

Brunel Walk redevelopment and Turner Avenue Estate improvements

Ecological Impact Assessment

Prepared on behalf of

London Borough of Haringey

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Brunel Walk redevelopment and Turner Avenue Estate improvements

Ecological Impact Assessment

EXECUTIVE SUMMARY

The proposals for the site include the redevelopment of Brunel Walk to provide 45 new Council rent homes and reconfiguration and enhancement of existing p outdoor communal areas on the Turner Avenue Estate. The proposed development falls within the allocation SS3 within Haringey's Tottenham Area Action Plan (July 2017).

Brunel Walk comprises groups of two storey apartment blocks, set among trees and amenity grassland/bare ground. Turner Avenue comprises four apartment blocks and open space, with areas of mature trees predominantly on the east side of the development. It is anticipated that at the time of submission, the Brunel Walk part of the site will have been cleared.

Ecological surveys completed include a Preliminary Ecological Appraisal, building inspection for bat suitability, ground level tree assessment for bat suitability, and bat emergence surveys.

Internationally designated sites within 2km include Lee Valley Special Protection Area and Lee Valley Ramsar site. The potential for significant impacts on internationally designated sites arising from allocation SS3 was considered in the Habitats Regulations Assessment (HRA) for the Tottenham Area Action Plan (TAAP). The HRA concluded that the TAAP policies would not result in a likely significant effect on any internationally designated site and that conclusion is confirmed in this report. Significant negative impacts on nationally and locally designated sites are also unlikely in view of a lack of impact pathway or due to the relative separation distances between the development site and designated sites.

Habitats within the site are built up areas and grasslands and are on within zone of influence importance only.

The Brunel Walk buildings have low bat roosting suitability. The Turner Avenue buildings have negligible bat roosting suitability. One moderate suitability tree and three low suitability trees were recorded. No bat roosts were identified in on-site buildings or trees during subsequent evening emergence surveys. The bat assemblage is of local importance.

The following mitigation measures will be implemented:

- Works to tree with low and moderate bat suitability will be completed sensitively under a safe working method statement.
- Construction activities will be controlled by a Construction Environmental Management Plan (CEMP) to avoid impacts on the bat assemblage.
- A sensitive operational phase lighting strategy will be developed to enable bat to continue to use parts of the site post-development.
- A landscape and ecology Management plan will be developed to maximise the biodiversity benefits provided by new landscaping.

The proposals will deliver a biodiversity net gain of 23.32%.

Subject to the implementation of the impact avoidance, mitigation and compensation measures set out below, the Proposed Development will not have any significant negative residual effects on important ecological features and will conform to all applicable nature conservation related legislation and policy.

Brunel Walk redevelopment and Turner Avenue Estate improvements

Ecological Impact Assessment

1. INTRODUCTION

Brief

- 1.1 Ecological Planning & Research Limited (EPR) was commissioned by the London Borough of Haringey to carry out an Ecological Impact Assessment (EclA) of proposals for re-development of land at Brunel Walk, Tottenham, London, N15 5HQ (herein the 'Site'). Survey work completed to inform this assessment included an Ecological Appraisal (including habitat condition assessment to inform a Biodiversity Net Gain calculation), bat building inspection, bat ground level tree survey and bat emergence and re-entry surveys.

Background

- 1.2 Haringey Council wish to redevelop the Site to provide residential accommodation. The Site is currently occupied by four apartment blocks, an existing housing estate comprising 35 single person flats, one small family house, associated communal facilities, and landscaping.

The Proposals

- 1.3 The masterplan is presented in **Appendix 1**. The proposals are described as follows:

Redevelopment of Brunel Walk to provide 45 new Council rent homes in four buildings ranging from 3 to 4-storeys high including 39 apartments and 6 maisonettes. Provision of associated amenity and play space, cycle and refuse/recycling stores and 4 wheelchair parking spaces. Reconfiguration and enhancement of existing parking areas and outdoor communal areas and play spaces on the Turner Avenue Estate.

- 1.4 The proposed development falls within the allocation SS3: Brunel Walk and Turner Avenue within Haringey's Tottenham Area Action Plan (July 2017).
- 1.5 It should be noted that at the time of submission, it is anticipated that the Brunel Walk part of the site will be cleared.

The Study Area

- 1.6 The study area comprises a development of two to four storey apartment blocks sited within landscaped grounds.
- The Site is in Tottenham, north London and the area surveyed is that within the red and blue line boundaries as shown at **Map 1**;
 - The Brunel Walk part of the Site comprises groups of two storey apartment blocks, set among trees and amenity grassland/bare ground, linked by hardstanding pedestrian

access within the development. There is a community room within the development and a small car park within a garden at the eastern end.

- The Turner Avenue development comprises four apartment blocks, each between three and four storeys, parking and open space, with areas of mature trees predominantly on the east side of the development, and along the frontage with West Green Road (A504). Some of the trees at Turner Avenue have Tree Preservation Orders.
- The Site is set within an urban context. The southern part of the Site adjoins the back gardens of terraced houses along Seaford Road.
- The Site does not have any ecological designation.

Relevant Legislation and Planning Policy

1.7 The following articles of nature conservation legislation and planning policy are of relevance to the Proposals, and have been considered as part of this appraisal:

- The Environment Act 2021;
- The Conservation of Habitats and Species Regulations 2017 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way (CROW) Act 2000;
- The Natural Environment and Rural Communities (NERC) Act 2006;
- The Protection of Badgers Act 1992;
- The National Planning Policy Framework (NPPF) (2021);
- Haringey Local Plan Strategic Policies and Development Management Policies, in particular Site Allocations Development Plan Document (2017), Tottenham Area Action Plan;
- Habitats Regulations Assessment Screening Report – Draft Site Allocations DPD (November 2015); and
- Habitats Regulations Assessment Screening Report – Tottenham Area Action Plan (Publication Version December – January 2015).

1.8 In addition to the above, biodiversity objectives detailed in the following documents have been considered:

- Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services;
- The 25 Year Environment Plan;
- London Plan (March 2021); and

- London Plan Policy G5 Urban Greening (London Plan March 2021).

1.9 Further information on the above is provided in **Appendix 2**.

2. METHODS AND CONSTRAINTS

Introduction

- 2.1 The approach to Ecological Impact Assessment (EclA) taken in this report accords with guidance presented in the Chartered Institute of Ecology and Environmental Management (CIEEM) *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland* (CIEEM, 2018).
- 2.2 In summary, EPR takes the following step-wise approach to EclA:
- Prediction of the activities associated with a proposed scheme that are likely to generate biophysical changes which may lead to significant effects (either positive or negative) upon Important Ecological Features (IEFs);
 - Identification of the likely Zone of Influence (Zol) of those activities;
 - Scoping to select the ecological features (habitats, species, ecosystems and their functions/processes) that are likely to fall within the predicted Zols and be affected by the activities;
 - Evaluation of IEFs likely to be affected – both negatively and positively;
 - Identification of likely impacts (positive and negative) on IEFs, together with an assessment of the geographic level at which effects are likely to be significant;
 - Application of the mitigation hierarchy - refinement of the proposed scheme to incorporate impact avoidance and/or mitigation measures for negative effects on IEFs, and enhancements in order to deliver net gains;
 - Assessment of the significance of residual effects and identification of any policy drivers for additional mitigation or compensation in the event of residual significant negative effects; and
 - Advice on conformance with policy and legislation.
- 2.3 Further information regarding the methods for ecological evaluation and impact assessment are provided in **Appendix 3**.

Likely Biophysical Changes and Zone of Influence

- 2.4 Certain activities associated with the preparation, construction and operation of the Proposal are likely to generate biophysical changes. These changes, and the Zone of Influence (Zol) over which they are likely to occur, are summarised in **Table 2.1** below.

Table 2.1: Summary of predicted changes and Zone of Influence.

Predicted Change	Zone of Influence
Vegetation clearance	Site and immediate surrounds
Demolition of existing buildings	Site and immediate surrounds
Clearance of soil and vegetation	Site and immediate surrounds
Erection of site compounds and storage of materials	Site and immediate surrounds
Construction of structures and hard surfaces	Site and immediate surrounds
Occupation of new houses – increased demand for recreational space	Site and local greenspaces, potentially up to about 5km

- 2.5 The Zone of Influence for a project is the area over which ecological features may be affected by biophysical changes as a result of the project and associated activities. In most instances, the Zone of Influence of the redevelopment proposals are not expected to extend beyond the Site and its immediate surrounds. The exception to this is the potential for new residents to use local greenspace for recreation.
- 2.6 In addition, for some more mobile species (such as bats) it is possible that populations or assemblages centred off-Site may be utilising habitats within the Site itself, and consequently these would be included within the Zone of Influence.

Desktop Study

- 2.7 A desk study was carried out in order to gather and refer to existing and contextual information with respect to the Zol and the wider area. This involved interrogation of internet resources, including the Multi-agency Geographic Information for the Countryside (MAGIC), aerial photos, current Ordnance Survey maps and historical maps.
- 2.8 A request was made to Greenspace Information for Greater London CIC (GiGL) for existing biological records in their database. The local records search was over a 5km radius for bats.

Field Survey

Habitat Survey

- 2.9 The habitat survey of areas within the red line (at **Map 1**) was completed by Chris Mungo and Des Hobson of EPR on 4th November 2020. The area within the blue line (at **Map 1**) was surveyed by Des Hobson of EPR on 18th January 2021. The core of the Site and immediately surrounding land was walked, recording habitats and features of potential value to wildlife and any evidence of, or potential for, protected or notable species or habitats, in accordance with the methods described in **Appendix 4**.

Building Assessment and Ground Level Tree Assessment

- 2.10 Trees and buildings where accessible were assessed externally and internally following guidelines published by the Bat Conservation Trust (2016). The Brunel Walk buildings and trees were surveyed by Chris Mungo of EPR who holds a Natural England Bat Licence (2015-11656-CLS-CLS) and Des Hobson who also holds a Natural England Bat Licence (2018-35676-CLS-CLS) of EPR on 4th November 2020. Des Hobson undertook an additional site visit on the 18th

January 2021 to survey the Turner Avenue Buildings. An additional ground level tree assessment (incorporating a single tree which couldn't be accessed during the above mentioned visits) was undertaken on the 18th August 2021 by Lisa Sharp who holds a Natural England Bat Licence (2017-31193-CLS-CLS).

- 2.11 The survey methodology was based on best practice guidelines and comprised searching buildings externally for evidence of current or historic bat roosting. The search included looking for areas suitable for bats to roost and associated access and egress points. The search also included looking for direct evidence of bat use such as:
- the presence of bats;
 - bat droppings or feeding signs on surfaces on and/or immediately adjacent to the building; and
 - staining or scratch marks around suitable bat roost locations or suitable access points into the building.
- 2.12 Buildings were inspected with binoculars and torch, with features seen investigated further from a ladder, and an endoscope where possible. Not all external features were accessible due to locked doors and the height from the ground.
- 2.13 All trees within the Site boundary were assessed for their bat suitability from ground level. The surveys comprised a search from ground level, with the assistance of binoculars, for features with the suitability to support bats, including Woodpecker holes, loose bark, cracks and crevices, broken limbs and dense Ivy *Hedera helix*, as well as signs of bats, such as scratching and staining.
- 2.14 Buildings and trees were categorised for their suitability to support bat roosts in accordance with *Bat Surveys – Good Practice Guidelines* (Bat Conservation Trust, 2016). Based on the features recorded, they were identified as having either High, Moderate, Low or Negligible suitability.

Emergence and Re-entry Surveys

- 2.15 Experienced bat surveyors, equipped with heterodyne or time expansion ultrasound bat detectors and recording equipment, were deployed in positions providing good visual coverage of potential roosting features. Dusk emergence surveys commenced 15-30 minutes prior to and continued for at least 1.5 hours after sunset. Dawn re-entry surveys commenced 1.5 hours prior to and continued until sunrise or for up to 15 minutes after sunrise depending on bat activity. Survey timings and weather conditions are detailed in **Table 2.2** below.

Table 2.2: Emergence and Re-entry Survey Metadata

Survey Date	Dusk/Dawn	Feature Surveyed	Number of Surveyors	Start / End Times	Sunset / Sunrise Time	Weather: (Rain / Cloud (%)) / Wind (bf), Start Temp (°C)
18/08/2021	Dusk	Buildings 16 - 24	4	20.03 / 21.48	20:18	Dry, 100%, 2, 19.4
19/08/2021	Dusk	Buildings 1 – 15 and 33 – 36	7	20:02 / 21:47	20:17	Rain before survey (dry during survey), 95%, 1, 19.2
23/08/2021	Dusk	Buildings 25 – 32	3	19:55 / 21.40	20:10	Dry, 15%, 1, 18.3
08/06/2022	Dusk	Tree at TN10 on Map 3	2	20.58 / 22.43	21:13	Dry, 30% - 90%, 1-3, 20-18.
23/06/2022	Dusk	Tree at TN10 on Map 3	2	21.05 / 22.50	21:20	Dry, 60%, 1-2, 23

- 2.16 Bats seen or heard were recorded on a detailed map of the survey area, logging bat species, number, direction of flight and activity.

Survey Constraints

- 2.17 None of the buildings could be accessed internally during the bat building inspection because they were occupied by Council tenants. None of the buildings contain loft spaces or voids and it is considered unlikely that the buildings support any internal features which are suitable for use by roosting bats. All buildings with bat roosting suitability were also subject to emergence surveys as described above. The lack of external access is therefore not considered to be a significant constraint.
- 2.18 Not all parts of the exterior of buildings at Brunel Walk could be inspected during the initial inspection from ground level: these were first floor balconies and the interface between the top of the wall and the roof of each of the blocks due to the height of the buildings. All buildings with bat roosting suitability were also subject to emergence surveys as described above. The lack of external access is therefore not considered to be a significant constraint.
- 2.19 Due to the nature of vegetation present there were no significant seasonal survey constraints, albeit the habitat survey was undertaken outside optimum survey season for a Phase 1 habitat survey.
- 2.20 A combination of heavy traffic in the surrounding area and a short sharp period of rain immediately before the survey, meant that 2 of the 7 surveyors were not in position at the beginning of the dusk survey on the 19th of August. The surveyors arrived onsite approximately 15-20mins after the start of the survey (at sunset) and took up their positions. This is not considered a major constraint to the survey, the majority of the surveyors were already in position at the start of the survey and had a reasonable view of all buildings and features and did not record significant levels of bat activity throughout the Site.

