Harrods Wharf

6 Somerville Avenue
Barnes
London
SW13 8AD

GREEN/BROWN ROOFS
1178 Doc 004_Rev A
18.01.21

JAMIE WALLER

Lifschutz
Davidson
Sandilands

Architects
Design consultants
Urban planners

executive summary

This document has been prepared by Lifschutz Davidson Sandilands and forms part of the application submitted on behalf of Jamie Waller for the redevelopment proposals on the wharf site adjacent to the Thames and the Grade II listed Harrods Furniture Depository building in the London Borough of Richmond upon Thames.

The purpose of this document is to summarise the green/brown roof strategy that has been applied to the proposals.

ISO 9001
FS 544642

ISO 14001
EMS 544644

Contact

Paul Sandilands
p.sandilands@lds-uk.com

Lifschutz Davidson Sandilands
Island Studios
22 St Peter's Square
London W69NW

T +44 (0)20 8600 4800
www.lds-uk.com

contents

project overview

Introduction

The purpose of this document is to demonstrate and summarise the integration of a green roof system for the proposed pavilions at Harrods Wharf

The wharf site sits adjacent to the Thames and the Grade II listed Harrods Furniture Depository building in the London Borough of Richmond upon Thames.

The proposals have been designed so that they can maximise the area of green roofs on the site and to promote biodiversity whilst helping to maintain air quality. It will also provide a pleasant outlook from the residential accommodation behind.

The Bauder Green Roof Technical Design Guide has been used as reference material. www.bauder.co.uk

view of proposal looking south along the river

roof plan

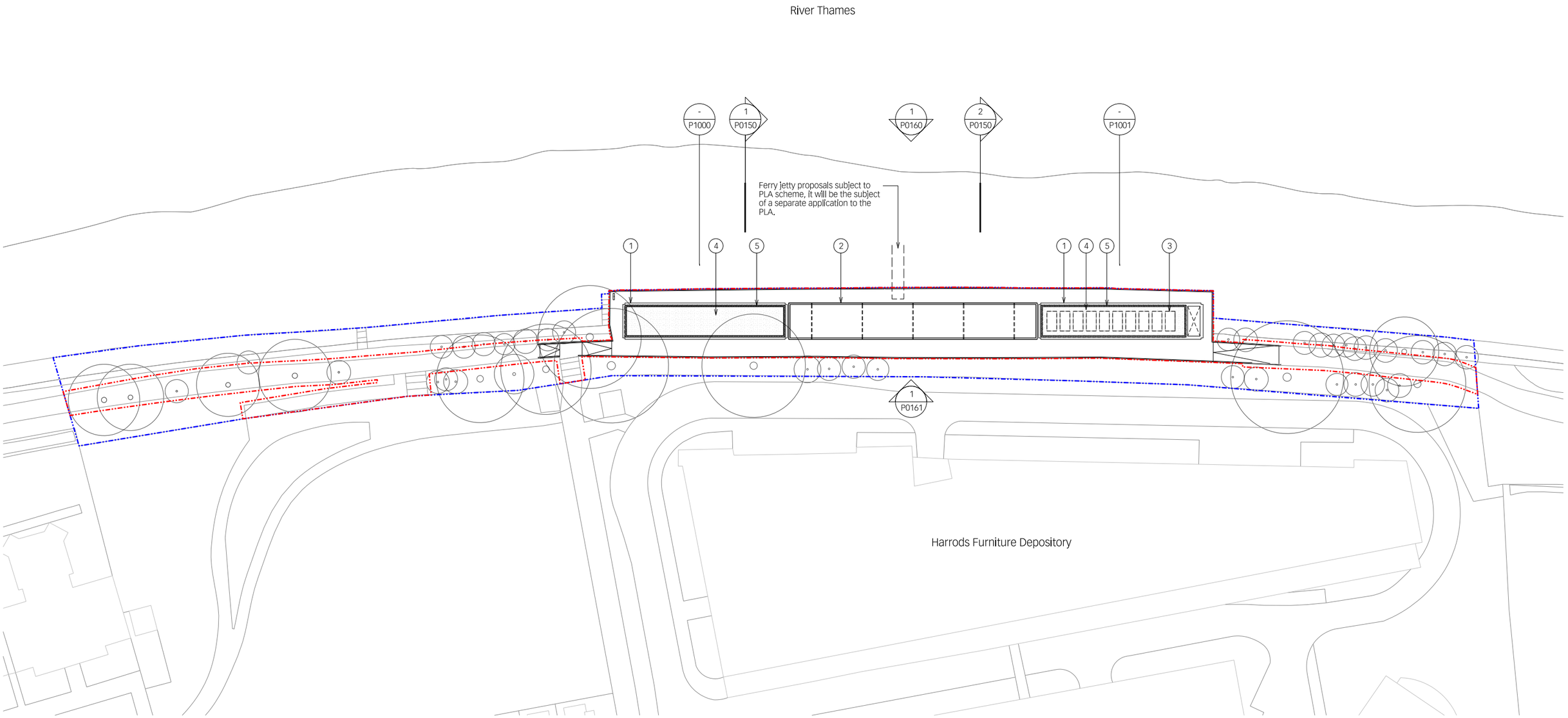
material key:

