

FRANCIS CRICK INSTITUTE, LEVEL 05NE/06SW TERRACE

Landscape and Ecology Management Plan

ECO03307_871
Francis Crick Institute
D
March 2024

REPORT

Quality Management

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Approval for issue

KS	Kerry Shakespeare	7 August 2023
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Prepared for:
Francis Crick Institute

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1 INTRODUCTION

Background to the study

- 1.1.1 This Landscape and Ecological Management Plan (LEMP) has been developed in relation to a recently submitted planning application (2023/5423/P) for the “*Replacement of the existing mesh material to the decking at Level 05 NE of the Francis Crick Institute, the erection of a glazed pavilion (and incorporating a retractable awning), and the installation of a green wall to part of the NE quadrant fronting Midland Road together with biodiversity enhancements to the terraces at Level 06 SW.*”
- 1.1.2 This plan has been prepared with consideration of the ecological recommendations described in the Ecological Appraisal for the site, along with the Biodiversity Net Gain (BNG) Assessment, (RPS 2023).

Site – Existing Habitats

- 1.1.3 The terrace on Level 05NE had, as part of the development of the Francis Crick Institute (planning approval: 2010/4721/P), been set-aside as biodiverse roof; predominantly to provide habitat for black redstarts. However, owing to the height of the building and elevation of Level 05NE terrace, part of the roof had failed to establish due to a lack of sunlight.
- 1.1.4 Species that were present on the unshaded part of the roof included ragwort *Jacobaea vulgaris*, yarrow *Achillea millefolium*, thistle *Carduus sp.*, chickweed *Stellaria media*, ribwort plantain *Plantago lanceolata*, bladder campion *Silene vulgaris*, sedums *Sedum sp.*, poppy *Papaver sp.*, geranium *Pelargonium sp.*, and bristly ox tongue *Helminthotheca echioides*.
- 1.1.5 Two log piles were present, although considering the isolated nature and limited vegetation on the roof, these are not considered to provide the desired result for species.

Site Created Habitats

Newly created

- 1.1.6 Areas of introduced planting will be included along the southern boundary of the Level 05SW terrace. These areas include species which have been chosen with biodiversity in mind and include a variety of pollinators (both native and non-native). Introduced planting is, by default, given a habitat condition of poor.
- 1.1.7 169m² Wildflower mounds will be created on the Level 06SW terrace, to improve the roof top biodiversity. This involves the placement and seeding of small mounds of substrate suitable for supporting extensive wildflower species directly onto the brown roof currently in place. This creates islands of high floral biodiversity within the roof top landscape which can in turn greatly increase the biodiversity of invertebrate species supported.
- 1.1.8 A façade bound green wall is to be incorporated into the proposals, and this will measure circa 0.0148 ha, assuming that it covers the majority of the identified façade of the building which receives sunlight. The species to be included within the planting schedule have included those known to thrive well in such situations, such as *clematis*.
- 1.1.9 In order to ensure that the green wall survives in the long-term, beyond the initial establishment, an irrigation system has been designed and will be installed. The assessment has also assumed that the green wall will only successfully establish where suitable amounts of sunlight are received; as opposed to the entirety of the façade.
- 1.1.10

Responsibilities

- 1.1.11 This management plan has been prepared for the Francis Crick Institute and their appointed management company, Nurture; who will be responsible for ensuring that the plan is implemented as described in this document, both during and after construction.
- 1.1.12 This management plan covers the first five years following construction, after which time it should be reviewed and updated as necessary to ensure the maintenance of habitats / new planting areas. The recommendations made in this management plan can be altered with the advice of the RPS Suitably Qualified Ecologist (SQE) who prepared the plan or an appropriately experienced ecologist.