- 2.21 Both surveys on the moderate suitability tree at TN10 on **Map 3** were dusk surveys. This is a minor deviation from best practice guidelines, which recommend that one survey should be a dawn. A dawn survey was considered unlikely to provide additional value over a second dusk survey in this situation because the tree is isolated from other trees meaning the potential roosting features are clearly visible to surveyors on a dusk survey.

3. ECOLOGICAL BASELINE

Designated Sites

- 3.1 **Map 2** shows the nature conservation designations up to 2km from the Site.

Statutory Designated Sites

International Sites

- 3.2 Lee Valley Special Protection Area (SPA) is 1.35km east of the Site, this is also designated as Walthamstow Reservoirs Site of Special Scientific Interest (SSSI) and is a Ramsar site, as it is a Wetland of international importance.
- 3.3 The Lee Valley SPA comprises a series of embanked water supply reservoirs, sewage treatment lagoons and former gravel pits that display a range of man-made and semi-natural wetland and valley bottom habitats.
- 3.4 The site qualifies under article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the Great Britain population of a species listed on Annex I. 6% of the UK population of Bittern *Botaurus stellaris* is recorded there.
- 3.5 The site qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed on Annex I) Shoveler *Anas clypeate* and Gadwall *Anas strepera*, representing 1% and 1.5% of the NW Europe population respectively. In addition, the site supports nationally important numbers of Cormorant *Phalacrocorax carbo*, Great Crested Grebe *Podiceps cristatus*, Tufted Duck *Aythya fuligula*, Pochard *Aythya farina* and Grey Heron *Ardea cinerea*.
- 3.6 Lee Valley Ramsar site is a wetland of international importance. The site qualifies under criterion 2 because it supports vulnerable, endangered, or critically endangered species or threatened ecological communities. The nationally scarce plant species Whorled Water-milfoil *Myriophyllum verticillatum*, the rare or vulnerable invertebrate species *Micronecta minutissima* (a water boatman).
- 3.7 It is a Site of Special Scientific Interest (SSSI) because the reservoirs contain one of the country's major heronries and a particularly large concentration of breeding wildfowl. They are also an important gathering area for moulting Tufted Duck and in winter attract nationally significant populations of wildfowl and other wetland birds.
- 3.8 The Site is 5.6km to the west of Epping Forest Special Area of Conservation. Epping Forest represents Atlantic acidophilous Beech forests in the north-eastern part of the habitat's UK range. Although the epiphytes at this site have declined, largely as a result of air pollution, it remains important for a range of rare species, including the moss *Zygodon forsteri*. The long history of pollarding, and resultant large number of veteran trees, ensures that the site is also rich in fungi and dead-wood invertebrates. including Stag Beetle *Lucanus cervus*.
- 3.9 The Site falls within the Impact Risk Zone of Walthamstow marshes SSSI, Walthamstow Reservoirs SSSI sites and Epping Forest SSSI.

- 3.10 Defra's MAGIC database advises that "*the Local Planning Authority should consult Natural England on likely risks from residential development of 100 units or more*". The proposals are for 44 dwellings (excluding the dwellings that will be demolished, meaning the net increase will be lower.) below the threshold at which significant impacts are likely from residential development.
- 3.11 In addition, as highlighted earlier in this report the proposed development falls within the allocation SS3: Brunel Walk and Turner Avenue within the Tottenham Area Action Plan (TAAP), as such the development of this area and the potential for impacts upon The Lee Valley Ramsar site, The Lee Valley SPA (including Walthamstow Marshes SSSI) and Epping Forest SAC have been considered within the Habitats Regulation Assessment (HRA) of TAAP.
- 3.12 The HRA of the TAAP considered the following impact pathways upon Epping Forest SAC:
- Disturbance from recreational activities.
- 3.13 And the following impact pathways on Lee Valley SPA and Ramsar site:
- Disturbance (from recreational and construction activities);
 - Urbanisation;
 - Atmospheric pollution;
 - Water abstraction; and
 - Water quality.
- 3.14 The HRA concluded that the TAAP policies would not result in a likely significant effect on any internationally designated site, either alone or in combination with other plans of projects.
- 3.15 The impact pathway of disturbance to avian features from construction activities was considered in the HRA of the Development Management Policies document as a residual impact pathway where developments are proposed within close proximity to the SPA and Ramsar site, however, as a result of the proposed development's location (i.e. 1.35km from the SPA/Ramsar and away from sensitive flight lines identified in the HRA) significant negative effects are unlikely and it is not necessary to consider impacts upon Lee Valley SPA and Ramsar (including Walthamstow Marshes SSSI) further.
- 3.16 It should also be noted that there are a number of publicly accessible green spaces in relatively close proximity to the Site which are likely to be favoured for recreation over internationally designated sites for recreation. These include Brunswick Road Open Space (200m to the south west), Chestnuts Park, 500m to the west, and Downhills Park 650m to the north west.
- 3.17 In view of the above, it can be concluded that there will be no likely significant effect on internationally designated sites as a result of the proposals, either alone or in combination, and they are not considered further.

- 3.18 Notwithstanding the above, a Construction Environmental Management Plan (CEMP) will be prepared to detail the best practice measures that will be employed during construction activities to minimise environmental impacts. This can be secured via a pre-commencement planning condition.

National Sites

- 3.19 Walthamstow Marshes SSSI is 2.1km from the Site it overlaps part of the wider Lee Valley SPA and Ramar site. It is one of the last remaining examples of semi-natural wetland in Greater London. Significant impacts on this site are not predicted for the same reasons as stated above.

Local Sites

- 3.20 Abney Park Cemetery Local Nature Reserve (LNR) is 2km south of the site. It represents the most important area of woodland in the London Borough of Hackney.
- 3.21 Railway Fields LNR is 1.5km south-west of the site. It is abundant in wildlife, containing habitats such as a woodland copse, grassland and a small pond.
- 3.22 Springfield Park LNR is 1.9km south east of the site and comprises amenity grassland, areas of semi-improved, acid and wet grassland, and a strip of woodland.
- 3.23 In view of the relative separation distances between the Site and local sites, significant impacts are not anticipated, and local sites are not considered further in this report.

Non-Statutory Designated Sites

- 3.24 There are 27 Sites of Importance for Nature Conservation (SINC) within 2km of the Site, none of which directly adjoin the Site. The closest SINC to the Site is Tottenham Railsides SINC approx. 400m to the south east.
- 3.25 SINC are recognised by the Greater London Authority and London Borough Councils as important wildlife sites. There are three tiers of sites:
- Sites of Metropolitan Importance;
 - Sites of Borough Importance (borough I and borough II); and
 - Sites of Local Importance.

- 3.26 The three kinds of site are chosen on the basis of their importance to a particular defined geographical area. A full description of the three kinds of SINC is provided within this report at **Appendix 5**.

- 3.27 Tottenham Railsides SINC is partially open to the public and is classified as being of Borough Grade II importance. The description of this area as provided by GiGL is as follows;

'This site consists of the triangles of land at South Tottenham junction and West Junction, and the railsides, mostly on embankments, between Railway Fields and the Lea valley.

The triangles contain willow (Salix spp.) woodland, a rare habitat in London, and there is a pond in the eastern triangle. The embankments support sycamore (Acer pseudoplatanus) woodland with areas of rough grassland, tall herbs and scrub.

The site as a whole provides a substantial area of relatively undisturbed habitat, and is an important corridor leading from the Lea valley into the more built-up parts of the borough.'

- 3.28 The other 26 SINC's within 2km of the Site are all in excess of 400m from the Site and none within a 1km radius of the site are classified as higher than of Local Importance.
- 3.29 In view of the relative separation distances between the Site and local SINC's, and the presence of other nearby recreational greenspaces as described above, significant impacts are not anticipated, and SINC's are not considered further in this report.

Habitats

- 3.30 The distribution of a broad habitat types and features noted during the field visit are presented on **Map 3** and are described further below.

Built-up Areas and Gardens

- 3.31 The Site comprises built up areas and gardens (UK Habs U1). There are no other habitats present.
- 3.32 There are small areas of amenity grassland planted with trees and shrubs between the housing blocks. Trees present within the Brunel Walk site include a mature False Acacia *Robinia pseudoacacia*, together with Honey Locust *Gleditsia triacanthos*, Myrobalum Plum *Prunus cerasifera*, Ash *Fraxinus excelsior*, Fastigate Hornbeam *Carpinus betulus* 'Fastigiata', and Sycamore *Acer pseudoplatanus*. Other trees are outside the Site, immediately adjacent to the Site boundary, including a line of Leyland Cypress *Cupressus x leylandii* which overhang the Site on the southern edge.
- 3.33 The mature trees along the Turner Avenue Road frontage with West Green Road include European Lime *Tilia x europaea*, London Plane *Platanus x hispanica*, False Acacia, Ash, Myrobalum Plum, and an Ornamental Cherry *Prunus sp.* The grassland beneath contains some wild flowers including Yarrow *Achillea millefolium* and Black Knapweed *Centaurea nigra*, most likely to have been sown as a wild flower seed mix.
- 3.34 There are two rows of early mature European Lime forming a closed canopy over the rear gardens east of Turner Avenue Blocks F and G. A woodland-type flora comprising Violet *Viola sp.*, Celandine *Ranunculus ficaria* and Cow Parsley *Anthriscus sylvestris* has established beneath the trees. This is the area described as the "forgotten park" in landscape proposals.
- 3.35 There are significant areas of hard and soft surfacing within the Site, mainly associated with car parking, children's play areas and public open space. Several back gardens at Brunel Walk are covered in carpet.
- 3.36 Japanese Knotweed *Reynoutria japonica* was, at the time of survey, being treated with herbicide adjacent to Flat 15 Brunel Walk, and north of Flats 34-36 Brunel Walk. Virginia Creeper *Parthenocissus quinquefolia* is also present adjacent to Flat 15 Brunel Walk, apparently originating from land to the south and now established with the Site. Both these species are listed on Schedule 9 of the Wildlife and Countryside Act (1981) as amended. Under the Act it is illegal to plant or otherwise cause to grow in the wild any plant listed on Schedule 9.

Evaluation

- 3.37 The overall level of importance of the habitats on the Site is assessed as Zone of Influence only.

Fauna

Bats

Bat Records

- 3.38 Records of the following nine bat species are present within the data returned by GiGL:
- Serotine *Eptesicus serotinus*;
 - Daubenton's *Myotis daubentonii*;
 - Whiskered *Myotis mystacinus*;
 - Leisler's *Nyctalus leisleri*;
 - Noctule *Nyctalus noctule*;
 - Nathusius's Pipistrelle *Pipistrellus nathusii*;
 - Common Pipistrelle *Pipistrellus pipistrellus*;
 - Soprano Pipistrelle *Pipistrellus pygmaeus*; and
 - Brown Long Eared *Plecotus auritus*;
- 3.39 The variety of species within the data records, nine of the eighteen bat species known to occur within the UK, indicates that there are a variety of habitats within 5km of the Site supporting populations of invertebrates that bats forage upon. The majority of these records are some way from the Site with only the following species being recorded within 1km of the Site:
- Daubenton's;
 - Whiskered;
 - Leisler's;
 - Noctule;
 - Nathusius's Pipistrelle;
 - Common Pipistrelle;
 - Soprano Pipistrelle; and
 - Brown Long Eared.
- 3.40 All of the records appear to relate to field observations of bats with no records of bat roosts returned within the search area.

- 3.41 The nearest bat record to the Site is from 162m SW in 2008. The species is not identified. The next nearest bat records are from 580m SE in 2017 comprising Soprano Pipistrelle *P*, Common Pipistrelle, Nathusius's Pipistrelle, Noctule, Brown long-eared bat, listed in order of frequency recorded
- 3.42 The records have been provided with distance from the Site only and no indication of where the record occurred, therefore no meaningful conclusion can be drawn from these records alone with regard to which areas in the surrounding landscape might be important for bat species.

Tree Inspection Results

- 3.43 A tall Cherry tree on the eastern side of Block C at Turner Avenue (TN10 at **Map 3**) has a 4m long split in its trunk, starting from 1m above ground level. The tree leans to the east. The trunk is hollow, with the cavity extending upward above the upper extent of the split. The hollow cavity was inspected by torch and binoculars, but due to its height above the ground it was not possible to inspect it all. No evidence of bats was found. There is a street light nearby meaning the tree is well lit at night.
- 3.44 In view of the nearby light and the urban location the Cherry was assessed as having **moderate roost suitability**. The tree must be removed for health and safety reasons. Further surveys were completed as described below.
- 3.45 An Ash tree adjacent to a streetlight on West Green Road (TN9 at **Map 3**) contains a potential roost feature 4m above ground level where rot has resulted from a branch being removed. This could not be closely inspected. Close by is a False Acacia that has in effect been pollarded to remove the dead main trunk at about 2m above ground. The mature re-growth either side of the trunk, together with the decaying trunk, provide some crevices suitable for bats. These could be effectively investigated from ground level and no evidence of bats was found. In view of high lighting levels both these trees are assessed as having **low roost suitability**.
- 3.46 The "forgotten park" (see the landscape strategy submitted with the planning application) area east of Turner Avenue Blocks F and G is planted with two rows of early mature European Lime. These trees were inspected. Some contain small features which could be used by bats and these are assessed as having **low roost suitability**.
- 3.47 A large, heavily pruned Ash is adjacent to the west elevation of Turner Avenue Blocks F and G (TN12 at **Map 3**). No potential roost features were identified in it, but ivy growth was a constraint to full survey.
- 3.48 The mature False Acacia, in the south-east corner of the site at Brunel Walk (TN3 at **Map 3**) has potential to contain potential roost features for bats, so was subject to preliminary ground level roost assessment. No potential roost features were seen. However, ivy growth on the tree may have obscured roost features from being identified from ground level. The tree is assessed as having **low roost suitability**.

Building Inspection Results – Brunel Walk

- 3.49 The housing blocks at Brunel Walk were constructed in the 1970s and were initially a care home. They are two storeys high. The buildings have brick walls with a cavity, which is likely to be insulated.

