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Greendale Open Space

Ecological Appraisal

Prepared by LUC
July 2014

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1 Introduction

Scope

1.1 In March 2014, LUC was appointed by Southwark Council to undertaken an Ecological Appraisal of Greendale Open Space. The appraisal was requested to inform proposals for restoration of the site as public open space.

1.2 The Ecological Appraisal comprised an extended Phase 1 Habitat Survey, which includes a classification of the site's constituent habitats, and a consideration of the site's suitability for notable faunal and floral species. In addition, reptile and hedgehog surveys were undertaken at the site.

1.3 This report has been prepared for the exclusive of Southwark Council. No part of this report should be considered as legal advice.

Site Description

1.4 Greendale Open Space covers an area of three hectares including an AstroTurf pitch (in use), abandoned artificial surfaced tennis courts and areas of rough grassland, scrub and trees. It is designated as Metropolitan Open Land (MOL), and is classified as 'natural or semi natural greenspace' in the Councils Open Space Strategy.

1.5 The site is located to the south-west of Dog Kennel Hill, East Dulwich and bounded to the east by Sainsbury's supermarket and Champion Hill Stadium, which is occupied by Dulwich Hamlet Football Club. Immediately south of the site there are further playing fields and to the west the site is bounded by a cycle lane and residential dwellings. Further residential dwellings and associated gardens are located to the north of the site.

1.6 **Figure 1, Appendix 1** shows the site boundary.

Project Description

1.7 The client wishes to enhance Greendale Open Space to make it an attractive destination/amenity for the public while ensuring a high quality design that respects and enhances the nature and natural quality of the site. Proposals for the site are likely to include:

- new entrances and paths;
- a pond;
- nature trail and play trail.

Policy and Legal Considerations

1.8 This appraisal has been prepared in accordance with relevant legislation and policy. Further detail is provided in **Appendix 2**, however the following primary documents are of relevance:

- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way Act (CRoW Act), 2000 (as amended);
- The Natural Environment and Rural Communities Act (NERC Act), 2006;
- The Conservation of Habitats and Species Regulations 2010 (as amended);

- Saved unitary development plan policies, 2013
- Southwark Open Space Strategy, January 2013.
- Southwark Biodiversity Action Plan, 2013. *Making Space for Natural Neighbours.*

2 Methods

2.1 The methods adopted in the survey and appraisal are outlined below. They accord with the best practice guidance documents for survey and appraisal produced by the Chartered Institute of Ecology and Environmental Management[1] and the British Standards Institute[2].

Baseline Data Collection

Field Surveys

2.2 An Extended Phase 1 Habitat Survey was undertaken at the site following standard methods[3]. The Phase 1 Habitat Survey provides a rapid means of classifying broad habitat types in any given terrestrial site. The method was used within the site boundary, hereafter referred to as 'the Site'.

2.3 The survey was 'extended' by considering the suitability of the Site to support notable or protected flora or fauna. Species considered included those identified by the surveyor during the site visit.

2.4 Reptile and hedgehog surveys were also undertaken at the Site, and although detailed surveys were not undertaken for any other species, the Site's suitability to support other protected or notable species was considered. This was based on an understanding of species ecology, consideration was given to the Site's potential to provide sheltering or foraging habitat and/or connectivity to allow dispersal between populations. Suitability for each species was considered according to current good practice[1]. Further information is provided in the 'Baseline Data' section below.

2.5 The survey was undertaken on March 24th 2014 by Corey Cannon BSc MSc ACIEEM. Weather conditions during the survey were dry with sunny spells.

Reptile Survey

2.6 A reptile survey was carried out in April 2014 in accordance with best practice guidelines[4] within areas of the Site deemed to be suitable during the Extended Phase 1 Habitat survey. This included areas of rough grassland within the northern and western parts of the Site and around areas of dense scrub. Areas of particularly high public access were avoided if possible.

2.7 105 artificial refugia, comprising roofing felt mats (1m x 0.5m) and metal tin (0.5m x 0.5m) were placed in areas of suitable habitat around the site on 24th March 2014. These were then left for over a week to allow any reptiles to become accustomed to them. The refugia were then checked on seven occasions in suitable weather conditions throughout April 2014.

2.8 Suitable weather conditions are generally considered to be dry sunny spells after rainfall or periods of intermittent sunshine on warmer days[4], with temperatures between 9°C and 18°C. Further detail, including survey dates and weather conditions are provided in **Table 2.2**.

[1] Survey guidance is available at http://www.cieem.net/sources-of-survey-methods-sosm- (*April 2014)* and appraisal guidance is available at http://www.cieem.net/guidance-on-preliminary-ecological-appraisal-gpea- (*April 2014).*

[2] British Standards Institute (2013). BS42020:2013 Biodiversity – Code of Practice for Planning and Development.

[3] Joint Nature Conservation Committee (1990). Handbook for Phase 1 Habitat Survey. JNCC, Peterborough.

[4] Herpetofauna Groups of Britain and Ireland (1998) Evaluating Mitigation/Translocation Programmes: Maintaining best practice and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs) and Froglife (1999) Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10, Halesworth.

Table 2.2: Reptile Survey Weather Conditions

Survey Date	Temperature (°C)	Weather Conditions
01/04/2014	16.5	Mainly sunny with some intermittent cloud.
02/04/2014	16	Overcast with sunny spells.
07/04/2014	14.5	Overcast and mild.
09/04/2014	14	Sunny.
11/04/2014	16	Sunny with some intermittent cloud.
24/04/2014	17	Cloudy with some sunny spells.
25/04/2014	15.5	Overcast and mild.

Hedgehog Survey

2.9 A hedgehog survey was carried out in March/April 2014 following the procedure established by the Mammal Society for the National Hedgehog Survey[5]. This involved placing ten hedgehog tracking tunnels (purchased from the Mammal Society) around the Site concentrated along edge habitats (e.g. scrub edges).

