Ecological Assessment

St Margaret's Business Park, Twickenham

1st September 2020

Tyler Grange

Report No:	Date	Revision	Author	Checked
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Summary

S.1. This report has been prepared by Tyler Grange Group Ltd on behalf of Godstone Development Limited. It sets out the findings of a Phase 1 habitat survey and desk study, Preliminary Bat Roost Assessment (PBRA) and bat emergence/re-entry surveys of a parcel of land at Godstone Road, St Margaret's, TW1 1JS (Grid Reference: TQ 16644 74119), hereinafter referred to as the "site".

S.2. The purpose of this report is to set out results of the Ecological Assessment (EA) in the context of future development which comprises the erection of four residential units and associated car parking, access and landscaping, and includes:

- Phase 1 habitat survey and desk study:
  - The site is not covered by nor adjacent to any sites that are the subject of statutory or non-statutory protection and no such sites are likely to be affected by development at the site.
  - The majority of the site comprises hardstanding associated with the car parking area, which is bordered by introduced shrub and scattered trees. The habitats found on site are of either negligible ecological importance or of ecological importance within the context of the site only and where such habitats are proposed to be lost, it is considered that the impacts could be mitigated for and enhancements can be implemented through ecologically minded landscaping.
- Preliminary Bat Roost Assessment (PBRA) – Tree T1 has low potential and roosting bats and tree T2 has moderate potential for roosting bats, the remaining nine onsite trees have negligible potential for roosting bats; and
- Bat emergence/re-entry surveys – Two emergence/re-entry surveys were undertaken on trees T1 and T2, during which no bats were observed emerging or re-entering the identified Potential Roost Features (PRFs). As such, it is considered likely that there are no roosts present and the trees can be felled without having to obtain a protected species licence.

S.3. Precautionary checks for nesting breeding birds, are recommended by an ECoW, if buildings are removed during the core nesting bird season (March – August, inclusive), to prevent death or injury of individual birds/active nests by the proposed works. However, it should be noted that nests may be found at any time of year so due diligence must be shown at all times of year by all contractors. Should nesting birds be present with young or eggs (at any time of year), an appropriate buffer should be erected, and the nest checked periodically by an ECoW until it is clear the young have fledged or the nest is no longer active.

S.4. It is recommended that sensitive working methods be adhered to during the construction phase in relation to hedgehog, which can be secured through the production of/input into a Construction and Environmental Management Plan (CEMP).

S.5. Where adverse impacts on protected species are predicted, it is considered that these can be mitigated for appropriately and that the proposals present the opportunity to incorporate ecological enhancements. Creating new habitat and improving opportunities for fauna will be in line with the London Borough of Richmond Local Plan Policies LP 15 and LP 17, London Plan Policies 5.11 and 7.19 and draft London Plan Policies G6 and G1. In addition, enhancements for specific species groups could be provided post-construction including bird and bat boxes to increase the number of nesting and roosting sites across the site, respectively.

Section 1: Introduction

Introduction

1.1 This report has been prepared by Tyler Grange Group Ltd on behalf of Godstone Development Limited. It sets out the findings of a Phase 1 habitat survey and desk study, Preliminary Bat Roost Assessment (PBRA) and bat emergence/re-entry surveys of a parcel of land at Godstone Road, St Margaret's, TW1 1JS (Grid Reference: TQ 16644 74119), hereinafter referred to as the "site". The purpose of this report is to set out the Ecological Assessment of the site in the context of future development which comprises the erection of four residential units and associated car parking, access and landscaping.

1.2 See **Figure 1.1** below for the site location plan.

Figure 1.1 Site boundary

Context

1.3 The site is approximately 0.06ha in size and comprises land formerly used as a car park associated with St Margaret's Business Park, located to the west of the site. The site lies to the south of Godstone Road and is bordered by Winchester Road to the east. The majority of the site comprises hardstanding associated with

the car parking area, which is bordered by introduced shrub and scattered trees on the western, northern and eastern site boundaries.

1.4 The proposals are for the erection of 4 no. residential dwellings (Class C3) with associated parking, access, and landscaping.

Purpose

1.5 This Report:

- Uses available background data and results of field surveys, to describe and evaluate the ecological features present within the likely "zone of influence" (ZoI)[1]
- Describes the actual or potential ecological issues and opportunities that might arise as a result of the site's future development or;
- Where appropriate, makes recommendations for mitigation of adverse effects and ecological enhancement, to ensure conformity with policy and legislation; and
- Can be used to accompany a planning application for the site's redevelopment.

1.6 This assessment and the terminology used are consistent with the 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (CIEEM, 2018).

[1] https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/

Section 2: Methodology

Data Search

2.1 The aim of the data search is to collate existing ecological records for the site and adjacent areas. Obtaining existing records is an important part of the assessment process as it provides information on issues that may not be apparent during a single survey, which by its nature provides only a 'snapshot' of the ecology of a given site.

2.1 The data search has been undertaken for a 10km radius around the site for European statutory sites, a 2km radius for national statutory, a 1km radius for non-statutory sites and a 1km radius for protected and priority[2] species records.

2.2 The following organisations and individuals have been contacted and, where relevant, the information provided has been incorporated with acknowledgement within this report:

- The Greenspace Information for Greater London (GIGL) was contacted for details of protected and priority species and non-statutory sites on the 14th July 2020 and the information was received on 19th July 2020. Where relevant records were identified, the information provided has been incorporated into the report with due acknowledgement;
- The Multi-Agency Geographic Information for the Countryside website[3] was accessed for information on the location of statutory designated nature conservation sites within a 10km and 2km search radius of the site;
- Section 41 of the Natural Environment and Rural Communities (NERC) Act for priority species and habitats in England, subject to conservation action, to assist with the evaluation of ecological resources and to inform site enhancement strategies;
- The London Borough of Richmond upon Thames Biodiversity Action Plan (BAP) was assessed for local priority habitats and species subject to conservation action, to assist with the evaluation of ecological resources and to inform site enhancement strategies; and
- The London Borough of Richmond upon Thames council website was accessed for details of relevant local planning policies and supplementary planning guidance.

Extended Phase 1 Habitat Survey

2.3 An “extended’ Phase I habitat survey was undertaken on 16th July 2020 by Rebekah Baker, an experienced field ecologist and qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The technique was based upon Phase I survey methodology (JNCC, 2010). This 'extended' Phase I technique provides an inventory of the habitat types present and dominant species.

2.4 The weather conditions for the survey were dry with 100% cloud cover and a temperature of 21°C.

[2] UK priority species and habitats are those subject to conservation action and referred to as Species of Principal Importance (SoPIs) or Habitats of Principal Importance (HoPIs). They are listed at Section 41 [42 in Wales] of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act states that local planning authorities must have regard for the conservation of both SoPIs and HoPIs.
[3] http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx

Preliminary Bat Roost Assessment (PBRA)

2.5 A preliminary assessment of the trees present within the site was undertaken to assess their potential to support roosting bats. This survey was undertaken alongside the 'extended' Phase 1 habitat survey. The surveys followed standard methodologies (Mitchell-Jones, A.J., 2004; Mitchell-Jones, A.J. and McLeish, A.P., 2004; Collins, 2016) which are described below.

2.6 The PBRA for trees comprised a ground level inspection of all trees present on the site on 16th July 2020 to determine the potential of each tree to support roosting bats. During this survey, Potential Roost Features (PRFs) that may be used by bats, as identified within the BCT Good Practice Guidelines (Collins, 2016), were sought. These included the following:

- Woodpecker holes, rot holes, knot holes arising from naturally shed branches and man-made holes;
- Hazard beams and other vertical or horizontal cracks and splits (such as frost-cracks) in stems or branches;
- Partially detached platey bark;
- Cankers;
- Other hollows or cavities, including butt-rots;
- Partially detached ivy with stem diameters in excess of 50mm; and
- Bird, bat or dormouse boxes.

2.7 Evidence of the presence of bat roosts was also sought. These signs include:

- Bat droppings in, around or below a PRF;
- Odour emanating from a PRF;
- Audible squeaking at dusk or in warm weather; and
- Visible staining below a PRF.

2.8 The potential of each tree at the site and immediately adjacent to the site to support roosting bats was then categorised against the criteria described in **Table 2.1**.

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on-site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites 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.
High	A structure or tree with one or more potential roost sites 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.

Table 2.1 – Roost Assessment Criteria (adapted from Collins, 2016)

Bat Emergence Survey

2.9 The emergence and re-entry surveys followed standard methodologies set out in the Bat Mitigation Guidelines (Mitchel-Jones, A. J., 2004), the Bat Workers Manual (Mitchell- Jones, A.J. and McLeish, A.P., 2004) and Bat Surveys – Good Practice Guidelines 3rd Edition (Collins, 2016). The methods broadly comprise the following:

- Desk Study - acquiring records of bats and/or bat roosts within the local area; and
- One emergence survey and one re-entry survey conducted on tree T1 which was considered to have low potential for roosting bats and tree T2 which was considered to have moderate potential for roosting bats.

2.10 Records of bats within 1km of the site were requested and received from the Green Space Information for Greater London (GIGL) on the 5th May 2020.

2.11 Tree T2 was considered to have moderate potential for roosting bats due to the presence of a cavity at 5m on the eastern aspect of the tree and so, in line with best practice guidance (Collins, 2016), required two emergence/re-entry surveys during the bat active season (May-September, inclusive). The feature required one surveyor to adequately cover the PRF.

2.12 Tree T1 was considered to have low potential for roosting bats, as although no discernible features were identified the tree had multiple limbs and dense ivy cover. Best practice guidelines state that no emergence/re-entry surveys are required (Collins, 2016), however as T2 only needed one surveyor to adequately cover the PRF but two surveyors were required due to night time working protocols, T1 was subject to two emergence/re-entry surveys conjunction with the two surveys undertaken on T2.

2.13 Surveyors were positioned strategically to ensure that the potential bat roost features were covered adequately (see plan **13040/P04**). Surveyors remained in these positions, observing the trees from 15 minutes before sunset, through until 1.5 hours after sunset during the emergence survey and 1.5 hours prior to sunrise, through to 15 minutes after sunrise during the re-entry survey. **Table 2.2** shows the metadata for the surveys.

Survey	Date	Survey Times	Weather		Surveyors
			Start	End	
Dusk Emergence – Tree T1 Tree T2	06/08/20	Sunset: 20:40 Start: 20:25 End: 22:11	Wind (Beaufort): 0 Temp (°C): 27 Precipitation: dry Cloud cover (% cover): 5	Wind (Beaufort): 0 Temp (°C): 26 Precipitation: dry Cloud cover (% cover): 0	Rebekah Baker Benjamen Nelumbu
Dawn Re-entry – Tree T1 Tree T2	26/08/20	Sunrise: 6:05 Start: 4:35 End: 6:20	Wind (Beaufort): 2-3 Temp (°C): 15 Precipitation: dry Cloud cover (% cover): 40	Wind (Beaufort): 2 Temp (°C): 15 Precipitation: dry Cloud cover (% cover): 100	Rebekah Baker Benjamen Nelumbu

Table 2.2. Metadata for the two emergence/re-entry surveys for trees T1 and T2.

