Expansion of Kingsgate Primary School and Redevelopment of Liddell Road

Ecological Appraisal

Submitted in support of
Application 01 for Phase 01
Application 02 for Phase 02
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Camden

London Borough of Camden
Kingsgate Primary School

The Ecology Consultancy

Expansion of Kingsgate Primary School and Redevelopment of Liddell Road

Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment

Report for Maccreanor Lavington

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Executive Summary

A Preliminary Ecological Appraisal was carried out at Liddell Road Industrial Estate, London Borough of Camden, NW6 2EW, on the 1st May 2014. The survey invovlved a Phase 1 habitat survey and protected species assessment, including a preliminary bat roost assessment of buildings present at the site. The findings of these surveys will inform recommendations for protecting, managing and enhancing the wildlife value of the site and ensure that the development is compliant with the relevant legislation. The main findings are as follows:

- The site (Application 1 and 2) is not subject to any statutory nature conservation designation. There is one statutory designated site within 1km of the proposed development site - Westbere Copse Local Nature Reserve, situated 800m north west of the site. The closest non-statutory Site of Importance for Nature Conservation (SINC) is West Hampstead Railsides, Medley Orchard and Westbere Copse, an area of 7.94ha, situated on the opposite side of the Thameslink Railway, which forms the northern border of the proposed development site.
- Part of the site, along the southern boundary with Maygrove Road is designated Open Space (parks and gardens) comprising broadleaved, plantation woodland. This will need to be retained within the development and protected during construction works (Application 1 and 2).
- The habitats on site (Application 1 and 2) consisted of buildings and hardstanding, scattered trees, introduced shrub, amenity grassland and broadleaved plantation woodland.
- Introduced shrubs and broadleaved plantation woodland were assessed as having moderate potential to support breeding birds (Application 1 and 2).
- The results of the Intrusive Inspection for Bats Report carried out on the 2nd December 2014 supercedes the Preliminary Bat Roost Assessment carried out in May 2014. See Appenidx 6 for results and recommendations.
- Appropriate mitigation measures are also provided to protect the species and habitats present, along with enhancement measures to improve the biodiversity on site. Further details can be found in Section 5 of this report.

1 Introduction

BACKGROUND

1.1 The Ecology Consultancy was commissioned by Maccreanor Lavington in April 2014, to carry out a Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment of the Liddell Road industrial estate, West Hampstead, NW6 2EW. The survey was carried out on 1st May 2014 in order to provide baseline ecological information and to assess the potential for the site to support protected species.

SCOPE OF THE REPORT

1.2 This report outlines the methodologies and results of the Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment conducted on the 1st May 2014.

1.3 These surveys identify constraints to the proposed development with regard to protected and invasive species that are assessed as potentially present, or confirmed present, and provide recommendations to mitigate any potential impacts on these species. These surveys also identify where further surveys are required to fully inform the design of mitigation measures, as well as offering recommendations to enhance the site appropriately for local biodiversity. Recommendations are made to ensure compliance with relevance wildlife legislation and national and local planning policies.

SITE CONTEXT AND STATUS

1.4 The site consists of an industrial estate with warehouses and parking on both sides of Liddell Road and the green space between Liddell and Maygrove Road, West Hampstead, in the London Borough of Camden. This site is split into two applcation sites. Application 1 covers the whole site whilst Application two only covers the south and west of the site. The Thameslink railway line runs parallel to Liddell Road and forms the northern boundary of the site. To the west Liddell Road joins Maygrove Peace Park, a small park consisting of scattered trees, amenity grassland and introduced shrub. To the east the site is bordered by further industrial buildings which are accesssed from Inversion Road. Besides these industrial buildings bodering the railway line, the area is generally residential with small gardens. The Overground and Jubilee Line run west-east approximately 180 meters (m) south of the site. The proposed development site is approximately 1.12 hectares (ha) in size. The National Grid Reference for the centre of the site is TQ251848.

DEVELOPMENT PROPOSALS

1.5 Proposals for Application 1 and 2 will be split into two phases:

- Application 1 - Phase 1 of a comprehensive, mixed-use redevelopment of the site, involving demolition of existing buildings, site clearance and site preparation works. Construction of new school buildings for Kingsgate Primary School for pupils aged 3 to 7 years old, creation of a new access road, associated car parking and implementation of temporary landscaping works.
- Application 2 - Phase 2 of a comprehensive, mixed-use redevelopment involving the construction of three new buildings: building 1 (5 storeys) and building 2 (11 storeys) to provide 106 mixed tenure residential units (Class C3) and building 3 (5 storeys) to provide 3,700 sq. m (GIA) of mixed commercial use (Class B1) and associated public realm and landscaping works.

2 Methodology

DESK STUDY

2.1 Information regarding the present and historic ecological interest at the site and within a 1km radius was requested from Greenspace Information for Greater London (GiGL, 2012). A search was also completed of an on-line mapping service (http://magic.defra.gov.uk/) to ascertain the presence of any statutory designated sites within the same radius.

2.2 In addition, consideration was given to the potential presence of Habitats and Species of Principal Importance for the Conservation of Biodiversity[1] in England under the Natural Environment and Rural Communities (NERC) Act 2006; The London BAP[2] (London Biodiversity Partnership, 2010: http://www.lbp.org.uk) was reviewed for those species and habitats that are, or may potentially be, present on the site.

2.3 The following information regarding the present and historical ecological interest of the site and land within a 1km radius was sourced from Magic and GiGL:

- Statutory sites of nature conservation importance;
- Non-statutory sites designated as Sites of Importance for Nature Conservation (SINCs) at county level as being of local conservation importance, or those otherwise of relevance for ecology, and often recognised in Local Authority development plans;
- Protected, rare and other notable species and;
- Habitats and Species of Principal Importance for the Conservation of Biodiversity.

HABITAT SURVEY

2.4 A field survey of the site was carried out on the 1 May 2014. Habitats were described and mapped following standard Phase 1 survey methodology (JNCC, 2010). The site was also surveyed for the presence of invasive plant species as defined by Schedule 9 of the Wildlife and Countryside Act, 1981 (see Appendix 5).

[1] 56 Habitats of Principal Importance and 943 Species of Principal Importance are included in the NERC Act. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework.
[2] BAP priority species are plants and animals, globally threatened and/or rapidly declining in the UK (by more than 50% in the last 25 years).

2.5 A habitat plan of the site is provided in Appendix 1; photographs are presented in Appendix 2.

PROTECTED SPECIES ASSESSMENT

2.6 The potential of the site to support protected and invasive species was assessed from field observations carried out at the same time as the habitat survey, combined with the results of the desk top study.

Preliminary Bat Roost Assessment and Intrusive Inspection for Bats

2.7 The site was assessed for its potential to support all protected species. With regard to bats, a Preliminary Bat Roost Assessment was carried out to investigate buildings and trees within the site for their potential to support roosting, foraging and commuting bats, summarised in Table 2.

2.8 The Preliminary Bat Roost Assessment was carried out on the 1st May 2014 and a further Intrusive Inspection for Bats on the 2nd December 2014 on all buildings present on Liddell Road industrial estate and the trees along Maygrove Road. The potential for the building and trees to support roosting bats was assessed using standard survey methodologies, following the guidelines set out in the Bat Conservation Trust's (BCT) *Bat Surveys: Good Practice Guidelines, 2nd Edition* (Hundt, 2012), and the Joint Nature Conservancy Committee's (JNCC) *Bat Workers' Manual* (Mitchell-Jones and McLeish, 2004).

2.9 A plan of any features of interest for roosting bats identified on the building and/or trees is provided in Appendix 1; photographs are presented in Appendix 2 and the results of the Intrusive Inspecton for Bats in Appendix 6.

2.10 Features suitable for use by roosting bats were recorded and mapped. For the building, architectural features, points of disrepair and other gaps, which may provide access / egress and / or roosting points for bats, were also identified. Careful consideration and investigation, where possible, was given to determining if the potential access points would lead into the building structure (cavity walls, soffit boxes, roof voids, etc.) or be limited to crevices. For trees, features such as rot holes, splits and callus rolls were inspected carefully using binoculars. In both cases, consideration was given to the bat species that would have a preference for any features identified.

2.11 Evidence indicating the presence of bats (for example, droppings, feeding remains such as moth wings, scratch marks around suitable roosting features, and urine and fur oil stains) was recorded and mapped on the site plan (refer to Appendix 1, Figure 2).

2.12 The association of the building with habitats that may encourage bats into and/or through the site (such as linear features including tree lines and hedgerows that bats may use as commuting corridors), were also noted, as these enhance the likelihood of roosts being found and utilised by roosting bats.

