



Brighter strategies
for greener projects



Client: Hawkins Brown
Project: Haringey Civic Centre
Report: BREEAM RFO 2014 Ecology

QUALITY ASSURANCE

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1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd was commissioned by Hawkins Brown to undertake a BREEAM Ecology Assessment Ltd for a site known as Haringey Civic Centre in the London Borough of Haringey.

This document is a report of this assessment and has been produced to assess the number of credits under the Land Use and Ecology heading of the *BREEAM Refurbishment and Fit-Out scheme 2014* and to support a planning application in this regard.

The proposals seek to re-furbish the existing buildings on site and construct a new part. This scheme has the primary aim of repairing, refurbishing and bringing up to modern standards the Grade II listed Haringey Civic Centre built in the late 1950s. It also looks to enhance the external areas belonging to the centre in order to provide a high quality landscape setting for the Civic centre in keeping with the surrounding network of green spaces. A new residential development is proposed for the North West of the site which will include communal garden space for residents.

The survey area extends to approximately 1 hectare (ha) and comprises buildings, hardstanding, amenity grassland, introduced shrub and scattered trees, all of which are commonly distributed in the surrounding area (551475_IN_15Mar23_PEA_FV01).

Within *BREEAM Refurbishment and Fit-Out 2014* there are three headings that are relevant to Haringey Civic Centre relating to the provision of four available credits for Land Use and Ecology (LE 02, LE 04 and LE 05). This report provides the information and background to the credits that are deemed suitable to be awarded, potential impacts in lieu of mitigation and outline mitigation actions required.

A summary of those credits recommended to be awarded under *BREEAM Refurbishment and Fit-Out 2014* are as follows:

- **One** out of one available credit under LE 02;
- **One** out of one available credit under LE 04; and
- **Two** out of two available credits under LE 05.

Therefore, following written commitment where necessary, it is recommended to award the development four credits at this stage with regards to BREEAM RFO 2014.

To allow the credits to be awarded, a Suitably Qualified Ecologist should return to the site on practical completion to confirm that all enhancement recommendations have been incorporated.

2.0 INTRODUCTION

Greengage Environmental Ltd was commissioned to undertake a BREEAM Ecology Assessment by Hawkins Brown for a site known as Haringey Civic Centre, in the London Borough of Haringey.

This document is a report of this assessment and has been produced to assess the number of credits under the Land Use and Ecology heading of the *BREEAM Refurbishment and Fit-Out scheme 2014* and to support a planning application in this regard.

The proposals seek to re-furbish the existing buildings on site and construct a new part. This scheme has the primary aim of repairing, refurbishing and bringing up to modern standards the Grade II listed Haringey Civic Centre built in the late 1950s. It also looks to enhance the external areas belonging to the centre in order to provide a high quality landscape setting for the Civic centre in keeping with the surrounding network of green spaces. A new residential development is proposed for the North West of the site which will include communal garden space for residents.

This report represents compliance information for each credit heading and outlines how many credits the proposed development is likely to obtain in total assuming recommendations are followed.

Herein the report includes:

- Background of the development and application site location;
- A description of the site visit, the pre-commencement ecological value of the application site with a summary of potential for protected species and habitats, and status of the 'suitably qualified ecologist' (LE 02);
- Details of ecological mitigation measures and recommendations for enhancement of the development (LE 04); A discussion on the long-term impact on biodiversity (LE 05) and management plan (Appendix C); and
- A conclusion, including the final number of credits that are considered appropriate for the development.

2.1 SITE DESCRIPTION

The survey area extends to approximately 1 hectare (ha) and is centred on National Grid Reference TQ 30820 90721, OS Co-ordinates 530820 , 190721.

The site is situated within an urban setting with Alexandra Palace located appropriately 600m to the southwest. The immediate surroundings to the north and south consist of a mix of residential and commercial buildings. Greenspace is more prominent to the east and west with the school grounds of Trinity Primary Academy to the immediate west and Crescent Gardens to the east.

Residential development is dominant in the surroundings to the north, south, east and west. The most significant area of greenspace, Alexandra Park, lies approximately 700m to the south west, and is ecologically connected to site via smaller pockets of greenspace such a parks, private gardens and tree lined streets.

3.0 BREEAM NON-DOMESTIC REFURBISHMENT AND FIT-OUT 2014: LAND USE AND ECOLOGY CREDIT REQUIREMENTS

The following statement has been provided by Buro Happold:

"The Haringey Civic Centre development does not fit the scope of either BREEAM New Construction or BREEAM Refurbishment and Fit-Out. Therefore the approach taken at Haringey Civic Centre is for a single BREEAM Bespoke assessment in line with the BREEAM bespoke process outlined in BREEAM Guidance Note 23. The bespoke process for BREEAM buildings allows those that are not considered to be "standard" to be assessed and certified against BREEAM.

In the bespoke process, BREEAM criteria are selected and amended for that specific project. Amendments and additions to the standard criteria reflect the unique use and sustainability opportunities of the project and the location. Although the bespoke process involves amending criteria for individual developments, it still adheres to a set of standards in terms of BREEAM structure, credit method and content. This ensures the credibility of BREEAM is maintained.

A bespoke application was submitted and subsequently agreed with the BRE on 07.06.18 and for the purposes of Ecology the BREEAM Refurbishment and Fit-Out 2014 criteria was deemed most applicable."

Therefore, the following section details the credits available under BREEAM Non-domestic Refurbishment and Fit-out 2014 for the scheme.

3.1 LE02 - PROTECTION OF ECOLOGICAL FEATURES

The credit criteria states that one credit can be awarded where:

- All existing features of ecological value within and surrounding the refurbishment or fit-out zone and site boundary area are adequately protected from damage during site clearance, site preparation and refurbishment or fit-out activities in line with BS42020:2013;
- In all cases, the principal contractor is required to construct ecological protection recommended by the Suitably Qualified Ecologist (SQE), prior to any preliminary site refurbishment or fit-out or preparation works (e.g. erection of temporary site facilities).

3.2 LE04 - ENHANCING SITE ECOLOGY

One credit is available where:

- An SQE has been appointed to advise on enhancing the ecology of the site at an early stage;
- The SQE has provided an Ecology Report with appropriate recommendations for the enhancement of the site's ecology based on a site visit; and
- The early-stage advice and recommendations for the Ecology Report for the enhancement of the site ecology have been, or will be, implemented in the refurbishment or fit-out.

3.3 LE05 - LONG TERM IMPACT ON BIODIVERSITY

Up to two credits are available:

- Where an SQE is appointed prior to commencement of activities on-site and they confirm that all relevant UK and EU legislation relating to the protection and enhancement of ecology has been complied with during the refurbishment or fit-out process;
- Where a landscape and habitat management plan, appropriate to the site, is produced covering at least the first five years after project completion in accordance with *BS 42020:2013*. This is to be handed over to the building owner/occupants for use by the ground's maintenance staff; and
- Where additional measures to improve the assessed site's long term biodiversity are adopted.

4.0 LE02 - PROTECTION OF ECOLOGICAL FEATURES

4.1 ASSESSMENT CRITERIA

Compliance with this credit is demonstrated by ensuring all existing features of ecological value within and surrounding the refurbishment or fit-out zone and site boundary area are adequately protected from damage during clearance, site preparation and refurbishment or fit-out activities in line with BS 42020:2013.

In all cases, the principal contractor is required to construct ecological protection recommended by the SQE, prior to any preliminary site refurbishment or fit-out or preparation works (e.g. erection of temporary site facilities).

Where there are no features of ecological value then the credit can be awarded by default.

4.2 SUITABLY QUALIFIED ECOLOGIST

Greengage include SQE's, the necessary requirement for LE 02, to establish the ecological value of the site. An SQE is defined as:

- 'An individual with a degree or equivalent qualification in ecology or a related subject;
- They should be a practicing ecologist with a minimum of three years' experience; and
- Is covered by a professional code of conduct and subject to peer review.'