- 3.50 The blocks at Brunel Walk have a pitched tiled roof, with slate-effect composite tiles. Tiles are generally tight fitting with no gaps, except occasionally at gable ends where noted in target notes. There were occasional gaps at gable ends where tiles had slipped or mortar was missing, providing a cavity or potentially access to a cavity between the roof tiles and building interior.
- 3.51 It is understood from Haringey Council that the buildings do not have loft spaces. Windows and doors are a mix of metal, timber and PVC. There were occasional holes in brickwork above doors and windows, potentially leading into wall cavities. There were occasional gaps under window ledges which appear to lead to wall cavity; others were filled with expanding foam.
- 3.52 Some windows and doors are boarded up, but metal mesh has been used which was tight fitting to the frame in all circumstances and would be light behind due to the mesh, meaning there is no access for bats and no suitable space for bats exists behind the mesh.
- 3.53 Security flood lights are present in the gardens and are on passive infra-red sensor (PIR), meaning there will be artificial lighting at least a proportion of the time. The garden side (south) is however darker than the northern side, which has streetlights along Brunel Walk. There are other residential gardens to the south of the Site and a line of 'Leylandii' which will provide some darkness and shelter, and the gardens could potentially be used for foraging.
- 3.54 Central circulation areas are present in the buildings providing access to upstairs flats. These areas are accessible to bats through louvres but are well-lit internally and on the external walls (above the door to the circulation space). The lights were on at the time of survey, indicating that they are likely to be on 24 hrs / day. These spaces are therefore unlikely to be used by bats. The central circulation areas were locked and could not be inspected.
- 3.55 The fascia boards on all buildings provided a gap behind. The gap is approximately 5cm wide and 10cm high but appeared to extend upwards beyond the fascia and potentially into a cavity between the roof tiles and building interior at the junction between the top of the brick wall and roof. Due to the height above ground, it was not possible to access this area to investigate. (The barge board gap above number 28 is blocked with wire mesh.) Fascias were generally quite cobwebbed (indicating that they may not be used by bats recently), but less so on the southern elevation. Significant accumulation of bird nesting material was seen on the northern elevations behind the fascias.
- 3.56 No. 15 has 2x air vents on the roof. These could not be inspected in detail but could provide access into a cavity between the tiles and building interior.
- 3.57 There were occasional holes in the brickwork of all buildings providing access to the cavity. Most appeared to be where pipes had been removed and the brickwork had not been made good.
- 3.58 Bitumen felt was observed overhanging the fence on the eastern side of unit 16 with a large (c.20cm) gap leading upwards.
- 3.59 No bats or evidence of bats was seen, however the buildings on Site do contain potential roost features which may be used by bats.
- 3.60 The Site is brightly lit at night, both by lighting columns within the Site, and lights on the buildings. This reduces the Site's suitability for bats. The Site is therefore assessed as having **low roost**

suitability for bats. The Site is also isolated from high quality habitats likely to be used by bats therefore its commuting and foraging habitat for bats is assessed as **low suitability** for bats.

Building Inspection Results – Turner Avenue

- 3.61 The four housing blocks at Turner Avenue are four storeys tall and of brick construction. Satellite photos confirm them to be flat roofed, with structures on the roof to allow access for maintenance. The roofs and roof access points could not be surveyed from ground level due to the parapet around them. The age of the buildings at Turner Avenue is unknown, perhaps 1950s.
- 3.62 Blocks are named in this report in accordance with the map at the entrance to the Estate. Block names are shown on **Map 3**. Blocks A, B and C are the northern building facing West Green Road. Block D is the south-west building, Block E is in the central south part of the site, and Block F and G is the south-east building.
- 3.63 The buildings were structurally in good condition with no significant gaps in the brickwork which could provide potential roost features for bats. In places there was significant deterioration to the underside of balconies with materials hanging off, apparently due to water ingress. However, due to their apparent wetness these are likely to be of **negligible suitability** for bats. Due to their height from the ground these features could not be inspected in detail from ground level.
- 3.64 The blocks contain a well-lit central circulation area providing access to individual flats, many of which are accessed by external walkways. The windows were mainly metal windows in poor condition, poorly sealed due to warping of the frames. However, no significant gaps were noted around the window frames which could provide ingress for bats into the cavity walls. Some windows had been replaced by well-sealed uPVC units.
- 3.65 Lock-up sheds with poorly fitting wooden doors were adjacent to the housing blocks at street level.
- 3.66 All parts of the Turner Avenue estate are well lit by streetlights, and lights on buildings, reducing the Site's potential suitability for bats. The Turner Avenue Estate buildings are in good structural condition and are assessed as having **negligible roost suitability for bats**.

Emergence and Re-entry Survey Results

- 3.67 Results of the bat emergence and re-entry surveys undertaken at each building at Brunel Walk are summarised below (no emergence or re-entry surveys were undertaken at the Turner Avenue buildings in view of the negligible building inspection result). During all survey visits surveyors noted how well lit the walkway to the north of the buildings along Brunel Walk was.
- 3.68 Flats 16 – 24 were subjected to an emergence survey on the 18th of August 2021. During this survey no emergences were recorded from the buildings. Low numbers (<5) of Common and Soprano Pipistrelle's were recorded foraging and commuting at the east, south and west face of the building with an apparent preference for the garden area to the south of the building which wasn't lit. A single Noctule was also recorded flying very high over the building heading to the north. Early in this survey a single Common Pipistrelle was recorded making social calls approximately 30mins after sunset whilst flying in a northly direction towards the building. The surveyor suspected that this bat may have emerged from a roost outside the Site within a residential building along Seaford Road as shown as TN13 at **Map 3**.

- 3.69 Flats 1 – 15 were subjected to an emergence survey on the 19th of August 2021. During this survey no emergences were recorded from the buildings. Common and Soprano Pipistrelle's passes were recorded around this building with an apparent preference for the garden area to the south of the building which wasn't lit. An individual Noctule was also recorded faintly passing over the building on three occasions. A single suspected Long-eared bat was also observed foraging within a tree to the south of the building species identification was not possible as the bat was not clearly echolocating when observed, and differentiation between Brown and Grey Long-eared bats based on echolocation alone is unreliable in any event. In view of the geographic range of the call and the records of Brown Long-eared bats returned, it is likely that the bat was a Brown Long-eared.
- 3.70 Flats 33 – 36 were subjected to an emergence survey on the 19th of August 2021. During this survey no emergences were recorded from the buildings. Common and Soprano Pipistrelle passes were recorded around this building and a single Noctule pass was recorded over the building.
- 3.71 Flats 25 – 32 were subjected to an emergence survey on the 23rd of August 2021. During this survey no emergences were recorded from the buildings. Very low bat activity was recorded during this survey with two brief Noctule passes high over the building and a single Common Pipistrelle pass the only activity recorded.
- 3.72 The Cherry tree at TN10 on **Map 3** was subject to an emergence survey on 8th and 23rd June 2022.
- 3.73 During the survey on 8th June, no bats were recorded roosting in the tree. Activity levels were low with occasional passes by single Common and Soprano Pipistrelle bats and occasional foraging around the mature trees fronting Turner Avenue.
- 3.74 During the survey on the 23rd June, No bats were recorded roosting in the tree. Two short passes by single Common Pipistrelle and one short pass by a single Soprano Pipistrelle were recorded.
- 3.75 Street lighting with passive infra red controls is present on the building immediately adjacent to the tree. The lighting switched on and off periodically during the survey as pedestrians passed, illuminating the tree. It is likely that the level of illumination observed will make the tree feature relatively unattractive for roosting, even for relatively light tolerant species like Pipistrelle. In view of the above, it can be concluded that a roost is unlikely to be present in the tree.

Evaluation

- 3.76 No bat roosts have been identified within trees or buildings at the Site, although a roost for low numbers of Common Pipistrelle is likely to be present off-Site to the south. Low numbers of Common and Soprano Pipistrelle as well as Noctule bats comprise the vast majority of the bats recorded and observed. A single Long-eared bat was also observed on one occasion. The bat species recorded during the survey closely matches the assemblage present in the biodiversity records as occurring within 1km of the Site with the exception of a few species.
- 3.77 Emergence surveys have shown that the Cherry tree at TN10 on **Map 3** is unlikely to support a bat roost. As a precaution, the tree will be soft-felled under a precautionary method statement. Further details are provided in **Section 4**.

- 3.78 Additional trees have been identified with Low roost suitability which may be removed as a result of the development, in line with best practice, no further survey effort is required to determine if these trees are used by roosting bats. It will be necessary for these trees with Low roost suitability to be soft felled under a precautionary method statement. Further details are provided in **Section 4**.
- 3.79 Low numbers of bats were consistently recorded at the southern boundary of Brunel Walk over areas of existing residential gardens, it is likely that this area is used by foraging bats as it will support more invertebrates than the majority of the surrounding area which is overwhelmingly urban in nature. In addition, the woodland block to the east of Turner Avenue Blocks F and G is a darker part of the Site and low numbers (approximately 2-3) of pipistrelle bats were observed foraging here during surveys.
- 3.80 The bat assemblage in the ZOI is of Local importance. The conservation status is likely to be favourable and stable.

Other Fauna

Desktop Study Results

- 3.81 The data returned by GiGL contained records of a number of protected and notable species. Records of European Hedgehog *Erinaceus europaeus* are present within the search area.
- 3.82 A proportion of the bird species within the records were wetland species or waterfowl, these records did not come with a location reference point, but it is likely that they are associated with the designated wetland sites in the local area. Bird species of note within the records that could potentially make use of habitats within the site included Swallow *Hirundo rustica* Swift *Apus*, House Martin *Delichon urbica*, Black Redstart *Phoenicurus phoenicurus* (although the Brunel Walk buildings which will be demolished are unlikely to be used by this species because they are only two stories high with pitched tiled roofs), Starling *Sturnus vulgaris*, House Sparrow *Passer domesticus* and Dunnock *Prunella modularis*.
- 3.83 Records of various invertebrate species were returned within the search area including Stag Beetle *Lucanus cervus* and White Letter Hairstreak butterfly *Satyrus w-album*.
- 3.84 No records of Badger *Meles meles* were returned within the search area.

Field Survey Results

- 3.85 Disused birds' nests were seen at the junction between the top of the wall and the roof in several of the buildings at Brunel Walk. In some places (no.28) wire had been positioned, apparently to deter birds. The trees on the Site provide bird nesting habitat. Recommendations are made below to ensure compliance with legislation.
- 3.86 There was evidence of Fox *Vulpes vulpes* activity at the Site. Measures to ensure legal compliance in respect of wild mammals are detailed in subsequent sections of this report.
- 3.87 No evidence of further protected or notable species was recorded during the Site visit. The Site is not suitable for reptiles due to the tightly managed nature of the grassland.

Evaluation

- 3.88 Based on the data search and field survey results, none of the other fauna are sufficiently important to be considered important ecological features in this EclA, but they are considered further below in the context of delivering ecological enhancements and biodiversity net gain, and in the context of legal considerations.

Invasive Plant Species

- 3.89 There are two areas of Japanese Knotweed on Site, which at the time of survey are undergoing herbicide treatment. Virginia Creeper is also present on Site. Both species are listed on Schedule 9 of the Wildlife and Countryside Act (1981, as amended). It is recommended that control of these plants is completed prior to the start of Site clearance works to avoid the risk of it being accidentally spread.

Summary of Important Ecological Features

- 3.90 With reference to the assessment criteria set out in **Appendix 3**, IEFs that are considered to be of Local importance or greater to be taken forward for impact assessment in **Section 4** are summarised in **Table 3.1** below.

Table 3.1: Important Ecological Features to be considered further in this EclA.

Feature	Importance
Bat assemblage	Local

4. IMPACT ASSESSMENT

Introduction

- 4.1 This section examines the potential for significant ecological impacts and effects on IEFs as a result of the biophysical changes arising from the Proposals, both during the Site clearance and construction phase and operational phase. Where impacts are identified, opportunities for impact avoidance and mitigation are explored. If the potential for significant residual effects remains after mitigation, then opportunities for compensation are also set out.

Impact Avoidance by Design

- 4.2 In accordance with the principle of the mitigation hierarchy, the scheme has been designed to avoid ecological impacts as far as possible in the first instance, thus reducing the need for extensive mitigation measures.
- 4.3 Impact avoidance measures incorporated into the Proposed Development include:
- Retention and enhancement of the area known as the 'Forgotten Park'.

Mechanisms for Implementing and Securing Mitigation

- 4.4 Throughout this section reference is made to a suite of plans and strategies which will include and expand upon the key principles of the impact avoidance and mitigation measures described below, and which can be secured through planning conditions or obligations, including:
- Construction Environmental Management Plan (CEMP);
 - A Sensitive Lighting Strategy; and
 - Landscape and Ecology Management Plan (LEMP).

Impact Assessment

Bat Assemblage

Assessment of Impacts and Mitigation - Site Clearance and Construction Phase

- 4.5 No bat roosts have been identified at the Site within either existing buildings or trees. Therefore, harm or death to individuals and loss of roosts during the building demolition and tree removal is not anticipated.
- 4.6 It remains possible (although unlikely) that in line with the buildings classification as having low suitability to support bat roosts, bats could take up residence in these buildings between the time of writing this report and the eventual demolition of the buildings. As such update surveys are recommended if demolition of these buildings does not occur within a year of the date of this report.
- 4.7 In the unlikely event that a bat is encountered at any time during the demolition works then all work should immediately halt and an appropriately licenced ecologist should be contacted.

- 4.8 A number of trees have been identified that have low suitability to support roosting bats and a single tree has been identified with moderate suitability, although subsequent emergence surveys indicate a likely absence of a roost. In the unlikely event that bats take up residence in these trees prior to felling. In such a circumstance, the unmitigated removal of these trees could lead to harm or death to individual bats and loss of roosts. This would constitute an offence and would also be a **significant impact at a local level**.
- 4.9 In line with BCT guidelines (BCT, 2016) no further survey is required prior to felling of the low suitability trees at the Site, but they will be felled under a precautionary safe working method statement that will be included in the CEMP and include the following:
- If more than a year has passed since the date of this report, the trees will be re-assessed from ground level by a bat licenced ecologist prior to felling works commencing.
 - If the suitability has not changed, the tree will be climbed by the arborist and the trees will be inspected to confirm that they do not contain hidden features, not visible from the ground that could support bats.
 - The trees will be section felled with each section lowered carefully to the ground.
 - Cross cutting in proximity to any cavities or hollows in the trees will be avoided.
 - If bats or evidence of bats are found at any time, all works must immediately stop and an appropriately licenced ecologist should be contacted.
- 4.10 The moderate suitability Cherry tree (at TN10 on **Map 3**) will also be felled under a precautionary safe working method statement, incorporating the above measures.
- 4.11 Bats have been found to use habitats present at the Site for foraging and commuting and a suspected roost has been identified to the south of the Site (off-Site). Construction activities including Site clearance will create noise, vibrations and introduce additional external lighting to the area (notwithstanding the fact that the majority of the Site is already very well lit). These impacts in the absence of mitigation could temporarily alter bats foraging and commuting behaviour and would represent a **significant negative effect at a local level**.
- 4.12 As such construction activities will be subject to detailed prescriptions set out in the CEMP, including restrictions on working hours and site security lighting, which will be minimised in extent, and directed downward and away from boundary features which front onto existing foraging areas, (in particular the existing gardens at the south of Brunel Walk and the retained 'Forgotten Park'). Retained trees will be protected (in line with BS5837) from construction related impacts through the installation of tree protection fencing.
- 4.13 After the implementation of the above referenced mitigation measures **no significant residual effect** is anticipated upon the bat assemblage during the construction phase of the development.
- Assessment of Impacts and Mitigation - Operational Phase*
- 4.14 As highlighted previously within this report bats have been found to commute and forage within parts of the Site, with an apparent preference for the areas of residential garden to the south of Brunel Walk and the Forgotten Park, which remain largely unlit in comparison to the area to the north of Brunel Walk, including the Turner Avenue Site, which are currently well lit.