2.10 Each tunnel contained clean paper (to record footprints), a wet 'ink' pad (made up of vegetable oil and carbon powder) and bait. The tunnels were left in place for 5 continuous nights and checked daily for the presence of hedgehog footprints and to ensure they were still in position, with the paper, ink pad and bait replaced during each visit.

Appraisal Method

2.11 Good practice texts[6] recommend a site is assigned an 'ecological value' for each of its ecological features using a geographical context. However, the urban and small-scale nature of this Site's habitats allows a discussion of the Site's ecological features within the legislative and policy framework without this level of interpretation.

Limitations and Constraints

General limitations

2.12 While every attempt has been made to collect accurate baseline data, all ecological surveys represent a 'snapshot' of activity. Ecological features are dynamic and often transient and it is not possible to confirm the absence of a species through survey. It may be necessary to update ecological surveys and data presented in this report should not be used for long-term analysis of species behaviour.

Reptile/Hedgehog survey

2.13 A small number of the artificial reptile refugia and one of the hedgehog tunnels had been removed/disturbed by a member(s) of the public during the surveys. However, this is not considered a constraint to the overall findings of the surveys given that the majority of the refugia/tunnels remained undisturbed throughout the surveys.

[5] The Mammal Society – 10 Tunnel Protocol http://www.mammal.org.uk/sites/default/files/10%20Tunnel%20Protocol.pdf

[6] Appraisal guidance available at http://www.cieem.net/guidance-on-preliminary-ecological-appraisal-gpea- (*April 2014).*

3 Baseline Data

Field Surveys

Phase 1 Habitat Survey

Site Description

3.1 The Site covers an area of three hectares. The Site is accessible by the public and is used by local residents including dog walkers (observation by the surveyor).

3.2 The Site comprised a large AstroTurf playing field and associated floodlighting in the south-east corner of the Site (still in use) with abandoned artificial surfaced tennis courts in the north. The remainder of the Site comprised a mosaic of semi-natural habitats including rough grassland, dense scrub and mature and semi-mature scattered trees which were mainly concentrated around the Site boundary. The Site appears to have been left unmanaged for many years.

Habitat Descriptions

3.3 Habitat descriptions are set out below. While considering this information, reference should be made to the Phase 1 Habitat Map presented in **Figure 2, Appendix 1** and target notes in **Appendix 3**. Photographs taken at The Site are also provided in **Appendix 4.**

3.4 The table below summarises the habitats identified during the survey and indicates their absolute and relative cover.

Table 3.1: Habitat Summary

Habitat Type	JNCC Code	Area	
		Absolute (ha)	Relative (%)
Amenity grassland	J1.2	0.133	4.32
Amenity grassland with broad-leaved scattered trees	J1.2/A3.1	0.049	1.60
Bare ground	J4	0.014	0.45
Broad-leaved scattered trees	A3.1	0.029	0.95
Dense scrub	A2.1	0.264	8.64
Dense scrub with broad-leaved scattered trees	A2.1/A3.1	0.434	14.2
Hardstanding	N/A	0.880	28.8
Poor semi-improved grassland	B6	1.201	39.38
Poor semi-improved grassland with broad-leaved scattered trees	B6/A3.1	0.033	1.08

Habitat Type	JNCC Code	Area	
Poor semi-improved grassland with scattered scrub	B6/A2.2	0.008	0.26
Scattered scrub with broad-leaved scattered trees	A2.2/A3.1	0.010	0.32

Grassland

3.5 Poor semi-improved grassland was the most common habitat type recorded throughout the Site. This grassland type was dominated by cock's-foot *Dactylis glomerata* and Yorkshire fog *Holcus lanatus* with occasional fescue *Festuca sp*. and perennial ryegrass *Lolium perenne*, while smaller cat's-tail *Phleum bertolonii* was rarely recorded within the sward. Herbs included locally abundant common vetch *Vicia sativa* and creeping cinquefoil *Potentilla reptans*, with occasional bedstraw *Galium sp*., dove's-foot crane's-bill *Geranium molle* and thistle *Cirsium* while curled dock *Rumex crispus* was rarely recorded. This grassland type formed a rough and tussocky sward especially in the north-east of the Site where a number of anthills were also recorded.

3.6 Two smaller areas of amenity grassland were also recorded in the south-east of the Site. This grassland type was mainly concentrated around the AstroTurf pitch and associated with tree lines along the Site boundary. This grassland type was regularly mown and comprised species including cock's-foot, perennial ryegrass with locally abundant yarrow *Achillea millefolium* and white clover *Trifolium repens*. Other herbs recorded here comprised occasional white dead-nettle *Lamium album*, common chickweed *Stellaria media*, red dead-nettle *Lamium purpureum* and bedstraw *Galium* sp..

Scrub/scattered trees

3.7 Dense scrub was the second most common habitat type recorded at the Site. This formed much of the boundary vegetation along with scattered trees especially in the north, north-west and west of the Site. For the most part the scrub was dominated by bramble *Rubus fruticosus* agg. Along the western boundary the dense scrub included occasional scattered fruit trees *Prunus sp.* (presumably planted) and locally abundant young ash *Fraxinus excelsior* (presumably the result of natural regeneration). Mature trees along the western boundary fell just outside the site boundary on the other side of the fence.

3.8 In the north-east of the Site the scrub was again dominated by bramble with occasional *Buddleja davidii* and scattered trees of predominantly sycamore *Acer pseudoplatanus*, ash, maple *Acer sp.* and lime *Tilia sp.*. Here locally abundant patches of common nettle *Urtica dioica,* green alkanet *Pentaglottis sempervirens* and ivy *Hedera helix* were also recorded within areas of scrub. An impressive mature elder *Sambucus nigra* which is likley to be over 20 years old was recorded within this part of the Site next to the redundant tennis courts. Japanese knotweed *Fallopia japonica* was also recorded amoungst the scrub in the north of the Site (see below).

