Ground Control®
Professional Services

Kilburn High Road

Ecology and Landscape Report

July 2017

Contents

01- Introduction

1.1 Introduction

This report outlines the existing habitat value and the Landscape and Ecology Proposals which have been prepared in responce to the LPA comments on the Pre Application Submission (Annex D) and is to be submitted in support of a Planning Application on behalf of Brondesage, to Camden Borough Council for the development of land at 328 e-h Kilburn High Road.

Description of the Proposed Development

"Demolition and redevelopment with a 4 storey building to provide a commercial unit (to be used for A1, A2, A4 or A5 purposes) at ground floor; and 8 selfcontained flats (4 x 1 bed, 3 x 2 bed and 1 x 3 bed) at first, second and third floor levels; cycle and refuse storage".

A site visit was completed by Gavin Mullan (Senior Ecologist) of Ground Control in May 2017 to inform the Landscape and Ecology Proposals.

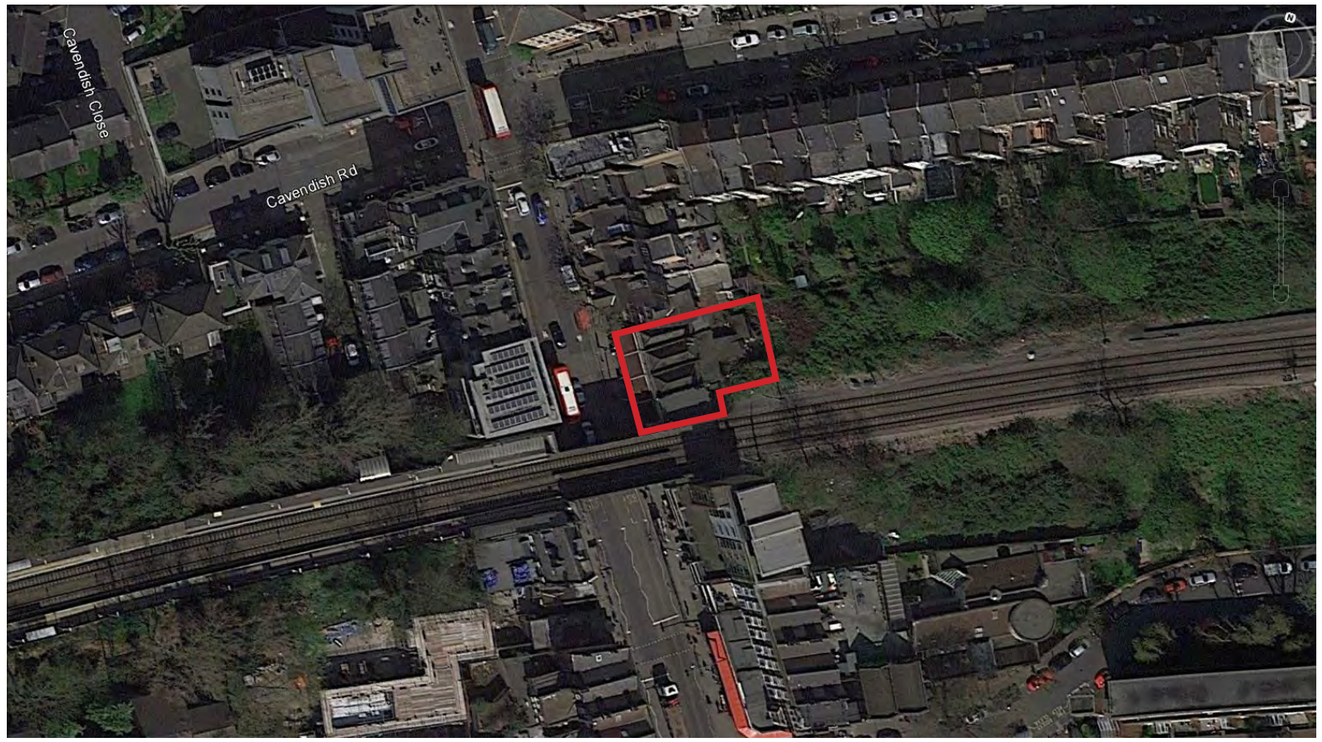
The preliminary Ecological Appraisal (PEA) prepared by 'Arbtech Consulting Ltd' in Feb 2017 which was used to support the pre application discussions is to be used as a basis for the Landscape and Ecology Proposals.

1.2 Report Objectives

This report outlines the following objectives;

- Legislative context specific to the SNCI designation
- Indentifies the existing habitat value
- Landscape and Ecology Proposals which include native planting proposals at ground floor, green roof areas and habitat box opportunities
- The Landscape and Ecology proposal benefits which outlines the net gain in habitat area and biodiversity enhacements.
- Demonstrates how the Landscape and Ecology Proposals meets Planning Policy Requirements related to the SNCI

Site Location Plan



1.3 Site Location

The proposal site is currently occupied a single storey public house. An in-fill development, on former railway sidings, the existing building is atypical for the general architectural style observed on Kilburn High Road. The general composition of the street is made up of Victorian and Georgian style terraces. Typically these are 3-4 storeys, with residential and commercial use found over retail, food and beverage use at ground floor.

The majority of these have narrow fronted units at street level and there is a continuous edge of built form to the back of the footway. The area is characterised by complete urban blocks that run from street to street and is dominated by the heavy traffic of Kilburn High Road and many railway bridges that bisect the area.

The East West orientation of the existing building abutting a railway viaduct allows the opportunity for good out look and access to daylight at upper storeys. To the East of the site is a locally designated site of Nature and Conservation Importance CaBI06. The designation boundary overlaps the proposal site boundary and special care will need to be taken to enhance the habitat value of the area as part of the proposals.

1.4 Report Objectives

This report outline the following objectives;

- Legislative context specific to the SNCI designation
- Indentifies the existing habitat value
- Landscape and Ecology Proposals which include native planting proposals at ground floor, green roof areas and habitat box opportunities
- The Landscape and Ecology proposal benefits which outlines the net gain in habitat area and biodiversity enhacements.
- Demonstrate how the Landscape and Ecology Proposals meets Planning Policy Requirements related to the SNCI

Extract from 16-018.23-002D Kilburn - Pre Application March 2017

02 - Background

2.1 Introduction

The purpose of this section is to provide an overall view of the legislative context that governs the site and the adjacent SNCI. It also provides a description of the SNCI and designation.

