

## Report

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### Ecological Enhancement Plan Crown Trading Estate

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## Status / Revisions

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#### Drawings

L1115 - 3.1 - 2000 - P3\_LANDSCAPE MASTERPLAN

L1115 - 3.1 - 2052 - P1\_DETAILS - SOFT PLANTING 01

L1115 - 3.1 - 2021 - P3\_PLANTING PLAN 01

Appendix A – Proposed Locations of Bat and Bird Boxes

Appendix B – Declaration Form

## 1 Limitations and Exceptions

This plan and its findings should be considered in relation to the terms and conditions proposed and scope of works agreed between Sweco and JJ Rhatigan & Company.

Interpretations and recommendations contained in the plan represent our professional opinions, which were arrived at in accordance with currently accepted industry practices at the time of reporting and based on current legislation in force at that time.

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This plan is prepared and written in the context of the proposals stated in the introduction to this plan and should not be used in a differing context. Furthermore, alterations to the initial proposals or changes in conditions on site over time may necessitate an alteration to the plan in whole or in part after its submission. Therefore, in the event of any change in proposals or lapse of one year or more from the date of the plan, the content of the plan/report should not be relied upon unless referred to Sweco for validation and, if necessary, re-appraisal.

This plan was prepared only for JJ Rhatigan & Company and is not intended to be relied on by any other party. Third parties should not rely on the facts, matters or opinions set out in this plan without the express written permission of Sweco.

Please note that Sweco does not purport to provide specialist legal advice.

## 2 Introduction

### 2.1 Purpose

This management plan has been prepared by Sweco Ltd for JJ Rhatigan & Company, and relates and relates to the discharge of condition 6 laid out by Hillingdon Borough Council as part of the planning application 73955/APP/2022/2613 for the mixed-use development at Hayes Place, Brickfields, London UB3 1BA. Condition 6 states.

*“Prior to above ground works, an ecological enhancement plan shall be submitted to and approved in writing by the Local Planning Authority. The plan shall show dedicated area(s) for the management of wildlife that can double as an outdoor learning space. The plan shall also include a diverse range of planting through an updated landscaping plan that has been developed to improve biodiversity. Finally, the plan shall also show the inclusion of wildlife enhancement features (i.e. bat and bird boxes as well log piles) throughout the landscaped areas and within the fabric of the buildings. The development must proceed in accordance with the approved plan.*

#### REASON

*To ensure the development incorporates measures to improve biodiversity whilst protecting the interests of aircraft safety in compliance with policies DMAV 1 EM7 of the Local Plan Part 1, Policy DME1 7 of the Hillingdon Local Plan Part 2 (2020) and London Plan (2021) Policy G6.”*

This plan provides details of the creation and management of ecological enhancement features to be incorporated into the site, the value of the proposed scheme, highlighting species mixes and the value they provide to local wildlife, alongside detailing the wildlife enhancement features, providing details of how they should be managed and maintained and showing the location of these features on the plans.

### 2.2 Pre-development Site Description

The site occupies an area of approximately 1.5ha and is located around national grid reference TQ 09439 79727, approximately 2.8km north of Heathrow airport.

Habitats on-site comprise buildings and hardstanding access roads and car park, with small areas of ephemeral/ruderal vegetation, as described in Preliminary Ecological Appraisal RT-MME-129768-01 [1]. The site is surrounded by the Grand Union canal to the north, a country park to the north-west, and industrial buildings to the south.

### 2.3 Summary of Proposed Works

The proposed development comprises of demolition of the current buildings and construction of two mixed-use residential and commercial buildings with associated parking and amenity space, as shown on LDA drawing L1115 - 3.1 - 2000 - P3\_LANDSCAPE MASTERPLAN.

**2.4 Ecological Background**

This report has been produced with reference to the recommendations made in the Preliminary Ecological Appraisal Report produced by Middlemarch Environmental [1] and the Dusk Emergence Bat Survey report produced by Middlemarch Environmental [2].

**2.5 Responsibilities of Delivering This Plan**

It is JJ Rhatigan & Company responsibility to ensure that the actions described within this plan are delivered, including the creation and enhancement of habitats at the construction stage and maintenance and management at the operational phase.

This plan should be updated to include the names of the individuals and their specific roles and responsibilities in relation to this plan. They must also sign the declaration form at Appendix B of this document to record agreement with and adherence to this document.

### 3 Objectives for Ecological Enhancement and Habitat Management

The main ecological objective for the site is to maximize its biodiversity value within the confines of the areas available, taking into consideration the use of the site for commercial and residential purposes, and the necessity of reducing the appeal of the site to larger bird species due to the proximity to Heathrow airport.

#### 3.1 Ecological Value of the Site Pre-development

Habitats on-site comprise buildings and hardstanding access roads and car park, with small areas of ephemeral/ruderal vegetation, as described in Preliminary Ecological Appraisal RT-MME-129768-01 [1]. The site is surrounded by the Grand Union canal to the north, a country park to the north-west, and industrial buildings to the south.

#### 3.2 Aims

Given the habitats on site prior to construction, the site's location and that the site will be used for commercial purposes, the species and habitats targeted in this plan are all relatively common and likely to be found in an urban area such as that around the site. As such, the aims for this site are to:

- Increase the nesting habitat available for small passerine birds,
- Provide foraging and roosting opportunities for bats likely to be present in the local area such as common pipistrelle (*Pipistrellus pipistrellus*),
- Provide habitat for pollinators,
- Create hedgerow and shrub along the site boundary to improve the habitats for a range of species and improve connectivity with surrounding habitats.

