>Chesias legatella</i>, dusky-lemon sallow <i>Xanthia gilvago</i>, mullein wave <i>Scopula marginepunctata</i>, dark-barred twin-spot carpet <i>Xanthorhoe ferrugata</i>, brindled beauty <i>Lycia hirtaria</i>, shaded broad-bar <i>Scotopteryx chenopodiata</i>, green-brindled crescent <i>Allophyes oxyacanthae</i>, powdered quaker <i>Orthosia gracilis</i>, lackey <i>Malacosoma neustria</i>, v-moth <i>Macaria wauaria</i>, ear moth <i>Amphipoea oculea</i>, four-spotted <i>Tyta luctuosa</i>, mouse moth <i>Amphipyra tragopoginis</i>, dusky brocade <i>Apamea remissa</i>, deep-brown dart <i>Aporophyla lutulenta</i>, sprawler <i>Asteroscopus sphinx</i>, dark brocade <i>Blepharita austa</i>, garden dart <i>Euxoa nigricans</i>, blood-vein <i>Timandra comae</i>, small square-spot <i>Diarsia rubi</i>, garden tiger <i>Arctia caja</i>, Jersey tiger <i>Euplagia quadripunctaria</i>, goat moth <i>Cossus cossus</i>, ghost moth <i>Hepialus humuli</i>, dot moth <i>Melanchra persicariae</i>, broom moth <i>Melanchra pisi</i>, white ermine <i>Spilosoma lubricipeda</i>, buff ermine <i>Spilosoma luteum</i> and cinnabar <i>Tyria jacobaeae</i>.</p> <p>Other invertebrate records were provided in the data search. However, only those protected by legislation or listed as SoPI, LBAP or RBAP are detailed here.</p>	<p>Nearest invertebrate record is for stag beetle located 278m north (2016).</p> <p>All other invertebrate species detailed adjacent have been recorded 371m or more from the Site or within 2 km (where only a four figure Grid Reference has been provided).</p>
<p>Reptiles</p> <p>Records of grass snake <i>Natrix natrix</i>, slow-worm <i>Anguis fragilis</i> and common lizard <i>Zootoca vivipara</i>.</p>	<p>The nearest reptile record to Site is for grass snake recorded 1,166m south east (2016) of the Site.</p>
<p>Flora</p> <p>Records include marsh clubmoss <i>Lycopodiella inundata</i>, ribbonwort <i>Pallavicinia lyellii</i>, crested buckler-fern <i>Dryopteris cristata</i>, pilwort <i>Pilularia globulifera</i>, common juniper <i>Juniperus communis subsp. communis</i>, lamb's succory <i>Arnoseris minima</i>, red star-thistle <i>Centaurea calcitrapa</i>, chamomile <i>Chamaemelum nobile</i>, stinking</p>	<p>Nearest flora record is for mistletoe located 396m west (1998) of the Site.</p> <p>All other flora species detailed adjacent have been recorded</p>

Species	Location of Records Relevant to the Survey Area (m)
<p>goosefoot <i>Chenopodium vulvaria</i>, dodder <i>Cuscuta epithymum</i>, brown galingale <i>Cyperus fuscus</i>, starfruit <i>Damasonium alisma</i>, Deptford pink <i>Dianthus armeria</i>, field eryngo <i>Eryngium campestre</i>, copse-bindweed <i>Fallopia dumetorum</i>, broad-leaved cudweed <i>Filago pyramidata</i>, grass-wrack pondweed <i>Potamogeton compressus</i>, shepherd's-needle <i>Scandix pecten-veneris</i>, marsh stitchwort <i>Stellaria palustris</i>, black poplar <i>Populus nigra subsp. Betulifolia</i>, divided sedge <i>Carex divisia</i>, corn cleavers <i>Galium tricorutum</i>, annual knawel <i>Scleranthus annuus</i>, spreading hedge-parsley <i>Torilis arvensis</i>, round-headed leek <i>Allium sphaerocephalon</i>, tower mustard <i>Arabis glabra</i>, small-flowered catchfly <i>Silene gallica</i>, autumn squill <i>Scilla autumnalis</i>, cut-grass <i>Leersia oryzoides</i>, field cow-wheat <i>Melampyrum arvense</i>, grape hyacinth <i>Muscari neglectum</i>, tubular water-dropwort <i>Oenanthe fistulosa</i>, childing pink <i>Petrorhagia nanteuillii</i>, triangular club-rush <i>Schoenoplectus triqueter</i>, bluebell <i>Hyacinthoides non-scripta</i>, corn buttercup <i>Ranunculus arvensis</i>, greater water-parsnip <i>Sium latifolium</i>, mistletoe <i>Viscum album</i> and cornflower <i>Centaurea cyanus</i>.</p> <p>Other flora records were provided in the data search. However, only those protected by legislation or listed as SoPI, LBAP or RBAP are detailed here.</p>	<p>503m or more from the Site or within 2km (where only a four figure Grid Reference has been provided).</p>
<p>Invasive Species</p> <p>Records include ring-necked parakeet <i>Psittacula krameri</i>, monk parakeet <i>Myiopsitta monachus</i>, zebra mussel <i>Dreissena polymorpha</i>, Chinese mitten crab <i>Eriocheir sinensis</i>, oak processionary <i>Thaumetopoea processionea</i>, water fern <i>Azolla filiculoides</i>, few-flowered garlic <i>Allium paradoxum</i>, ragweed <i>Ambrosia artemisiifolia</i>, three-corned garlic <i>Allium triquetrum</i>, cotoneaster <i>Cotoneaster sp.</i>, open-fruited cotoneaster <i>Cotoneaster bacillaris</i>, Tibetan cotoneaster <i>Cotoneaster conspicuus</i>, late cotoneaster <i>Cotoneaster lacteus</i>, Diels' cotoneaster <i>Cotoneaster dielsianus</i>, Franchet's cotoneaster <i>Cotoneaster franchetii</i>, Hjelmqvist's cotoneaster <i>Cotoneaster hjelmqvistii</i>, waterer's cotoneaster <i>Cotoneaster frigidus x salicifolius</i>, tree cotoneaster <i>Cotoneaster frigidus</i>, montbretia <i>Crocasmia pottsii x aurea</i>, Canadian waterweed <i>Elodea canadensis</i>, Nuttall's waterweed <i>Elodea nuttallii</i>, New Zealand pigmyweed <i>Crassula helmsii</i>, pale galingale, tree-of-heaven <i>Ailanthus altissima</i>, butterfly bush <i>Buddleja davidii</i>, Dartford cotoneaster <i>Cotoneaster obtusus</i>, floating pennywort <i>Hydrocotyle ranunculoides</i>, Himalayan cotoneaster <i>Cotoneaster simonsii</i>, gallant soldier <i>Galinsoga parviflora</i>, curley waterweed <i>Lagarosiphon major</i>, giant hogweed <i>Heracleum mantegazzianum</i>, shaggy soldier <i>Galinsoga quadriradiata</i>, green alkanet <i>Pentaglottis sempervirens</i>, Uruguayan Hampshire-purslane <i>Ludwigia grandiflora</i>, Japanese knotweed <i>Fallopia japonica</i>, goat's-rue <i>Galega officinalis</i>, fox-glove tree <i>Paulownia tomentosa</i>, cherry laurel <i>Prunus laurocerasus</i>, orange balsam <i>Impatiens capensis</i>, Indian balsam <i>Impatiens glandulifera</i>, small balsam <i>Impatiens parviflora</i>, perfoliate</p>	<p>The nearest record to the Site is tree-of-heaven (on or immediately adjacent to the site) recorded in 2005.</p> <p>All other species stated adjacent have been recorded within 1km of the Site or within 2km (where only a four figure Grid Reference has been provided).</p>

Species	Location of Records Relevant to the Survey Area (m)
<p>Alexanders <i>Smyrniium perfoliatum</i>, yellow archangel <i>Lamium galeobdolon subsp. argentatum</i>, evergreen oak <i>Quercus ilex</i>, Turkey oak <i>Quercus cerris</i>, least duckweed <i>Lemna minuta</i>, highclere holly <i>Ilex aquifolium x perado</i>, parrot's-feather <i>Myriophyllum aquaticum</i>, snowberry <i>Symphoricarpos albus</i>, rhododendron <i>Rhododendron ponticum</i>, Spanish bluebell <i>Hyacinthoides hispanica</i> and false-acacia <i>Robinia pseudoacacia</i>.</p>	

'Extended' Phase 1 Habitat Survey

Habitats

- 3.6. The following habitat types, described in more detail below, were identified on and directly adjacent to the Site during the 'Extended' Phase 1 Habitat Survey:
- Amenity grassland;
 - Bare ground;
 - Buildings and structures;
 - Ephemeral / tall ruderal vegetation and scrub;
 - Hardstanding;
 - Ornamental planting;
 - Hedge;
 - Scattered trees;
 - Climbers; and
 - Walls.
- 3.7. The habitat descriptions given below should be read in conjunction with **Figure 1** which includes target notes and the photographs (Plates) presented in **Appendix C**.

Amenity Grassland

- 3.8. Amenity grassland is present at the Site within Watney's Sports Ground playing fields (**Appendix C**, Plate 1), Mortlake Green and the footpath / roadside verges at Chalkers Corner and along the boundary with the River Thames. The short length of sward (approximately 5cm) and limited species diversity recorded indicate that the amenity grassland is subject to an intensive mowing regime. The dominant species recorded was perennial rye grass *Lolium perenne* with species including common bent *Agrostis capillaris*, common daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata*, red fescue *Festuca rubra*, white clover *Trifolium repens*, common catsear *Hypochaeris radicata*, yarrow *Achillea millefolium*, dove's-foot cranesbill *Geranium molle* and *Taraxacum sp* also present.
- 3.9. Where the edges of the amenity grassland have avoided the mowing regime, this has a longer sward and is more species rich with wall barley *Hordeum murinum* (dominant in areas), yarrow

Achillea millefolium, red clover *Trifolium pratense*, meadow cranesbill *Geranium pratense*, common dandelion *Taraxacum officinale*, cleavers *Galium aparine*, false oat-grass *Arrhenatherum elatius*, Yorkshire fog *Holcus lanatus*, herb Robert *Geranium robertianum*, common mallow *Malva sylvestris*, wood avens *Geum urbanum*, broad-leaved dock *Rumex obtusifolius*, greater plantain *Plantago major* and common nettle *Urtica dioica* present.

Bare Ground

- 3.10. Bare ground, predominantly gravel, is present along the footpath (towpath) at the northern boundary of the Site adjacent to the River Thames. Previous strips of bare ground (gravel) are also present within the Site, which have since become colonised with tall ruderal vegetation.

Buildings and Structures

- 3.11. Fifteen buildings are present within or directly adjacent to the Site (**Figure 1**). These buildings comprise industrial warehouses and storage buildings associated with redundant brewing processes, offices, security offices and a club house. An office building and a pub located immediately adjacent to the Site boundary (B14 and B15) were also included in the survey. There are no buildings located within the Chalkers Corner area surveyed.
- 3.12. A description of each building is detailed within and **Table 6** below.

Ephemeral / Tall Ruderal Vegetation

- 3.13. Ephemeral / tall ruderal vegetation has colonised cracked and disturbed areas of hardstanding, strips of bare ground (gravel), and beneath trees (**Appendix C**, Plate 2). The species recorded within these areas include bristly ox-tongue *Helminthotheca echioides*, smooth sow-thistle *Sonchus oleraceus*, cleavers, wall barley, broad-leaved willow herb *Epilobium montanum*, Michaelmas daisy *Aster amellus*, spear thistle *Cirsium vulgare*, prickly lettuce *Lactuca serriola*, cocksfoot *Dactylis glomerata*, mugwort *Artemisia vulgaris*, knotgrass *Polygonum sp*, greater plantain, wood avens, red fescue, common ragwort *Jacobaea vulgaris*, broad leaved dock, common dandelion, common hogweed *Heracleum sphondylium*, common nettle, perennial rye-grass, herb Robert, , and Canadian fleabane *Erigeron canadensis*.
- 3.14. Colonisation by ephemeral / tall ruderal vegetation covers approximately 5% of the total Site area.