Specifically, Georgia Alfreds, who wrote this report and completed the update site survey has a degree in Geography (BSc Hons), an MSc in Environmental Biology: Conservation and Resource Management and is an Associate member of CIEEM with 7 years' experience in ecological survey and assessment.

Paul White, who reviewed this report, has a Bachelor's degree in Marine Biology (BSc Hons), a Natural England Great Crested Newt Licence (2018-38559-CLS-CLS) and Dormouse Licence (2020-44691-CLS-CLS), and is an Associate member of CIEEM. Paul has over 15 years' experience in ecological surveying and has undertaken and managed numerous ecological surveys and assessments.

This report was reviewed and verified by Paul White who confirms in writing (see the QA sheet at the front of this report) that the report is written in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of proposed works; and
- Avoids invalid, biased and exaggerated statements.

4.3 AWARDING OF CREDITS: PROTECTION OF ECOLOGICAL FEATURES

With regards to LE 02, the area to be impacted by the proposals is largely covered with buildings and hardstanding and has negligible potential to support the majority of protected species and habitats.

However, there is **low** potential for roosting bats and invertebrates, **moderate** potential to support commuting and foraging bats, and **high** potential to support nesting birds.

Birds

Nesting birds are protected from being killed/injured/damaged/destroyed and it is therefore recommended that any refurbishment works or removal of trees and shrubs take place outside of the bird nesting season (typically runs from March to August inclusive). Where this is not possible, an ecologist should confirm that there are no active nests present a minimum of 24 hours prior to clearance. If nests are discovered, they should be protected until the birds have fledged.

Compensatory planting should focus on the provision of winter berry producing species as well as species with dense shrubby growth within which birds may construct nests. This would not only provide nesting opportunities, but also deliver a vital food resource for birds over the winter months. Species which could be included in the design include, dogwood (*Cornus sanguinea*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), and red currant (*Ribes rubrum*).

Nest boxes for sparrows and generalists should be incorporated as enhancement measures into the newly built buildings or on the retained trees.

Bats

Foraging and Commuting

Further survey to assess the site's value for foraging bats is not considered necessary. However, bat-sensitive lighting should be incorporated into the scheme to minimise any potential impacts of increased lighting levels on foraging, commuting and socialising bats.

Trees on site, which are being retained as part of the development, likely provide a commuting and foraging resource for bats, therefore measures to limit additional light spill in these areas should be implemented.

Furthermore, while considering the proposed refurbishments, 'bat-friendly' nocturnal lighting should be adopted where applicable. The below bullet points provide high level recommendations for the design of wildlife friendly lighting on site, based guidance provided by the Institute of Lighting Professionals (ILP) and BCT¹:

- Use of low-UV warm-white LED bulbs with low illumination/LUK levels;
- Use of directional, downward facing and shielded lights which point away from green features such as trees or areas of soft landscaping where possible and where health and safety restrictions allow;
- External lights on curfew controls/movement sensors to be considered where possible to reduce light pollution when not needed; and
- Green infrastructure should remain unlit where possible and where health and safety restrictions allow, particularly between April and October, inclusive.

Roosting

An emergence survey was previously undertaken on 29th July 2021 to assess known features for potential roosts (doc ref: 551475mc01oct21FV01_BATS.docx) and recorded no bats emerging from the building. However, considering the time that has passed, an update emergence/re-entry survey is recommended.

In order to establish the presence/likely absence of roosting bats emergence/re-entry surveys will be required. In accordance with BCT Good Practice Guidelines (2016).

Buildings 1 and 2 require one emergence/re-entry survey to be undertaken at dusk or dawn. This survey should be undertaken between May-August.

During the survey, surveyors would observe and record any bats emerging or re-entering any roosts. This period of observation would take place from 15 minutes before sunset to 1.5 hours after sunset for emergence surveys, or 1.5 hours prior to sunrise to 15 minutes after sunrise for re-entry surveys.

Handheld bat detectors that monitor acoustic frequencies would be used during the survey. The survey would take place during fairly calm weather (no heavy rain or wind). Recorded bat calls would be analysed to identify, where possible, the species present and the behaviours associated with the calls recorded.

During the previous walkover surveys in 2021, two separate Rowan trees were previously found to hold potential roosting features. However, upon returning in 2023 and consulting an arboriculture report, these trees appeared to have been felled and no longer exist. However, one tree was identified as having low potential. If the tree is to be felled then we recommend soft felling, where tree limbs are cut and left grounded over night to allow any bats to make their way out.

Invertebrates

Overall, the site is considered to have low potential to support notable invertebrates. Actions should be integrated within proposals to enhance the value of the site for key invertebrates, primarily concentrating on species groups listed in the UK and Haringey BAP.

Invasive/Non-native species

Three invasive species were found on site (green alkanet, buddleia and cotoneaster). It is important to remove these considerably from the site during the clearance works and destroyed in such a way that prevents their spread. Clearance should follow guidance from LSI and DEFRA² respectively.

LSI also details actions to help prevent, control and, where feasible, eradicate invasive non-native species in London. The following steps should be taken before, during and after site clearance to help control this species:

- Identify areas where these species are present and assess the risk of and how they would be spread;
- Set up monitoring schemes on site; and
- Raise awareness of these species through notices on site to help prevent the spread.

BAP Species

In order to minimise the potential for killing or injuring of hedgehogs (and other small to medium sized mammals) during site clearance, removal of dense vegetation should be undertaken in phases, which would allow animals the opportunity to escape or to be spotted by contractors. Should any hedgehogs be found, they should be moved to a suitable area of habitat that is not subject to clearance.

Ramps should be placed within any excavations during demolition and construction on site, so as to provide a means of escape, should a small mammal such as a hedgehog fall into it.

Inclusion of dense shrub and scrub species within the soft landscaping design proposals will help to compensate for the loss of suitable hedgehog habitat.

Should any hedgehogs be found, they should be moved to a suitable area of habitat that is not subject to clearance, and hedgehog boxes should be considered.

AWARDING OF LE02 CREDITS

The maximum **one credit** can therefore be awarded for **LE 02 'Protection of Ecological Features'** on confirmation that the above recommendation has been adhered to.

5.0 LE 04 - ENHANCING SITE ECOLOGY

The client has appointed Greengage, the SQE, to complete a site visit and advise on the recommendations for enhancing the ecological value of the site.

Compliance with LE04 is demonstrated first by appointing a Suitably Qualified Ecologist (SQE) to advise on enhancing site ecology.

5.1 IDENTIFYING ECOLOGICAL RECEPTORS

The creation of specific habitats and attraction of notable and protected ecological receptors would complement policy targets for the area, follow best practice, and reflect targets of the UK, London and Haringey Biodiversity Action Plans (BAPs).

Specifically, the proposals should seek to enhance the on-site habitat for the following species:

- Birds such as house sparrow and swift (London BAP Species) through provision of a foraging resource, in the form of ground level landscaping and biodiverse roofs. Nesting opportunities should also be provided through specialist integrated nest boxes;
- Bats, both London and Haringey BAP species, through the provision of a foraging resource, in the form of ground level landscaping and Biodiverse roofs. Roosting opportunities should also be created through use of integrated bat boxes; and
- Invertebrates such as solitary bee species (a London BAP species) through the provision of a foraging resource and shelter opportunities in the form of habitat panels.

Details of each of the proposed enhancement recommendations can be found below.

An ecologist should confirm the installation of ecological enhancement features during a Post Construction Review (PCR).