The habitat creation, enhancement and management measures included within this plan will therefore increase the ecological value of the site over time.

#### 3.3 Habitats to be Created and Enhanced on Site

The habitats to be created and enhanced on site are:

- A native species-rich hedgerow to be planted, providing further nesting opportunities for birds, alongside foraging and commuting opportunities for bats.
- Meadow areas to be planted using Emorsgate EM1F or similar, providing habitat for insects and foraging opportunities of bats, birds and reptiles.
- Log pyramids using native hardwood to be placed, providing habitat for reptiles, hedgehogs (*Erinaceus europaeus*) and insects, particularly stag beetles (*Lucanus cervus*)



## 4 Creation and Enhancement of Ecologically Valuable Features

### 4.1 Bird Boxes

Two Vivara Pro Woodstone nest boxes or a similar woodcrete or woodstone box with a 32mm or smaller entrance hole suitable for small passerine birds are to be attached to or integrated into the buildings. These bird boxes should be located at least 1.5m from the ground, north-facing, ideally situated close to vegetation to provide additional cover but with a clear flight path to the nest box unobscured by vegetation. A suitable RAMS for working at height should be drawn up before installation. Indicative locations are shown on Appendix A.

One 1SP Schwegler sparrow terrace or similar is to be attached to or integrated into one of the buildings. The box should be located at least 3m from the ground, oriented north or east to avoid it getting too hot or wet. Indicative locations are shown on Appendix A.

### 4.2 Bat Boxes

Two Beaumaris woodstone bat boxes or a similar woodcrete or woodstone box are also to be attached to or integrated into one of the buildings in a south-east through south-west orientation with a clear flight path unobscured by vegetation. The boxes should be located at least 4m from the ground, as close the eaves of the building as possible. A suitable RAMS for working at height should be drawn up before installation. Lighting should not be directed at these boxes. Indicative locations are shown on Appendix A.

### 4.3 Log Pyramid

Several log pyramids are to be constructed using native hardwood logs (such as, but not limited to, logs of ash (*Fraxinus excelsior*), oak (*Quercus* sp.) or beech (*Fagus sylvatica*)). These should comprise a variety of species of broadleaved trees, and a variety of sizes no smaller than 10cm diameter, with the bark intact. Logs should be buried vertically, approximately 50cm deep, leaving the top portion exposed and standing upright [3]. The log pyramid should be constructed in an area of partial shade and left undisturbed aside from the adding of new logs (see Section 5.3). Logs used should be untreated and left to decompose over time. Indicative locations are shown on drawing L1115 - 3.1 - 2000 - P3\_LANDSCAPE MASTERPLAN (labelled as "insect hotel").

### 4.4 New Hedgerow Planting

New hedgerow planting will be included as shown in drawing L1115 - 3.1 - 2000 - P3\_LANDSCAPE MASTERPLAN. This consists of a new species-rich native hedgerow along the northern site boundary, which should be planted based on the guidance provided by the supplier.

### 4.5 New Shrub Planting

New shrubs are a mixture of native and non-native species, planted as per the planting notes on drawing L1115 - 3.1 - 2052 - P1\_DETAILS - SOFT PLANTING 01. Drawing L1115 - 3.1 - 2021 - P3\_PLANTING PLAN 01 shows an example of the shrub species to be included.

#### **4.6 Wildflower Meadow Habitat Creation**

The wildflower meadow areas will be created by planting an Emorsgate EM1F flowering lawn mix, Boston Seeds BS12M or suitable alternative. The ground preparation and seed sowing should be undertaken in accordance with the guidance provided by the supplier [4].

## 5 Managing of Existing and New Habitats

### 5.1 Bird Boxes

The bird boxes on site should be cleared out once a year, by removing any nesting materials left over from the previous year and washing out the box using boiling water only. This maintenance should only be conducted outside of the nesting bird season (i.e. September to February inclusive).

The bird boxes should be subject to visual inspection annually to identify any necessary repairs. Should repairs be necessary the boxes should be temporarily removed outside of the nesting bird season (i.e. September to February inclusive). Should any boxes be damaged beyond repair these should be replaced on a like for like basis.

### 5.2 Bat Boxes

The bat boxes do not require any maintenance. Bat boxes should not be directly impacted (i.e. opened or moved) at any time of year. Any opening, moving or otherwise disturbing of bat boxes that cannot be avoided should be undertaken by an appropriately licensed bat worker, regardless of the time of year the disturbance is required.

The bat boxes should be subject to visual inspection annually to identify any necessary repairs. Should repairs be necessary (i.e. should roofs/doors be damaged) the boxes should be temporarily removed by a licensed bat worker. Should any boxes be damaged beyond repair, following removal by a licensed bat worker these should be replaced on a like for like basis.

### 5.3 Log Pyramid

The log pyramid should be checked annually, and new logs added to replace those that rot away. New logs should also be native hardwood, of varying sizes with bark left on.

### 5.4 Vegetation Management

#### 5.4.1 Shrubs, Hedgerows and Trees

Pruning and cutting back should be undertaken outside of the nesting bird season (i.e. September to February inclusive). If pruning of species prone to bleeding such as Hornbeam (*Carpinus betulus*) is required, it should be undertaken during the dormant period for these trees.

In all cases, undesirable species such as docks should be dug out or spot treated with herbicide.

