

14045 - Camden Lock Village

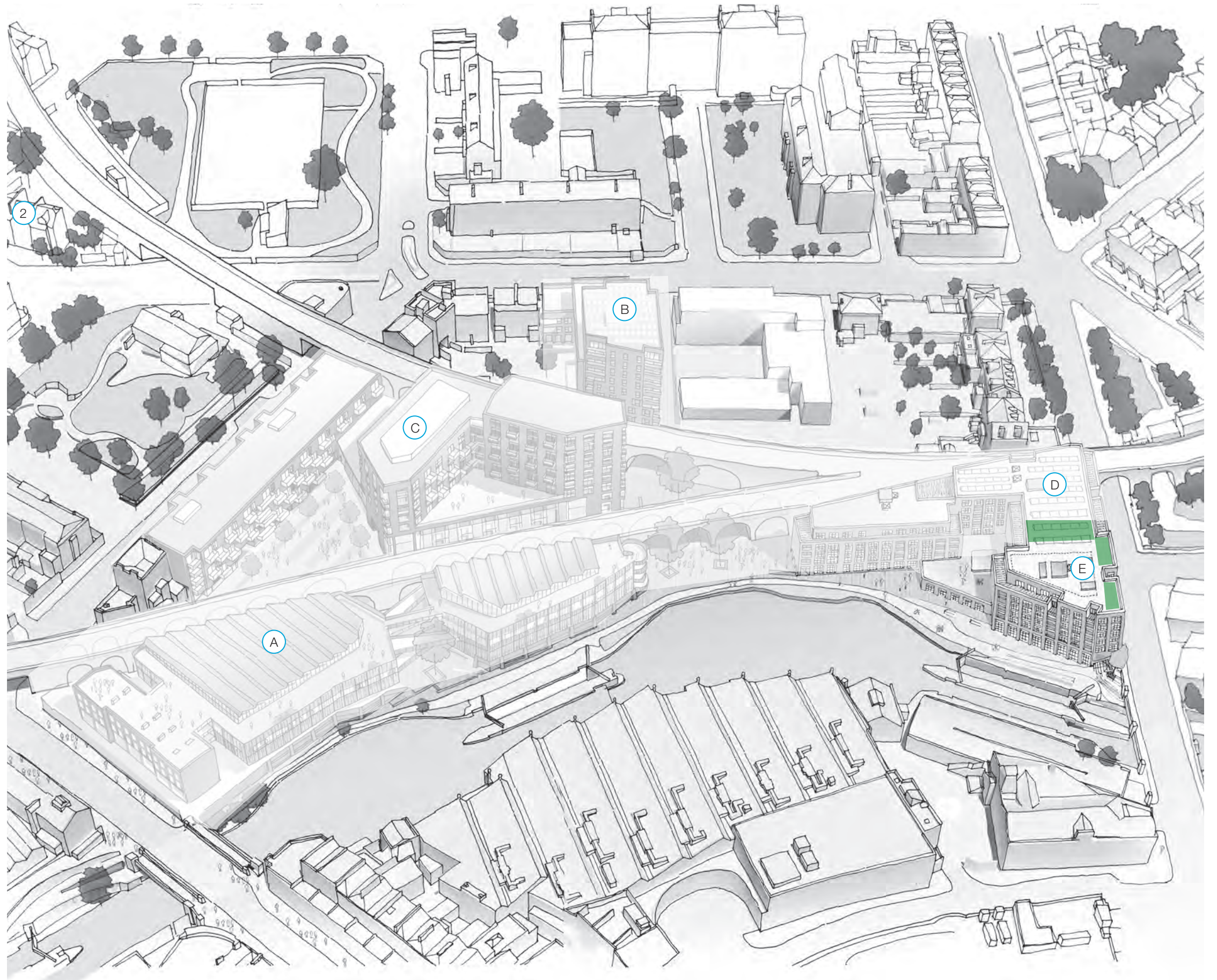
Condition 04: Area E- Typical Details and Scope of Green Roofs