3.9 A number of mature and semi-mature trees were recorded within the Site the majority of which were concentrated around the Site boundary. A line of mature hornbeam *Carpinus betulus* and Lombardy poplar *Populus nigra* 'Italica' was recorded along the eastern boundary, while the tree line along the southern boundary comprised predominantly of Lombardy poplar and whitebeam *Sorbus aria*. Scattered trees along the western boundary comprised mature and semi-mature ash, sycamore, oak *Quercus sp*. and maple *Acer* sp..

Other

3.10 Areas of hardstanding and bare ground were also recorded on Site comprising two redundant tennis courts, an Astroturf pitch and a small area of bare ground in the south-east corner of the Site.

Reptile survey

3.11 Relevant legislation relating to reptiles is provided in **Appendix 2.**

Habitat assessment

3.12 The rough grassland and scrub habitats recorded within the Site were identified as being suitable to support common and widespread reptile species (particularly slow worm and common lizard). The mosaic of grassland and scrub provides a high degree of structural variety, creating numerous opportunities for reptiles to bask and shelter. These habitat types are also likely to support an abundance of potential food sources for reptiles including invertebrates.

3.13 The Site is also bounded by residential dwellings to the west and north which could also provide suitable habitat especially for slow worm, a species often found in more urban sites.

3.14 However, the Site is also subject to high levels of public access including high numbers of dog walkers which would be likely to reduce its long-term suitability to support reptile populations.

Reptile Survey Results

3.15 On the basis of the above habitat assessment findings refugia were placed in suitable locations across the Site. No reptiles were recorded during the survey; however, common frog was recorded on several occasions under refugia during the survey (raw data is provided in **Appendix 5**).

Hedgehog survey

3.16 Relevant legislation relating to hedgehog is provided in **Appendix 2.**

Habitat assessment

3.17 The same terrestrial habitats described above (grassland and scrub) provide similar foraging and sheltering opportunities for hedgehog. These habitat types are also likely to support an abundance of key food sources for hedgehog including invertebrates such as beetles, worms, slugs, millipedes and caterpillars.

3.18 Hedgehogs have a large home range and may roam over 2 – 4km per night. The Site is well connected to other suitable foraging habitat including playing fields to the south, residential gardens to the north and west and a small area of woodland to the north-east of the Site.

3.19 As above, public access may affect hedgehog populations, although being nocturnal hedgehog would be less vulnerable to disturbance by site users than reptile.

Hedgehog Survey Results

3.20 On the basis of the above habitat assessment findings hedgehog tunnels were placed in suitable locations across the Site. A map with locations of the tunnels is provided in **Appendix 6.**

3.21 Results for the hedgehog checks are summarised in **Table 3.2,** including the tunnels in which hedgehog footprints were recorded (raw data is provided in **Appendix 7**).

Table 3.2: Hedgehog survey results

Date	Tunnels in which hedgehog footprints were recorded
29/03/14	1,2,5,6,9
30/03/14	2,5,6,7,9
31/03/14	2,5,6
01/04/14	2,5,6,7
02/04/14	2,5,6,7

Other protected or notable species

Bats

3.22 The Site offers suitable foraging habitat for bats, as well as potential flight corridors for bats commuting between any nearby roosts and other foraging areas, while the tree lines around the Site boundary provide a suitable wildlife corridor to the wider landscape including a small area of woodland to the north-west, a well vegetated railway line to the south and also nearby gardens and parks.

3.23 A detailed tree survey for bat roost potential was not undertaken during the Phase 1 Habitat survey. However, the trees along the southern boundary and eastern boundaries, particularly Lombardy poplars, were noted to support features which may be suitable to support a roost (features include holes, cracks or crevices that extend or appear to extend back to cavities suitable for bats). Other mature trees within the Site may support similar features. In addition, houses and mature trees in the vicinity of the Site are also likely to provide suitable roosting opportunities.

3.24 Any works affecting a bat roost are licensable. A bat roost is defined as any structure or place which is used for shelter or protection, irrespective of whether or not bats are resident. Trees may be used by bats for a number of different purposes throughout the year including resting, sleeping, breeding, raising young and hibernating. Use depends on bat age, sex, condition and species as well as the external factors of season and weather conditions. A roost used during one season is therefore protected throughout the year and any proposed works that may result in disturbance to bats, and loss, obstruction of or damage to a roost are licensable.

Amphibians

3.25 Common frog was recorded on four occasions under the reptile refugia. The Site offers suitable terrestrial habitat to support common amphibians, however, there are currently no ponds or waterbodies on Site for breeding. It is possible that the surrounding residential gardens support ponds used by breeding amphibians which then also use the terrestrial habitats on the Site.

Nesting Birds

3.26 The mature trees and dense scrub habitats within the site provide suitable nesting habitat for a variety of common garden and woodland bird species. Grassland areas would be highly unlikely to support ground nesting species due to the high levels of disturbance from dog walkers.

Invertebrates

3.27 The diversity of habitats within the Site including 'edge' habitat provides optimum foraging and sheltering opportunities for a range of invertebrate species. An abundance of slugs, woodlouse, ants and ground beetles were recorded under the artificial refugia during the reptile surveys. Ant hills were recorded on Site predominantly within the rough grassland in the north-east of the Site. Ant hills are indicative of long established and/or infrequently managed grasslands.

Invasive species

3.28 Japanese knotweed was recorded in two separate areas of the Site. One large stand (approximately 10mx10m) was recorded to the west of the redundant tennis courts along the Site boundary, while the second stand was recorded to the north of the redundant tennis courts also along the Site boundary.

4 Discussion

Interpretation of Baseline

Habitats

4.1 The habitats on Site, although common and widespread in their own right, form a mosaic which offers optimal foraging and sheltering opportunities for a number of species including hedgehog, common frog, birds and possibly bats. This Site is likely to provide an important refuge for these species especially in this urban setting. Although there are relatively frequent areas of open space elsewhere in the vicinity, the unmanaged and semi-natural nature of the habitats provided here is relatively uncommon, with open spaces mostly subject to regular management for amenity and recreation use.