2.14 Surveyors used a combination of visual observations and echolocation detection to identify any bats emerging from the trees. The type of detector used by each surveyor is detailed within the raw data in **Appendix 3**.

Evaluation

2.15 The evaluation of habitats and species is defined in accordance with published guidance (CIEEM, 2018). The level of importance of specific ecological features is assigned using a geographic frame of reference, with international being most important, then national, regional, county, borough, local and lastly, within the site boundary only.

2.16 Evaluation is based on various characteristics that can be used to identify ecological features likely to be important in terms of biodiversity. These include site designations (such as Sites of Species Scientific Interest (SSSIs)), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological feature. In terms of the latter, quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

Limitations

2.17 At discrete points during the second emergence/re-entry visit on the 26th August 2020 the wind was strong. However, as these conditions were only for short discrete parts of the survey, it was not considered to be a limitation.

Quality Control

2.18 All ecologists at Tyler Grange Group Ltd are members of CIEEM and abide by the Institute's Code of Professional Conduct.

Section 3: Ecological Features and Evaluation

Context

3.1 The site is approximately 0.06ha in size and comprises mostly hardstanding associated with the sites' previous use as a car park, with landscaping and trees which line the western, northern and eastern site boundaries.

Protected sites

Statutory Sites

3.2 There are three European designated sites within a 10km radius of the site; Richmond Park Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI), Wimbledon Common SAC and SSSI and South West London Waterbodies Special Protection Area (SPA) and Ramsar Two nationally designated sites within a 2km radius of the site were also recorded; Ham lands Local Nature Reserve (LNR) and Site of Importance for Nature Conservation (SINC) and Iselworth Ait LNR.

3.3 **Table 3.1** details the site name, geographical importance, approximate distance from site and the reason for designation for the five statutory sites.

Site Name	Designation	Geographical Importance	Approximate Distance from Site	Reason for Designation
Richmond Park	SAC, SSSI	International	1.9km south east	Designated for the Annex II species stag beetle *Lucanus cervus*. It contains a large number of ancient trees with decaying timber and is a site of national importance for the conservation of the fauna of invertebrates associated with the decaying timber of ancient trees.
Wimbledon Common	SAC, SSSI	International	5.5km south east	Designated for the Annex I habitats, Northern Atlantic wet heaths with Erica tetralix and European dry heaths and the Annex II species stag beetle. Like Richmond Park SAC, Wimbledon Common has a large number of old trees and supports a number of other scarce invertebrate species associated with decaying timber.
South West London Waterbodies	SPA, Ramsar	International	5.5km south west	Designated as both an SPA and Ramsar for its internationally important numbers of wintering gadwall *Anas strepera* and shoveler *Anas clypeata* (Ramsar Criterion 6). The site comprises a number of reservoirs and former gravel pits in the Thames Valley adjacent to Heathrow Airport between Windsor and Hampton Court.

Ham Lands	LNR, SINC	National	1km south	Ham Lands is an extensive area of grassland and scrub. The site was once extensively excavated for gravel, then backfilled over time with a variety of soil types from all over London. This has created a mosaic of different habitat types which support a diversity of species.
Iselworth Ait	LNR	National	1.34km north	A three-and-a-half-hectare island located in the Thames, which provides an undisturbed site for a variety of birds including treecreeper *Certhia familiaris*, kingfisher *Alcedo atthis* and heron *Ardea cinerea*. It also supports several rare beetles and two rare species of mollusc, the two-lipped door snail *Balea biplicate* and the German hairy snail *Pseudotrichia rubiginosa.*

Table 3.1 Details of the five statutory designated sites returned by the data search.

Non-Statutory (Local) Sites

3.4 In London, non-statutory sites designated for their biodiversity importance are known as Sites of Importance for Nature Conservation (SINCs). SINCs are recognised by the Greater London Authority and London Borough Councils as important wildlife sites. SINCs are broken down into three tiers dependent on the geographic scale at which they are of importance, and these are, from most to least important:

- Sites of Metropolitan Importance;
- Sites of Borough Importance (borough grade I and borough grade II); and
- Sites of Local Importance.

3.5 Within 1km of the site there are eight SINCS, including Ham Lands, described in **Table 3.1**, which is also designated as a LNR and as such will not be discussed further within this section of the report. The details **of these sites are listed in Table 3.2.**

Site Name	Geographical Importance	Approximate Distance from Site	Reason for Designation
Moor Mead Recreation Ground	Local	0.2km west	This site is a village green beside the River Crane in Twickenham. The habitats at site include amenity grassland, running water, scattered trees, semi-improved neutral grassland and tall herbs.
River Crane at St Margaret's	Borough Grade II	0.52km north west	A section of river, lined with trees, that runs through allotments. The habitats the site supports include running water, scrub, secondary woodland and semi-improved neutral grassland.
River Crane at St Margaret's (Richmond Side)	Borough Grade II	0.55km north west	A short section of the River Crane, just above its tidal limit, spanning the borough boundary between Richmond and Hounslow.
Marble Hill Park and Orleans House Gardens	Local	0.70km south east	This site is the landscaped grounds of two 18th century houses, with meadows, woodland and mature trees. Habitats include amenity grassland, planted shrubbery, scattered trees, secondary woodland, semi-improved neutral grassland and veteran trees.
River Thames and Tidal Tributaries	Metropolitan	0.82km south	The Thames provides a wildlife corridor that runs across the capital. The habitats at this site include intertidal, marsh/swamp, pond/lake, reed bed, running water, saltmarsh, secondary woodland, vegetated wall/tombstones, wet ditches, wet grassland and wet woodland/carr.
Twickenham Road Meadow	Local	0.98km west	A narrow strip of grassland with scattered trees, part of which floods regularly. The habitats at this site include scattered trees, semi-improved neutral grassland, vegetated wall/tombstones and wet grassland.
Twickenham Junction Rough	Local	1km south west	An island of wildlife habitat surrounded by railway lines. Habitats at this site include bracken, scrub, secondary woodland, semi-improved neutral grassland, tall herbs and vegetated wall/tombstones.

Table 3.2 Details of the eight SINCs within a 1km radius of the site.

3.6 The site is located within an identified SSSI Impact Risk Zone (IRZ). However, only proposals for large infrastructure, wind & solar energy, oil & gas, industrial, agricultural, landfill, combustion processes, composting of more than 75000 tonnes, discharge of water greater than 5m^3 per day or large warehousing need consideration for their potential impacts on nearby SSSIs. The development type sought does not fall under any of these categories.

Habitats and Flora

3.7 The site supports the following habitats:

- Bare Ground;
- Hardstanding;
- Hedgerow (Species-poor);
- Introduced Shrub;
- Scattered Trees; and
- Scrub

3.8 All the features described are shown on the Habitat Features and Potential Bat Roost Features Plan **13340/P02a**.

Bare Ground

3.9 The car park is surrounded by landscaping on the western, eastern and northern site boundaries which comprise bare ground and associated planting, which is described under 'introduced shrub' and 'scattered trees' below. The bare ground located at the south westerly corner (see TN1 on **13340/P02a**) supports some emergent vegetation which includes species such as bind weed *Calystegia sepium*, dandelion *Taraxacum officinale agg., senecio sp*. and annual mercury *Mercurialis annua*.

3.10 The bare ground and the small amount of emergent vegetation it supports at the south western most corner of the site, is common and widespread and offers little biodiversity value to the site. As such, it is considered to be of **negligible ecological importance** and is not discussed further within this report.

Photograph 3.1 Example of the bare ground which borders the eastern, northern and western car park boundaries

Hardstanding

3.11 The majority of the site is made up of hardstanding that forms the car park and some smaller areas of pavement found on the eastern boundary of the site.

3.12 This habitat offers no biodiversity value to the site and is considered to be of **negligible ecological importance** and is not discussed further within this report.

Photograph 3.2 Hardstanding associated with the site's use as a car park

Hedgerow (Species Poor)

3.13 The northern site boundary is lined with a hedgerow that comprises a mixture of non-native invasive snowberry *Symphoricarpos albus*, introduced firethorn *Pyracantha sp.* and native privet *Ligustrum vulgare*.

3.14 Snowberry is listed on the London Invasive Species Initiative (LISI) and is discussed in more detail below in **paragraph 3.46**.

3.15 This hedgerow does not fit the definition for priority hedgerow habitat[4] under the Habitats of Principle Importance (HoPI) in Section 41 of the NERC[5] Act, as it is less than 20m long and does not comprise at least 80% native woody and shrubby species.

3.16 Although this hedge does not qualify as a HoPI and it comprises mostly of non-native species, it is the only hedgerow habitat on site and so is considered to be of **ecological importance within the site context only**.

[4] https://hub.jncc.gov.uk/assets/ca179c55-3e9d-4e95-abd9-4edb2347c3b6

[5] https://jncc.gov.uk/our-work/uk-bap-priority-habitats/

Photograph 3.3 Hedgerow that runs along northern site boundary

Introduced Shrub

3.17 The landscaping that borders the western, northern and eastern boundaries of the site comprises several patches of introduced shrub, which comprise mostly of firethorn, *Cotoneaster sp*. and snowberry with some Caucasian ivy *Hedera colchica* and bind weed. The introduced shrub does contain small amounts of native species such as one specimen of elder *Sambucus nigra* and dog rose *Rosa canina*.

3.18 Snowberry, as detailed above, and *Cotoneaster sp.* are both listed on the LISI list and are discussed in more detail in **paragraph 3.46** below.

3.19 Although this habitat comprises mostly invasive species, as it is the most common habitat type and contributes to the to the little biodiversity value of the site, it is considered to be of **ecological importance within the site context only**.

Photograph 3.4 Introduced shrub

Scrub

3.20 The wall that borders the western site boundary is clad with common ivy *Hedra helix* scrub, which has spread onto the introduced shrub that lies in front of it (See TN2 on **13340/P02a**).

3.21 This habitat is common and widespread and as such is considered to be of **ecological importance within the site context only**.

Photograph 3.5 Ivy clad wall on western site boundary

Scattered Broadleaved Trees

3.22 Twelve scattered semi-mature broadleaved trees are located on the western, northern and eastern site boundaries and comprise hornbeam *Carpinus betulus*, lime *Tilia sp*. and one *Prunus sp.* Street trees such as these are common and widespread, as such this habitat is considered to be of **ecological importance within the site context only**.

3.23 The trees were assessed for their potential to support roosting bats, which is discussed below in **Section 4**.

Photograph 3.6 Example of scattered broadleaved tree

Fauna

Amphibians

3.24 96 records of common and widespread amphibians were returned by the data search, including eight records of common toad *Bufo bufo* with the nearest record being 0.5km north east from site and the most recent being in 2018, and 88 records of common frog *Rana temporaria* with the nearest record being 0.1km south east from site and the most recent being in 2011.