Watering may also be required as a management measure. The need for this should be established through consistent monitoring. Indicators that plants need more water are wilting, browning leaves, and dropping leaves out of season. If plants appear to require more water, irrigation features should also be inspected.

#### 5.4.2 Wildflower Meadow

Guidance here is given based on the recommended supplier for the wildflower lawn seeds. If a suitable alternative supplier is used for the meadow, the guidance provided by that supplier should be adhered to.

##### 5.4.2.1 *First Year*

Wildflower seeds should be combined with a suitable grass seed mixture in order to minimise undesirable weed growth and sown in the autumn.

Newly sown flowering meadows should be mown regularly (every 7-10 days during growing season) throughout the first year of establishment. They should be cut to a height of 40-60mm, removing cuttings if dense. However, avoid cutting in the spring and early summer until the annuals have been allowed to flower. Arisings should be removed. This will gradually develop a good sward structure, help maintain balance between faster growing grasses and slower developing wildflowers, and control annual weeds.

In all cases, undesirable species such as docks should be dug out or spot treated with herbicide.

##### 5.4.2.2 *Management After First Year*

For best results, the flowering meadow will be managed as meadow grassland, with no mowing or cutting taking place from spring through to late July/August, in order to give all species an opportunity to flower.

After flowering in July or August the meadow should be cut back with a scythe, petrol trimmer or tractor mower to a height of 50mm. Leave the 'hay' to dry and shed seed for 1-7 days, and then remove from site. The meadow can be mown or grazed through to the late autumn/winter in order to keep the vegetation short, and one final cut should be carried out in the spring to 50mm if required.

Further details of how the grasslands should be managed can be found on the Emorsgate website [4]. If a suitable alternative supplier is used for the meadow, the guidance provided by that supplier should be adhered to.

## 6 Maintenance Schedule


The above management and maintenance operations and the time of year they can be conducted are shown in table 6.1 below.

The schedule will be the same each year and will run for a minimum of five years following construction.

This table only includes timings for works on features provided to enhance biodiversity on site.

**Table 6.1 Maintenance Schedule**

Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bird Box Clear Out (annually)												
Cutting / pruning of vegetation such as trees, scrub and hedgerow												
Mowing of wildflower lawn (after first year)												

Legend:  work can be conducted during these months

## 7 Monitoring and Remedial Action

The site will be monitored by the company hired to undertake the maintenance of the site. They will conduct an annual assessment of the site including the inspections of the following habitats/features and remedial actions required:

- Bird boxes – if damaged, fix and/or replace on a like for like basis outside of the breeding season.
- Bat boxes – if damaged, contact a licenced bat worker to inspect the box to ensure no bats are present prior to fixing and/or replacing on a like for like basis.
- Log pyramid – add new logs to replace any that rot away, as detailed in section 5.3.
- New planting - replace any plants which area dead, diseased, or otherwise failing to thrive on a like for like basis.
- Meadow – remove any undesirable species, such as docks (*Rumex* spp.), which have colonised as required, re-seed if sections have failed including ground preparation.
- Shrub and hedgerow planting – remove any undesirable species as required including damaging species such as butterfly-bush (*Buddleja davidii*).
- Irrigation requirements – monitoring should include inspections for plants needing watering, and inspections of irrigation features for blockage or damage.

If the habitats are not thriving due to conditions on site, vandalism or other forms of disturbance an ecologist should be consulted to provide appropriate solutions to ensure the aims of this plan can be met, adequate mitigation has been provided in the long-term and that the ecological value of the site is maximised. This plan will then be updated to include any changes and/or additional actions required.

## 8 Benefits of the Scheme to Biodiversity

### 8.1 Bats

The shrubs and hedgerows planted on site will provide suitable commuting and foraging habitat for bats.

The bat boxes affixed to the buildings on site will provide daytime roosting space for common bat species.

### 8.2 Other Mammals

The creation of hedgerows and inclusion of native species will provide habitat and foraging opportunities, and act as corridors for species such as hedgehogs, as well as linking the areas of biodiversity within the site to avoid fragmentation of habitat.

### 8.3 Birds

The shrubs and hedges planted on site will provide nesting habitat, roosting habitat and cover for birds as well as food sources from both the fruiting varieties and any invertebrates associated with the hedgerow and wildflower meadow habitat created on site.

The sparrow terrace will provide nesting spaces for this Birds of Conservation Concern (BoCC) red-listed species.

### 8.4 Invertebrates

The wildflower meadow and hedges planted include multiple native and flowering species which will support native pollinating insects, as well as provide habitat space and in the case of the fruiting species further sources of food.

The hedgerows and mixed shrubs planted on site will likely support local populations of native bees, as well as attracting and providing habitat for other invertebrates.

The log pyramid will provide a source of deadwood essential for the life cycle of the stag beetle (*Lucanus cervus*) as well as a habitat for other invertebrates including solitary bees.

### 8.5 Integration with Surrounding Habitats

The inclusion of multiple native species and the wild flowering lawn, as well as the creation of native hedgerows, will help to integrate the site within the existing natural landscape. The hedgerows will create natural corridors and help avoid fragmentation, and the consistent planting throughout the site will allow existing populations of wildlife to disperse into the proposed landscaped areas.

## 9 Timetable

If bat and bird boxes are to be integrated into the buildings, these will be added to the external walls during the construction process. If external bird and bat boxes are selected these will be added once shrubs, the wildflower meadow and hedges have been planted and once development works have been completed. The log pyramid will be constructed at the last stage of development.