Scrub

- 3.15. Scrub species comprising bramble *Rubus fruticosus*, butterfly bush *Buddleja davidii* and birch *Betula sp* saplings were recorded amongst the above areas of ephemeral/tall ruderal vegetation as well as within areas of unmanaged ornamental planting.

Hardstanding

- 3.16. Hardstanding areas are extensive across the Site providing redundant car parking facilities together with roads, and vehicular / pedestrian access.

Ornamental Planting

- 3.17. Several areas of ornamental planting are present across the Site within both raised and ground level planting beds. Formally managed ornamental planting is present at the base of B1 and

adjacent to B7, with less formal areas which appear unmanaged present towards the north of the Site (**Appendix C**, Plate 3). Ornamental planting is also present at the boundary of Mortlake Green and within the Chalkers Corner area surveyed. Species recorded include *Pyracantha sp.*, spindle *Euonymus japonicas*, barberry *Berberis darwinii*, senecio sunshine *Brachyglottis sp.*, holly *Ilex aquifolium*, *Euonymus fortune*, Mexican orange blossom *Choisya x dewitteana* 'Aztec Pearl', Cordyline *Cordyline sp.*, spotted laurel *Aucus japonica*, red robin *Photinia x fraseri*, broom *Cytisus scoparius.*, cotoneaster tree *Cotoneaster cornubia*, lilac *Syringa sp.*, clematis *Clematis sp.*, false castor oil *Fatsia japonica*, sweet bay *Laurus nobilis*, daffodil *Narcissus sp.* and laurel *Laurus sp.*

Hedge

- 3.18. A length (approximately 90m) of privet *Ligustrum sp.* hedge is present along the southern edge of Watney's Sports Ground playing fields. This hedge is approximately 1.5 m in height and 0.75 m wide and appears to be subject to a regular management regime.

Trees

- 3.19. Scattered trees are present across the Site, within the brewery component of the Site; Watney's Sports Ground playing fields; Chalkers Corner, as street trees, and lining the River Thames (**Appendix C**, Plate 4). These trees vary in age and comprise false acacia *Robinia pseudoacacia*, sycamore *Acer pseudoplatanus*, London plane *Platanus x hispanica*, fastigate hornbeam *Carpinus betulus* 'Pyramidalis', small-leaved lime *Tilia cordata*, wild cherry *Prunus avium*, Himalayan birch *Betula utilis*, ash *Fraxinus excelsior*, elder *Sambucus nigra*, holly, whitebeam *Sorbus aria*, Swedish whitebeam *Sorbus intermedia*, tree-of-heaven *Ailanthus altissima*, shrub willow *Salix sp.*, English elm *Ulmus procera*, fastigate oak *Quercus robur* Fastigiata, Norway maple *Acer platanoides*, horse chestnut *Aesculus hippocastanum*, red horse chestnut *Aesculus x carnea*, hawthorn *Crataegus sp.*, Indian bean tree *Catalpa bignonioides*, Eucalyptus *Eucalyptus sp.*, and manna ash *Fraxinus ornus*.

Climbers

- 3.20. Several climbing species of plant were also recorded on Site, largely associated with the northern Site boundary. Species recorded include honeysuckle *Lonicera periclymenum*, ivy *Hedera helix*, and Virginia creeper *Parthenocissus quinquefolia*. The climbing plants are beginning to spread across features such as fencing due to lack of management.

Wall

- 3.21. Several free-standing walls are present within, and forming boundaries, of the Site as shown on **Figure 1** and **Appendix C**, Plate 5. All walls are constructed from brick. Whilst the brickwork of the majority of walls is generally in good condition, the external and internal sides of the wall adjacent to the River Thames in the norther of the Site contains a number of features suitable for roosting bats. A description of each structure/building is detailed within and **Table 6** below.

Invasive Plant Species

- 3.22. Several species listed under Schedule 9 of the WCA (as amended) were returned within the data search with Virginia creeper and false-acacia, which is listed as a Schedule 9 species, recorded on Site at the time of during the 'Extended' Phase 1 Habitat Survey (**Appendix C**, Plate 6). Virginia

creeper appears to be spreading from adjacent properties rather than originating from the Site itself.

- 3.23. Furthermore, several floral species listed under the London Invasive Species Initiative, comprising butterfly bush, tree of heaven and false acacia were also recorded at the time of survey.

Protected or Notable Flora

- 3.24. No protected or notable flora species were recorded at the Site during the 'Extended' Phase 1 Habitat Survey.

Adjacent Habitats

River Thames

- 3.25. The River Thames is located adjacent to the north of the Site. A public footpath (towpath) separates the Site from the River Thames (**Figure 1**, Target Note 1 and **Appendix C**, Plate 7). The section of river that flows adjacent to the Site is tidal and the banks adjacent to the footpath are heavily modified being reinforced by stone and concrete, with parts of the footpath and Thames Bank becoming flooded at high tide. A small boat landing stage also fronts on to the River Thames at the top of Ship Lane adjacent to the northern Site boundary.
- 3.26. The banks of the River Thames comprise gravel and gently slope to the water's edge and support limited aquatic vegetation. The Environment Agency's closest and most recent river quality data¹⁵ set for biology and chemistry indicates that the current ecological quality of the River Thames is 'Moderate'.
- 3.27. The top of the bank is lined with trees, scrub, semi-improved grassland and tall ruderal vegetation. Species recorded here include ash, hazel *Corylus avellana*, ivy, sycamore, hornbeam, nettle *Urtica dioica*, false oat grass *Arrhenatherum elatius*, common bent *Agrostis capillaris*, creeping bent *Agrostis stolonifera*, purple loosestrife *Lythrum salicaria*, broad-leaved dock, burdock *Arctium sp.*, ash, mugwort, mallow *Malva sylvestris*, hemlock water dropwort *Oenanthe crocata*, rye grass *Lolium sp.*, ribwort plantain *Plantago lanceolata*, ragwort *Senecio jacobaea*, elm *Ulmus sp.*, wood avens and barren brome *Bromus sterilis*.

Buildings

- 3.28. The Jolly Gardener's Pub (B14) and an office building (B15) are located immediately adjacent to the Site as shown on **Figure 1**.

Mortlake Green

- 3.29. Mortlake Green, an area of public open space, lies south of the Site and is slightly encroached upon by the southern Site boundary (**Figure 1**, Target Note 2 and **Appendix C**, Plate 8). This green comprises amenity grassland, scattered trees, ornamental planting and hardstanding pathways. These habitats are well managed and regularly utilized by the local community. The habitats such as the shrubs and trees are likely to offer opportunities for birds, bats and invertebrates.

Residential and Commercial Properties

- 3.30. The remainder of the Site is bound by residential and commercial properties and / or roads on all

¹⁵ Environment Agency (2009). River Thames, Wey - Mole Stretch. Available on-line at http://maps.environment-agency.gov.uk/wiyby/wiybyController?latest=true&topic=wfd_estuaries&ep=query&lang=e&x=520467.89

sides.

Protected, BAP and other Notable Fauna

- 3.31. As a result of the 'Extended' Phase 1 Habitat Survey and a review of the ecological data search an assessment is made below on the potential of the Site to support:
- Bats;
 - Birds; and
 - Terrestrial Invertebrates.
- 3.32. The fauna descriptions provided below should be read in conjunction with **Figure 1** which includes target notes and plates presented in **Appendix C**.


Bats



- 3.33. Numerous bat species records were returned in the desk study from within 2km of the Site (refer to **Table 5**).


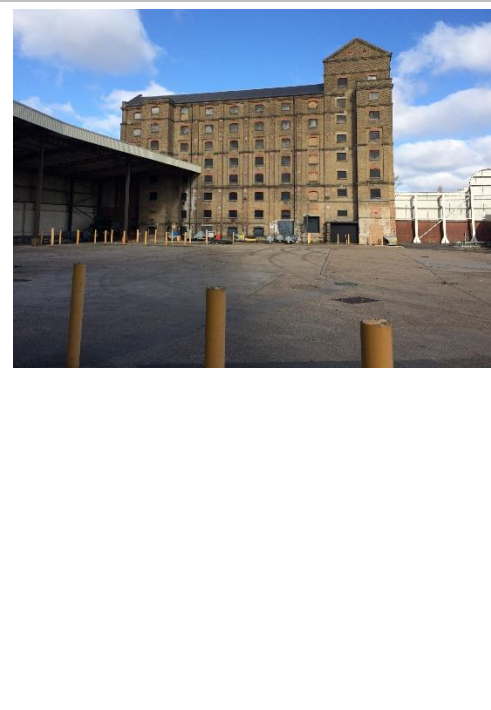
Structures/Buildings



- 3.34. Thirteen buildings (B1-B13) are present within the Site and a further two buildings (B14 and B15) are located directly adjacent to the Site. A description of each building and its potential to support roosting bats is detailed in **Table 6** below. Each building has a reference code (B1-B15) with its location shown on **Figure 1**.
- 3.35. A description of each building and its potential to support roosting bats is detailed within and **Table 6** below. However, to summarise: B1, B2, B4, B5, B7, B11 and B15 are considered to offer negligible value to roosting bats, B3, B6, B9, B10, B12 and B13 are considered to offer low suitability to support roosting bats and B8 and the off-Site B14 are considered to offer moderate suitability to support roosting bats.
- 3.36. In addition, a c.20m portion of wall within the south-east of the Site (**Figure 1**, Target Note 3) is considered to have **low**, with the northern section of the same wall, which fronts the River Thames, considered to have **moderate** potential to support roosting bats.