5.2 ENHANCEMENTS

Biodiverse Living Roofs

Proposals have not been finalised at this stage, but vegetation structure on the biodiverse green roofs is likely to be varied, offering a diverse range of flowering plants and an absence of invasive non-native species. It is likely that the roof will have a varied depth of 80 - 150mm with at least at 150mm and planted and seeded with wildflowers and sedum. Some additional habitat such as sand piles and logs will be present too.

The roof should be plug planted and seeded with at least 27 species of known value to wildlife, which are regionally produced, to provide a wildflower roof. Roof build up should meet requirements of the GRO Code 2014.

Roof enhancements will be used on the green roof where possible, these will include rope coils, sandy piles and log piles which all enhance the habitat for invertebrate species.

Figure 5.1 Example substrate type and planting variation on biodiverse roofs



Species/Seed Mixes

The final seed mix has not been selected, at this will be chosen at RIBA Stage 4. However, the client has confirmed they will be sourcing this from one of the main green roof providers, such as Erisco Bauder or Alumasc.

Suitable seed mixes can be procured from a variety of retailers that are tailored for exposed, low-nutrient conditions on roof tops. A suitable seed mix would be the ER1F - Wildflowers for green roofs mixture from Emorsgate³ or Bauder's Flora 3⁴ Seed Mix which contains 49 species including 35 wildflowers on the RHS Plants for Pollinators list. The diverse mix of species increases the flowering period, increasing the availability of nectar for pollinators throughout the year. This seed mix, or similar products from other suppliers, will be used on the biodiverse substrate areas.

Due to the unpredictable nature of colonisation and its dependence on plant propagules in the area, the low-nutrient substrate will be seeded and plug planted with a suite of native species of known value for the targeted ecological receptors. The diverse mix of species increases the flowering period, increasing the availability of nectar for pollinators throughout the year. Seed mixes and species composition will vary across the roof depending on substrate types. Seeds will be sown in accordance with seed manufacturer's recommendations with plugs planted at a density of 15-20/m² with a minimum root ball of 25cm³.

Table 5.1 Suggested plug planted species

Common Name	Scientific Name
Sea thrift	Armeria maritima
Verbena purple top	Verbena bonariensis
Great mullein	Verbascum thapsus

Common Name	Scientific Name
Yarrow	Achillea spp
Lesser calamint	Calamintha nepeta
Common primrose	Primula vulgaris
Mother-of-thyme	Thymus polytrichus

Substrate Specification

A total of three roof surface will be used to improve habitat heterogeneity and increase ecological niche provision:

- One substrate is to be a typical biodiverse substrate designed for extensive living roofs, composed of recycled crushed brick, expanded clay shale and recycled organic content (for example Bauder's Biodiverse Substrate⁵);
- One is to be composed of Caledonia cobbles of roughly 40-120mm size mixed with the biodiverse roof substrate; and
- Water collection trays for ephemeral wetland planting. These are to be lined with suitable aquatic compost and cobbles.

Use of a variety of substrate types should result in habitat mosaics forming, resulting in greater habitat diversity for invertebrates.

Installation

Issues with living roofs most commonly occur as a consequence of poor installation. With this in mind only experienced, suitably qualified and dedicated living roof providers should be used for the living roof install. The provider will be given all plans relating to the design of specific roofs as well as this Design Guide document.

As per guidance in the GRO code, the following 4 steps should be followed prior to the planting of roofs:

1. Prior to installation of the planting, the substrate, drainage layer and any moisture mat should be saturated
2. Pre-water the plants before removing them from their trays
3. Insert plants and gently water them in
4. Ensure that the substrate is irrigated for an initial period of 4-6 weeks to allow the plants to sufficiently establish themselves.

Maintenance and Monitoring

Extensive biodiverse roofs should require little maintenance following initial install and irrigation during establishment. A single inspection should be undertaken annually. Drainage outlets should be inspected and cleared where necessary, nuisance species such as Buddleja or Canadian fleabane (Erigeron canadensis) should be removed.

Wildlife Friendly Landscaping

Where possible, native plant species or species that are of value to pollinators (e.g., those listed on the RHS Plants for Pollinators⁶) have been incorporated into landscape design at site.

Drawings of the proposed development reviewed for this assessment include:

- Churchman Thornhill Finch (02/15/22), Site Planting Plan (ref: 556-CTF-ZZ-ZZ-DR-L-500000);
- Churchman Thornhill Finch (11/22/21), Landscape Site Plan (ref: 556-CTF-ZZ-00-DR-L-100000);
- Churchman Thornhill Finch (02/22/22), Tree Removal Plan (ref: 556-CTF-ZZ-00-DR-L-100003-P03); and
- Churchman Thornhill Finch (02/21/23), Planting Areas (ref: 556-210014).

By providing high quality planting on the site there is also benefit to human wellbeing by provision of a more sensory experience whilst on site.

Shrub, Herbaceous and Tree Planting

The current landscaping proposals specify areas of shrub and herbaceous planting. Greengage recommends that shrub and herbaceous species of known value to wildlife are used throughout the soft landscaping design, in particular pollinator friendly species, should be used. A list of recommended species is provided by the Royal Horticultural Society (RHS), and at least 15 of these species should be utilised. These should include a diverse mix of native species such as hawthorn (*Crataegus monogyna*), field maple (*Acer campestre*), plum cherry (*Prunus cerasifera*), hazel (*Coryllus avellana*), blackthorn (*Prunus spinosa*), crab apple (*Malus sylvestris*), privet (*Ligustrum ovalifolium*), dogwood (*Cornus sanguinea*), rowan (*Sorbus aucuparia*) and spindle (*Euonymus europaeus*).

A large proportion of the existing trees on site will be retained. New tree planting includes:

- Winter-flowering cherry 'Autumnalis' (*Prunus × subhirtella* 'Autumnalis White');
- Amur maple (*Acer ginnala*);
- The Sorbus Dodong (*Sorbus Olympic Flame*);
- Tibetan cherry (*Prunus serrula tibetica*);
- The dove-tree (*Davidia Invalucrata*); and
- Sargent's Rowan Tree (*Sorbus sargentii*).

Some alternative tree species which could be used include species such as:

- Alder (*Alnus* sp.);
- Birch (*Betula* sp.);
- Cherry (*Prunus* sp.);

- Elder (*Sambucus nigra*);
- European hornbeam (*Carpinus betulus*);
- West Himalayan birch (*Betula utilis jacquemontii*);
- Sweetgum (*Liquidambar styraciflua*);
- Callery pear (*Pyrus calleryana* 'Chanticleer'); and
- Whitebeam 'Majestica' (*Sorbus aria* 'Majestica').

The above soft landscaping would make a contribution to biodiversity at the site through provision of nectar and pollen resources for pollinators, nesting habitat and a food resource for birds and foraging habitat for bats that may be present in the area, among other taxa.

Amenity Grassland

The draft landscaping plans propose a number of amenity grassland, or 'lawn' parcels. The hardiness and benefit to wildlife of this lawn should be maximised by choosing a mix with increased species diversity.

Recommended species for inclusion in the mix are listed in the table below. Increasing diversity to include a greater abundance of low growing flowering species would still allow for recreational use, arguable improving its aesthetic appeal, plus would benefit pollinators.

Increased diversity (particularly with high proportion of white clover) can also help the grassland be more hard wearing, with faster rates of recovery after periods of heavy disturbance.

Table 5.2 Example species to include in future reseeding to augment amenity grassland

Common name	Scientific name
White clover	<i>Trifolium repens</i>
Betony	<i>Stachys officinalis</i>
Creeping buttercup	<i>Ranunculus repens</i>
Bird's foot trefoil	<i>Lotus corniculatus</i>
Yarrow	<i>Achillea millefolium</i>
Self heal	<i>Prunella vulgaris</i>
Wild marjoram	<i>Origanum vulgare</i>
Black medick	<i>Medicago lupulina</i>
Daisy	<i>Bellis perennis</i>

Invertebrate Habitat Features

The roof should be further enhanced through the inclusion of invertebrate habitat structure features. Log piles, sandy piles, stone swirls, ephemeral water features and rope coils should be integrated into the biodiverse roofs to support biodiversity.

