1 Hampshire Street
London
NW5 2TE

51.548672-0.130537

Living Roof Specification

S19-502
August 2019

Prepared by :

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London
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On behalf of :

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44 Great Eastern Street
London
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London
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Appendices

1.0 Introduction

Acting on instruction from Redtree (North London) Ltd, a Living Roof Specification is to be prepared in connection with the proposed development at 1 Hampshire Street.

1.1 Proposed Development

The proposal includes redevelopment of the site to provide 4 storey building with 334 sqm of commercial floor space (Class B1) and 16 residential units (5 x 2-bed, 6 x 1-bed, and 5 x3-bed) (Class C3) with terraces at front and rear following demolition of existing photographic studio. (Class B1c).

1.2 Report Scope

To specify a living roof that complies with local and national guidance, and that can be practically implemented at the proposed site.

2.0 Terms of Reference

Various guides have been used at Local and National level.

2.1 Camden Planning Guidance

Sustainability Green Roofs- Development Policy DP22 states that schemes must incorporate green or brown roofs, and sets out requirements for reporting:

- A statement of the design objectives for the green or brown roof . . .
- Details of its construction and the materials used, including a section at a scale of 1:20
- Planting details, including details of the planting technique, plant varieties and planting sizes and densities.
- A management plan detailed how the structure and planting will be maintained.

2.2 Buglife Guide

Buglife publish an excellent guide on the specification of green roofs or living roofs to encourage invertebrates. If a habitat is created that encourages "bugs" then birds will likely use the habitat for foraging.

3.0 Design Objectives

Living Roofs provide several design objectives.

To provide a habitat at roof level, within an urban area, conveying significant benefits for wildlife, notably invertebrates and birds.

Appropriately designed a bio-diverse roof which can support Local, Regional and National BAP objectives, and contribute to mitigation plans.

Whilst this report focuses on bio-diversity aspects of the proposed Living Roof. There are numerous other secoundary benefits that arise from green installation, which ahsve outline in parallel reporting for this project:

- Sustainable Drainage
- Improved Building Performace
- Climate Change Mitigation
- Amenity

It is intended that the design will deliver the above benefits without interfering with function of roof top mechanical elements such as Solar PV panels.

4.0 Construction

Project drawings show a substrate thickness of 25cm. This will allow for a relatively shallow Intensive Roof, or a deep Semi Intensive roof. It is thought that within the context the growing importance of climate change resilience, and the presence of roof top PV panels, a deeper semi-intensive roof strategy should be adopted.

This will allow for a thicker substrate relative to water demand from plants, which will increase resilience during dry periods. The grasses & herbs proposed in section 5.0 should then stand the best chance of remaining well established.

4.1 Substrate

A lightweight growing medium suitable for general planting on semi-intensive roof systems should be used.

Composition: recycled crushed brick and expanded clay shale composted pine bark.

- Water storage ca. 35% Vol
- Saturated weight ca. 1250Kg/m³.
- pH value6.0 –8.5

The substrate should be laid in an undulous manner, so as to create a varying substrate depth.

Research has shown that variation in substrate depth 10 is desirable on a biodiverse roof. Thin areas of substrate will be less vegetated, providing the bare areas favoured by warmth-loving invertebrates. Creating deeper areas of substrate and undulations will create small localised changes to the micro-climate due to varying exposure to sun, wind and rain. It will also produce hydrological variation ranging from very dry substrate (shallow areas) to those that hold moisture or even ephemeral water-bodies (deeper areas). This in turn will encourage the development of structurally diverse vegetation which will provide habitat for a wide variety of invertebrates. Deeper soils can also be important locations for some invertebrates to over-winter or find refuge during drought.

5.0 Planting

Planting should incorporate species suitable for a semi-intensive living roof, but not larger shrubs which may over shadow PV panels. It is also important to include some drought tolerant Sedums. Sedums have also been found to aid the growth of complimentary non-sedum species.

5.1 Grasses

Mix should include:

- Armeria maritime
- Helictotrichon sempervirens
- Nassella tenuissima

5.2 Flowers

Mix should include:

- Birdsfoot trefoil
- Yarrow
- Sea thrift

5.3 Sedums

Mix should include, but no more than 30% by coverage.

- S. reflexion,
- S. spathulifolium,
- S. album hybrids,
- S. aizoon

5.4 Technique

Plug plants should be sown on a 15cm grid. Gaps will then be filled as plants creep laterally. This also ensure that more successful species, will occupy a proportionally higher area of roof space.

All planting should be thoroughly irrigated for 4 weeks post planting.

5.6 Density

A 15cm grid should be used for planting of plug plants. Plants should ne groups with planting areas so that taller plants do not overshadow smaller ones.

6.0 Management

Artificial irrigation is not usually required, however, the roof should be thoroughly watered after installation, for a period of 4 weeks or until the plants are well established.

Inspection of roof drainage outlets to ensure that they are not obstructed or blocked should be carried out 4 times annually or after meteorological events that may have dislodged substrate of vegetation.

Removal of unwanted plants which may colonise the roof (e.g. buddleia)/ Checks may annually.