3.25 The site does not offer any suitable habitat for common and widespread amphibians and are, therefore, considered to be likely absent from site. As such, they are not discussed further within this report.

3.26 It is considered that great crested newt (GCN) *Triturus cristatus* are absent from site as there is no suitable habitat on site and no suitable waterbodies within a 250m search radius of the site. In addition to this, no records were returned by the data search. As such, GCN are not considered further within this report.

Bats

3.27 191 records of bats were returned by the data search, which includes 113 of unidentified bat species and 78 records of identified species from eight species of bat:

- One record of serotine *Eptesicus serotinus* with the nearest record being approximately 0.66km south and the most recent in 2015;
- Ten records of Daubenton's bat *Myotis daubentonii* with nearest record being approximately 0.67km north west and most recent in 2016;
- Four records of natterer's bat *Myotis nattereri* with the nearest record being approximately 0.66km south and the most recent in 2019;
- Two records of Nathusius's pipistrelle *Pipistrellus nathusii* with the nearest record being approximately 0.95km south east and the most recent in 2006;
- 28 records of soprano pipistrelle *Pipistrellus pygmaeus* with the nearest record being approximately 0.65km south and the most recent in 2018;
- 18 records of common pipistrelle *Pipistrellus pipistrellus* with the nearest record being approximately 0.66km south from site and the most recent in 2019; and
- One record of brown long eared bat *Plecotus auritus* approximately 0.66km south from site in 2015.

3.28 Two European Protected Species (EPS) licences were returned in the data search within 1km of the site. The details of the EPS licences are set out in **Table 3.3**.

Case reference of licence	Species to which the licence relates	Start and end date	Approximate distance and direction from site	Notes or description of licence
2016-25082-EPS-MIT	Brown long-eared bat, soprano and common pipistrelle	06/09/2016-01/09/2021	0.8km south	License allows destruction of a resting place
EPSM2009-1356	Common pipistrelle	08/04/2011-30/06/2015	0.9km north	License allows destruction of a resting place

Table 3.3. ESP licences within a 1km search radius

Potential Bat Roost Assessment (PBRA)

3.29 A PBRA was undertaken of all trees present within the site to assess their potential to support roosting bats. All trees subject to a PBRA with negligible, low or moderate bat roost potential are summarised in **Table 3.4**.

3.30 Tree T1 was considered to have low potential for roosting bats and tree T2 was considered to have moderate potential for roosting bats. No trees on site were considered to have high potential for roosting bats. For a more detailed summary, including a summary of the potential roost features (PRFs) identified and photographs of the high potential trees, see **Appendix 2**.

Tree Number	Bat Roost Potential	Recommended Further Works
T3, T4, T5, T6, T7, T8, T9, T11, T12	Negligible	N/A
T1	Low	Any works are required to be carried out under the supervision of an ECoW (Collins, 2016)
T2	Moderate	Two emergence/re-entry surveys during the bat active season (May-September, inclusive) with at least one survey taking place from May-August (Collins, 2016)

Table 3.4 Summary of the results from the PBRA assessment undertaken on the 12 onsite trees and the recommended further required works where necessary, The location of the trees with bat roost potential, trees T1 and T2, are shown on the Habitat Features and Potential Bat Roost Features Plan **13340/P02a**)

Dusk Emergence Survey

3.31 Two emergence re-entry surveys were undertaken on trees T1 and T2, during which no emergences or re-entries were observed.

3.32 Although no emergences were recorded bat activity was observed and common pipistrelle, soprano pipistrelle and noctule were observed. The most common bat recorded during the surveys were soprano pipistrelle and noctule were only recorded once.

3.33 Bats were observed foraging over the tree canopies, car park and towards the railway tracks to the south of the site and were also heard commuting over site.

Badger

3.34 One record of badger *Meles meles* was returned by the data search from 2018, however the location has not been provided, due to the confidential nature of badger records.

3.35 The site does not contain any suitable habitat for badgers and taking into account the urban environment, they are considered to be likely absent from site and are not discussed further within this report.

Birds

3.36 338 records of birds were returned by the data search including those listed on the Birds of Conservation Concern (BoCC) red list including house sparrow *Passer domesticus* (Richmond BAP species) and starling *Sturnus vulgaris* (London BAP species) and those on the amber list including swift *Apus apus* (Richmond BAP species) and house martin *Delichon urbicum*.

3.37 The site could support common and widespread bird species however, it is considered unlikely that the site could support notable assemblages of breeding or wintering birds. As such, no further work is required regarding notable assemblages of breeding or wintering birds.

3.38 The introduced shrub, scattered trees and ivy scrub have the potential to support nesting birds.

Invertebrates

3.39 220 records of stag beetle *Lucanus cervus* were returned by the data search, with the nearest being approximately 0.86km from site and the most recent in 2019.

3.40 The site is not considered to support suitable habitat for stag beetle as the scattered trees are well maintained and do not contain large amounts of deadwood. As such, stag beetle are not considered further within this report.

Western European Hedgehog

3.41 96 records of Western European hedgehog *Erinaceus europaeus (*Richmond BAP species*)* were returned by the data search, with the nearest record being approximately 0.12km south and the most recent from 2018.

3.42 The hedgerow and introduced shrub could provide habitat for foraging and commuting hedgehog.

Other Notable Species

3.43 No records of white-clawed crayfish *Austropotamobius pallipes*, European water vole *Arvicola terrestris*, Eurasian otter *Lutra lutra*, hazel dormouse *Muscardinus avellanarius* or reptiles were returned by the data search. Due to the absence of suitable habitat on site and lack of records, it is considered that these species are not present on site and as such are not discussed further within this report.

Invasive Species

3.44 Invasive species are those listed under Schedule 9 of the Wildlife and Countryside Act 1981. With regard to invasive plant species (listed under Part II of Schedule 9), it is an offence to plant or otherwise cause to grow in the wild any plant which is included in Part II of Schedule 9.

3.45 Snowberry and *Cotoneaster* were both observed on site within the introduced shrub and hedgerow.

3.46 Although the *Cotoneaster* was not identified to species level, for the purpose of this report it is considered that the *Cotoneaster* present on site is a Schedule 9 species. In addition to this, *Cotoneaster* is a Category 2 LISI species (species of high impact or concern present at specific sites that require attention (control, management, eradication etc))[6]. Snowberry is not listed on Schedule 9 of the WAC Act (1981), however it is also a Category 2 LISI species. As such, both of these species should be carefully removed during construction.

[6] http://www.londonisi.org.uk/what-and-where/species-of-concern/

Section 4: Potential Impacts, Mitigation and Enhancements

Proposed Development

4.1 The proposals are for the erection of 4 no. residential dwellings (Class C3) with associated parking, access, and landscaping.

4.2 The potential consequences with respect to future development of the site are set out below along with design advice, with reference to relevant legislation and planning policy, which is summarised in **Appendix 1**.

Protected Sites

Statutory Sites

4.3 None of the five statutory sites are found within the site boundary or directly adjacent to the site and as such it is considered that direct impacts on these sites as a result of the development can be ruled out.

4.4 Statutory sites can be negatively impacted via indirect impact pathways such as recreation and air quality.

Internationally Designated Sites

4.5 The development proposals are for four new residential units and as such it is considered that any impacts on these five sites through recreational pressure or air quality would not be negligible. Moreover, with regards to Wimbledon Common and Richmond Park SACs the qualifying features of these sites are not thought to be negatively impacted through recreational pressure[7]. Richmond SAC is designated for the stag beetle which is dependent on the presence of mature trees and deadwood. The habitat the stag beetle relies on is not impacted by recreational pressure, with the exception of small numbers of individuals removing deadwood from site[7].

4.6 Wimbledon Common is however, also designated for its heathland habitats which can be vulnerable to increases in recreational pressure. According to the most up to date Greater London Authority Plan Habitat Regulations Assessment[7], the main hotspots for recreation at this site are the grassland areas which do not represent any SAC features. Moreover, the Natural England condition assessment for the SAC concludes that there are no indications of disturbance to this qualifying features[7].

4.7 As detailed within the most up to date Greater London Authority Plan Habitat Regulations Assessment[7], although the components of the South West London Waterbodies SPA are vulnerable to recreational disturbance, Kempton Park East Reservoir, Stain Hill Reservoirs and the Red House Reservoir are either not accessible to the public or are carefully managed for visitor numbers. Princes Lake and Befont Lakes components are currently both open to the public, with Princes Lake being a large water ski site. It is however noted though that these uses do not appear to negatively impact those qualifying features of the SPA that use these components.

4.8 Considering the above and the small scale of the development, it is considered unlikely that the proposals would have any significant likely effect on the internationally-designated sites or their conservation objectives as a result of indirect pressures due to an increase in recreational pressure on the European designated sites found within a 10km radius of the site.

[7] https://www.london.gov.uk/what-we-do/planning/london-plan/new-london-plan/intend-publish-london-plan-2019

4.9 In terms of air quality, the qualifying feature of Richmond Park, stag beetle, is not thought to be impacted by air quality and the qualifying heathlands within Wimbledon Common already exceeds the critical load range for nitrogen deposition. The South West London Waterbodies SPA, open water habitat is considered to be phosphate limited rather than nitrogen limited, as it is the phosphate availability which controls the growth of macrophytes[7].

4.10 The policies within the draft London plan are said to aim to improve the air quality in London considerably over the planned period[8]. With this in mind, in addition to the small number of vehicles likely associated with the site in comparison to the current capacity of the car park and the immediate residential access to St Margaret's train station, it is not considered likely that the proposals would lead to a likely significant effect on the conservation objectives of the Wimbledon Common SAC, Richmond Park SAC or South West London Waterbodies SPA.

Nationally Designated sites

4.11 Hams Lands and Iselworth Ait LNR are over 1km from site and so considering the distance from site and the small scale of the proposals, the development is considered unlikely to have any negative indirect impacts on these two sites via pressures such as recreation or air quality. Moreover, as described above for the European designated sites, the capacity of the site to hold parked cars is due to decrease and so the proposals are considered unlikely to lead to any tangible air quality impacts on protected sites.

Non-statutory Sites

4.12 None of the eight non statutory sites are covered by the site or are directly adjacent to the site and as such it is considered that direct impacts as a result of the proposals do not require any consideration.

4.13 Residential developments can impact local sites through indirect pressures associated within recreation, air quality and rubbish dumping.

4.14 Moor Mead Recreation Ground SINC is close to the site (approximately 0.2km west) and therefore may be subject to greater levels of recreation or rubbish dumping as a result of the proposals. However, this SINC was viewed during the Phase 1 habitat survey and appears to be managed for recreational use, as the majority of the site comprises short mown amenity grassland with a playing ground and tennis courts. As such, considering the small scale of the proposals and the fact that the site is already heavily used and managed for recreation, it is considered unlikely that the proposals would have a tangible negative impact on Moor Mead Recreation Ground SINC.