The section concludes with the local planning authority review of the initial planning application and the measures that should be implemented to ensure that the development is compliant with the aims & objectives set out in Policy CS15 of the Local Adopted Plan.

2.2 SNCI Land Designation

The local plan will designate a certain level of protection for SNCI's. This will be a purely planning protection, i.e. it will provide a limited level of protection against developments of certain types. However, it provides no protection at all for species and habitats as such, nor does it have any effect upon management - or lack of it.

Site of Importance Nature Conservation Importance is the lowest tier of conservation designation, and varies from area to area. The criteria for inclusion, and the level of protection provided, if any, may not be exactly the same in all areas.

2.3 SNCI designation Hierarchy

2.3.1 Sites of Metropolitan Importance

Sites of Metropolitan Importance for nature conservation are those sites which contain the best examples of London's habitats, sites which contain particularly rare species, rare assemblages of species or important populations of species, or sites which are of particular significance within the otherwise heavily built-up areas of London. They are of the highest priority for protection. The identification and protection of Metropolitan Sites is necessary, not only to support a significant proportion of London's wildlife, but also to provide opportunities for people to have contact with the natural environment.

2.3.2 Sites of Borough Importance

These are sites which are important on a borough perspective in the same way as the Metropolitan sites are important to the whole of London. Although sites of similar quality may be found elsewhere in London, damage to these would mean a significant loss to the borough. As with Metropolitan sites, while protection is important, management of borough sites should usually allow and encourage their enjoyment by people and their use for education. Since 1988 Borough sites have been divided, on the basis of their quality, into two grades, but it must be stressed that they are all important on a borough-wide view.

2.3.3 Sites of Local Importance

A Site of Local importance is one which is, or may be, of particular value to people nearby (such as residents or schools). These sites may already be used for nature study or be run by management committees mainly composed of local people. These sites also deserve protection in planning.

The above information has been extracted from the Supplementary Planning Document, Site of Nature Conservation Importance in Camden, 2006 (Annex F)

2.3.4 Description of SNCI designated area CaBi06

'This site is composed of a number of sections of railside, an old orchard at Medley Gardens, and Westbere Copse in West Hampstead. Land near Brondesbury is covered in a complex of scrub and secondary woodland, mostly sycamore (Acer pseudoplatanus) and wild cherry (Prunus avium). More open areas support false oat-grass (Arrhenatherum elatius), rosebay willowherb (Chamerion angustifolium), Michaelmas-daisy (Aster sp.) and bramble (Rubus fruticosus agg.). Much of the length aside the Thameslink line is densely covered in secondary woodland, bramble (Rubus fruticosus agg.), scrub and tall herb communities.'

Supplementary Planning Document, site of Nature Conservation Importance in Camden, 2006 (Annex F)

2.3.5 LPA Guidance Review

In the initial pre-planning application the local planning authority reviewed the development proposal and advised that:

· The size, scale and bulk of the proposed rear element of the scheme represented an over-dominant addition that occupied an unacceptable amount of SNCI land.

· This view is supported by our Nature Conservation Officer who has reviewed the supporting pre-app documents and is concerned about the erosion of SNCI land.

· Advised that the development should limit the impact on the designated land at the site in accordance with the requirements of Policy CS15. (Annex E)

· Reduction in the buildings footprint would be hugely beneficial to the overall scheme as it would provide an opportunity for the land to the rear of the site to be re-landscaped and used as a communal outdoor space for the future occupants of the site

· Important, particularly as this part of the borough is identified as an area of deficiency with regard to access to nature.

Refer to (Annex C) for LPA comments.

03 - Existing Site Habitat Value

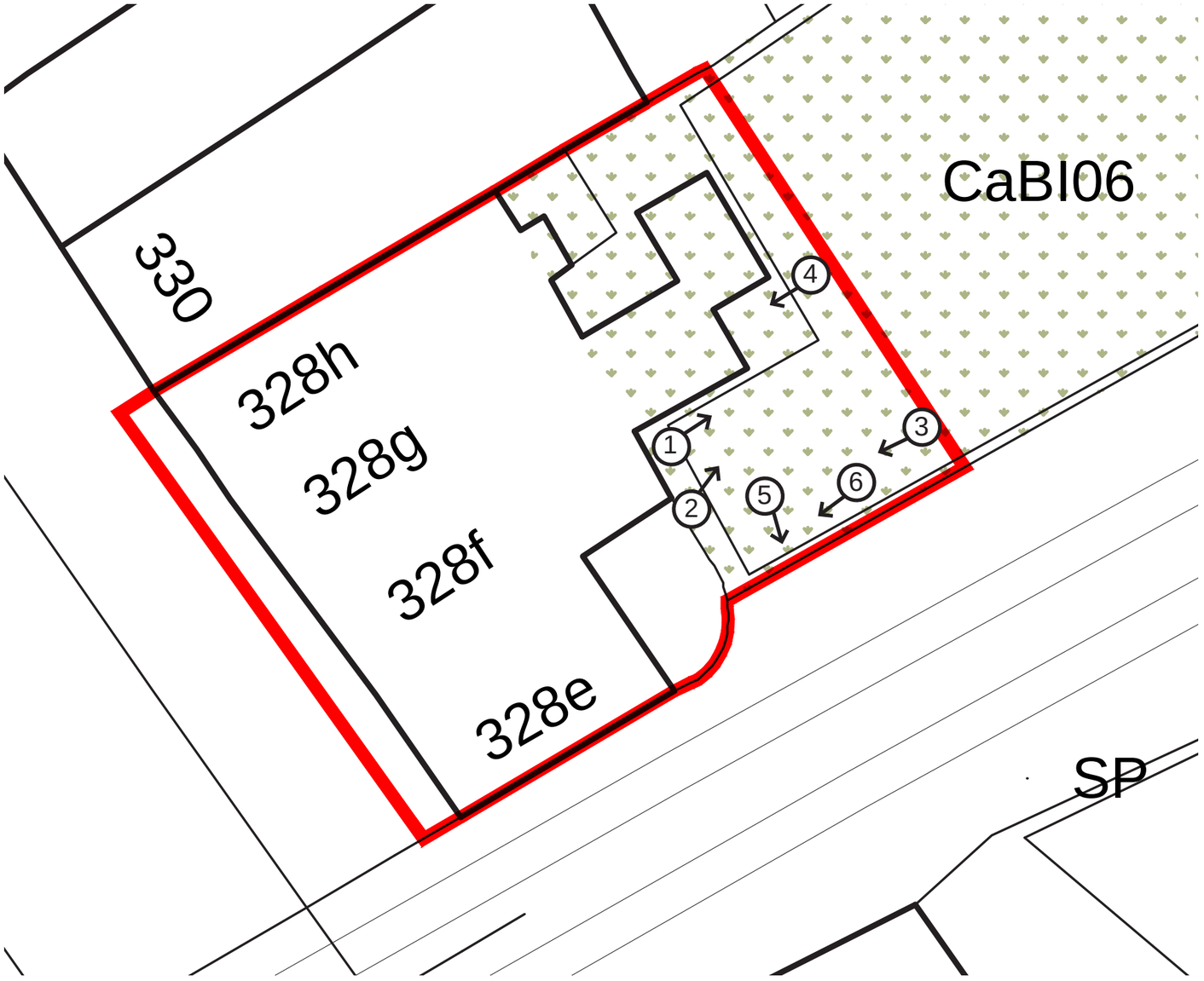
3.1 SNCI CaBi06 falling within in the development site area