Species

4.2 Hedgehog was confirmed as present on the Site. Hedgehogs are a priority[7] species which are also listed on the London and Southwark Biodiversity Action Plan (BAP). The presence of unmanaged dense scrub and rough grassland habitats provides high quality shelter and foraging habitat for hedgehog in combination with opportunities provided by private gardens in the vicinity. The dense scrub habitats are likely to be particularly important for hedgehog, providing refuge from site users and dogs as well as other potential predators such as fox.

4.3 No reptiles were recorded on the Site. The high public use of the Site greatly restricts its potential to support reptile populations in the long-term. Common frog was recorded within grassland habitats, with it likely that amphibians are breeding in ponds off site in nearby gardens and using the Site for foraging and shelter during their terrestrial phase.

4.4 The Site is likely to support a diverse assemblage of breeding and foraging birds, bats and invertebrates, in particular given the relatively unmanaged condition of the habitats and shelter provided by dense scrub around the Site boundary.

[7] Section 41 (S41) of The NERC Act (2006) lists Species and Habitats of Principal Importance for Conservation in England

5 Recommendations and Conclusions

Additional Surveys

Bats

5.1 Any works affecting a bat roost is licensable. Works proposed for the Site that could have the potential to disturb a bat roost include;

- Removal of any trees.
- Crown lifting/tree works.

5.2 A recent tree survey undertaken at the Site identified a number of trees that may require removal. It is understood that no trees works/removal will be undertaken this year, however, should these trees need to be removed in the future additional bat surveys would be required:

- **Detailed inspection of mature trees subject to works**. This survey can be carried out at any time of year, however, it is required to inform the below surveys which need to be carried out at specific times of the year. Features are classified according to their potential to support bat roosts. If features with potential are identified which will be affected by works, further survey work would be required (see below)
- **Emergence/re-entry surveys** of features within a tree or building with bat roost potential (identified during the above surveys) that may be affected by works. These surveys **can be undertaken between May and September inclusive (with April and October possible although not optimal).**

Mitigation and Enhancement

Habitats and Vegetation

5.3 Where possible areas of dense bramble boundary scrub and scattered trees (especially along the western and northern boundary) should be retained as this is likely to provide important sheltering areas for a range of species including hedgehog and nesting birds. Incorporating these habitats in to any proposals would maintain a well-established wildlife habitat within the open space.

5.4 Other habitats/features of note that should be retained where possible include:

- **Areas of ash regeneration and fruit trees along the western boundary.** These trees are well-established and could be left to naturally develop into a small area of woodland which will add to the overall diversity of the Site;
- **The rough grassland in the north east of the Site.** This offers optimum foraging and sheltering opportunities for amphibians and is also likely to support a range of invertebrate species. Long term management of this area should aim to retain the rough, tussocky grassland character through infrequent cutting (every three years).
- **Mature trees should be retained wherever possible** especially along the Site boundary as these are likely to provide an important wildlife corridor for species such as bats. These are also likely to support nesting birds, and invertebrates associated with mature trees and dead wood.

Species

Hedgehog

5.5 Hedgehog was found to be present on Site. Maintenance of habitats/features mentioned above will be beneficial for this species. Other key management features for this species should include:

- **Maintain and create nesting and hibernation areas:** (shelter and hibernation structures could be constructed as log and brash piles, particularly within and adjacent to bramble scrub, and could reuse materials from any on site tree clearance. See para 5.8).
- **Maintain a varied habitat structure:** (e.g. varying grassland management frequency and sward structure / height) to encourage invertebrates, a key food source for this species. Mown grassland would provide amenity/recreation space whilst is also beneficial for hedgehog as they hunt for ground beetles in the short grass. Maintaining other areas as rough (for example NE area) and meadow grassland (for example NW area) would increase habitat diversity (see para 5.7).
- **Encourage amphibians:** (another key food source for hedgehog) by creating a pond on Site. However it should be noted that a pond can create a drowning hazard for hedgehogs. Ponds should have gradual sloping edges, where this is not possible a small ramp should be provided for hedgehog to climb out. Ramps should be approximately 20cm wide and no steeper than 30^{O}.
- **Avoid using pesticides:** instead manage grassland areas to encourage invertebrates.

Japanese knotweed

5.6 Japanese knotweed is an invasive non-native species listed on Schedule 9 of the Wildlife and Countryside Act 1981, making it an offence to plant or otherwise cause the species to grow in the wild. Areas of Japanese knotweed will need to be treated to eradicate it from the Site. This should be informed by a re-inspection of the Site for this species later in the growing season to ensure all areas are identified for treatment.

Enhancement Opportunities

5.7 There are a range of opportunities for ecological enhancement at the Site to help maintain existing species populations and to encourage new species to the Site. These include but are not limited to the below opportunities:

- **Creating a wildflower grassland:** alongside creation of short grassland and maintenance of rough grassland habitats, meadow management of an area would further encourage invertebrates (which provide a food source for a range of other species).
- **Trees and deadwood:** any wood from felling or management should be retained on Site as log piles or loggeries to benefit deadwood invertebrates such as stag beetle *Lucanus cervus*, a priority species[8] which is listed on the London and Southwark BAP. Where possible given health and safety issues, standing dead wood should be retained within trees.
- **Pond creation:** this will help to encourage amphibians to breed at the Site (see above regarding design), planted with a range of native wetland species.
- **Installation of bird and bat boxes:** to encourage these species to the Site.

