

FRANCIS CRICK INSTITUTE, LEVEL 05NE/06SW TERRACE

Landscape and Ecology Management Plan

ECO03307_871
Francis Crick Institute
C
August 2023

REPORT

Quality Management

Version	Status	Authored by	Reviewed by	Approved by	Review date
A	Draft, for comment	HK	KS	KS	7 th August 2023
B	Final, for planning	HK	KS	KS / PW	9 th August 2023
C	Final, for planning	HK	KS	KS / PW	9 th August 2023

Approval for issue

KS	Kerry Shakespeare	7 August 2023
----	-------------------	---------------

File/Model Location

Document location:	\\sou-lh-fs-01\EnvPlanningProjects\Current Projects\B ECO02202 Rockingham Street BREEAM\5. Reports - Documents\Reports\BREEAM
Model / Appendices location:	\\sou-lh-fs-01\EnvPlanningProjects\Current Projects\B ECO02202 Rockingham Street BREEAM\5. Reports - Documents\Reports\BREEAM

© Copyright RPS Group Plc. All rights reserved.

The report has been prepared for the exclusive use of our client and unless otherwise agreed in writing by RPS Group Plc, any of its subsidiaries, or a related entity (collectively 'RPS'), no other party may use, make use of, or rely on the contents of this report. The report has been compiled using the resources agreed with the client and in accordance with the scope of work agreed with the client. No liability is accepted by RPS for any use of this report, other than the purpose for which it was prepared. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report. RPS does not accept any responsibility or liability for loss whatsoever to any third party caused by, related to or arising out of any use or reliance on the report.

RPS accepts no responsibility for any documents or information supplied to RPS by others and no legal liability arising from the use by others of opinions or data contained in this report. It is expressly stated that no independent verification of any documents or information supplied by others has been made. RPS has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy. No part of this report may be copied or reproduced, by any means, without the prior written consent of RPS.

Prepared by:
RPS

Prepared for:
Francis Crick Institute

Contents

1 INTRODUCTION 2

Background to the study..... 2

Site – Existing Habitats 2

Site – Retained, Enhanced and Created Habitats 2

Responsibilities..... 3

2 MANAGEMENT OBJECTIVES 4

Existing Habitats..... 4

Habitat Creation..... 4

3 MANAGEMENT ACTIONS 5

Existing Habitats..... 5

Habitat Creation..... 5

Ecological Monitoring 7

REFERENCES 8

Appendices

Appendix A: Proposed Planting Scheme

1 INTRODUCTION

Background to the study

- 1.1.1 This Landscape and Ecological Management Plan (LEMP) has been developed in relation to the recently approved planning permission (2022/2667/P), for the installation of a permeable deck above the existing brown roof on the eastern end of the Level 05NE terrace, together with a refreshment kiosk under the roof eaves, provision of perimeter planters, glass safety screen and additional landscaping.
- 1.1.2 Permission was granted in November 2022, with Condition 4 of the permission stating:
- “Prior to first use of the amenity space at Level 05 NE hereby permitted, a Landscape and Ecological Management Plan for the brown roofs at Levels 05 NE and for the 22sqm wildflower mounds at 06 SW shall be submitted to and approved in writing by the local planning authority. The relevant part of the works shall not be carried out otherwise than in accordance with the details thus approved.”*
- 1.1.3 This LEMP has been developed in order to discharge the above Condition. The objectives of this plan are described in Section 2, and measures to protect and maintain retained features, and to manage and ensure the establishment of newly created habitat / planted areas are described in Section 3 of this plan.
- 1.1.4 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 2022).

Site – Existing Habitats

- 1.1.5 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.
- 1.1.6 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*.
- 1.1.7 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 – Retained, Enhanced and Created Habitats

Retained

- 1.1.8 The scheme was designed with the intent of retaining some of the existing contribution that the Level 05NE roof provides in terms of both its biodiversity and drainage.
- 1.1.9 The retained biodiverse roof at Level 05NE will sit below a new mesh platform that overcovers the roof and has been replanted with the species mix which failed to properly establish under the previous permission. Regular watering, monitoring and weeding will be carried out as needed within the first year, to give this habitat the best chance of a successful re-establishment.
- 1.1.10 As required by Condition 6, these areas at Level 05NE will be monitored on an annual basis for the first five years following establishment, and a Biodiversity report relevant to these areas is required to be submitted after two years to ensure they are performing as intended. At that point, if, any remediation actions are required, a separate report will be prepared by RPS ecologists / landscape architects, to be approved by the Council and thereafter implemented by the Francis Crick Institute.