- 4.15 If the proposals include artificial lighting in these darker areas of the Site, without mitigation, the potential for bats to forage or commute within the Site could be reduced. This would represent a **significant negative effect at a local level**.
- 4.16 To mitigate this impact, a sensitive lighting strategy will be developed and adopted to minimise lighting-related impacts. This will be based upon but not limited to the following measures:
- New bat roosting features delivered as biodiversity enhancements will not be directly lit.
 - Avoidance insofar as is possible of lighting areas of retained and newly created vegetation and areas left undeveloped within the Site, unless considered essential for H&S / security reasons.
 - Where lighting in these areas is considered essential, lux levels will be kept as low as possible through careful specification of lighting and the use of timers or PIR sensors.
 - Specification of 'warm white' LED luminaires with a maximum correlated colour temperature of 3000K (ideally 2,700K), no ultraviolet and infrared content, and reduced short wavelength light content for all proposed external lighting.
 - Specification of zero-degree tilt to ensure the downward distribution of light, for all proposed external lighting.
 - Specification of shields and integral louvres where required to prevent light spill onto areas of retained and proposed vegetation.
 - Consideration will be given to the provision of dark periods through the night where elements of artificial lighting are turned off or turned down.
- 4.17 In order to ensure that areas of retained and proposed vegetation remain in a state that will be appealing for foraging or commuting bats a LEMP will be developed and adopted during the operational phase of the proposed development. This plan will focus upon two aims;
- Ensuring that areas of retained and proposed vegetation support populations of invertebrates thus being attractive to foraging bats; and
 - Ensuring that areas of retained and proposed vegetation is managed in a manner that ensure that it remains appealing for commuting bats.
- 4.18 The LEMP will be based upon but not limited to the following measures:
- Avoiding the use of pesticides used on areas of retained and proposed vegetation.
 - Managing areas of retained and proposed vegetation in a manner that ensure that wildflowers, shrubs and tree species are allowed to flower and fruit properly before being cut back each year.
 - Managing areas of retained and proposed vegetation so that if required, vegetation removal should be undertaken on a rotation basis. This will ensure that the wholesale removal of areas of vegetation that bats may use as navigational aids whilst commuting will not be removed in one go giving bats time to adapt to changes in vegetation.

- 4.19 The implementation of the recommended LEMP will create a secured area for foraging and commuting bats to use in perpetuity, which in comparison to the current unregulated situation on Site represents a **non-significant positive effect at a local level** depending upon final landscaping plans.

Summary of Residual Effects and Compensation

- 4.20 After the implementation of the suggested mitigation measures detailed above there will be **no significant residual effects** that require compensation.

Summary of Impact Assessment

- 4.21 **Table 4.1** below provides a summary of the potential impacts of the Proposed Development on IEFs, opportunities for impact avoidance and mitigation, or compensation where significant residual effects have the potential to remain.

Table 4.1: Summary of Impact Assessment.

Feature	Importance	Unmitigated Impacts	Mitigation	Significance of Residual Effects	Compensation
Site Clearance and Construction Phase					
Bat Assemblage	Local	Harm or death to individual bats and loss of roosts. Significant negative effect at a local level. Temporary alteration of foraging and commuting behaviour. Significant negative effect at a local level.	Soft-felling and best practice construction measures included in a CEMP. Update surveys if required.	No significant residual effects.	N/A
Operational Phase					
Bat Assemblage	Local	Long term alteration of foraging and commuting behaviour. Significant negative effect at a local level.	Lighting Strategy. Landscaping. LEMP.	Non-significant positive effect.	N/A

5. BIODIVERSITY NET GAIN

Methodology

- 5.1 DEFRA BNG metric 3.1 was released in April 2022. The BNG calculation work for this project commenced using metric 3.0 (Natural England, 2021a) prior to the release of metric 3.1. Given that metric 3.0 was used at the start of the project, the final version of the metric presented below also uses metric 3.0. This is in accordance with Natural England's recommendation that users of metric 3.0 should persist with that version for the duration of the respective project.
- 5.2 Calculations were carried out by Chris Mungo, Principal Ecological Consultant at EPR, an experienced BNG practitioner.
- 5.3 The baseline ecological value of the site (based on the habitats shown on **Map 3**) has been calculated as well as the potential ecological value of the proposed habitat creation (taken from landscape plan 5350-OOB-ZZ-01-DR-L-0005_P05 and summarised on **Map 4**). Baseline and post development habitats were measured and digitised using Arc GIS 10.3.
- 5.4 The condition assessments detailed within the calculation are based on the criteria within the BNG Metric 3.0 Technical Supplement (Natural England, 2021b). Pertinent information in respect of habitat condition assessments is detailed below.

Baseline Habitats

- 5.5 Baseline habitats are shown on **Map 3**.

Developed Land Sealed Surface

- 5.6 The existing site includes 0.88ha of developed land; sealed surface. Metric 3.0 automatically assigns a condition of N/A – other to habitat type developed land sealed surface. 0.55ha of developed land sealed surface will be retained.

Vegetated Garden

- 5.7 The existing site includes 0.04ha of vegetated garden. Metric 3.0 automatically assigns a condition of poor to habitat type vegetated garden. All of the vegetated gardens will be retained.

Un-vegetated Garden

- 5.8 The existing site includes 0.01ha of un-vegetated garden. Metric 3.0 automatically assigns a condition of N/A – other to habitat type un-vegetated garden.

Introduced Shrub

- 5.9 The existing site includes 0.02ha of introduced shrub. Metric 3.0 automatically assigns a condition of poor to habitat type Introduced shrub.

Urban Trees

- 5.10 A total of 55 urban trees are present across the Site for biodiversity net gain calculation purposes. This number may differ from the number of trees reported in other planning

application documents because it includes some trees which have recently (at the time of writing) been removed by UK Power Networks without the knowledge of Haringey Council and also includes only those trees that fit with the urban tree description provided in the Metric 3.0 guidance at table 7.1. Data from the arboricultural survey and a Site visit were used to assess individual trees against the seven urban tree assessment criteria referenced within the BNG Technical Supplement (Natural England, 2021b). Tree size was determined with reference to the guidance in table 7.2 of BNG Metric 3.0 User Guide (Natural England, 2021c), and converted at an equivalent area using the urban tree helper tool, embedded within the BNG 3.0 calculation tool. The size and condition of urban trees, and the area equivalent of retained trees is summarised in **Table 5.1**.

Table 5.1 Urban tree size and condition summary - baseline

Condition	Size			Area Equivalent (ha)	Area equivalent retained (ha)
	Small	Medium	Large		
Good	0	0	0	0	0
Moderate	1	4	11	0.1412	0.1217
Poor	2	21	16	0.2679	0.1694
		TOTAL	56	0.4091	0.2911

Modified Grassland

- 5.11 All modified grassland (0.51ha) in public open space areas was assigned a condition of Poor, because the following 'Grassland - Low Distinctiveness' condition assessment criteria only are met:

- 3 – Scrub less than 20%;
- 6 – Bracken less than 20%; and
- 7 – Absence of invasive non-native species.

Retained and Enhanced Habitats

- 5.12 Retained and enhanced habitats are shown on **Map 4**.
- 5.13 The Brunel Walk part of the Site will be completely redeveloped and re-landscaped. In view of the relatively narrow and constrained nature of this part of the Site, retention of habitats during the construction phase is unlikely to be possible, with the exception of some urban trees.
- 5.14 Buildings and elements of hard standing within the Ashley Road part of the Site will be retained and this part of the Site will be subject to re-landscaping only. The more open nature of the Ashley Road part of the Site, combined with the more limited scope of works means that it will be possible to retain and enhance more habitats when compared to the Brunel Walk part of the Site.

Urban Trees

- 5.15 In the Site as a whole, 35 urban trees (as described in the Metric 3.0 guidance at table 7.1) will be retained and 20 lost (data taken from the project arboricultural consultant). The area equivalent of retained trees is calculated as per **Table 5.2**. The condition of retained urban trees is assumed to remain unchanged from the baseline situation.

Table 5.2 Urban tree size and condition summary - retained

	Small	Medium	Large	Area Equivalent
Good	0	0	0	0
Moderate	1	2	10	0.1217
Poor	0	11	11	0.1694
		TOTAL	36	0.2915

Modified Grassland

- 5.16 Elements of the modified grassland in the Ashely Road part of the Site will be retained and enhanced. The landscape proposals include the enhancement, with a seed mix and favourable management (pursuant to a LEMP), of 0.03 ha of the existing modified grassland to create areas of other neutral grassland in open space areas within the eastern and western parts of the Ashley Road part of the Site. These areas of other neutral grassland are expected to achieve moderate condition because the following 'Grassland – Medium, High & Very High Distinctiveness' condition assessment criteria are anticipated to be met:
- 1 - The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type;
 - 3 - Cover of bare ground between 1% and 5%;
 - 4 - Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%; and
 - 5 - Absence of invasive non-native species.
- 5.17 The landscape proposals include the enhancement, through more favourable management (pursuant to a LEMP), of 0.18 ha of the existing poor condition modified grassland to create moderate condition modified grassland. Moderate condition is expected to be achieved because the following 'Grassland – Low Distinctiveness' condition assessment criteria are expected to be met:
- 3 - Scrub less than 20%;
 - 4 – Physical damage evident in less than 5% of total grassland area;
 - 5 - Cover of bare ground between 1% and 5%,
 - 6 - Bracken less than 20%; and

- 7 - Absence of invasive non-native species.

Created Habitats

- 5.18 Created habitats are shown on **Map 4**. The areas created and the assumed condition of created habitats is summarised in the following sections.

Developed Land Sealed Surface

- 5.19 The proposals will result in the creation of 0.12ha of developed land; sealed surface. Metric 3.0 automatically assigns a condition of N/A – other to habitat type developed land sealed surface.

Vegetated Garden

- 5.20 The proposals will result in the creation of 0.10ha of vegetated garden. Metric 3.0 automatically assigns a condition of poor to habitat type vegetated garden.

Rain Garden

The proposals will result in the creation of 0.02ha of rain garden. Newly created rain garden habitat is expected to achieve moderate condition because the following 'Urban' core condition assessment criteria are anticipated to be met:

- 2 - There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife; and
- 3 - Absence of invasive non-native species.

Modified Grassland

- 5.21 The proposals will result in the creation of 0.09ha of modified grassland. Newly created modified grassland is expected to achieve moderate condition because the same 'Grassland – Low Distinctiveness' condition assessment criteria as noted under the 'Retained and Enhanced Habitats' above are expected to be met.

Other Neutral Grassland

- 5.22 The proposals will result in the creation of 0.02ha of other neutral grassland. Newly created other neutral grassland is expected to achieve moderate condition because the same 'Grassland – Medium, High & Very High Distinctiveness' condition assessment criteria as noted under the 'Retained and Enhanced Habitats' section above are expected to be met.

Introduced shrub

- 5.23 The proposals will result in the creation of 0.21ha of introduced shrub, specified to be either native (60%) or beneficial to pollinators (40%). Metric 3.0 automatically assigns a condition of poor to habitat type introduced shrub.

Urban Tree

- 5.24 The proposals include the planting of 68 new urban trees. For the purposes of this assessment, all are assumed to be small, resulting in an area of 0.034ha using the urban tree helper tool, embedded within the BNG 3.0 calculation tool. Newly planted urban trees are expected to achieve moderate condition because the following 'Urban Trees' condition assessment criteria are anticipated to be met:
- 1 - More than 70% of trees are native species.;
 - 2 - Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.; and
 - 6 - Trees are immediately adjacent to other vegetation, and tree canopies are oversailing vegetation beneath.

Green Roof

- 5.25 The proposals include 0.11ha of extensive green roof. Green roofs are expected to achieve moderate condition because 'Urban' condition assessment criteria 2 and 3 are anticipated to be met.

Strategic Significance

- 5.26 A strategic significant of 'Area/compensation not in local strategy/ no local strategy' has been assigned for all habitats because no relevant local strategy has been identified for this Site or its surrounds.

BNG Score:

- 5.27 See **Appendix 6**. The calculation have indicated that the proposals will deliver a biodiversity net gain of **23.32%**, significantly higher than the 10% requirement referenced in the Environment Act 2021.
- 5.28 The LEMP, which can be secured by planning condition, will set out the management measures which will ensure that the habitats achieve the condition which is assumed in the calculation and summarised above.

Additional Biodiversity Enhancements

- 5.29 In accordance with national and local policy, the Proposed Development will deliver biodiversity enhancements which go above and beyond the measures required to avoid, mitigate and/or compensate for the potential impacts described in **Section 4**, thereby delivering biodiversity net gain. The enhancement measures are intended to benefit known features of ecological importance present within the ZoI. Key deliverables include:
- The installation of bat and bird boxes within and on the new buildings and upon retained vegetation, in particular retained mature trees in the Forgotten Park, which is likely to remain relatively darker than much of the remainder of the Site. It is envisaged that as a result of this measure, gains for bat within the ZoI will be achieved as well as

enhancements for targeted bird species such as Swifts, House Martins, House Sparrows and Starlings, that are known to be present.

- For the benefit of solitary bee species and other invertebrates, Bee Bricks will be incorporated into the external faces of the new buildings.
- As Hedgehogs are known from the records search to be present in the locality, Hedgehog houses will be installed in areas of the Site that will remain undisturbed through the operational phase of the development to provide additional nesting opportunities for this species.
- The removal of Japanese Knotweed and Virginia Creeper from the Site.