2.13 The potential for the buildings and trees to support roosting bats was identified by the findings of the current survey and an evaluation of existing data. The following criteria (derived from Hundt, 2012) was used to determine the level of assessed potential:

- **Negligible** – While presence cannot be absolutely discounted, no features that could be used by bats for roosting, foraging or commuting are identified. No further surveys are required.
- **Low** – Small number of potential roosting features, most likely less significant ones (i.e. not maternity roosts or hibernacula). Isolated habitat that could be used by foraging bats (e.g. a lone tree or patch of scrub, but not parkland) present. Isolated site, which is not connected by prominent linear features (but if suitable foraging habitat is adjacent it may be valuable if it is all that is available). At least one further survey (dusk emergence and dawn re-entry surveys) for each feature (not each building / tree) is recommended.
- **Moderate** – Several potential roost features in the buildings, trees or other structures. Surrounding habitat is suitable to support foraging bats (e.g. trees, hedgerows, shrub, grassland or water-bodies). The site is connected with the wider landscape by linear features that could be used by commuting bats (e.g. lines of trees, hedgerows and scrub or linked back gardens). Two to three further surveys (dusk emergence and dawn re-entry surveys) for each feature (not each building / tree) are recommended.
- **High** – Buildings, trees or other structures (such as mines, caves, tunnels, Ice Houses and cellars) with particular features of potential significance for roosting bats. Surrounding habitat of high quality and suitable to support (various species of) foraging bats (e.g. broadleaved woodland, tree-lined watercourses and grazed parkland). The site is connected with the wider landscape by strong linear features that would be used by commuting bats (e.g. river/stream valleys or hedgerows). The site is close to known roosts or other potentially valuable habitat resources. Three further surveys (dusk emergence and dawn re-entry surveys) for each feature (not each building / tree) are recommended.

- **Presence confirmed** – Evidence indicates a building, tree or other structure is used by bats, for example:
    - bats seen roosting or observed flying from a roost or freely in the habitat;
    - droppings, carcasses, feeding remains, etc. found; and
    - bats heard 'chattering' inside on a warm day or at dusk.

  Where possible, the number of bats likely to be using the roost site, and the species of bat(s) would be determined from the evidence available.

Protected and invasive species assessment

2.14 The likelihood of occurrence of other protected and/or invasive species is ranked as follows and relies on the findings of the current survey and an evaluation of existing data:

- **Negligible** – while presence cannot be absolutely discounted, the site includes very limited or poor quality habitat for a particular species or species group. No local returns from a data search, surrounding habitat considered unlikely to support wider populations of a species/species group. The site may also be outside or peripheral to known national range for a species.
- **Low** – on-site habitat of poor to moderate quality for a given species/species group. Few or no returns from data search, but presence cannot be discounted on the basis of national distribution, nature of surrounding habitats, habitat fragmentation, recent on-site disturbance etc.
- **Medium** – on-site habitat of moderate quality, providing all of the known key requirements of a given species/species group. Local returns from the data search, within national distribution, suitable surrounding habitat. Factors limiting the likelihood of occurrence may include small habitat area, habitat severance, and disturbance.
- **High** – on-site habitat of high quality for a given species/species group. Local records provided by desk-top study. The site is within/peripheral to a national or regional stronghold. Good quality surrounding habitat and good connectivity.
- **Present** – presence confirmed from the current survey or by recent, confirmed records.

2.15 The purpose of this assessment is to identify whether more comprehensive Phase 2 surveys for protected species should be recommended.

SITE EVALUATION

2.16 The site has been evaluated broadly following guidance issued by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2006), according to a geographic scale (significance at the international level down to the site level) and using a range of criteria for assigning ecological value, as follows:

- Presence of sites or features designated for their nature conservation interest. Examples include internationally or nationally designated sites such as Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs), locally designated sites such as Local Nature Reserves (LNRs) and non statutory sites such as SINCs;
- Biodiversity value, for example, habitats or species which are rare or uncommon, species-rich assemblages, species which are endemic or on the edge of their range, large populations or concentrations of uncommon or threatened species, and/or plant communities that are typical of valued natural/semi-natural vegetation types;
- Potential value, as addressed by targets to increase the biodiversity value for example of SSSIs, international sites and some Species and Habitats of Principal Improtance. If detailed plans exist to enhance the value of such areas, then it may be appropriate to value them as if the intended resource already existed;
- Secondary and supporting value, for example, habitats or features which provide a buffer to valued features or which serve to link otherwise isolated features;
- Presence of UK Species of Principal Importance for Biodiversity; and,
- Presence of London and Camden BAP Priority Habitats and Species.

2.17 The ecological interest of the site and the proposed development has also been evaluated in terms of the Camden Plan containing policies relating to nature conservation.

LIMITATIONS

2.18 It should be noted that, whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment.

2.19 It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded. This is taken into account when interpreting

records and also through the Phase 1 habitat survey methodology which identifies where protected species may be supported within the site.

2.20 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment.

2.21 This Preliminary Ecological Appraisal and protected species assessment does not constitute a full botanical survey, or a Phase 2 pre-construction survey that would include accurate GIS mapping for invasive or protected plant species.

2.22 The protected species assessment provides a preliminary view of the likelihood of protected species occurring on the site, based on the suitability of the habitat, known distribution of the species in the local area provided in response to our enquiries, and any direct evidence on the site. It should not be taken as providing a full and definitive survey of any protected species group. It is only valid at the time the survey was carried out. If, on the basis of the preliminary assessment or during subsequent surveys, there is potential for protected species to be supported, recommendations for further surveys will be made. Without such surveys, it would not be possible to determine presence/ likely absence of that species.

2.23 Despite these limitations, it is considered that this report accurately reflects the habitats present, their biodiversity values, and the potential of the site to support protected and notable species.

3 Results

DESK STUDY

3.1 The following records regarding present and historical ecological interest at the site and within a 1kilometre (km) radius were supplied by GiGL and MAGIC. Records are summarised in paragraphs 3.2- 3.11 below:

Statutory Sites of Importance for Nature Conservation

3.2 The proposed development site (Application 1 and 2) is not subject to statutory nature conservation designations, such as Special Protection Area (SPA), Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), National Nature Reserves (NNR) or Local Nature Reserve (LNR).

3.3 A desk-based search shows that there is one site with National statutory designation within 1km of the site. Westbere Copse LNR has an area of 0.39ha and is situated approximately 800m north west of the site.

Non-statutory Sites of Importance for Nature Conservation

3.4 The proposed development site (Application 1 and 2) does not form part of a non-statutory SINC. There are ten non-statutory sites designated as SINCs located within the 1km data search area. None of these are of Metropolitan importance; four are of Borough grade I importance, three are of Borough grade II importance and three are of local importance. The nearest SINC is West Hampstead Railsides, Medley Orchard and Westbere Copse. This includes the railside land directly the other side of the Thameslink railway which forms the northern boundary of the site. This SINC is of Borough grade I importance and covers an area of 7.94ha.

3.5 Sites designated as open space, where these are of ecological value, are also noted.

3.6 All such sites within the 1km search area are described in Table 1 below.

Table 1: Non-Statutory sites within a 1km radius of the site boundary.

Site Name	Reason for designation	Area (ha)	Distance from site (m)
Sites of Borough Grade I Importance for Nature Conservation			
Silverlink Metro between Brondesbury and Willesden Junction	Part of an extensive network of important habitat for birds, mammals and insects. The area is made up of a mosaic of habitats including trees, scrub, tall ruderals and grassland.	9.85	130m S

Table 1: Non-Statutory sites within a 1km radius of the site boundary.

Site Name	Reason for designation	Area (ha)	Distance from site (m)
Metropolitan line between Kilburn and Neasden	Part of an extensive network of important habitat for birds, mammals and insects. The area is made up of a mosaic of habitats including trees, scrub, tall ruderals and grassland.	4.14	150m S
Hampstead Cemetery	The site has a large number of mature trees in places forming small patches of woodland. The site also provides habitat for a variety of bird and invertebrate species.	9.31	650m NW
West Hampstead Railsides, Medley Orchard and Westbere Copse	Railsidings and Westbere Copse represent dense areas of secondary woodland in which London notable species have been found. Medley Orchard is a rare habitat within London with some surviving old fruit trees.	7.94	30m N
Sites of Borough Grade II Importance for Nature Conservation			
Broadhurst Gardens Meadow	Habitats on site include scrub and semi-improved neutral grassland rich in wildflower species. There are also scattered trees on site and a high diversity of invertebrate species.	0.73	590m SW
King's College Hampstead Campus	A university grounds with wildlife-friendly areas including a good range of native and non-native mature trees and insect attracting understorey.	0.65	1000m N
Gondar Gardens Covered Reservoir	Grassland on site supports a diversity of common wildflowers and is the only known site in Camden for slow worm *Anguis fragilis*.	1.1	490 NW
Sites of Local Importance for Nature Conservation			
160 Mill Lane Community Garden	This site contains a sizeable pond with diverse marginal vegetation and a healthy population of smooth newts.	0.19	320 N
Frognal Lane Gardens	A community garden containing mature trees and a small pond with significant amenity value.	0.55	760m NW
Kilburn Grange Park	A park with a diversity of mature native trees and areas of tall ruderals including species which are scarce in London.	3.32	380m SW
Designated Open Space			
Linear block off Maygrove Road	Parks and Gardens	/	Onsite
Maygrove Peace Park	Parks and Gardens – as above	/	Adjacent W
Rectangle block off Maygrove Road	Other Open Space - as above	/	Adjacent E
Linear block off Sumatra Road	Habitat corridor –	/	50m N
Linear block off Iverson Road	Habitat corridor	/	50m NE

Protected species

3.7 Protected, Species of Principal Importance and London BAP Priority Species that have been recorded within a 1km radius of the site and that potentially may be present are discussed below. The level of protection afforded to each species and the distance and orientation of the records, as well as the dates of those recorded in the past twenty years, are provided.