Table 6: Building and Wall Inspection Results




Building Description	Building Photographs	Bat Roost Rating
<p><u>B1 – Club House at the Sports Club</u> The Club House comprises a two-storey concrete framed building with redbrick walls and a flat roof. Overall, the building is in good condition and no features of potential value to roosting bats were observed.</p>		<p>Negligible potential.</p>

Building Description	Building Photographs	Bat Roost Rating
<p><u>B2, B4, B5 and B7 – Industrial Units</u></p> <p>There are several industrial units across the the Site including the Process Building (B2), Defunct Production Buildings including effluent treatment (B4), Powder Store (B5), and Offices (P.O.B) / and the west gatehouse (B7). These buildings are all of similar construction, with most buildings comprising brick walls at the ground level and corrugated metal cladding above with flat roofs. Other structures include units with shallow pitched corrugated asbestos roofs, tanks and portacabins. All of these buildings are simple in their construction and offer no opportunities for roosting bats.</p>		<p>Negligible potential</p>
<p><u>B3 - Stables Court</u> is a three-storey building of redbrick construction with a flat roof. Windows on the ground have been boarded, a number of which have become warped providing potential access points for bats.</p>		<p>Low potential</p>

Building Description	Building Photographs	Bat Roost Rating
<p><u>B6</u> - Finishing Cellar / Chip Cellar / Brew House is similar in construction to buildings B2, B4, B5 and B7 with brick walls at the base and corrugated metal cladding above with flat roofs. On the northern aspect it appears that a former shutter has been removed resulting in the exposure of the cavity walls around the perimeter of where the removal works have been undertaken. The exposed cavity walls could lead to a potential roosting space for bats.</p>		<p>Low potential</p>
<p><u>B8 – Maltings</u></p> <p>The majority of this building comprises eight storeys, whilst the eastern section comprises nine storeys. It has brick walls and a pitched roof covered in slate tiles with lead flashing along the ridge line. All of the windows have been boarded up on the exterior and gaps appear to be present on a number of windows where the boarding has become warped. On the southern aspect there is a gap (approximately 20 cm x 5 cm) in the brickwork above one of the windows which could provide potential opportunities for roosting bats. Several other smaller crevices were observed within the brickwork in various locations at the building. The pitched roof is in good condition with no obvious features for roosting bats observed during the external inspection. Personal communication with the Site manager confirmed that this building has no floors inside and is therefore open to the pitch internally.</p>		<p>Moderate potential</p>

Building Description	Building Photographs	Bat Roost Rating
<p><u>B9 – Packaging Building</u></p> <p>The majority of the Packaging Building comprises a warehouse style building which has brick walls to 1 m high then corrugated plastic cladding above. The roof consists of hipped and pitched sections constructed from corrugated plastic sheeting with skylights present in some areas. A section on the southern aspect of the building comprises two storeys and is constructed from brick walls with a flat roof. Overall the building is in good condition, however a number of ‘weep/air’ holes are present between brickwork providing potential access points for bats. The ground floor windows are also boarded.</p>		<p>Low potential</p>
<p><u>B10 – L Block</u></p> <p>L Block comprises the Former Bottling Building in the eastern section and a Former Hotel in the western section. The Former Bottling Building is three storeys and has a mixture of brick and concrete walls. The roof is mostly pitched and covered in roofing felt with dormer windows protruding. There is a hole in the north facing wall where it appears that a former window has been removed, which could provide opportunities for roosting bats. Other crevices were observed within the brickwork along the northern side of the Former Bottling Building. The Former Hotel comprises two storeys at the northern end and three storeys at the southern end. The walls are constructed from brick and it has a slate tiled pitched roof. The external brickwork is in good condition. However, a missing ridge tile was observed on the south-west facing aspect of the roof which could provide potential opportunities for roosting bats.</p>		<p>Low potential</p>

Building Description	Building Photographs	Bat Roost Rating
<p><u>B11 – East Gatehouse</u></p> <p>A single storey brick-built building. The roof comprises a mixture of flat and shallow pitched sections covered in roofing felt. There is a plastic soffit box around the top of the external perimeter wall. Overall the building is in good condition and no features of potential value to roosting bats were observed.</p>		<p>Negligible potential</p>
<p><u>B12 & B13 – Power House and Production (CO2 Block)</u></p> <p>The CO2 Block (B12) and Power House building (B13) are similar in construction with brick walls at the base and corrugated metal cladding above with flat roofs. On the eastern aspect of both buildings it appears that a former shutter has been removed resulting in the exposure of the cavity walls around the perimeter of where the removal works have been undertaken. The exposed cavity walls could lead to a potential roosting space for bats.</p>		<p>Low potential</p>
<p><u>B14 – The Jolly Gardener’s Pub</u></p> <p>This building is located outside the Site boundary but lies adjacent to the Site’s southern boundary. The main section (eastern aspect) of this pub comprises three storeys, whilst the western aspect comprises one storey. It is constructed from brick with a hipped clay tiled roof at the eastern aspect and a flat roof at the western aspect. Dormer windows and chimney stacks protrude from the hipped roof. Numerous missing and slipped tiles were noted on the hipped roof which could provide potential opportunities for roosting bats.</p>		<p>Moderate potential</p>

Building Description	Building Photographs	Bat Roost Rating
<p>B15</p> <p>This building is located outside the Site boundary but lies adjacent to the Site's southern boundary. It is a building of modern construction. The walls are constructed from metal and it has a metal flat roof. No features of potential value to roosting bats were observed.</p>		<p>Negligible potential</p>
<p>River Wall (Figure 1, Target Note 3)</p> <p>A c. 20m section of wall within the south-western corner of the Site.</p> <p>The top of the wall (c.10m AGL) contains gaps in 3m sections between brick walls and concrete lintels. The gaps vary between 5 and 15cm and may provide suitable roosting opportunities for bats.</p>		<p>Low potential</p>
<p>River Wall (Figure 1, Target Note 4)</p> <p>Varies gaps and cracks on both sides of the wall.</p> <p>On the Site side these include blown rendering, gaps around wooden window sills, missing mortar and gaps between steel supports and the wall.</p> <p>On the river side these comprise missing mortar, gaps and cracks in brickwork, and raised lettering on the 'Budweiser' sign.</p>		<p>Moderate Potential</p>

- 3.37. As part of the Preliminary Roost Assessment, due to the construction type of the buildings present on Site only three buildings (B8, B10 and B14) were suitable for internal inspections. However, due to a lack of floor levels and the presence of Asbestos Containing Materials (ACMs) no internal access to B8 was granted and no internal inspection to B14 was possible due to this building falling under private ownership.
- 3.38. Whilst access to the in south-western loft space of B10 was possible, only an inspection from the loft hatch was undertaken due to a lack of floor boards and unknown structural integrity of the loft space. No access to the remaining loft spaces (to the east and north of the south-western loft space) could be found at the time of survey.
- 3.39. The internal inspection of the south-western loft space of B10 (**Appendix C**, Plate 9) found the loft space to be of wooden frame construction. The space is approximately 3-4m in height and largely open to the apex. The roof is lined with bitumen roofing felt upon which slate tiles are situated. Insulation of the floor of the loft space was absent. Several chimney stacks are present within the loft space which appeared in good condition, with no areas of missing mortar or brick work noted.

No daylight could be seen within the loft space at the time of inspection indicating that any potential access points are limited. However, bird droppings were recorded, which also indicates that access points (although none were seen at the time of inspection) are present. No signs or evidence of bats was recorded at the time of inspection.

Trees

- 3.40. A number of trees on-Site and along the Site boundary contain potential roosting features for bats, as shown on **Figure 1**. A total of 18 trees including London plane, lime, cherry, sycamore, red horse chestnut, wingnut and two unidentified species are assessed as having **low** potential (denoted as blue on **Figure 1**) to support roosting bats due to the presence of features such as ivy and cavities, with a further 10 trees (red horse chestnut, horse chestnut and tree of heaven and London plane) assessed to have **moderate** potential (denoted as red on **Figure 1**) to support roosting bats owing to the presence of a large number of crevices. All other trees on-Site and along the Site boundary are assessed as not offering any opportunities for roosting bats and therefore are considered to have **negligible** bat roosting potential.
- 3.41. The Site itself is considered to offer limited foraging and commuting opportunities for bats owing to the predominant habitat type comprising buildings and hardstanding. The trees around the periphery and within the north-western corner of the Site offer some foraging and commuting opportunities for bats. However, given their context and limited extent at the Site, it is unlikely that the Site is an important foraging resource for local bat populations. The adjacent River Thames to the north, and Mortlake Green to the south of the Site are likely to provide a much greater foraging and commuting resource.

Birds

- 3.42. Numerous bird species records were returned in the data search from within 2km of the Site (refer to **Table 5**).
- 3.43. Feral pigeon was observed upon the roof of the Maltings building at the time of survey with crow *Corvus corone*, jackdaw *Coloeus monedula*, starling, magpie *Pica pica* and gulls noted within Watney's Sports Ground playing fields.
- 3.44. Ring-necked parakeet *Psittacula krameria* was also observed in several locations. This non-native invasive species is listed under Schedule 9 of the WCA and under the LISI.
- 3.45. Bird prevention spikes and netting were observed at numerous locations at buildings across the Site making them unsuitable for nesting birds. However, the areas of the buildings where bird prevention measures are absent and access to the interior of buildings is available still offer opportunities for nesting birds, most likely common species such as feral pigeon *Columba livia*. The building roofs also offer nesting opportunities for large species of gulls. A number of other exterior structures associated with the former brewing activities within the Site are present, including tanks, vessels, storage containers, forecourt structures and loading bays. These structures are also considered to offer limited nesting potential for these species. Furthermore, the trees and ornamental planting offer potential opportunities for urban/garden species nesting birds.
- 3.46. No records were returned from GiGL for peregrine falcon *Falco peregrinus* within 2 km of the Site. Peregrine falcon is a species fully protected under Schedule 1 of the WCA and is the subject of a Species Action Plan (SAP) in the LBAP. Peregrines breed on tall buildings (typically 20m-200 m above ground level¹⁶) which have suitable ledges for nesting. Although tall buildings exist on-Site,

¹⁶ Dixon, D & Shawyer, C. Peregrine Falcons: Provision of artificial nest sites on built structures. Advice note for conservation organisations, local authorities and developers.

the majority of these buildings are of simple warehouse style construction and as such lack any suitable ledges for nesting peregrines. The Maltings building (B8) is approximately 18-20 m in height and does have one suitable ledge feature (**Figure 1**, Target Note 4 and **Appendix C**, Plate 10) on the southern aspect which could be used by nesting peregrine falcons. A tower associated B13 is approximately 30-35m in height could be used by this species (**Figure 1**, Target Note 5 and **Appendix C**, Plate 11). Nevertheless, no peregrine falcons were observed during the 'Extended' Phase 1 Habitat Survey or have been noted during any of the ecological surveys undertaken at the Site to date. It is therefore likely that this species is absent from the Site.

- 3.47. GiGL returned three non-confidential records of black redstart within 2 km of the Site, with the closest record located 1,902m (1996) east of the Site. The latest London Bird Report¹⁷ only listed one proven black redstart breeding location within Inner London (exact location confidential) with 11 records of singing males.
- 3.48. Black redstart is a species fully protected under Schedule 1 of the WCA and is the subject of a SAP in the London Environment Strategy (**Appendix A**). It is considered that the existing buildings at the Site offer limited suitable nesting habitat for black redstarts owing to their simple structure resulting in a lack of holes and singing posts. In addition, bird prevention spikes and netting were observed at numerous locations at buildings across the Site making them unsuitable for nesting birds. Areas of sparse wasteland vegetation, usually typical of brownfield sites, are the optimal foraging habitat for black redstarts. The sparse patches of ephemeral vegetation / gravel present at the Site are not considered extensive enough to provide suitable foraging habitat for black redstart. However, the River Thames which lies adjacent to the northern boundary of the Site is known to be an important habitat corridor for black redstarts in London. Given this, five black redstart survey visits were undertaken at the Site and adjacent areas in 2016. No black redstarts were recorded during these surveys. Given that the habitats at the Site and adjacent have not significantly changed since 2016, and the sub-optimal habitats present on Site, it is considered highly unlikely that black redstarts would currently be present on Site.

Terrestrial Invertebrates

- 3.49. Numerous invertebrate species records were returned in the data search from within 2km of the Site (refer to **Table 5**).
- 3.50. The ornamental planting and trees are likely to offer opportunities for common species of invertebrates. However, owing to the extent of these habitats and species diversity recorded, it is considered unlikely that they would support any large populations or notable species.
- 3.51. The adjacent River Thames offers opportunities for aquatic invertebrate species.

¹⁷ London Natural History Society (2019) London Bird Report 2017 No. 82.

4. Assessment

- 4.1. The potential IEFs that are anticipated to be affected by the Development (based on the results of the PEA and the Development proposals received to date) are listed in **Table 7** below. This table details the rationale for the inclusion of each potential IEF and also details the potential effect pathways and any requirement for further ecological assessments.