4.15 Twickenham Junction Rough and River Crane at St Margaret's SINCs are not publicly accessible and only part of the River Crane at St Margaret's (Richmond side) SINC is accessible. As such these sites are not considered likely to be impacted through indirect pressures relating to recreation or rubbish dumping.

4.16 The remaining five SINCs are considered to be sufficiently distant from site to be likely to be affected by indirect impacts as a result of the proposals in relation to recreational pressure and rubbish dumping.

4.17 Due to the small scale of the proposals, which include four residential units, the capacity for parking is going to be reduced from the site's current level. As such, it is considered unlikely that the proposals will result in any indirect impacts on the eight SINCs resulting from a decrease in air quality.

[8] https://www.london.gov.uk/what-we-do/environment/london-environment-strategy

4.18 The river habitats associated with River Crane at St Margaret's and River Crane at St Margaret's (Richmond side) are considered to be sufficiently distant from site to likely be subject to any adverse impacts as a result of run off from the construction works at the site.

Habitats

Scattered Broadleaved Trees

4.19 The proposals will result in the removal of all trees except tree T7, to facilitate the development of the site.

4.20 Where possible this loss should be mitigated for by replacement native tree planting which will likely be addressed via an offsite tree planting scheme, as detailed in the Arboricultural Impact Assessment (AIA) (**13340/R02**).

Introduced Shrub

4.21 The proposals will likely result in the removal of all introduced shrub and as part of the construction work, all snowberry and cotoneaster should be carefully removed via excavating all root systems and chipping on-site.

4.22 Although the loss of the non-native invasive will be an enhancement, to mitigate the loss of the most common habitat structure on site, replacement planting of native woody and shrubby species should be used to provide a good range of native scrub habitat. A mixture of native species such as dog rose, dogwood, yew *Taxus baccata*, hazel *Corylus avellana*, elder, holly *Ilex aquifolium* and common ivy could be used to provide a range of species that flower and fruit at different times of the year and provide a good mix of habitat types.

4.23 The inclusion of native woody and shrubby planting within the scheme will enhance the site by increasing the amount of native species and improving the biodiversity found on site and will be in line with the London Borough of Richmond Local Plan Policy LP 15, London Plan Policy 7.19 and draft London Plan Policy G6.

Hedgerow (Species Poor)

4.24 The removal of the non-native invasive and LISI species, Cotoneaster and non-native LISI species snowberry, will be an enhancement.

4.25 As this habitat is the only hedgerow currently found on site, in addition to being a local BAP habitat, its loss should be mitigated through the establishment of a new native hedgerow, which could be used to establish site boundaries or boundaries between gardens. Using a range of woody native hedgerow species such as holly, hawthorn *Crataegus monogyna,* dogwood, hazel and honey suckle would create a native species rich hedgerow which would offer a higher amount of biodiversity to the site in comparison the existing hedge and would be in line with the London Borough of Richmond Local Plan Policy LP 15, London Plan Policy 7.19 and draft London Plan Policy G6.

Scrub

4.26 The development will likely result in the removal of all native scrub found on site, which consists mostly of the ivy clad wall on the western boundary.

4.27 If the ivy scrub is removed, to mitigate for the loss, native planting should be incorporated into the scheme through soft landscaping.

4.28 The site could be enhanced through the incorporation of native woody and shrubby planting at the site boundaries and through the garden areas. A mixture of native species such as that described above in paragraph 4.25 could provide a good range of native planting on site.

4.29 The site could be further enhanced by the installation of a new native hedgerow using species such as holly, honeysuckle *Lonicera periclymenum*, hornbeam and beech and, if possible, the inclusion of native green wall or roof planting which would be in line with the London Borough of Richmond Local Plan Policies LP 15 and LP17, London Plan Policies 5.11 7.19 and draft London Plan Policies G1 and G6.

Fauna

Bats

4.30 Bats are protected under The Conservation of Species and Habitats Regulations (2018, as amended) which makes it an offence to deliberately or recklessly capture, injure or kill such an animal, harass an animal or group of animals and obstruct access to a breeding site or resting place, or otherwise deny an animal use of a breeding site or resting place

Roosting

4.31 As stated in **Section 3**, trees T1 and T2 were subject to two emergence/re-entry surveys in line with best practice guidance (Colins, 2016),, during which no bats were observed emergence or re-entering. As such, it is considered likely that there are no roosts present in either tree T1 or T2 and no specific mitigation is required for the removal of these trees with respect to roosting bats.

4.32 Although there will be no requirement to apply for an European Protected Species (EPS) licence to enable the development to proceed, in the unlikely event bats are discovered during the felling works, then works must cease immediately and advice must be sought by a licensed bat ecologist.

4.33 Trees T1 and T2 can now be felled without having to obtain an EPS licence. However, if at the point of felling, two years has elapsed since the time of these surveys, then update surveys will be required.

4.34 The site could be enhanced for roosting bats by including bat boxes into the scheme design. This could be achieved by using free hanging exterior bat boxes on the new buildings, such as the “Schweglar 1F Bat Box” or by using integrated brick bat boxes such as the “Ibstock Enclosed Bat Box” which can be incorporated into the design of the buildings. **Appendix 3** contains more detailed information on bat box specifications.

Foraging

4.35 It is clear from the survey results that the site is utilised by foraging bats however, this activity is limited to more light tolerant species common pipistrelle and soprano pipistrelle. Bats were observed foraging over the tree canopies, over the car park and offsite towards the railway track to the south.

4.36 The proposals would result in the loss of the car park and all onsite trees except for tree T12. The proposals currently include the establishment of gardens associated with the four new residential units and four green roofs and two proposed trees (Proposed Layouts P-001A). It is considered that these landscaping proposals would mitigate for the loss of the current foraging habitat, more over the provision of green roofs would be in line with the Local Plan (2018) Policy LP 12, London Plan Policy 5.11 and draft London Plan Policy G1.

4.37 The site could be further enhanced for foraging through establishing strips of wildflower planting or native shrub plating at the rear of the gardens and the incorporation of insect hotels to provide an additional nectar resource and nest sites for invertebrates at the site, which could further increase the amount of insect foraging habitat available for foraging bats.

4.38 The existing boundary brick wall on the western site boundary is being retained. This is currently covered in common ivy which could either be retained or replaced with other native climbing species such as honey suckle to provide a native green wall which would also increase the insect foraging resource available at site for bats.

Lighting

4.39 The site is currently well lit, being situated in a residential area and adjacent to the railway tracks. However, to secure the sites' value for bats in the long term, a sensitive lighting strategy could be implemented. Sensitive lighting measures may include low bollard lighting, use of hoods and cowls on lamps and use of low-pressure sodium or, where glass glazing is preferred, use of high pressure sodium instead of metal halide lamps (Collins, 2016; BCT and Institute of Lighting Engineers, 2009).

4.40 In particular, any newly installed bat boxes and areas of ecological landscaping, such as green roofs and boundary planting should be subject to a sensitive lighting scheme.

Birds

4.41 In England and Wales, birds and their nests are protected under the Wildlife and Countryside Act (1981) (as amended).

4.42 The existing on site scattered trees and introduced scrub have the potential to support common and widespread nesting birds. The proposed loss of these features can be mitigated for through the construction phase of works by sensitive timing of works, for instance, scheduling any vegetation works for outside of the core nesting bird season (March-August,), although nests can be present at any time of year. If works must take place during the breeding bird season, the vegetation must first be checked for nesting birds by a suitably qualified ECoW. Should any active nests be found during works, a suitable buffer must be erected around the nest and no works may take place within that buffer until the nest can be confirmed fledged or inactive by an ECoW.

4.43 The site could be enhanced for birds through the incorporation of native planting as discussed in paragraph 4.25 and 4.28 and through the proposed green roof planting as discussed in relation to bats in paragraph 4.46 and 4.38. Moreover, by using a range of native species such as hawthorn, holly and ivy that flower and fruit at different times of the year will provide a year-round food source for birds.

4.44 New nesting opportunities could be provided through the incorporation of new native hedgerow planting and bird boxes into the scheme design. In particular bird boxes that target Richmond BAP species swift and house sparrow could be used, such as the "No. 16 Schwegler Swift Box" and "1SP Schwegler Sparrow Terrace". **Appendix 4** contains more detailed information on bird box specifications.

Western European Hedgehog

4.45 Western European hedgehogs are listed under Section 41 of the NERC act and as a result, public bodies must take the conservation of hedgehogs into consideration when undertaking any of its functions. Hedgehogs are also a Richmond upon Thames BAP species and as such, species-specific enhancements for hedgehog should be considered.

4.46 The border landscaping that could offer commuting and foraging habitat for hedgehogs is proposed to be removed. This could be mitigated for by the native scrub and hedgerow planting such as described in paragraphs 4.25 and 4.28.

4.47 Any fence panels used to separate garden areas should have hedgehog holes in them to retain the connectivity of the site for hedgehogs.

4.48 The site could be enhanced for hedgehogs through the placement of hedgehog houses in areas of native planting within the site.

4.49 Sensitive construction methods should be put in place during the construction phase of the development to prevent harm to any hedgehogs that may be using the site. These would include measures such as the safe storage and disposal of chemicals and covering up holes at night-time. These measures could be secured through inputs into a Construction Environmental Management Plan (CEMP).

Section 5: Conclusion

6.1 The site is not covered by nor adjacent to any sites that are subject to statutory or non-statutory protection and none are considered likely to be negatively affected by indirect impact pathways as a result of the proposals.

6.2 The habitats on site were found to be either of negligible ecological importance (bare ground and hardstanding) or of ecological importance within the site context only (scattered broadleaved trees, scrub, introduced shrub and species poor hedgerow). Those of negligible ecological importance require no mitigation for their loss and it is considered that any proposed loss of those habitats of ecological importance within the site context only can be more than mitigated for through replacement native tree, shrub, hedgerow and wildflower planting.

6.3 The non-native invasive snowberry and *Cotoneaster* should be carefully and wholly removed during works and replaced with native woody and shrubby species.

6.4 The two onsite trees identified as having bat roost potential, as identified during the PBRA, trees T1 and T2, were subject to two emergence/re-entry surveys during which no bats were observed emerging or re-entering the PRFs. As such, it is considered unlikely that trees T1 and T2 support roosting bats and no specific mitigation is required for their removal. If, at the time of felling, two years has elapsed since the completion of these surveys, update surveys will be required.

6.5 It is considered that the proposals present the opportunity to enhance a site which offers little biodiversity value in its current state and supports a flora dominated by non-native invasive species. The removal of the non-native invasive species and the incorporation of an ecologically minded landscaping plan which comprises native tree, shrub, wildflower and hedgerow planting in addition to green roofs, could enhance the site for biodiversity.

