

1

Exchange Square

Planning Condition 10

Green Roofs and Walls

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1.0 Introduction

This report has been prepared to discharge condition 10 of the 1 Exchange Square Planning Permission (LPA Ref: 21/00930/FULMAJ).

There are two levels on the project where green roofs are proposed:

At Level 12 sparsely vegetated extensive green roofs are proposed on top of the four plant rooms that are located at this level.

Level 14 roof features a biodiverse extensive green roof, evocative of an alpine mountain top, which is entirely dedicated to local ecology and will include specific flowering plant species that are critical for bees and other pollinators.

The green roof on this level will also include piles of stones and dead logs, which are important features which create habitat for small species of invertebrates such as Stag Beetles. These invertebrates species are also very important as a food source for species of birds, including Wrens and Sparrows. This level will also feature small pools that will temporarily capture rainwater for use by birds. 20% of the overall extensive green roof area between levels 12&14 is designated as sparsely vegetated green roof to provide habitat for Black Redstarts.

Biodiverse green roofs also provide other visual and practical benefits, by helping to mitigate urban heat island effect and attenuate rainwater runoff. To further enhance rainwater attenuation several blue roofs are proposed on the project, details to follow in response to Condition 2 SuDs details. The mound-forming shrubs, flowering species and rocky texture will also create a visual amenity, visible from the higher levels of the neighbouring developments.

2.0 Condition Overview

Condition 10 Green Roofs and Walls of the 1 Exchange Square Planning Permission LPA Ref: 21/00930/FULMAJ states:

'Details of the position and size of the green roof(s)/wall(s), the type of planting and the contribution of the green roof(s) to biodiversity and rainwater attenuation shall be submitted to and approved in writing by the local planning authority before any works thereby affected are begun. The development shall be carried out in accordance with those approved details and maintained as approved for the life of the development unless otherwise approved by the local planning authority.'



REASON: To assist the environmental sustainability of the development and provide a habitat that will encourage biodiversity in accordance with the following policies of the Local Plan: DM18.2, DM19.2.