Table 7: Potential Important Ecological Features Anticipated to be Affected by the Development

Potential Important Ecological Feature	Category of Importance	Rationale	Potential Effect Pathway	Requirement for Further Ecological Assessment
Designated Sites (River Thames and Tidal Tributaries SINC).	Non-statutory designated site.	Non-statutory designated site.	Indirect effects could occur as a result of the Development	No Recommendations are made within Section 5 with regard to suitable protection measures
Bats.	Hab Regs, WCA, S41, LBAP.	Presence of suitable foraging and commuting habitat. Buildings and trees assessed to have potential to support roosting bats.	Loss of foraging and commuting habitat. Destruction of bat roosts. Killing or injury of bats present in the roosts during building demolition and tree removal.	Yes. Further assessment in the form activity survey including use of automated detectors and evening emergence / re-entry surveys at buildings and trees.

- 4.2. All other ecological features identified through the PEA have been scoped out of further assessment because:
- The population or area likely to be affected by the Development is of insufficient size or diversity to be of ecological importance;
 - There is no potential effect pathway between the Development and these features has been identified; and/or
 - Contravention of the legislation relating to the feature is unlikely to occur.
- 4.3. The rationale for scoping out features present within the Site is provided in **Table 8** below.

Table 8: Ecological Features Scoped out of the Assessment

Ecological Feature	Rational
Designated Sites (excluding River Thames and Tidal Tributaries SINC)	No pathway of direct effect given distance from Site. Indirect effects also unlikely to occur based on scale of proposed works and intervening habitats present. No significant effects anticipated from the Development.

Ecological Feature	Rational
On Site habitats (all)	Habitat types are both nationally and locally common. No significant effects anticipated from the Development.
Breeding birds (including peregrine falcon and black redstart)	The Development is highly unlikely to give rise to significant effects to breeding birds, however legal implications are required. No peregrine falcons have been recorded utilising the Site to date. No black redstarts were found during surveys in 2016 and the Site remains sub-optimal for this species. As such, the Development is highly unlikely to give rise to significant effects to black redstart.
Terrestrial Invertebrates	Any population(s) likely to be of insufficient size or diversity to be of significant ecological value. No significant effects anticipated from the Development.

5. Recommendations

- 5.1. The PEA has identified potential IEFs anticipated to be affected by the Development that could result in significant ecological effects. The requirement for further ecological assessments to fully define any IEFs present on-Site has been highlighted within **Table 7** and a detailed scope is provided below.
- 5.2. To minimise or avoid any significant ecological effects and to inform the emerging scheme design, recommendations for ecological mitigation and compensation measures for those potential IEFs detailed within **Table 7** have been provided. In addition, ecological enhancement measures are also recommended.
- 5.3. Although ecological features such as habitats, breeding birds, and terrestrial invertebrates have been scoped out of the assessment (**Table 8**), mitigation measures to ensure the Development meets legal compliance are still required. These measures, together with ecological enhancement measures that have been incorporated into the Development to ensure that it provides a net biodiversity gain in line with planning policy, are set out below.

Designated Sites

- 5.4. The River Thames is of value to fish, birds and invertebrates, as well as acting as a wildlife corridor. Due to its presence adjacent to the northern Site boundary, and consequently the potential for it to be affected as a result of Development the River Thames SMI has been assessed as an IEF. The water quality of the River Thames could be adversely affected by the Development as a result of pollution run-off or silt entering the river during the demolition, alteration, refurbishment and construction phase (the 'Works') of the Development. This in turn could affect the wildlife associated with the river such as invertebrates and fish. Other potential indirect effects associated with the Works could include increased levels of noise, dust, vibration and light pollution. Ecological mitigation will be detailed within the Ecological Chapter required in support of the three planning applications. However, likely measures include:
 - A Construction Environmental Management Plan (CEMP) (see below for further details) would be produced to ensure appropriate environmental controls are provided during demolition and construction to protect retained features of the SLINC from dust, vibration, pollution events and encroachment of retained habitats.
- 5.5. It is considered unlikely that there would be any direct or indirect effects on any other designated sites as a result of the Development owing to the distance and separation of those designated sites returned from the ecological data search by surrounding urban development and infrastructure.
- 5.6. During the operational phase of the Development, the River Thames SMI could potentially be adversely impacted by increased public disturbance as a result in a change in land use (brought about by the Development). However, the River Thames is already well used for recreational purposes, including heavy boat use adjacent to the northern boundary of the Site, and as such the impact is considered to be negligible. Furthermore, the provision of green space (as recommended later in this PEA) within the Development design would provide amenity space for the future residents, alleviating pressure on the adjacent non-statutory sites.

Habitats

- 5.7. No habitats present within the Site are assessed to be IEFs. Nevertheless, mitigation in the form of appropriate protection measures will be set out within a CEMP and adhered to during the construction phase of the Development for those habitats to be retained. This should include protection measures at trees which are to be retained and therefore protected during the construction phase of the Development in accordance with BS 5837:2012 - "Trees in relation to design, demolition and construction – Recommendations".
- 5.8. To conserve and enhance the ecological value of habitats at the Site the following compensation and enhancements measures in line with planning policy including the National Planning Policy Framework (NPPF); policies GG1, G1, G5 and G6 of the Intend to Publish London Plan (December 2019); and policies LP12, LP15, LP16 and LP17 of the London Borough of Richmond upon Thames Local Plan (**Appendix A**) should look to be provided as part of the Development:
- it is recommended the trees on-Site are retained, where possible, and placed under a suitable management regime, as part of the Development;
 - the Development proposals should include green infrastructure corridors within landscape proposals to create and connect habitats of value to wildlife, including the creation of a north-south corridor between Mortlake Green and the River Thames;
 - the use of native species, or species of benefit to wildlife, within the Development's landscape scheme should be used to provide foraging opportunities for birds, bats, invertebrates and other fauna is recommended to enhance the Site for wildlife;
 - where new landscaping is to be undertaken as part of the Development proposals, horticultural practice should include the use of peat-free composts, mulches and soil conditioners. The use of pesticides (herbicides, insecticides, fungicides and slug pellets) should be discouraged to prevent fatal effects on the food chain particularly invertebrates, birds and / or mammals. Any pesticides used should be non-residual; and
 - subject to feasibility, additional habitat could be created above ground level within the Development utilising roof top space. Green roofs could be provided by creating grassland on roofs by sowing wildflower species in low-nutrient soils. If these are accessible to the public, they could provide amenity space for residents within the Site. Areas of brown roof could be provided with a gravel substrate and could be sown with London rocket *Sysimbrium irio* and tower mustard *Arabis glabra* (London SAP) if seed is available from local populations. The brown roofs could otherwise be allowed to self-seed with ruderal species, potentially providing a food source for invertebrates on which, in turn, other invertebrates and birds (including black redstart) and bats may feed. These brown roofs can provide breeding and nesting habitat for invertebrates and birds (including the house sparrow, a SoPI and London BAP priority species).

Invasive Plant Species

- 5.9. Butterfly bush and tree of heaven are listed as LISI Category 3, the explanation for this category is as follows:

"Species of high impact or concern which are widespread in London and require concerted, coordinated and extensive action to control / eradicate".

- 5.10. As a matter of best practice, it is recommended that butterfly bush and tree of heaven are removed from the Site via a suitable eradication programme prior to the commencement of the Works associated with the Development, where feasible, and not included within the planting schedule of any future landscape proposals.
- 5.11. False acacia is present on-Site and ring-necked parakeets were also observed on-Site. These species are listed as LSI Category 4 which states:
- “Species which are widespread for which eradication is not feasible but where avoiding spread to other sites may be required.”*
- 5.12. False acacia and Virginia creeper are also listed under Schedule 9 of the Wildlife and Countryside Act 1983. Under the Act it is an offence to plant or otherwise cause the species to grow in the wild. It is therefore recommended that the false acacia is appropriately removed from Site as part of the Development. This should also be undertaken for Virginia creeper, together with appropriate control of this species through regular management when it is spreading from off-Site areas.

Protected and Notable Fauna

- 5.13. Protected and notable fauna on Site and within the ZOI that could be significantly affected by the Development include bats, pending on the results of the recommended further assessments. No other protected and notable fauna are assessed to be IEFs.
- 5.14. Mitigation in the form of protection measures should be adhered to during the construction phase of the Development for any confirmed IEFs and other protected and notable fauna. These measures will ensure legal compliance and that good practice is adopted. The measures should be documented within a CEMP and include timing constraints associated with Site clearance works including the removal of habitats with the potential to support nesting birds.

Bats

- 5.15. The Site is assessed to be of low suitability for foraging and commuting bats. Consequently, and in line with current best practice guidelines, further survey in the form of bat activity surveys should be undertaken, to determine the utilisation of the Site by bats, and if present, by what species. In line with current best practice (Collins, J, 2016) the surveys should take the form of walked activity transects, with one survey visit being conducted per season (spring, summer and autumn). These surveys should also be supplemented by static bat detectors set out at one location per transect with data collected on five consecutive nights per season.
- 5.16. Stables Court (B3), Finishing Cellar / Chip Cellar / Brew House (B6), Packing building (B9), L Block (B10), CO2 Block (B12), and Power House (B13) have been identified as having **low** potential to support bat roosts and The Maltings (B8) and the off-Site Jolly Gardener’s Pub (B14) (adjacent to the Site) have been identified as having **moderate** potential to support bat roosts.
- 5.17. Furthermore, 10 trees (**Figure 1**) have been identified as having **moderate** potential to support roosting bats. In accordance with current best practice guidelines these buildings and trees should be subject to further surveys. As such, if any of these buildings and trees are likely to be impacted upon as a result of the Development, it is recommended that the following further survey work is

undertaken as follows (refer to the Protected Species Report for the results of the further survey work undertaken as recommended within this PEA):

- Low potential buildings (i.e. B3, B6, B9, B10, B12, and B13): a single evening emergence or dawn re-entry survey;
- Moderate potential trees (i.e. those circled red on **Figure 1**) which are to be removed; The Maltings (B8) and the Jolly Gardener's Pub (B14): a single evening emergence and dawn re-entry survey spread at least two weeks apart; and
- The section of river wall within south-west corner of Site should be subject to a single evening emergence or dawn re-entry survey due to lack of access; and
- The section of river wall adjacent to the River Thames should be subject to two endoscope inspections spread at least two weeks apart, as all features can be suitably accessed via a ladder.

- 5.18. All of the evening emergence and dawn re-entry surveys should be carried out when bats are most active (May to August / September), to determine the presence or absence of roosting bats.
- 5.19. If any buildings or trees are confirmed to support roosting bats the survey effort detailed above would need to be increased to conform to current best practice guidelines. The additional surveys would assist in adequately assessing the number of bats present and the roost classification to advise the requirement for mitigation.
- 5.20. If any of the buildings or trees that would be directly impacted on by the Development are confirmed as supporting a significant bat roost, it is recommended that a detailed mitigation strategy to support a Natural England European Protected Species (EPS) development licence is prepared, in order to avoid infringement of relevant legislation. Should a non-significant roost of low conservation status be recorded a Bat Low Impact Class Licence, which requires a non-detailed Method Statement only, could be applied for. The licence application would detail the proposed mitigation including provisions of alternative bat roosting opportunities on the Site, timing of the proposed works and the provision of ecological supervision during the building demolition / tree removal phase. Post-development monitoring of the mitigation provided may also be required as part of the licence and the survey data would need to be within 18 months of age to support the licence application. It should be noted that Natural England require a minimum of 30 working days to process a licence application.
- 5.21. A total of 18 trees on-Site and on the Site boundary are assessed as having **low** potential to support roosting bats. In accordance with best practice guidelines no further survey of these trees is necessary. However, if any of these trees require removal as part of the Works, then it is recommended that this is undertaken using soft felling techniques.
- 5.22. All other buildings and trees within and adjacent to the Site boundary have been assessed as being of **negligible** potential to support roosting bats. Current best practice guidelines state that buildings and trees with negligible potential for roosting bats do not require further survey.
- 5.23. If there is a significant period of time (18 months is considered standard in most LPAs) between authorising this PEA and the Works, these buildings and trees may deteriorate in condition and therefore should be subject to an update survey to determine if their potential to support roosting bats has changed.