Conclusion

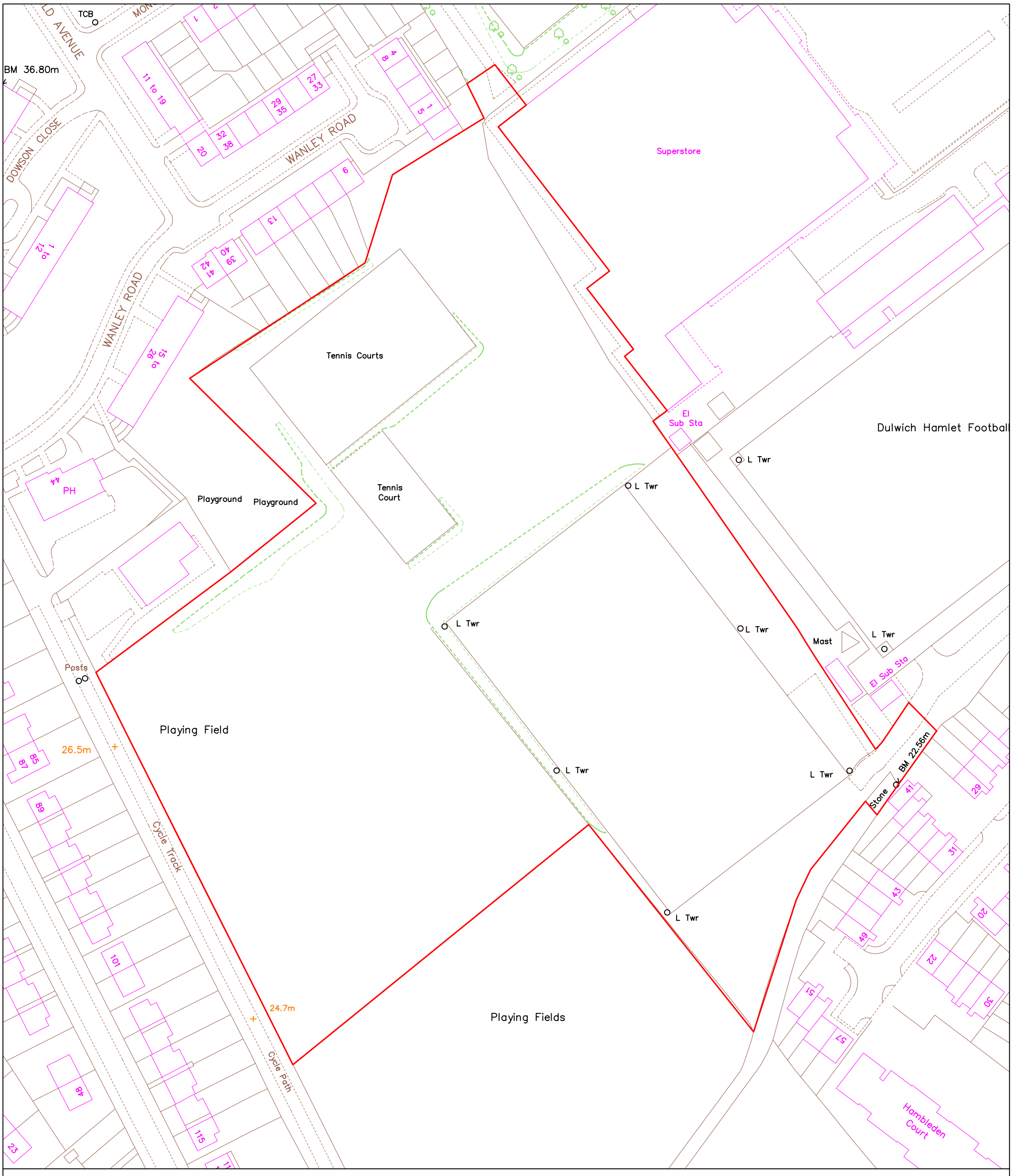
5.8 The Site supports a mosaic of habitats which offers optimal foraging and sheltering opportunities for a number of species. The unmanaged and semi-natural nature of the habitats provided here is relatively uncommon, with urban open spaces mostly subject to regular management for amenity and recreation use. Proposals for the Site should aim to maintain these semi-natural

[8] Section 41 (S41) of The NERC Act (2006) lists Species and Habitats of Principal Importance for Conservation in England

habitats as much as possible including boundary scrub and scattered trees (especially along the western and northern boundary).

5.9 There are a range of opportunities for ecological enhancement at the Site. These could provide a great opportunity for engagement with schools in the local community to promote biodiversity and create awareness of local wildlife.

Appendix 1
Figures



Notes:

1. Do not scale from this drawing.
2. All dimensions must be checked on site and any discrepancies verified with landscape architect.
3. All dimensions are drawn in mm.
4. Landscape drawing only.
5. All materials/items used to be as specified or alternatives to be approved by landscape architect.

Iss	Date	Issue Notes	Drawn By	Checked By	Approved By
A	17.02.14	First Issue	AK	JEW	JEW

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Project
Greendale Open Space Improvements

Client
London Borough of Southwark

Title
Area for Ecological Survey
Figure 1

Scale	Status
1:1000 @ A3	Information

Job No.	Drawing No.	Issue
5946	SK2014-02-17	A

NORTH

Greendale Ecology

Figure 2

Phase 1 Habitat Survey

Red line boundary

Target note

Habitat type

- Amenity grassland
- Amenity grassland with broad-leaved scattered trees
- Bare ground
- Broad-leaved scattered trees
- Dense scrub
- Dense scrub with broad-leaved scattered trees
- Poor semi-improved grassland
- Poor semi-improved grassland with broad-leaved scattered trees
- Poor semi-improved grassland with scattered scrub
- Scattered scrub with broad-leaved scattered trees
- Hardstanding

0 20 40 m

Map Scale @ A3:1:1,100

LUC

Source: LUC

Appendix 2
Policy and Legal Considerations

Statutory nature conservation sites and protected species are a 'material consideration' in the UK planning process (DCLG 2012). Where planning permission is not required, for example on proposals for external repair to structures, consideration of protected species remains necessary given their protection under UK and EU law.

Natural England Standing Advice aims to support Local Planning Authorities decision making in respect of protected species (Natural England 2012). Standing advice is a material consideration in determining the outcome of applications, in the same way as any individual response received from Natural England following consultation.

