



Biodiversity Enhancement Strategy

15 The Roundway, Tottenham, London, N17 7AB

Produced for JIM Construction Ltd.

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1 Introduction

- 1.1 Green Shoots Ecology were instructed by JIM Construction Ltd. to provide a Biodiversity Enhancement Strategy for a development at 15 The Roundway, Tottenham, London. N17 7AB. This is to fulfil Planning Condition 7 below:

Condition 8A:

ECOLOGICAL IMPACT - (a) Prior to the commencement of above ground works for the development hereby approved, the recommendations of the approved Ecological Impact Assessment shall be complied with, and details of this compliance submitted to and approved in writing by the Council. For the avoidance of doubt these recommendations and submissions shall include:

- a. Provision of full detailed biodiversity calculations demonstrating a minimum 10% biodiversity net gain.
- b. Provision of a Biodiversity Enhancement Strategy that includes details of the following: i. Bird boxes ii. Bat roost boxes iii. Insect blocks
- iv. Arrangement and management of native species with a preference for species that bear flowers, pollen, fruit, berries or nuts
- c. Details of management and maintenance of the above.
- d. Justification for the location and type of enhancement measures should be supported by a qualified ecologist.

- 1.2 Part A of the condition has already been fulfilled through the provision of a biodiversity net gain metric with accompanying Biodiversity Net Gain Report (Hushwing, 2022). This document is therefore intended to address parts B, C and D of the above condition.

Suitably Qualified Ecologist

- 1.3 This report has been prepared by Molly Dailide MCIEEM, a full member of the Chartered Institute of Ecological & Environmental Managers, with nine years' experience as an ecological consultant. Molly also holds a MSc in Biodiversity Conservation and a BSc (Hons) degree in Ecology and Conservation. Molly is classified as a Suitably Qualified Ecologist based on these points.

2 Descriptions of features added and potential benefits

- 2.1 A range of new habitats will be created through the site with landscaping proposals including native species and those bearing flowers, pollen, fruit, berries and/or nut of value to wildlife. Details of new habitats and additional ecological enhancements are provided below.

Tree planting

- 2.2 Small trees will be planted within areas of greenspace, predominantly around the site's perimeter. Species added will include *Betula albosinensis* 'Fascination', *Crataegus x lavalleyi* 'Carrierei', *Prunus* Sunset Boulevard, *Magnolia grandiflora* and *Ginkgo biloba*. New trees will eventually provide nesting opportunities for birds, while the berries and fruit provided by these species have potential to support foraging birds such as blackbirds *Turdus merula* and thrushes *Turdus* spp, and invertebrates.

Climbing Plants

- 2.3 Climbers will be planted along boundary walls and fences and trained onto horizontal wires to 2m high. Species will include *Hydrangea petiolaris*, *Lonicera* sp and *Trachelospermum*

jasminoides. These will provide a resource for pollinating insects which may in turn attract birds and bats.

Ornamental planting

- 2.4** The site will include various areas of non-native flower rich perennial planting and shrubs. Species such as *Euonymus* sp, *Alchemilla* sp, *Lavandula* spp and *Geranium* sp will be included. Although not designed specifically for biodiversity value these areas will include species of value for pollinators such as *Lavandula angustifolia*. Invertebrates attracted to planting may attract birds, while new shrubs provide potential nesting opportunities.

Grassland Creation

- 2.5** Areas of modified grassland will be created using Emorsgate EL1 flowering lawn seed mix or similar. This area of grassland, once established, will be allowed to flower during spring to provide habitat for various pollinating species.
- 2.6** Additional areas of grassland will be created within areas of Sustainable Urban Drainage Systems (SuDS). These areas will provide some benefits to biodiversity through the provision of foraging habitat for fauna including birds.

Hedgerow Creation

- 2.7** Areas of ornamental hedgerow will be planted throughout the site. Species will include hornbeam *Carpinus betulus*, privet *Ligustrum ovalifolium*, *Photinia x fraseri* 'Little Red Robin' and *Euonymus* 'Jean Hugues.' These will be managed for amenity value however will provide potential foraging habitats for fauna such as birds and small mammals as well as bird nesting sites once established.