- 5.24. The adjacent River Thames is likely to provide foraging and commuting habitat for bats. However, this riparian feature will not be directly impacted by the Development. A sensitive lighting strategy should be designed within the Development to reduce light spill onto the River Thames. Furthermore, the corridor adjacent to the River Thames should look to be enhanced for foraging and commuting bats by the provision of soft landscaping as part of the Development.
- 5.25. Bat roosting opportunities at the Site could be enhanced through the provision of bat boxes / tubes and / or bricks incorporated into any proposed buildings / structures and / or mounted onto existing / newly planted trees. It is recommended that bat boxes / tubes and / or bricks are targeted at SoPI species. Appropriate bat box / tube and / or brick models include Schwegler N27 bat box brick, Schwegler 1FD bat box and Schwegler 1FR bat tube. Bat bricks (e.g. Schwegler N27) can be incorporated into the fabric of the buildings and are available in a variety of external fascia materials; providing bat roosting opportunities which are aesthetically unobtrusive. The location of the bat boxes / tubes and / or bricks would be specified by an ecologist but face vegetated habitats and be away from publicly accessible roof spaces (if included). The boxes / tubes and / or bricks should be orientated facing between south-east and south-west, and at least 4 m above ground level (to prevent vandalism) with a clear aspect.

Birds

Black redstart

- 5.26. A total of three records for black redstart were returned from the ecological data search. The nearest and most recent record for this species is located approximately 1.9km east of the Site in 1999.
- 5.27. No black redstarts were observed at the Site or adjacent during the five survey visits conducted in 2016. Given this, and that the habitats on Site remain sub-optimal for this species, it is considered highly unlikely that black redstarts would currently be present on Site. As such an update black redstart survey is not considered necessary to support the Development's new planning application(s). However, as a precautionary measure, it is recommended that should Site clearance works commence within the breeding bird season a pre-demolition/clearance check is undertaken by a suitably qualified ecologist to ensure that no black redstarts have colonised the Site in the interim. If nesting black redstarts are recorded during the pre-demolition/clearance check, an appropriate method statement would be agreed in consultation with the LBRuT. This would include measures to prevent the disturbance to breeding black redstart during the breeding season, including cessation of demolition, Site clearance or construction works in areas close to breeding sites until the birds have completed breeding, and monitoring the species during the active construction period.
- 5.28. It should also be noted that if the Site is left undisturbed for a significant amount of time during the development works this could result in the creation of suitable foraging habitat (such as rubble piles and open ground), nest sites and song posts (e.g. lighting rigs, cranes) and could result in the species moving onto the Site. Black redstarts should therefore be identified to the workforce during the Site induction so that this species is recognised if present and subsequent disturbance avoided.

5.29. It is recommended that the Development includes enhancement measures for this species in line with LBRuT's Local Plan policy LP 15 'Biodiversity', as well as LBAP targets. Suitable enhancement measures for this species are outlined below:

- The provision of five bird boxes suitable for black redstarts. The Schwegler 2H Nest Boxes are a suitable example. The Schwegler 2H Nest Boxes are an open fronted box suitable for a number of bird species including black redstart. These boxes should be installed on buildings not trees (unless in dense climbing plant cover i.e. ivy) and should be hung sideways with the entrance at a 90° angle to the wall, preferably placed below 2m in height in areas with restricted public access (i.e. upon rooftops), or if this is not feasible, 3m above ground level to prevent vandalism and face east or west; and
- The provision of brown roofs upon buildings to create suitable habitat for this species.

Peregrine falcon

5.30. The ledge on the southern aspect of the Maltings building (B8) has potential to provide perching and nesting opportunities for peregrine falcon, with the tower associated with B13 also providing perching opportunities. However, this species has not been observed during any of the ecological surveys undertaken at the Site to date and there were no records for this species returned within the ecological data search.

5.31. No other habitats at the Site are considered to be of value to peregrine falcons and therefore no further surveys are recommended. It is however recommended as a precautionary measure that a pre-demolition survey is undertaken of the Maltings building (B8) ensure that no peregrines are nesting building in advance of the Works should the Works be undertaken during the bird nesting period.

Other Bird Species

5.32. The habitats at the Site including buildings and trees are considered to provide nesting opportunities for low numbers of common species of breeding birds. Of note, bird droppings were recorded within the south-western loft space of L Block (B10) during the internal bat inspection. As such, the following mitigation and enhancement measures are recommended:

- Should any habitats (including buildings) of value to nesting birds require removal to facilitate the any future development this will be undertaken outside of the breeding bird season (March to August inclusive). However, if works cannot be undertaken outside the breeding bird season an ecologist will inspect any vegetation / building to be removed. An experienced ecologist will be deployed to carry out an inspection at least within 24-hours prior to the clearance. If an occupied nest is detected, a buffer zone (area dependant on species) will be created around the nest, and clearance of this area delayed until the young have fledged;
- Given the Site's urban location it is recommended that a contractor is appointed to develop a strategy to ensure the buildings are free and stay free of nesting birds such as feral pigeons and gulls. The use anti-nesting devices including netting, bird scares and just ensuring that doors and windows are kept shut could be used to discourage birds from nesting on the buildings. The breeding season for most common bird species is documented to be between March to August Inclusive, however feral pigeons are known to breed all year round when provided with suitable conditions and receive legal protection (**Appendix A**) when at an active nest site.
- It is recommended that the habitats of value to nesting birds are retained on the Site where

possible, to retain the interest for nesting birds. Should these habitats require removal to facilitate any future development, they should be replaced by habitats of value to nesting birds; and

- The use of native plants species as recommended above would provide additional foraging habitat for local bird species.

5.33. In addition, opportunities to enhance the Site for birds could be incorporated into the Development. Simple measures could include provision of artificial nest sites within new habitats. It is recommended that artificial nest sites are targeted at bird species of conservation value such as SoPI species, RBAP species and species listed within the London Environment Strategy (**Appendix A**). The following bird boxes are recommended:

- 'Schwegler Starling Next Box 3S' – This nest box has been designed with a large, deep cavity and 45 mm entrance hole to attract starlings and can be installed on mature trees or buildings. As well as starlings, this nest box is suitable for woodpecker species. These bird boxes should be placed at least 3 m above ground level to prevent vandalism and face east or west;
- 'Schwegler Swift Brick No.25' – Swift bricks should be installed under the roof, in shaded areas out of direct sunlight and away from windows. They should be installed at least 5 m above ground level. Swift bricks, if competently installed, do not require any maintenance;
- 'Schwegler Sparrow Terrace 1SP' – Suitable for house sparrows and tree sparrows. The nest box contains three separate nesting cavities. They can be installed on buildings either affixed to the exterior wall or incorporated into the wall. These bird boxes should be placed at least 3 m above ground level to prevent vandalism and face east or west; and
- 'Schwegler Nest Box 2H' – An open fronted box suitable for a number of bird species including black redstart. These boxes should be installed on buildings not trees (unless in dense climbing plant cover i.e. ivy) and should be hung sideways with the entrance at a 90° angle to the wall, preferably placed below 2 m in height in areas with restricted public access (i.e. upon rooftops), or if this is not feasible, 3 m above ground level to prevent vandalism and face east or west.

5.34. As detailed previously, the provision of green space would provide foraging and nesting opportunities at the Site for local bird species.

Terrestrial Invertebrates

5.35. Only common UK invertebrate species are considered to utilise the Site's habitats. As such, any loss of these habitats is not considered to impact any protected or notable invertebrate species.

5.36. Opportunities at the Site for invertebrates could be enhanced through new landscape planting. The incorporation of deadwood features within landscape areas, plus the use of native plants species, as recommended above, would provide increased opportunities for a range of invertebrates.

5.37. The adjacent River Thames offers opportunities for aquatic invertebrate species and therefore a detailed CEMP should be developed and implemented (as detailed previously) to prevent any adverse effects on aquatic invertebrates as a result of the Works.

Construction Environmental Management Plan

5.38. A Construction Environmental Management Plan (CEMP) should be produced and implemented to

allow the Development proposals to be implemented whilst minimising the impacts on any retained habitats on-Site and adjacent habitats of value such as the River Thames SMI, together with the species they support. Measures to be included within the CEMP should look to comprise:

- works to be undertaken during daylight hours or lighting to be controlled to ensure there is minimal light spill on adjacent habitats during construction works;
- the use of British Standards Best Practice Guidelines to reduce disturbance resulting from noise, surface run-off and vibration during construction works;
- careful siting and appropriate bunding of storage facilities for fuel and hazardous materials;
- delivery of oils and fuels to be supervised at all times;
- dust build up and mud deposits should be avoided and stockpiled material to be covered or stored within a contained area to enable run-off to be treated;
- use of drip trays when filling smaller containers from tanks or drums to avoid spillage entering the ground or drainage systems;
- drainage outlets into the water course should be located, sealed and periodically checked to prevent surface runoff entering the water course; and
- measures should be put in place to minimise debris, dust and contaminants entering the water courses and flowing downstream via placement of interceptors (and appropriately treated / filtered) and watering down the buildings and machinery during works.

6. Conclusions

- 6.1. As a result of the PEA and based on the Development proposals, ecological features within the Zol including designated sites (with the exception of the River Thames SMI); habitats; breeding birds; and terrestrial invertebrates have been scoped out of the assessment due to insufficient biodiversity conservation value or a lack of an identified pathway for potential effects to occur. However, potential IEFs within the Zol that are anticipated to be affected by the Development include the River Thames SMI and bats.
- 6.2. The Site is not subject to any statutory or non-statutory designations. The nearest designated site is the River Thames SINC, which lies adjacent to the northern Site boundary. The adjacent River Thames is assessed to be of value to fish, birds and aquatic invertebrates. It is recommended that a CEMP is implemented to minimise any potential effects to this SINC.
- 6.3. It is determined that further ecological assessments as detailed in **Table 9** below would be required as presented in a protected species report, to inform the scheme design and, when finalised, support the production of an Ecology Chapter for the EIA.