- 5.30 The exact specification and positioning of the features listed above will be informed through discussion with a suitably experienced ecologist prior to the completion of the proposed works. Details will be provided in the LEMP.

Urban Greening Factor Calculation

- 5.31 The Urban Greening Factor score has been calculated by the landscape architect. Details are provided in the Landscape Statement, submitted with the planning application.

6. CONSEQUENCES FOR DECISION MAKING

Summary of Mechanisms to Secure Impact Avoidance, Mitigation and Compensation Measures

- 6.1 The following strategies, which will be secured by planning conditions and/or obligations, will be required to ensure the successful implementation of the impact avoidance, mitigation and compensation measures set out in **Section 4**:
- Construction Environmental Management Plan (CEMP);
 - A Sensitive Lighting Strategy; and
 - Landscape and Ecology Management Plan (LEMP).

Conclusion

- 6.2 This EcIA has predicted that, subject to the implementation of the impact avoidance, mitigation and compensation measures set out in **Section 4**, the Proposed Development will not have any significant negative residual effects on IEFs and will conform to all applicable nature conservation related legislation and policy, as set out at **Appendix 2**.
- 6.3 As a result of the enhancement measures proposed, biodiversity net gain will also be secured, in accordance with relevant planning and biodiversity policy.

7. LEGAL CONSIDERATIONS

7.1 Should planning permission be granted for the Proposed Development, the following legal considerations will apply, in accordance with the following items of legislation:

- The Environment Act 2021;
- The Conservation of Habitats and Species Regulations 2017 (as amended);
- The Wildlife and Countryside Act 1981 (as amended); and
- The Wild Mammals (Protection) Act 1996.

Bats

7.2 If a bat roost is unexpectedly recorded during tree soft-felling or building demolition and the proposals are reasonably likely to result in an offence under the Habitats Regulations 2017 (as amended), a licence will be secured from Natural England prior to commencement of works.

Breeding Birds

7.3 If possible, building demolition and any vegetation removal work should be undertaken outside of the active bird nesting season (i.e. from September to February inclusive) to avoid the potential disturbance of any active nests ensuring compliance with legislation.

7.4 Alternatively, buildings and vegetation that are to be cleared / demolished should be checked for active nests by a suitably experienced ecologist not longer than 24 hours before clearance. If an active nest is found it must be left in situ with a buffer zone around it until the young birds have fledged.

Wild Mammals

7.5 Given the level of Fox activity noted during the initial Site survey and subsequent bat surveys it is likely that an active Fox den is present within the Site although the exact location at this stage is unknown.

7.6 All wild mammals are protected against cruelty under the Wild Mammals (Protection Act 1996) which 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.

7.7 In line with the above, should the proposed development require the destruction or alteration of an active Fox den then it will be necessary for the works to be undertaken in line with a safe working Method Statement to ensure that no offence is caused under the Wild Mammals (Protection) Act 1996. This Method Statement will be incorporated into the CEMP.

Invasive Plant Species

7.8 Prior to site clearance works commencing a specialist contractor will be contacted to eradicate Japanese Knotweed and Virginia Creeper from the Site and ensure that it does not spread.

8. REFERENCES

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CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland*. Ministry of Housing, Communities and Local Government (2019). *National Planning Policy Framework*. February 2019.

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English Nature (2004) *Bat Mitigation Guidelines*. English Nature, Peterborough.

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Natural England (2021b) *The Biodiversity Metric 3.0 (JP039). Technical Supplement*. Available at: <http://publications.naturalengland.org.uk/publication/6049804846366720>

Natural England (2021c) *The Biodiversity Metric 3.0 (JP039). User Guide*. Available at: <http://publications.naturalengland.org.uk/publication/6049804846366720>

Maps

Map 1	Survey Area
Map 2	Designated Sites
Map 3	Existing Habitats and Features
Map 4	Proposed Habitats

MAP 1 Survey Areas

KEY

-  Red boundary line showing the extent of the development
-  Land for proposed improvements



SCALE: 1:1,000 at A3

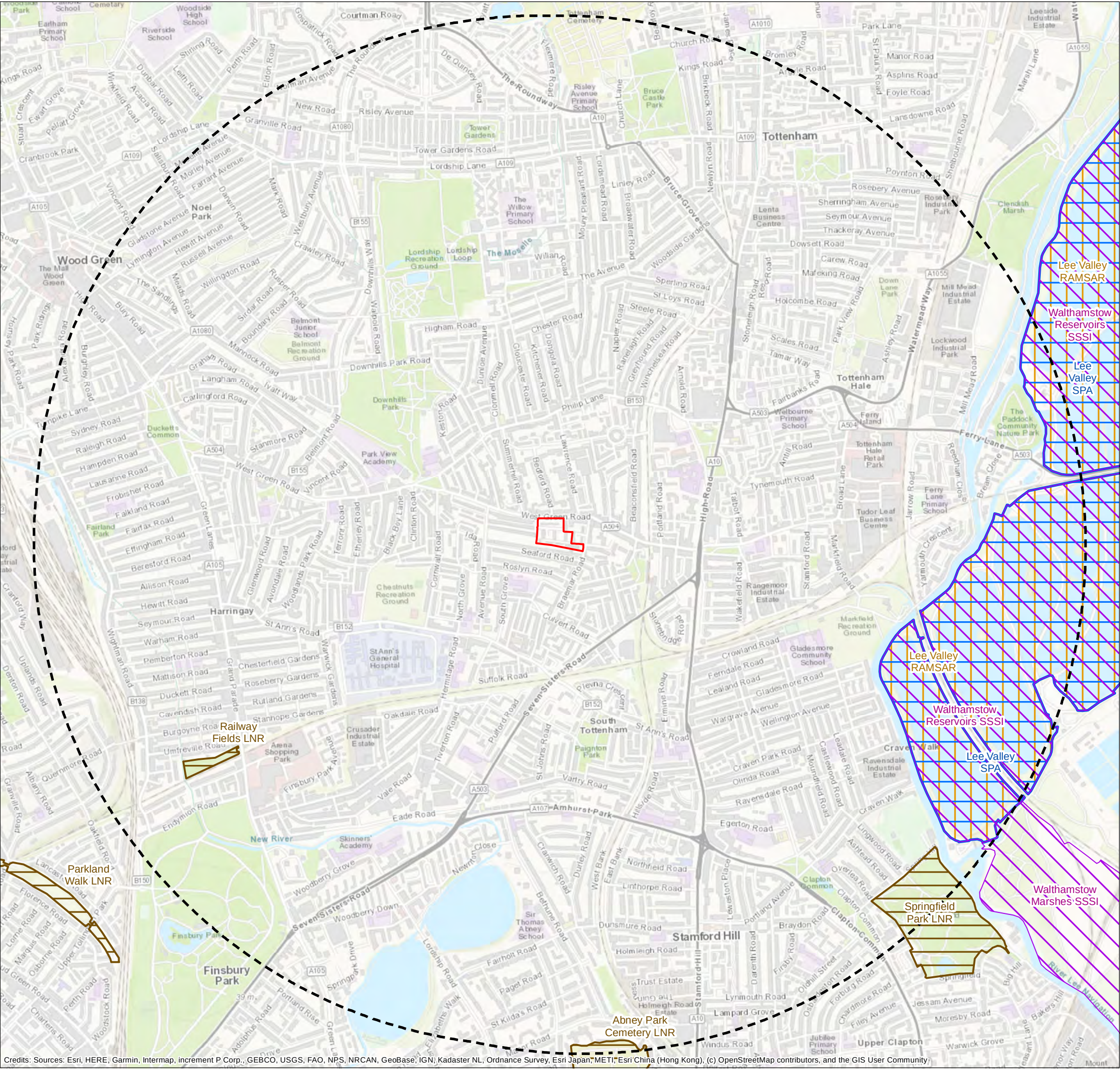
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CLIENT: Haringey Council

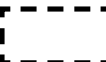
PROJECT: Brunel Walk, Tottenham

DATE: 21 September 2022



MAP 2 Site Location & Nature Conservation Designations

KEY

-  Site boundary
-  2km linear distance from site boundary
- Statutory Sites**
 -  Local Nature Reserves (LNR)
 -  Special Protection Areas (SPA)
 -  Sites of Special Scientific Interest (SSSI)
 -  Ramsar

SCALE: 1:15,000 at A3

0 250 500 750 1,000 Metres



CLIENT: Madlins LLP

PROJECT: Brunel Walk and Turner Avenue, Tottenham

DATE: 16 September 2021

Y:\Brunel Walk, Tottenham 2024\GIS\Map2_Site_Location_Designations_P2064_959_160921.mxd

P20/64

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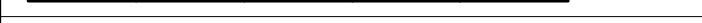
Tree numbers reported in this map relate to 'urban trees' as described by the DEFRA Biodiversity Net Gain guidance, and may differ from tree numbers reported elsewhere in the planning submission

 Site boundary

Vegetated garden (0.04ha)

1. Japanese Knotweed
2. Virginia Creeper
3. False Acacia
4. Ash
5. Gap behind fascia
6. Bitumen felt overhanging fence on eastern side of unit 16 with a large (c.20cm) gap leading upwards
7. Gap at gable end of unit 15.
8. False Acacia
9. Ash
10. Cherry with moderate bat roost suitability.
11. Japanese Knotweed
12. Ash
13. Approximate position of suspected offsite Common Pipistrelle roost

0 10 20 30 40 50 Metres



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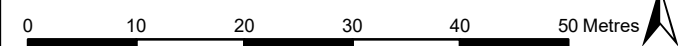
Tree numbers reported in this map relate to 'urban trees' as described by the DEFRA Biodiversity Net Gain guidance, and may differ from tree numbers reported elsewhere in the planning submission

MAP 4 Proposed Habitats

KEY

- Site boundary
- Urban trees proposed (68)
- Urban trees lost (20)
- Urban trees retained (35)
- Created**
 - Green roof (0.11ha)
 - Introduced shrub (0.21ha)
 - Modified grassland (0.09ha)
 - Other neutral grassland (0.02ha)
 - Rain Garden (0.02ha)
 - Developed land; sealed surface (0.12ha)
 - Vegetated garden (0.10ha)
- Retained**
 - Developed land; sealed surface (0.56ha)
 - Vegetated garden (0.04ha)
- Retained & Enhanced**
 - Modified grassland (0.18ha)
 - Other neutral grassland (0.03ha)

SCALE: 1:700 at A3



CLIENT: Haringey Council

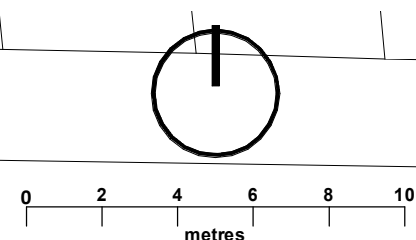
PROJECT: Brunel Walk, Tottenham

DATE: 05 October 2022

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Appendix 1

Masterplan



This drawing is not to be scaled. All dimensions to be checked on site. Discrepancies, ambiguities and/or omissions between this drawing and information given elsewhere must be reported immediately to head office for clarification before proceeding.

Legend

- Site Boundary
- Planning Boundary
- Hardworks
 - Existing Vehicular Tarmacadam
 - Proposed permeable coloured tarmac
 - Paving Type 1 Permeable block paving
 - Paving Type 2 Permeable block paving
 - Self binding gravel
- Softworks
 - Proposed Grass / Meadow
 - Existing private gardens
 - Proposed shrub planting with ecological value
 - Proposed Rain Garden
 - Proposed Wildflower
 - Proposed Garden Planting
 - Proposed Roof Planting
- Proposed Tree
- Existing Tree
- Boundary Treatment
 - Existing boundary fencing
 - Proposed boundary treatment
 - Proposed Handrail to ramp
 - Proposed Retaining wall Brickwork to match proposed building
 - Existing Retaining wall
- Furniture
 - Proposed Cycle Stand
 - Electric Car Charging Point
 - Proposed bench
 - Proposed play elements
 - Proposed picnic bench
 - Proposed moveable furniture
 - Proposed Cycle Store (including cycle hangars)
 - Proposed Garden Shed
 - Feeder Pillar
 - Single Outreach Arm Abacus Column Light

Tree Updates	POS	DCO	KMD	30/09/22
Revised Existing Tree Removals	POS	DCO	KMD	26/09/22
Responding to Council comments	POS	DWR	KMD	06/09/22
Stage 3 - Site wide changes	POS	DWR	KMD	01/09/22
Stage 3 - Further Amendments in line with KCA coordination	POS	DCO	KMD	24/08/22
Revision	Rev	Author	Appr'd	Date
newcastle: studio 7 & 8, the labs, huddersfield, water road, newcastle, n.e.20, t. +44 (0)191 263 3775 london: the fabrick, investment services, london, e8 3jn, t. +44 (0)20 719 2449 glasgow: 177 w-glasgow, g. glenview, glasgow, g2 2JB, t. +44 (0)141 301 3465 w: www.oobe.co.uk e: info@oobe.co.uk				
Client	Haringey Council			
Project	Brunel Walk redevelopment & Turner Avenue Estate improvements			
Title	Site Plan			

Appendix 2

Legislation and Planning Policy Relating to Wildlife and Development in England

LEGISLATION

The Environment Act 2021

The Environment Act 2021 places a requirement on the Secretary of State to make regulations setting out long-term targets for air quality, water, biodiversity, resource efficiency and waste reduction. It also requires the Government to produce an Environmental Improvement Plan, to report on progress towards its goals annually, to meet the targets that are set in relation to the improvement of the natural environment and to produce remedial plans should this not be achieved.

In relation to water quality, the Act places new duties on the Government, Environment Agency and sewerage undertakers to reduce the frequency and harm of discharges from storm overflows on the environment, and for monitoring the quality of watercourses affected by those overflows.

It also includes a requirement for an independent Office for Environmental Protection (OEP) to be established, with responsibilities for monitoring and reporting on progress against environmental improvement plans and targets. The OEP will also have investigation and enforcement powers against public authorities failing to comply with environmental law when exercising their functions.

The Act makes provisions for 10% biodiversity gain to become a condition of planning permission in England, through amendments to the Town and Country Planning Act 1990. This will be measured through a biodiversity metric to be published by the Secretary of State. The Act also establishes Biodiversity Net Gain as a requirement for Nationally Significant Infrastructure Projects (NSIPs).

The Act also strengthens the biodiversity duty placed on public authorities through amendments to the Natural Environment and Rural Communities Act 2006 Section 40, requiring such authorities to not only conserve but also enhance biodiversity when exercising their functions. Public authorities will also be required to publish summary reports of actions taken under Section 40 at least every five years.