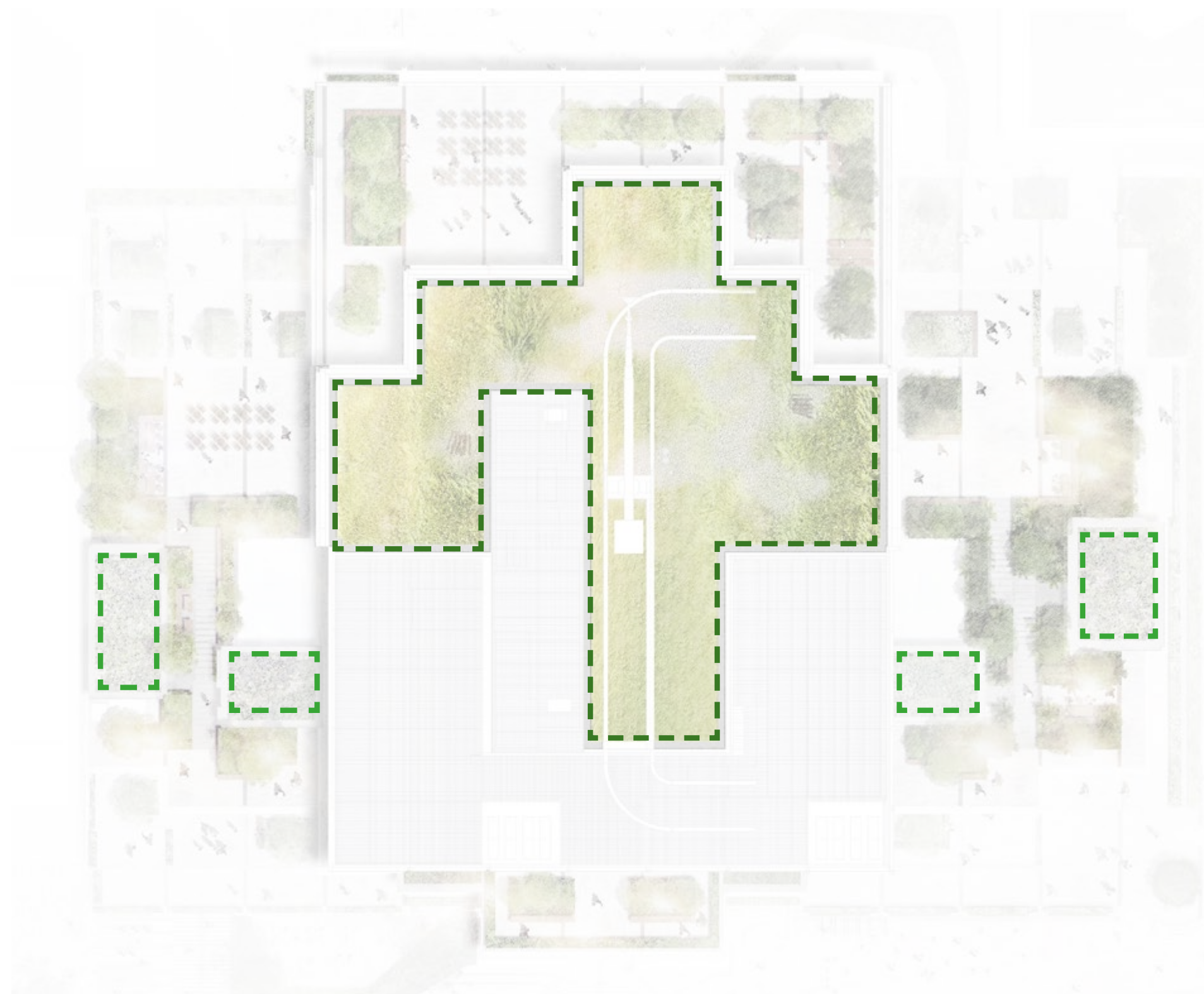
3.0 Green Roofs Location

Approximately 20% of the extensive green roof area is designated as sparsely vegetated green roof to provide habitat for Black Redstart (*Phoenicurus ochruros*) as per ecologist's recommendation.



Black Redstart

-  Sparsely vegetated green roof on Level 12 to provide habitat for urban birds
-  Extensive green roofs with alpine vegetation on Level 14 to provide biodiversity and habitat birds and insects