The boundary of the Brondesage landholding and the adjacent SNCI CaBi06 is very erroneous as there is no clear demarcation between the two sites. During the visit completed by Gavin Mullan of Ground Control an attempt was made to try and determine the boundary between the 2 land plots with the assistance of the property owner. Approximate demarcation between the two lots is shown via the red line in Photo View 1 and 2; the photographs were taken from the rear of the existing building.

View 1

Application site boundary

Photo View Locations



03 - Existing Site Habitat Value

View 2

Application site boundary

View 3

View 4

View 5

View 6

During the site visit of May 16 it was identified that the portion of land that falls within the boundary of the CaBi06 consist primarily of ground covering ivy ***Hydra***, cow parsley ***Anthriscus sylvestris***, dandelion ***Taraxacum***, blue bell ***Hyacinthoides non-scripta***, nettle ***Urtica dioica*** and bramble ***Rubus Fruticosus***

The preliminary ecology appraisal completed by Arbtech Jan 17 also identified the following:

A2.1] Dense scrub

"A small area of the south-eastern part of the site is covered by bramble (***Rubus fruticosus agg.***), nettle (***Urtica dioica***), ivy (***Hedera helix***) and burdock (***Arctium sp.***) as is the adjacent railway line."

(Arbtech Report - Annex B)

The land to the rear of the property is not public accessible and is not used as any type of open space either by the pubic of by patrons of the bar. As shown in the images above the land consists primarily of ground covering ivy, empty plant pots, arising's from previous tree works and is currently utilised as a space for storing beer kegs.

03 - Existing Site Habitat Value

3.2 Ecological Survey

A site visit was completed by Gavin Mullan *MCIEEM* senior ecologist at Ground Control on 9th May 2017 which is an optimal time for surveying for protected species. The site exhibited no potential to support any protected species, there was no suitable habitat for nesting birds and bats. It is anticipated that the site does support common invertebrate and reptile species.

Bats

The building on site has a negligible opportunity to support a bat roost based on a lack of suitable external features or interior access. The site is also well lit and urban, and doesn't lie on a commuting route.

Birds

During the site visit no nesting birds were observed and the site displayed no suitable nesting habitat, however lots of avian activity and bird song was observed throughout the duration of the visit, as the undisturbed characteristics of the adjacent railway and associated vegetation provides ideal nesting habitat.

Reptiles

The site does have potential for reptiles albeit low given the presence of tree arising's that could potentially be utilised as reptile refugia, however the closet recorded observation of reptiles is 951m north of the site as identified in the Arbtech report Jan 17(Annex B) ,and they are not considered to be present on this site.

Amphibians

The site displayed no suitable aquatic habitat that could be utilised by amphibians; therefore their presence at any time of the year can be discounted.

Other Protected Species

The site is not suitable for other protected species such badger, water vole, otter or dormouse.

3.3 BDAP species

None of the National BAP or London BAP priority species were observed during the site visit and it is not anticipated the site provides suitable habitat for the species listed in both the national BAP and London BAP.

3.4 SNCI designated area species

As cited in the Supplementary Planning Document Sites of Nature Conservation Importance in Camden September 2006 (Annex F):

'Land near Brondesbury is covered in a complex of scrub and secondary woodland, mostly sycamore (Acer pseudoplatanus) and wild cherry (Prunus avium). More open areas support false oat-grass (Arrhenatherum elatius), rosebay willowherb (Chamerion angustifolium), Michaelmas-daisy (Aster sp.) and bramble (Rubus fruticosus agg.). Much of the length aside the Thameslink line is densely covered in secondary woodland, bramble (Rubus fruticosus agg.), scrub and tall herb communities.'

The only species cited in the above text that was observed during the site visit of May 2017 was bramble and sycamore tree arising's from previous tree works.

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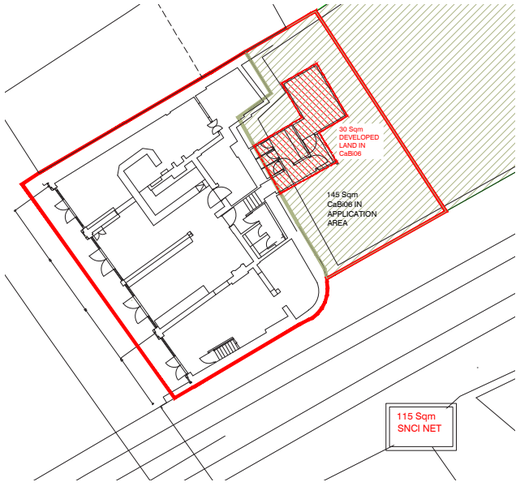
Landscape Architecture *Ecological Consultancy* *Arboricultural*

04 - Landscape and Ecology Proposals

4.1 Design Rationale

In response to the LPA comments on the Pre-Application dated March 2017 (Annex D) B+R Architects have prepared a revised proposal which reduces the upper stories in order to increase the area of roof available for intensive and extensive green roof type habitat areas.