The Act provides the legal basis for the creation of Local Nature Recovery Strategies (LNRs) for England (including specifying their content), and the preparation and publication of species conservation strategies and protected sites strategies.

It also creates a new legal vehicle known as a 'Conservation Covenant' which is a voluntary, legally binding private agreement between landowners and responsible bodies (the latter designated by the Secretary of State) which conserve the natural or heritage features of the land, enabling long-term conservation. Conservation Covenants are designed to 'run with the land' when it is sold or passed on and are intended to eventually become a primary mechanism for the delivery of Biodiversity Net Gain (BNG).

The Act provides new powers for the Government to amend in future Regulation 9 and Part 6 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') –

but “only if satisfied that the regulations do not reduce the level of environmental protection provided by the Habitats Regulations”.

Several aspects of protected species licencing have also been adjusted by the Act. These include the removal of several inconsistencies between the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended), ensuring that licences issued under the former piece of legislation also apply under the latter, and making it now possible for licences to be issued under Section 16(3) of the Wildlife & Countryside Act 1981 (as amended) for purposes of overriding public interest. The maximum term of a licence that can be issued by Natural England has also been extended from 2 to 5 years.

All biodiversity-related commitments and requirements (as set out in Part 6 of the Act) will come into force upon the adoption of secondary legislation and regulations, following a period of consultation. Timescales are to be confirmed, but this is currently expected to be around late 2023.

The Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) (known as the “Habitats Regulations”) were originally drawn up to transpose the European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the “Habitats Directive”) into UK legislation. Following the UK’s exit from the European Union, the Habitats Regulations – as amended by Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 – remain in force until such a time as they are superseded by new or updated domestic legislation.

The Habitats Regulations provide for the designation of both Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) in the UK, which previously formed part of the Natura 2000 network of protected areas across Europe and are now part of the UK’s “National Sites Network”. New National Sites may be designated under the Regulations.

The Regulations also prohibit certain actions relating to European Protected Species (EPS), which include *inter alia* Hazel Dormouse *Muscardinus avellanarius*, Great Crested Newt *Triturus cristatus*, European Otter *Lutra lutra* and all native species of bat.

Further information on SPAs, SACs and European Protected Species is provided in the relevant sub-sections of this Appendix.

Wildlife & Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 is the principal mechanism for the legislative protection of wildlife in Great Britain. Various amendments have occurred since the original enactment. Certain species of bird, animal and plant (including all of the European Protected Species listed above) are afforded protection under Schedules 1, 5 and 8 of the Act. Reference is made to the various Schedules and Parts of this Act (**Table A1.1**) in the section of this Appendix dealing with Legally Protected Species. The Act also contains measures for the protection of the countryside, National Parks, Sites of Special Scientific Interest (SSSIs) and public rights of way as well as preventing the establishment of invasive non-native species that may be detrimental to native wildlife.

Table A1.1: Relevant Schedules of the Wildlife & Countryside Act 1981 (as amended)

Schedule	Protected Species
Schedule 1 Part 1	Protects listed birds through special penalties at all times
Schedule 1 Part 2	Protects listed birds through special penalties during the close season
Schedule 5 Section 9.1 (killing/injuring)	Protects listed animals from intentional killing or injuring
Schedule 5 Section 9.1 (taking)	Protects listed animals from taking
Schedule 5 Section 9.2	Protects listed animals from being possessed or controlled (live or dead)
Schedule 5 Section 9.4a	Protects listed animals from intentional damage or destruction to any structure or place used for shelter or protection
Schedule 5 Section 9.4b	Protects listed animals from intentional disturbance while occupying a structure or place used for shelter or protection
Schedule 5 Section 9.5a	Protects listed animals from being sold, offered for sale or being held or transported for sale either live or dead, whole or part
Schedule 5 Section 9.5b	Protects listed animals from being published or advertised as being for sale
Schedule 8	Protects listed plants from: intentional picking, uprooting or destruction (Section 13 1a); selling, offering for sale, possessing or transporting for the purpose of sale (live or dead, part or derivative) (Section 13 2a); advertising (any of these) for buying or selling (Section 13 2b).
Schedule 9	Prohibits the release of species listed in the Schedule into the wild.
Schedule 9a	Allows environmental authorities to issue species control orders to landowners, obliging them to control/eradicate invasive and/or non-native species.

Further information on legally protected species, designated wildlife sites and invasive non-native species is provided in the relevant sub-sections of this Appendix.

Countryside & Rights of Way Act 2000

Many of the provisions of the Countryside and Rights of Way (CRoW) Act 2000 have been incorporated as amendments into the Wildlife and Countryside Act (1981) and some provisions have now been superseded by later legislation such as The Natural Environment and Rural Communities Act (2006).

The most relevant changes provided by the CRoW Act include the added protection given to SSSIs and other important sites for nature conservation. Importantly, under the Act it became a criminal offence to "recklessly disturb" Schedule 1 nesting birds and species protected under Schedule 5 of the Wildlife and Countryside Act. It also enabled heavier penalties on conviction of wildlife offences.

The Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities (NERC) Act 2006 was intended to raise the profile of biodiversity amongst all public authorities (including local authorities, and statutory undertakers) and to make biodiversity an integral part of policy and decision-making processes. The NERC Act also improved wildlife protection by amending the Wildlife and Countryside Act 1981.

Section 40 (S40) of the Act places a 'Biodiversity Duty' on all public bodies to have regard to the conservation of biodiversity when carrying out their normal functions. This includes giving consideration to the restoration and enhancement of species and habitats.

Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of Principal Importance for the conservation of biodiversity in England. This was published in 2007 and is commonly referred to as the "S41 list". Public authorities have a responsibility to give specific consideration to the S41 list when exercising their normal functions. For planning authorities, consideration for Species and Habitats of Principal Importance will be exercised through the planning and development control processes. Further information on Species and Habitats of Principal Importance is provided in the relevant sub-sections of this Appendix.

The Water Environment Regulations 2017

Currently, the overriding legislation relating to freshwater is the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. The Regulations set out objectives to deliver a better water environment based upon achieving a 'good status' for freshwater bodies. The concept of 'good status' is a more rigorous measure of environmental quality than previous measures, which now takes into account not just the chemical status but also the ecological health and the extent of artificial physical modification to rivers.

The Regulations are based upon the concept of protecting water through the management of river basin districts (RBDs) and require the implementation of River Basin Management Plans (RBMPs). Regulation 33 requires public bodies to 'have regard' to the RBMP when making planning decisions, for example through the granting of planning permission with appropriate planning conditions and/or obligations. These could require measures to be implemented (e.g. Sustainable Urban Drainage Systems (SUDS), grey water recycling etc.) or funds to be provided for habitat enhancement schemes.

The Regulations also affect planning policy through the implementation of Programmes of Measures for each river basin district. This involves bringing together funding from various sources and co-ordination of the activities of organisations with an interest in the use of land and water, including developers.

SITES DESIGNATED FOR THE CONSERVATION OF NATURE

There is a hierarchy of nature conservation sites which is based on the level of statutory (legal) protection and the administrative level of importance. Other features of nature conservation interest outside designated sites may also be a material consideration in the determination of planning applications.

Statutory Sites: International

Ramsar Sites, Special Areas of Conservation (SAC) and Special Protection Areas (SPA)

The Conservation of Habitats and Species Regulations 2017 (as amended) provide the primary legal basis for the protection of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the UK.

SACs are sites which support internationally important habitats and/or species listed as being of Community Importance in the Annexes of the European Habitats Directive 92/43/EEC. SPAs are sites which support internationally important numbers of bird species listed as being of Community Importance in the Annexes of the European Birds Directive 2009/147/EC. Following the UK's exit from the EU, these now form part of the "National Sites" network rather than the EU Natura 2000 network.

Ramsar sites are wetlands of international importance and although not covered under the Habitats Regulations they are, as a matter of national planning policy, subject to the same strict protection as SACs and SPAs. The majority of terrestrial Ramsar sites in England are also notified as SPAs and/or Sites of Special Scientific Interest (SSSIs).

To avoid confusion with the nationally designated sites described below, EPR refers to SACs and SPAs as 'International sites', given the reasons for their designation.

Any plan or project considered likely to affect an International site (SAC, SPA or Ramsar) must be subject to a Habitats Regulations Assessment (HRA), as set out under Regulation 63 (and Regulation 105 in respect of Land Use Plans) of the Habitats Regulations 2017 (as amended) and the National Planning Policy Framework (NPPF) 2021.

The local authority (or other 'competent authority') carries out the HRA, but the onus is on the developer to provide the necessary information to inform this process, usually in the form of a report.

Under the Habitats Regulations 2017 (as amended), the competent authority must determine in the first instance whether a proposed development is likely to have a significant effect on the SAC/SPA, either alone or in combination with other plans and projects. This stage of the HRA process is known as 'screening'.

If a likely significant effect cannot be precluded (screened out) on the basis of objective information, the competent authority must undertake an 'Appropriate Assessment' to fully assess these implications against the site's conservation objectives. A precautionary approach must be taken with respect to determining whether or not there would be a significant effect, and the appropriate nature conservation body (in most cases Natural England) should be consulted. Except in certain exceptional circumstances prescribed by the Regulations where there are imperative reasons of overriding public interest for allowing a development to proceed, the competent authority may not undertake or authorise the plan or project until they have established (based on the conclusions of the Appropriate Assessment) that the activity will not adversely affect the integrity of the SAC/SPA. This should be the case where no reasonable scientific doubt remains as to the absence of such effects.

Regulation 16A of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 sets out the management objectives of the National Site Network, which can be summarised as follows:

- to maintain or, where appropriate, restore habitats and species listed in Annexes I and II of the Habitats Directive within the UK's territory to a favourable conservation status (FCS); and

- contribute to ensuring, in their area of distribution, the survival and reproduction of wild birds and securing compliance with the overarching aims of the Wild Birds Directive.

The appropriate authorities must also have regard to:

- the importance of protected sites in meeting the above objectives, including breeding, moulting, staging and wintering areas for in the case of migratory bird species;
- their importance for the coherence of the national sites network; and
- the threats of degradation or destruction (including deterioration and disturbance of protected features) on SPAs and SACs.

Government guidance¹ also states that competent authorities have a duty to help protect, conserve and restore the designated features of SACs and SPAs when carrying out their statutory work, including taking decisions that might affect a site. They also have a duty to consider how they can help to prevent the deterioration of the site's habitats from human activity or natural changes, including habitats that support designated species, and prevent significant disturbance of the site's designated species from human activity or natural changes.

Competent authorities include (but are not limited to) local planning authorities, councillors, planning committee members and statutory agencies such as Natural England.

Statutory Sites: National

Nationally important sites include Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs). A development proposal that is likely to affect a nationally important site will be subject to special scrutiny by the local planning authority and Natural England. Certain operations may be permitted. Any potentially damaging operations that could have an adverse effect directly or indirectly on the special interest of the site will not be permitted unless the reasons for the development clearly outweigh the nature conservation and/or geological value of the site itself and the national policy to safeguard such sites, as set out in Section 15 of the National Planning Policy Framework (NPPF).

Sites of Special Scientific Interest

The Wildlife and Countryside Act 1981 (as amended) and the CRow Act 2000 provide the primary legal basis for the protection of Sites of Special Scientific Interest (SSSIs). These sites have been designated to capture the best examples of England's flora, fauna, geological or physiographical diversity.

Public bodies have a duty to take reasonable steps to conserve and enhance the special features of sites of special scientific interest (SSSIs) when carrying out their statutory duties and giving others permission for works, such as reviewing planning applications.

¹ <https://www.gov.uk/guidance/duty-to-protect-protect-protect-and-restore-european-sites>

National Nature Reserves

National Nature Reserves (NNRs) are declared under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981, as amended by the Environmental Protection Act 1990. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them. NNRs represent the very best parts of England's SSSIs. The majority of NNRs also have European nature conservation designations.

Statutory Sites: Regional/Local

Local Nature Reserves

Local Nature Reserves (LNRs) are declared by local authorities under the National Parks and Access to the Countryside Act 1949 as living green spaces in towns, cities, villages and countryside. They provide opportunities for research and education, or for simply enjoying and having contact with nature. LNRs are usually protected from development through local planning documents which may be supplemented by local by-laws.

Non-Statutory Sites

Local Wildlife Sites

Local planning authorities may designate non-statutory sites for their nature conservation value based on important, distinctive and threatened habitats and species within a national, regional and local context. These sites are not legally protected but are given some protection through the planning system. These sites may be declared as 'County Wildlife Sites', 'Sites of Importance for Nature Conservation' (SINCs), or 'Sites of Nature Conservation Importance' (SNCIs) in local and structure plans. Non-statutory sites are a material consideration when planning applications are being determined. The precise amount of weight to be attached, however, will take into account the position of the site in the hierarchy of sites as set out above. Further information is typically provided in local level planning policy.

Nature Conservation in Areas Outside Designated Sites

Various other features exist outside designated sites that are important for the conservation of nature and which are a material consideration in the planning system.

Habitats of Principal Importance in England

Fifty-six habitat types have been identified as Habitats of Principal Importance for the conservation of biodiversity in England under Section 41 of the NERC Act 2006. Although these habitats are not legally protected, the NPPF, Government Circular 06/05, good practice guidance and the NERC Act place a clear responsibility on planning authorities to further the conservation of these habitats. They can be a material consideration in planning decisions, and so developers are advised to take reasonable measures to avoid or mitigate impacts to prevent their net loss and to enhance them where possible. Additional guidance to developers is typically provided in local level planning policy.

The S41 list also includes species as explained below under 'Species of Principal Importance in England'.

Networks of Natural Habitats

Networks of natural habitats link sites of biodiversity importance and provide routes or stepping stones for the migration, dispersal and genetic exchange of species in the wider environment. Examples include rivers with their banks, traditional field boundary systems (such as hedgerows), ponds and small woods. Local planning authorities are encouraged through the NPPF to maintain networks by avoiding or repairing the fragmentation and isolation of natural habitats through planning, policies and development control.

Hedgerows

Hedgerows can act as wildlife corridors that are essential for migration, dispersal and genetic exchange of wild species. Hedgerows that qualify as a Habitat of Principal Importance under S41 of the NERC Act 2006 are a material consideration in the planning system.

