13. BIODIVERSITY

Introduction

13.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of biodiversity. This chapter has been prepared by Aspect Ecology. The chapter describes the assessment methodology; the baseline conditions at the Site and its surroundings; the likely significant environmental effects; the mitigation measures required to prevent or reduce any significant adverse effects; the likely residual effects after these measures have been employed; any compensation measures to offset significant residual effects; and enhancement measures to provide gains in biodiversity.

13.2 The chapter is supported by the following technical appendices:

- Appendix 13.1: Baseline Ecological Appraisal
- Appendix 13.2: Document to Inform a Habitats Regulations Assessment
- Appendix 13.3: Defra Biodiversity Metric 2.0 Calculations

Policy Context

National Planning Policy

13.3 A number of national policy documents are relevant in terms of nature conservation and ecology:

- National Planning Policy Framework (NPPF)i. The NPPF describes the Government's national policies on 'conserving and enhancing the natural environment' within Chapter 15, setting out the approach to dealing with biodiversity in the context of planning applications.
- Planning Practice Guidance (PPG) on 'Biodiversity, ecosystems and green infrastructure'ii. PPG provides additional detail and guidance on aspects of the National Planning Policy Framework. In respect of the Natural Environment, the NPPG places additional emphasis on biodiversity enhancement and highlights the importance of ecological networks and landscape habitat features.
- ODPM Circular 06/2005iii. This provides further guidance on the application of the law relating to planning and nature conservation.
- 25 Year Environment Planiv. This sets out the strategic direction for environmental policy within England for the next 25 years.

Local Planning Policy

13.4 One policy relevant to nature conservation and ecology is included under the Waltham Forest Local Plan Core Strategy (March 2012)[v]:

- CS5 – Enhancing Green Infrastructure and Biodiversity

13.5 A number of policies relevant to nature conservation and ecology are set out under the Waltham Forest Draft Local Plan (July 2019)[vi]:

- Policy 84 – Green Infrastructure and the Natural Environment
- Policy 86 – Biodiversity and Geology
- Policy 87 – The Lee Valley Regional Park and Epping Forest

Legislative Context

13.6 The applicable legislative framework for ecology and nature conservation is summarised as follows:

- The Conservation of Habitats and Species Regulations, 2017 (as amended)[vii];
- Wildlife and Countryside Act, 1981 (as amended)[viii];
- The Natural Environment and Rural Communities Act, 2006[ix];
- The Countryside and Rights of Way Act, 2000[x];
- Town and Country Planning (Environmental Impact Assessment) Regulations, 2017[xi];
- The Hedgerows Regulations, 1997[xii];
- The Protection of Badgers Act, 1992[xiii]; and
- The Wild Mammals (Protection) Act, 1996[xiv].

13.7 Discussion of this legislation is provided in relation to particular ecological features and fauna in the relevant sections of this chapter and the Baseline Ecological Appraisal (see Appendix 13.1).

Assessment Methodology

Consultation

13.8 This chapter is informed by EIA scoping advice provided by Waltham Forest Council. This sets out the scope of the assessment in respect of biodiversity can be limited to potential for

effects on designated sites as the Site itself is of limited ecological value. Reference is also made to comments provided by Natural England, which reference the interim advice relating to Epping Forest SAC mitigation published by Natural England on 6 March 2019. In line with this advice, the Development needs to provide a suitable package of avoidance and mitigation measures and financial contributions to Strategic Access Management and Monitoring (SAMM).

Scope

Geographical Scope

13.9 To inform the scope of the assessment, consideration has been given to the zone of influence of the Development. The zone of influence is defined as the area over which ecological features may be affected by the biophysical changes caused by a proposed project and associated activities. The extent of such changes will typically reduce over distance, and whether effects are experienced is dependent on the sensitivity of individual habitats, species or other ecological features, such that it is difficult to define a specific zone of influence which captures all potential effects arising from the Development. As such, two broad zones are identified:

- A primary zone of influence largely relating to the Site itself, incorporating habitats and associated species directly affected by the Development footprint and associated works (in terms of habitat loss or damage). This zone also includes areas affected by factors such as noise, vibration, lighting, dust and pollution, the effects of which will be focused within the nearby surrounds (i.e. within 100m) of the Development. Survey work has specifically focused on this area, to allow an assessment of habitats and species directly affected by the Development; and
- Beyond this, a wider (or secondary) zone of influence exists, where ecological features may be subject to wider scale effects such as recreational disturbance, air pollution from traffic or water pollution within the wider river catchment. The assessment of features within this zone is largely based on background information identifying ecological designations, known habitats or species populations of importance which could be sensitive to such wider scale effects.