Enhanced

- 1.1.11 Select areas of the existing biodiverse roof at Level 05NE has been enhanced, with the aim of providing a more intensive roof and planted with a range of groundcover and grass species (similar to wildflower mounds), as outlined in the application and landscaping plans (RPS drawing no JSL3923_005).
- 1.1.12 Species here have been chosen to be of specific benefit to wildlife and include a range of pollinators. The management of these areas will include regular watering and maintenance, to ensure establishment of the intended species, along with periodic weed removal (as necessary).
- 1.1.13 This area forms part of the same area that will be monitored on an annual basis for the first five years and will be included in the Biodiversity report that is to be submitted after two years. At that point, if the roof is not performing as intended alternative areas/proposals for remediation/mitigation will be identified and included within the Report for approval by the Council and implemented by the Francis Crick Institute.
- 1.1.14 On the assumption that these areas will meet the following criteria, they are given a habitat condition of fairly good.
- Invasive, non-native species cover less than 5% of the total vegetated area;
 - There is a diverse range of species, providing nectar sources for insects; and
 - Vegetation structure is varied. A single ecotone should not account for more than 80% of the total habitat area.
- 1.1.15 Although the works to install the mesh platform have been completed, the terrace has not, due to the requirement to submit the LEMP first, been brought into use. RPS ecologists are already monitoring the performance of the roof below the surface and will, should the roof fail to perform in the intervening two years, look to earlier implementation of alternative mitigation measures in accordance with the undertaking given at the original application stage and required under Condition 6.

Newly created

- 1.1.16 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.
- 1.1.17 22m² 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.

Responsibilities

- 1.1.18 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.
- 1.1.19 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

Existing Habitats

- 2.1.1 The retained biodiverse roof will sit below a metal grate system and has been replanted with the species mix which failed to properly establish under the previous permission. Regular watering, monitoring and weeding will be carried out as needed within the first year, to give this habitat the best chance of a successful re-establishment.
- 2.1.2 The objective of the ongoing management of this habitat, will be to provide ongoing drainage, and ecological value to invertebrates, mostly.

Habitat Creation

Planter Boxes, Enhanced Biodiverse Roof, Wildflower Mounds

- 2.1.3 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

Existing Habitats

Biodiverse roof

Creation of Habitat

- 3.1.1 The retained biodiverse roof sits below the newly installed mesh platform and has been replanted with the species mix which failed to properly establish under the previous permission.
- 3.1.2 In order to ensure the establishment of this habitat, the following is recommended:
- No storage of any materials on the green roof.
 - No trafficking by anyone across the roof.
 - Regular, sufficient and appropriate watering for the first 10-12 weeks for wildflower, seed and plugs.
 - 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

- 3.1.3 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.

Habitat Creation

Enhanced areas on the biodiverse roof

Creation of Habitat

- 3.1.4 A series of separate areas measuring 0.0019 ha, are to be enhanced from the extensive roof system to a more intensive roof system. This will be placed under a wide-metal grate system, where it is considered that appropriate amounts of sunlight and water will be received to ensure the planting develops, providing a diversity of habitat types within the roofscape. Further to this, the planting palette has been carefully chosen to ensure that the species will be able to withstand such conditions, and will include:
- *Armeria maritima*;
 - *Erigeron karvinskianus* 'Profusion';

- *Carex flacca*;
- *Sedum spurium* 'John Creech'; and
- *Thymus* 'Bressingham'.

Management of Habitat during the Five-Year Establishment Period

3.1.5 In order to ensure the establishment of this habitat, the following is recommended:

- No storage of any materials on the green roof.
- No trafficking by anyone across the roof.
- Regular, sufficient and appropriate watering for the first 10-12 weeks for wildflower, seed and plugs.
- Providing nutrients to vegetation is a necessity for ongoing success and the application of fertiliser between March and September is recommended.

3.1.6 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.

Planter Boxes

Creation of Habitat

3.1.7 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

3.1.8 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.

- 3.1.9 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.
- 3.1.10 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

- 3.1.11 Lightweight, low nutrient, and free draining growing medium. Biodiverse substrate is generally used for wildflower, plugs, seeding and brown roofs.
- 3.1.12 Ensure correct depth of extensive/intensive substrate is installed and raked out to give a smooth finish.
- 3.1.13 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.
- 3.1.14 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

- 3.1.15 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

- 3.1.16 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.
- 3.1.17 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.

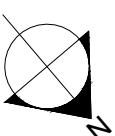
ENGLISH NATURE (2003). *The herbicide handbook: guidance on the use of herbicides on nature conservation sites*. English Nature, Peterborough.

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



KEY

	PLANTING DIVISIONS
	SEASONAL BULBS
	GROUND FLORA MIX

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.