3.8 *Bats:* The data search returned twelve records of bat species within the 1km search area in the last twenty years. These included one record of an unnamed species within the family *Vespertilionidae*; two records of unnamed species within the genus *Pipistrellus* and nine records of common pipistrelle *Pipistrellus pipistrellus*. Records were between 500 and 1000m to the north/north west of the site. All bat species are protected under the Conservation of Habitats and Species Regulations 2010 (as amended), the Wildlife and Countryside Act 1981 (as amended).

3.9 *Birds:* The data search returned multiple records of sixteen bird species. Eight of these records were London BAP species including six records of the house sparrow *Passer domesticus,* which is also a Species of Principal Importance, breeding within 250m of the site.

EXTENDED PHASE 1 HABITAT SURVEY

Overview

3.10 The principal habitats on site (Application 1 and 2) were buildings and hard-standing, scattered trees, introduced shrub, a small area of amenity grassland and broadleaf plantation woodland. The locations of these habitats can be seen in Appendix 1 Habitat Map.

Buildings and hard-standing

3.11 There were three warehouse blocks on site, each consisting of a number of workshops (Application 1 and 2). The warehouse building on the south side of Liddell Road had a pitched metal-clad roof with a soffit box. The building was built of brick cavity walls and each workshop had a large garage door as well as an uPVC door and window. Above each garage door were four weep holes. Generally the condition of the building was good with the exception of two large cracks at the eastern end of the building. The soffit boards were tightly fitting and other than the two cracks, there were very few gaps in the mortar between bricks.

3.12 In front of each workshop in the largest warehouse on the south side of Liddell Road, were small sheds; a total of nine across the site. The sheds were single skin, brick structures with pitched corrugated metal roofs. In all cases there were gaps along the soffit boxes and occasionally there were large holes or missing sections in the soffit box.

3.13 The other two smaller warehouses on site were on the north side of Liddell Road (Application 1), backing on to the Thameslink railway. These warehouses also comprised of brick, cavity walls with large metal garage doors. The roof was flat and metal clad with the cladding extending approximately a meter down the walls of the buildings. Brickwork was in a good state of repair.

Introduced shrub

3.14 The entrance to the industrial estate from Maygrove Road was lined on both sides by areas of introduced shrub (Application 1 and 2). This habitat was dominated by cheesewood *Pittosporum* spp. and Mexican orange *Choisya* spp. with some occasional scattered trees including purple leaved plum *Prunus cerasifera 'Atropurpurea'* and horse chestnut *Aesculus hippocastanum.* Beneath and climbing over the shrubs there were also frequent native species including common field speedwell *Veronica persica*, common chickweed *Stellaria media* and honeysuckle *Lonicera periclymenum.*

Amenity grassland

3.15 In the corner of the bend in Liddell Road was a small area of amenity grassland (Application 1). The dominant species was annual meadow grass *Poa annua* with frequent dandelion *Taraxacum* agg.

Scattered trees

3.16 There were seventeen large mature ash trees *Fraxinus excelsior* on site forming a line in front of the largest warehouse on the south side of Liddell Road (Application 1 and 2).

Broadleaved plantation woodland

3.17 The designated open space between Liddell and Maygrove Road (Application 1 and 2) comprised broadleaved plantation woodland. The tree species on site were largely deciduous, including occasional wild cherry *Prunus avium* and silver birch *Betula pendula*, frequent grey poplar *Populus canescens*, hawthorn *Crataegus monogyna*, and sycamore *Acer pseudoplatanus*, and rare amounts of holly *Ilex aquifolium* and willow *Salix* sp. This habitat had a dense understorey of occasional shrubs such as lilac *Syringa vulgaris* and ornamental roses *Rosa* spp. and herbaceous plants. Cleavers *Gallium aparine*, garlic mustard *Alliaria petiolata* and cow parsley *Anthriscus sylvestris* were abundant. Common

field speedwell *Veronica persica,* common chickweed *Stellaria media,* ribwort plantain *Plantago lanceolata* were frequent. In places the vegetation was grown over with honeysuckle, bramble *Rubus fruticosus* agg. and ivy *Hedera helix.*

3.18 Approximately one third along the length of this habitat, a patch of Japanese knotweed *Fallopia japonica* was identified. The location of this plant is indicated by Target note 1 (see below) on the habitat map in Appendix 1. This is an invasive alien species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Target notes

3.19 Refer to Figure 1 in Appendix 1 for the locations of the features of ecological interest labelled as target notes and described below:

- Target Note 1 (TN1): Two patches of Japanese knotweed outside the boundary of the site (Application 1 and 2) however potentially with roots extending into the site.
- Target Note 2 (TN2): The back wall behind the two warehouse buildings on the north side of Liddell Road (Application 1) had some small patches of ivy which could potentially support nesting birds.
- Target Note 3 (TN3): There were two very large cracks in the eastern end of the larger warehouse building on the south side of Liddell Road (Application 1 and 2). These extended across two entire workshops and could have provided access for roosting bats to the wall cavity of the building.

Faunal observations

3.20 During the site visit a group of more than fifty feral pigeons *Columbia livia domestica,* were observed perching on the roof of the larger warehouse although no nests were observed on site.

PROTECTED AND INVASIVE SPECIES ASSESSMENT

3.21 The habitats on site (Application 1 and 2) were evaluated as to their likelihood to provide sheltering, roosting, nesting and foraging habitat for all protected and invasive species. Those species identified as being present or potentially present, owing to the presence of suitable habitat within the site, were:

- Bats;
- Breeding birds; and,
- Japanese knotweed.

3.22 The potential for bats to be supported was assessed in detail through the Preliminary Bat Roost Assessment and these results are summarised in Table 2.

3.23 The likelihood of other protected and invasive species being present is also evaluated in Table 2, below. This evaluation is based on the results of the desk-top survey, observations made during the site survey, an assessment of the suitability of on-site and adjoining habitat, and information on the distribution of these species. The relevant legislation and policies relating to protected/invasive species and habitats are set out in Appendix 5.

London BAP species and habitats

3.24 The survey areas (Application 1 and 2) have the potential to support the following noteworthy (London BAP, 2007) species; 'Bats', 'Breeding birds'.

PRELIMINARY BAT ROOST ASSESSMENT

3.25 The site contained three large buildings and nine sheds which were assessed for features with potential to support roosting bats. A ground-level inspection of trees on the site was also carried out. No features with potential to support roosting bats were recorded on the trees on site or the two smaller warehouse buildings; suitable features on the large warehouse on the south side of Liddell Road and the sheds are described in sections 3.24-3.25 below. The locations of the features are shown in the habitat map provided in Appendix 1.

Large warehouse building

External inspection

3.26 No bats or evidence of use by bats were identified during the external inspection, however features with potential to support roosting bats were identified and are listed below:

- A total of 68 weep holes above the garage doors to the workshops, each providing potential access for bats into the cavity wall.
- Two large cracks in the eastern end of the building (TN3) providing potential access for bats into the cavity wall.

Sheds

External inspection

3.27 No bats or evidence of use by bats were identified during the external inspection, however features with potential to support roosting bats were identified and are listed below:

- Gaps between the brickwork and soffit box were present on all the sheds on site, allowing access to the soffit box itself and the roof space.

- In several places the soffit box was damaged leaving a larger hole or had become partially detached allowing access to the soffit box itself and the roof space.

Assessment

3.28 There were numerous features with potential to provide access/egress for bats into cavities in the brick wall of the warehouse and the roof of the sheds. The surrounding habitat, including the broadleaf plantation woodland on Maygrove Road and Maygrove Peace Park may have some potential to support foraging bats, although both are limited in extent. Therefore, the large warehouse on the south side of Liddell Road and the sheds were assessed as having **low** potential to support roosting bats.

Table 2: Protected and Invasive Species Assessment.

Habitat/ species	Main legislation and policy (see Appendix 5)	Reason for consideration	Likelihood of occurrence
Protected species			
Bats	Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). Wildlife and Countryside Act 1981 (as amended) Schedule 5.	The site contains potential roosting habitat, in the form of buildings. The habitat also contains potential foraging and commuting bat habitat. Records were provided from the data search.	**Large warehouse and sheds** *(Application 1 and 2)* **LOW:** There were several feature observed with the potential to provide access/egress for bats into cavities within the brick walls and between the walls and soffit boxes. (see Preliminary Bat Roost Assessment and Appendix 1 for locations of these features). **Two small warehouses on the north side of Liddell Road** *(Application 1)* **NEGLIGIBLE:** No features with potential to support roosting bats were noted on the buildings. **Trees** *(Application 1 and 2)* **NEGLIGIBLE:** No features were found with potential to support roosting bats. **Foraging / Commuting Habitat** *(Application 1 and 2)* Suitable foraging/ commuting habitat was identified within the site, with surrounding residential gardens, parks and railway lines providing connectivity to further suitable habitat in the wider landscape.
Breeding birds	Wildlife and Countryside Act 1981 (as amended).	The site contains suitable breeding and foraging habitat i.e., trees and shrubs for a variety of common bird species. Records provided from the data search.	**MODERATE**: The introduced shrub and scattered trees and the broadleaf plantation woodland *(Application 1 and 2)* were assessed to have the potential to support common nesting bird species.
Invasive species			
Invasive species	Section 14 and Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).	Invasive species are widespread in many habitats, commonly found on disturbed sites, old gardens, along railways and herb/grassland/ scrub mosaics.	**PRESENT:** Japanese knotweed was identified in two locations along the site border (TN1) within Application 1 and 2.