Green Roof Creation

- 2.8** A green roof will be established using Bauder Flora 5 Seed Mix. The mix includes the following species:

Latin Name	Common name
<i>Agrimonia eupatoria</i>	Agrimony
<i>Anthyllis vulneraria</i>	Kidney Vetch
<i>Centaureum erythraea</i>	Common centaury
<i>Centaurea nigra</i>	Common Knapweed
<i>Centranthus ruber</i>	Red Valerian
<i>Dipsacus fullonum</i>	Wild teasel
<i>Echium vulgare</i>	Viper's-bugloss
<i>Galium verum</i>	Lady's Bedstraw
<i>Hippocrepis comosa</i>	Horseshoe Vetch

<i>Hypericum perforatum</i>	Perforate St John's-wort
<i>Knautia arvensis</i>	Field Scabious
<i>Leontodon autumnalis</i>	Autumn Hawkbit
<i>Leontodon hispidus</i>	Rough Hawkbit
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Linaria vulgaris</i>	Common Toadflax
<i>Lotus corniculatus</i>	Bird's-foot-trefoil
<i>Malva moschata</i>	Musk-mallow
<i>Oenothera biennis</i>	Evening Primrose
<i>Origanum vulgare</i>	Wild Marjoram
<i>Plantago media/ lanceolata</i>	Hoary/Ribwort Plantain
<i>Primula veris</i>	Cowslip
<i>Prunella vulgaris</i>	Selfheal
<i>Ranunculus acris</i>	Meadow Buttercup
<i>Ranunculus bulbosus</i>	Bulbous Buttercup
<i>Reseda lutea</i>	Wild Mignonette
<i>Rumex acetosa</i>	Common sorrel
<i>Sanguisorba minor</i>	Salad Burnet
<i>Sedum acre</i>	Biting stonecrop
<i>Sedum album</i>	White stonecrop
<i>Silene vulgaris</i>	Bladder Campion
<i>Thymus polytrichus</i>	Wild Thyme
<i>Trifolium pratense</i>	Red Clover
<i>Agrostemma githago</i>	Corn Cockle
<i>Centaurea cyanus</i>	Cornflower
<i>Chrysanthemum segetum</i>	Corn Marigold
<i>Matricaria recutita</i>	Scented Mayweed
<i>Myosotis arvensis</i>	Field Forget-me-not
<i>Papaver rhoeas</i>	Common Poppy
<i>Briza media</i>	Quaking grass
<i>Festuca rubra</i>	Red fescue
<i>Cynosurus cristatus</i>	Crested Dog's-tail
<i>Festuca ovina</i>	Sheeps Fescue
<i>Festuca rubra</i>	Red Fescue
<i>Koeleria macrantha</i>	Crested Hair-grass
<i>Trisetum flavescens</i>	Yellow Oat-grass

2.9 In addition to the green roof seed mix which will provide foraging habitat and shelter for fauna such as invertebrates and birds, habitat piles will be included. These will consist of rocks, sand, logs and Manila rope to form an ephemeral pool. The green roof and location of habitat piles is shown within Appendix 2.

2.10 Locations of all proposed habitats are shown on the proposed Landscape Plan drawing reference D0516_005 A (NT December 2023).

Bird boxes

2.11 Integrated bird bricks will be added to the eastern elevation (as shown below), comprising **six** swift bricks. The swift bricks added should be Manthorpe Swift Brick or equivalent (as shown below). The Manthorpe Swift Brick has been developed in conjunction with developers and the RSPB to provide a safe, spacious and habitable area to allow swifts to nest. This is an integrated box built into house walls. Although the swift brick was designed for swifts, evidence from studies at various sites across the country shows that swift bricks are being used by a variety of small birds and can act as a 'universal' brick for small buildingdependent species. Species recorded nesting in swift bricks include house sparrow, house martins, blue tits, great tits and nuthatches. Birds likely to nest on the building in the proposed development that are of most conservation importance are house sparrows, starlings, and swifts. Of these the house sparrow and starling are both NERC Section 41 Species of Principal Importance. All three species are all on the Red List of Birds of Conservation Concern. These birds all nest

communally, so to benefit them the swift bricks should be added in groups, with six proposed for the building. The proposed location for the swift bricks is on the eastern elevation, to avoid strong afternoon sun and is facing an area of shrubs and trees.



Manthorpe swift nest box

Recommended location of integrated bird boxes on buildings



Bat bricks

- 2.12** Three integrated bat roost boxes (comprising Schwegler 2FR bat tubes/Vivara Pro Build-in Woodstone Bat Tube or similar) will be added on proposed buildings. They can be used by pipistrelle bats, which are found in urban areas. They should be installed facing south or west, as bats favour warm roost locations, so these are proposed for the southern elevation as shown below.



Vivara Pro Build-in Woodstone Bat Tube



Schwegler 2FR

Recommended location of bat tubes on buildings



Southern aspect

Insect Boxes

- 2.13** Two insect boxes will be included within the proposed development. These could include Nest Box Company Bug Hotel or similar. The boxes can be attached to fences, poles or retained trees, and should be located in suitable vegetated areas for example by shrub planting.