6.6 Moreover, it is considered that the proposals present the opportunity to enhance the site for protected species. Nesting and roosting opportunities could be increased on site through the incorporation of bird and bat boxes, hedgehog houses and insect hotels and planting a range of native woody and shrubby species in addition to the proposed green roofs, would provide a food source year round will increase the amount of insect forage on site for bats and birds.

6.7 Overall, those valuable ecological resources that exist, or could exist, at the site, could be accommodated by the adoption of design principles. Where impacts may occur, these could be more than mitigated through creation and better management of new habitat within the site and will satisfy relevant planning policy, namely. The London Borough of Richmond Local Plan Policies LP 15 and LP 17, London Plan Policies 5.11 and 7.19 and draft London Plan Policies G6 and G1.

6.8 In conclusion, it is considered that the principle of development at the site should be compliant with the relevant planning policy and legislation with regard to ecology.

Appendix 1: Legislation and Policy

National Planning Policy

National Planning Policy Framework (NPPF), February 2019

A1.1. The National Planning Policy Framework (NPPF) was published in February 2019 and sets out the Government's planning policies for England and how these should be applied. It replaces the first National Planning Policy Framework published in March 2012.

A1.2. Paragraph 11 states that:

"Plans and decisions should apply a presumption in favour of sustainable development."

A1.3. Section 15 of the NPPF (paragraphs 170 to 177) considers the conservation and enhancement of the natural environment.

A1.4. Paragraph 170 states that planning and decisions should contribute to and enhance the natural and local environment by:

a) "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);
b) 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; and
c) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures".

A1.5. Paragraph 171 states that plans should distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

A1.6. Paragraph 174 states that in order to protect and enhance biodiversity and geodiversity, plans should:

a) "Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."

A1.7. When determining planning applications, Paragraph 175 states that local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

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

c) 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 reasons58 and a suitable compensation strategy exists; and

d) 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."

A1.8. As stated in paragraph 176 the following should be given the same protection as habitats sites:

a) "potential Special Protection Areas and possible Special Areas of Conservation;

b) listed or proposed Ramsar sites; and

c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites."

A1.9. Paragraph 177 states that the presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site is being planned or determined.

Local Planning Policy

London Plan

A1.10. The London Plan 2016: The Spatial Development Strategy for London[12], consolidated since 2011

A1.11. Relevant policies relating to ecology and nature conservation are set out below.

A1.12. Policy 5.10 'Urban Greening' states:

Strategic

The Mayor will promote and support urban greening, such as new planting in the public realm (including streets, squares and plazas) and multifunctional green infrastructure, to contribute to the adaptation to, and reduction of, the effects of climate change.

The Mayor seeks to increase the amount of surface area greened in the Central Activities Zone by at least five per cent by 2030, and a further five per cent by 2050[1].

Planning decisions

Development proposals should integrate green infrastructure from the beginning of the design process to contribute to urban greening, including the public realm. Elements that can contribute to this include tree planting, green roofs and walls, and soft landscaping. Major development proposals within the Central Activities Zone should demonstrate how green infrastructure has been incorporated.

LDF preparation

Boroughs should identify areas where urban greening and green infrastructure can make a particular contribution to mitigating the effects of climate change, such as the urban heat island.

A1.13. Policy 5.11 'Green roofs and development site environs' states:

Planning decisions

Major development proposals should be designed to include roof, wall and site planting, especially green roofs and walls where feasible, to deliver as many of the following objectives as possible:

- *adaptation to climate change (i.e. aiding cooling)*
- *sustainable urban drainage*
- *mitigation of climate change (i.e. aiding energy efficiency)*
- *enhancement of biodiversity*
- *accessible roof space*
- *improvements to appearance and resilience of the building*
- *growing food.*

LDF preparation

Within LDFs boroughs may wish to develop more detailed policies and proposals to support the development of green roofs and the greening of development sites. Boroughs should also promote the use of green roofs in smaller developments, renovations and extensions where feasible.

A1.14. Policy 5.3 'Sustainable design and construction' states:

Strategic

The highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments and to adapt to the effects of climate change over their lifetime.

Planning decisions

Development proposals should demonstrate that sustainable design standards are integral to the proposal, including its construction and operation, and ensure that they are considered at the beginning of the design process.

Major development proposals should meet the minimum standards outlined in the Mayor's supplementary planning guidance and this should be clearly demonstrated within a design and access statement. The standards include measures to achieve other policies in this Plan and the following sustainable design principles:

- *minimising carbon dioxide emission*
- *s across the site, including the building and services (such as heating and cooling systems)*
- *avoiding internal overheating and contributing to the urban heat island effect*
- *efficient use of natural resources (including water), including making the most of natural systems both within and around buildings*
- *minimising pollution (including noise, air and urban runoff)*
- *minimising the generation of waste and maximising reuse or recycling*
- *avoiding impacts from natural hazards (including flooding)*
- *ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions*
- *securing sustainable procurement of materials, using local supplies where feasible, and*
- *promoting and protecting biodiversity and green infrastructure.*

LDF preparation

Within LDFs boroughs should consider the need to develop more detailed policies and proposals based on the sustainable design principles outlined above and those which are outlined in the Mayor's supplementary planning guidance that are specific to their local circumstances.

A1.15. *Policy 7.19 'Biodiversity and Access to nature' states:*
Strategic

The Mayor will work with all relevant partners to ensure a proactive approach to the protection, enhancement, creation, promotion and management of biodiversity in support of the Mayor's Biodiversity Strategy. This means planning for nature from the beginning of the development process and taking opportunities for positive gains for nature through the layout, design and materials of development proposals and appropriate biodiversity action plans.

Any proposals promoted or brought forward by the London Plan will not adversely affect the integrity of any European site of nature conservation importance (to include special areas of conservation (SACs), special protection areas (SPAs), Ramsar, proposed and candidate sites) either alone or in combination with other plans and projects. Whilst all development proposals must address this policy, it is of particular importance when considering the following policies within the London Plan: 1.1, 2.1-2.17, 3.1, 3.3, 3.7, 5.4A, 5.14, 5.15, 5.17, 5.20, 6.3, 6.9, 7.14, 7.15, 7.25 – 7.27 and 8.1. Whilst all opportunity and intensification areas must address the policy in general, specific locations requiring consideration are referenced in Annex 1.

Planning decisions

C) Development Proposals should: a wherever possible, make:

- *positive contribution to the protection, enhancement, creation and management of biodiversity*
- *prioritise assisting in achieving targets in biodiversity action plans (BAPs), set out in Table 7.3, and/or improving access to nature in areas deficient in accessible wildlife sites*
- *not adversely affect the integrity of European sites and be resisted where they have significant adverse impact on European or nationally designated sites or on the population or conservation status of a protected species or a priority species or habitat identified in a UK, London or appropriate regional BAP or borough BAP.*

D) On Sites of Importance for Nature Conservation development proposals should:

- *give the highest protection to sites with existing or proposed international designations1 (SACs, SPAs, Ramsar sites) and national designations2 (SSSIs, NNRs) in line with the relevant EU and UK guidance and regulations3*
- *give strong protection to sites of metropolitan importance for nature conservation (SMIs). These are sites jointly identified by the Mayor and boroughs as having strategic nature conservation importance*
- *give sites of borough and local importance for nature conservation the level of protection commensurate with their importance.*
- *When considering proposals that would affect directly, indirectly or cumulatively a site of recognised nature conservation interest, the following hierarchy will apply:*
- *avoid adverse impact to the biodiversity interest*
- *minimize impact and seek mitigation*
- *only in exceptional cases where the benefits of the proposal clearly outweigh the biodiversity impacts, seek appropriate compensation.*

LDF preparation

F) In their LDFs, Boroughs should:

- *use the procedures in the Mayor's Biodiversity Strategy to identify and secure the appropriate management of sites of borough and local importance for nature conservation in consultation with the London Wildlife Sites Board.*
- *identify areas deficient in accessible wildlife sites and seek opportunities to address them*
- *include policies and proposals for the protection of protected/ priority species and habitats and the enhancement of their populations and their extent via appropriate BAP targets*
- *ensure sites of European or National Nature Conservation Importance are clearly identified*

- *identify and protect and enhance corridors of movement, such as green corridors, that are of strategic importance in enabling species to colonise, re-colonise and move between sites.*

1) *Designated under European Union Council Directive on the conservation of wild birds (79/409/ EEC) 1992, European Union Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) 1992 and Ramsar Convention on wetlands of international importance especially as waterfowl habitat 197*
2) *Designated under the Wildlife and Countryside Act 1981 as amended by the countryside Right of Way Act 2000*
3) *Conservation of Species and Habitats Regulations (2010) (as amended*

The London Plan, The Spatial Development Strategy for Great London, Draft published in July 2019

A1.16. The London Local Plan (Intend to Publish) December 2019 has yet to be adopted by London Council, however, as the consultation stage has closed and the inspector's comments have been incorporated, it may be a consideration for future developments. Policies relating to ecology and nature conservation can be found in Chapter 8: Green Infrastructure and Natural Environment, which are summarised as follows:

A1.17. Policy G1 Green infrastructure

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.

Boroughs should prepare green infrastructure strategies that identify opportunities for cross-borough collaboration, ensure green infrastructure is optimised and consider green infrastructure in an integrated way as part of a network consistent with Part A.
Development Plans and area-based strategies should use evidence, including green infrastructure strategies, to:

- *identify key green infrastructure assets, their function and their potential function; and*
- *identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.*
- *Development proposals should incorporate appropriate elements of green infrastructure that are integrated* into London's wider green infrastructure network.

A1.18. Policy G5 Urban Greening

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

Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development (excluding B2 and B8 uses); and

Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.

A1.19. Policy G6 Biodiversity and access to nature

Sites of Importance for Nature Conservation (SINCs) should be protected.

Boroughs, in developing Development Plans, should:

- *use up-to-date information about the natural environment and the relevant procedures to identify SINCs and ecological corridors to identify coherent ecological networks*
- *identify areas of deficiency in access to nature (i.e. areas that are more than 1km walking distance from an accessible Metropolitan or Borough SINC) and seek opportunities to address them*
- *support the protection and conservation of priority species and habitats that sit outside of the SINC network, and promote opportunities for enhancing them using Biodiversity Action Plans*
- *seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context*
- *ensure designated sites of European or national nature conservation importance are clearly identified and impacts assessed in accordance with legislative requirements.*
- *Where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the following mitigation hierarchy should be applied to minimise development impacts:*
- *avoid damaging the significant ecological features of the site*
- *minimise the overall spatial impact and mitigate it by improving the quality or management of the rest of the site*
- *deliver off-site compensation of better biodiversity value.*

Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.

Proposals which reduce deficiencies in access to nature should be considered positively.

A1.20. Policy G7 Trees and woodlands

London urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest –the area of London under the canopy of trees.