1. metal framed cladding panel with back-illuminated tensile fabric
2. metal framed canopy with back-illuminated tensile fabric
3. PV panels
4. green roof
5. shingle edging

Ownership boundary
Development boundary

green roof coverage of pavilions: 74%

0 2 4 6 8 10 20m



pavilions- plan

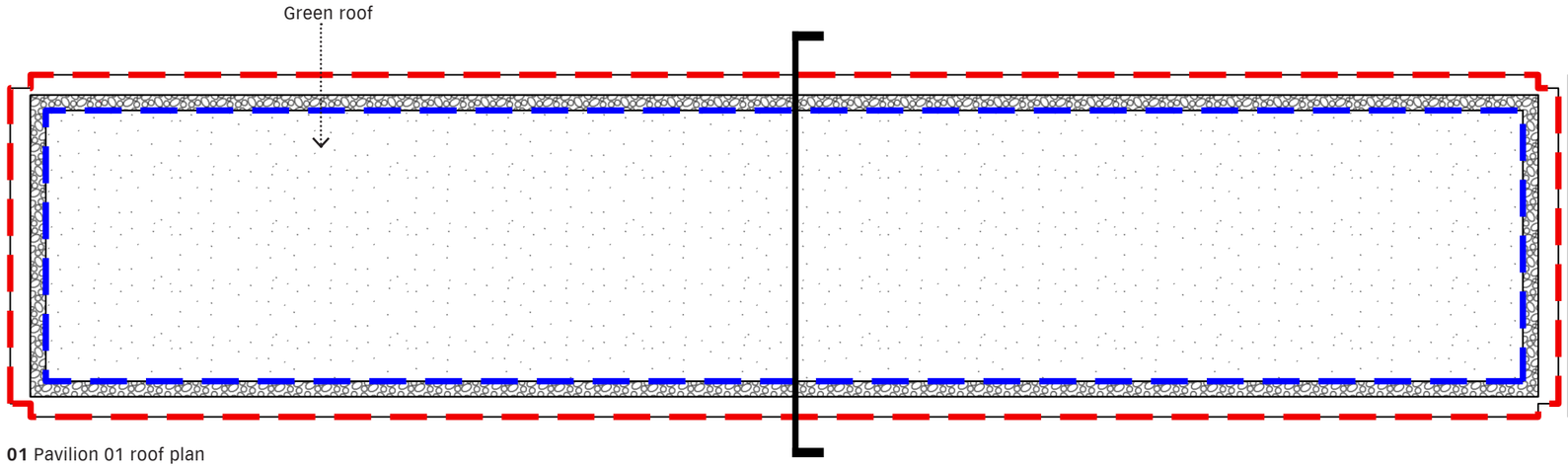
Pavilion 01 roof plan

The cafe pavilion is to have a semi-intensive green roof

Total roof area: 138 sqm

Area of green roof: 105sqm

Area of green roof as a percentage of the total roof area: 76%



01 Pavilion 01 roof plan

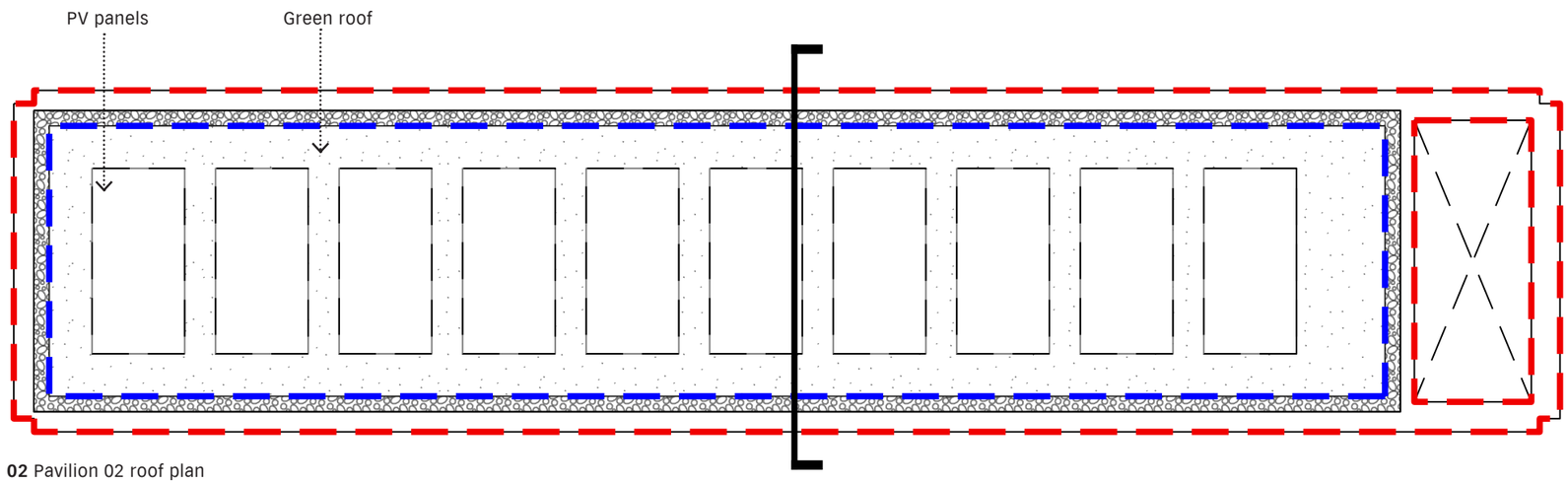
Pavilion 02 roof plan

The ticket office pavilion is to have a semi-intensive green roof beneath PV panels