Area E- Planning Application number 2015/1937/P

1.0 Masterplan - Scope of Green Roofs



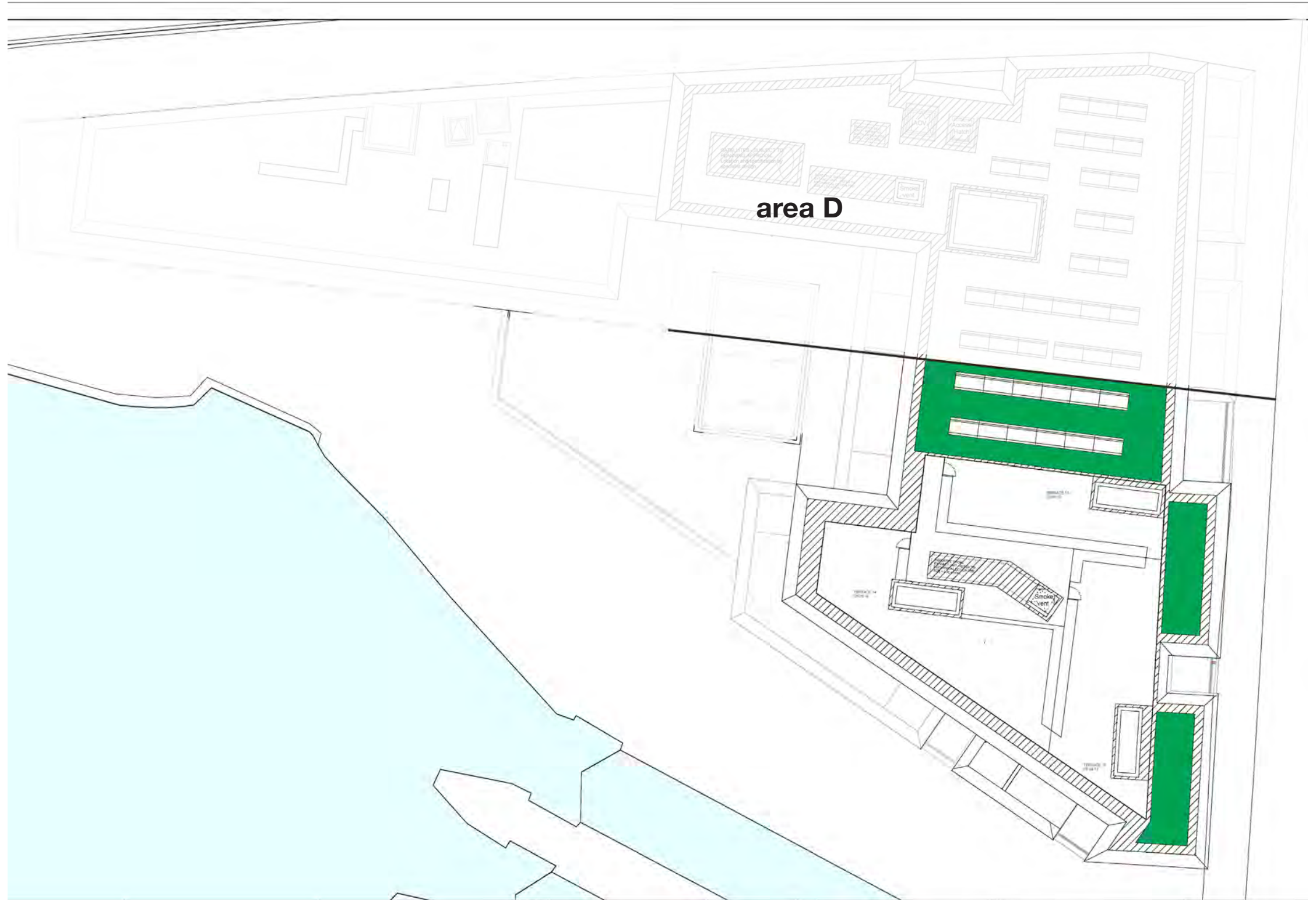
Green Roof area



1.1 AREA D - Building D : Green Roof Scope



Green Roof area



1.2 Buildup Details