Temporal Scope

13.10 This assessment is based on survey work undertaken by Aspect Ecology in 2020, providing an up-to-date baseline for assessment. Consideration of any likely changes to the future baseline are included within the chapter.

Scope of Assessment

13.11 This chapter assesses the likely significant effects of the Development on features of ecological importance within the zone of influence, to include ecological designations, habitats and faunal species.

13.12 Ecological features and resources not considered to be of 'importance', based on the approach set out by the Chartered Institute of Ecology and Environmental Management (CIEEM) Ecological Impact Assessment (EcIA) Guidelines, are not necessary to consider in terms of significant effects and are scoped out of the assessment. This includes non-priority habitats of low ecological value including amenity grassland and ornamental planting, and common mammal and invertebrate species not listed as priority species or subject to legislative protection.

13.13 Similarly, receptors not considered to be of importance at the local level or above (of site importance only) are scoped out of this assessment, although consideration of mitigation and legislative requirements for protected species, if present, is given under the Mitigation Measures section.

Establishing Baseline Conditions

13.14 The methodology utilised for the survey work can be split into three main areas: desktop study, habitat survey, and faunal survey. Further detail on survey methodology is provided in the Baseline Ecological Appraisal at Appendix 13.1, and a summary is set out below:

Desktop Study

13.15 In order to compile background information on the Site and its immediate surroundings, a number of recording organisations and online data sources were consulted:

- Greenspace Information for Greater London (GiGL);
- Multi-Agency Geographic Information for the Countryside (MAGIC) database; and
- Woodland Trust database of notable, veteran and ancient trees.

Habitat Survey

13.16 The Site was subject to habitat survey in June 2020, in order to ascertain the general ecological value of the land contained within the boundaries of the Site and to identify the

main habitats present. The survey was based on extended Phase 1 survey methodology (Joint Nature Conservation Committee, 2010)[xv], as recommended by Natural England, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat.

Faunal Surveys

13.17 General faunal activity, such as mammals or birds observed visually or by call during the course of the survey was recorded. Specific faunal survey work was also undertaken for bats and Badger, as set out at Table 13.1 below. Further detail on survey methodologies is provided in Appendix 13.1.

Table 13.1: Summary of faunal surveys undertaken at the Site

Faunal group	Survey methodology	Date of surveys
Bats[xvi], [xvii]	**Tree and building investigations:** an examination of the trees within and adjacent to the Site was undertaken (where access was available) to search for the presence of features which could be of potential value to roosting bats such as splits, cracks, rot holes, coverings of ivy, peeling bark or similar. An external inspection of buildings has also been undertaken to provide an assessment of roosting potential based on the nature of construction and presence of enclosed roof voids or external roosting features.	Conducted during Phase 1 survey (June 2020)
Badger[xviii]	The Site and immediate surrounds (where access was available) were surveyed for evidence of Badger setts and activity, including presence of well-worn paths, push-throughs, snagged hair, footprints, latrines and foraging signs.	Conducted during Phase 1 survey (June 2020)

Evaluation of Ecological Baseline

13.18 The approach taken to evaluation in this chapter is based on that described in the CIEEM EcIA guidelines whereby important ecological features are identified, and these are considered within a defined geographical context using the following frame of reference:

- International;
- National;
- Regional;
- County;
- District;
- Local; and
- Site (not of elevated importance at a local level).

13.19 Features considered to be of importance at the site level only have been scoped out of this assessment (with the exception of protected species which are considered in terms of mitigation and any legislative requirements).

13.20 Further details on this approach and the criteria used for evaluation are provided in Appendix 13.1.

Determining Effect Significance

13.21 The approach for the assessment of impacts follows the CIEEM EcIA guidelines which set out a methodology for the assessment of potential effects arising from development. These methods are summarised below.

13.22 Based on the Development set out in Chapter 3 'Site and Development Description', likely effects are determined with reference to aspects of the ecological structure and function on which the feature or resource depends. This includes factors such as the available resources, ecological processes, human influences, historical context, ecological relationships, ecological role or function and ecosystem properties. Based on this context, the nature of the effect is characterised and considered under the following parameters:

- Positive or negative – will the activity lead to an adverse, beneficial or neutral effect;
- Extent – the size or amount of an impact, the area of habitat or number of individuals affected;
- Duration – the time for which the impact is expected to last prior to recovery or replacement, i.e. short-term or long-term;
- Reversibility – an effect may be irreversible in that recovery is not possible within a reasonable timescale or there is no reasonable chance of action being taken to reverse it, i.e. permanent or temporary;
- Timing and frequency – some changes may only cause an impact if they coincide with critical life-stages or seasons, whilst frequent events may cause a greater effect than a single event.