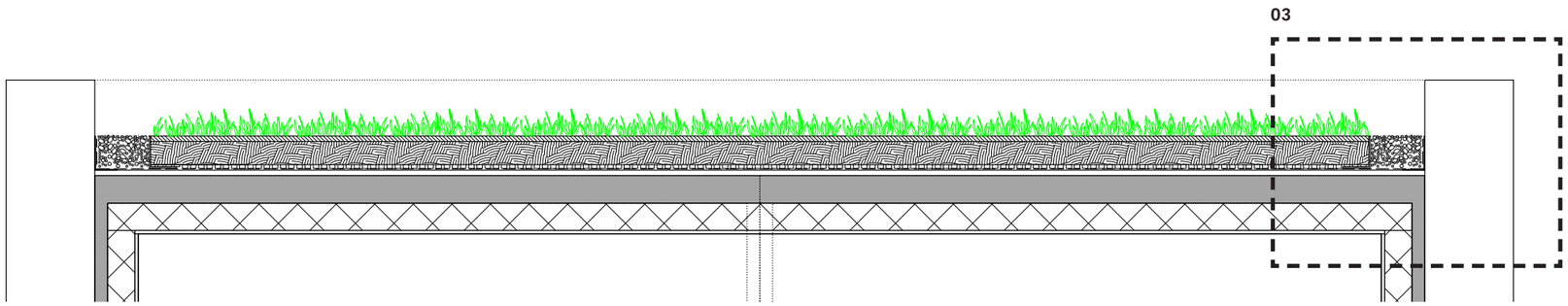
Total roof area: 129 sqm

Area of green roof: 95sqm

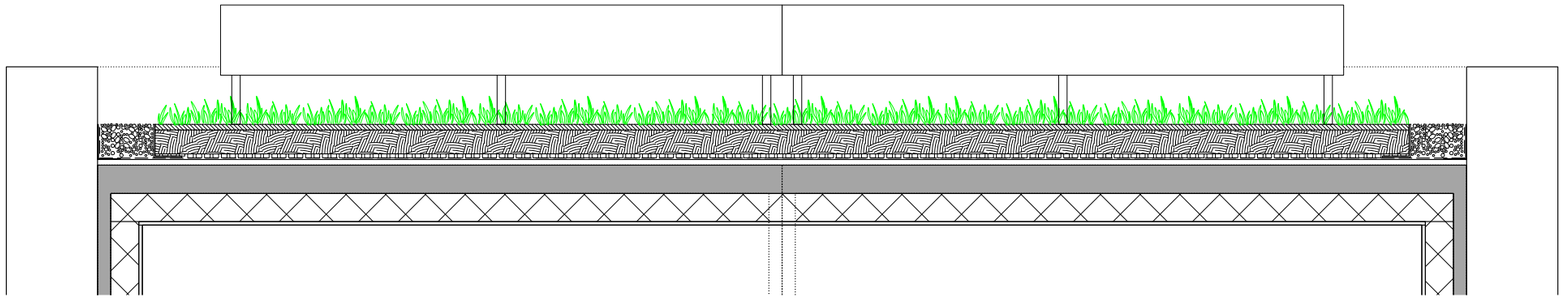
Area of green roof as a percentage of the total roof area: 74%