Deadwood Log Pile

Log piles made up of wood from broadleaved trees such as oak and beech, and from fruiting trees such as apple and pear will be installed throughout the site in areas considered to have the least impact from lighting / people (particularly in the north-east corner of the site), at least 100mm in diameter with the bark still on. Logs in contact with the substrate will remain damp underneath, which is vital for many invertebrates such as woodlice. Logs will be placed both vertically and horizontally in clusters; vertical standing wood will be part buried up to 30cm into the ground, ideally in the deeper sections, again using a range of diameters and lengths. A minimum of two log piles should be incorporated per 100m² of roof, therefore, as the roofs total 463m², 8 log piles will be sufficient.

Figure 5.2 Log piles on a biodiverse living roof



Rope Coils

Rope made from natural fibres should be used such as Manila rope which is suitable for general outdoor use. Manila rope is made from the leaves of the plant *Musa textilis* and will last up to 10 years, reducing maintenance requirements. The rope should be coiled in a spiral shape to cover an area of 1m²; the rope should be coiled loosely to ensure suitable gaps are created for invertebrates. Pegs will need to be used to harness the rope to the roof and ensure that it cannot blow away. A minimum of two rope coils should be incorporated per 100m² of roof, therefore, as the roofs total 463m², 8 rope coils will be sufficient.

Figure 5.3 Rope coils on biodiverse living roof



Sandy Piles

For the sandy piles, substrates such as gravel and sand should be taken from layers under the soil of the construction site or from a nearby area. The piles should be compacted to form a sand castle effect 50cm high, with sides angled to 30 degrees and cover an area of approximately 1m²; position in a sunny area with the broadest section facing south, preferably sheltered from the wind. Sandy piles may change shape or decrease in size over time due to prolonged exposure to the wind, so to reduce this happening and to increase diversity of the hibernacula, one of the piles should be covered with stones of approximately 10-15 cm in size loosely placed over the mound ensuring gaps are available for burrowing invertebrates – the south facing slope should still remain relatively bare. A minimum of 2 sandy piles should be incorporated per 100m² of roof, therefore as the total green roof areas is 463m², approximately 9 sandy will be sufficient.

Figure 5.4 Log and sand piles on biodiverse roof



Water Trays

Additionally, shallow plastic trays will be embedded within the green roof in order to provide a water source for birds and invertebrates. These should be weighed down with rocks or other substrate. The trays will naturally infill with rainwater and evaporate, requiring little maintenance. At least two water trays will be provided.

Figure 5.5 Water and mud trays embedded within the substrate of a green roof. Photo credit: Edward Mayer, Swift Conservation Trust



Ground Level Invertebrate Features

Stag Beetle Loggery

The inclusion of two stag beetle loggeries within an area of the landscaping at ground level would provide habitat for stag beetle to lay their eggs and the larvae to survive for up to seven years before emerging as adults. The loggeries will be located away from areas of hardstanding and within close proximity to other vegetation to provide cover and some shade, such as the far south and far north of the site. Logs will be placed both vertically and horizontally in clusters; vertical standing wood will be part buried up to 30cm into the ground, ideally in the deeper sections, again using a range of diameters and lengths.

Log sizes should range from ~10cm up to ~40cm diameter with approximately one third of the logs buried. Plants such as ferns, bulbs and other woodland understorey plants should then be planted amongst the loggery.

Loggeries provide excellent breeding habitat for stag beetles, a UK BAP species, as well as other saprophytic invertebrates which thrive on dead and decaying wood.

Figure 5.6 Examples of stag beetle loggeries



Invertebrate Habitat Panels and Insect Hotels

It is recommended that at least two invertebrate habitat panels should be included in sunny, south-facing locations within the landscaped areas, in a sheltered area out of the wind at least 1.5 – 2.5 metres off the ground.

Panels should use untreated wood products which provide a range of opportunities for sheltering and nesting solitary bees and other invertebrates. Design of each panel should avoid providing opportunities for numerous taxa to minimise risk of parasitism.

These Schwegler products provide homes for useful creatures such as Solitary Bees, Parasitical Hymenoptera, Ants, Spiders and other small creatures, which can be sourced from:

<https://www.schwegler-natur.de/insektenschutz/?lang=en>

Other sources include: [Four Floor Wooden Insect Hotel With Metal Roof](#), [Crocus insect hotel](#) or [RHS Insect hotel](#).

Figure 5.7 Four Floor Wooden Insect Hotel With Metal Roof and RHS Insect hotel



Bee Posts/ Bricks

Where brick cavity walls are incorporated on sites, bee bricks should be included at a rate of 5 bricks per suitable façade or every 2m when overlooking a living roof. These should be focused in sunny, exposed areas on southern aspects at a minimum height of 1m. They should only be incorporated near soft landscaping areas to provide nectar sources within close proximity. Entrance holes should be unobstructed.

Two bee posts will be positioned in a warm sunny area on the ground floor, south facing, with no vegetation in front of the holes, designed to be set approx. 300mm into the ground and will be sourced from <https://www.greenandblue.co.uk/products/beepost> or similar. They will be incorporated near soft landscaping areas which provide nectar sources within close proximity, within the area of vegetation in the north of the site.

Figure 5.8 Examples of bee bricks/houses



Hedgehog House

A hedgehog house will be placed alongside the log piles, in a sheltered, undisturbed part of the site, such as the north-western corner of the site. An example of a hedgehog house which could be used is the Eco Hedgehog Nest Box, from <https://www.nestbox.co.uk/products/eco-hedgehog-nest-box> which is long lasting constructed from recycled plastic. It includes a generous nesting chamber with integrated tunnel to stop predators or cats entering the box. Featuring a removable/replaceable wooden floor for hedgehogs to build their nest on and provides an ideal home for hedgehog hibernation and breeding.

Figure 5.9 Eco Hedgehog Nest Box, from <https://www.nestbox.co.uk/products/eco-hedgehog-nest-box>



Connectivity for species such as hedgehog should be provided through provision of 13cmx13cm gaps in fencing and walls throughout the site. Suitable ground floor landscaping should provide corridors for movement and locations for foraging for species such as hedgehog.

SuDS and Aquatic Habitats

SuDS should be delivered at sites through various design measures, with most of the habitat typologies discussed above providing benefit for drainage and water storage. Additional SuDS features should be focused on the integration of rain gardens at street level, creating Blue Green Streets, for overland flow / storm water attenuation as well as improvement of water quality.

Species for rain gardens should be selected to handle greater periods of drought alongside submergence. Layout and species selection should favour smaller birds and invertebrates.

Specialist advice should be sought upon installation and monitoring as it will be bespoke and based on specific requirements.

Bat and Bird Boxes

The inclusion of the biodiverse living roof and areas of soft landscaping will stand to provide good foraging habitat for bats and birds and may act to encourage them to the site. There are opportunities to provide nest boxes for a number of priority bird species and for bats within the scheme. All bird and bat boxes should be placed out of direct sunlight and the most powerful winds, with unobstructed access and not directly above or under windows, doors, or balconies.

Bat Boxes

Given the scale of the proposed development, at least five bat boxes should be provided on the retained trees on site, however this recommendation may be subject to change based on the results of the update bat emergence survey.

The boxes should be positioned 2-5 metres from ground level, facing south west or south east and away from direct lighting. All bat boxes should be placed out of direct sunlight and the most powerful winds, with unobstructed access.

It is recommended that the crevice bat boxes, or similar are used as these are most suited to common bat species and summer roosting.