2 MANAGEMENT OBJECTIVES

Habitat Creation

Planter Boxes, Green Wall and Wildflower Mounds

2.1.1 The management objectives for this habitat type are:

- To provide a high nectar and pollen foraging habitat for invertebrate species which will increase the overall diversity of the site;
- To provide foraging habitat for bird species;
- To create attractive planted areas that adds to and compliments the surrounding development;
- To increase the attractiveness of existing suitable nesting space (invertebrate, bird bricks / boxes) and improve the utilisation of new features for protected species; and
- To encourage the development of insect populations on the site by avoiding the use of unnecessary pesticides. This will in turn benefit foraging bird species in the area.

3 MANAGEMENT ACTIONS

Habitat Creation

Planter Boxes

Creation of Habitat

- 3.1.1 The planting scheme for this area has been carefully chosen to ensure the species are suitable for the roofscape environment whilst supporting pollinators in particular. The planters should be a suitable depth to ensure establishment. Species within this area will include:

- *Ornamental grasses;*
- *Rosemary;*
- *Thyme;*
- *Cone Flower;*
- *Sage;*
- *Daylilies;* and
- *Evergreen shrubs for shelter.*

Management of Habitat during the Five-Year Establishment Period

- 3.1.2 The use of pesticide should be discouraged to avoid damaging insect populations utilising new habitats on the site. Management may be necessary to prevent infestation by weed species which should be removed by hand.
- 3.1.3 Any plants which fail to establish in the first year should be replaced. Re-firm any plants that have been disturbed by adverse weather or interference.
- 3.1.4 Suitable irrigation has been implemented, utilising the existing drainage strategy and attenuation tanks on the site, to ensure that the plants do not go through any periods of drought.

Green Wall

- 3.1.5 The species to be included within the planting schedule have included those known to thrive well in such situations, such as *clematis*.
- 3.1.6 In order to ensure that the green wall survives in the long-term, beyond the initial establishment, an irrigation system has been designed and will be installed. The assessment has also assumed that the green wall will only successfully establish where suitable amounts of sunlight are received; as opposed to the entirety of the façade.

Management of Habitat during the Five-Year Establishment Period

- 3.1.7 The use of pesticide should be discouraged to avoid damaging insect populations utilising new habitats on the site. Management may be necessary to prevent infestation by weed species which should be removed by hand.
- 3.1.8 Any plants which fail to establish in the first year should be replaced. Re-firm any plants that have been disturbed by adverse weather or interference.
- 3.1.9 Suitable irrigation has been implemented, utilising the existing drainage strategy and attenuation tanks on the site, to ensure that the plants do not go through any periods of drought.

Wildflower Mounds

Creation of Habitat

- 3.1.10 Lightweight, low nutrient, and free draining growing medium. Biodiverse substrate is generally used for wildflower, plugs, seeding and brown roofs.
- 3.1.11 Ensure correct depth of extensive/intensive substrate is installed and raked out to give a smooth finish.
- 3.1.12 Plug Planting should be the last construction activity on the roof and should take place in the Spring or Autumn months. Water thoroughly for the first 10-12 weeks for wildflower, seed and plugs.
- 3.1.13 Providing nutrients to vegetation is a necessity for ongoing success and the application of fertiliser between March and September is recommended.

Management of Habitat during the Five-Year Establishment Period

- 3.1.14 In order to ensure the ongoing success of this habitat, the following should be followed, as appropriate:
 - Ensure all dead vegetation is removed with a strimmer and provision made for the debris to be safely removed to the ground and disposed of.
 - Any vegetation which has invaded into drainage outlets, inspection chambers, walkways and the vegetation barriers (pebbles) should be removed. Additional washed stoned pebbles, similar to existing, can be added if movement or settlement of the pebble vegetation barrier has occurred.
 - In a biodiverse roof, with the exception of saplings which should always be removed, weeds are only considered as an aesthetic problem. If weeds become invasive, they can be manually removed.
 - The use of pesticide should be discouraged to avoid damaging insect populations utilising new habitats on the site.