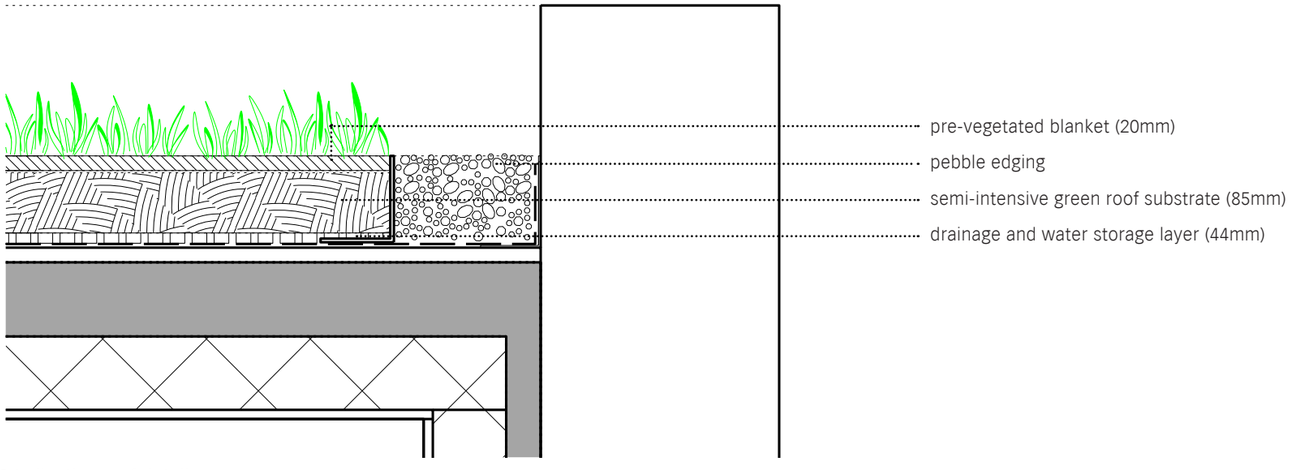
02 Pavilion 02 roof plan



01 Pavilion 01 section



02 Pavilion 02 section with PV tiles



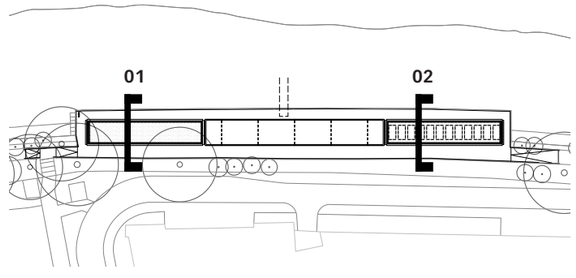
03 Indicative roof detail

Green roof build-up

The semi-intensive green roof build-up will include a protective fleece, drainage layer and filter sheet, to be covered by an industry-standard extensive green roof substrate and pre-vegetated blanket. The build-up is to include a minimum substrate depth of 85mm.

A green roof helps to maximise solar energy generation as the vegetation preserves ambient rooftop temperatures, keeping the modules at optimal output. The cooling effect increases panel output by up to 5-7%.

There are further benefits of the green roof, including the enhanced thermal performance which provides a more balanced temperature within the building. This reduces heating costs in the winter and air conditioning expenses during the summer, reducing energy consumption and waste.



manufactures and recycled content

Green roof manufacturers

A recognised green roofing manufacturer should provide materials and a suitably qualified and experienced contractor should install the green roof. Only companies which work to GRO (2014) and FLL standards should be used.

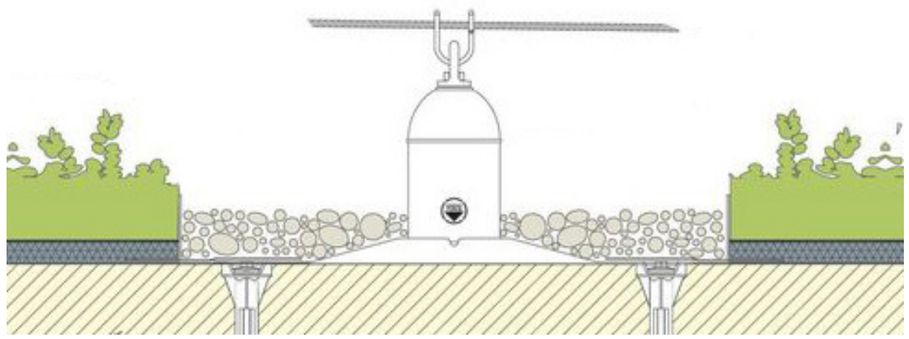
Much of the green roof construction can be made from recycled or waste materials for example:

- Water Retention and Drainage Layers can be made from recycled high density polyethylene.