Nest Box Company Bug Hotel

3 Management and Maintenance

3.1 Management and maintenance prescriptions of features designed to benefit wildlife are provided below for the following:

- Native planting/habitat creation (grassland and green roof)
- Bird, bat and insect boxes

Grassland

3.2 Areas of new modified grassland will be created within the site using Emorsgate EL1 flowering lawn seed mix. The seed mix should be sown in accordance with the suppliers instructions. The soil should be harrowed or raked to produce a medium tilth before rolling or treading to create a firm surface. Seed is best sown in the autumn or spring but can be sown at other times of the year if there is sufficient warmth and moisture. The seed must be surface sown and can be applied by machine or broadcast by hand given the small area. The seed should be firmed in with a roll, or by treading, to give good soil/seed contact.

3.3 Any initial flush of annual weeds can be controlled by repeated mowing, after which the perennial seed mix will establish. The newly sown grassland should be mown regularly (every 7 -10 days during growing season) throughout the first year of establishment. It should be cut to a height of 40-60mm with the arisings removed if dense.

3.4 Once established the grassland will be mown regularly as a lawn but to 25-40mm. To allow for flowering, mowing can be relaxed from late June. The sward can then be cut when required (after 4-8 weeks). Mowing may be suspended earlier in the year to allow cowslips to flower. Heavy quantities of arisings should be collected and removed from site.

3.5 Areas of SuDs turf will be established using turf in accordance with the supplier instructions. Management should be relaxed in this area to allow a longer sward height to develop. The grassland should be cut with an annual 'hay-cut' between late June and early September (depending on weather conditions). Cutting should reduce the abundance of coarse grasses to allow low-growing forbs to survive. Repeated removal of cuttings should lower the nutrient status of the grassland, thus inhibiting the growth of more aggressive grasses and gradually increasing botanical diversity. Additional mowing may be required over winter where nutrient levels are high and coarse grasses are dominating the sward. Arisings should be removed following mowing.

3.6 Seeded/turfed areas shall be protected with temporary fencing for a minimum of 6 months from germination and maintained by the Contractor until successful establishment occurs.

3.7 Several species are recognised as being injurious to grassland including creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, common ragwort *Senecio jacobaea* and broadleaved dock *Rumex obtusifolius*. It is also recognised that these species provide value to wildlife for example as food plants for invertebrates and structural diversity within the sward. However, if they become abundant throughout the sward, management may be necessary. Undesirable species should first be dealt with by non-chemical control treatments, to comply with Defra's code of good agricultural practice (Defra 2009). Removal either by hand pulling or use of a spade or hoe just before ground level should be undertaken before plants flower. If this is not considered effective or the area too large, mechanical control may be required through repeated cutting for thistles and docks. If these methods are unsuccessful, chemical control may be required as a last resort however this is considered unlikely to be required given the small scale of the proposed grassland. An appropriate herbicide should be chosen for the target species, and the Code of Practice for Using Plant Protection Products (Defra 2006) followed. Spot treatment should be applied in appropriate weather conditions to reduce potential impacts on the surrounding grassland.

Green Roof

3.8 A green roof seed mix will be installed on top of the proposed buildings. This will comprise Bauder Green Flora 5 Seed Mix or similar to be approved and should follow the Bauder Green and Blue Roof Installation Guide. The seed mix should be sown in the Spring or Autumn. As the substrate will have been watered following installation, there is no need to water the roof after sowing. The roof can be watered once seeds start to germinate. Once seeds have started to germinate and grow, the seed bed substrate should be kept damp through regular watering with a soft spray for the first 10-12 weeks. Once established the roof should be watered when required. In summer months water only in times of hot dry weather where no rainfall has occurred for two weeks. During these times, water twice a week in evenings or early morning.

3.9 The roof should be inspected a minimum of two times a year (usually Spring / Summer / Autumn) to ensure successful establishment and continued development. Roof outlets should be inspected and any encroaching vegetation removed to enable water to flow freely through rainwater pipes.

3.10 In late autumn, vegetation should be cut to 50-70mm height with the arisings removed.

3.11 The presence of injurious weeds and encroaching scrub should be managed as described above for grassland.

Bat, Bird and Insect Boxes

3.12 The features added to the site include integral bat bricks and bird boxes, and insect boxes. Integral bat bricks and bird boxes do not require any maintenance. Insect boxes should be re-filled with suitable material such as dead wood, twigs, leaves etc as required.

4 Persons responsible for implementing the enhancement measures

4.1 Enhancement measures include

Planting of:

- Tree planting
- Grassland creation

Addition of:

- Bird boxes ○ Bat bricks
- Insect Boxes

Planting of habitats will be carried out by the landscaping contractor. Following installation and after transfer the landscape will be the responsibility of and maintained in perpetuity by JIM Construction Ltd. and their appointed Management Companies (should these be contracted out).