Figure 5.10 Example bat boxes



Alternatively, integrated bat boxes can be placed where bats are known to feed and navigate (close to hedges and tree lines), ideally at least 4m above the ground (where safe installation is possible), away from artificial light sources or direct illumination from streetlights or windows (to protect them from predation); and sheltered from strong winds and exposed to the sun for part of the day (usually south, south-east or south-west), ideally overlooking potential foraging areas.

Figure 5.11 Example bat boxes which can be integrated within brickwork with bespoke façade treatment to match building materials (left and centre) and a Green and Blue urban bat box (right)



Sensitive Lighting Strategy

Normal construction activities will be limited to daytime hours to reduce light pollution on bats foraging within the site at night. Should lighting be required during construction this should be directed away from any retained trees and offsite vegetation that could be used by foraging bats.

As the site is currently considered suitable to support foraging bats, the ecological compensation measures described below stand to improve the sites condition to support this species group. The lighting strategy, if implemented without due care and consideration, may stand to diminish the newly created habitat's value for bats.

Lighting design should therefore follow guidance provided by the Bat Conservation Trust (BCT) and the Institute of Lighting Professionals (ILP), which includes:

- Use of low-UV warm-white LED bulbs with directional, downward facing and shielded lights;
- The lighting with 3000k LED will be mounted at circa 1m above ground with direction and facing downwards. Nearly all lightings are pointed to the internal courtyard, but only the lighting adjacent to apartment 079 at block B1, 251 at block B and beneath apartment 256 at block B5 are pointed to south. The 0.5 lux isoline was leak out of the site boundary beneath block;
- Lighting pointing away from areas of newly implemented green infrastructure; and
- External lights subject to curfew controls where possible with lights on movement sensors to reduce light pollution when not needed.

Bird Boxes

Bird boxes targeting house sparrow and swift should be provided on site, these boxes can be mounted to the façade of the existing building and/or trees.

House Sparrow Terraces

House sparrow nest in loose colonies of 10 to 20 pairs and it is therefore important to provide multiple nesting opportunities within the scheme. Given the size of the new building five terraces, each with three holes, should be provided. Whilst in theory these can be as little as 150mm apart, spacing them at least 1m can reduce aggression between males vying to mate with females.

An example of a house sparrow nest box is shown below. These should comprise terraces with at least 2 nesting chambers per unit. Ideally, groups of three terraces should be provided together between 2-5m from the ground, located under eaves. Boxes should be located away from balconies and windows, preferably overlooking foraging areas, such as a green roof.

The locations of the boxes can be found in Appendix B.

We recommend using 'woodstone' products that utilise a mix of concrete and FSC wood fibbers, creating a strong, long-lasting and sustainable product. Whilst Greengage does not officially endorse any products, the products shown below are known to be effective and come in styles to be as unobtrusive as possible within the design.

Figure 5.12 Example of facade bound house sparrow terraces including the Vivara Pro WoodStone House Sparrow Nest Box (top left), 1SP Schwegler Sparrow Terrace (Top middle) Schwegler (top right) and RSPB Sparrow Terrace Nest Box (bottom left)



Swift boxes

Swift boxes should also be provided on the building. These should be installed beneath eaves close to roof level. It is recommended that at least five boxes should be provided within the new building, located together to promote colonial nesting opportunities and a clear, unobstructed flight path available.

In addition to the swift boxes, a single call attraction systems should be installed to encourage uptake. The system should be designed by the ecologist who should advise appropriate set-ups (no 'off the shelf' products are currently available, although these can be easily put together for under £200).

The location of these boxes can be found within Appendix B. All bird boxes should be to be placed on the northern or eastern elevation of the building to prevent overheating.

Whilst Greengage does not officially endorse any products, the products shown below are known to be effective and come in styles to be as unobtrusive as possible within the design.

Figure 5.13 Example of facade bound swift boxes including the Vivara Pro WoodStone Swift Nest Box⁷ (top right), No. 17A Schwegler Swift Nest Box (Triple Cavity)⁸ (top left) and FSC Wooden Swift Box⁹ (bottom).



5.3 AWARDING OF CREDITS: ENHANCING SITE ECOLOGY

With regards to LE 04 '*Enhancing Site Ecology*', assuming the above recommendations are adequately incorporated into the scheme, the redevelopment will provide an enhancement to the ecological value of the site.

Assuming the above enhancement recommendations are incorporated where possible, the proposals stand to gain the maximum **one** credit for LE04 – Enhancing Site Ecology.

6.0 LE 05 - LONG TERM IMPACT ON BIODIVERSITY

There is a maximum number of two credits available under BREEAM's 'Long Term Impact on Biodiversity' (LE 05). The full two credits can be awarded where evidence is provided to demonstrate that the client has committed to achieving the mandatory requirements and at least four of the additional requirements. Alternatively, one credit can be awarded where evidence is provided to demonstrate that the client has committed to achieving the mandatory requirements and at least two of the additional requirements.

A summary of each requirement and an explanation of how they will be met (if applicable) are given below.

6.1 MANDATORY REQUIREMENTS

The mandatory requirements for LE 05 are summarised as follows:

1. Appointment of an SQE who confirms that all relevant legislations relating to the protection and enhancement of ecology has been complied with during the design and construction process;
2. Where a landscape and habitat management plan appropriate to the site is produced covering at least the first five years after the project completion; and
3. Where measures to improve the sites, long-term biodiversity are adopted.

6.2 ADDITIONAL REQUIREMENTS

The additional requirements for LE 05 are summarised as follows:

1. The contractor is required to nominate a 'Biodiversity Champion' who oversees site activities;
2. The contractor is required to train relevant workforces on how to protect ecology during the project;
3. The contractor is required to record and monitor the effectiveness of protecting ecological features during the project;
4. New habitat relevant to local BAPs is created; and
5. Programme site works to minimise disturbance to wildlife, a clear plan or timetable needs to demonstrate how this will happen.

The number of additional requirements needed to be met for the second credit is proportional to the number of additional requirements that are applicable to the proposals.

6.3 AWARDING OF CREDITS: LONG TERM IMPACT ON BIODIVERSITY

Mandatory requirements 1 - 3 have been achieved assuming measures relating to mitigation and enhancement, as outlined in Sections 4 and 5 of this report, are followed and the LEMP in Appendix C is properly implemented.

Additional measures 2, 4 and 5 will be achieved assuming:

- The recommendations relating to site clearance to protect bird and small mammal species are followed; and
- The bat, bird and invertebrate habitat features are implemented to provide habitat suitable for London and Haringey BAP species.

It is therefore confirmed that the maximum **two** credits can be awarded for LE 05 'Long Term Impact on Biodiversity'.

7.0 SUMMARY AND CONCLUSION

Greengage was commissioned by Hawkins Brown to undertake a BREEAM Ecology Assessment of a site known as Haringey Civic Centre in the London Borough of Haringey.

This document is a report of a site survey and has been produced to assess the number of available credits under the Land Use and Ecology category of BREEAM RFO 2014.

Assuming these measures are followed, a summary of those credits recommended to be awarded under *BREEAM Non-Domestic Refurbishment and Fit-Out 2014* is as follows:

- If the mitigation measures relating to breeding birds, bats, hedgehogs and invasive species on site are adhered too, **one credit** can be awarded for LE02 – Protection of Ecological Features;
- If all ecological enhancements are implemented as described in this report **one credit** can be awarded for LE 04 ‘Enhancing Site Ecology’.
- **Two credits** can be awarded for LE05 - Long Term Impact on Biodiversity, upon handover of the provided Management Plan to the building owner/occupant and compliance with the mitigation and enhancements recommendations made within this report.

Therefore, it is recommended to award the development **four** credits at this stage with regards to *BREEAM Non-Domestic Refurbishment and Fit-Out 2014*.