4 Evaluation

4.1 Habitats and species on the site were evaluated following standard guidance on ecological impact assessment published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2006) using the recommended geographic frame of reference.

Features of International Value

4.2 Features of international value are principally sites covered by international legislation or conventions, such as those sites designated under the Habitats Regulations which implements the Natural Habitats and Wild Fauna and Flora (92/43/EC) (Habitats Directive). Sites designated at this level include SACs and SPAs as well as Ramsar sites which are designated for habitats and / or important populations of certain species.

4.3 There are no sites of international importance for nature conservation within 1km of the site and it does not meet any of the criteria for designation at this scale.

Features of National Value

4.4 Features of National value include statutory sites such as Sites of Special Scientific Interest (SSSIs) which are designated under the Wildlife and Countryside Act 1981 (as amended) as well as species such as common reptile species which are subject to national legislation rather than international legislation.

4.5 The site does not form part of a site of national importance for nature conservation. None of the habitats or populations or assemblages of species present, or likely to be present, would warrant designation at the national level using appropriate criteria (Guidelines for selection of biological SSSIs http://jncc.defra.gov.uk/page-2303).

4.6 National legislation also provides protection to certain species in addition to those covered by international legislation, including bats and birds. While such species may be present, the population of any one species may not be of national importance in terms of diversity, size or rarity.

4.7 Specific targets exist that apply to the conservation of Species of Principal Importance under the NERC Act (2006). While some common but declining Species of Principal Importance may be present, it is not considered that they would occur in nationally important numbers.

Features of County (i.e. Greater London) Value

4.8 The site is not designated as a Site of Metropolitan Importance and it does not support habitats of value at this level.

4.9 Species included in the London BAP such as bats and house sparrow may utilise the broadleaved plantation woodland, introduced shrub and scattered trees on site. However, the on-site vegetation and the assemblages and populations of species likely to be present at the site are not sufficient to warrant value at the Metropolitan scale.

Features of Borough (i.e. Camden) Value

4.10 The site does not designated as a Site of Borough Importance for Nature Conservation and does not support habitats of value at this level, nor is the site likely to support protected species of value at this level. The designated SINC West Hampstead Railsides, Medley Orchard and Westbere Copse, a site of grade I Borough Importance is approximately 30m north of the site, across the Thameslink Railway. However, this land will not be directly impacted by the development.

Features of Local (i.e. 1-5km radius) Value

4.11 Part of the site, is designated Open Space, categorised as Parks and Gardens. This is located along the southern boundary with Maygrove road. Vegetation comprised native broadleaved plantation woodland, which is a Camden and London BAP Priority Habitat. However, the small size of this site limits its ecological value to the local level.

4.12 It is unlikely that any bats and/or nesting birds using the site will occur in nationally important numbers and any populations present on site are likely to be of biodiversity value up to a local scale only.

Features of value within the immediate vicinity of the site

4.13 Scattered trees, introduced shrub and broadleaf plantation woodland habitats on site are considered likely to provide habitat of biodiversity value for nesting birds.

LOCAL PLANNING POLICY IMPLICATIONS

4.14 On the basis of the surveys completed it is considered that Policy CS15 in the London Borough of Camden's Local Development Strategy Framework Core Strategy are relevant to this site (see Table 3 below).

Table 3 : Camden Local Development Plan Policies relevant to the site

Policy	Relevance to the site
Policy CS15 Protecting and improving our parks and open spaces and encouraging biodiversity The Council will protect and improve sites of nature conservation and biodiversity, in particular habitats and biodiversity identified in the Camden and London Biodiversity Plans in the borough by: d) expecting the provision of new or enhanced habitat, where possible, including through biodiverse green or brown roofs and green walls; e) identifying habitat corridors and securing biodiversity improvements along gaps in habitat corridors; f) working with The Royal Parks, the London Wildlife Trust, friends of parks groups and local nature conservation groups to protect and improve open spaces and nature conservation in Camden; g) protecting trees and promoting the provision of new trees and vegetation, including additional street trees.	This report has provided information that will: Retain part of the site designated as open space, along Maygrove Road. Enhance the site by creating biodiverse green roofs. Improve existing habitat corridors by planting around the perimeter of the site to connect with Maygrove Peace Park (west) and railway corridor north and east.

5 Conclusions and Recommendations

CONCLUSIONS

5.1 On the basis of the Preliminary Ecological Appraisal and protected species assessment and the Preliminary Bat Roost Assessment, the following findings were made:

5.2 The habitats on site (Application 1 and 2) comprised buildings and hardstanding, introduced shrub, scattered trees, amenity grassland and native, broadleaved plantation woodland.

5.3 The native, broadleaved plantation woodland is designated Open Space and is also a London and Camden BAP Priority habitat.

5.4 The large warehouse and sheds on the south side of Liddell Road (Application 1 and 2) were assessed as having low potential to support roosting bats. This was due to features identified on the building, limited suitable surrounding habitat and records provided within the area from the data search.

5.5 Broadleaf plantation woodland, scattered trees and the areas of introduced shrub within Application 1 and 2, were assessed as having moderate potential of supporting common nesting birds.

5.6 The site (Application 1 and 2) is considered to have negligible potential to support any other protected species.

5.7 Japanese knotweed, was confirmed as present on site (Application 1 and 2). This is an invasive alien species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

5.8 The potential presence of protected species will require further surveys and mitigation measures to be undertaken at the site (Application 1 and 2). Advice regarding this is summarised below.

RECOMMENDATIONS

5.9 The following mitigation measures are recommended to avoid a legal offence and ensure compliance under The Mayor's Biodiversity Strategy Proposal 3 (See Appendix 5). Recommendations in order to enhance site ecology are also provided.

Further surveys

Bats

5.10 The three warehouse buildings and the sheds on site (Application 1 and 2) are scheduled for demolition under the development proposals.

5.11 A further Intrusive Inspection for Bats was carried out on the 2nd December 2014 and recommended a precautionary approach to demolition (see Appendix 6 for further details).

5.12 In the unlikely event that a bat is found during any works on site, works must cease immediately and a bat ecologist contacted immediately for advice prior to any works continuing.

5.13 As an appropriate precautionary approach, if the commencement date of the proposed works is more than 18 months after any surveys have been conducted, it is recommended that they are updated. This is because roosting features can develop in buildings and trees over time and because bats are very mobile and move between roost sites, and would ensure that any mitigation proposals are based on current and accurate data.

Invasive species

5.14 Prior to works commencing it is recommended that a detailed survey of the Japanese knotweed on site (Application 1 and 2) is conducted by an accredited specialist, such as that offered by the Property Care Association[3]. This will inform the management of the species on site during and following development.

Mitigation

Breeding birds

5.15 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended). Where the removal or disturbance of the suitable habitat on site (Application 1 and 2) is necessary, for example pruning works, tree removal or vegetation clearance, the work must be carried out outside of the main bird nesting season (March to late August, inclusive) to avoid any potential offences relating to nesting birds (Newton *et al.*, 2004).

5.16 Where this is not possible, a search for any nesting birds up to 48 hours prior to vegetation clearance must be undertaken by an experienced ecologist. If any nests are found, they

[3] http://www.knotweed-removal.co.uk/services-offered-by-the-knotweed-company.php

are to be protected until such time as the ecologist confirms that the young have fledged. This would involve setting up an exclusion zone / cordon to an appropriate area for the species concerned. Works may then proceed up to, but not within, this exclusion zone. Works within the exclusion zone can be completed once the ecologist confirms the young have fledged the nest. If any nesting birds are found at any time during clearance works when the ecologist is not present, work must stop immediately and an ecologist must be consulted immediately for advice on how to proceed.

Protection

Broadleaved plantation woodland & trees

5.17 The native, broadleaved, plantation and retained trees should be protected in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction* (British Standard, 2012). This should include the sinstallation of a vertical barrier to protect tree root zones. No works, tracking of heavy machinery or storage of materials should take place in such protected areas.

Enhancements

5.18 The enhancements and landscape recommendations detailed below will enhance the biodiversity value of the site and improve the wildlife value in the immediate area by providing additional habitat to neighbouring gardens, thereby contributing to the London and Species of Principle Importance objectives.