Existing



30 Sqm of Developed Land in CaBl06

145 sqm of CaBl06 within the Application Area

Proposed Native Boundary Planting - Ground Floor 68 sqm

Intensive Green Roof Planting - Ground Floor Roof 45 sqm

Extensive Green Roof Planting - Upper Storey and Cycle Store Roof 88 sqm

Summary of Proposed Planted Areas

Existing SNCI within Development Site : 115sqm

Proposed Native Boundary Planting Mix at Ground Level: 68 sqm

Proposed Native Intensive Green Roof Planting Mix: 45 sqm

Proposed Extensive Green Roof Planting Mix: 88 sqm

Total Native Planting Habitat Area: 201 sqm

Net Gain in Habitat Area : 86 sqm

04 - Landscape and Ecology Proposals

4.2 Ground Floor - Native Boundary Planting.

The floral diversity that exists on site doesn't contain very many pollinator species, the primary ground covering vegetation consists of ivy providing low habitat value and foraging potential for local invertebrate populations and other pollinating species, there are isolated stands of common comfrey.

It is recommended that the planting utilised in the border planting scheme, provides habitat and potential foraging grounds for a variety of pollinating species. The species listed below consist of a mixture of herbs, perennial shrubs and trees and are recommended by the Royal Horticultural Society and are ideal for attracting pollinator species. The purpose of this list is to provide a palette of plant species to choose from and may not all be utilised in the planting proposals:

Agrimonia eupatoria - Agrimony
Armeria maritima - Thrift, Sea pink
Aquilegia vulgaris - Columbine
Campanula glomerata - Clustered bellflower
Centaurea nigra - Common knapweed, hardheads
Cornus sanguinea - Common dogwood
Digitalis purpurea common foxglove
Filipendula vulgaris - Dropwort
Galium odoratum - Sweet woodruff
Helleborus foetidus - Stinking hellebore
Ilex aquifolium - Common holly
Lamium galeobdolon - Yellow archangel
Leucanthemum vulgare - Ox-eye daisy
Malva sylvestris - Common mallow
Myosotis sylvatica - Wood forget-me-not
Origanum vulgare - Wild marjoram
Primula vulgaris - Primrose
Prunus spinosa - Blackthorn, sloe
Rosa canina - Dog rose
Rosa rubiginosa - Sweet briar
Sedum telephium orpine
Silene dioica - Red campion
Silene latifolia subsp. - Alba white campion
Silene vulgaris - Bladder campion
Solidago virgaurea - Goldenrod
Sorbus aucuparia - Rowan, mountain ash
Stachys officinalis - Betony
Stellaria holostea - Greater stitchwort
Symphytum officinale - Common comfrey
Teucrium scorodonia - Wood sage
Trifolium pretense - Red clover
Viburnum lantana - Common wayfaring tree
Viburnum opulus - Guelder rose
Vicia cracca - Common tufted vetch
Vicia sativa - Common vetch

4.3 Ground Floor - Native Boundary Planting Mix

Bareroot planting stock 60-80cm planted at 1m centres

Cornus sanguinea - Common dogwood
Ilex aquifolium - Common holly
Prunus spinosa - Blackthorn, sloe
Rosa canina - Dog rose
Rosa rubiginosa - Sweet briar
Viburnum opulus - Guelder rose

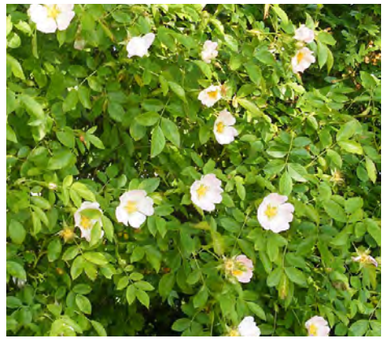
Cornus sanguinea

Ilex aquifolium

Rosa rubiginosa

Prunus spinosa

Rosa canina



Viburnum opulus

4.4 Native Boundary Planting Schedule

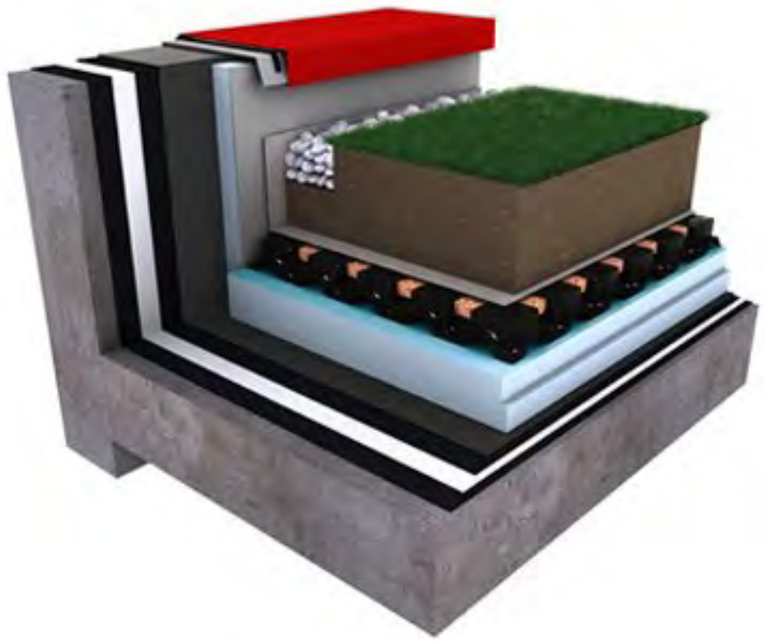
Name	Height	Girth	Root	Cntr	Ctrs	Qty
Cornus sanguinea	60-80cm		BR		0.100	873
Ilex aquifolium	60-80cm		BR		0.100	873
Prunus spinosa	60-80cm		BR		0.100	582
Rosa canina	60-80cm		BR		0.100	582
Rosa rubiginosa	60-80cm		BR		0.100	873
Viburnum opulus	60-80cm		BR		0.100	873

4.4 Intensive Green Roof - Ground Floor Roof

4.4.1 Introduction

Intensive green roofs are also known as rooftop gardens and the vegetation is similar to ground level planting and can include anything from trees and shrubs to swimming pools and allotments. The substrate used ranges from 200mm to 400mm and has a higher organic content and a requirement for high loading capacity.