Before the credits can be awarded an SQE should return to the site on practical completion to confirm that all recommendations have been followed.

APPENDIX A RELEVANT LEGISLATION AND POLICY

A.1 LEGISLATION

Current key legislation relating to ecology includes the Environment Act (2021)¹⁰, the Wildlife and Countryside Act 1981 (as amended)¹¹; The Conservation of Habitats and Species Regulations 2019 ('Habitats & Species Regulations')¹², The Countryside and Rights of Way Act 2000 (CRoW Act)¹³, and The Natural Environment and Rural Communities Act, 2006¹⁴.

The Environment Act, 2021

The Environment Act, 2021 will mandate the requirement for new development in England to deliver a minimum 10% biodiversity net gain (BNG), as measured by the agreed metric (the current relevant version being the Natural England metric 3.0), secured through planning condition as standard (as per schedule 14 of the Act). Approach to the delivery of BNG must follow the mitigation hierarchy, with avoidance of impact and on-site compensation/gains prioritised, ahead of the use of offsite biodiversity unit offsets, or the purchase of biodiversity credits.

The Act introduces the condition that no development may begin unless a biodiversity net gain plan has been submitted and approved by the local planning authority (LPA).

The Act also amends requirements of the NERC Act, 2006, adding the need to not just conserve, but enhance biodiversity through planning projects. Furthermore, it introduces the need for the LPA to have regard to relevant local nature recovery strategies and relevant species/protected site conservation strategies, when making their decision.

Under the Act, the enhancements must be maintained for at least 30 years

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The Conservation of Habitats & Species Regulations replace The Conservation (Natural Habitats, etc.) Regulations 1994 (as amended)¹⁵, and transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora ('EU Habitats Directive')¹⁶, and Council Directive 79/409/EEC on the Conservation of Wild Birds ('Birds Directive')¹⁷ into UK law (in conjunction with the Wildlife and Countryside Act).

Regulation 43 and 47 respectively of the Conservation of Habitats & Species Regulations makes it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2 (European protected species of animals), or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5 (European protected species of plant). Development that would contravene the protection afforded to European protected species requires a derogation (in the form of a licence) from the provisions of the Habitats Directive.

Regulation 63 (1) states: 'A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which —

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and

(b) is not directly connected with or necessary to the management of that site;

must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.'

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in Great Britain. This legislation is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats¹⁸ (the 'Bern Convention') and the Birds Directive and EU Habitats Directive are implemented in Great Britain.

The Countryside and Rights of Way Act 2000

The Wildlife and Countryside Act has been updated by the CROW Act. The CROW Act amends the law relating to nature conservation and protection of wildlife. In relation to threatened species it strengthens the legal protection and adds the word 'reckless' to the offences of damaging, disturbing, or obstructing access to any structure or place a protected species uses for shelter or protection, and disturbing any protected species whilst it is occupying a structure or place it uses for shelter or protection.

The Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities Act 2006 states that every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Biodiversity Action Plans provide a framework for prioritising conservation actions for biodiversity.

Section 41 of the Natural Environment and Rural Communities Act requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity. The list, a result of the most comprehensive analysis ever undertaken in the UK, currently contains 1,149 species, including for example, hedgehog (*Erinaceus europaeus*), and 65 habitats that were listed as priorities for conservation action under the now defunct UK Biodiversity Action Plan¹⁹ (UK BAP). Despite the devolution of the UK BAP and succession of the UK Post-2010 Biodiversity Framework²⁰ (and Biodiversity 2020 strategy²¹ in England), as a response to the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020²² and EU Biodiversity Strategy (EUBS)²³, this list (now referred to as the list of Species and Habitats of Principal Importance in England) will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 41 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions.

Biodiversity Action Plans

Non-statutory Biodiversity Action Plans (BAPs) have been prepared on a local and regional scale throughout the UK over the past 15 years. Such plans provide a mechanism for implementing the government's broad strategy for conserving and enhancing the most endangered ('priority') habitats and species in the UK for the next 20 years. As described above the UK BAP was succeeded in England by Biodiversity 2020 although the list of priority habitats and species remains valid as the list of Species of Principal Importance for Nature Conservation.

Regional and local BAPs are still valid however and continue to be updated and produced.

Detail on the relevant BAPs for this site are provided in the main text of this report.

Legislation Relating to Nesting Birds

Nesting birds, with certain exceptions, are protected from intentional killing, destruction of nests and destruction/taking of eggs under the Wildlife and Countryside Act 1981 (as amended) and the CROW Act. Any clearance of dense vegetation should therefore be undertaken outside of the nesting bird season, taken to run conservatively from March to August (inclusive), unless an ecologist confirms the absence of active nests prior to clearance.

Legislation Relating to Bats

All UK bats and their roosts are protected by law. Since the first legislation was introduced in 1981, which gave strong legal protection to all bat species and their roosts in England, Scotland and Wales, additional legislation and amendments have been implemented throughout the UK.

Six of the 18 British species of bat have Biodiversity Action Plans (BAPs) assigned to them, which highlights the importance of specific habitats to species, details of the threats they face and proposes measures to aid in the reduction of population declines.

Although habitats that are important for bats are not legally protected, care should be taken when dealing with the modification or development of an area if aspects of it are deemed important to bats such as flight corridors and foraging areas.

The Wildlife & Countryside Act 1981 (WCA) was the first legislation to provide protection for all bats and their roosts in England, Scotland and Wales (earlier legislation gave protection to horseshoe bats only.)

All eighteen British bat species are listed in Schedule 5 of the Wildlife and Countryside Act, 1981 and under Annex IV of the Habitats Directive, 1992 as a European protected species. They are therefore fully protected under Section 9 of the 1981 Act and under Regulation 43 of the Conservation of Habitats and Species Regulations 2017, which transposes the Habitats Directive into UK law.

Consequently, it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;

- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; and
- Intentionally or recklessly obstruct access to a bat roost.

This legislation applies to all bat life stages.

The implications of the above in relation to the proposals are that where it is necessary during construction to remove trees, buildings or structures in which bats roost, it must first be determined that work is compulsory and if so, appropriate licenses must be obtained from Natural England.

*

A.2 PLANNING POLICY

National

National Planning Policy Framework 2021

The National Planning Policy Framework (NPPF) 2021²⁴ sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'. Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Regional

The London Plan 2021

Policy G1 Green infrastructure

London's network of green and open spaces, and green features in the built environment such as green roofs and street trees, should be protected, planned, designed and managed as integrated features of green infrastructure.

Boroughs should prepare green infrastructure strategies that integrate objectives relating to open space provision, biodiversity conservation, flood management, health and wellbeing, sport and recreation.

Development Plans and Opportunity Area Planning Frameworks should:

identify key green infrastructure assets, their function and their potential function

identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.

Policy G2 London's Green Belt

The Green Belt should be protected from inappropriate development:

development proposals that would harm the Green Belt should be refused

the enhancement of the Green Belt to provide appropriate multi-functional uses for Londoners should be supported.

Policy G5 Urban greening

Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.

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

Policy G6 Biodiversity and access to nature

Where harm to a SINCD (other than a European (International) designated site) is unavoidable, the following approach should be applied to minimise development impacts:

avoid adverse impact to the special biodiversity interest of the site

minimise the spatial impact and mitigate it by improving the quality or management of the rest of the site

seek appropriate off-site compensation only in exceptional cases where the benefits of the development proposal clearly outweigh the biodiversity impacts.

Biodiversity enhancement should be considered from the start of the development process.

Proposals which create new or improved habitats that result in positive gains for biodiversity should be considered positively, as should measures to reduce deficiencies in access to wildlife sites.