## 10 Conclusion

Provided impacts to existing important ecological features are avoided or mitigated for as detailed in the Preliminary Ecological Appraisal [1], undertaking the proposed biodiversity enhancement measures detailed in this report, the ecological value of the site and local area could be increased for wildlife including bats, birds and invertebrates.

## 11 References

- [1] Middlemarch Environmental, "Preliminary Ecological Appraisal RT-MME-129768-01," 2019.
- [2] Middlemarch Environmental, "Dusk Emergence Bat Survey RT-MME-150489," 2019.
- [3] People's Trust for Endangered Species, "Build a Log Pyramid for Stag Beetles," [Online]. Available: <https://ptes.org/wp-content/uploads/2020/05/Build-a-log-pyramid-for-stag-beetles.pdf>. [Accessed 10 2023].
- [4] Emorsgate Seeds, "EM1F Basic General Purpose Wilflowers," [Online]. Available: <https://wildseed.co.uk/product/mixtures/wild-flower-only-mixtures/basic-general-purpose-wild-flowers/>. [Accessed 10 2023].
- [5] Sweco, "Ecological Impact Assessment Template," 2023.

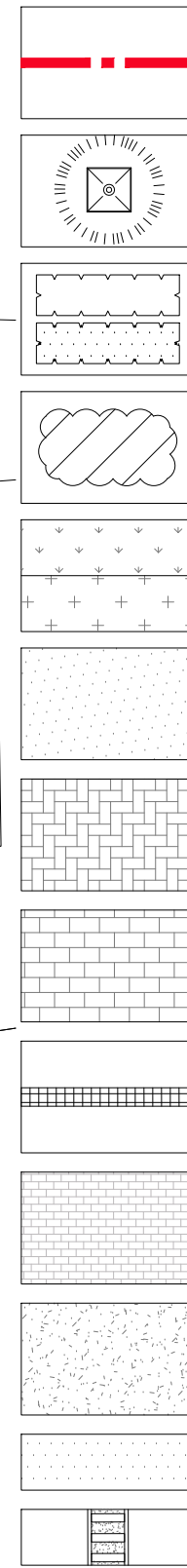
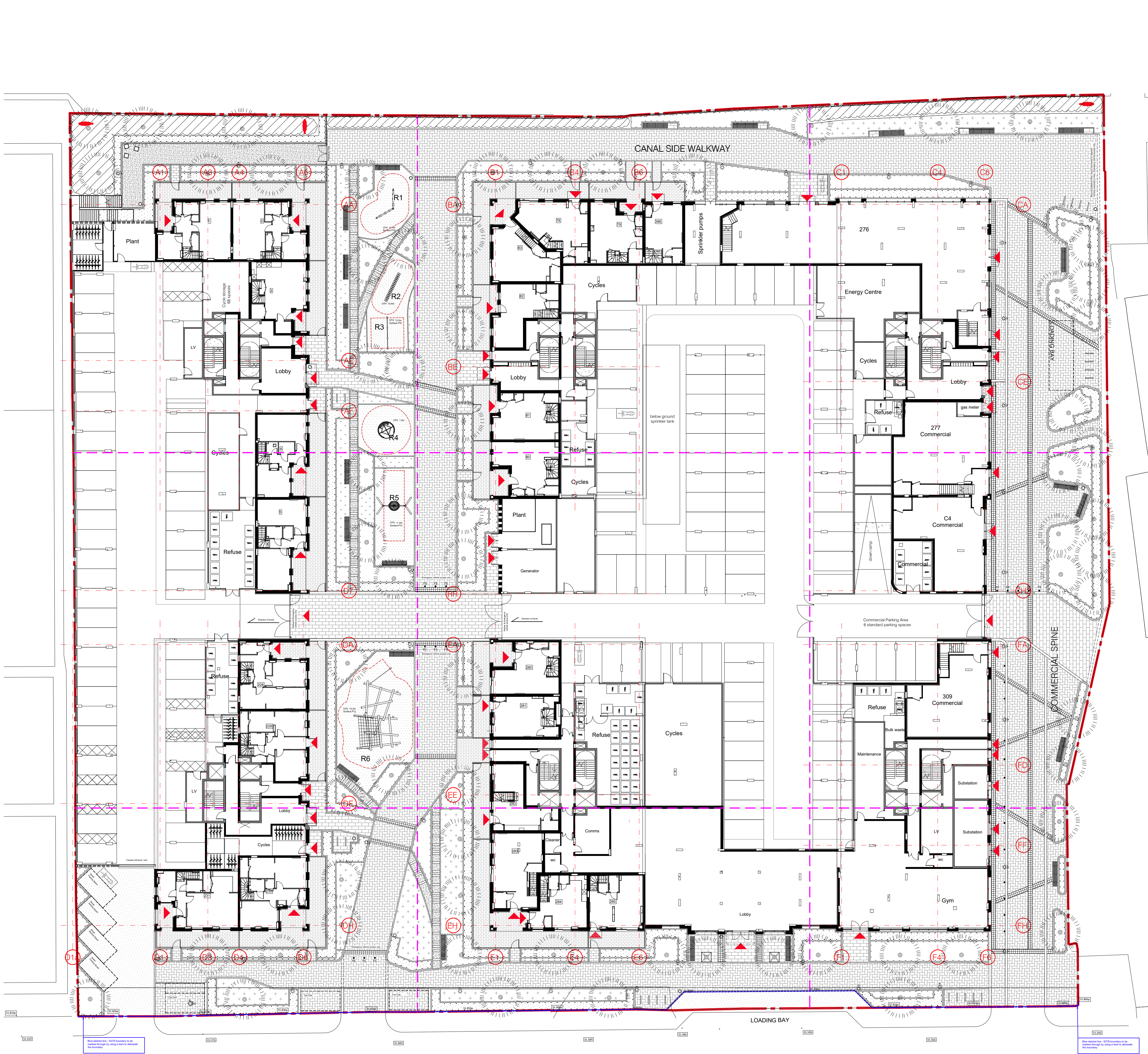
## **Drawings**