4.4.2 Intensive Green Roof Typical Detail



4.4.3 Intensive Green Roof Typical Buildup (Subject to detailed Design)

- Vegetation
- Permanent Automated Irrigation System
- Intensive Substrates (Typical depth 200-400mm)
- Growing media designed to support intensive plants, shrubs or lawned areas
- Filter Layer
- 60mm Drainage Layer
- Moisture/Protection Layers
- Root Barrier

4.4.4 Intensive Green Roof - Ground Floor Roof

Perennials Mix

Container grown stock planted in 2 litre pots at 450mm centres

Agrimonia eupatoria - Agrimony
Armeria maritima thrift - Sea pink
Aquilegia vulgaris - Columbine
Campanula glomerata - Clustered bellflower
Centaurea nigra - Common knapweed
Digitalis purpurea - Common foxglove
Filipendula vulgaris - Dropwort
Michaelmas-daisy (Aster sp.)
Galium odoratum - Sweet woodruff
Helleborus foetidus - Stinking hellebore
Lamium galeobdolon - Yellow archangel
Leucanthemum vulgare - Ox-eye daisy
Malva sylvestris - Common mallow
Myosotis sylvatica - Wood forget-me-not
Origanum vulgare - Wild marjoram

Chamerion angustifolium - Rosebay willowherb
Primula vulgaris - Primrose
Sedum telephium - Orpine
Silene dioica - Red campion
Silene latifolia subsp. - Alba white campion
Solidago virgaurea - Goldenrod
Stachys officinalis - Betony
Stellaria holostea - Greater stitchwort
Symphytum officinale - Common comfrey
Teucrium scorodonia - Wood sage
Trifolium pretense - Red clover

Malva sylvestris

Malva sylvestris

Digitalis purpurea

Agrimonia eupatoria

Filipendula vulgaris

Centaurea nigra

Lamium galeobdolon

Leucanthemum

Sedum telephium orpine

4.4.4 Intensive Green Roof - Ground Floor Roof

Silene dioica

Teucrium scorodonia

Solidago virgaurea

Trifolium pretense

Stachys officinalis

4.4.5 Intensive Green Roof Planting Schedule

Name	Height	Girth	Root	Cntr	Ctrs	Qty
Agrimonia eupatoria	30-40cm		C	2L	0.450	15
Centaurea nigra	20-30cm		C	2L	0.450	13
Digitalis purpurea	30-40cm		C	2L	0.450	11
Filipendula vulgaris	30-40cm		C	2L	0.450	13
Galium odoratum	20-30cm		C	2L	0.450	13
Lamium galeobdolon 'Variegatum'	30-40cm		C	2L	0.450	15
Leucanthemum vulgare	20-30cm		C	2L	0.450	11
Malva sylvestris	30-40cm		C	2L	0.450	13
Origanum vulgare	20-30cm		C	2L	0.450	13
Sedum telephium	20-30cm		C	2L	0.450	15
Silene dioica	30-40cm		C	2L	0.450	15
Silene latifolia subsp.	30-40cm		C	2L	0.450	13
Solidago virgaureea	20-30cm		C	2L	0.450	15
Stachys officinalis	30-40cm		C	2L	0.450	15
Teucrium scorodonia	30-40cm		C	2L	0.450	13
Trifolium pratense	20-30cm		C	2L	0.450	13

Intensive Roof also seeded with the below wildflower seed mix;

BFS - 12 . British Flora Green Roof Wildflower Seed Mix (or similar)

Sowing Rate: 2g/m2

Contains: Wildflowers 85% (21 species) Grasses 15% (3 species)

BFS - 12 . British Flora Green Roof Wildflower Seed Mix (or similar)

Sowing Rate: 2g/m2
Contains: Wildflowers 85% (21 species) Grasses 15% (3 species)

6.0% Agrimony
7.0% Bird's-foot trefoil
5.0% Bladder Campion
2.0% Common Sorrel
1.0% Common Toadflax
6.0% Cowslip
3.0% Hoary Plantain
8.0% Kidney Vetch
6.0% Lady's Bedstraw
4.0% Oxeye Daisy
1.0% Perforate St. johns Wort
1.5% Red Clover
5.0% Rough Hawbit
6.0% Salad Burnet
6.0% Selfheal
1.0% Small Scabious
4.0% Viper's Bugloss
4.0% Wild Carrot
4.0% Wild Marjoram
0.5% Wild Thyme
4.0% Yarrow
5.0% Crested Dogstail
5.0% Common Quaking Grass
5.0% Sweet Vernal Grass

4.5 Extensive Green Habitat Roof - Upper Storey and Cycle Store Roof

4.5.1 Introduction

Extensive or Biodiverse roofs are shallow lightweight systems that can support a diverse assemblage of native wildflowers and grasses. The diversity of vegetation and substrates will create ecological habitats for wildlife and the substrate depth varies from 80-150mm.

It is recommended that a mixture of annual, biennial and perennial wildflowers and grasses that are drought tolerant are utilised on this type of roof. Species such as kidney vetch and vipers bugloss self-seed quite easily and allow communities to re-establish after die-back resulting from periods of drought.

The species such as red clover, birds-foot trefoil, bladder and sea campion provide excellent nectar sources and larval food for many long tongued bumble species, butterflies and moths and other pollinating invertebrates. After the flowering season the seed heads on many wildflower species could be utilised for over wintering habitat for invertebrates providing a dual role of a food source during the summer months and refuge during the winter months. Species such as ox-eye daisy, yarrow and hawkbits are good sources of nectar for more generalist pollinators.

By providing a diverse range of plant species this will provide nectar and pollen sources from spring toautumn proving an almost year round food source a refuge.