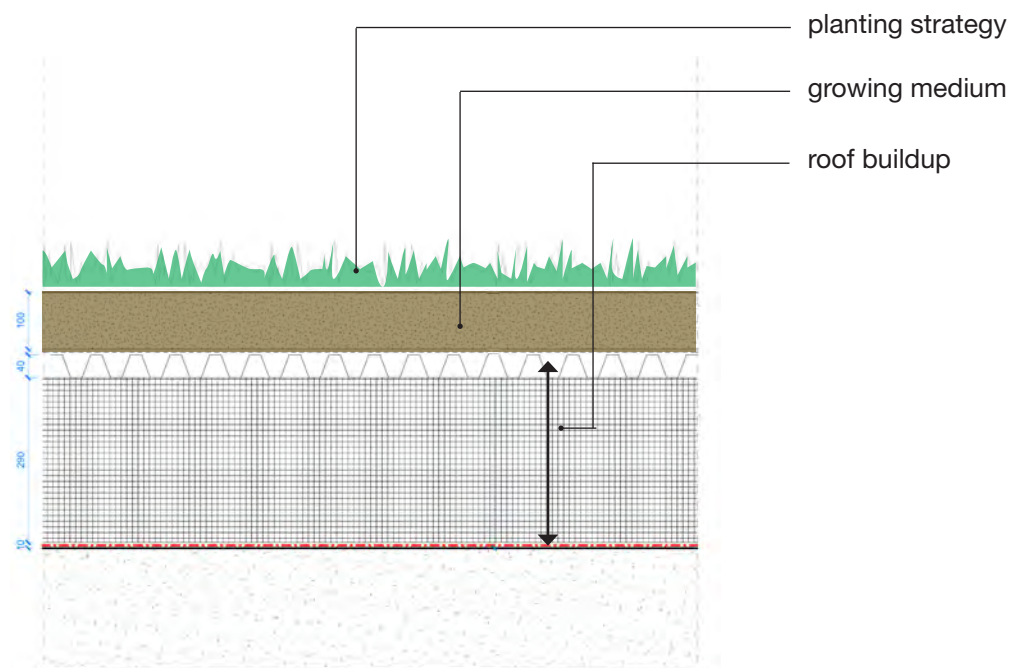
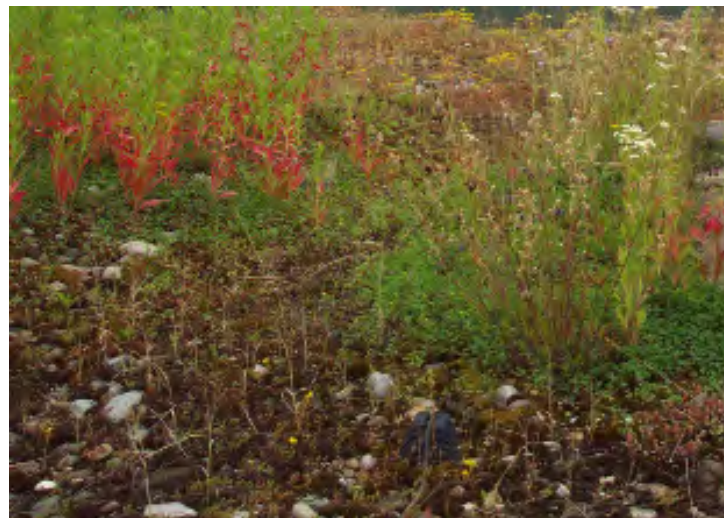
Planting Strategy

The proposal is for a pre-cultivated UK native wildflower blanket to the green roofs with a density of 2m² for 24 species which include the following:

<u>Species</u>	<u>Common Name</u>
Achillea millefolium	Yarrow
Armeris maritima	Thrift
Bellis perennis	Daisy
Campanula glomerata	Clustered Bellflower
Campanula rotundifolia	Harebell
Centaurea cyanus	Cornflower
Centaurium deltoides	Common Centaury
Dianthus deltoides	Maiden Pink
Echium vulgare	Vipers Bugloss
Galium verum	Ladies bedstraw
Geum rivale	Water avens
Lotus corniculatus	Birds Foot Trefoil
Lychnis flos-cu-culi	Ragged Robin
Papaver rhoeas	Corn Poppy
Pilosella aurantiaca	Hawkweed
Prunella vulgaris	Selfheal
Rhianthos minor	Yellow Rattle
Saponaria officinalis	Common Soapwort
Scabiosa columbaria	Small Scabious
Sedum acre	Biting Stonecrop
Seline uniflora	Sea Campion
Thymus polytricus	Wild Thyme

Substrate

The proposed substrate provides a free draining, growing medium for Biodiverse green roof systems with additional aeration qualities with some inherent water retention. The composition includes recycled crushed brick and expanded clay shale with the organic component made up of composted pine bark (made from over 90% recycled material)



Typical Green Roof Buildup
Scale 1:20

1.3 Maintenance Scheme

- 1.0 INTRODUCTION**
- 1.1 fabrik have been appointed by Mace, to prepare this green roof maintenance programme associated with Area E of the approved development at 39-45 Kentish Town Road, London, NW1, under planning permission ref: 2015/19371/P dated 29 September 2015.
- 1.2 This document should be considered as an evolving document and is to be reviewed on an annual basis. It relates to the green roofs established on site, under planning permission ref: 2015/19371/P dated 29 September 2015.
- 1.3 This document sets out the management and maintenance objectives and schedule of operations for the continued maintenance of the roofs, describing how the issues of landscape and ecological significance will be managed as well as the requirements of the management company that will undertake the work and oversee an ongoing review of the strategy, as per requirements of Condition 4 of planning permission ref: 2015/19371/P dated 29 September 2015, which states:

*'Green roof details and installation:
Full details in respect of the green roof in the area indicated on the approved roof plan shall be submitted to and approved by the local planning authority before the relevant part of the development commences, including a plan showing its area. The details shall include species, planting density, substrate and a section at scale 1:20 showing that adequate depth is available in terms of the construction and long term viability of the green roof, and a programme for a scheme of maintenance shall be submitted to and approved in writing by the local planning authority. The green roof shall be fully provided in accordance with the approved details prior to first occupation and thereafter retained and maintained in accordance with the approved scheme of maintenance.'*

- 2.0 GENERAL SITE DESCRIPTION**
- 2.1 The proposed development site is bounded loosely by Chalk Farm Road, The Regent's Canal, Castlehaven Road and Hawley Road. The site is divided into three parts by the railway viaducts which converge towards the eastern end of the site before they cross Kentish Town Road.
- 2.2 The green roofs are at fifth and sixth floors. Access to the roofs is via service access from the main circulation cores.
- 3.0 POLICY, LEGAL PROTECTION (AND GUIDANCE) RELATING TO THE SITE**
- 3.1 The Site lies within the administrative authority of the London Borough of Camden.
- 3.2 All birds and their nests are also protected under the Wildlife and Countryside Act 1981. Site management must be aware of the need to avoid disturbance or harm to nesting birds either by avoiding the nesting season, March to August inclusive and / or by checking that no nests would be affected by particular works.
- 3.3 **Health and Safety:** The works are at height and present a significant risk to maintenance operatives. The risks assessment is not part of this document. The roofs have 'man safe systems' installed. Any access to the roofs must with the express permission and to meet timetables agreed with the Building Management Team.

- 4.0 OBJECTIVES OF THIS MANAGEMENT PLAN**
- 4.1 Generally, the landscape objectives for this plan are:
- to maintain the existing wildlife and nature conservation value established with the introduction of the biodiverse roofs;
 - to provide and maintain a visually appealing biodiverse roofscape for the development;
 - to contribute to the value of the green infrastructure on site;
 - to control invasive species;
 - to manage, retain and provide the opportunities to improve areas of existing ecological interest;
 - to enhance the ecology of the site and improve local biodiversity wherever possible;
 - to provide a programme for a scheme of maintenance.