Policy G7 Trees and woodlands

Development proposals should ensure that, wherever possible, existing trees of quality are retained [Category A and B]. If it is imperative that trees have to be removed, there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

Supplementary Planning Guidance (SPG): Sustainable Design and Construction 2014

As part of the London Plan 2011 implementation framework, the SPG, relating to sustainable design and construction, was adopted in April 2014 and includes the following sections detailing Mayoral priorities in relation to biodiversity of relevance to The Site.

Nature conservation and biodiversity

The Mayor's priorities include ensuring 'developers make a contribution to biodiversity on their development Site'.

Overheating

Where priorities include the inclusions of 'measures, in the design of schemes, in line with the cooling hierarchy set out in London Plan policy 5.9 to prevent overheating over the scheme's lifetime'

Urban greening

A Priority is for developers to 'integrate green infrastructure into development schemes, including by creating links with wider green infrastructure network'.

Use less energy

'The design of developments should prioritise passive measures' which can include 'green roofs, green walls and other green infrastructure which can keep buildings warm or cool and improve biodiversity and contribute to sustainable urban drainage'.

London Environment Strategy 2018²⁵

The Mayor's Environment Strategy was published in May 2018. This document sets out the strategic vision for the environment throughout London. Although not primarily a planning guidance document, it does set strategic objectives, policies and proposals that are of relevance to the delivery of new development in a planning context, including:

Objective 5.1 Make more than half of London green by 2050

Policy 5.1.1 Protect, enhance and increase green areas in the city, to provide green infrastructure services and benefits that London needs now.

This policy states:

"New development proposals should avoid reducing the overall amount of green cover and, where possible, seek to enhance the wider green infrastructure network to increase the benefits this provides. [...] New developments should aim to avoid fragmentation of existing green space, reduce storm water run-off rates by using sustainable drainage, and include new tree planting, wildlife-friendly landscaping, or features such as green roofs to mitigate any unavoidable loss".

This supports the 'environmental net gain' approach promoted by government in the 25 Year Environment Plan.

Proposal 5.1.1.d The London Plan includes policies to green streets and buildings, including increasing the extent of green roofs, green walls and sustainable drainage.

Objective 5.2 conserving and enhancement wildlife and natural habitats

Policy 5.2.1 Protect a core network of nature conservation sites and ensure a net gain in biodiversity

This policy requires new development to include new wildlife habitat, nesting and roosting sites, and ecologically appropriate landscaping will provide more resources for wildlife and help to strengthen ecological corridors. It states:

“Opportunities should be sought to create or restore priority habitats (previously known as UK Biodiversity Action Plan habitats) that have been identified as conservation priorities in London [and] all land managers and landowners should take BAP priority species into account”.

Local

Haringey Local Plan

SP13: Open Space and Biodiversity

New development shall protect and improve Haringey’s parks and open spaces. All new development shall:

- Protect and enhance, and when and where possible, extend the existing boundaries of the borough’s Green Belt, designated Metropolitan Open Land, designated Open Spaces, Green Chains, allotments, river corridors and other open spaces from inappropriate development;
- Provide amenity space in accordance with the Council’s Open Space and Recreational Standards Supplementary Planning Document (SPD);
- Manage the impact of such new developments in areas adjacent to designated open space;
- Secure improvements, enhancement and management in both quality and access to existing green spaces;
- Seek on-site or financial contributions towards open space from new developments as set out in the Open Space and Recreational Standards SPD;
- Seek to secure opportunities for additional publicly accessible open space especially in those identified areas of Open Space deficiency e.g. in the east of the borough where the quality and amount of provision is poorer as set out in the Council’s Open Space and Recreational Standards SPD;
- Conserve the historic significance of the borough’s designated historic parks and gardens.

APPENDIX B PLACEMENT OF PROPOSED ENHANCEMENTS



House Sparrow terraces (x5)



Swift Bricks (x5)



Bat Boxes (x5)

Do not scale drawings. All dimensions to be checked on site.
Errors to be reported immediately to Landscape Architect.
To be read in conjunction with all relevant Architect, Services and Engineer drawings.

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Revision Tracker

Status

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Date

08/10/23

Scale

1 : 250

Drawn

Author/Checker

Location

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Wood Green, N22 8LS

Client

Haringey Civic Centre
Planning Area

Date

05/10/24

North Arrow

Scale

1 : 250

Drawn

Author/Checker

Location

Civic Centre, 11th Rd,
Wood Green, N22 8LS

Client

Haringey Civic Centre
Planning Area

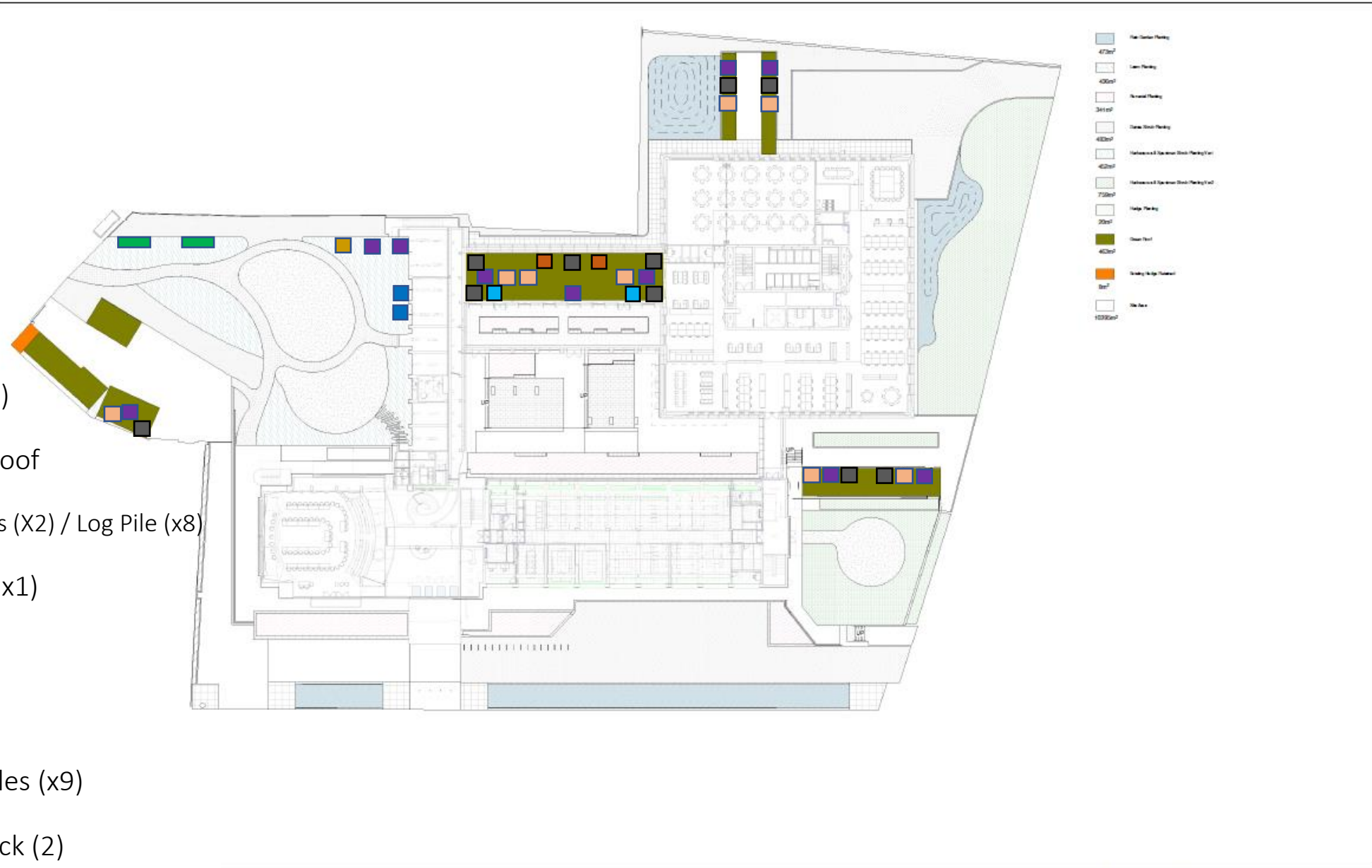
Date

05/10/24

DRAFT

Ground Floor Enhancements

-  Habitat Panels (X2)
-  Biodiverse green roof
-  Stag Beetle Loggeries (X2) / Log Pile (x8)
-  Hedgehog house (x1)
-  Rope coil (x8)
-  Bee posts (x2)
-  Rock and sandy piles (x9)
-  Integrated bee brick (2)
-  Water trays (x2)



APPENDIX C LANDSCAPE AND ECOLOGY MANAGEMENT PLAN

This Management Plan has been produced to demonstrate compliance with BREEAM RFO 2014 LE05 'Long term impact on biodiversity'.