Trifolium pretense - Red clover

4.5.2 Extensive Green Roof Typical Detail

Extensive Green Roof Typical Buildup (Subject to Detail Design)

- Vegetation
- Extensive Substrates (Typical Depth 80-150mm)
- Lighweight growing media designed to support extensive plants
- Filter Layer
- 25mm Extensive Drainage Layer
- Moisture/Protection Layers
- *Root Barrier*

4.5.3 Extensive Green Roof Planting Proposals

Annual,Biennial and Perennial Mix

Plug planting mix

Anthyllis vulneraria - Kidney Vetch

Echium vulgare - Vipers Bugloss

Trifolium pretense - Red clover

Lotus corniculatus - Birds Foot Trefoil

Silene vulgaris - Bladder campion

Silene uniflora - Sea Campion

Leucanthemum vulgare - Ox-eye daisy

Achillea millefolium - Yarrow

Leontodon hispidus - Hawkbit

Sedum acre - Biting Stonecrop

Extensive Roof also seeded with the below wildfower seed mix;

BFS - 12 . British Flora Green Roof Wildflower Seed Mix (or similar)

Sowing Rate: 2g/m2

Contains: Wildflowers 85% (21 species) Grasses 15% (3 species)

Anthyllis vulneraria

Silene uniflora

Sedum acre

Trifolium pretense

Silene uniflora

Silene vulgaris

4.5.4 Extensive Green Roof Planting Schedule

Name	Height	Girth	Root	Cntr	Ctrs	Qty
Achillea millefolium	8-10cm		Ce		0.275	116
Anthyllis vulneraria	8-10cm		Ce		0.275	116
Echium candicans	8-10cm		Ce		0.275	116
Leontodon hispidus	8-10cm		Ce		0.275	116
Leucanthemum vulgare	8-10cm		Ce		0.275	116
Lotus corniculatus	8-10cm		Ce		0.275	116
Sedum acre	8-10cm		Ce		0.275	116
Silene uniflora	8-10cm		Ce		0.275	116
Silene vulgaris	8-10cm		Ce		0.275	116
Trifolium pratense	8-10cm		Ce		0.275	116

BFS - 12 . British Flora Green Roof Wildflower Seed Mix (or similar)

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1.0% Common Toadflax
6.0% Cowslip
3.0% Hoary Plantain
8.0% Kidney Vetch
6.0% Lady's Bedstraw
4.0% Oxeye Daisy
1.0% Perforate St. johns Wort
1.5% Red Clover
5.0% Rough Hawbit
6.0% Salad Burnet
6.0% Selfheal
1.0% Small Scabious
4.0% Viper's Bugloss
4.0% Wild Carrot
4.0% Wild Marjoram
0.5% Wild Thyme
4.0% Yarrow
5.0% Crested Dogstail
5.0% Common Quaking Grass
5.0% Sweet Vernal Grass

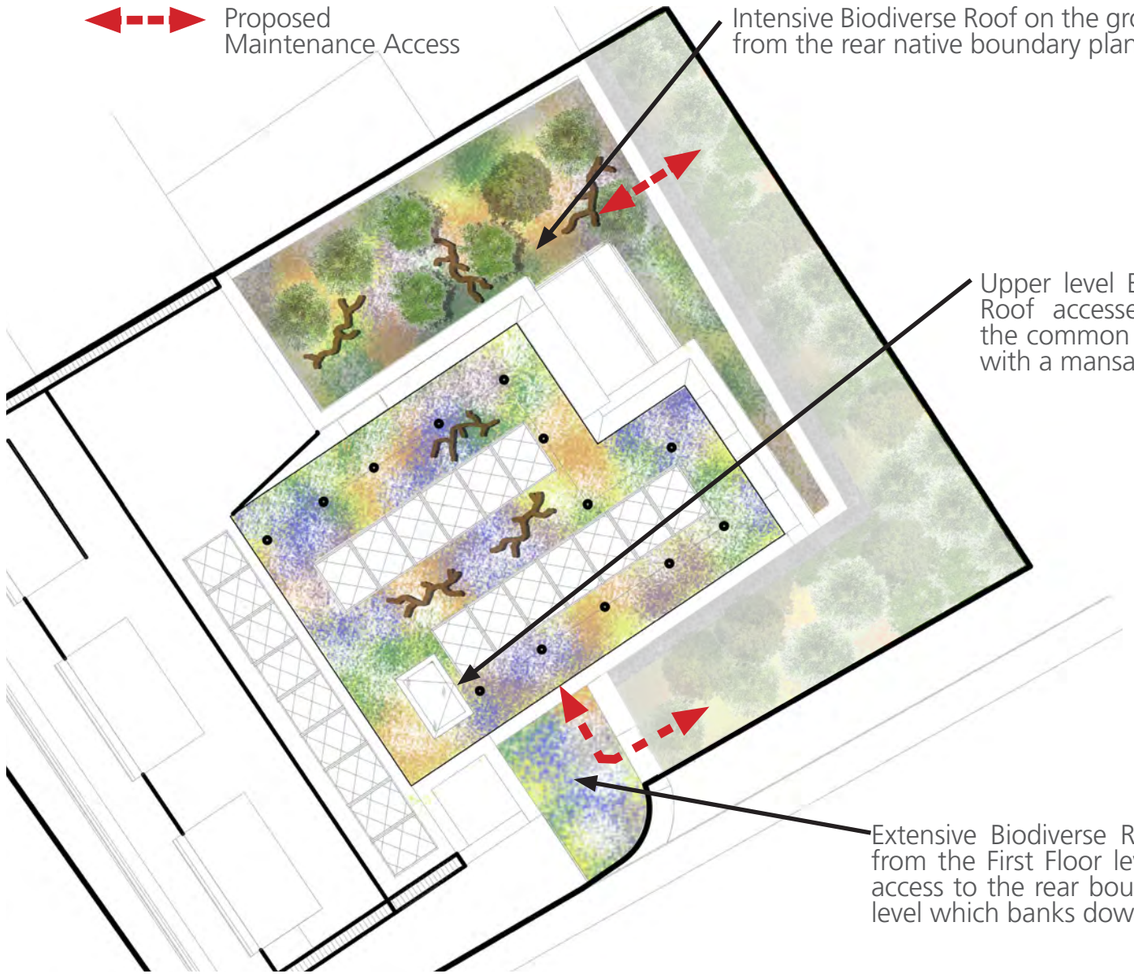
4.5.5 Green Bio-diverse Roof Maintenance

The key maintenance period is up to 3 months after planting during the initial 'establishment period'. Irrigation is particularly important in the first 10 weeks during dry periods. An automated sprinkler or leaky pipe system should be considered to maintain plant health. For plug plants irrigation is required every 2-3 days to once a week during the establishment period. Green roofs are very nutrient poor environments and therefore the use of a slow release fertilizer can be beneficial to plant establishment (fertilizer makeup and application rates to be advised by Green Roof Specialist contractor). After initial establishment further fertilization should not be required but should be assessed by the maintenance contractor.