13.23 Based on these parameters, the scale of effect (or magnitude) can be summarised as follows. This is in relation to adverse effects, although a similar scale can be applied to beneficial effects.

Table 13.2: Assessment of scale of effect

Magnitude	Effect on receptor
Major	A permanent or long-term effect on the receptor, which may result in severe damage to key characteristics and implications for the integrity of the receptor or its conservation status.
Moderate	Impacts resulting in partial loss of or damage to a receptor, which could have implications for the integrity of the receptor or its conservation status.
Minor	Short-term or temporary impacts resulting in only minor loss of or damage to a receptor, unlikely to have implications for the integrity of the receptor or its conservation status.
Negligible	No effect or only a short-term reversible impact with no long-term effect on the receptor.

13.24 Based on the nature of the effect, an assessment is then made whether the effect on a habitat or species is likely to be ecologically 'significant'. CIEEM guidance defines a 'significant effect' as:

> *"an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general" [going onto state that] "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)."*

13.25 Significance is also assessed at an appropriate geographic scale. For example, a significant effect on a Site of Special Scientific interest (SSSI) would be of national significance. Notwithstanding this however, consideration is also given to whether an effect is significant at a scale below the geographic context in which the feature is considered important.

13.26 For some ecological features (notably designations), there may be an existing statement of the conservation status of a feature and objectives and targets against which the effect can be judged. For example, Sites of Special Scientific Interest (SSSI) are assessed under six condition categories, namely favourable, unfavourable recovering, unfavourable no change, unfavourable declining, part destroyed, and destroyed. An effect that exerts a change between these condition categories would be considered as significant.

13.27 Where no existing statement of conservation status is available, an assessment is made against the existing status and condition of the habitat or species population, as recorded by survey data and background information, taking into account the level of ecological resilience or existing conditions that a habitat or species is currently subject to. An effect resulting in a long-term change to the existing background population trend or status at a given geographical level would be considered as significant. In this regard, a significant beneficial impact could be defined as one that prevents or slows an existing decline in the favourable conservation status of a habitat or population as much as one that permitted a population or

habitat area to increase.

13.28 The likelihood or uncertainty of an effect occurring as predicted is also considered. To assist with defining certainty, the following scale is used (with broad confidence levels indicated in percentage terms):

- Certain/near-certain: probability estimated at 95% chance or higher;
- Probable: probability estimated above 50% but below 95%;
- Unlikely: probability estimated above 5% but less than 50%;
- Extremely unlikely: probability estimated at less than 5%.

Limitations and Assumptions

13.29 All of the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat survey was undertaken within the optimal season therefore allowing a robust assessment of habitats and botanical interest across the Site.

13.30 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, site management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.

13.31 The areas of dense scrub at the south eastern and eastern site boundaries were located inside an inaccessible fence and as such could not be directly accessed for the survey. These areas were viewed from within the Site and along Forest Road, and as such an assessment of the habitat and faunal potential was undertaken as far as possible, although it is acknowledged that there is potential for Badger setts or trees supporting bat roosting potential to have been missed due to this lack of access. Nevertheless, these areas will be largely retained. It is proposed that should works affect this habitat, a survey is undertaken at the appropriate stage.

Baseline Conditions

Ecological Designations

13.32 Ecological designations that occur within the local area are summarised in Table 13.3 below. Further detail including a plan detailing locations is provided in Appendix 13.1.

Table 13.3: Ecological designations situated within the vicinity of the Site

Name	Designation	Brief description	Distance from Site	Level of importance
International Designations (within 20km)				
Epping Forest	Special Area of Conservation (SAC)	Designated for Annex I Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*) and Annex II Stag Beetle *Lucanus cervus.*	420m to south-east (at its nearest point)	International
Lee Valley	Special Protection Area (SPA)	Designated for over-wintering Bittern *Botaurus stellaris,* Shoveler *Spatula clypeata* and Gadwall *Mareca strepera.*	2.7km to west	International
	Ramsar	Designated for rare and scare plant and invertebrate species, and assemblage of wintering birds		
Wormley-Hoddesdonpark Woods	SAC	Designated for Annex I Sub-Atlantic and medio-European oak or oak-hornbeam forests of the *Carpinion betuli*	16km to north	International
Other Statutory Designations (within 5km)				
Epping Forest	Site of Special Scientific Interest (SSSI)	Designated on the basis of forming large scale ancient wood-pasture including ancient woodland, old grassland plains and scattered wetland.	420m to south-east (at its nearest point)	National
Ainslie Wood	Local Nature Reserve (LNR)	Comprises an area of publicly accessible ancient and semi-natural woodland.	2km to north	District-County
Walthamstow Reservoirs	SSSI	Supports a nationally important Heronry along with a notable waterfowl assemblage.	2.7km to west	National
Chingford Reservoirs	SSSI	Forms an important waterfowl habitat within London.	3.2km to north	National
Walthamstow Marshes	SSSI	Forms remnant semi-natural marshland within London with associated notable plant communities.	3.8km to south west	National
Springfield Park	LNR	Forms a publicly accessible area of semi-natural open space with wetland, grassland and woodland habitats.	4.3km to south-west	District-County
Non-statutory Designations (within 1km)				