Under the Hedgerow Regulations 1997, it is an offence to remove a hedgerow classed as 'important' under the criteria set out by the Regulations without submitting a notice to the Local Planning Authority and waiting for their decision. The Regulations are aimed at countryside hedges and do not apply to hedges around private dwellings or where planning permission has been granted for a project that includes hedge removal. Hedgerows that satisfy wildlife, archaeological, historical or landscape criteria qualify as 'important' under the Regulations. If a hedgerow is not important, the Local Planning Authority may not prevent its removal; however, Local Planning Authorities are required under the Regulations to protect and retain important hedgerows unless satisfied that the circumstances justify their removal.

Tree Preservation Orders

Tree Preservation Orders (TPOs) may be declared under the Town and Country Planning Act 1990 and the Town and Country Planning (Trees) Regulations 1999 to protect individual trees and woodlands from development and cutting. TPOs are primarily put in place to preserve amenity or for landscape conservation reasons. The importance of trees as wildlife habitat may be taken into account, but alone is not sufficient to warrant a TPO. For this reason, TPOs do not fit comfortably under the remit of nature conservation and are generally dealt with by an arboricultural consultant rather than an ecologist. Further guidance on TPOs in relation to development is available from the Department for Communities and Local Government.

Ancient Woodland & Veteran Trees

Ancient woodlands are defined as areas continuously wooded since at least 1600 AD. Even an ancient wood which has been replanted may still have remnants of ancient woodland wildlife and historical features and has potential to be restored. Ancient woodland is not a statutory designation and does not provide legal protection, but local authorities are advised under the NPPF and National Planning Practice Guidance (NPPG) not to grant planning permission for any development that would result in the loss or deterioration of ancient woodland, ancient trees or veteran trees unless there are 'wholly exceptional reasons' and 'a suitable compensation strategy in place'. Local Planning Authorities must take into account Natural England and the Forestry Commission's *Standing Advice for Ancient Woodland and Veteran Trees*, available on the www.gov.uk website.

Surface & Ground Waters

Surface waters (including flowing and standing water) and ground water can directly and indirectly impact upon the conservation of nature.

Guidance on pollution prevention is hosted on the Government's website and focuses on regulatory requirements. This covers topics including the prevention of pollution if you are a business, managing business and commercial waste, oil storage, working on or near water, and managing water on land. Careful planning and the application of these guidelines can help reduce the risk of construction and maintenance work causing pollution to surface and ground waters. Some activities with the potential to impact watercourses or groundwater may require consent under the Water Resources Act 1991.

Water Resources Act (WRA) 1991

Under the WRA there is strict regulation of discharges (including sediment, chemicals, nutrients) to rivers, lakes, estuaries and groundwaters. It also aims to ensure that polluters cover the costs associated with pollution incidents.

SPECIES PROTECTION

Legally Protected Species

The species listed in the following subsections are protected by law in England. When preparing a planning application, it is essential to determine the presence or likely absence of legally protected species and the extent to which they may be affected by a proposed development. This can best be achieved by undertaking surveys early in the planning process. Avoidance and/or mitigation measures may be required to address any predicted impacts upon protected species and may necessitate a licence. The Government website offers standing advice from Natural England and DEFRA which can be applied to planning applications that affect protected species.

Bats

There are 18 species of bat in the UK, seven of which are Species of Principal Importance in England. All bats and bat roosts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Bats are also a European Protected Species protected under the Habitats Regulations 2017 (as amended). It is an offence to:

- Intentionally or deliberately kill, injure or capture bats;
- Intentionally, deliberately or recklessly disturb bats in such a way as to be likely to significantly affect the ability of any significant group of bats to survive, breed, or rear or nurture their young or the local distribution of or abundance of a species of bat;
- Intentionally, or recklessly damage, destroy or obstruct any place used for shelter or protection (i.e. bat roosts) or intentionally or recklessly disturb a bat whilst it is occupying such a place;
- Damage or destroy a breeding site or resting place of a bat; and
- Possess, sell or transport a bat, or anything derived from it.

Development proposals affecting bats or their roosts require a European Protected Species mitigation licence from Natural England.

Birds

49 species of bird are listed as Species of Principal Importance in England. All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended), making it an offence, with certain exceptions (e.g. game birds), to intentionally kill, injure or take any wild bird and to take, damage or destroy their nests or eggs.

Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) affords extra protection for certain species and applies harsher penalties for offences. Any intentional or reckless disturbance of a Schedule 1 bird, whilst it is nesting or rearing dependent young, constitutes an offence.

Regulation 10 of the Conservation of Habitats and Species Regulations 2017 (as amended) requires appropriate authorities and conservation bodies, in the exercise of their functions, to take such steps that they consider appropriate in order to secure “*the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat (...)*”.

Wild Mammals

All wild mammals are protected against cruelty under the Wild Mammals (Protection) Act 1996, which 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.

Licences for Development

Licences are required to permit activities prohibited under wildlife legislation, namely the disturbance or capture of protected species or damage to their habitats. Natural England is the licensing authority in England. Licences are only issued for certain purposes, which are set out in the legislation, and only where there is a valid justification. The licences most relevant to development scenarios are discussed below.

European Protected Species Mitigation Licences

A European Protected Species mitigation licence (EPSL) is required from Natural England to undertake any development that is reasonably likely to result in an offence in respect of a European Protected Species protected under Schedule 2 of the Habitats Regulations 2017 (as amended); including *inter alia* all species of bats, Hazel Dormouse, Great Crested Newt and European Otter. Natural England must be satisfied that the following three tests are satisfied before it will issue a licence covering a European Protected Species:

1. The proposal is necessary to preserve public health or public safety, or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
2. There is no satisfactory alternative; and
3. The proposal will have no detrimental effect to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Conservation Licences

In the context of development, conservation licences are normally only relevant to mitigation involving the capture of Water Voles or White-Clawed Crayfish. Conservation licences are granted to permit the trapping and translocation of these species on the condition that the development activity is properly planned and executed and thereby contributes to the conservation of the population of the species.

Badger Licences

Licences to disturb Badgers and their setts in respect of development may be issued by Natural England, provided provisions are made to minimise disturbance.

Species of Principal Importance in England

943 species have been identified as being of Principal Importance for the conservation of biodiversity in England under Section 41 (S41) of the NERC Act 2006. The S41 list includes species found in England which have been identified as requiring action under the now superseded UK Biodiversity Action Plan 2007 (plus the Hen Harrier). While many of these species may not be legally protected (some are protected under the legislation described above), there is a clear responsibility on local planning authorities to further their conservation. These species can be a material consideration in development control decisions and so developers are advised to take reasonable measures to avoid or mitigate impacts to prevent the net loss of these species, and to enhance their habitats where possible. Additional guidance to developers is typically provided in local level planning policies.

Invasive Non-Native Species

There are a number of species not ordinarily resident in the UK, such as Japanese Knotweed. Those which pose a significant threat, if uncontrolled, to our ecology and economy are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). For an offence to be committed, a species must be released or allowed to escape into the wild. For example, if a plant listed on Schedule 9 is not adequately controlled by a land owner, once they are aware that it is present, and the species is allowed to spread into adjoining areas, then this could constitute an offence.

Japanese Knotweed is also classed as 'controlled waste' under the Environment Protection Act 1990 (as amended) and if taken off site it must be disposed of safely at a licensed landfill site. Soil containing rhizome material should also be regarded as contaminated and treated accordingly.

Species Control Orders

A new schedule 9A was inserted into the Wildlife and Countryside Act 1981 (as amended) by Sections 23 to 25 of the Infrastructure Act 2015. This gives environmental authorities (in England the Secretary of State, Environment Agency, Natural England and the Forestry Commission) the power to offer 'species control agreements' to landowners in respect of invasive and/or non-native species, such as Japanese Knotweed. If the landowner does not comply with a species control agreement, or refuses to enter into one, the environmental authority may issue a 'species control order', requiring the owner to eradicate or control the species, or to allow the environmental authority access to carry out these operations themselves.

If the owner does not comply with the species control order, the maximum penalty if convicted is a fine of up to £40,000 and/or imprisonment for up to 51 weeks. The environmental authority can also recover costs for carrying out the necessary work themselves.

PLANNING POLICY & GUIDANCE

This section set out the main planning policy and government guidance that relates to the conservation of nature at all levels of government.

National Level

National Planning Policy Framework 2021

The National Planning Policy Framework (NPPF) 2021 sets out the Government's planning policies for England and how these should be applied in local-level policy and decision making. The NPPF has a clear "presumption in favour of sustainable development" (paragraph 11), with economic, social and environmental objectives. This presumption does not apply where a plan or project has failed the 'appropriate assessment' test under the Habitats Regulations (paragraph 182).

Section 15 of the NPPF provides guidance on conserving and enhancing the natural environment through the planning system, as summarised below.

Firstly, planning policies and decisions should contribute to and enhance the natural and local environment by applying the following key principles:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; and
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.

Section 15 also requires planning policies and decisions to limit the impact of artificial light pollution on nature conservation.

Secondly, when determining planning applications, local planning authorities should apply the following key principles:

- if significant harm resulting from a development cannot be avoided, adequately mitigated or (as a last resort) compensated for, then planning permission should be refused;
- proposed development that is likely to have an adverse effect on a SSSI (either individually or in combination with other developments) should normally be refused;

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

In the case of SSSIs and irreplaceable habitats, exceptions may be made if it can be clearly demonstrated that the benefits of the development, in that location, clearly outweigh the costs in terms of loss or adverse impacts.

Section 15 specifies that listed or proposed Ramsar sites, potential European sites, and sites identified or required as compensatory measures for adverse effects on designated/listed or potential/proposed European and Ramsar sites should be given the same protection as designated European sites.

Section 15 includes the following text on air quality:

- Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas;
- Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications; and
- Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.

The NPPF also sets out principles for plan-making, including the allocation of land with the least environmental or amenity value, and taking a strategic approach to maintaining and enhancing networks of habitats and green infrastructure by identifying, mapping and safeguarding components of local wildlife-rich habitats, wider ecological networks, wildlife corridors and stepping stones, and those areas identified by national and local partnerships for habitat management, enhancement, restoration or creation.

Government Circular 06/05: Biodiversity and Geological Conservation

The Government produced Circular 06/05 to provide guidance on the application of the law to the conservation of nature. Although the document is in the process of being updated, Paragraphs 98 and 99 remain relevant as they set out the following principles and obligations:

- The presence of protected species is a material consideration when determining a development proposal;
- Local authorities should consult with Natural England before granting permission, and consider imposing planning conditions or obligations to secure the long-term protection of the species;
- The presence of protected species, and the extent to which they may be affected by the proposed development, must be established before permission is granted;
- Given the delay and cost that may be involved, developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development.

MHCLG Planning Practice Guidance

Revised and updated Planning Practice Guidance (PPG) was launched by the Department for Communities and Local Government (now the Ministry of Housing, Communities and Local Government, MHCLG) as a web-based tool in March 2014 to accompany the NPPF. The webpages are set out in a Q&A format. The PPG consolidates and supersedes existing guidance on a range of planning-related topics, clarifies some of the statements made in the NPPF, and provides links to relevant legislation and other sources of advice.

The Guidance outlines a number of important principles in relation to nature conservation and biodiversity, including the need to integrate biodiversity into all stages of the planning process and to consider opportunities to enhance biodiversity and contribute to the Government's commitments and targets set out in *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*.

The guidance also requires that "an ecological survey will be necessary in advance of a planning application if the type and location of development are such that the impact on biodiversity may be significant and existing information is lacking or inadequate", and recommends that "local planning authorities should only require ecological surveys where clearly justified, for example if they consider there is a reasonable likelihood of a protected species being present and affected by development."

Other guidance

In addition to the Planning Practice Guidance, various other forms of guidance and standards are available in relation to biodiversity and the development process. Of particular note is *British Standard BS42020:2013 Biodiversity – Code of practice for planning and development*, published in August 2013, which replaces *Planning to Halt the Loss of Biodiversity (PAS 2010): Biodiversity conservation standards for planning in the United Kingdom*.

This document is designed to complement the NPPF and is aimed at organisations concerned with ecological issues throughout the planning process, including local authorities, developers, planners and ecological consultants. It sets out step-by-step recommendations on how to incorporate biodiversity considerations at all stages of the planning process, with a focus on the provision of consistent, high quality and appropriate ecological information, effective decision making, and high standards of professional conduct and competence.

Regional Level

Regional plans (such as the South East Plan Regional Spatial Strategy) have been revoked, but some specific policies have been saved. The only policy saved from the South East Plan is Policy NRM6, which relates to the Thames Basin Heaths Special Protection Area (TBH SPA).

London Plan, 2021

Policy G5 - Urban Greening

- A) Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.
- B) Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development (excluding B2 and B8 uses).
- C) Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.

Local Level

Haringey Local Plan Development Management Policies 2017

Policy DM19 – Nature Conservation

- A) Development proposals on sites which are, or are adjacent to, internationally designated sites, Sites of Special Scientific Interest, Local Nature Reserves, Sites of Importance for Nature Conservation or Ecological Corridors, should protect and enhance the nature conservation value of the site.
- B) Development that has a direct or indirect adverse impact upon important ecological assets, either individually or in combination with other development, will only be permitted where:
 - a The harm cannot be reasonably avoided; and
 - b It has been suitably demonstrated that appropriate mitigation can address the harm caused.