Ongoing maintenance on biodiverse roofs should include at least two annual visits by a suitably qualified specialist green roof maintenance contractor. The tasks required in annual maintenance can include:

- Inspection of vegetation and reporting any problems on plant establishment
- Removal of unwanted weeds such as Buddleja, Canadian fleabane, sow-thistles and docks
- Clearance of drainage pits and vegetation barriers around perimeter
- Old seeds heads should be left to overwinter to provide foraging potential for birds and overwintering sites for invertebrates.
- Cutting of wildflower turf and removal of this vegetation may be required on turfed roofs or those with more vigorous grass growth
- Invertebrate/wildlife records can provide invaluable information on green roof ecology and the data should be shared with the local records centre.

4.5.6 Green Roof Maintenance Access



4.6 Proposed Habitat Opportunities

4.6.1 Introduction

A variety of habitat boxes will be utilised within the scheme providing additional habitat for local wildlife, including invertebrates, birds and bats.

4.6.2 Bird Boxes

House Sparrow

The house sparrow is national BDAP and London BAP species and a number of sparrow terraces will be included within the proposals, house sparrows are social birds and like to nest in company, the proposed sparrow terraces can house families.

The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of houses in built-up areas, and on industrial and agricultural buildings such as barns, sheds and factories.

4.6.3 Bird Box Location Guidance

Bird Boxes

Install three Schwegler bird boxes on the new building on site, facing east.

1x Schwegler 1HE black redstart wall box

1x Schwegler 1B nest boxes

1x Schwegler 2H Robin Boxes

Nest boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight.

(Arbtech Report Annex B)

House Sparrow

The house sparrow is national BDAP and London BAP species and a number of sparrow terraces will be included within the proposals, house sparrows are social birds and like to nest in company, the proposed sparrow terraces can house families.

The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of houses in built-up areas, and on industrial and agricultural buildings such as barns, sheds and factories.

Location Plan

4.6.4 Bird Box Locations

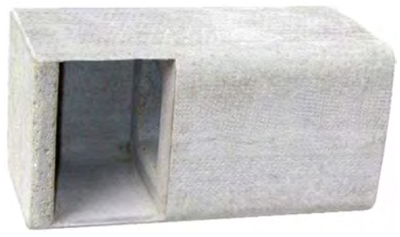
HST — House Sparrow Terrace located below roof eaves

1HE — 1HE Schwegler Brick Bird Box

1B — 1x Schwegler 1B nest boxes

2H — 1x Schwegler 2H Robin Boxes

1HE Schwegler Brick Bird ***Box***



1B Schwegler Nest Box

2H Schwegler Robin Box

1SP Schwegler Sparrow Terrace

4.6.5 Invertebrates

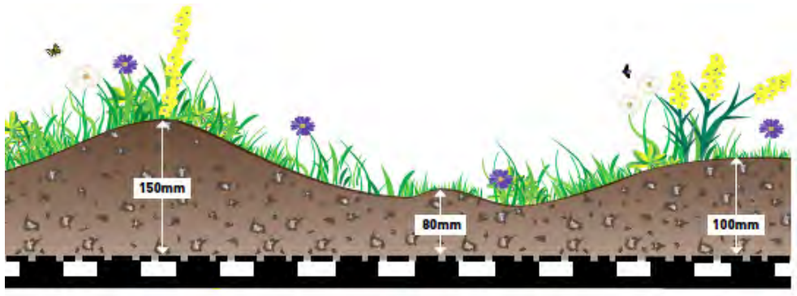
Bug hotels are to be incorporated into the proposal within the native border planting scheme at ground level and within the green bio-diverse habitat roof areas. These bug hotels will provide habitat for a variety of local invertebrate populations and solitary bees and other pollinator species which will aid the pollination of the wildflowers and grasses that are to be included as part of the planting proposals.

(Extract from Creating Green Roofs for Invertebrates by Buglife – The Invertebrate Conservation Trust)

Substrate depth and structural diversity of the vegetation. Research has shown that variation in substrate depth is desirable on a biodiverse roof. Thin areas of substrate will be less vegetated, providing the bare areas favoured by warmth-loving invertebrates. Creating deeper areas of substrate and undulations will create small localised changes to the micro-climate due to varying exposure to sun, wind and rain. It will also produce hydrological variation ranging from very dry substrate (shallow areas) to those that hold moisture or even ephemeral water-bodies (deeper areas).

This in turn will encourage the development of structurally diverse vegetation which will provide habitat for a wide variety of invertebrates. Deeper soils can also be important locations for some invertebrates to over-winter or find refuge during drought.

Variation in substrate depth



Using a variety of materials in addition to substrate such as sand and shingle can be of benefit and influence the flora and invertebrates that colonise dry substrate (shallow areas) to those that hold moisture or even ephemeral water-bodies (deeper areas). This in turn will encourage the development of structurally diverse vegetation which will provide habitat for a wide variety of invertebrates. Deeper soils can also be important locations for some invertebrates to over-winter or find refuge during drought.