Ecological Monitoring

- 3.1.15 Monitoring visits will be undertaken by appropriately experienced ecologists in at suitable times during the project scheme, to ensure the successful establishment and ongoing management.
- 3.1.16 Following completion of the Biodiversity Audit in 2025 (or earlier if necessary) alternative mitigation measures will be considered to replace/mitigate any areas identified in this plan that are not performing to the level expected in the biodiversity net gain report, submitted with the planning application. Records of use will also be sent to the local biological records centre for London, Greenspace Information for Greater London (GiGL).

REFERENCES

RPS (2022). *Francis Crick Institute: Biodiversity Net Gain Assessment*. Unpublished report.

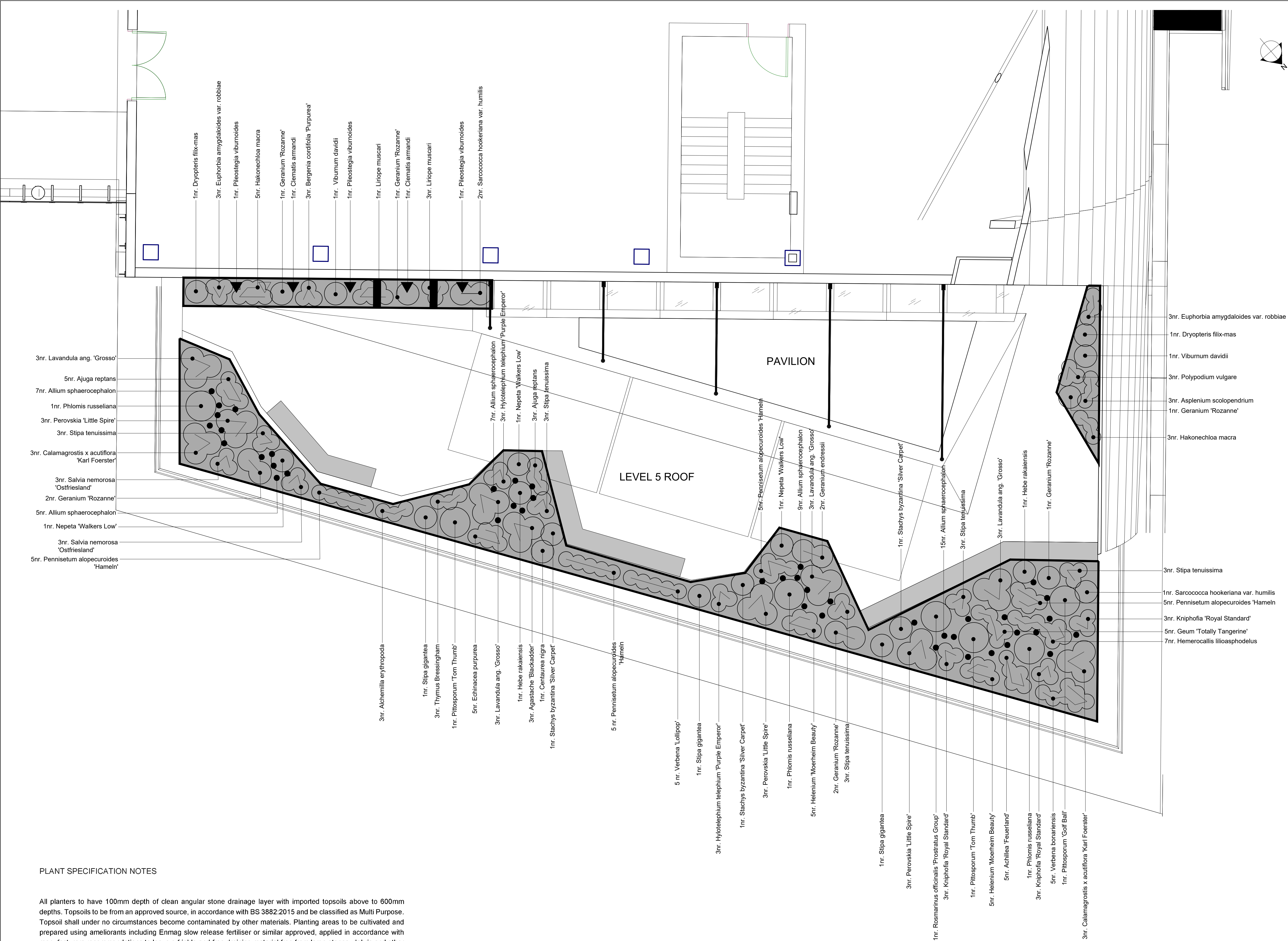
ENGLISH NATURE (2003). *The herbicide handbook: guidance on the use of herbicides on nature conservation sites*. English Nature, Peterborough.