In accordance with LE05 and BS 42020:2013, where relevant, this management plan includes the following:

- Aims and objectives of management;
- List of features to be managed;
- Appropriate management actions for achieving aims and objectives, including a works schedule;
- Ecological constraints on-site that could influence management;
- Ecological management and monitoring (if required); and
- Body or organisation responsible.

Based on the ecological baseline value of the site, as discussed in section 4 of this report, the enhancement recommendations and associated management actions focus on providing habitat for bats, invertebrates and birds (specifically house sparrow and swift). Inclusion and ongoing maintenance of these enhancements will therefore complement the aims of the London and Haringey BAPs.

Aims and Objectives

Whilst the Haringey Civic Centre development is within a largely urban setting, consideration has been given to the wider network of green infrastructure within Haringey. This is not only in the formal areas where nature conservation is the main function, but also within the network of amenity or open space provision, rivers, canals, ponds, allotments, and other green spaces, which contribute so much to local wildlife.

This concept of green infrastructure as a key mechanism for the promotion of biodiversity value is well established in London. Many local plans promote initiatives which aim to improve London's provision of greenspace in a variety of ways through development, with local BAPs specifying species and habitats to be targeted through this greenspace provision.

The green spaces created through development form a mosaic of habitat types, quality, size and variety in a larger spatial context that provide green 'stepping stones' which are important for both floral and faunal movement, colonization, and population dynamics within heavily urbanised areas.

Species such as bats, birds and invertebrates, which this management plan targets, benefit from the presence of suitable habitats for foraging, taking refuge, nesting, roosting or reproducing on a wider scale.

It is therefore the aim of this management plan to describe the most effective ways in which the habitat enhancements implemented on site are maintained and cared for in the long-term. If implemented

effectively, the management plan will accordingly seek to ensure that the site will provide a longstanding resource for local wildlife, in particular those species targeted by the London and Haringey BAPs.

Features to be managed

The following habitat enhancements will be implemented on site and therefore require management in the long-term:

- Biodiverse roof;
- Introduced shrub/tree planting;
- Amenity grassland/ 'lawn';
- Bird boxes;
- Bat boxes; and
- Invertebrate habitat features.

Management actions

This section details actions which will ensure adequate maintenance and management of the ecological features on site.

The following procedures will be carried out in order to ensure the ecological value of the features are maintained throughout the lifetime of the development, these actions are split in to general actions which apply to all features, and focused actions which are specific to certain habitats/features.

General:

- Check enhancement features are intact;
- Remove litter;
- Re-plant or supplement planting if necessary;
- Weed out competitive/invasive species listed on the London Invasive Species Initiative¹⁴ website if necessary;
- Irrigation if necessary after sustained dry periods; and
- Fertilise planting to maintain healthy growth with organic fertiliser from peat free sources.

Focused:

- Clean out invertebrate habitat features, namely habitat panels;
- Maintenance of green roof will vary depending on the supplier, however general actions include:
 - Removal of dead vegetation and leaf litter;
 - Removal of any vegetation blocking drainage outlets;
 - Check for degradation of waterproofing system;
 - Irrigate if necessary after long dry periods; and

- Trimming of shrub and trees.

Horticultural Best Practice

Good horticultural practice should be followed at all times on site, including the use of peat-free composts, and sourcing of plants from local UK nurseries only.

Locally sourced mulch should be used to fertilise the planting only and pesticides and herbicides should not be used.

Timing

Maintenance actions will be completed on a yearly basis during springtime and additionally in late autumn where necessary.

The table below summarises the timings of the management actions for the first 5 years. Following the initial 5 year period, the actions should be reassessed and repeated if there is found to be no change in site condition or contemporary best practice.

Table C.1 Management actions

Season	Management actions
Spring/summer (Year 1-5)	General actions
	• Check enhancement measures are intact such as species boxes, landscaping and biodiverse roofs etc. • Check if any litter needs removing and dispose where necessary. • Re-plant or supplement shrub planting, where plants have died or failed to grow etc • Weed out competitive species if necessary (e.g. Buddleia and other London Invasive Species Initiative [LISI] species). • Irrigate areas of planting during extended periods or dry hot weather. • Fertilise areas of planting, using sustainable and organic options, such as locally sourced mulch, to encourage new growth and continual growth of vegetation. • Mowing of Amenity grassland/ lawn.
	Focused actions
	• Biodiverse green roof maintenance including removal of any dead vegetation or leaf litter which may smother new growth, removal of vegetation that is blocking the water outlet system and check waterproofing layers is in good condition. • Common nuisance species on living roofs include Buddleja and Canadian fleabane.

Season	Management actions
Autumn/ Winter (Year 1-5)	General actions
	• Cut back and trim any growth of shrub or tree planting that blocks sunlight, entrance holes to bird boxes or invertebrate habitat feature or hinders the use of the space by people. • Mowing of Amenity grassland/ lawn
	Focused actions
	• Clean habitat panels if used during summer. To do this firstly remove any trace of nesting material then use a non-toxic soap solution with water to clean the internal surfaces. Next rinse with water to remove all traces of soap and leave to dry in natural sunlight. • Biodiverse roof maintenance including removal of any dead vegetation or leaf litter which may smother new growth, removal of vegetation that is blocking the water outlet system and check waterproofing layers is in good condition.

Ecological Constraints to Management

The features to be implemented of site, specifically, bird boxes and shrub and tree planting, will provide potential to support nesting birds. To avoid disturbing, harming or killing any nesting birds or their young, any maintenance and management of these features should take place outside of the breeding bird season (the breeding season is taken to run from March-September inclusive). If this is not possible an inspection for nesting birds must take place, by a suitable qualified ecologist, prior to any works on taking place. If any repairs are required on the bat boxes, an ecologist would need to check first (only licenced ecologists would be able to deal with occupied bat boxes).

This principle has been embedded within the above maintenance timings table.

Ecological Monitoring

Due to the scale of the development it is not considered necessary for the installed ecological features to be monitored by a third party.

It is however recommended that the bird boxes are monitored between March-September each year to check their uptake by nesting birds. This monitoring should involve observation of the boxes for a minimum of 30 minutes once each month. This should take place as early in the morning as possible to minimise the amount of disturbance experienced during observation.

Records of any nesting birds using the boxes should be sent to GIGL.

Responsibility

Maintenance

Maintenance of all enhancement features, other than biodiverse roofs, should be the responsibility of the owner/developer or a company appointed by the owner/developers.

Biodiverse roof maintenance should be undertaken by the green roof supplier. This should take place annually for the lifetime of the green roof.

The building owner/developer should keep a record of all maintenance carried out internally or by a third party.

Monitoring

The owner/developer will be responsible for monitoring the success of the ecological features installed on site.

The building owner/developer will keep a record of all monitoring.

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