Wildflower-rich biodiverse roof, London

Logs, sand and shingle on a
Bio-diverse roof

Wall Mounted Bug Hotel

Bug Tower on a Green Roof

4.6.6 Invertebrate Habitat Location Plan

BH1 Bug Hotel to Ground Floor

BH2 Bug Hotel to Intensive Green Roof

BH3 Bug Hotel to Extensive Green Roof

BT1 Bug Tower to Intensive Green Roof

LP Habitat log pile

4.6.7 Invertebrate Habitat Location Guidance

Bug Hotels

Install 3 No. Bug Hotels to Ground Floor

Install 2 No. Bug Hotels to the Ground Floor Intensive Green Roof

Intsall 3 No. Bug Hotels to the Extensive Green Roof on the Upper Floor Roofs

Install 1 No. bug tower to the Intensive Roof

Install habitat log piles to the Intensive and Extensive Green Roof

Installing gravel,shingle and sand areas to the Intensive and Extensive Green Roofs can benefit and influence the invertebrates that colonise

4.6.8 Bats

Bats are a London BAP priority species and at least 8 species have been identified within the London area. As this is a new development it provides the opportunity to incorporate additional habitat within the fabric of the building by utilising the habitat box shown. These types of bat boxes are self-contained and self-cleaning and need no further after care once installed

In general, bats seek warm spaces to help them with rearing young. Habitat boxes should be located where it will receive sunlight but not in direct sunlight all day they should be orientated south-west and south-East.

The proximity of the railway line provides greater opportunity for a wider range of bat species to take up residence.

4.6.9 Bat Box Location Guidance

The installation of a bat box on the new building, facing east would provide roosting opportunity

1x 1FF Schwegler Bat Box

Bat boxes should be positioned 3-5m above ground level facing in a south/south-westerly direction with a clear flight path to and from the entrance.

(Arbtech Report Annex B)

4.6.10 Bat Box Location Plan

Bat Box located below roof eaves

05 - Scheme Benefits

5.1 Net gain habitat area

The site does not display any ecological features that would be suitable for protected species habitat the site has been deemed to be of low biodiversity value during both visits completed by Arbtech Jan 17 and Ground Control May 17. (Annex B)

With the implementation of the Landscape and Ecology proposals the focus has been on enhancing and increasing the bio-diversity and ecological value of the site by providing habitats for both locally and nationally important species i.e. bats and house sparrows which are both listed as priority species in the Camden and National BAP.

The inclusion of the both Intensive and Extensive green roofs will provide a food source and habitat for a range of invertebrate and pollinator species in addition to the bug hotels it is anticipated the provision of these additional habitats and food source will increase local invertebrate populations and attract some of the invertebrate and insect species listed in the Camden BAP to the site. The inclusion of the variety of the habitat boxes to be utilised on site is an overall improvement in on-site habitat provision pre and post construction.

5.2 Net gain in biodiversity

The site is of low bio-diversity value, as is the portion of the SNCI CaBio6 that it is located to the rear of the property. Through the implementation of the habitat boxes and the native planting proposals there will be an overall increase in on site bio-diversity. There will be a variety of pollinating flora and fauna species attracted to the site which will have a positive impact upon the locality and the surrounding ecosystems.

5.3 Breeam Calculation

There are 32 proposed species of native shrubs and herbaceous planting as well as a wildflower/grass mix containing 21 species of wildflower and 3 grass species. (Refer to Planting Schedules)

Summary of Proposed Planted Areas

Existing SNCI within Development Site : 115sqm

Proposed Native Boundary Planting Mix at Ground Level: 68 sqm

Proposed Native Intensive Green Roof Planting Mix: 45 sqm

Proposed Extensive Green Roof Planting Mix: 88 sqm

Total Native Planting Habitat Area: 201 sqm

5.4 Meeting Planning Policy Requirements

The Landscape and Ecology Proposals meet the following Planning Policy Requirements.

Core Strategy - CS15 Protecting and improving our parks and

open spaces and encouraging biodiversity (Annex E)

The Council will protect and improve sites of nature conservation and biodiversity, in particular habitats and biodiversity identified in the Camden and London Biodiversity Plans in the borough by:

g) expecting the provision of new or enhanced habitat, where possible,

including through biodiverse green or brown roofs and green walls;

The Council will preserve and enhance the historic, open space and nature conservation importance of Hampstead Heath and its surrounding area by:

p) improving the biodiversity of, and habitats in, Hampstead Heath and its surrounding area, where opportunities arise.

15.20 There are limited opportunities to provide new ground-level habitats in the borough due to lack of space. Whilst the provision of habitat at ground level is important, there are opportunities on new and existing buildings to provide habitats in the form of green or brown roofs and green walls. We will expect developments to provide opportunities for biodiversity within the fabric and curtilage of buildings. Where redevelopment occurs on sites adjacent to existing wildlife sites we will expect developers to provide additional habitat of an appropriate scale. We will favour the provision of habitat for species identified in the Camden and London Biodiversity Action Plans.

CaBI06 West Hampstead Railsides, Medley Orchard and Westbere Copse. As cited in the Supplementary Planning Document Sites of Nature Conservation Importance in Camden September 2006 (Annex F):

Land near Brondesbury is covered in a complex of scrub and secondary woodland, mostly sycamore (Acer pseudoplatanus) and wild cherry (Prunus avium). More open areas support false oat-grass (Arrhenatherum elatius), rosebay willowherb (Chamerion angustifolium), Michaelmas-daisy (Aster sp.) and bramble (Rubus fruticosus agg.). Much of the length aside the Thameslink line is densely covered in secondary woodland, bramble (Rubus fruticosus agg.), scrub and tall herb communities.

The only species cited in the above text that was observed during the site visit of May 2017 was bramble and sycamore tree arising's from previous tree works.

The Landscape and Ecology Proposals include the following native plant species as cited above;

Chamerion angustifolium - Rosebay willowherb

Michaelmas-daisy (Aster sp.)

5.5 Conclusion

There will be no ecological or bio-diversity loss through the development of the 328 Kilburn High Road, it is anticipated there will be an overall increase on biodiversity on site post construction, through the provision of species specific habitat and the utilisation high pollinator and wildlife friendly planting species.

The Landscape and Ecology proposals are focused on improving and enhancing biodiversity through the provision of habitat opportunity which in turn will have a positive impact upon local populations and ecosystem. The use of bird and bat boxes, bug hotels, log piles that are to utilised will also support and increase species listed in the Camden and national BAP. Post construction these habitat boxes can be monitored to illustrate that they are being utilised by the target species and having a positive impact in supporting and improving local populations.

An assessment of the planting species can be completed to determine the level of invertebrate species attracted to the site. Monitoring of the habitat boxes and assessment of the planting proposals are useful methods in assessing the overall biodiversity gain that is anticipated with the implementation of the Landscape and Ecology Proposals.