RHS (2021) *How gardeners can help our declining bees and other pollinators*. Online guide available at: <https://www.rhs.org.uk/wildlife/help-our-declining-bees-and-other-pollinators>.

Department for Environment Food and Rural Affairs (2014). *The National Pollinator Strategy: for bees and other pollinators in England*. Edited 2019. Pollinators and Plant Health Policy, Defra, Sand Hutton, York, YO41 1LZ

Appendix A

Proposed Planting Scheme



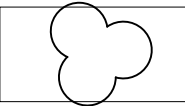
PLANT SPECIFICATION NOTES

All planters to have 100mm depth of clean angular stone drainage layer with imported topsoils above to 600mm depths. Topsoils to be from an approved source, in accordance with BS 3882:2015 and be classified as Multi Purpose. Topsoil shall under no circumstances become contaminated by other materials. Planting areas to be cultivated and prepared using ameliorants including Enmag slow release fertiliser or similar approved, applied in accordance with manufacturers recommendations to leave a friable and free draining material free from large stones, debris and other detritus for the full planting depth.

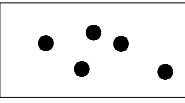
All plant material to be in accordance with the specified Plant Schedule and the following industry standards; BS 3936 Part 1 (1992), 'Nursery Stock Specification for Trees and Shrubs', BS3936 Part 10: 1990 'Nursery Stock Specification for Ground-cover Plants', BS3969 1998+A1:2013 'Recommendations for Turf for General Purpose' and 'Handling and Establishing Landscape Plants' HTA 1985, revised edition March 2002. Any stock planted outside the recognised planting season shall be containerised. Containerised plant stock shall have fully developed root system within the specified pot size.

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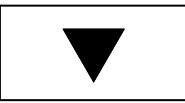
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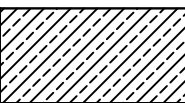
PLANTING DIVISIONS



SEASONAL BULBS



CLIMBING PLANTS



SEMI INTENSE GREEN ROOF
AS PLANT SCHEDULE

Note; All planters and roof planting to have a weeping pipe irrigation system to be detailed by others

C	Revised planters and omit green roof	NJ	CT	Jan. 24
B	Climbers added to pavilion roof	NJ	CT	Dec. 23
A	Pavilion added and additional planters	NJ	CT	Nov. 23
Rev	Description	By	CB	Date



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Client **The Francis Crick Institute**

Project **Level 5 Terrace**

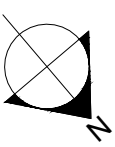
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Status **Approval** Drawn By **NJ** PM/Checked by **CT**