Name	Designation	Brief description	Distance from Site	Level of importance
Epping Forest North	Site of Importance for Nature Conservation (Metropolitan level) (SINC-M)	Designated on the basis of supporting ancient woodland	420m to south-east (at its nearest point)	County
Greenway Avenue Wood	Site of Importance for Nature Conservation (Local level) (SINC-L)	A small woodland at the edge of Epping Forest	650m to south-east	Local
St Mary's Churchyard, Walthamstow Village	SINC-L	A small churchyard supporting rough neutral grassland with associated trees, scrub and tall herbs	820m to south-west	Local

Habitats and Ecological Features

13.33 A full description of habitats and ecological features within the Site is given in Section 4 of Appendix 13.1, whilst the location of habitats and ecological features are represented on Plan 5900/ECO3 at Appendix 13.1. In summary, the Site is dominated by buildings and hardstanding along with ornamental planting, trees and amenity grassland along with some dense scrub and trees at the south east and east site boundaries. No habitats and ecological features at the Site are considered to be of ecological importance and accordingly these features are scoped out of the assessment.

13.34 *Cotoneaster* sp. were recorded at the Site, associated with the ornamental planting. A number of *Cotoneaster* sp. are included in the Wildlife and Countryside Act 1981 (as amended) under Schedule 9 Part II which makes it an offence to cause to grow in the wild any plant listed on the schedule.

Faunal Use of the Site

13.35 General observations were made of any faunal use of the Site with particular attention paid to the potential presence of protected or notable species, including specific survey work undertaken in relation to bats and Badger. Full details of this survey work are included in the Baseline Ecological Appraisal at Appendix 13.1, whilst a summary of faunal species considered to be of ecological importance occurring within the Site and its immediate surrounds (i.e. the primary zone of influence) is set out in Table 13.4 below.

Table 13.4: Summary and evaluation of important faunal species present within and adjacent to the Site

Faunal species	Description	Potential level of importance
Bats (roosting)	Buildings present at the Site are considered to support negligible opportunities for roosting bats. However, a single tree has been assigned a precautionary 'low' potential roosting value to bats on the basis of a hollow within the trunk.	Site
Bats (foraging and commuting)	The vegetation at the eastern boundary is likely to be used by some foraging and commuting bats tolerant to the urban environment such as Common and Soprano Pipistrelle. However, the Site itself is considered to have very limited value to foraging and commuting bats, given semi-natural vegetation is largely absent.	Site
Other mammals	The Site offers some limited potential opportunities for Hedgehog for which background records were returned within the surrounds of the Site.	Site
Birds	A small number of birds were observed within the Site during the Phase 1 survey including Feral Pigeon and Magpie. The Site, being dominated by buildings and hardstanding with some trees and ornamental planting is likely to provide habitat for other urban bird species, whilst the dense scrub and trees at the east of the Site provides a corridor which may be used for both foraging and nesting by bird species. However, the Site is unlikely to support activity other than small numbers of common and widespread urban species.	Site

13.36 Given the above species are only of importance at the site level, these are scoped out in terms of specific assessment, although any requirements for mitigation for protected species are included under the Mitigation Measures section. Other fauna supported by the Site includes non-priority species of mammals and invertebrates. However, these species do not form important ecological features and are also scoped out of the assessment.

Future Baseline

13.37 It is considered that the future ecological baseline of the Site is unlikely to change significantly in the next 5 years, provided the management remains consistent, which appears likely.

Likely Significant Effects

Construction Phase

13.38 The potential effects considered within this section are those relating to temporary factors arising from the construction process, such as construction site noise or dust production, and which will cease to apply following completion of the Development (referred to as 'Completed Development'). Thus loss of habitats through permanent land take for development is considered as a 'Completed Development' effect, although the land take actually occurs during the construction phase of the Development.