L1115 - 3.1 - 2000 - P3\_LANDSCAPE MASTERPLAN

L1115 - 3.1 - 2052 - P1\_DETAILS - SOFT PLANTING 01

L1115 - 3.1 - 2021 - P3\_PLANTING PLAN 01





- Planning Boundary
- Proposed tree  
(with or without tree grille option)
- Proposed shrub planting
- Proposed hedge planting
- Proposed native scrub planting (261m<sup>2</sup>)
- Proposed amenity turf (66m<sup>2</sup>)
- Proposed wildflower meadow (260m<sup>2</sup>)
- P1 - Vehicular carriageway:  
*Black DBM to Adoptable Standards.*
- P2 - PCC Permeable Block paver to vehicle & pedestrian areas  
*Ref: Brett Landscapes - Invicta Flow. Colour: Moonstone (50%) & Pearl (50%); Herringbone, 215 \* 115 \* 80mm.*
- P3 - PCC Permeable Block paver to vehicle thoroughfares & focal entrance areas.  
*Ref: Brett Landscapes - Invicta Flow. Colour: Onyx.Stretcher; 215 \* 115 \* 80mm.*
- P4 - Banding - PCC Tumbled Granite Style Sett.  
*Ref: Brett Landscapes - Lugano. Colour: Graphite Grey. Size: 105 \* 140 \* 80 mm, band edges to be 210 \* 140 \* 80 mm, Pattern: Stack bond, mortar jointed on mortar bed.*
- P5 - PCC paving with natural aggregate finish to private frontages  
*Ref: Brett Landscapes - Invicta. Colour: Mix of Pearl & Moonstone; Stretchers; 600 \* 200 \* 80 mm*
- P6 - Resin bound gravel to rail feature & path  
*Ref: Sureset - Stirling Midnight*
- P7 - Rubber mulch play surface to Central Play Courtyard
- P8 & P9 - Faux railway play paving feature

- Kerbs and Edgings (Sheet 2057)
- K1 - Flush kerb (50mm wide)  
K2 - Flush kerb (125mm wide)  
K3 - Flush kerb (255mm wide)  
K4 - Kerb upstand 125mm (125mm wide)  
K5 - Kerb upstand 25mm (255mm wide)  
K6 - Timber edging to soft landscape

- Boundary Treatments (Sheet 2054)
- B1 - Private residential terrace boundary  
*Ref: 1.2m high metal railing with gate (self-closing - see B3) with rubber softener*
- B2 - Communal garden boundary adjacent to Grand union Canal  
*Ref: 2.1m high metal railing with double vehicle gate (fob access)*
- B3 - Timber Post and 3 Rail fence to canal edge (1.2m high)

- Recreation and Play
- R1 - Climbing Wall with 2 elements  
R2 - Balance Blocks  
R3 - Horizontal Bars  
R4 - Wildlife Wheelspin  
R5 - Cradle Nest Special 7  
R6 - Climbing Structure 08

- Lighting
- Lighting column (4m)

- Street Furniture (Sheet 2055)
- Litter Bin (8nos)  
Bench (21nos)  
Seat with backrest (3nos)  
Cycle hoops (21nos)  
Drop down bollards (14nos)  
Static bollards (13nos)  
Granite cube seats (3nos)  
Insect hotel (3nos)

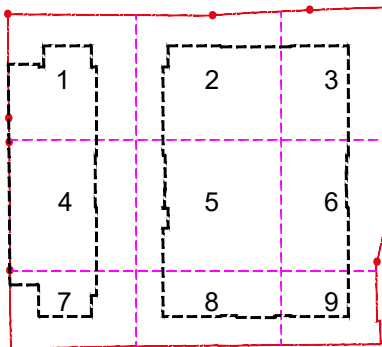
CDM Regulations 2015

ALL current drawings and specifications for the project must be read in conjunction with the Designer's Hazard and Environmental Assessment Record.

notes

- The contractor is responsible for checking dimensions, tolerances and references.
- Any discrepancy to be verified with the Architect before proceeding with the works.
- Where an item is covered by drawings to different scales the larger scale drawing is to be worked to.
- Do not scale drawing. Figured dimensions to be worked to in all cases.