5.19 The following recommendations offer opportunities to enhance the biodiversity value of the site.

Habitat Corridors

5.20 The proposed development could create and enhance habitat that would link the existing Open Space located to the west (Maygrove Peace Park), with habitat corridors located to the north and east and with the broadleaved woodland on site. This could be achieved by the creation of new woodland and tree planting and creation of biodiverse roofs.

Biodiverse green roof

5.21 A biodiverse green roof could be included on the school (Application 1) or residential buildings (Application 2) to be developed on site. Biodiverse green roofs are created by establishing an appropriate depth of low-nutrient substrate (minimum 80mm) and then introducing a wildflower seed mix with additional plug planting. Additional habitat features such as temporary pools and log piles which will enhance the wildlife value of the roof. It

is recommended that advice is sought form a professional green roof consultancy, such as The Green Roof Consultancy (http://greenroofconsultancy.com/), in order to design the specification of the green roof in-line with the environmental goals of the development.

Wildlife planting

5.22 Wildlife planting should be incorporated into the landscape plan for the site (Application 1 and 2). In particular planting species of wildlife value along the northern boundary of the site would increase connectivity between Maygrove Peace Park to the west and the green space to the east of the site on the industrial estate on Inversion Road. The use of native shrubs, perennials and grasses of wildlife value should be included. Where possible, larger shrubs/trees should be under-planted with smaller shrubs and herbaceous perennials to create greater structure within the planting scheme and to provide a dense cover for wildlife. Nectar-rich native species will attract insects and provide a potential food source for bats (Hundt, 2012). A list of recommended plant species is provided in Appendix 4.

Climbing plants

5.23 Landscaping for Application 1 and 2 should include the use of climbing plants and trellising to create green walls that provide vertical nesting habitat and foraging resources for birds and invertebrates. These should comprise native species or non-native species of known wildlife value and either deciduous or evergreen species depending on the specification. A list of recommended species is provided in Appendix 4.

Provision of bird nesting opportunities

5.24 The inclusion of a minimum of six woodcrete bird boxes (Schwegler, 2010) is recommended (Application 1 and 2). They include a broad range of designs, are long lasting compared to wooden boxes and insulate occupants from extremes of temperature and condensation. Bird boxes should be placed apart from one another, on suitable buildings/trees/fences at least 3m above ground level. The following models are most appropriate for the species of birds likely to use the site: 1SP, 1B hole-fronted, 26 mm entrance hole and 32 mm entrance hole, and 2H open-fronted 120 mm opening. Nesting boxes should be cleaned annually in the autumn with old nests removed annually between August and January, and old boxes replaced or repaired as necessary.

Habitat for invertebrates

5.25 The provision of 'insect hotels' or log piles should be included in the planted beds and beneath shrubs to provide shelter and nesting places for invertebrates (Application 1 and 2). These create an overwintering habitat for a variety of invertebrates that can enhance existing populations and provide a food source for other species.

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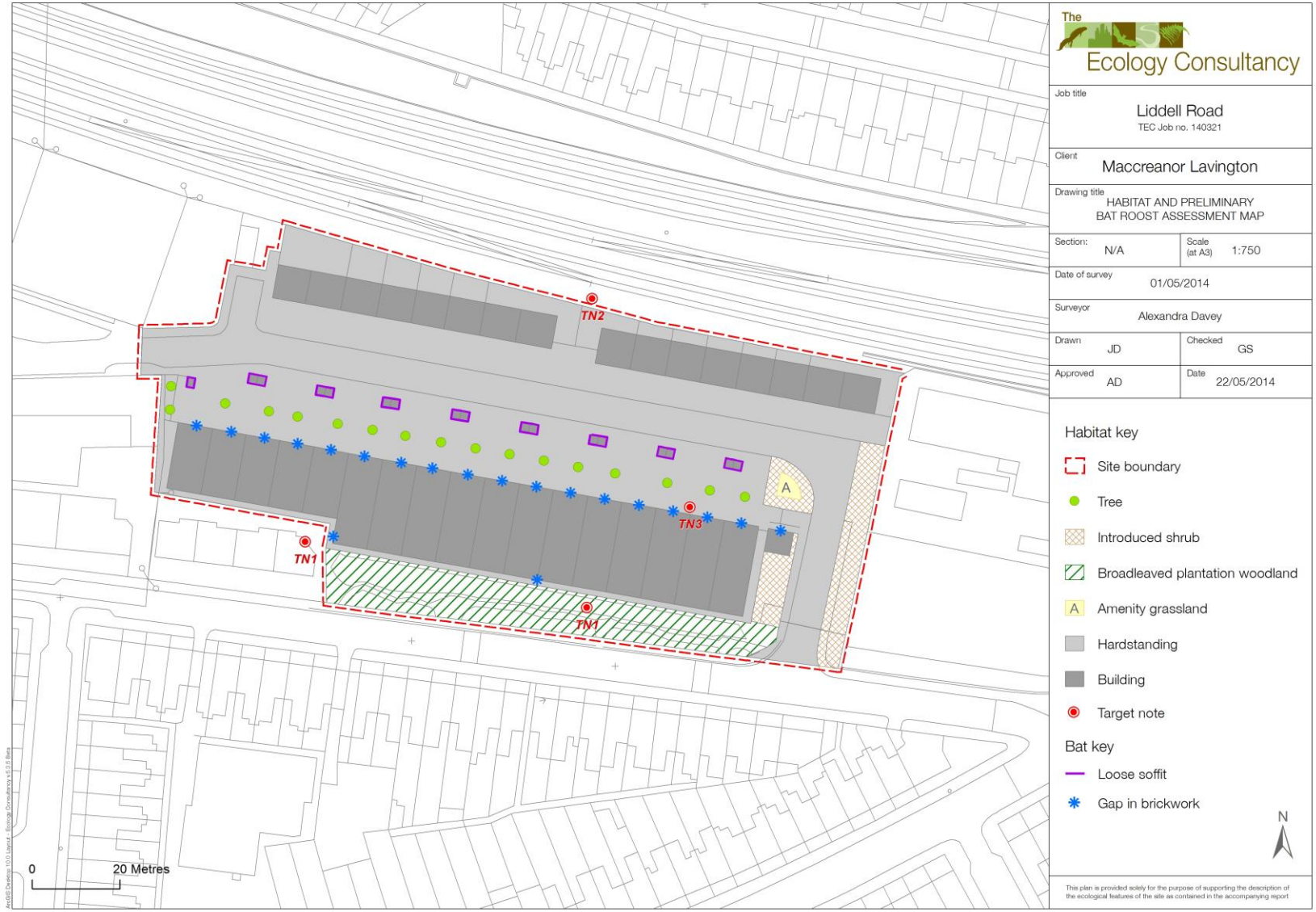
Appendix 1: Habitat Map

Figure 1: Habitat survey and Preliminary Bat Roost Assessment Map



Appendix 2: Photographs

Photograph 1
A view of the larger warehouse building on the south side of Liddell Road, lined with a row of manna ash trees and small sheds.

Photograph 2
A view of one of the smaller warehouse buildings on the north side of Liddell Road.

Photograph 3
One of the small areas of introduced shrub at the entrance to the industrial estate.

Photograph 4
A small area of amenity grassland on site.

Photograph 5
A view of the broadleaf plantation woodland along Maygrove Road.

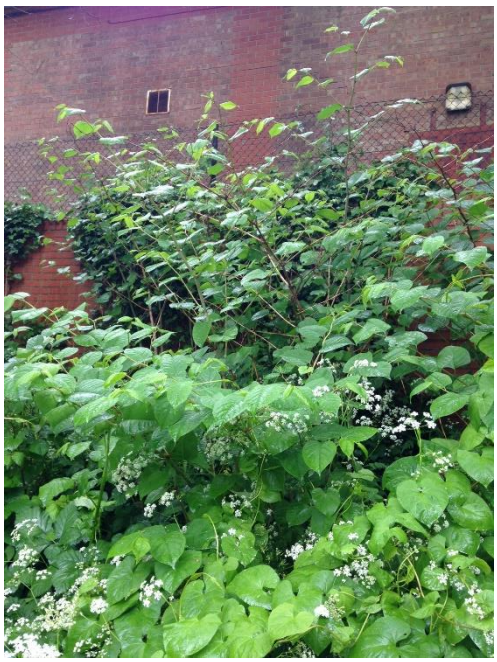
Photograph 6
One of the two large cracks in the eastern end of the larger warehouse building.

Photograph 7
The four weep holes above each garage door in the larger warehouse building.

Photograph 8
A loose soffit box on one of the small sheds on site allowing access to the soffit box.

Photograph 9
A view of one of the smaller warehouse buildings on the north side of Liddell Road. Brickwork was in good condition.

Photograph 10
A patch of Japanese knotweed identified in the plantation woodland on Maygrove Road (TN1).



Appendix 3: Plant Species List

Plant Species List for Liddell Road, Borough of Camden compiled from the Preliminary Ecological Appraisal carried out on the 1st May 2014.