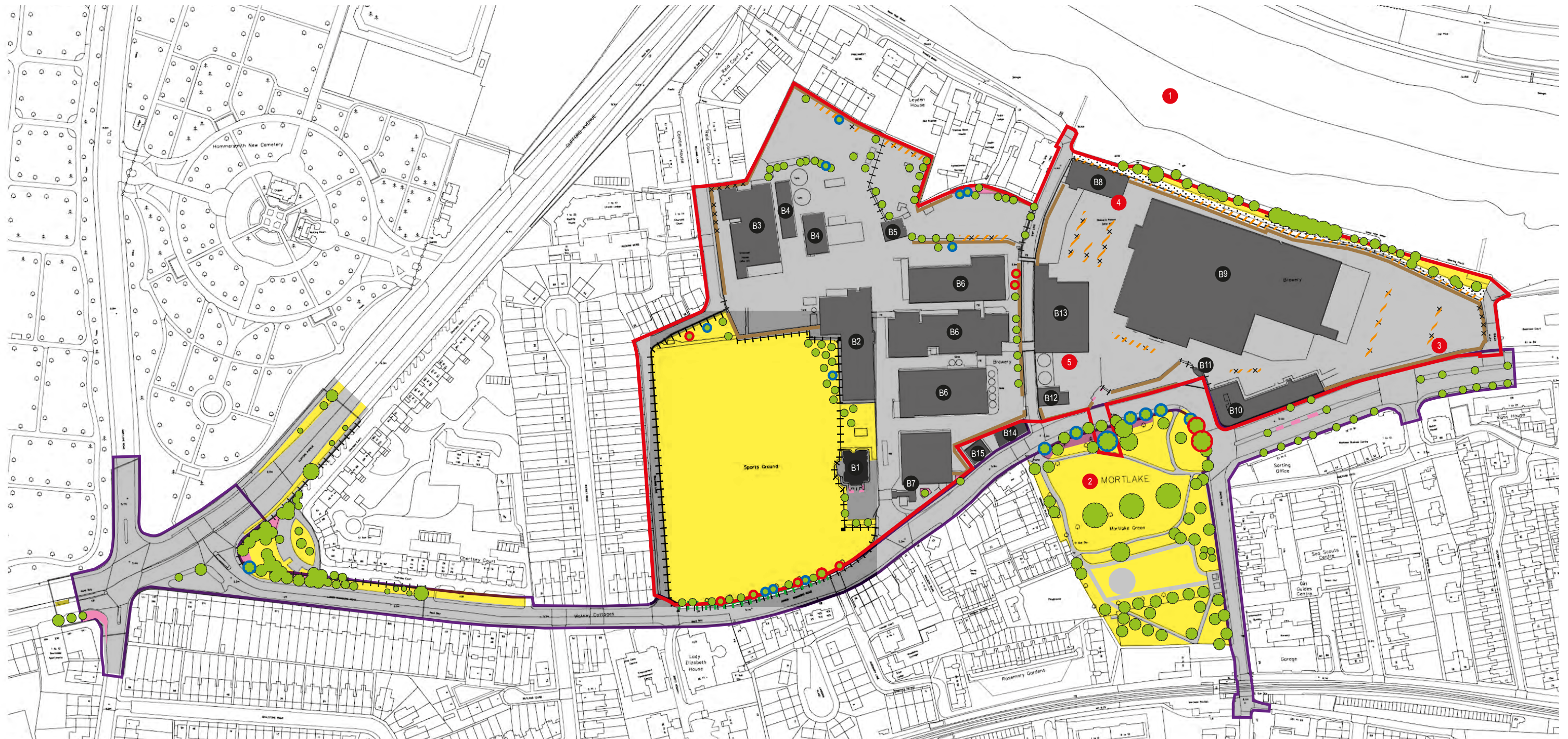
Table 9: Summary of Additional Ecological Assessments

Habitats / Species	Survey	Timing
Bats	Dusk emergence/pre-dawn re-entry surveys: Single survey upon B3, B6, B9, B10, B12, B13 and river wall (south-west corner); Two surveys upon B8 and B14.	May to August/September for evening/dawn surveys
	Three activity and automated surveys	April to October (weather dependent)
	Endoscope inspection of river wall (adjacent to River Thames)	May to September

- 6.4. Measures that should be implemented during the construction phase of the Development to ensure legal compliance and good practice measures are adopted have been outlined within this report.
- 6.5. Furthermore, ecological mitigation, compensation and enhancement measures likely to be incorporated with in the Development have also been outlined, which will be confirmed following the undertaking of the above further surveys and detailed within the respective reporting and/or the Ecology Chapter as appropriate.
- 6.6. It should be noted that this PEA is relevant to the legislation detailed in Section 2 and **Appendix A** at the time of writing. If there are any changes to legislation prior to the Development being completed, the advice within this PEA may require amending / updating in line with any legislative updates.
- 6.7. If there is a significant period of time (most LPAs consider this period to be to 18 months) between this PEA and the Development commencing, the ecological value of the Site may change and the Site should therefore be subject to an update survey.

Figures

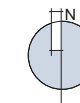
Figure 1: 'Extended' Phase 1 Habitat Survey Features Plan (ref. WIE15582-102_GR_EC_1A)



- | | | |
|--------------------------------|-------------------|-------------------------|
| Planning Application Boundary | Amenity Grassland | Hedge |
| Section 278 Works | Ephemeral | Fence |
| Building with Building Numbers | Scattered Tree | Tall Ruderal Vegetation |
| Hardstanding | Wall | Target Note |
| Ornamental Planting | Bare Ground | |

Bat Roost Potential within Trees

- Negligible Potential
- Low Potential
- Moderate Potential



Project Details	WIE15582-102: Stag Brewery, Mortlake
Figure Title	Figure 1: Habitat Features Plan
Figure Ref	WIE15582-102_GR_EC_1D
Date	May 2020
File Location	\\h-incs\wiel\projects\wie15582102\graphics\ec\issued figures

APPENDICES

A. Planning Policy and Summarised Flora and Fauna Legislation

National Planning Policy

National Planning Policy Framework, 2019

The National Planning Policy Framework¹⁸ (NPPF) was published in July 2018. Section 15 (outlined below) of the NPPF, 'Conserving and Enhancing the Natural Environment', replaces Section 11 of the previous NPPF 2012 revision¹⁹. However, Government Circular 06/2005²⁰ - "Biodiversity and Geological Conservation: Statutory Obligations and Their Impact within the Planning System", remains valid and is referenced within the NPPF.

The NPPF encourages the planning system to contribute to and enhance the natural and local environment. This should be achieved by:

- *"Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- *maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate".*

The NPPF also stipulates that Local Planning Authorities (LPAs), when determining planning applications, should apply the following principles:

- *"If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that*

¹⁸ Ministry of Housing, Communities and Local Government. (2019). *National Planning Policy Framework*.

¹⁹ Department of Communities and Local Government. (2012). *National Planning Policy Framework*.

²⁰ Department of Communities and Local Government. (2005). *Circular 06/05: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*.

make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

- *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.”*

National Planning Practice Guidance, 2019

The Government’s National Planning Practice Guidance²¹ (NPPG) is intended to provide guidance to local planning authorities and developers on the implementation of the planning policies set out within the NPPF. The guidance of most relevance to ecology and biodiversity is the Natural Environment Chapter, which explains key issues in implementing policy to protect biodiversity, including local requirements.

Regional Planning Policy

Intend to Publish London Plan, December 2019

As the overall strategic plan for London, the Draft London Plan 2019²² sets out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years. Those policies set out within the draft London Plan 2017 of relevance to the Site and biodiversity include:

Policy GG2 – ‘Making the best use of land’ states *inter alia*:

“To create successful sustainable mixed-use places that make the best use of land, those involved in planning and development must:

- F. *protect and enhance London’s open spaces, including the Green Belt, Metropolitan Open Land, designated nature conservation sites and local spaces, and promote the creation of new green infrastructure and urban greening, including aiming to secure net biodiversity gains where possible.”*

Policy G1 – ‘Green Infrastructure’ states *inter alia*:

- A. *“London’s network of green and open spaces, and green features in the built environment should be protected and enhanced. Green infrastructure should be planned, designed and managed in an integrated way to achieve multiple benefits .”*
- D. *“Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London’s wider green infrastructure network”.*

Policy G5 – ‘Urban Greening’ states *inter alia*:

- A. *“Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures*

²¹ Department for Communities and Local Government. (2016). *National Planning Practice Guidance*. DCLG, London.

²² Mayor of London (2019): ‘The London Plan. The spatial Development Strategy for Greater London. Intend to Publish’. December 2019

Appendices

such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.”

Policy G6 – ‘Biodiversity and Access to Nature’ states *inter alia*:

- a) *“Sites of Importance for Nature Conservation (SINCs) should be protected.*
- c) *Where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the following should be applied to minimise development impacts:*
 - 1) *avoid damaging the significant ecological features of the site*
 - 2) *minimise the overall spatial impact and mitigate it by improving the quality or management of the rest of the site*
 - 3) *deliver off-site compensation based on the principle of biodiversity net gain*
- d) *Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information which should be considered from the start of the development process.*
- e) *Proposals which reduce deficiencies in access to wildlife sites should be considered positively”*

Mayor of London: Environment Strategy, 2018

Mayor of London: London Environment Strategy, 2018²³ compliments the London Plan. It sets out how London’s biodiversity can be protected and enhanced and contains a list of Priority Habitats and Species within the city. The relevant policy within the strategy is Policy 5.2.1 ‘Protect a core network of nature conservation sites and ensure a net gain in biodiversity’.

Local Planning Policy

London Borough of Richmond upon Thames: New Local Plan

LBRuT are currently preparing a new Local Plan for the borough, which will replace existing policies within the Core Strategy and Development Management Plan (see below). The Plan will set out policies and guidance for the development of the borough over the next 15 years. On 19th May 2017, LBRuT submitted the final draft of the Local Plan²⁴, along with other publication and submission documents, evidence and supporting documents to the Secretary of State for Communities and Local Government for independent Examination. The following strategic visions, objectives and policies within the final draft of the Local Plan are of relevance to biodiversity:

Strategic vision ‘Natural Environment, Open Spaces and the Borough’s Rivers’ states:

“The outstanding natural environment and green infrastructure network, including the borough’s parks and open spaces, biodiversity and habitats as well as the unique environment of the borough’s rivers and their corridors will have been protected and enhanced where possible. Residents will continue to highly value and cherish the borough’s exceptional environmental quality”

Strategic objective ‘Protecting Local Character’ states:

²³ Mayor of London (2018) *London Environment Strategy*

²⁴ London Borough of Richmond Upon Thames (2017); ‘Local Plan: Public version for consultation, 4 January – 15 February 2017’.

“.....3) Protect and improve the borough's parks and open spaces to provide a high quality environment for local communities and provide a balance between areas for quiet enjoyment and wildlife and areas to be used for sports, games and recreation;

4) Protect and enhance the borough's network of green infrastructure that performs a wide range of functions for residents, visitors, biodiversity and the economy;

5) Protect and enhance the borough's biodiversity, including trees and landscape, both within open spaces but also within the built environment and along wildlife corridors; and

6) Protect and improve the unique environment of the borough's rivers, especially the River Thames and its tributaries as wildlife corridors, as opportunities for recreation and river transport where possible, increasing access to and alongside the rivers where appropriate, and gain wider local community benefits when sites are redeveloped.”

Policy LP 12 'Green Infrastructure' states:

“Green infrastructure is a network of multi-functional green spaces and natural elements, which provides multiple benefits for people, nature and the economy.

A) To ensure all development proposals protect, and where opportunities arise enhance, green infrastructure, the following will be taken into account when assessing development proposals:

- the need to protect the integrity of the green spaces and assets that are part of the wider green infrastructure network; improvements and enhancements to the green infrastructure network are supported;*
- its contribution to the wider green infrastructure network by delivering landscape enhancement, restoration or re-creation;*
- its contribution to the wider green infrastructure network by delivering landscape enhancement, restoration or re-creation*

B) The hierarchy of open spaces, as set out in the table below (refer to original document), will be protected and used in accordance with the functions shown.”

Policy LP 15 'Biodiversity' states:

“A) The Council will protect and enhance the borough's biodiversity, in particular, but not exclusively, the sites designated for their biodiversity and nature conservation value, including the connectivity between habitats. Weighted priority interms of their importance will be afforded to protected species and priority species and habitats including National Nature Reserves, Sites of Special Scientific Interest (SSSI) and Other Sites of Nature Importance as set out in the Biodiversity Strategy for England, and the London and Richmond upon Thames Biodiversity Action Plans. This will be achieved by:

- 1) protecting biodiversity in, and adjacent to, the borough's designated sites for biodiversity and nature conservation importance (including buffer zones), as well as other existing habitats and features of biodiversity value;*
- 2) supporting enhancements to biodiversity;*
- 3) incorporating and creating new habitats or biodiversity features, including trees, into development sites and into the design of buildings themselves where appropriate; major*

developments are required to deliver net gain for biodiversity, through incorporation of ecological enhancements, wherever possible;

- 4) ensuring new biodiversity features or habitats connect to the wider ecological and green infrastructure networks and complement surrounding habitats;*
- 5) enhancing wildlife corridors for the movement of species, including river corridors, where opportunities arise; and*
- 6) maximising the provision of soft landscaping, including trees, shrubs and other vegetation that support the borough-wide Biodiversity Action Plan.*

B) Where development would impact on species or a habitat, especially where identified in the relevant Biodiversity Action Plan at London or local level, or the Biodiversity Strategy for England, the potential harm should:

- 1) firstly be avoided (the applicant has to demonstrate that there is no alternative site with less harmful impacts);*
- 2) secondly be adequately mitigated; or*
- 3) as a last resort, appropriately compensated for.”*

LP 16 ‘Trees, Woodlands and Landscape’ states:

“A) The Council will require the protection of existing trees and the provision of new trees, shrubs and other vegetation of landscape significance that complement existing, or create new, high quality green areas, which deliver amenity and biodiversity benefits.