Ecological Designations

13.39 A number of ecological designations have been identified within the area surrounding the Site, the nearest of which are Epping Common SAC, SSSI and Epping Forest North SINC-M, situated approximately 420m to the south east. Given the separation between the Site and these designations, any adverse effects resulting from construction of the Development are highly unlikely. Other designations are located further from the Site, and similarly are also unlikely to be affected during the construction phase.

13.40 Construction effects on ecological designations are therefore considered to be negligible and non-significant (near certain).

On-site Features

13.41 As set out above, the Site is not considered to support any habitats of ecological importance, or populations of faunal species of importance at a local level or above. Accordingly, effects on habitats and faunal species are non-significant.

13.42 However, the Development could result in direct loss of active bird nests which would constitute an offence under the Wildlife and Countryside Act 1981 (as amended), whilst some potential exists for mammal species to make use of the site. As such, in order to ensure that legislative requirements are met, safeguarding measures are detailed under Mitigation Measures below.

Completed Development

13.43 The potential effects considered within this section are those relating to the operational phase of the Development. This includes the loss of habitats through permanent land take for built development, in addition to potential effects resulting from the operation of the Development such as recreational pressure, and noise and light disturbance.

European Designations

13.44 No European designations are located within the immediate vicinity of the Site such that no direct effects (such as noise, lighting etc) are anticipated as a result of the Development. However, given the scale of the proposals, there is some potential for indirect effects, particularly where there are existing pressures. As such, a detailed assessment of potential effects on European designations is provided in the Report to Inform a Habitats Regulations Assessment (HRA) at Appendix 11.2, a summary of which is set out below. This relates to

Epping Forest SAC, Lee Valley SPA/Ramsar and Wormley-Hoddesdonpark Woods SAC, with other European designations located further from the Site and scoped out in terms of any potential effects.

Epping Forest SAC

13.45 As detailed within the Report to Inform a HRA at Appendix 13.2, the Development is likely to result in increased recreational activity at Epping Forest SAC. Relative to existing activity, the increase from the Development would be slight, although given existing visitor pressure, this has potential to detrimentally affect the interest features for which Epping Forest SAC is designated. Similarly, the SSSI interest features could also be impacted by recreational activity. In regard to air quality, the Development will actually result in a net reduction in vehicle movements compared to the existing use as a retail store, such that no impacts on air quality are anticipated.

13.46 As such, in the absence of mitigation, completed development effects on Epping Forest SAC (and SSSI) are considered to be minor, adverse and long-term, but could be significant at the international level (although unlikely).

Lee Valley SPA and Ramsar

13.47 The Development may also result in increased recreational activity at Lee Valley SPA and Ramsar, although any increase would be small whilst the designation is well set up for recreational use, with the nearest unit (Walthamstow Reservoirs SSSI) recently subject to public access improvements and managed to minimise recreational disturbance. Accordingly, a small increase in visits associated with the Development is not considered to result in any adverse effect. The Site lacks hydrological connectivity to the SPA/Ramsar, whilst a review of Affinity Water's Water Resource Management Plan (WRMP) confirms that water supply requirements can be met without an adverse effect on the SPA/Ramsar.

13.48 As such, completed development effects on Lee Valley SPA are considered to be negligible and non-significant (near certain).

Wormley-Hoddesdonpark Woods SAC

13.49 Wormley-Hoddesdonpark Woods SAC is well removed from the Site, located 16km to the north. At this distance, the Development is not considered to result in any measurable increase in recreational activity, whilst no other impact pathways are identified.

13.50 As such, completed development effects on Wormley-Hoddesdonpark Woods SAC are considered to be negligible and non-significant (near certain).

Other Ecological Designations

13.51 Other ecological designations are well separated from the Site such that they are unlikely to be subject to any adverse effects as a result of the Proposed Development. Notably, no designations are located within close walking distance of the Site and any increase in recreational activity is considered to be negligible relative to existing use, given the urban surrounds of the nearby designations.

13.52 On this basis, effects on other ecological designations are considered to be negligible and non-significant (near certain).

On-site Features

13.53 Large parts of the Site will be lost to development, although given the Site is dominated by buildings and hardstanding with ornamental planting and does not support any habitats of ecological importance, no significant effects are anticipated in relation to habitats. Similarly, the Site is not considered to support any faunal populations of ecological importance at a local level or above. Accordingly, any effects on habitats and faunal species are non-significant.