In their Development Plans, boroughs should:

- *protect 'veteran' trees and ancient woodland where these are not already part of a protected site*
- *identify opportunities for tree planting in strategic locations.*
- *Development proposals should ensure that, wherever possible, existing trees of value are retained. If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments –particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.*

Richmond Upon Thames Local Plan (adopted 2018)

A1.21. The Richmond Upon Thames Local Plan sets out the policies and guidance for development in the borough over the next 15 years. The policies relevant to ecology are as follows:

A1.22. Policy LP 12 Green Infrastructure

Green Infrastructure Green infrastructure is a network of multi-functional green spaces and green features, 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:

a. the need to protect the integrity of the green spaces and features that are part of the wider green infrastructure network; improvements and enhancements to the green infrastructure network are supported;

b. its contribution to the wider green infrastructure network by delivering landscape enhancement, restoration or re-creation;

c. incorporating green infrastructure features, which make a positive contribution to the wider green infrastructure network.

B. The hierarchy of open spaces, as set out in the table below, will be protected and used in accordance with the functions shown.

Type and Size	
Regional Parks (400ha+)	Large areas, corridors or networks of open space, the majority of which will be publicly accessible and provide a range of facilities and features offering recreational, ecological, landscape, cultural or green infrastructure benefits. Offer a combination of facilities and features that are unique within London, are readily accessible by public transport and are managed to meet best practice quality standards.
Metropolitan Parks (60-400 ha)	Large areas of open space that provide a similar range of benefits to Regional Parks and offer a combination of facilities at a sub-regional level, are readily accessible by public transport and are managed to meet best practice quality standards.
District Parks (20-60ha)	Large areas of open space that provide a landscape setting with a variety of natural features providing a wide range of activities, including outdoor sports facilities and playing fields, children's play for different age groups and informal recreation pursuits as well as visual amenity.
Local Parks (2-20ha)	Providing for court games, children's play, sitting out areas, visual amenity and nature conservation areas.
Small local parks and open spaces (less than 2 ha)	Gardens, sitting out areas, children's play spaces or other areas of a specialist nature, including nature conservation areas as well as visual amenity
Pocket Parks (under 0.4ha)	Small areas of open space that provide natural surfaces and shaded areas for informal play and passive recreation that sometimes have seating and play equipment as well as visual amenity.
Linear Open Spaces (variable)	Open spaces and towpaths alongside the Thames and other waterways; paths, disused railways; nature conservation areas; and other routes that provide opportunities for informal recreation. Often characterised by features or attractive areas which are not fully accessible to the public but contribute to the enjoyment of the space and visual amenity.

A1.23. Policy LP 15 Biodiversity

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 in terms 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.

A1.24. Policy LP 16 Trees, Woodland and Landscape

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.

A1.25. Policy LP 17 Green Roofs and Walls

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.

A1.26. The Borough of Richmond upon Thames is in the process of producing a new Local Plan, however no draft policies are available currently.

Biodiversity Action Plans

A1.27. The UK Post-2010 Biodiversity Framework succeeded the UK BAP partnership in 2011 and covers the period 2011 to 2020. However, the lists of Priority Species agreed under the UK BAP still form the basis of much biodiversity work in the UK. The current strategy for England is 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' published under the UK Post-2010 UK Biodiversity Framework. Although the UK BAP has been superseded, Species Action Plans (SAPs) and Habitat Action Plans (HAPs) developed for the UK BAP remain valuable resources for background information on priority species under the UK Post-2010 Biodiversity Framework.

A1.28. Most areas now possess a Local BAP (LBAP) to complement the national strategy where priority habitats and species are identified, and targets set for their conservation. BAP's are the key nature conservation initiative in the UK, working at national, regional and local levels.

The London BAP

A1.29. The London BAP outlines Species Action Plans for the following species and habitats:

A1.30. Species

- Bats
- Black poplar
- House sparrow
- Mistletoe
- Reptiles
- Sand Martin
- Stag Beetle
- Water vole

A1.31. Habitats

- Acid grassland
- Chalk grassland
- Heathland
- Parks and urban green spaces
- Private gardens
- Reedbeds
- Rivers and Streams
- Standing Water
- Tidal Thames
- Wasteland

London Borough of Richmond Upon Thames BAP (2019)

A1.32. The London Borough of Richmond Upon Thames BAP, launched in 2019 is the first major revision of the local BAP since 2011 and provides an update on the original local BAP habitats and species as well as provided plans for additional species. It outlines Species Action Plans for the following habitats and species:

A1.33. Habitats

- Acid Grassland
- Ancient and Veteran Trees
- Broad Leaved Woodland
- Reedbeds
- Tidal Thames
- Hedgrows
- Neutral Grassland
- Private Gardens
- Rivers
- Streams

A1.34. Species

- Bats
- Song Thrush
- Stag Beetle
- Tower Mustard
- Water Vole
- Native Black Poplar
- Hedgehogs
- House Sparrow
- Swift
- White-letter hairstreak
- Elm
- Pollinators

Appendix 2: Preliminary Bat Roost Assessment

A2.1 **Table A2.1** contains the details of the PBRA for each tree found on site. The location of trees T1-T12 is shown on the Habitat Features and Potential Bat Roost Features Plan (**13340/P04)**.

Tree Number	Species	Potential Bat Roost Features	Potential Bat Roost Potential
T1	*Tilia sp.*	No discernible PRFs from ground assessment but multiple stems and ivy cover of 100% (see **Photograph A1.1**)	Low
T2	*Tilia sp.*	Cavity 5m up on the eastern aspect of the tree (see **Photograph A1.2**)	Moderate
T3	*Tilia sp.*	No visible PRFs	Negligible
T4	Hornbeam	No visible PRFs	Negligible
T5	Hornbeam	Branch union 6m up on the tree with negligible bat potential	Negligible
T6	Hornbeam	No visible PRFs	Negligible
T7	*Prunus sp.*	Upward facing crack with negligible bat potential	Negligible
T8	Hornbeam	No visible PRFs	Negligible
T9	Hornbeam	Upward facing crack with negligible bat potential	Negligible
T10	Hornbeam	No visible PRFs	Negligible
T11	Hornbeam	No visible PRFs	Negligible
T12	Hornbeam	No visible PRFs	Negligible

Table A2.1 Details of PBRA of onsite trees.

Photograph A1.1 Multi-stemmed tree T1 with dense ivy cover which could be concealing possible PRFs.

Photograph A1.2 Cavity present on T2

Appendix 3: Raw Bat Survey Data

A3.1 See the Bat Surveyor Location Plan **13340/P04** for the locations of the two surveyors

Emergence Survey Visit 1:

Surveyor: Ben Nelumbu		
Date: 06/08/2020		
Survey: Dusk		
Tree: T1		
Surveyor Location: SL1		
Equipment used: Batlogger		
Sunset time: 20:40	Start time: 20:25	End Time: 22:10
Weather	At Start	At End
Cloud Cover (%):	5	0
Wind (Beaufort Scale):	0	0
Precipitation	0	0
Temperature (C°)	27	26
Notes: three occurrences of common pipistrelle, with two passing over site and one foraging, twelve occurrences of soprano pipistrelle with bats foraging around the trees, over the car park and towards the rail corridor to the south of the site and one noctule commuting over the site. No emergences.		

Table A3.1 Survey data for Ben Nelumbu

Surveyor: Rebekah Baker		
Date: 06/08/2020		
Survey: Dusk		
Tree: T2		
Surveyor Location: SL2		
Equipment used: Ediroll and Bat Box Duet		
Sunset time: 20:40	Start time: 20:25	End Time: 22:10
Weather	At Start	At End
Cloud Cover (%):	5	0
Wind (Beaufort Scale):	0	0
Precipitation	0	0
Temperature (C°)	27	26
Notes: three occurrences of common pipistrelle with one foraging over the canopy, two commuting and one foraging and five occurrences of soprano pipstrelle foraging. All bats were heard and not seen. No emergences.		

Table A3.2 Survey data for Rebekah Baker

Re-entry survey Visit 2

Surveyor: Ben Nelumbu		
Date: 26/08/2020		
Survey: Dawn		
Tree: T1		
Surveyor Location: SL1		
Equipment used:		
Sunrise time: 6:05	Start time: 4:35	End Time: 6:20
Weather	At Start	At End
Cloud Cover (%):	40	100
Wind (Beaufort Scale):	2-3	2
Precipitation	0	0
Temperature (C°)	15	15
Notes: Three occurrences of soprano pipistrelle all heard but not seen, passing over the site. No emergences and no foraging activity.		

Table A3.3 Survey data for Ben Nelumbu

Surveyor: Rebekah Baker		
Date: 26/08/2020		
Survey: Dawn		
Tree: T2		
Surveyor Location: SL2		
Equipment used: Bat Box Duet and Anabat Express		
Sunrise time: 6:05	Start time: 4:35	End Time: 6:20
Weather	At Start	At End
Cloud Cover (%):	40	100
Wind (Beaufort Scale):	2-3	2
Precipitation	0	0
Temperature (C°)	15	15
Notes: No emergences and no bats heard or seen.		

Table A3.4 Survey data for Rebekah Baker

Appendix 4: Bat Box Specifications

A4.1 External bat boxes (such as the Schwegler 1FF bat box) could be installed onto the walls of the site post-development or internal bat boxes (such as the Ibstock Enclosed bat box “C”) could be integrated into the scheme design. These boxes offer suitable roosting conditions for crevice dwelling species such as common and soprano pipistrelle.

Figure A2.1: Schwegler 1FF bat boxes (image from: http://nhbs.com/)

Figure A2.2 Ibstock Enclosed bat box “C” (image from: http://nhbs.com/)

A4.2 The bat boxes should be installed at least 4m off the ground and positioned with an unobstructed approach. If possible, they should be placed where there will be no lighting directed towards them, with the boxes sited on the south, west and east aspects of buildings to receive maximum amounts of sunlight and warmth.

Appendix 5: Bird Box Specifications

A5.1 External bird boxes such as the "Schwegler 1B Nest Box" could be hung on external walls on the site post-development or internal bird boxes such as the "No. 17 Schwegler Swift Box" and "1SP Schwegler Sparrow Terrace" could be integrated into the building design . These boxes would increase the number of nesting opportunities for birds on site and specifically could be used to target Local BAP species such as the house sparrow and swift which depend on buildings for nests.

Figure A3.1 Schweglar 1B Nest Box (image from: https://www.nhbs.com/1b-schwegler-nest-box)

A5.2 These bird boxes should be installed at least 2m-4m off the ground, with the entrance facing between north and east.

Figure A3.2 1SP Schwegler Sparrow Terrace (image from https://gardenature.co.uk/product/sparrow-terrace-1sp-brown

A5.3 This bird box should be installed at least two meters of the ground with the entrance facing between north and east.