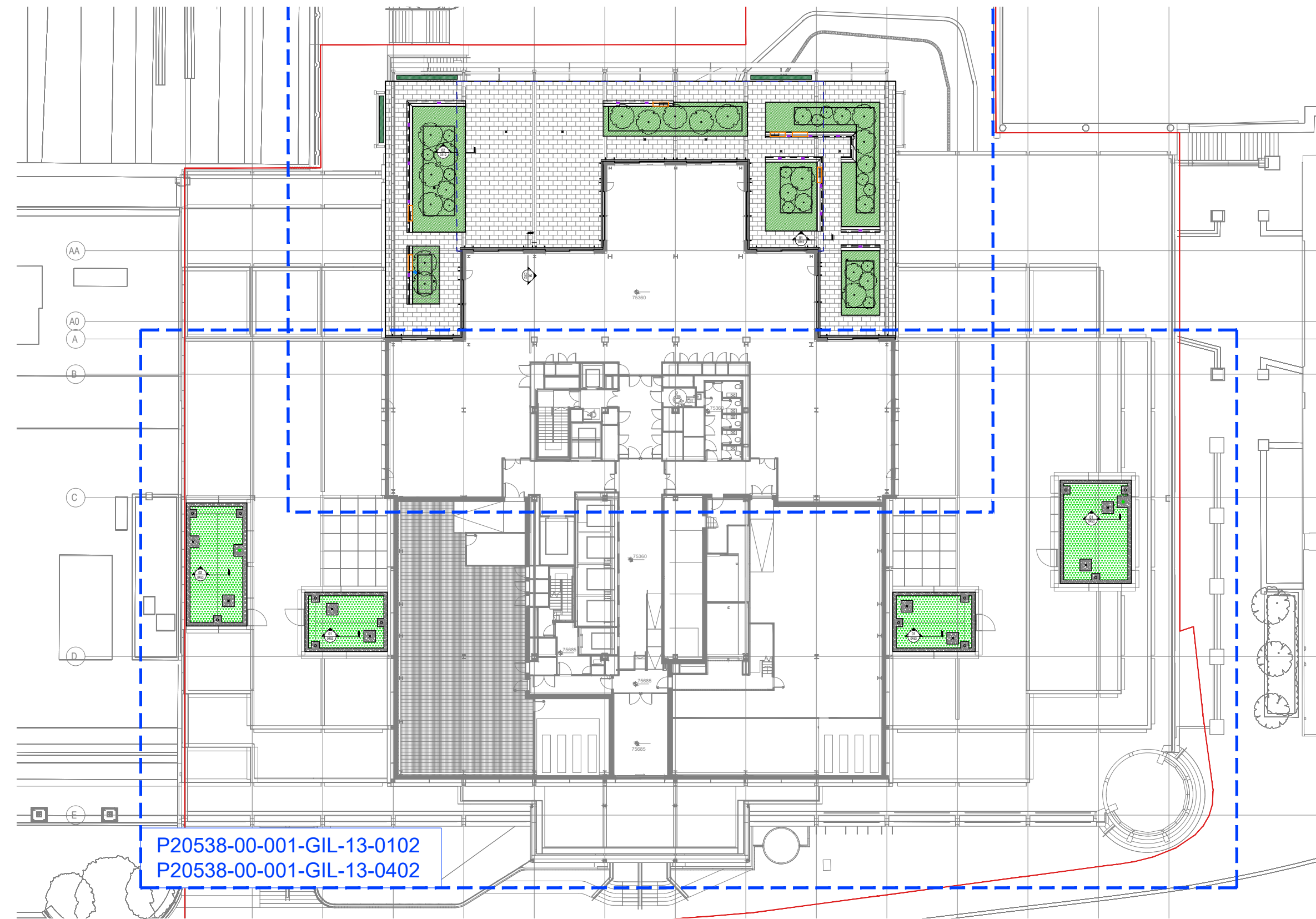
Green Roofs Locations on Levels 12 and 14

3.0 Green Roofs Location



Green Roofs Locations on Levels 12 and 14 (indicative illustrative axonometric)