Job Ref **JSL3923** Scale @ A1 **1:50** Date Created **Jan. 2022**

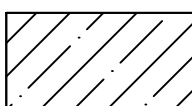
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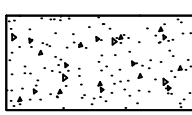
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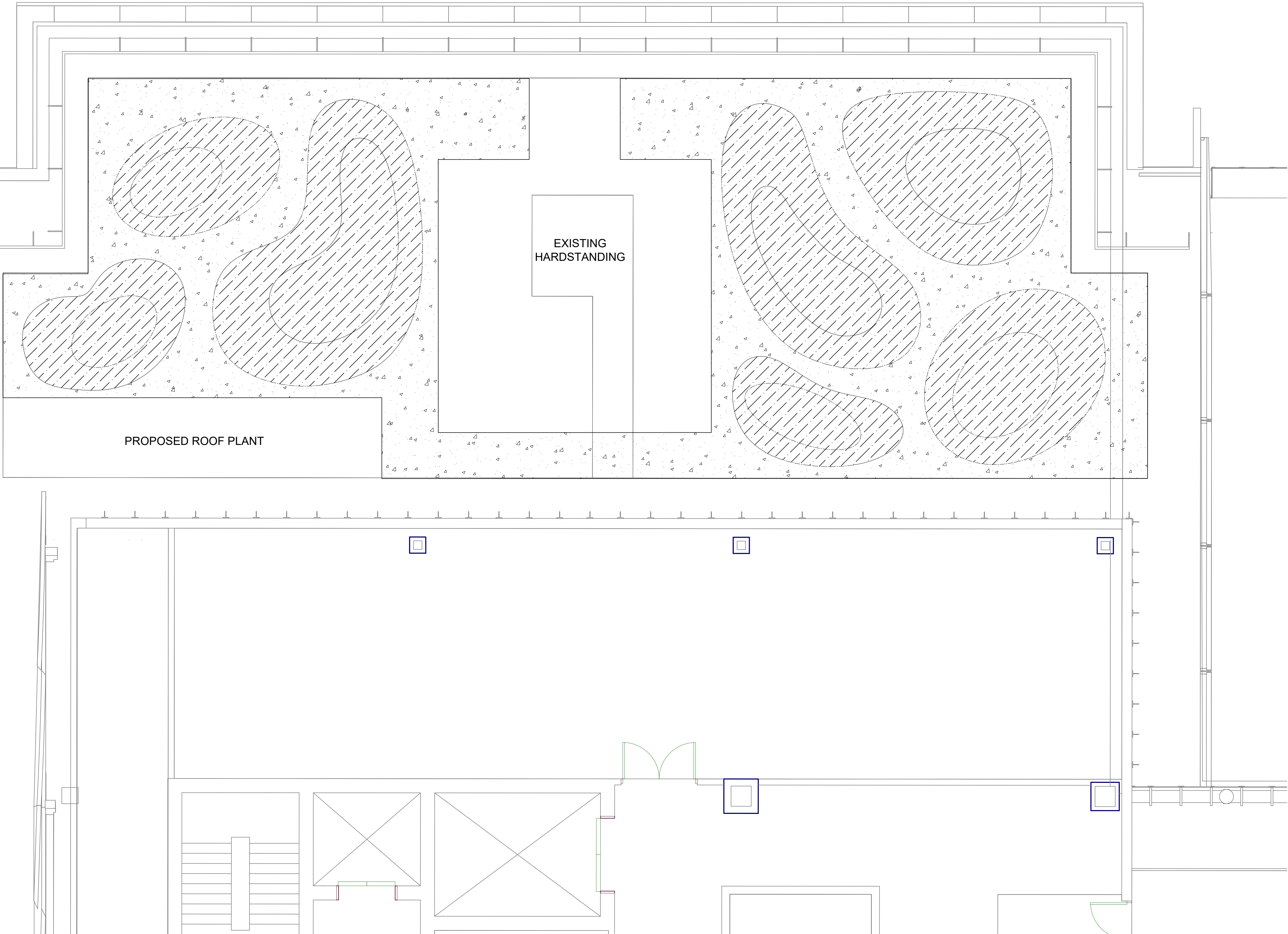
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KEY

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EARTH MOUNDS COVERED BY
WILDFLOWER TURF
Varying in height up to 1m
- 

EXISTING BROWN ROOF
Including maintenance margin



A	Updated hardscape to roof	NJ	CT	01/02/2024
Rev	Description	By	CB	Date



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Client **The Francis Crick Institute**

Project **Level 6 Terrace**

Title **Planting Plan**

Status	Drawn By	PM/Checked by
Approval	NJ	CT
Job Ref	Scale @ A1	Date Created
JSL3923	1:50	Dec. 2023
RPS Drawing / Figure Number		Rev
006		A
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Soft Landscape Palette