Figure A3.3 No. 17 Schwegler Swift Box (image from: https://www.nhbs.com/no-17b-schwegler-swift-nest-box-single-cavity)

A5.4 This bird boxes should be installed at least six to seven meters above ground where there is unobstructive access and if possible, under the shelter of overhanging roofs, with the entrance facing between north and east

Appendix 6: Proposed Layouts P-001A

Ground Floor Layouts

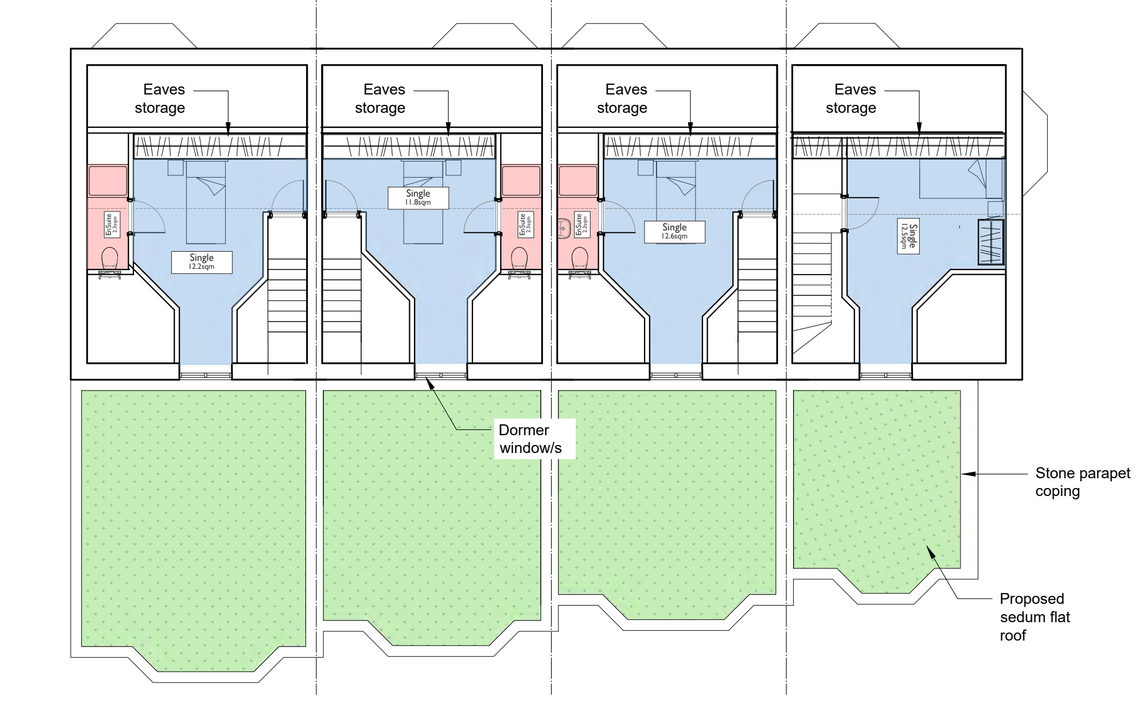
1:100 @ A1P

0 1 m 2 m 3 m 4 m 5 m 10 m

1:100 Scale

First Floor Layouts

1:100 @ A1P



Second Floor Layouts

1:100 @ A1P

Site/Block Plan

1:200 @ A1P

0 2 m 4 m 6 m 8 m 10 m 20 m

1:200 Scale

N

Proposed 1800x840x1090mm Bike Store

ISSUED FOR PLANNING

TITLE
ST MARGARET'S BUSINESS CENTRE

CLIENT
SHEEN LANE DEVELOPMENTS LTD

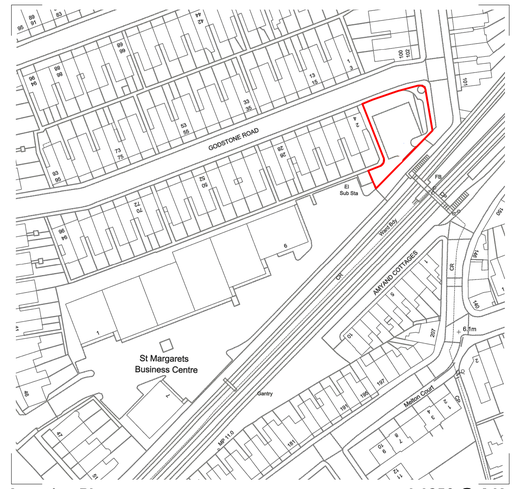
DESCRIPTION
Proposed Layouts

date:	scale	project	drawing	revision
AUG 2020	1:100 @A1P		P-001	B

SILVERLINE ARCHITECTS

EMAIL: INFO@SILVERLINEARCHITECTS.COM

Proposed Godstone Road (North-Facing) Elevation **1:50 @ A1L**



Location Plan **1:1250 @ A1L**

Proposed Drummond Place (South-Facing) Elevation **1:50 @ A1L**

0 500mm 1 m 2 m 3 m 4 m 5 m
1:50 Scale

Site Plan **1:200 @ A1L**

Proposed Godstone Road (North-Facing) Elevation **(Render)**

Proposed Drummond Place (South-Facing) Elevation **(Render)**

ISSUED FOR PLANNING

TITLE
ST MARGARET'S BUSINESS CENTRE

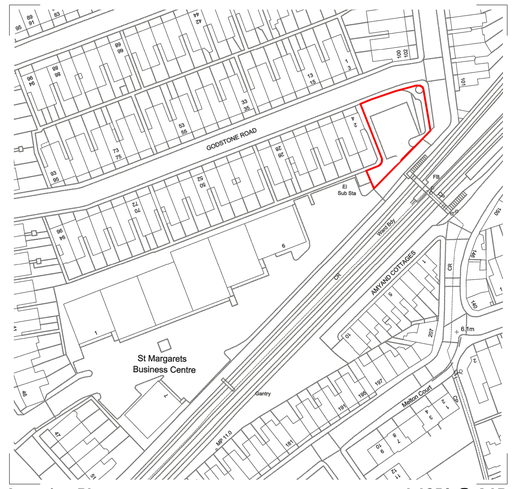
CLIENT
SHEEN LANE DEVELOPMENTS LTD

DESCRIPTION
Proposed Front & Rear Elevations

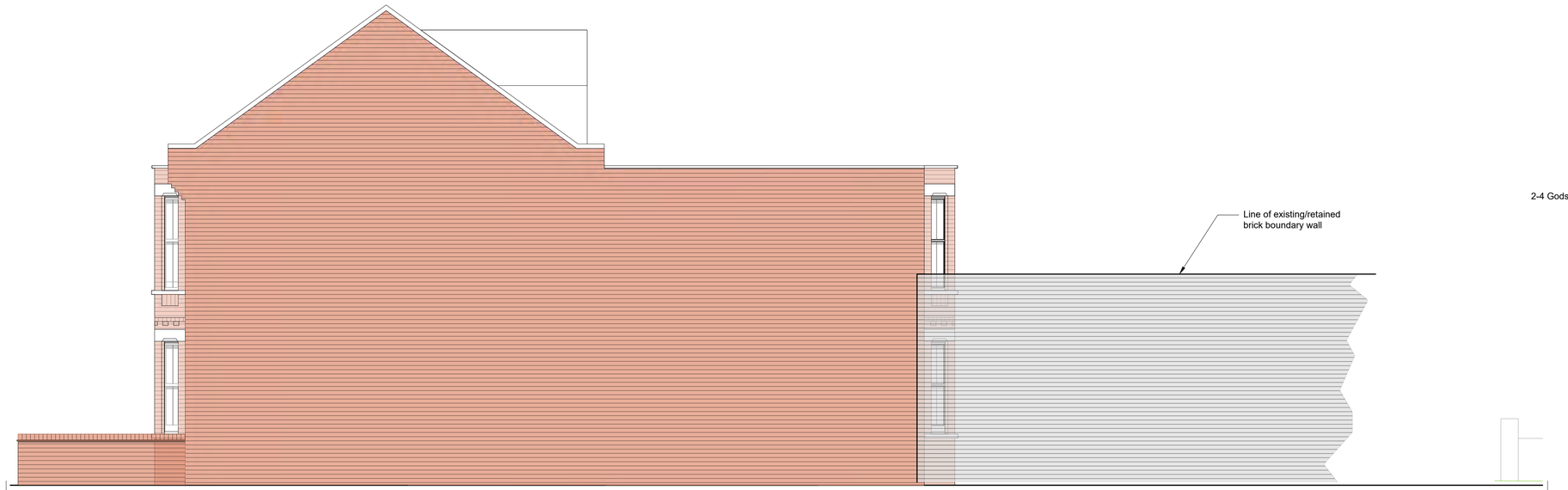
date:	scale	project	drawing	revision
AUG 2020	1:50 @A1L		P-002	A

SILVERLINE ARCHITECTS
EMAIL: INFO@SILVERLINEARCHITECTS.COM

Proposed Winchester Road (East-Facing) Elevation — **1:50 @ A1P**



Location Plan — **1:1250 @ A1P**



Proposed Alleyway/Flank (West-Facing) Elevation — **1:50 @ A1P**

0 500mm 1 m 2 m 3 m 4 m 5 m
1:50 Scale

Site Plan — **1:200 @ A1L**

ISSUED FOR PLANNING

TITLE
ST MARGARET'S BUSINESS CENTRE

CLIENT
SHEEN LANE DEVELOPMENTS LTD

DESCRIPTION
Proposed Side Elevations

date:	scale	project	drawing	revision
AUG 2020	1:50 @A1L		P-003	A

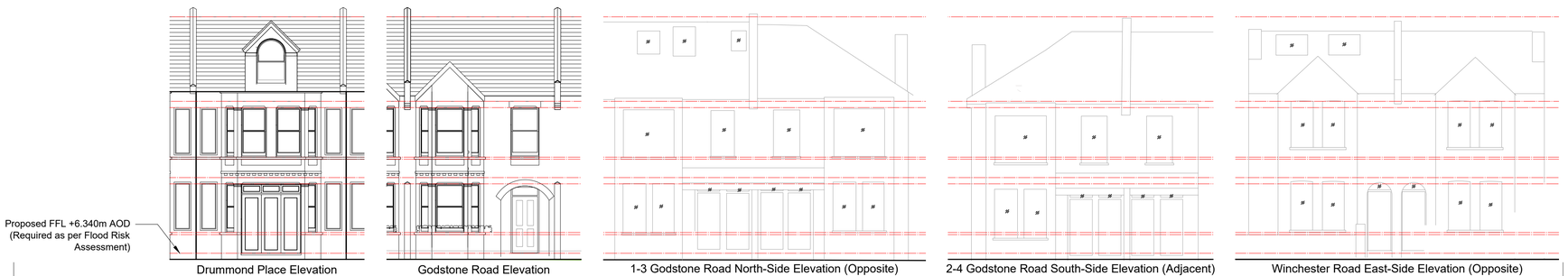
SILVERLINE ARCHITECTS

EMAIL: INFO@SILVERLINEARCHITECTS.COM

Proposed Godstone Road (North-Facing) Context Elevation **1:100 @ A1L**

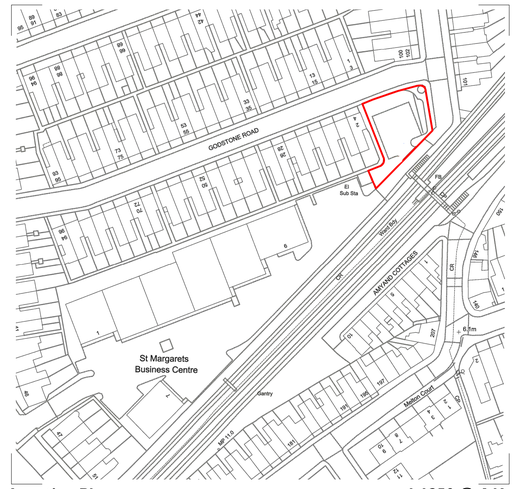
Proposed Drummond Place (South-Facing) Context Elevation **1:50 @ A1P**