5 4 3 2 1 0 5 10 15m



REV	AMENDMENT	DATE
P3	ADDITIONAL VEGETATION - PLANNING COMMENTS	08.08.23
P2	ISSUED FOR PLANNING	24.05.23
P1	ISSUED FOR PLANNING	13.02.23

Client: **GREYSTAR**<sup>TM</sup>  
The Global Leader in Rental Housing

Project:  
CROWN TRADING CENTRE,  
HAYES, LONDON

Title:  
SITE - LANDSCAPE MASTERPLAN

Scale:  
1 : 250 | A1

Date FEB 2023  
Drawn DT  
Checked PW



Drawing no. L1115 - 3.1 - 2000

Job no. L1115  
Revision. P3



**Shrubs**

Imported Topsoil to specification

Shrubs/planting

450

Subsoil to Engineer's Remediation specification

Veins

Refer to Planting Plans for details on Species and further specification information

Depth: Planting beds to have a minimum depth of 450mm topsoil over 150mm broken up ground with all stones over 50mm removed

**Topsoil:** To be fertile with maximum 35% clay content and 5% maximum organic content pts 5.8-7.5 and to be free of perennial weeds, weed seeds and contamination. Maximum stone content 20% (20mm+particle size), maximum size of stones 50mm in any direction. Existing topsoil to be ameliorated and/or screened if necessary to achieve this specification.

Imported Topsoil:

To be to BS 3882: General Purpose Grade, from an approved source, and to accord with the above specification. All compost mulches & soil conditioners to be peat-free. A minimum 25% of all vegetation to be reared in peat free compost.

Figure 1 is a cross-sectional diagram of a landfill cell. The diagram shows a series of layers. At the top is a layer of 'Turf'. Below that is a layer of 'Imported Topsoil to specification'. This topsoil layer is divided into sections labeled 'Topsoil' and 'Subsoil'. Below the topsoil is a layer of 'Subsoil to Engineer's Remediation specification'. At the bottom is another layer of 'Subsoil to Engineer's Remediation specification'. The left side of the diagram is labeled '150' and 'Vastex'.

Rolled turf to all lawn areas where indicated on the GA.

Turf - Supplier: Rolawn  
Ref: Medallion © or other approved by client  
Typical dimensions, when harvested - 1m<sup>2</sup> = 610mm width x 1640mm length x 12.5mm height

Topsoil - Please refer to specification of 'Imported Topsoil' specification (on planting plans)  
Depth: Typically varies 150mm after settlement (allow a week settlement prior to laying turf).

Diagram illustrating the dimensions and components of a tree pit:

- Stake to be 1/3 of total tree height**: Dimension line indicating the height of the stake above ground.
- 250**: Dimension line indicating the height of the stake above ground.
- 1000**: Dimension line indicating the height of the stake above ground.
- Tree guying**: Label pointing to the stake used for supporting the tree.
- 1000**: Dimension line indicating the height of the stake above ground.
- 1200**: Dimension line indicating the width of the pit.
- Growing medium**: Label pointing to the soil layer above the aggregate layer.
- Base of pit**: Label pointing to the bottom of the pit.
- Aggregate layer**: Label pointing to the layer of material at the bottom of the pit.
- Irrigation system**: Label pointing to the pipe used for watering the tree.

Growing medium - Sandy loam to BS3882.  
Depth: Typically varies 1000mm.

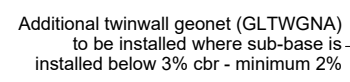
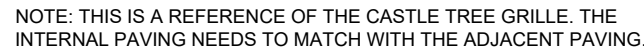
Ornamental Bark Mulch  
Size: 5-35mm at 75mm depth  
Supplier: Melcourt or equivalent.

Irrigation - Type: RootRain Urban  
Supplier: Green Blue Urban or similar and approved.

Tree Guying - Double stake @75mm diameter with Naturetie biodegradable tie as supplied by Green Blue Urban Or similar approved

Aggregate Layer - Light compacted clean washed aggregate backfill  
Size: 100mm depth at 50-75mm diameter  
Manufacturer: Contractors choice

Base - Base of pit to be spiked to a minimum depth of 200mm and shaped as shown to assist root penetration



**A** BLOWUP DETAIL OF TREE GRILL CONTENTS

The diagram illustrates the cross-section of a tree grill assembly. Key components and layers include:

- Adjacent Paving:** The existing pavement surface on the left.
- Castle 12A Tree Grill:** The main rectangular structure, shown in a hatched pattern.
- Bedding Layer:** A layer beneath the grill, indicated by a dimension of 80.
- Soilgrowing medium:** The material surrounding the grill, indicated by a dimension of 120.
- Paving within tree grille:** Matching the adjacent paving outside the grille as per landscape masterplan.
- Aboresin permeable bound gravel:** A layer within the grill, indicated by a dimension of 10.
- Unbound crushed gravel, gently compacted within ArborRing collar to neck of trunk:** The material surrounding the trunk, indicated by a dimension of 10.
- ArboRing Tree Collar:** A ring around the trunk, indicated by a dimension of 10.
- Trunk:** The tree trunk itself, shown on the right.
- Rootball:** The root system of the tree, shown at the bottom right.

Tree Grille - Ref: Galvanized tree grille (Ref: CASTLE12A) with interlocking & bolted sections  
Size: 1200x1200mm  
Supplier: Green Blue Urban or equivalent. Installed to manufacturer's instructions.

Tree Collar - ArboResin - Precast resin bound gravel in Silver grey colour (GLARBUVSG), with galvanised steel ArboRing (300mm dia, 100mm depth).  
Supplier: Green Blue Urban or equivalent. Installed to manufacturer's instructions.

Surface Course - To match the adjacent paving (See GA's).

Bedding Layer -	Compacted sharp sand (compacted to 20mm)
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Unbound gravel - CED SuperCedec or similar approved

Urban tree soil - Please refer to 'Imported Topsoil' specification on planting plans.  
Depth: Typically varies 1000mm.