Client: The Francis Crick Institute

Status: Planning

Project: Level 5

Date: January 2024

Dwg Ref: JSL3923-005

Revision: B

Doc Ref: JSL3923_550

BIOSECURITY STATEMENT

RPS ARE COMMITTED TO THE PROTECTION OF THE UK ENVIRONMENT AND RECOGNISE THE IMPORTANCE OF RISKS POSED BY IMPORTED PESTS AND DISEASES

- All trees and shrubs are to be sourced responsibly, in the first instance, from UK Nurseries / suppliers, where they have been propagated and/or grown on for a minimum of 2 years in the UK (1 year for shrubs);
- In light of this, all suppliers shall be approved, shall share our values and must have a sound Biosecurity Policy / Management Systems in place to demonstrate the traceability of their stock, and an awareness of the prevalence of all current biosecurity threats, both domestically and abroad;
- The contractor is responsible for ensuring that they operate in strict accordance with the latest guidelines set out by DEFRA, including regularly checking for updates in relation to the latest plant health controls / diseases; i.e. (<https://planthealthportal.defra.gov.uk/>)
- Inspections will be carried out at selected nurseries and plant health certification / passports will be sought to identify traceability of tree and shrub stock as required.

PLANT SCHEDULE

Mix	Quantity	Botanical name	Girth / size	Stock	Density / %
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ORNAMENTAL PLANTING

Ornamental Grasses

Calamagrostis x acutiflora 'Karl Foerster'	Clump	5L
Pennisetum alopecuroides 'Hameln'	Clump	3L
Stipa tenuissima	Clump	3L
Stipa gigantea	Clump	5L

Herbaceous

Achillea 'Feuerland'	Clump	3L
Ajuga reptans	Clump	2L
Alchemilla erythropoda	Clump	3L
Agastache 'Blackadder'	Clump	3L
Bergenia cordifolia 'Purpurea'		2L
Centaurea nigra	Clump	3L
Echinacea purpurea	Clump	3L
Euphorbia amygdaloides var. robbiae	Clump	1L
Geum 'Totally Tangerine'	Clump	3L
Geranium endressi	Clump	3L
Geranium 'Rozanne'	Clump	3L
Hakonechloa macra	Clump	2L
Helenium 'Moerheim Beauty'	Clump	3L
Hemerocallis lilioasphodelus	Clump	3L
Hylotelephium telephium 'Purple Emperor'	Clump	3L
Kniphofia 'Royal Standard'	Clump	3L
Liriope muscari	Clump	2LL
Nepeta 'Walkers Low'	Clump	3L
Panicum virgatum	Clump	5L
Perovskia 'Little Spire'	Clump	3L
Phlomis russeliana	Clump	3L
Salvia nemorosa 'Ostfriesland'	Clump	3L
Stachys byzantia 'Silver Carpet'	Clump	3L
Stipa tenuissima	Clump	2L
Verbena 'Lollipop'	Clump	2L

Shrubs

Asplenium scolopendrium	Clump	3L
Hebe rakiensis	30-40cm	7.5L
Kniphofia 'Brimstone'	30-40cm	5L
Lavandula angustifolia 'Grosso'	30-40cm	5L
Pittosporum tenuifolium 'Golf Ball'	40-60cm	7.5L
Pittosporum tenuifolium 'Tom Thumb'	40-60cm	7.5L
Polypodium vulgare	Clump	1L
Rosmarinus prostrate	20-30cm	3L
Sarcococca hookeriana var. humilis	30-40cm	5L
Thymus Bressingham	Clump	1L

Climbers

Clematis armandi	80-100	5L
Pileostegia viburnoides	80-100	5L

Bulbs

Allium sphaerocephalon	Grade 12/+	BI
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Any alterations to species, stock sizes or planting densities shall only be with prior consent of the CA / LA