B) To ensure development protects, respects, contributes to and enhances trees and landscapes, the Council, when assessing development proposals, will:

Trees and Woodlands:

- 1) resist the loss of trees, including aged or veteran trees, unless the tree is dead, dying or dangerous; or the tree is causing significant damage to adjacent structures; or the tree has little or no amenity value; or felling is for reasons of good arboricultural practice; resist development that would result in the loss or deterioration of irreplaceable habitat such as ancient woodland;*
- 2) resist development which results in the damage or loss of trees that are considered to be of townscape or amenity value; the Council will require that site design or layout ensures a harmonious relationship between trees and their surroundings and will resist development which will be likely to result in pressure to significantly prune or remove trees;*
- 3) require, where practicable, an appropriate replacement for any tree that is felled; a financial contribution to the provision for an off-site tree in line with the monetary value of the existing tree to be felled will be required in line with the ‘Capital Asset Value for Amenity Trees’ (CAVAT);*
- 4) require new trees to be of a suitable species for the location in terms of height and root spread, taking account of space required for trees to mature; the use of native species is encouraged where appropriate;*

- 5) *require that trees are adequately protected throughout the course of development, in accordance with British Standard 5837 (Trees in relation to design, demolition and construction – Recommendations).*

The Council may serve Tree Preservation Orders or attach planning conditions to protect trees considered to be of value to the townscape and amenity and which are threatened by development.

Landscape:

- 1) *require the retention of important existing landscape features where practicable;*
- 2) *require landscape design and materials to be of high quality and compatible with the surrounding landscape and character; and*
- 3) *encourage planting, including new trees, shrubs and other significant vegetation where appropriate.”*

Policy LP 17 ‘Green Roofs and Walls’ states:

“Green roofs and / or brown roofs should be incorporated into new major developments with roof plate areas of 100sqm or more where technically feasible and subject to considerations of visual impact. The aim should be to use at least 70% of any potential roof plate area as a green / brown roof.

The onus is on an applicant to provide evidence and justification if a green roof cannot be incorporated. The Council will expect a green wall to be incorporated, where appropriate, if it has been demonstrated that a green / brown roof is not feasible.

The use of green / brown roofs and green walls is encouraged and supported in smaller developments, renovations, conversions and extensions.”

Policy LP 18 ‘River Corridors’ states:

“A) The natural, historic and built environment of the River Thames corridor and the various water courses in the borough... will be protected. Development adjacent to the river corridors will be expected to contribute to improvements and enhancements to the river environment.

B) Development proposals within the Thames Policy Area should respect and take account of the special character of the reach as set out in the Thames Landscape Strategy and Thames Strategy as well as the Council's Conservation Area Statements, and where available Conservation Area Studies, and / or Management Plans.”

London Borough of Richmond upon Thames: Supplementary Planning Documents and Guidance

A series of Supplementary Planning Guidance (SPG) and Supplementary Planning Documents (SPDs) has been produced by LBRuT to provide greater detail on existing local planning policies to support decisions on planning applications. LBRuT no longer produces SPGs as they have been replaced with SPDs since 2004. However, they remain material considerations in planning decisions. With regards to biodiversity, a SPG titled ‘Nature Conservation and Development’²⁵ has been published by LBRuT. This SPG states:

- i. *“It is important that nature conservation should be integrated at the planning stage with all new development. Schemes should be designed to retain existing features and habitats of wildlife value on site, and to create new habitats where appropriate.”*

²⁵ London Borough of Richmond upon Thames (no-date); ‘Design Guidelines for Nature Conservation & Development’.

Currently, the only parts of the UDP that remain saved and have not been superseded are those Proposal sites that were originally saved. The eastern part of the Site is allocated on the Proposals Map as site S4 (Budweiser Stag Brewery)²⁶.

The LBRuT adopted a planning brief for the Site in July 2011 with SPD²⁷ status. This document sets out opportunities and constraints regarding the redevelopment of the Site. With regard to biodiversity, this SPD states:

“Opportunities should be taken to enhance biodiversity throughout the site and particularly along the River.”

Site Allocations

LBRuT have also produced a suite of 14 Village Plan SPDs, one for each Village Area in the Borough. Each Village Plan SPD provides a vision for the area, identifying the local character and setting out key policies and design principles that will apply to both new development and changes to existing buildings. These are used as material considerations in determining planning applications in each area.

The Site is located within the ‘Mortlake Village Plan’²⁸. It sets out that the vision for Mortlake is to create a new heart to the village by the redevelopment of the Stag Brewery Site creating a recreational and living quarter and a vibrant link between the village and the riverside.

Biodiversity Action Plans

UK Post-2010 Biodiversity Framework

The Environment Departments of all four governments in the UK work together through the Four Countries Biodiversity Group. Together they have agreed, and Ministers have signed, a framework of priorities for UK-level work for the Convention on Biological Diversity. Published on 17 July 2012, the ‘UK Post-2010 Biodiversity Framework’²⁹ covers the period from 2011 to 2020. This now supersedes the UK Biodiversity Action Plan (UK BAP)³⁰. However, many of the tools developed under UK BAP remain of use, for example, background information about the lists of priority habitats and species. The lists of priority species and habitats agreed under UK BAP still form the basis of much biodiversity work in the countries.

Although the UK Post-2010 Biodiversity Framework does not confer any statutory legal protection, in practice many of the species listed already receive statutory legal protection under UK and / or European legislation. In addition, the majority of Priority national (English) BAP habitats and species are now those listed as Habitats of Principal Importance (HoPI) and Species of Principal Importance (SoPI) in England listed under Section 41 (S41) of the NERC Act 2006. For the purpose of this report, habitats and species listed under S41 of the NERC Act are referred to as having superseded the UK BAP. All public bodies have a legal obligation or ‘biodiversity duty’ under Section 40 of the NERC Act 2006 to conserve biodiversity by having particular regard to those species and habitats listed under S41.

²⁶ London Borough of Richmond upon Thames (2005); ‘Unitary Development Plan. Chapter 12 – Local Strategies and Plan Proposals’.

²⁷ London Borough of Richmond upon Thames (2011); ‘Stag Brewery, Mortlake, SW14 Planning Brief. Supplementary Planning Guidance’.

²⁸ London Borough of Richmond upon Thames (2015); ‘Mortlake Village Planning Guidance. Supplementary Planning Guidance’.

²⁹ JNCC and DEFRA (on behalf of the Four Countries’ Biodiversity Group). (2012). *UK Post-2010 Biodiversity Framework*.

³⁰ HMSO. (1994) *Biodiversity The UK Action Plan*.

Appendices

The Former Stag Brewery, Mortlake

WIE15582-102

WIE15582-102-R-1-2-3-PEA

Based on the results of the PEA the following HoPIs and SoPIs listed under S41 are considered to be of potential value on and/or immediately adjacent to the Site:

- Rivers and streams
- Noctule bat (SoPI);
- Soprano pipistrelle bat *Pipistrellus pygmaeus* (SoPI);
- Starling *Sturnus vulgaris* (SoPI);
- House sparrow *Passer domesticus* (SoPI).

Richmond Biodiversity Action Plan

The Biodiversity Action Plan for the London Borough of Richmond upon Thames (LBRuT)³¹ sets out the framework for the protection, conservation and enhancement of wildlife within the borough. Through its implementation, the plan protects and manages habitats and species of national, regional or local significance, or those that are in the Red Data Books and on the Red Lists. Based on the results of the PEA the following Habitat and Species Action Plans are considered to be of relevance to the Site:

- Tidal Thames;
- Bats; and
- House sparrow.

Guidance

Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services

In October 2010, over 190 countries signed an historic global agreement in Nagoya, Japan to take urgent and effective action to halt the alarming global declines in biodiversity. This agreement recognised just how important it is to look after the natural world. It established a new global vision for biodiversity, including a set of strategic goals and targets to drive action. England's response to this agreement was the publication of '*Biodiversity 2020: A strategy for England's wildlife and ecosystem services*'³². The mission for this strategy is:

"to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people."

BS 42020: 2013 Biodiversity: Code of Practice for Planning and Development

The UK commitment to halt overall loss of biodiversity by 2020 in line with the European Biodiversity Strategy and UN Aichi targets³³, is passed down to local authorities to implement, mainly through planning policy. To assist organizations affected by these commitments, BSI has published BS 42020 which offers a coherent methodology for biodiversity management.

This British Standard sets out to assist those concerned with ecological issues as they arise through the planning process in matters relating to permitted development and activities involved in

³¹ Richmond Biodiversity Partnership (2019): 'London Borough of Richmond Upon Thames. Biodiversity Action Plan)

³² Defra. (2011) *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*.

³³ <https://www.cbd.int/sp/targets/>

Appendices

the management of land outside the scope of land use planning, which could have site-specific ecological implications.

The standard has been produced with input from a number of organisations including the Chartered Institute of Ecology and Environmental Management (CIEEM) and the Association of Local Government Ecologists (ALGE) and provides:

- Guidance on how to produce clear and concise ecological information to accompany planning applications;
- recommendations on professional ethics, conduct, competence and judgement to give confidence that proposals for biodiversity conservation, and consequent decisions/actions taken, are sound and appropriate; and
- direction on effective decision-making in biodiversity management a framework to demonstrate how biodiversity has been managed during the development process to minimize impact.

Legislation

Specific habitats and species receive legal protection in England under various pieces of legislation, including:

- The Conservation of Habitats and Species Regulations 2017³⁴;
- The Wildlife and Countryside Act 1981 (as amended)³⁵;
- The Countryside and Rights of Way (CRoW) Act 2000³⁶;
- The Natural Environment and Rural Communities Act 2006³⁷;
- The Hedgerow Regulations 1997³⁸;
- The Protection of Badgers Act 1992³⁹; and
- Wild Mammals (Protection) Act 1996⁴⁰

Further details of legislation in respect of legally protected and notable flora and fauna of relevance to the Site are provided below.

Flora

Certain wild plants are protected under the WCA 1981 and the Conservation of Habitats and Species Regulations 2017. In summary the legislation prohibits the collecting or cutting of certain wild plants, in addition to the picking, uprooting, destroying, selling or transporting of such wild plants. The legislation also prohibits the uprooting of any wild plant, unless the uprooting is carried out by the owner or occupier of the land on which the plant is growing, or by someone having their permission to do so, or unless the action is authorised in writing by the appropriate local authority. It is a defense if the damage done to a protected plant is the result of an otherwise lawful action and could not reasonably have been avoided.

³⁴ HMSO (2017) The Conservation of Habitats and Species Regulations 2017.