4.0 Plans



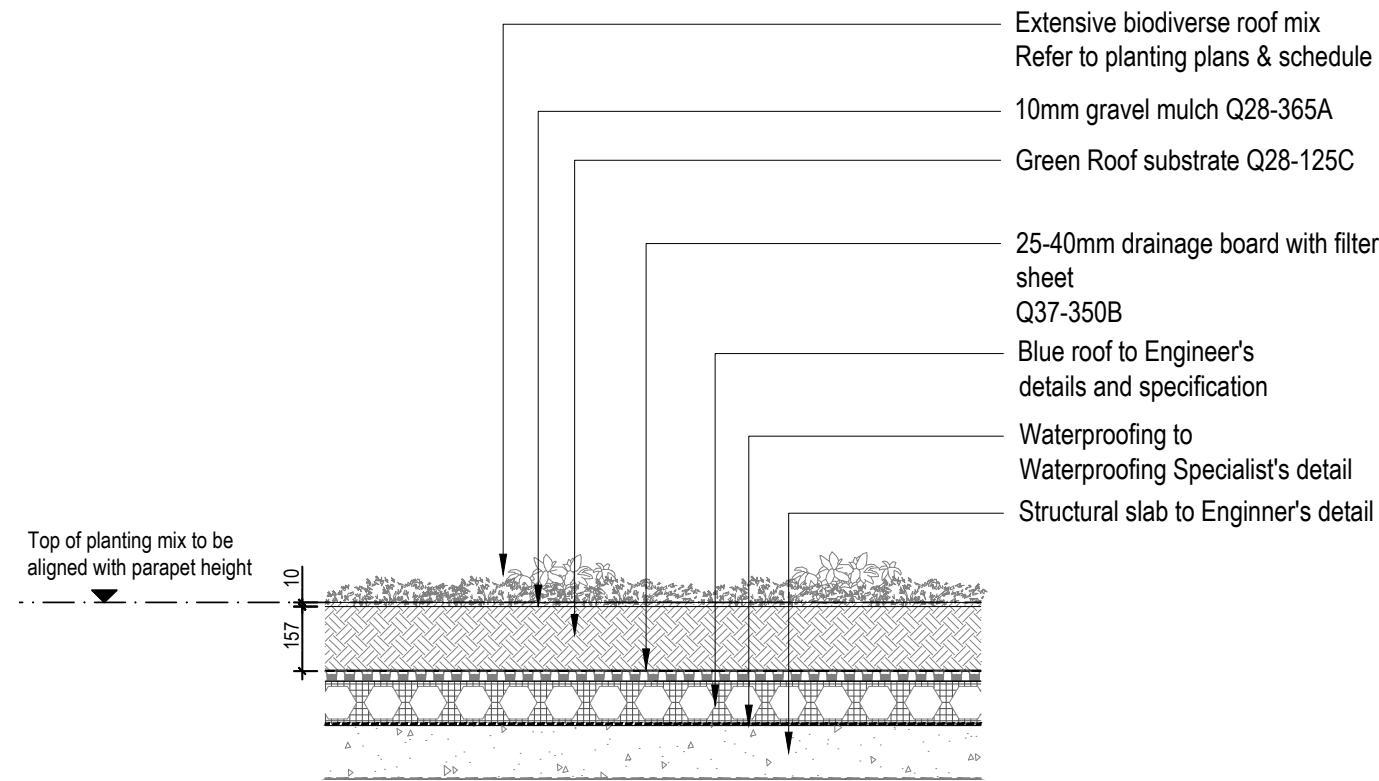
Green Roofs Locations on Level 12

4.0 Plans

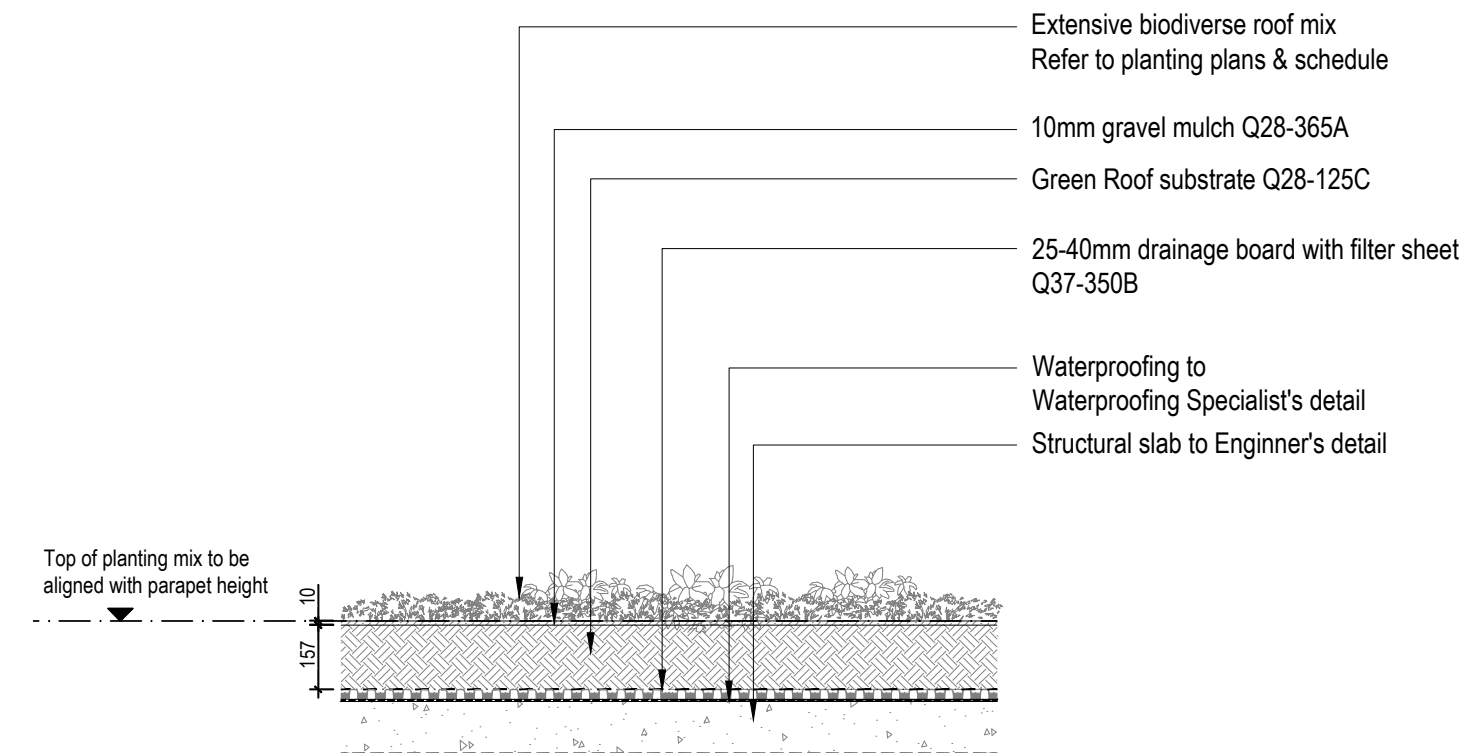


Green Roofs Location on Level 14

5.0 Details



Green Roof Build-up on Level 12



Green Roof Build-up on Level 14

5.0 Details

Habitat	Ground Floor	Mezzanine	Floor 2	Floor 3	Floor 4	Floor 5	Floor 6	Floor 7	Floor 8	Floor 9	Floor 10	Floor 11	Floor 12	Floor 13	Floor 14	Façade/Green Wall	Total Area	GLA	Score	COL	Score
Semi-natural vegetation (e.g. woodland, flower-rich grassland) created on site.	0																0	1	0	1	0
Intensive green roof or vegetation over structure. Vegetated sections only. Substrate minimum settled depth of 150mm	44	81							173	31	35	24	346	143			877	0.8	701.6	0.9	789.3
Green Wall/Climbers [Planter Boxes on façades]	0		6	6	6	6	6	6	6	6	6	6	6	6			72	0.6	43.2	0.7	50.4
Standard trees planted in natural soils or in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree	30																30	0.8	24	0.9	27
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket)	0												140	905			1045	0.7	731.5	0.8	836
Flower-rich perennial planting – see Centre for Designed Ecology for case-studiesD.	0																0	0.7	0	0.7	0
Rain gardens and other vegetated sustainable drainage elements	0																0	0.7	0	0.7	0
Hedges (line of mature shrubs one or two shrubs wide)	25																25	0.6	15	0.6	15
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0	7							78	6	13	7	238	113			462	0.6	277.2	0.7	323.4
Green wall – modular system or climbers rooted in soil	0																0	0.6	0	0.7	0
Blue Roof	0													340			340	0.1	34	0.1	34
Groundcover planting – see RHS Groundcover Plants for overview H	0																0	0.5	0	0.5	0
Amenity grassland	0																0	0.4	0	0.4	0
Permeable paving	0																0	0.1	0	0.1	0
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0																0	0	0	0	0

1994 TOTAL SCORE	1826.5	SCORE	2075.1
SITE AREA	6074.67	SITE AREA	6074.67
GLA SCORE	0.301	COL SCORE	0.342

Urban Greening Factor calculations. Green roof areas (sqm) are highlighted in orange



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