Scientific nomenclature follows Stace (2010) for vascular plant species. Vascular plant common names follow the Botanical Society of the British Isles 2003 list, published on its web site, www.bsbi.org.uk. Please note that this plant species list was generated as part of a Phase 1 habitat survey, does not constitute a full botanical survey and should be read in conjunction with the associated Phase 1 Report.

Abundance was estimated using the DAFOR scale as follows:

D = dominant, A = abundant, F = frequent, O = occasional, R = rare, LD =locally dominant

LA = Locally abundant

S = shrub, T = tree, Y = young tree.

Latin Name	Common name	Abundance	Qualifiers
Acer pseudoplatanus	sycamore	F	T
Aesculus hippocastanum	horse chestnut	O	T
Alliaria petiolata	garlic mustard	A	
Anthriscus sylvestris	cow parsley	A	
Betula pendula	silver birch	O	T
Choisya spp.	Mexican orange	F	
Crataegus monogyna	hawthorn	F	T
Fallopia japonica	Japanese knotweed	R	
Fraxinus excelsior	ash	F	T
Gallium aparine	cleavers	A	
Ilex aquifolium	holly	R	Y
Lonicera periclymenum	honeysuckle	F	
Pittosporum spp.	cheesewood	F	
Plantago lanceolata	ribwort plantain	O	
Poa annua	annual meadow grass	F	
Populus canescens	grey poplar	F	
Prunus avium	wild cherry	O	T
Prunus cerasifera 'Atropurpurea'	purple leaved plum	O	T
Rosa spp.	rose	O	
Rubus fruticosus agg.	bramble	O	
Salix sp.	willow	R	T
Stellaria media	common chickweed	F	
Syringa vulgaris	lilac	O	Y
Taraxacum agg.	dandelion	F	

Latin Name	Common name	Abundance	Qualifiers
Veronica persica	common field speedwell	F	
Hedera helix	ivy	O	

Appendix 4: Plant Species of Value to Wildlife

ORNAMENTAL AND NATIVE SPECIES OF WILDLIFE VALUE

The list below gives some easily sourced plants which are of proven value to wildlife. It includes a number of ornamental species which are not native and can be used in combination with native species in more formal situations. In informal landscapes the emphasis should be on the use of native species.

Different horticultural varieties of the following species are commonly available, but where available standard stock is advised, especially for native species. Single flowering plants should be chosen over double flowering ('flore pleno') varieties. With exception of those marked as * (biennials) and ** (annuals) all species are perennial. E = Exotic, N = Native.

N.B. Care should always be exercised in designing planting schemes. This list includes species that may be harmful if handled or ingested. Numerous sources of further information are available; see for instance *Poisonous Plants and Fungi: An Illustrated Guide* (Cooper, Johnson & Dauncey, 2003). Schedule 9 (Part 2) of the Wildlife and Countryside Act, 1981 (as amended) includes a list of invasive plants, including aquatic species, that should be avoided. Consideration should also be given to other species that may also have a negative effect on native habitats, if planted in the wrong location.

TREE

Cherry *Prunus* spp., *P. avium* (wild cherry), *P. padus* (bird cherry), *P. domestica* (domestic plum) N or *P. cerasifera* (cherry plum) E

Apple *Malus* spp., *M. domestica* (edible apple), *M. sylvestris* (crab apple) N

Pear *Pyrus* spp., *P. communis* (edible pear) or *P. calleryana* (callery pear) E

Small-leaved lime *Tilia cordata* N

Silver birch *Betula pendula* N

Yew *Taxus baccata* N

Foxglove tree *Paulownia tomentosa* E

Lacebarks *Hoheria spp.*, *H. glabrata*, *H. lyallii* E

Tulip tree *Liriodendron tulipifera* E

Beech *Fagus sylvatica* N

LARGE SHRUBS

Hedge veronica *Hebe* spp. E

Hawthorn *Crataegus monogyna* N

Blackthorn *Prunus spinosa* N N.B. can produce suckering growth.

Rose *Rosa canina* (dog rose) *R. arvensis* (field rose) *R. pimpinellifolia* (burnet rose) N N.B. *R. rugosa* (Japanese Rose) is a Schedule 9 invasive plant species

California lilac *Ceanothus* spp., *C. arborea* E

Wild privet *Ligustrum vulgare* N

Common holly *Ilex aquifolium* N N.B. both male and female plants are needed for berry production unless a self-fertile variety such as 'J C Van Tol' is used.

Barberry *Berberis* spp. *B. darwinii*, *B. thunbergii*, *B. x stenophylla* E

Daisy Bush *Olearia* spp., *O. x hastii*, *O. macrodonta* and *O. traversii* E

Firethorn *Pyracantha coccinea* E

Hazel *Corylus avellana* N *C. maxima* E

Viburnum *Viburnum* spp., *V. lantana* (wayfaring tree) N, *V. opulus* (guelder rose) N, *V. tinus* (laurustinus) E Note: *V. lantana* can become invasive in more open habitats such as chalk grassland.

Butterfly bush *Buddleja* spp., *B. alternifolia*, *B. globosa* E Note: *B. davidii* should be avoided as can become invasive in more open habitats.

Dogwood *Cornus sanguinea* N

Broom *Cytisus scoparius* N

Mexican orange bush *Choisya ternata* E

Portuguese laurel *Prunus lusitanica* E

Flowering currant *Ribes sanguineum* E

Escallonia *Escallonia macrantha* E cultivar '*Langleyensis*' is a hardier version

Hardy fuchsia *Fuchsia magellanica* E

Buckthorn *Rhamnus cathartica* N

Spindle *Euonymus europaeus* N

Tutsan *Hypericum androsaemum* N

Yew *Taxus baccata* N

N.B. Some of these shrub species will form small trees when mature and/or can be trained (along with climbers) to create living walls.

HERBACEOUS PERENNIALS AND SMALL SHRUBS

Tree mallow *Lavatera spp*. *L. arborea* N, or *L. olblio*, *L. thuringiaca* E

Ice plant *Sedum spectabile* E

Lavender *Lavandula* spp., *L. angustifolia*, *L. x intermedia* E

Globe thistle *Echinops ritro* E

Foxglove *Digitalis purpurea** N or *D. lutea*, *D. x mertonensis* E

Michaelmas Daisy *Aster novi-belgii* E

Sunflowers *Helianthus annus*** E

Red valerian *Centranthus rubra* E

Hemp agrimony *Eupatoria cannabinum* N

Common knapweed *Centaurea nigra* N

Black-eyed susan *Rudbeckia* spp., *R. hirta*** or *R. fulgida* E

Rosemary *Rosmarinus officinalis* E

Rock rose *Cistus* spp. E

Shrubby cinquefoil *Potentilla fruticosa* N

Oregon grapes Mahonia spp. *M. aquifolium, M. japonica, M x media* E N.B. some species are stoloniferous and can spread.

CLIMBERS

Star jasmine *Trachelospermum jasminiodes* E

Jasmine *Jasminum* spp., *J. officinale* (summer jasmine) *J. nodiflorum* (winter jasmine) E

Ivy *Hedera helix* N

Climbing hydrangea *Hydrangea anomala* ssp. *petiolaris* E

Boston ivy *P. tricuspidata* E N.B. a similar species *P. quinquefolia* (Virginia creeper) is a Schedule 9 invasive plant species

Honeysuckle *Lonicera* spp. *L. periclymenum* N or *L. japonica*, *L. fragrantissima*, *L. standishii* E

Clematis *Clematis* spp., *C. vitalba* N or *C. armandii*, *C. alpina*, *C. montana*, *C. tangutica* E

Hop *Humulus lupulus* N

Firethorn *Pyracantha atalantioides* E

Nasturtium *Tropaeolum majus*** E

BULBS

English bluebell *Hyacinthoides non-scripta* N.B. Spanish bluebell *Hyacinthoides hispanica* is not recommended as it can escape from gardens and out-compete and hybridise with the UK native species.

Squill species *Scilla* spp. N/E

Snowdrop *Galanthus nivalis* N

Winter aconite *Eranthis hyemalis* E

Grape hyacinth *Muscari neglectum* N *M. armeniacum*, *M. comosum* E

Glory-of-the-snows *Chinodoxa* spp. E

Crocus species *Crocus* spp. *C. nudiflorus* (autumn crocus), *C. tommasinianus* (early crocus), *C. vernus* (spring crocus) E

Wild Daffodil *Narcissus pseudonarcissus* N

Onion species *Alliums* spp. *A. ursinum* (ransoms) N or *A. giganteum* (giant onion) E N.B. *A. triquetrum* (three cornered leek) and *Allium paradoxum* (few-flowered leek*)* are Schedule 9 invasive plant species.

Wood anemone *Anemone nemorosa* N

Lesser celandine *Ficaria verna* N N.B. can spread, particularly ssp. *verna* (syn. ssp. *bulbilifer*)

Appendix 5: Legislation & Planning Policy

Important notice: This section contains details of legislation and planning policy applicable in Britain only (i.e. not including the Isle of Man, Northern Ireland, the Republic of Ireland or the Channel Islands) and is provided for general guidance only. While every effort has been made to ensure accuracy, this section should not be relied upon as a definitive statement of the law.