³⁵ HMSO (1981) 'Wildlife and Countryside Act 1981 (as amended)'

³⁶ HMSO (2000) 'The Countryside and Rights of Way (CRoW) Act'

³⁷ ODPM (2006) 'Natural Environment and Rural Communities Act (2006)'

³⁸ ODPM (1997) 'The Hedgerow Regulations'

³⁹ ODPM (1992) 'The Protection of Badgers Act'

⁴⁰ HMSO. (1996). *Wild Mammals (Protection) Act*.

Appendices

A number of non-native invasive species are also listed under the WCA 1981 (as amended). Under the Act it is an offence to plant or otherwise cause the species to grow in the wild. In addition, any soil or plant material containing these species is likely to be classed as controlled waste.

Bats

In summary, all UK bat species are protected by the Conservation of Habitats and Species Regulations 2017 and by the WCA 1981. Taken together it is an offence to deliberately, intentionally or recklessly:

- Kill, injure or capture a bat;
- Disturb bats in such a way as to be likely significant to affect:
 - (i) the ability of any significant group of bats to survive, breed, or rear / nurture their young; or
 - (ii) the local distribution of that species;
- Damage or destroy any breeding or resting place used by bats; or
- Obstruct access to any place used by bats for shelter or protection and disturbing bats while occupying such as place.

Birds

The level of protection afforded under the law varies from species to species. Identified game and pest species may lawfully be hunted and killed, usually under licence, whilst the most threatened or rarest species are listed on Schedule 1 of the WCA 1981 and are protected by special penalties for offences.

All of the native bird species of Britain are additionally covered by the European Union (EU) Directive on the Conservation of Wild Birds 2009 ('The Birds Directive'). The EU Birds Directive (79/409/EEC) resulted in the designation of Special Protection Areas (SPAs) for rare or vulnerable bird species listed on Annex 1 (The species listed in Annex I of the Birds Directive are, according to the Directive, those in danger of extinction, rare, vulnerable to specific changes in their habitat or requiring particular attention for reasons of the specific nature of their habitat) of the Directive and for regularly occurring migratory species. The Birds Directive applies to all wild birds, their eggs, nests and habitats, and provides for the protection, management and control of all species of birds naturally occurring within each member state of the European Union. It requires the UK to take measures to ensure the preservation of sufficient diversity of habitats to maintain populations of all wild birds at ecologically and scientifically sustainable levels. The requirements of the Birds Directive are implemented in the UK primarily through the Wildlife & Countryside Act 1981 (as amended 1985) and Conservation of Habitats and Species Regulations 2017.

The Secretary of State has agreed an update of the Habitats and Species listed in Section 41 of the Natural Environment and Rural Communities Act (NERC) 2006. These are known as Habitats and Species of Principal Importance in England. There are currently 49 species of birds listed under section 41 of the NERC Act (2006).

In addition to statutory protection, the bird species of Britain are also subject to various conservation designations intended to indicate their rarity, population status and conservation

Appendices

priority. These do not have statutory force but may be instrumental in determining local, regional and national planning and development policy. The main categories of designation comprise the British Trust for Ornithology (BTO) 'Species Alert' lists, the Royal Society for the Protection of Birds (RSPB) 'Birds of Conservation Concern' lists and species listed in the UK and local Biodiversity Action Plans (BAPs).

The BTO Conservation Alert System lists of 'Birds of Conservation Concern' including a 'Red List' for birds of high conservation concern. Red List species are those that are globally threatened according to the International Union for Conservation of Nature (IUCN) criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery, including:

- Globally threatened according to the IUCN;
- Historical population decline in UK during 1800-1995;
- Rapid (>50%) decline in UK breeding population over the last 25 years; and
- Rapid (>50%) contraction of UK breeding range over the last 25 years.

The BTO Conservation Alert System lists 'Birds of Conservation Concern' including an 'Amber List' for birds of medium conservation concern. 'Amber List' species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations, including:

- Historical population decline during 1800-1995, but recovering: population size has more than doubled over last 25 years;
- Moderate (25-49%) decline in UK breeding population over the last 25 years;
- Moderate (25-49%) contraction of UK breeding range over the last 25 years;
- >50% of UK breeding population in 10 or fewer sites;
- >20% of European breeding population in UK;
- Species with unfavourable conservation status in Europe; and
- It is important to note that certain 'Red list' species also qualify for 'Amber List' criteria.

An updated list of 'Red' and 'Amber List' species was published in May 2015⁴².

The trends of bird species that depend on farmland habitat for breeding are being tracked since 1980 by the Pan-European Common Bird Monitoring Scheme⁴¹. The European Union (EU) Farmland Bird Index is an indicator for common farmland birds and is based on data from 23 EU countries and tracks 37 species that are declining or scarce.

⁴¹ <http://www.ebcc.info/pecbm.html>



B. Ecologist CV

Appendices

The Former Stag Brewery, Mortlake

WIE15582-102

WIE15582-102-R-1-2-3-PEA

Sebastian Fitzgerald

Principal Ecologist

Waterman Infrastructure & Environment Ltd



Profile

Seb has over 9 years' continuous experience in the field of ecology and is a full member of the Chartered Institute of Ecology and Environmental Management. He is experienced in 'Extended' Phase 1 Habitat surveys and a range of protected species surveys.

Experienced in the production and reviewing of baseline survey reports, Ecological Appraisals and assessments for a range of development related works including designated sites; residential; commercial; mixed use; and energy related development.

Project management experience including co-ordination of ecological surveys; client liaison; and liaison with statutory and non-statutory consultees.

Qualifications: BSc (Hons) MCIEEM

Key Skills and Experience

- 'Extended' Phase 1 Habitat and protected species surveys;
 - Natural England and NRW disturbance and handling licence for common dormouse;
 - Natural England and NRW disturbance and handling licence for great crested newt;
 - Natural England; NRW and SNH disturbance and handling licence for bats;
 - NTPC CS38 tree climbing and aerial rescue qualification;
 - Production of Preliminary Ecological Appraisal Reports and Assessments for planning applications;
 - Ecological reports for BREEAM and Code for Sustainable Homes assessments;
 - Production of EclA and ES chapters for EIA;
 - Production of mitigation strategies and method statements for protected habitats and species;
 - Production of Landscape and Ecological Management Plans;
 - Biodiversity Offsetting Assessments.
-

Project Experience Includes:

Project

Biodiversity Toolkits

Details

Creation of the Berkeley and Waterman Biodiversity Toolkit. Utilising an amended version of the Warwickshire Biodiversity Impact Assessment calculator and incorporating a project ecology tracker to allow for site management of ecological considerations throughout a projects lifespan.

The changes made to the Warwickshire Biodiversity Impact Assessment calculator have been incorporated within their latest version. The toolkits have been highly commended at the South-West Built Environment Awards as well as winning the Property Week Innovator Systems Provider of the Year and helping Berkeley to win the CIRIA Big Biodiversity Challenge Client Award.

Clovelly Road

Project management and ecological input in the form of 'Extended' Phase 1 Habitat and protected species surveys (including bats, dormice and reptiles) together with associated reporting and production of an Ecological Impact Assessment Chapter, to inform on an outline application for mixed-use development. This site contains three of the four UK Annex II bat species. Specific mitigation measures for bats has been designed with input into the landscape masterplan.

Cardington Airbase

Ecological input through 'Extended' Phase 1 and protected species surveys (bats, birds and reptiles) and associated reporting leading to the production of two ecological impact assessments (for separate planning applications) to inform residential development of the site. Design and co-ordination of c.19ha Ecological Mitigation Area and reptile translocation exercise.

Brean Down Conservation Management Plan, Somerset

Project co-ordination for the production of a new style of Conservation Management Plan for the National Trust at Brean Down, Somerset. Review of existing ecological information and input into various Chapters including setting out of constraints and opportunities at the site as well as production of policies and actions to be implemented by the Trust. Other disciplines include archaeology and built heritage.

Copyhold Works, Redhill	Project Management and ecological input through 'Extended' Phase 1 and bat surveys to inform on demolition of existing buildings and future re-development proposals. Co-ordination of production of Bat Low Impact Class Licence.
Leybourne Grange, Kent	Production and holder of Natural England EPS licence for bats. Supervision of building soft strip works and on-going monitoring input. Production of several CfSH Assessments.
Ifield Mill Pond SNCI	Project Management and ecological input through 'Extended' Phase 1 survey, protected species survey (bats, reptiles, bird, GCN, otter, badger, white-clawed crayfish, invertebrates, woodland NVC) and study option scoping appraisals to inform possible decommissioning or repair and replace of the reservoirs dam as well as ecological enhancements of the SNCI.
Marley Plumbing and Drainage, Kent	Project Management and ecological input through Phase 1 and protected species surveys (bats, reptiles, GCN, Badger) to inform on proposed drainage works to conform to EA standards.
Eastleigh Energy from Waste and Solar Farm	Project management and ecological input in the form of 'Extended' Phase 1 Habitat and protected species surveys (including bats, GCN and reptiles) together with associated reporting to inform on a detailed application for an energy from waste site and accompanying solar array.
Elliott's Field Retail Park Phase 1	Project management and ecological input in the form of 'Extended' Phase 1 and protected species surveys (bats, otter, water vole, white-clawed crayfish) and associated reporting. Production of BREEAM ecology Assessment.
Elliott's Field Retail Park Phase 2	Project management and ecological input in the form of 'Extended' Phase 1 and protected habitat and species surveys (bats, reptiles, black redstart and Open Mosaic Habitat) and associated reporting. Provision of Biodiversity Offsetting Assessment and liaison between client, the local planning authority and the Environment Bank to ensure delivery of off-site compensation requirements. production of BREEAM ecology Assessment.
Telford Town Centre	Project management and ecological input through 'Extended' Phase 1 survey, buildings inspection for bats and BREEAM assessment and associated reporting to inform re-development of the site.
Hanley Bus Station	Ecological Input through 'Extended' Phase 1 survey and BREEAM assessment and associated reporting to inform re-development of the site.
Ram Brewery	Ecological input through protected species survey (bats) leading to ecological impact assessment chapter for a planning application to inform re-development of the site.
Upper Heyford Airbase	Overseeing site ground work investigation and pipeline and POL clean and make safe procedures in ecologically sensitive areas including reptile and great crested newt terrestrial and breeding habitat; ecologically important areas for ground nesting birds; and parts of a County Wildlife Site.
Alpha Place	Project management and ecological input through 'Extended' Phase 1 survey and CfSH ecology assessment and associated reporting to inform re-development of the site.
Oxford Westgate	Ecological input through 'Extended' Phase 1 and protected species surveys. Production of ES Chapter for shopping centre redevelopment together with BREEAM and CfSH ecology assessments.

C. Photographs



Plate 1 - Watney's Sports Ground playing fields located to the south-west of the Site.



Plate 2 – Example of ephemeral and tall ruderal vegetation within the Site.



Plate 3 – Area of unmanaged ornamental planting located within the north of the Site.



Plate 4 – Example of scattered trees within the north-west of the Site.

Appendices

The Former Stag Brewery, Mortlake

WIE15582-102

WIE15582-102-R-1-2-3-PEA



Plate 5 – Part of river wall along north-western boundary of the Site (Site side with River Thames beyond)



Plate 6 – Example of Virginia creeper overgrowing wall from neighbouring property within the north of the Site.



Plate 7 – The River Thames lies adjacent to the northern boundary of the Site.



Plate 8 – Mortlake Green lies adjacent to the southern boundary of the Site.



Plate 9 – South-western loft space of building B10.



Plate 10 - Potential suitable ledge (Target Note 4) for peregrine falcon located upon the southern aspect of the Maltings building (B8).

Appendices



Plate 11 - Potential suitable perching for perching peregrine falcon located upon the tower associated with B13 (Target Note 5).



Plate 12 – Bird droppings within south-western loft space of building B10.

Appendices

UK and Ireland Office Locations