Mitigation Measures

Construction Phase

13.54 No significant effects have been identified in relation to the construction phase. However, due to legislative requirements in relation to invasive species and faunal species that could occur at the site, a number of precautionary safeguarding measures are proposed to be implemented. It is proposed that such measures are detailed in a Construction Environmental Management Plan (CEMP) produced at an appropriate stage prior to works commencing. This could be secured by a planning condition.

General Construction Safeguards

13.55 A number of general safeguarding measures will be implemented in relation to faunal species, notably including Badger and Hedgehog, designed to safeguard these species should they colonise the Site:

- Whilst no signs of Badger have been recorded at the Site, as this species is mobile and will readily move and colonise habitats, a check survey will be undertaken prior to the commencement of construction works within any area of the Site to identify if any new setts have been dug and confirm any mitigation or licensing requirements. In particular, this will focus on the areas of dense vegetation at the eastern and south eastern boundaries that could not be fully searched during the Phase 1 survey;
- Any trenches or deep pits within the Site that are to be left open overnight will be provided with a means of escape should a Badger or other mammal enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water;
- Any trenches/pits will be inspected each morning to ensure no animals have become trapped overnight;
- The storage of topsoil or other 'soft' building materials in the Site will be given careful consideration. Badgers will readily adopt such mounds as setts. So as to avoid the adoption of any mounds, these will be kept to a minimum and will be subject to inspections by site contractors with consideration given to temporarily fencing any such mounds to exclude Badgers;
- Food and litter will not be left within the working area overnight;
- To minimise adverse effects as a result of lighting during the construction phase, temporary lighting will be minimised, wherever practical. Where required for health and safety, security or other reasons, it will be positioned so as to minimise light spill on to the wooded vegetation at the eastern and south eastern boundaries;
- Disturbance from noise will be minimised by the adoption of good working practice;
- To minimise the risk to Hedgehog, any tall vegetation to be cleared will be reduced in height, through staged strimming with any arisings removed outside of extreme weather, where possible. Care should be taken when dismantling / removing any brash piles, rubble piles or areas of strimmed vegetation from the survey area, before any ground works commence, to ensure that any species utilising the survey area have safely dispersed to offsite habitats. In the unlikely event that a Hedgehog is encountered during works, it should be carefully moved to an area of retained, suitable habitat (preferably within an area of cover). In the event that an injured animal is encountered, this should be taken to a vet or animal hospital for treatment.

Bats

13.56 A single tree has been identified as supporting low bat roosting potential (identified as tree T1 on Plan 5900/ECO3 at Appendix 13.1). Should this tree require removal or management, a precautionary approach should be taken in regard to its removal. This would involve the

use of 'soft-felling' techniques, with the tree felled in sections which are lowered and cushioned to reduce any potential effects caused by hard impact with the ground. Felled limbs will then be left on the ground at the site overnight to allow any bats to escape in the unlikely event they are present.

Birds

13.57 To avoid an offence under the Wildlife and Countryside Act 1981 (as amended), the potential loss of active nests during construction will be avoided by either undertaking clearance of potential bird nesting habitat (including vegetation and suitable buildings) outside of the bird nesting season (March to August inclusive) or, if necessary, preceding any clearance with an inspection by a suitably qualified ecologist. Any nests identified will be cordoned off and protected until they cease to be active. Disturbance from noise will be minimised by the adoption of good working practice, such as restricted hours of working and noise-reducing construction measures.

Invasive Species

13.58 Cotoneaster sp. was recorded at the site. A number of Cotoneaster species are listed on Schedule 9 Part II of the Wildlife and Countryside Act 1981. It is an offence to cause to grow in the wild, any plant listed on the schedule. As such, all relevant precautions should be taken when carrying out actions that could potentially spread these plants. Such measures would likely involve herbicide application and/or excavation and removal of any material within the site itself (which should then be disposed of appropriately to prevent colonisation of off-site areas).

Competed Development

13.59 Potential for a significant effect has been identified in relation to Epping Forest SAC and SSSI as a result of increased recreational activity arising from the Development. Accordingly, measures are proposed to mitigate for this increase in recreational activity as detailed below. No other completed development effects requiring mitigation have been identified.

Epping Forest SAC (and SSSI)

13.60 As detailed within the Report to Inform a Habitats Regulations Assessment at Appendix 13.2, it is proposed that a financial contribution is made towards SAMM, whilst discussions with the Council are ongoing regarding the delivery of new Suitable Alternative Natural Greenspace (SANG) in the wider Walthamstow area. These measures are designed to both increase the

capacity of the SAC to accommodate more visitors through measures such as wardening, path maintenance etc., whilst also providing alternative resources for residents, which aim to attract people away from the designation. There are several options being discussed regarding delivery of SANG, which would mitigate the effects and the detailed arrangements would be confirmed before the planning application is determined.