Addition of integral bat boxes will be carried out by the building contractor.

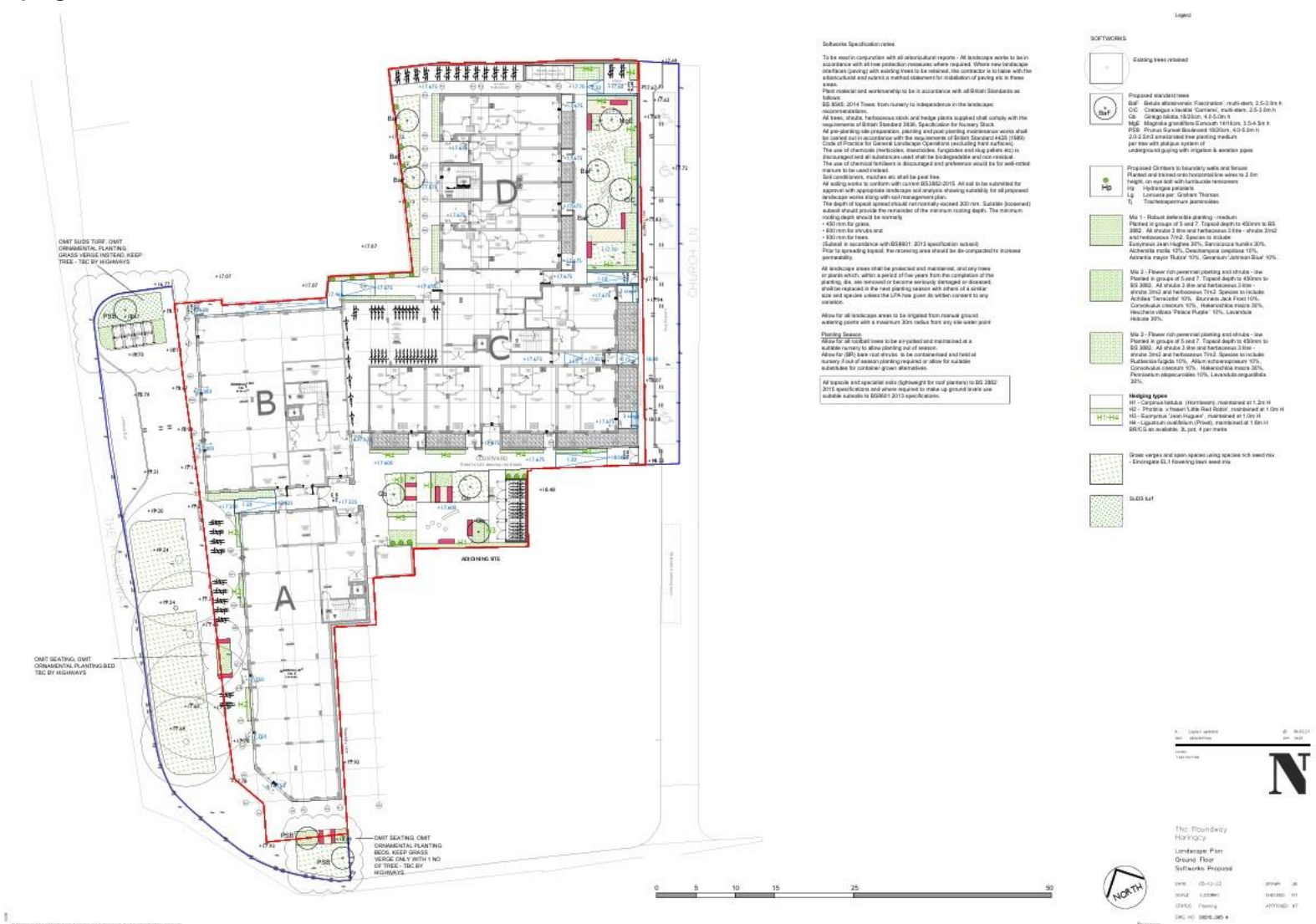
5 References

Hushwing Biodiversity Assessment and Auditing (2022): Biodiversity Net Gain Report, 313-315 The Roundway and 8-12 Church Lane, London N17

Hushwing Biodiversity Assessment and Auditing (2022): Ecological Impact Assessment, 15 The Roundway, Tottenham, London. N17 7AB

6 Annexes

Annex 1 – Landscaping Plan



15 THE ROUNDWAY, TOTTENHAM – BIODIVERSITY ENHANCEMENT STRATEGY

Annex 2 – Green Roof Plan



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