The Conservation of Habitats and Species Regulations 2010 transpose the requirements of the European Habitats Directive (Council Directive 92/43/EEC) and Birds Directive (Council Directive 79/409/EEC) into UK law, enabling the designation of protected sites and species at a European level.

The Wildlife and Countryside Act 1981 (as amended) forms the key piece of UK legislation relating to the protection of habitats and species.

The Countryside Rights of Way Act 2000 provides additional support to the Wildlife and Countryside Act 1981; for example, increasing the level of protection for certain species of reptiles.

The Protection of Badger Act 1992 provides specific protection for this species.

The Wild Mammals Protection Act 1996 sets out the welfare framework in respect to wild mammals, prohibiting a range of activities that may cause unnecessary suffering.

Species and Habitats of Principal Importance for Conservation in England and Wales and priority habitats and species listed on the London Biodiversity Action Plan (BAP) and Southwark BAP are species which are targeted for conservation. The government has a duty to ensure that involved parties take reasonable practice steps to further the conservation of such species under Section 41 of the Natural Environment and Rural Communities Bill 2006. In addition, the Act places a biodiversity duty on public authorities who 'must, in exercising their functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity' (Section 40 [1]). Criteria for selection of national priority habitats and species in the UK include international threat and marked national decline.

The National Planning Policy Framework (DCLG 2012) states (Section 11), that the planning system should minimise impacts on biodiversity, providing net gains in biodiversity where possible. It also states that local planning authorities and planning policies should:

- Plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure.
- Take account of the need to plan for biodiversity at a landscape-scale across local authority boundaries.
- Identify and map components of the local ecological networks, including: international, national and local sites of importance for biodiversity, and areas identified by local partnerships for habitat restoration or creation.
- Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the recovery of priority species populations, linked to national and local targets and identify suitable indicators for monitoring biodiversity in the plan.

Saved Southwark Plan Policies (2013)

Policy 3.28 – Biodiversity

The LPA will take biodiversity into account in its determination of all planning applications and will encourage the inclusion in developments of features which enhance biodiversity, requiring an ecological assessment where relevant.

Developments will not be permitted which would damage the nature conservation value of Sites of Importance for Nature Conservation (SINCs) and Local Nature Reserves (LNRs) and/or damage habitats, populations of protected species or priority habitats/species identified in the United Kingdom, London or the Southwark Biodiversity Action Plan.

Where, exceptionally, such developments are permitted, the Council will seek mitigation and/or compensation for the damage to biodiversity. Where new Sites of Importance for Nature Conservation and Local Nature Reserves are identified, these sites will be afforded protection under this Policy and Policy 3.27, Other Open Spaces.

Southwark Open Space Strategy (2013)

Biodiversity Objectives

B1 Ensure the protection, management and enhancement of areas of importance for nature conservation and biodiversity and the linkages between them.

B2 Encourage innovative ways of incorporating new areas of natural habitat within new and existing open space, natural play environments and developments.

B3 Continue to protect and enhance the River Thames, its natural and historic landscape and character, as well as its value for biodiversity.

Bats

All British species of bat are listed on the Wildlife and Countryside Act 1981 (as amended) Schedule 5. It is an offence to deliberately kill, damage, take (Section 9(1)) a bat; to intentionally or recklessly disturb a bat whilst it occupies a place of shelter or protection (Section 9(4)(b)); or to deliberately or recklessly damage, destroy or obstruct access to a bat roost (Section 9(4)(c)). Given the strict nature of these offences, there is an obligation on the developer and owner of a site to consider the presence of bats.

All British bats are listed on the Conservation of Habitats and Species Regulations 2010, Schedule 2. Regulation 41 strengthens the protection of bats under the 1981 Act against deliberate capture or killing (Regulation 41(1) (a)), deliberate disturbance (Regulation 41(1) (b))[9] and damage or destruction of a resting place (Regulation 41(1) (d)).

A bat roost is defined as any structure or place which is used for shelter or protection, irrespective of whether or not bats are resident. Buildings and trees may be used by bats for a number of different purposes throughout the year including resting, sleeping, breeding, raising young and hibernating. Use depends on bat age, sex, condition and species as well as the external factors of season and weather conditions. A roost used during one season is therefore protected throughout the year and any proposed works that may result in disturbance to bats, and loss, obstruction of or damage to a roost are licensable.

Development works that may cause killing or injury of bats or that would result in the damage, loss or disturbance of a bat roost would require a Natural England (NE) Mitigation Licence. Licensed works require evidence that the works entailing detrimental impacts are unavoidable, as well as appropriate mitigation, which may include seasonal constraints and provision of alternative habitat and/or roosting structures. A NE Mitigation Licence application can only be submitted on completion of surveys and receipt of planning consent. The application typically takes six weeks to process, after which mitigation could commence.

All UK species of bat are also listed on the UK BAP. Under the NERC Act, 2006 the Government has a duty to ensure that parties take reasonable practicable steps to further the conservation of these species.

Reptiles

All UK reptiles and amphibians are legally protected from intentional and reckless killing and injury under the Wildlife and Countryside Act 1981 (as amended).

[9] Relates specifically to deliberate disturbance in such a way as to be likely to significantly affect i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young or ii) the local distribution of that species.

Hedgehog

Hedgehogs are protected under Section 6 of the Wildlife & Countryside Act 1981 (as amended) and by the Wild Mammals Protection Act, 1996. They are recognised as Species of Principal Importance for the Conservation of Biodiversity under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act (2006) and are listed on the London and Southwark BAP. They may not be trapped without a licence from Natural England.

Nesting Birds

Birds and their nests are protected by the Wildlife and Countryside Act 1981 (as amended). This Act gives protection to all species of bird with regard to killing and injury, and to their nests and eggs with regard to taking, damaging and destruction. Certain species listed on Schedule 1 of the Act, are afforded additional protection against protection.