Irrigation - Rootrain single inlet irrigation system with cast inlet  
Supplier: Green Blue Urban or similar and approved.

Aeration/irrigation pipe- Arborvent 150 (RRARBV150B)  
Supplier: Green Blue Urban or similar and approved.

Tree Guying - Green Blue Urban 'Deadman' underground guying system (or similar and approved) including 125x2000mm pressure impregnated deadmen. Strapped anchor deadman guying system supplied with 3 slip knot guys webbing strap and ratchet tensioner. Guy wires to be sinstrand s/s wires with turnbuckles for adjustment

Root barrier for Trench - Type: REROOT 2000 Deep application root barrier (RER210x1.0A)  
Depth: 1000mm  
Supplier: Green Blue Urban or similar and approved

Root barrier for Pit- Type: REROOT 300 Deep application root barrier (RER300A)  
Depth: 300mm  
Supplier: Green Blue Urban or similar and approved.

Geotextile- Terram Standard Geotextile.

Drainage pipe - Positive pipe linked to positive

Aggregate Layer - Light compacted clean washed agg  
Size: 100mm depth of 50-75mm dia

Manufacturer: Contractors choice

Base - Base of pit to be spiked to a minimum depth of 200mm and shaped as shown to assist root penetration

Note - All urban tree soil and landscape products to be installed in accordance with Manufacturer's Instructions  
All concrete haunch & sub-base details to Engineers spec.

- The contractor is responsible for checking dimensions, tolerances and references. Any discrepancy to be verified with the Architect before proceeding with the works.
- Where an item is covered by drawings to different scales the larger scale drawing is to be worked to.

Client: GREYSTAR

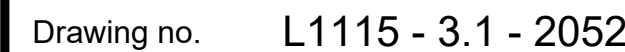
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DETAILS - SOFT PLANTING 01

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Job no. L1115

Revision. P1



notes

- The contractor is responsible for checking dimensions, tolerances and references.
- Any discrepancy to be verified with the Architect before proceeding with the works.
- Where an item is covered by drawings to different scales the larger scale drawing is to be worked to.
- Do not scale drawing. Figured dimensions to be worked to in all cases.



PLANTING PLAN 01

Trees						
Number	Species	Common Name	Height	Girth	Specification	
4	Acer campestre	Common Maple	400-450cm	16-18cm	Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	
2	Betula albosinensis 'Fascination'	Chinese Red Birch 'Fascination'	400-450cm	16-18cm	Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	
3	Prunus avium 'Plena'	Double Gean	400-450cm	16-18cm	Extra Heavy Standard: 3x: RB: Clear Stem min. 200cm	

Shrubs						
Number	Species	Pot Size	Height	Specification		Density
45	Acer campestre		60-80cm	1+1: Transplant - seed raised: B		2/m
172	Carpinus betulus	5L	80-100cm	1+1: Transplant - seed raised: branched: 5 breaks: C		0.45Ctr
45	Crataegus monogyna	3L	60-80cm	1+1: Transplant - seed raised: B		2/m
36	Ilex aquifolium	2L	30-40cm	Bushy: 2 brks: C		2/m
40	Lavandula angustifolia 'Hidcote Pink'	5L	30-40cm	Bushy: 5 brks: C		4/m <sup>2</sup>
20	Lavandula angustifolia 'Munstead'	5L	20-30cm	Bushy: 7 brks: C		2/m <sup>2</sup>
42	Ligustrum vulgare	5L	40-60cm	Bushy: 5 brks: C		0.4Ctr
39	Photinia fraseri 'Red Robin'	10L	60-80cm	Branched :7 brks :C		1/m <sup>2</sup>
54	Prunus spinosa		80-100cm	1+2: Transplant - seed raised: Branched: 3 brks: B		2/m
23	Skimmia japonica 'Rubella'	5L	30-40cm	Bushy :4 brks :C		4/m <sup>2</sup>

Herbaceous				
Number	Species	Pot Size	Specification	Density
12	Artemisia ludoviciana 'Silver Queen'	3L	Full Pot :C	4/m <sup>2</sup>
34	Carex morrowii 'Fisher's Form'	2L	Full Pot :C	5/m <sup>2</sup>
23	Digitalis purpurea albiflora	2L	Full Pot :C	4/m <sup>2</sup>
21	Heuchera 'Forever purple'	2L	Full Pot :C	3/m <sup>2</sup>
30	Salvia officinalis 'Tricolor'	5L	Bushy :6 brks :C	3/m <sup>2</sup>

Conifers					
Number	Species	Pot Size	Height	Specification	Density
2	Pinus nigra		200-250cm	4x; leader with laterals; feathered to base	Counted
159	Taxus baccata	10L	80-100cm	Leader & laterals : feathered to base	0.5Ctr

Ferns				
Number	Species	Pot Size	Specification	Density
9	Dryopteris filix-mas	3L	Full Pot	3/m <sup>2</sup>

PLANTING NOTES

- Plant material to conform to the National Plant Specification. All planting stock to originate from within the UK. Plant handling and planting operations to be in accordance with MTA 'Handling and Establishing Landscape Plants'. Parts I-III.
- Topsoil to be fertile with maximum 35% clay content and 5% maximum organic content pts 5.8-7.5 and to be free of perennial weeds, weed seeds and contamination. Maximum stone content 20% (20mm+particle size), maximum size of stones 50mm in any direction. Existing topsoil to be ameliorated and/or screened if necessary to achieve this specification.
- Imported topsoil to be to BS 3882. General Purpose Grade, from an approved source, and to accord with the above specification. All compost, mulches & soil conditioners to be peat-free. A minimum 25% of all vegetation to be reared in peat free compost.
- Bespoke growing medium for shrub/tree planting on podiums; EGR Lightweight Intensive Substrate (Ref: EGR LWRS) & EGR Intensive Subsoil (Ref: EGR ISS) by Eco Green Roofs (See Soft Details).