Proposed Winchester Road (East-Facing) Context Elevation **1:100 @ A1L**



Levels Comparison (Proposed Development/Surrounding Properties) **1:100 @ A1L**

0 1 m 2 m 3 m 4 m 5 m 10 m
1:100 Scale



Location Plan **1:1250 @ A1L**

N

Site Plan **1:200 @ A1L**

N

ISSUED FOR PLANNING

TITLE
ST MARGARET'S BUSINESS CENTRE

CLIENT
SHEEN LANE DEVELOPMENTS LTD

DESCRIPTION
Proposed Context Elevations

date:	scale	project	drawing	revision
AUG 2020	1:100 @A1L		P-004	A

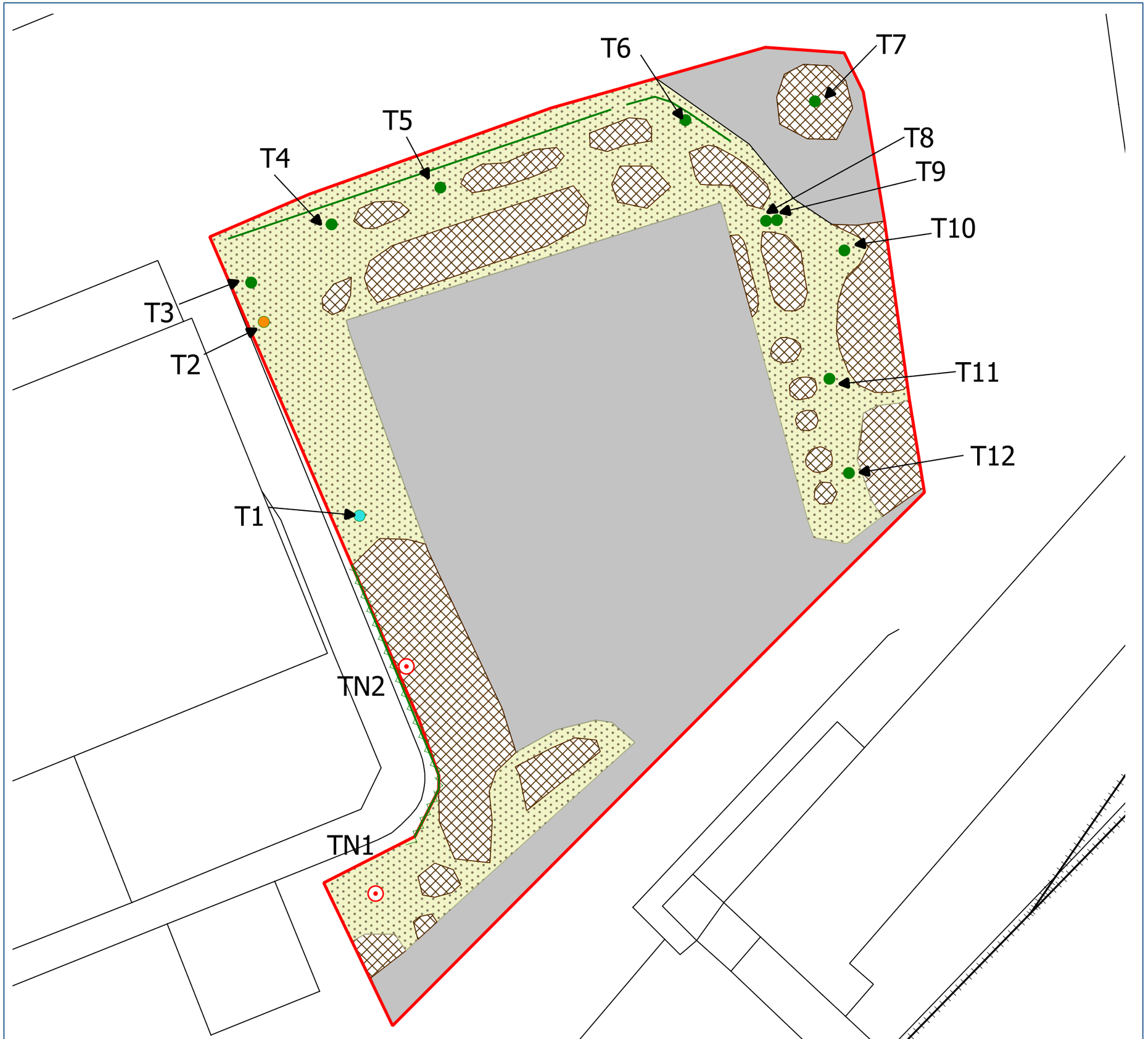
SILVERLINE ARCHITECTS

EMAIL: INFO@SILVERLINEARCHITECTS.COM

Plans

Habitat Features & Potential Bat Roost Features Plan (13340/P02a)

Bat Surveyor Location Plan (13340/P04)



- Red Line Boundary
- Bare Ground
- Hardstanding
- Introduced Shrub
- Ivy Clad Wall
- Hedgerow (Species Poor)
- Rail
- Scattered Trees
- Target Note

Potential Bat Features

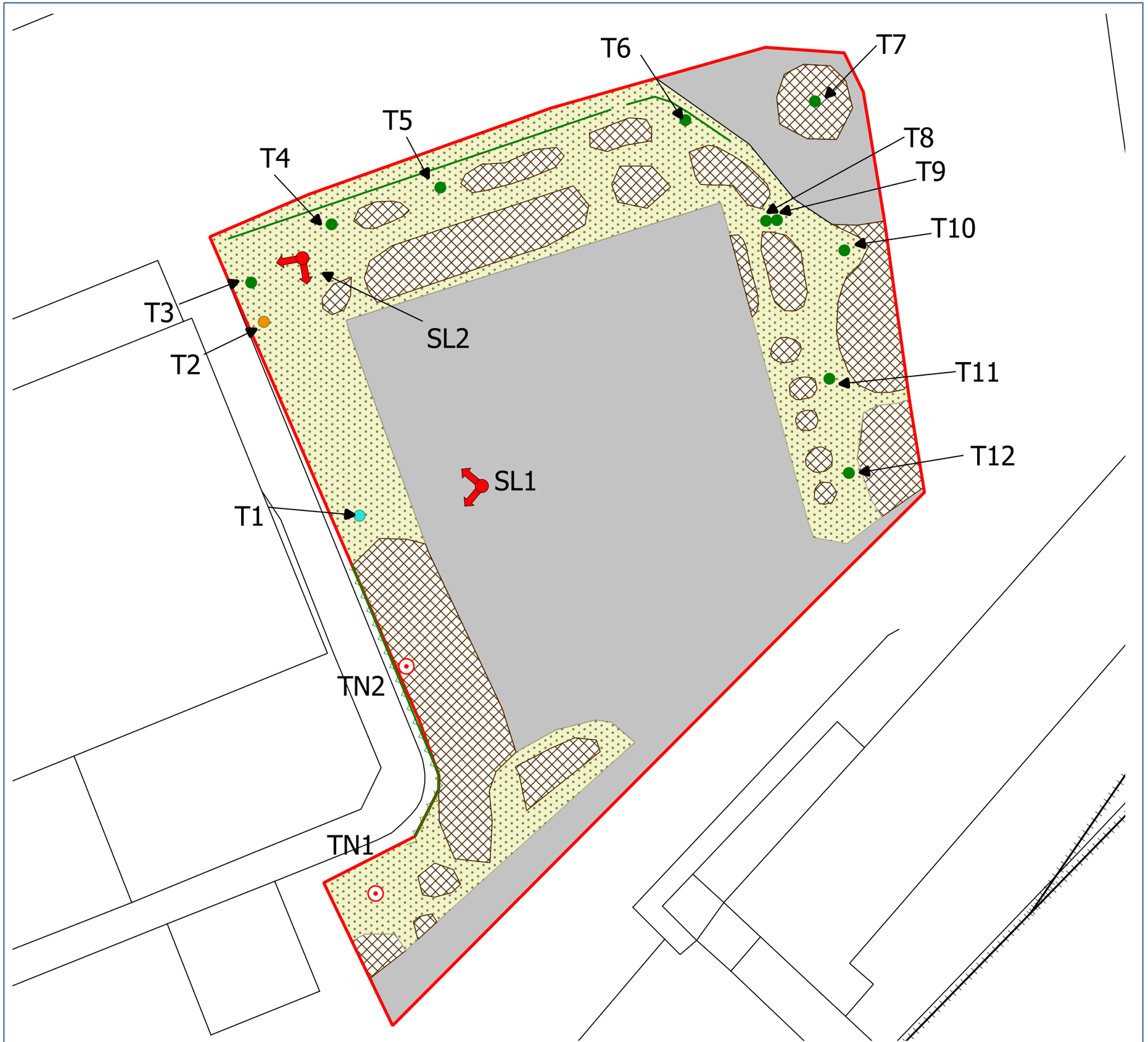
- Tree with Low Bat Potential
- Tree with Moderate Bat Potential

N

0 2.5 5 m

Project	St Margaret's Business Park
Drawing Title	**Habitat Features and Potential Bat Roost Features Plan**
Scale	As Shown (Approximate)
Drawing No.	13340/P02a
Date	September 2020
Checked	RB

Tyler Grange
30 Stamford Street, South Bank, London, SE1 9LQ
T: 020 3934 9470 E: info@tylergrange.co.uk W: www.tylergrange.co.uk



- Red Line Boundary
- Bare Ground
- Hardstanding
- Introduced Shrub
- Ivy Clad Wall
- Hedgerow (Species Poor)
- Rail
- Scattered Trees
- Target Note
- Surveyor Location

Potential Bat Features

- Tree with Low Bat Potential
- Tree with Moderate Bat Potential

N

0 2.5 5 m

Project	St Margaret's Business Park
Drawing Title	**Bat Surveyor Location Plan**
Scale	As Shown (Approximate)
Drawing No.	13340/P04
Date	September 2020
Checked	RB

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