Policy DM23 – Environmental Protection

Development proposals that include external lighting must mitigate potential adverse impacts from such lighting. Where appropriate, proposals will be required to submit details demonstrating that external lighting is:

- a Appropriate for its purpose in its setting;
- b Designed to minimise and provide protection from glare and light spillage, particularly to sensitive receptors such as residential properties and natural habitats, including watercourses;

Haringey Local Plan Tottenham Area Action Plan (2017)



Haringey Sustainable Design and Construction SPD (2013)

Enhancing Biodiversity –

All development should contribute, where possible, to improving biodiversity in the borough and should increase the number and coverage of plant species on a site. Measures include:

- Artificial habitats, such as swift boxes, bat bricks and stag beetle loggerys, should be integrated into the design of buildings, unless this is demonstrated to not be feasible. This is particularly important where there is limited space for natural habitat
- Green/brown walls or roofs are to be included in the scheme, unless this is not feasible
- Design and Access Statements should explain how the development has been designed to maximise its contribution to nature conservation in the light of site constraints. This should include information on plant species that will be used and how opportunities to link with nearby open spaces have been addressed
- Where specialist habitat areas are proposed, information on how the new habitat will be managed and maintained throughout the lifetime of the development should be provided
- Net gain of biodiversity and access to nature on the development site and a reduction in areas of deficiency in access to nature

Sites Known to Contain Protected Species –

- Where protected species are known to use a site, or a Scoping Study recommends, a full ecological assessment should be submitted with a planning application. This assessment should explain how negative impacts have been minimised. Where negative impacts are unavoidable, justification should be provided on how these are outweighed by the environmental, social and economic benefits of the scheme.
- Details on what alternative development options have been considered to avoid or reduce negative impacts should be provided, along with an explanation of why the option chosen is the best one.
- Details of proposed compensation will need to be provided, including when the compensation will be provided and how it overcomes the negative impacts. If adequate mitigation and compensation is not in place planning permission will be refused.
- A licence may be required from Natural England where development is to occur on sites where there are protected species.
- Where developments include or front watercourses, measures to enhance the waterfront / riverbank habitat should be included. Biodiversity Plans and Strategies

Designated Sites

The borough contains several designated sites which should be considered before submitting a planning application, to ensure that the development will not have an adverse impact. The designations include:

- Sites of Importance for Nature Conservation (SINCS)
- Local Nature Reserves
- Ecological Corridors

Biodiversity Plans and Strategies

The NERC Act 2006 places a duty on local authorities to have due regard to biodiversity when exercising their normal functions, and the NPPF requires planning policies to “promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species, and identify and pursue opportunities for securing measureable net gains for biodiversity” (paragraph 174). These targets are set out in a range of biodiversity plans and strategies from the international through to the district level.

An overview of the key biodiversity plans and strategies in the UK, and their implications for development, are set out below.

National level

The *UK Biodiversity Action Plan 2007* (UK BAP) has been superseded by the *UK Post-2010 Biodiversity Framework* and individual national biodiversity strategies. The UK Framework sets out the overarching vision, strategic goals and priority activities for the UK’s work towards international biodiversity targets

(known as the 'Aichi Targets'), as agreed by 192 parties at the UN Convention on Biological Diversity in 2010.

In England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services* is the national biodiversity strategy, which has the stated mission "(...) to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people." In order to focus activity and assess performance in achieving this mission, Biodiversity 2020 sets out objectives relating to terrestrial and marine habitats and ecosystems, species and people.

Local level

While BAPs at the national level have now been superseded by *the UK Post-2010 Biodiversity Framework* and *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, many county and district level BAPs still exist.

Delivering Net Gain

Biodiversity Net Gain is likely to become mandatory upon adoption of the emerging Environment Bill, which is currently passing through Parliament. This proposes a minimum 10% net gain for new developments. BNG is already enshrined in the key principles of the NPPF, and is increasingly becoming a requirement in local level planning policies, which may set higher net gain targets (20% in some cases). Typically a metric calculation tool such as the DEFRA/Natural England metric is used to calculate net gains and losses.

Enhancement projects may not just benefit biodiversity. There are many functional benefits to be won from strategically planned green infrastructure projects such as semi-natural urban green spaces, sustainable urban drainage schemes (SUDS) and green roofs. Planning conditions and obligations are increasingly being used to mandate biodiversity enhancement on or off a development site, either through design or financial support.

Appendix 3

Assessment Methods

Overview

The approach to Ecological Impact Assessment (EcIA) taken in this report takes account of guidance in the Chartered Institute of Ecology and Environmental Management (CIEEM) ‘*Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland*’ (CIEEM, 2018). The Preface of the CIEEM EcIA Guidelines states:

“Biodiversity: Code of practice for planning and development published by the British Standards Institute (BS 42020:2013) cites the CIEEM EcIA Guidelines as the acknowledged reference on ecological impact assessment. The Guidelines are consistent with the British Standard on Biodiversity, which provides recommendations on topics such as professional practice, proportionality, pre-application discussions, ecological surveys, adequacy of ecological information, reporting and monitoring.”

In accordance with the above guidance, EPR takes the following step-wise approach to EcIA:

- Prediction of the activities associated with a proposed scheme that are likely to generate biophysical changes which may lead to significant effects (either positive or negative) upon Important Ecological Features (IEFs);
- Identification of the likely Zone of Influence (Zol) of those activities;
- Scoping to select the ecological features (habitats, species, ecosystems and their functions/processes) that are likely to fall within the predicted Zols and be affected by the activities;
- Evaluation of IEFs likely to be affected – both negatively and positively;
- Identification of likely impacts (positive and negative) on IEFs, together with an assessment of the geographic level at which effects are likely to be significant;
- Application of the mitigation hierarchy - refinement of the proposed scheme to incorporate impact avoidance and/or mitigation measures for negative effects on IEFs, and enhancements in order to deliver net gains;
- Assessment of the significance of residual effects and identification of any policy drivers for additional mitigation or compensation in the event of residual significant negative effects; and
- Advice on conformance with policy and legislation.

Ecological Evaluation Method

The evaluation method used in this EcIA uses the following geographic scale of importance for ecological features:

- International/European;

- National;
- Regional;
- County (or Metropolitan or Local Authority-wide area);
- Local; and
- Within the Zone of Influence.

With this in mind, features taken forward for detailed impact assessment are those which:

- Are evaluated as being of at least 'Local' ecological importance, or have the potential to be so; and
- Are likely to be affected, positively or negatively, by the proposals.

Ecological features deemed to be of less than 'Local' importance are considered throughout the EcIA process in the context of the national planning policy requirement for 'Biodiversity Net Gain'. The implications for those features that are protected by legislation are also discussed separately at the end of the EcIA report.

Ecological Importance is judged with reference to the following factors:

- Statutory requirements and policy objectives (e.g. site designations or the country lists of habitats and species of principle importance for the conservation of biodiversity); and
- Biodiversity value (e.g. diversity, rarity, scarcity, function within ecosystem, population trends).

Impact Assessment Method

The ecological features selected to be included in the assessment are those which both meet the importance threshold and are likely to be affected by the proposed scheme.

The first stage of the assessment is to determine the potential impacts upon each important ecological feature, with reference to the likely biophysical changes arising from the proposals. Impacts can be characterised according to their extent, magnitude, duration, timing, frequency, reversibility, and whether they are positive or negative.

The likelihood of cumulative impacts with other planned or consented projects is also taken into account at this stage.

An assessment is then made of whether the effect(s) of an impact upon an important ecological feature is likely to be considered 'significant' in EcIA terms.

Significant Effects

The EclA Guidelines state that:

“Significance is a concept related to the weight that should be attached to effects when decisions are made. For the purpose of EclA, ‘significant effect’ is an effect that either supports or undermines biodiversity conservation objectives for ‘important ecological features’ or for biodiversity in general.....in broad terms, significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution).”

Put simply, an effect is considered significant if it is likely to change the structure and function of defined sites and ecosystems or the conservation status of habitats and species.

Professional judgement about significance is informed by conservation objectives for the affected feature, where available (for example conservation objectives set by Natural England for European designated sites, or in habitat and species action plans). The ‘conservation status’ (habitats and species) or the degree to which a feature is exhibiting ‘integrity’ in terms of structure, function and condition (defined sites or ecosystems) is also considered. The predicted effect of natural and man-made trends in the absence of development is also taken into account in determining the conservation status or integrity of a feature and in considering whether otherwise insignificant effects may contribute to a significant cumulative effect.

The CIEEM Guidelines state:

“The evaluation of significant effects should always be based on the best available scientific evidence. If sufficient information is not available further survey or additional research may be required. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect should be assumed. Where uncertainty exists, it must be acknowledged in the EclA.”

Appendix 4

Ecological Field Survey Methodology

Land Use, Habitat Types, Vegetation Communities and Flora

Within the study area the land use, habitat types and landscape features (such as hedgerows and veteran trees) were described and mapped. For each main habitat type the dominant vegetation communities were recorded, along with any notable or indicator plant species, (including invasive species such as Japanese Knotweed where present). A preliminary evaluation of the structure, quality and likely management of each habitat or feature was also carried out.

The survey method used to record this information was based on Phase 1 Habitat Survey methodology (JNCC 1993). Botanical nomenclature in this report follows Stace (2010).

Fauna

The potential for habitats and features to support protected or notable species, or species of principal importance for the purpose of conserving biodiversity, were recorded, as were any signs encountered. The following is a summary of the approach taken for this Ecological Appraisal.

Badgers

Consideration was given to the presence of habitat potentially suitable for supporting Badgers, including woodland and grassland. Potential evidence of the presence of Badgers was looked out for and noted, including earthworks that might be Badger setts, and signs such as dung pits, mammal pathways through ground vegetation and under fences, and hairs on fences.

Bats

Bats use buildings and trees for roosting and breeding and, where present, a preliminary assessment of the potential for these features to support bats was undertaken during the survey. Potential may include gaps beneath roof or hanging tiles, in soffits, or beneath the end of ridge tiles, but also under the edge of felt on flat roofs. In trees potential roosting features include woodpecker holes, splits in branches and peeling bark.

Preliminary evidence was obtained through noting any staining around potential roost entrances, and looking for bat droppings, for example on window sills. A preliminary evaluation was also undertaken of potential bat foraging habitat in the area, including woodland, pasture, hedges and watercourses.

Birds

Any birds seen whilst carrying out the survey were recorded, and the type and quality of habitats available for birds was considered, including vegetation suitable for nesting, and habitat with the potential to support valued species, including breeding and wintering birds.

Appendix 5

SINC Designations Additional Detail Provided by GiGL

The Different Kinds of Sites and Areas

There are three kinds of site, which are chosen on the basis of their importance to a particular defined geographic area. This use of search areas is an attempt, not only to protect the best sites in London, but also to provide each part of London with a nearby site, so that people are able to have access to enjoy nature.

Sites of Metropolitan Importance

Sites of Metropolitan Importance for Nature Conservation are those sites which contain the best examples of London's habitats, sites which contain particularly rare species, rare assemblages of species or important populations of species, or sites which are of particular significance within otherwise heavily built-up areas of London.

They are of the highest priority for protection. The identification and protection of Metropolitan Sites is necessary, not only to support a significant proportion of London's wildlife, but also to provide opportunities for people to have contact with the natural environment.

The best examples of London's habitats include the main variants of each major habitat type, for example hornbeam woodland, wet heathland, or chalk downland. Habitats typical of urban areas are also included, e.g. various types of abandoned land colonised by nature ('wasteland' or 'unofficial countryside'). Those habitats which are particularly rare in London may have all or most of their examples selected as Metropolitan Sites.

Sites of Metropolitan Importance include not only the best examples of each habitat type, but also areas which are outstanding because of their assemblage of habitats, for example the Crane corridor, which contains the River Crane, reservoirs, pasture, woodland and heathland.

Rare species include those that are nationally scarce or rare (including Red Data Book species) and species which are rare in London.

A small number of sites are selected which are of particular significance within heavily built up areas of London. Although these are of lesser intrinsic quality than those sites selected as the best examples of habitats on a London-wide basis they are outstanding oases and provide the opportunity for enjoyment of nature in extensive built environments. Examples include St James's Park, Nunhead Cemetery, Camley Street Natural Park and Sydenham Hill Woods. In some cases (e.g. inner London parks) this is the primary reason for their selection. For sites of higher intrinsic interest it may only be a contributory factor. Only those sites that provide a significant contribution to the ecology of an area are identified.

A small number of sites are selected which are of particular significance within heavily built up areas of London. Although these are of lesser intrinsic quality than those sites selected as the best examples of habitats on a London wide basis they are outstanding oases and provide the opportunity for enjoyment of nature in extensive built environments. Examples include St James's Park, Nunhead Cemetery, Camley Street Natural Park and Sydenham Hill Woods. In some cases (e.g. inner London parks) this is the primary reason for their selection. For sites of higher intrinsic interest it may only be a

contributory factor. Only those sites that provide a significant contribution to the ecology of an area are identified.

Should one of these sites be lost or damaged, something would be lost which exists in a very few other places in London. Management of these sites should as a first priority seek to maintain and enhance their interest, but use by the public for education and passive recreation should be encouraged unless these are inconsistent with nature conservation.

Sites of Borough Importance

These are sites which are important on a borough perspective in the same way as the Metropolitan sites are important to the whole of London. Although sites of similar quality may be found elsewhere in London, damage to these sites would mean a significant loss to the borough. As with Metropolitan sites, while protection is important, management of Borough sites should usually allow and encourage their enjoyment by people and their use for education.

In defining Sites of Borough Importance, the search is not confined rigidly to borough boundaries; these are used for convenience of defining areas substantially smaller than the whole of Greater London, and the needs of neighbouring boroughs should be taken into account. In the same way as for Sites of Metropolitan Importance, parts of some boroughs are more heavily built-up and some borough sites are chosen there as oases providing the opportunity for enjoyment of nature in extensive built environments.

Planning Policy Statement on Biodiversity and Geological Conservation (2005), in paragraph 5 (i), states that local development frameworks should indicate the location of designate sites for biodiversity and geodiversity, including locally designated sites.

Since essentially a comparison within a given borough is made when choosing Sites of Borough Importance, there is considerable variation in quality between those for different boroughs; for example, those designated in Barnet will frequently be of higher intrinsic quality than those in Hammersmith and Fulham, a borough comparatively deficient in wildlife habitat. Only those sites that provide a significant contribution to the ecology of an area are identified.

Sites of Local Importance

A Site of Local Importance is one which is, or may be, of particular value to people nearby (such as residents or schools). These sites may already be used for nature study or be run by management committees mainly composed of local people. Where a Site of Metropolitan or Borough Importance may be so enjoyed it acts as a Local site, but further sites are given this designation in recognition of their role. This local importance means that these sites are also deserving protection in planning.

Local sites are particularly important in areas otherwise deficient in nearby wildlife sites. To aid the choice of these further local sites, Areas of Deficiency (see below) are identified. Further Local sites are chosen as the best available to alleviate this deficiency; such sites need not lie in the Area of Deficiency, but should be as near to it as possible. Where no such sites are available, opportunities should be taken to provide them by habitat enhancement or creation, by negotiating access and management agreements, or by direct acquisition. Only those sites that provide a significant contribution to the ecology of an area are identified.

Appendix 6

BNG Calculation Headline Results

Brunel Walk and Ashley Road

Headline Results

Return to results menu

On-site baseline	Habitat units	3.36
	Hedgerow units	0.00
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	4.14
	Hedgerow units	0.00
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	23.32%
	Hedgerow units	0.00%
	River units	0.00%
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.78
	Hedgerow units	0.00
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	23.32%
	Hedgerow units	0.00%
	River units	0.00%
Trading rules Satisfied?	Yes	