Residual Effects

Construction Phase

13.61 No significant effects have been identified in relation to the construction phase, although mitigation measures are proposed to address legislative requirements and safeguard faunal species that may occur at the site. Following implementation of the mitigation measures set out above, the potential risks to faunal species are considered to be minimised.

Completed Development

13.62 The measures detailed above and at Appendix 13.2 in relation to Epping Forest SAC (and SSSI) will minimise impacts from recreational activity, such that any effects on this designation from the completed development are considered to be reduced to non-significant levels. No other significant effects have been identified in relation to the completed development phase.

Enhancement Measures

13.63 The NPPF encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the Site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national and local conservation priorities. Such measures will also help to offset non-significant habitat losses, helping to achieve an overall net gain in biodiversity. The enhancements summarised below are considered appropriate given the context of the Site and the scale and nature of the proposals. Further detailed landscaping proposals will be secured by planning condition which will include such measures.

Habitat Enhancements

13.64 A substantial increase in vegetated areas is proposed under the Development, from around 0.25ha currently to approximately 0.99ha, comprising a mixture of podium gardens,

green/brown roofs (including sedum roof and open mosaic/biodiverse roofs), woodland planting, ornamental planting, native hedging, grass lawns and rain gardens. To maximise the value of these areas for wildlife, the following measures are proposed:

- Where practicable, new planting within the Site should be comprised of native species of local provenance, including trees and shrubs appropriate to the local area. Particularly within the woodland planting along the Site boundaries, suitable species would include native trees such as Oak, Birch and Field Maple, and native shrub species such as Blackthorn, Hawthorn, Hazel and Elder, forming fruit and nut bearing species which would provide additional food for wildlife;
- Where non-native species are proposed, these should include species of value to wildlife, such as varieties listed on the RHS 'Plants for Pollinators' databasexix, providing a nectar source for bees and other pollinating insects;
- Green roofs should provide a mosaic of bare substrate, sparse recolonising vegetation, grassland and wildflowers, together with rubble or log piles to form habitat piles and shelter opportunities for invertebrate species; and
- Areas of grass lawn should be seeded with a flowering lawn mix where practicable, providing an additional pollen and nectar resource for invertebrates.

Faunal Enhancements

13.65 A number of additional measures are proposed to provide increased opportunities for faunal species:

- A number of bat boxes will be installed on retained trees at the east and will also be built into the fabric of the buildings themselves;
- Bird boxes will be installed on retained trees and new buildings with an aim to benefit priority species such as House Sparrow Passer domesticus along with Black Redstart Phoenicurus ochruros, which is an important species in London; and
- Log piles will be provided along the eastern boundary with an aim to provide enhanced habitat for the priority species Stag Beetle which is known to be present in London.

Biodiversity Net Gains

13.66 To provide an assessment of the level of biodiversity net gain that can be achieved under the Development, the change in biodiversity value resulting from the scheme has been calculated using the Defra Biodiversity Metric 2.0 calculation tool. This takes account of the size, distinctiveness and ecological condition of existing and proposed habitat areas to provide a

proxy measure of the present and forecast biodiversity value of a site, and therefore determine the overall change in biodiversity value. These calculations are provided at Appendix 13.3.

13.67 In summary, the Development will deliver an increase of 1.86 habitat units, equating to a 232.62% increase at the Site. This represents a significant biodiversity net gain within the Site.

Cumulative Effects

13.68 A review of the identified consented and validated schemes in the vicinity of the Site has been undertaken to determine the likelihood of the Development leading to significant cumulative effects with these schemes.

Construction Phase

13.69 As set out above under the Likely Significant Effects section, no significant effects have been identified in relation to the construction phase of the Development, whilst given the separation of the other schemes from the Site (the closest being the Hylands Road development approximately 325m to the east of the Site), no cumulative effects in terms of ecological designations, habitats or species are anticipated.

Completed Development

13.70 As set out above under the Likely Significant Effects section, no significant effects have been identified in relation to habitats and species within the Site during the completed development phase of the Development, whilst significant effects in relation to ecological designations are limited to Epping Forest SAC and SSSI. The assessment of effects on Epping Forest SAC within the Report to Inform a HRA at Appendix 13.2 takes into account the other consented and validated schemes, with a likely adverse effect identified as a result of in-combination increases in recreational activity. This would be addressed by the provision of SAMM and SANG as set out above, mitigating for the effect of the Development. No adverse effect on integrity is identified in relation to other designations as a result of cumulative development.