Appendix 3
Target Notes

Target note (TN) no.	Description
1	Tree line of hornbeam *Carpinus betulus* and Lombardy poplar Lombardy poplar *Populus nigra* 'Italica' with elder *Sambucus nigra* and hawthorn *Crataegus monogyna* rarely recorded. Amenity grassland dominated by cock's-foot *Dactylis glomerata* and perennial ryegrass *Lolium perenne* with locally abundant yarrow *Achillea millefolium* and white clover *Trifolium repens*. Other herbs recorded here comprised occasional white dead-nettle *Lamium album*, common chickweed *Stellaria media*, red dead-nettle *Lamium purpureum* and bedstraw *Galium* sp. however; these species were mainly recorded close to the fence along the site boundary.
2	Area of hard standing with metal containers/storage facilities.
3	Amenity grassland with a species composition similar to that described in TN1. Tree line dominated by Lombardy poplar. A number of these trees had one or more feature suitable to support a bat roost. Locally abundant patches of cow parsley *Anthriscus sylvestris* and bedstraw recorded beneath the trees.
4	Dense patch of scrub dominated by bramble *Rubus fruticosus* agg.
5	AstroTurf pitch.
6	Dense scrub dominated by bramble with occasional scattered fruit trees *Prunus sp.* and abundant naturally regenerated young ash *Fraxinus excelsior*.
7	Dense scrub dominated by bramble with scattered trees predominantly sycamore *Acer pseudoplatanus*. A single mature sycamore along this boundary was covered in ivy. Ivy can sometimes hide features suitable to support a bat roost and therefore this tree has being identified as having a low potential to support a bat roost.
8	Poor semi-improved grassland dominated by cock's-foot and Yorkshire fog *Holcus lanatus* with occasional fescue *Festuca sp*. and perennial ryegrass, while smaller cat's-tail *Phleum bertolonii* was rarely recorded. Herbs included abundant common vetch *Vicia sativa* and bedstraw, locally abundant creeping cinquefoil *Potentilla reptans*, dove's-foot crane's-bill *Geranium molle*, occasional thistle *Cirsium* and curled dock *Rumex crispus* was rarely recorded. This grassland type covers much of the site; it was rather rank and tussocky in structure with a number of anthills recorded across the site.
9	Dense scrub dominated by bramble with a single large lime *Tilia sp*. tree.
10	Stand of Japanese knotweed *Fallopia japonica* approximately 10m x 4m in size.
11	Redundant tennis courts with much bare ground, some areas have been colonised by various herbs, grasses and young trees including species such as holm oak *Quercus ilex* and *Saxifraga tridactylites*
12	Stand of Japanese knotweed approximately 8m x 3m just outside site boundary, however, new young shoots were also recorded within the site where is has started to colonise.

13	Area of dense scrub and scattered trees predominantly sycamore. The scrub here was dominated by bramble with occasional *Buddleja davidii.* Small patches where the scrub was less dense were dominated by common nettle *Urtica dioica,* green alkanet *Pentaglottis sempervirens* and ivy *Hedera helix*
14	Impressive elder which is likely to be 20 – 30 years old.
15	Small circular patch of raspberries, likely to have been planted here in the past.
16	Scattered trees along the boundary dominated by ash and maple *Acer sp*.
17	Grassy bank with locally abundant common nettle.

Appendix 4
Photographs

Photo 1. Rough grassland and dense scrub in the north east of the Site.

Photo 2. Rough grassland and dense scrub with ash regeneration along the western boundary.

Photo 3. Mature elder next to redundant tennis courts.

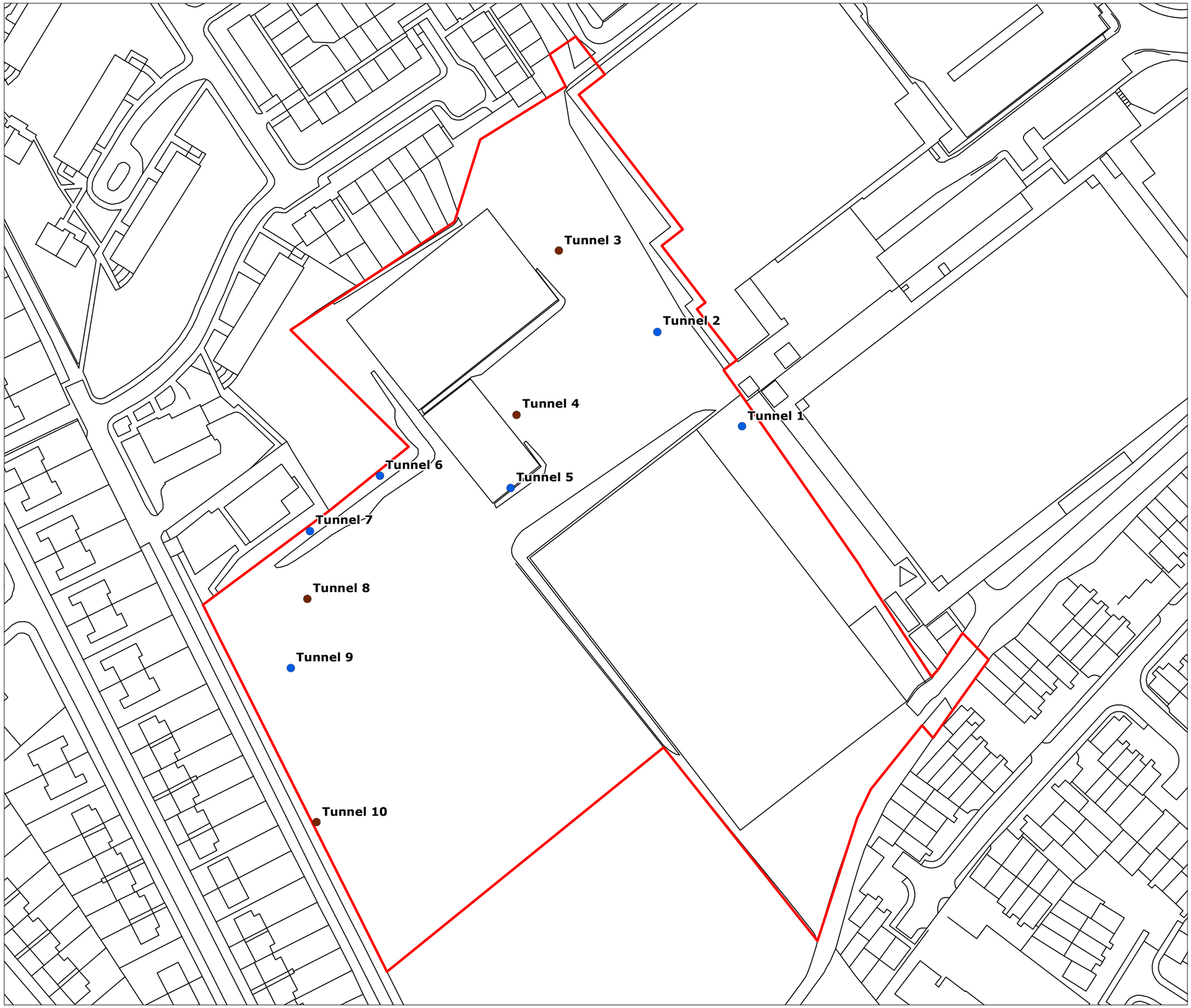
Photo 4. Trees along southern boundary noted to have suitable features which may support a bat roost.