A NATIONAL LEGISLATION AFFORDED TO SPECIES

The objective of the EC Habitats Directive[4] is to conserve the various species of plant and animal which are considered rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) is a key piece of national legislation which implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection obligations of Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Since the passing of the Wildlife & Countryside Act 1981, various amendments have been made, details of which can be found on www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991;
- Countryside and Rights of Way (CRoW) Act 2000;
- Natural Environment & Rural Communities (NERC) Act 2006;
- Protection of Badgers Act 1992:
- Wild Mammals (Protection) Act 1996.

Species and species groups that are protected or otherwise regulated under the aforementioned domestic and European legislation, and that are most likely to be affected by development activities, include herpetofauna (amphibians and reptiles), badger, bats, birds,

[4] Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora

dormouse, invasive plant species, otter, plants, red squirrel, water vole and white clawed crayfish.

Explanatory notes relating to species protected under The Conservation of Habitats and Species Regulations 2010 (as amended) (which includes smooth snake, sand lizard, great crested newt and natterjack toad), all bat species, otter, dormouse and some plant species) are given below. **These should be read in conjunction with the relevant species sections that follow.**

- In the Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.
- The Conservation of Habitats and Species Regulations 2010 (as amended) does not define the act of 'migration' and therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.
- In order to obtain a European Protected Species Mitigation (EPSM) licence, the application must demonstrate that it meets all of the following three 'tests': i) the action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment; ii) that there is no satisfactory alternative and iii) that the action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

Bats

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats)
- Deliberate disturbance of bat species as:
    - a) to impair their ability:
        - (i) to survive, breed, or reproduce, or to rear or nurture young;
        - (ii) to hibernate or migrate[3]
    - b) to affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place
- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

Bats are also currently protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level);
- Intentional or reckless obstruction of access to any place of shelter or protection:
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

How is the legislation pertaining to bats liable to affect development works?

A European Protected Species Mitigation (EPSM) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity of a local population.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the Wildlife and Countryside Act 1981 (as amended). Among other things, this makes it an offence to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- Intentionally take or destroy an egg of any wild bird:
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.

Certain species of bird, for example the barn owl, black redstart, hobby, bittern and kingfisher receive additional special protection under Schedule 1 of the Act and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC). This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young;

- Intentional or reckless disturbance of dependent young of such a bird.

How is the legislation pertaining to birds liable to affect development works?

To avoid contravention of the Wildlife and Countryside Act 1981 (as amended), works should be planned to avoid the possibility of killing or injuring any wild bird, or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August[5]. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Those species of bird listed on Schedule 1 are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Wild Mammals (Protection) Act 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to:

- Mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

B NATIONAL AND EUROPEAN LEGISLATION AFFORDED TO HABITATS

Statutory Designations: National

Nationally important areas of special scientific interest, by reason of their flora, fauna, or geological or physiographical features, are notified by the countryside agencies as statutory

[5] It should be noted that this is the main breeding period. Breeding activity may occur throughout this period (depending on the particular species and geographical location of the site) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

Sites of Special Scientific Interest (SSSIs) under the National Parks and Access to the Countryside Act 1949 and latterly the Wildlife & Countryside Act 1981 (as amended). As well as underpinning other national designations (such as **National Nature Reserves** which are declared by the countryside agencies under the same legislation), the system also provides statutory protection for terrestrial and coastal sites which are important within a European context (Natura 2000 network) and globally (such as Wetlands of International Importance). See subsequent sections for details of these designations. Improved provisions for the protection and management of SSSIs have been introduced by the Countryside and Rights of Way Act 2000 (in England and Wales).

The Wildlife & Countryside Act 1981 (as amended) also provides for the making of **Limestone Pavement Orders**, which prohibit the disturbance and removal of limestone from such designated areas, and the designation of **Marine Nature Reserves**, for which byelaws must be made to protect them.

Statutory Designations: International

Special Protection Areas (SPAs), together with **Special Areas of Conservation** (SACs) form the **Natura 2000** network. The Government is obliged to identify and classify SPAs under the EC Birds Directive (Council Directive 2009/147/EC (formerly 79/409/EEC)) on the Conservation of Wild Birds). SPAs are areas of the most important habitat for rare (listed on Annex I of the Directive) and migratory birds within the European Union. Protection afforded SPAs in terrestrial areas and territorial marine waters out to 12 nautical miles (nm) is given by The Conservation of Habitats & Species Regulations 2010 (as amended). The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended) provide a mechanism for the designation and protection of SPAs in UK offshore waters (from 12-200 nm).

The Government is obliged to identify and designate SACs under the EC Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora). These are areas which have been identified as best representing the range and variety of habitats and (non-bird) species listed on Annexes I and II to the Directive within the European Union. SACs in terrestrial areas and territorial marine waters out to 12 nautical miles are protected under The Conservation of Habitats & Species Regulations 2010 (as amended). The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended) provide a mechanism for the designation and protection of SACs in UK offshore waters (from 12,200 nm).

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and wise use, in particular recognizing wetlands as ecosystems that are globally important for biodiversity conservation. Wetlands can include areas of marsh, fen, peatland or water and may be natural or artificial, permanent or temporary. Wetlands may also incorporate riparian and coastal zones adjacent to the wetlands. Ramsar sites are underpinned through prior notification as Sites of Special Scientific Interest (SSSIs) and as such receive statutory protection under the Wildlife & Countryside Act 1981 (as amended) with further protection provided by the Countryside and Rights of Way (CRoW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. This effectively extends the level of protection to that afforded to sites which have been designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs).

Statutory Designations: Local

Under the National Parks and Access to the Countryside Act 1949 Local Nature Reserves (LNRs) may be declared by local authorities after consultation with the relevant countryside agency. LNRs are declared for sites holding special wildlife or geological interest at a local level and are managed for nature conservation, and provide opportunities for research and education and enjoyment of nature.

Non-Statutory Designations

Areas considered to be of local conservation interest may be designated by local authorities as a Wildlife Site, under a variety of names such as County Wildlife Sites (CWS), Listed Wildlife Sites (LWS), Local Nature Conservation Sites (LNCS), Sites of Biological Importance (SBIs), Sites of Importance for Nature Conservation (SINCs), or Sites of Nature Conservation Importance (SNCIs). The criteria for designation may vary between counties.

Together with the statutory designations, these are defined in local and structure plans under the Town and Country Planning system and are a material consideration when planning applications are being determined. The level of protection afforded to these sites through local planning policies and development frameworks may vary between counties.

Regionally Important Geological and Geomorphological Sites (RIGS) are the most important places for geology and geomorphology outside land holding statutory designations such as SSSIs. Locally-developed criteria are used to select these sites, according to their value for education, scientific study, historical significance or aesthetic qualities. As with local Wildlife Sites, RIGS are a material consideration when planning applications are being determined.

C NATIONAL PLANNING POLICY

National Planning Policy Framework

The National Planning Policy Framework replaces PPS9 (from April 2012) and emphasises the need for sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and priority species. An emphasis is also made for the need for ecological networks via preservation, restoration and re-creation. The protection and recovery of priority species – presumably those listed as UK Biodiversity Action Plan priority species – is also listed as a requirement of planning policy. In determining planning application, planning authorities have a duty to conserve and enhance biodiversity by ensuring that: designated sites are protected from adverse harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 40 of the Act requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

D REGIONAL AND LOCAL PLANNING POLICY

THE LONDON PLAN

The Mayor's Spatial Strategy for Greater London (2009) deals with matters of strategic importance for London. Chapter 7 –London's Living Places and Spaces sets out the policy areas that impact amongst other factors the quality and function of green infrastructure and biodiversity. Policies 7.16 – Green Belt, 7.17- Metropolitan Open Land, 7.18 – Protecting local natural space and addressing local deficiency address the proposals relating to these factors.

Policy 7.16: Green Belt

Strategic- A: The Mayor strongly supports the current extent of London's Green Belt, its extension in appropriate circumstances and its protection from inappropriate development.

Planning decisions- B: The strongest protection should be given to London's Green Belt, in accordance with PPG2. Inappropriate development should be refused, except in very special circumstances. Forms of development that might be appropriate together with high quality management practices that improve access to and/or the environmental and landscape quality of London's Green Belt, while ensuring it continues to meet its statutory purposes, will be supported.

Policy 7.17: Metropolitan Open Land

Strategic - A: The Mayor strongly supports the current extent of Metropolitan Open Land (MOL), its extension in appropriate circumstances and its protection from development having an adverse impact on the openness of MOL.

Planning decisions - B: The strongest protection should be given to London's Metropolitan Open Land and inappropriate development refused, except in very special circumstances, giving the same level of protection as in the Green Belt. Essential ancillary facilities for appropriate uses will only be acceptable where they maintain the openness of MOL..

LDF preparation

C: Any alterations to the boundary of MOL should be undertaken by Boroughs through the LDF process, in consultation with the Mayor and adjoining authorities.