13.71 On this basis, aside from cumulative increases in recreational pressure at Epping Forest SAC (which is addressed as part of the Report to Inform a HRA at Appendix 13.2), no significant cumulative effects have been identified as a result of the completed development in combination with these other schemes.

Summary

13.72 Ecological surveys of the Site have been undertaken, including a desk study and an extended Phase 1 Habitat survey, along with a general faunal survey.

13.73 A number of ecological designations have been identified by the desk study. The nearest statutory designation is Epping Forest SSSI and SAC, located approximately 420m to the south east of the Site at its nearest point, whilst the nearest non-statutory designation, namely Epping Forest North SINC-M, is also located approximately 420m to the south east of the Site.

13.74 The Site itself is dominated by buildings, hardstanding, ornamental planting, trees and amenity grassland, not considered to be of ecological importance, together with dense scrub and trees at the south east and east site boundaries. The Site also supports opportunities for common and widespread urban mammal, bird and invertebrate species, although populations are not considered to be of importance at a local level or above.

13.75 A small number of potential effects have been identified as a result of construction and the completed development, with a significant effect identified in relation to Epping Forest SAC (and SSSI) as a result of recreational pressure. Mitigation measures are therefore proposed in the form of SAMM and SANG provision to offset and manage recreational activity arising from the Development. Mitigation measures are also proposed to achieve compliance with relevant legislation and planning policy for faunal species including bats and birds.

13.76 Opportunities for enhancements to biodiversity are also proposed, in accordance with NPPF, the NERC Act 2006 and local policy. Proposed enhancements will deliver significant benefits in terms of biodiversity net gain, with a predicted 232.62% increase in habitat units under the Development. Accordingly, following mitigation and enhancement, it is considered that the Development would result in an overall gain in the existing ecological interest supported by the Site.

13.77 Table 13.5 contains a summary of the likely significant effects of the Development.

Table 13.5: Table of Significance – Biodiversity

Potential Effect	Nature of Effect (Permanent/ Temporary)	Significance (Major/Moderate/Minor) (Beneficial/Adverse/ Negligible)	Mitigation / Enhancement Measures	Geographical Importance*							Residual Effects (Major/Moderate/ Minor) (Beneficial/Adverse/ Negligible)
				I	UK	E	R	C	B	L	
Construction											
Ecological Designations No likely effects	N/A	Negligible	No mitigation required	x	x	x	x	x	x	x	Negligible
Onsite Features Non-significant habitat losses, potential impacts on faunal species and risk of spread of invasive species	Temporary	Negligible	General construction safeguards; soft felling of bat potential tree; clearance of nesting bird habitat outside breeding season or following nesting bird checks; appropriate control/disposal of invasive species	Not important at local level or above							Negligible
Completed Development											
Epping Forest SAC and SSSI Increase in recreational pressure	Permanent	Minor adverse	Provision of SAMM and SANG	x	x						Negligible
Lee Valley SPA/Ramsar Increase in recreational pressure	Permanent	Negligible	No mitigation required	x							Negligible
Other Ecological Designations No likely effects	N/A	Negligible	No mitigation required	x	x	x	x	x	x	x	Negligible
Onsite Features Non-significant habitat losses	Permanent	Negligible	Habitat and faunal enhancements	Not important at local level or above							Moderate beneficial
Cumulative Effects											
Construction											
No likely effects	N/A	Negligible	No mitigation required	x	x	x	x	x	x	x	Negligible
Operation											
Epping Forest SAC and SSSI In-combination increase in recreational pressure	Permanent	Minor adverse	Provision of SAMM and SANG	x	x						Negligible

Potential Effect	**Nature of Effect** (Permanent/ Temporary)	**Significance** (Major/Moderate/Minor) (Beneficial/Adverse/ Negligible)	**Mitigation / Enhancement Measures**	**Geographical Importance***							**Residual Effects** (Major/Moderate/ Minor) (Beneficial/Adverse/ Negligible)
				I	UK	E	R	C	B	L	
Other Ecological Designations No likely significant cumulative effects	N/A	Negligible	No mitigation required	x	x	x	x	x	x	x	Negligible
Onsite Features No likely significant cumulative effects	Permanent	Negligible	Habitat and faunal enhancements	Not important at local level or above							Moderate beneficial

*** Geographical Level of Importance**

I = International; UK = United Kingdom; E = England; R = Regional; C = County; B = Borough; L = Local

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