Appendix 5
Reptile survey data

Visit No.	Date	Surveyor	Start time	Weather	Grass snake	Common Lizard	Slow Worm	Other
Greendale Open Space								
1	01/04/2014	Corey Cannon	12:00	Mainly sunny with some cloud, 16.5°C	0	0	0	
2	02/04/2014	Peter Lawrence	15:30	Overcast with sunny spells, 16°C	0	0	0	Frog (under tile 25)
3	07/04/2014	Corey Cannon	12:30	Cloudy and mild, 14.5°C	0	0	0	
4	09/04/2014	Corey Cannon	13.30	Sunny, 14°C	0	0	0	Frog (under tile 25)
5	11/04/2014	Corey Cannon	14:00	Sunny with some cloudy spells, 16°C	0	0	0	Frog (under tile 60)
6	24/04/2014	Corey Cannon	13:00	Cloudy with some sunny spells 17°C	0	0	0	Frog (under tile 8)
7	25/04/2014	Corey Cannon	11:30	Overcast and mild, 15.5 °C	0	0	0	

Appendix 6

Location of hedgehog tunnels



Greendale Ecology

Appendix 6

Hedgehog Tunnels

Red line boundary

Hedgehog tunnel

Hedgehog footprints found

Hedgehog footprints not found

0 20 40 m

Map Scale @ A3:1:1,100

LUC

LUC LDN 6023-01_001_Hedgehog 13/05/2014

Source: LUC

Appendix 7
Hedgehog survey data

Site name	Greendale Open Space						
8 Digit OS Grid Ref.	TQ 33047 75305						
Date	Start date 29/03/14 finish date 02/04/14						
Surveyor(s)	Corey Cannon						
Survey Duration	5 Days						
Tunnel Number	**Habitat type**	**Hedgehog tracks**	**Other tracks?**	**Bait taken?**	**Disturbance?**	**Observations**	**Other Info including Photo Ref.***
Day 1							
1		Yes	Yes	Yes	No	Other tracks - brown rat?	N/A
2		Yes	No	Yes	No		N/A
3		No	No	No	No		N/A
4		No	No	No	No		N/A
5		Yes	No	Yes	No		N/A
6		Yes	No	Yes	No		N/A
7		No	No	No	No		N/A
8		No	No	Yes	Yes tunnel had been opened		N/A
9		Yes	No	Yes	No		N/A
10		No	No	Yes	No	Bait eaten by slugs as no prints present	N/A
Day 2							
1					TUNNEL MISSING		N/A

Site name	Greendale Open Space						
2		Yes	No	Yes	No		N/A
3		No	No	No	No		N/A
4		No	No	No	No		N/A
5		Yes	No	Yes	No		N/A
6		Yes	No	Yes	No		N/A
7		Yes	No	Yes	No		N/A
8		No	No	Yes	Bait taken by dogs/foxes		N/A
9		Yes	Yes	Yes	No	hedgehog and brown rat	N/A
10		No	Yes	Yes	No	Cat prints	N/A
Day 3							
1					TUNNEL MISSING		N/A
2		Yes	No	Yes	No		N/A
3		No	No	No	No		N/A
4		No	No	No	No		N/A
5		Yes	No	Yes	No		N/A
6		Yes	No	Yes	No		N/A
7		No	No	No	No	Slugs	N/A
8		No	No	No	No	Slugs	N/A
9		No	No	No	No		N/A

Site name	Greendale Open Space						
10		No	No	Yes	No	Cat prints	N/A
Day 4							
1					MISSING		N/A
2		Yes	No	Yes	No		N/A
3		No	No	No	No	Slugs	N/A
4		No	No	No	No		N/A
5		Yes	No	Yes	No		N/A
6		Yes	No	Yes	No		N/A
7		Yes	No	Yes	No		N/A
8		No	No	No	No		N/A
9		No	No	No	No		N/A
10		No	No	Yes	No	Cat prints	N/A
Day 5							
1					MISSING		N/A
2		Yes	No	Yes	No		N/A
3		No	No	No	No		N/A
4		No	No	No	No		N/A
5		Yes	No	Yes	No		N/A
6		Yes	No	Yes	No		N/A

Site name	Greendale Open Space						
7		Yes	No	Yes	No		N/A
8		No	No	No	Yes		N/A
9		No	No	No	Yes		N/A
10		No	No	No	Yes		N/A