- Protection Layers can be made from a mixture of two recycled materials, reground polyester and polypropylene fibre, that deliver a layer which prevents mechanical damage to the waterproofing beneath the green roof build up.
- Protective layers can be created from mechanically bonded recycled Polyester clothing and fabric.
- Substrates and Growing Mediums can be based around recycled crushed brick and composted recycled organic material to give growing mediums which correctly balance water storage, structural stability, water permeability and grain size distribution according to the requirements of the planting scheme.
- The Separation and Slip Layer can be manufactured from recycled polyethylene granulate.

01 Clapham Park, PJMA Architects. London, UK

02 Noah's Ark Children's Hospice, Squire & Partners. London, UK

01 Mansafe system to green roof



02 Mansafe system detail

Access and maintenance strategy

The semi-intensive green roofs must be visited by suitably qualified and experienced technicians twice annually to make a visual inspection, to remove tree seedlings and weeds by hand and to check and unblock (if required) all drainage outlets

The extensive green roofs will consist of drought-tolerant vegetation and will not be irrigated once established.

As the green roofs and PV's will need maintenance, an access strategy will be required. It is proposed that a mansafe system, set back from the parapet edge will be used.

Lifschutz Davidson Sandilands
Island Studios, 22 St. Peter's Square, London W6 9NW
+44 (0)20 8600 4800 · www.lds-uk.com