- 5.0 MANAGEMENT OBJECTIVES**
- 5.1 The key objective is to improve and maintain the new biodiverse roofs in perpetuity. This will be achieved through the implementation of this management plan by an appointed management company.
- 5.2 All operations are to be carried out in accordance with the Maintenance Specification included in sections 8-10 of this document. The operations should be in line with all suppliers recommendations in respect of maintenance.

- 6.0 SCHEDULE OF OPERATIONS**
- 6.1 An overview of the typical annual maintenance and operations works is attached in appendix C.
- 6.2 Generally inspect all green roof areas on a quarterly basis to identify works required. The inspections should identify
- areas that may need re-establishment;
 - invasive plants that need removal;
 - established planting that may need reducing in area to prevent it becoming dominant;
 - removal of any accumulated litter or leaves;
 - other management that may be required (e.g. watering);
 - replenish lost material (e.g. gravel);
 - ensure that any drainage channels or edges are kept free of encroaching planting or debris.

- 6.3 **Wildflower areas**
Allow the extensive range of grassland species planted at establishment to develop over time. Allow species which are thriving to expand naturally. Remove plants that are failing and replace with plants from the original list that are developing well on site. Avoid creating extensive mono-cultures. Inspect the planting. Allow colonising species to grow naturally. Remove colonisers that are becoming invasive. Include within this category any woody plants (e.g. buddleia or sycamore)

- 6.4 **Gravel margins**
Maintain the margins free of colonising vegetation, replenish any lost material,

- 7.0 GENERAL MAINTENANCE CONDITIONS**
- 7.1 **Introduction**
The works consist of the maintenance and management of the existing green roofs.
- 7.2 **Landscape Contractor**
A suitable specialist Landscape Contractor, employed by the Estate Management Company, shall carry out the works described in this specification. The proposed Landscape Contractor shall be a full member of the British Association of Landscape Industries.
- 7.3 **Liability for Damage of Existing Vegetation**
Existing trees or vegetation damaged during the works shall be replaced by trees or plants of similar size and maturity or numbers considered reasonable by the Local Planning Authority (LPA). Cost of the replacement shall be borne by the Contractor.
- 7.4 **Protection**
The Landscape Contractor shall in respect of the maintenance works and adjacent areas of the site used by him in the course of the contract ensure that:
- Adequate protection of existing and newly planted/turfed areas is erected and maintained to prevent damage;
 - There is appropriate making good on removal of any protective measures on completion;
 - There is repair of any damage to adjacent and existing site works and features;
 - All hard surfaces used are kept, protected, clean and tidy;
 - All protective fencing at the end of the 12/24 months defect liability period will be removed.

- 7.5 **Watering**
After Practical Completion of the main contract the Landscape Contractor appointed shall supply all necessary hose attachments and fittings. Watering is not expected to be necessary on a regular or frequent basis but allowance should be given to ensure that plants remain healthy. During emergency legislation periods restricting the use of water from the mains during drought conditions, the Landscape Contractor should allow for the collection and application of suitable second class water for irrigation purposes, by bowser or other means, from approved source to deliver to site and apply as specified.

- 7.6 **Arisings**
The Landscape Contractor appointed by the Estate Management Company is to remove from the Site and dispose of all weeds, prunings, leaves, litter, rubbish, dirt and other arisings.