D: To designate land as MOL boroughs need to establish that the land meets at least one of the following criteria:

a) *it contributes to the physical structure of London by being clearly distinguishable from the built up area*
b) *it includes open-air facilities, especially for leisure, recreation, sport, the arts and cultural activities, which serve either the whole or significant parts of London*
c) *it contains features or landscapes (historic, recreational, biodiversity) of either national or metropolitan value d it forms part of a Green Chain or a link in the network of green infrastructure and meets one of the above criteria.*

Policy 7.18: Protecting local natural space and addressing local deficiency

LDF preparation

A: When assessing local open space needs LDFs should:

a) *include appropriate designations and policies for the protection of local open space*
b) *identify areas of public open space deficiency, using the open space hierarchy set out in Table 7.2 as a benchmark for all the different types of open space identified in the hierarchy*
c) *ensure that future open space needs are planned for in areas with the potential for substantial change such as Opportunity Areas, Regeneration Areas, Intensification Areas and other local areas.*

B: Use the CABESpace/Mayor of London Best Practice Guidance 'Open Space Strategies' as guidance for developing policies on the proactive creation, enhancement and management of open space.

Connecting with London's Nature: The Mayor's Biodiversity Strategy (GLA, 2002) includes a number of policies and proposals for protecting green spaces and important species that are relevant to the site.

Proposal 3: Conserving species through the planning system states that:
''The Mayor will and boroughs should resist development that would have a significant adverse impact on the population or conservation status of protected species or priority species.

Proposal 6: Greening new developments states that:
"The Mayor will and boroughs should ensure that new development capitalises on opportunities to create, manage and enhance wildlife habitat and natural landscape. Priority should be given to sites within or near to areas deficient in accessible wildlife sites, areas of regeneration, and adjacent to existing wildlife sites".

A recent technical report (GLA, 2008) on living roofs and walls has been published to support the London Plan (2009) and the new London habitat – Built Structures. In outline, it includes the following key policies;

''The major will and boroughs should expect major developments to incorporate living roofs and walls where feasible and reflect this principle in LDF policies. It is expected that this will include roof and wall planting that delivers as many of these objectives as possible;

- Accessible roof space
- Adapting to and mitigating climate change
- Sustainable urban drainage
- Enhancing biodiversity
- Improved appearance

Boroughs should also encourage the use of living in smaller developments and extensions where the opportunity arises''.

Appendix 6: Intrusive Inspection for Bats Report

Expansion of Kingsgate Primary School and Redevelopment of Liddell Road

Intrusive Inspection for Bats Report

Job No. 141333

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Date: 3 December 2014	

1 INTRODUCTION

1.1 The Ecology Consultancy was commissioned by London Borough of Camden in November 2014 to carry out an intrusive inspection for bats of buildings on Liddell Road, West Hampstead, London Borough of Camden. The buildings had previously been surveyed (The Ecology Consultancy, 2014) and were identified as comprising features that had low potential to support roosting bats (refer to Appendix 1, Survey Plan).

1.2 It is understood that the proposed development will involve the demolition of all the industrial buildings on site and the construction of a new primary school as well as residential housing and employment space. Demolition is scheduled to commence in April 2015.

1.3 All bats, and their roosts, are protected from disturbance and damage by their inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). The inspection was therefore required to confirm the presence or likely absence of a bat roost in advance of the proposed demolition work to the buildings.

2 METHODOLOGY

2.1 Under current guidance (Hundt, 2012), buildings with low potential to support roosting bats require further survey before works can commence in order to confirm presence or likely absence of roosting bats. Usually, the accepted survey protocol (Hundt, 2012) is to carry out at least one dusk emergence and / or dawn re-entry surveys within the bat survey season (which is May to August, inclusive).

2.2 In this case, it was considered acceptable to carry out an intrusive inspection to further investigate the presence or likely absence of roosting bats by the presence, or lack, of bats and evidence of bats (see Methodology below). The intrusive survey was undertaken with the understanding that if any bats or evidence of bats were recorded, or the intrusive survey was inconclusive, the course of action to be taken would be to postpone demolition works to allow for three bat emergence / re-entry surveys to be undertaken.

2.3 Any subsequent emergence surveys would be undertaken during the bat survey season (May-August, inclusive). These surveys would then be used to inform a European Protected Species Mitigation (EPSM) licence application, which would be submitted to Natural England in order to ensure works proceeded lawfully.

2.4 The intrusive inspection was undertaken by a licensed bat ecologist (Bat Survey Class Licence CL18, Registration Number CLS02362) on 2 December 2014. The inspection targeted the features recorded during the preliminary survey (The Ecology Consultancy, 2014) as having potential to support roosting bats.

2.5 These areas were carefully assessed using a ladder, high-powered torch and endoscope to methodically and thoroughly examine the gaps in the masonry and soffit boxes for bats or any evidence of bats such as dead bats, droppings, staining or scratch marks.

3 RESULTS

Limitations

3.1 Dense vegetation to the south of the large industrial building on the southern side of Liddell Road prevented access to and further investigation of two features identified on the southern elevation of this building. Due to the similarity of these features to those investigated on the northern elevation, this constraint is considered to have had a minor impact on the survey findings and that precautionary measures recommended compensate for this constraint.

Intrusive Inspection

3.2 Features identified as having potential to support roosting bats during the Preliminary Bat Roost Assessment on 1 May 2014, and inspected further on 2 December 2014 comprised:

- Cracks in the brickwork on the eastern end of the northern elevation of the large industrial building on the southern side of Liddell Road;
- Weep holes above the large roller doors along the entire length of the northern elevation of the large industrial building on the southern side of Liddell Road;
- Gaps above two concrete lintels above the large roller doors on the northern elevation of the large industrial building on the southern side of Liddell Road; and,
- Gaps providing access into soffit boxes on the small sheds to the south of Liddell Road.

3.3 The large industrial building on the southern side of Liddell Road had a cavity brick wall. Two long cracks were noted on the north-facing elevation with potential bat access into the wall cavity. Upon close inspection the cavity contained a fibreglass insulation with very little gap to support roosting bats. A layer of dust visible on the bricks indicated that nothing had entered the cracks in a considerable length of time. No evidence of use by bats was observed.

3.4 The weep holes in the northern elevation of the large industrial building to the south of Liddell Road were investigated, and found not to provide potential bat access into the cavity wall. Their potential was therefore limited to each single brick's depth gap. No evidence of use by bats was observed.

3.5 The gaps created as two concrete lintels subsided on the northern elevation of the large industrial building to the south of Liddell Road were investigated. The full extent of these gaps were investigated fully and no evidence of use by bats was observed.

3.6 Gaps in the soffit boxes of several sheds to the south of Liddell Road were also inspected. No evidence of use by bats was observed.

4 CONCLUSION

4.1 Based on the results of the intrusive inspection on 2 December 2014, it is considered that a bat roost is likely absent from the Liddell Road site. However, the features identified on the site are considered to have a limited residual potential to support roosting and hibernating bats. The demolition of these

buildings may therefore proceed under the precautionary approach recommended below.

5 RECOMMENDATIONS

Further Survey

5.1 No further surveys are recommended for the site. However, if demolition works have not commenced within 18 months (by June 2016), it is recommended that an update inspection, and further surveys, if required, are undertaken to ensure the conditions on site have not changed.

Precautionary Approach

5.2 Demolition of the structures is due to take place in April 2015. This falls outside the sensitive bat hibernation and maternity periods and it is recommended that this timetable is adhered to for the following reasons:

- The features identified on the large industrial building to the south of Liddell Road are considered to provide limited potential to support hibernating bats, but negligible potential to support summer roosting bats. Therefore it is recommended that demolition of this building take place outside the hibernation period (November –March); and
- The small sheds to the south of Liddell road are considered to provide limited potential to support a transitional or summer day roost. The soffit boxes on these buildings should be removed carefully by hand. These features are not considered to be suitable for hibernation or maternity roosts. Therefore these features should ideally be removed during the hibernation period (November –March) to minimise the residual risk of bats being present.

5.3 In the unlikely event that a bat is found during any works on site, works must cease immediately and a bat ecologist contacted immediately for advice prior to any works continuing.

Provision of Artificial Roosting Opportunities

5.4 It is recommended that the artificial bat roosting features included in Table 1 below are incorporated into the proposed new buildings on the site to enhance the bat roosting potential of the site.

Table 1 Artificial bat roosting features

No. of Features	Feature	Target Species	Product Specification
Three or more to be included within south facing-elevations of new buildings	**Habibat 014**  Image: www.habibat.co.uk	Common pipistrelle & soprano pipistrelle	Multi-chambered external leaf access box. Suitable to support low numbers of summer roosting bats on a day or transitory roosting basis. Box to be built into the fabric of the building so that the base of the plinth is in line with the brickwork below. Installed at an elevation of over 3m. A choice of façade designs can be chosen to match the building materials used.
Three or more to be included within north facing-elevations of new buildings	**Norfolk Bat Brick**  **Image:** http://www.wildcareshop.com	Common pipistrelle & soprano pipistrelle	Purpose made clay bat brick. Suitable to support low numbers of roosting or hibernating bats. Box to be built into the fabric of the building so that it sits flush with brickwork. Installed at an elevation of over 3m.

6 REFERENCES

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