TREES

- Trees to be planted in pits (1200x1200x1200mm minimum size), backfilled with selected topsoil mixed with 20% peat free organic tree planting compost and 150g 'Sierrablend Flora' slow release fertiliser. Base of pit to be broken up to 150mm depth, incorporating coarse sand or grit if required for drainage. Soil beneath pit to be sterile water permeable subsoil.

- Extra Heavy Standard & Semi-mature trees to be supported by an approved deadman guying system.

PLANTING BEDS

- Planting beds to have a minimum depth of 450mm topsoil over 150mm broken up ground with all stones over 50mm removed. Soil conditioner: Sanitized and stabilised compost to BSI PAS 100. Apply 50mm depth even coverage and incorporate into topsoil during cultivation operations, to a minimum depth of 150mm. Compost to be Compost Association certified or from an approved supplier conforming to this specification. If no local supplies are available an alternative organic peat free compost may be specified, subject to the CA's approval.

- Shrubs to be planted in pits 150mm wider and deeper than root spread (450mm minimum) backfilled with excavated topsoil/compost, mixed with 'Sierrablend Flora' slow release fertiliser, quantity in accordance with manufacturer's recommendations.

- All planting beds and tree surrounds to be mulched with matured coniferous bark, with an even particle size between 15-65mm, to a minimum depth of 75mm over weed free soil after completion of all planting and watering operations. Mulch to be free of pests, diseases, fungus and weeds, and with no fines or dust. Mulch source and sample to be approved.

- All hedge planting to be in double staggered rows with 300mm between where applicable.
- All climbers to have a support frame added to assist with growth

GRASS AREAS

- Grass areas are to have a minimum depth of 150mm topsoil brought to a fine tilth all stones over 40mm (25mm for lawns), in any direction removed. Areas should be uniformly firmed. Pre-seeding fertiliser, eg. British Seed Houses BSH2 to be applied prior to grass seeding in accordance with manufacturer's recommendations. Topsoil allowed to settle and sink below applying the grass seed and irregular areas re-filled with approved topsoil.

- All grass areas to be rolled turf (Ref: Rowlawm medallion or similar approved).

MAINTENANCE NOTES

- Trees - check guying system and adjust if necessary in summer and Winter. Prune out damaged branches or deadwood, cutting back so as not to affect branch collar. Progressively raise canopies of new trees to provide clearance for vehicles and pedestrians.
- Shrubs - Weed control measures to continue until canopy of shrubs is closed. Weeds to be cleared by hand or by application of translocated herbicide, with inspections made regularly through the growing season. Prune back any badly damaged shrubs to sound growth. Cut back plants adjacent to paths and access ways where necessary, retaining a balanced shape. Clear litter and debris from planted areas and cut leggy growth hard back to promote bushy growth.
- Watering - In periods of dry weather apply sufficient water to maintain healthy growth. Allow 10L/m<sup>2</sup> to planting beds and 50L/tree at each operation.
- Re-firming - Ensure that all trees and shrubs are firmly bedded in the ground after strong winds, frost heave or other disturbances.
- Grass Areas - Remove litter, twigs and debris prior to first cut of each Spring. Mow lawn areas regularly, cutting to a height of 35mm, allowing 16 cuts per season.
- Protection/Reinstatement - Regularly inspect all planting and grassed areas, eg. once a month, for any pest damage or vandalism/damage caused by others. Any damaged to be reported to the Employer and rectified in the next available season by replacement planting or reseeding/turfing, and protective measures if required.

Key:

- Planning Boundary
- Proposed tree (with or without tree grille option)
- Proposed shrub planting
- Proposed hedge planting
- Proposed native scrub planting (261m<sup>2</sup>)
- Proposed amenity turf (66m<sup>2</sup>)
- Proposed wildflower meadow (260m<sup>2</sup>)

P3	ADDITIONAL VEGETATION - PLANNING COMMENTS	08.08.23
P2	ISSUED FOR PLANNING	24.05.23
P1	ISSUED FOR PLANNING	13.02.23
REV	AMENDMENT	DATE

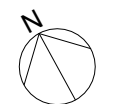
Client:  
GREYSTAR

**GREYSTAR™**  
The Global Leader in Rental Housing

Project:  
CROWN TRADING CENTRE,  
HAYES, LONDON

Title:  
PLANTING PLAN 01

Scale:  
1 : 100 | A1



Date FEB 2023  
Drawn DT  
Checked PW



**L.D.A.**  
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Drawing no. L1115 - 3.1 - 2021

Job no.  
L1115

Revision.  
P3



## **Appendix A – Proposed Locations of Bat and Bird Boxes**

## Indicative Locations of Bat and Bird Boxes





## **Appendix B – Declaration Form**

## Declaration Record

All personnel involved in delivering the creation and management of habitats on site must become familiar with this document. Before work commences the following declaration must be signed by all personnel carrying out and/or supervising site work, including contractors, to demonstrate they have read and understood this Ecological Enhancement Plan.

[illegible]