- 8.0 WILDFLOWER AREA MAINTENANCE**
- 8.1 Inspect area and identify any works that may be required. This may include but is not limited to:
- Re-sowing of native wildflower
 - Checking for and removal of weeds
 - Application of fertilizer
 - Pruning

- Checking for and removal of pests
 - Application of selective herbicide
- 8.2 **Re-sowing of Native wildflowers areas**
The purpose of re-seeding is to maintain the floral diversity of the wildflower areas. Prior to seeding, the surface should be scarified using a tine harrow. Any Sowing operations shall be carried out between the end of March to the beginning of May, or at any other time with the written approval of the Estate Management Company. The seed is to be applied to the manufacturer's suggested rate. The seed should be selected from the list of plants from the original specification. A list of these species is attached in Appendix B

- 8.3 **Removal of weeds**
All roof areas shall be kept clear of weeds by hoe, fork or hand weeding as required, avoiding excessive treading. Care shall be taken not to damage plants' root system. At no time shall weed growth in excess of 5% of the area be tolerated. Particular attention should be given to ensuring that fire breaks and drainage routes are kept clear of weeds.

- 8.4 **Apply Fertiliser**
If deemed necessary, the areas should be forked over lightly in March every year and a general fertiliser, approved by the Estate Management Company, with an N.P.K. ratio of 7:7:7, be applied at a rate of 35gm per square metre and incorporated into the surface by fork or hoe.

- 8.5 **Pruning**
- (i) The Contractor shall prune plant material at the correct pruning time and in accordance with this Specification.
- (ii) This represents general guidelines for pruning. The Contractor shall note that pruning methods differ with species, cultivar, maturity and the exact position of the plant. If the Contractor is in any doubt about the appropriate method to be used, then the advice of the Estate Management Company shall be sought.
- (iii) All pruning shall be carried out to the highest horticultural standards using secateurs, loppers and other method approved by the Estate Management Company.
- (iv) The Contractor shall remove all dead, damaged, infested, reverted or diseased plants, using correct horticultural practices.
- (viii) Dead flower heads shall be removed to maintain planting and ensure continued vegetative growth and a cared for appearance. Seed may be re-sown on agreement with the Estate Management Company.

- 8.6 **Selective Herbicide Treatment**
If deemed necessary following an inspection and upon explicit agreement with the Estate Management Company, the Contractor shall supply and apply an approved selective herbicide to control invasive species if removal is not deemed appropriate. Application shall normally be made during April to June.

- 8.7 **Edging**
The Contractor shall maintain the edges of the planted areas to a neat and tidy appearance on one occasion between October (PP10) and March (PP3). Care should be taken to ensure that plants are not encroaching on drainage or gutter areas.

- 9.0 GRAVEL MARGINS**
- 9.1 Inspect open sand and gravel areas identify any works that may be required. This may include but is not limited to:
- Re-grading
 - removal of weeds
 - Watering
 - Replenishment

- 9.2 **Removal of weeds**
The open areas must be kept clear of weeds by hand weeding. Care shall be taken to minimise disturbance of the existing finishes.

- 10.0 LEAF CLEARANCE**
- 10.1 **Standard**
The Landscape Contractor shall be responsible for the clearance of leaves, twigs, etc., from all areas (normally October until the end of December).
- (ii) The Landscape Contractor shall carry out leaf clearance by hand;
- (iii) The Landscape Contractor shall ensure that all planted areas, areas of gravel and particularly drains, or other areas specified by the Estate Management Company, are kept clear of leaves.

- (iv) The Landscape Contractor shall remove all collected leaves to the designated location for disposal, at the end of each work period. The Landscape Contractor shall not leave groupings of collected leaves on site for bulk removal, unless specific approval from the Estate Management Company has been issued in writing.

- 10.0 LITTER CLEARANCE**
- 10.1 Any litter should be picked up by hand and removed from site. Every inspection visit should allow for litter picking.

Typical Maintenance Schedule

ANNUAL MAINTENANCE PROGRAMME

ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
Inspection												
Application of fertiliser												
Weeding												
Pruning												
Selective herbicide												
Re-establishment of planting												
Watering												
LEAF CLEARANCE												
Leaf Clearance												
LITTER CLEARANCE												
Litter Clearance												
Note: The above schedule indicates the periods when the activities should be typically carried out, not the not the number of instances												