Removal of vegetation from unwanted areas on the roof e.g. the roof perimeter. Checka made annually.

Habitat management may include wildflower meadow management such as cutting, re-creation of bare ground areas where vegetation has encroached or providing additional habitat features such as woodpiles or bug houses. Habitat management will, of course, depend on the type of habitat that you are intending to maintain. Checks made annually.

7.0 Certification

This report is produced for the sole use of the Client, and no responsibility of any kind, whether for negligence or otherwise, can be accepted for any Third Party who may rely upon it. This report is produced for use in determination of a planning application, and is not suitable for any other use.

The conclusions and recommendations given in this report are based on our understanding of the future plans for the site. This report is to be used in conjunction with planning applications only. The report is not to be used to form an opinion of value with regards to the site. The report is not to be used to form an opinion of costing with regards to future works on site. This report makes no guarantee for the future safety of occupants of the site.

If the site is developed for a more or less sensitive use, then a different interpretation might be appropriate.

It necessarily relies on the co-operation of other organizations and the free availability of information and total access.

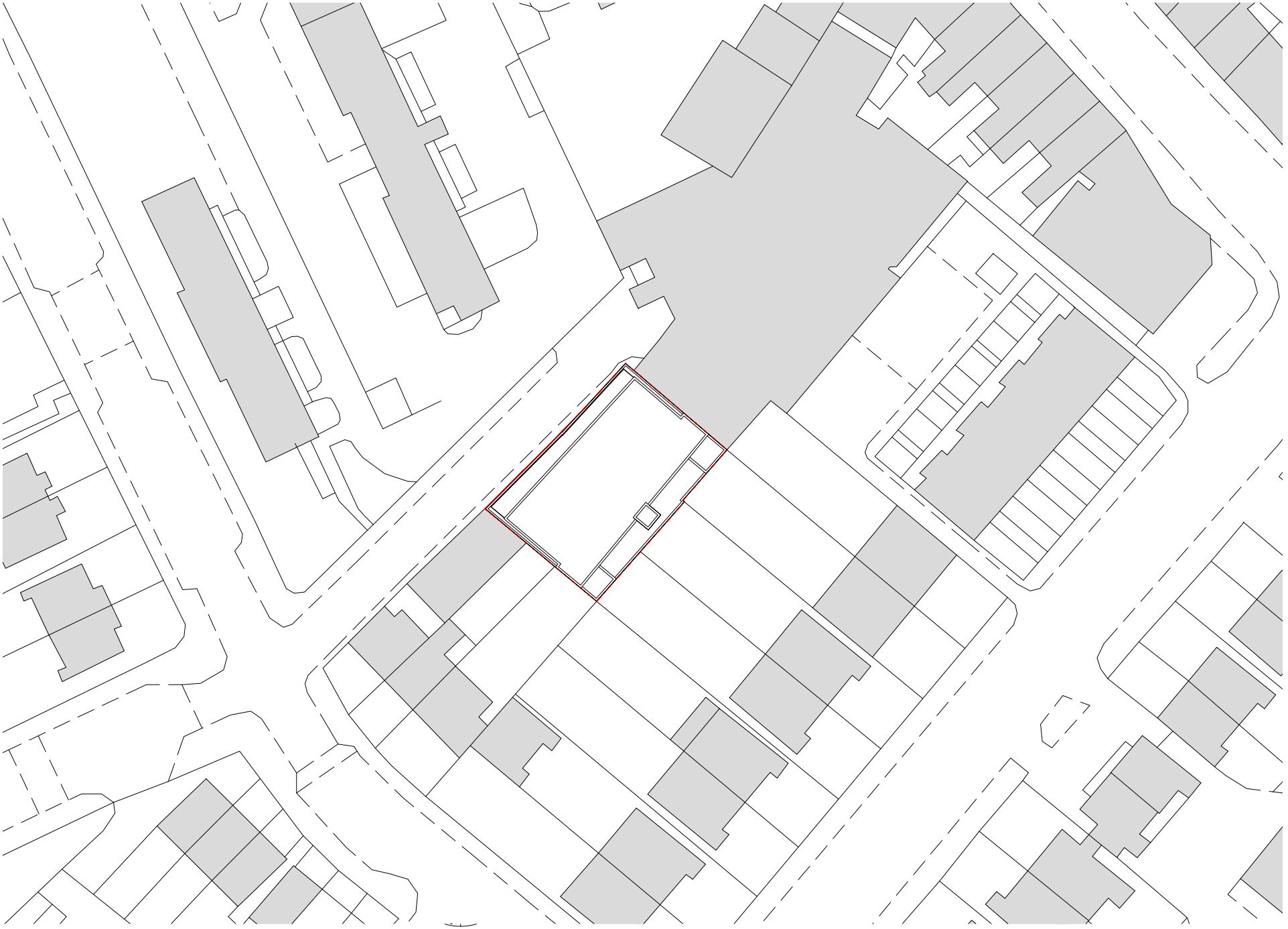
No responsibility can, therefore, be accepted for conditions arising from information that was not available to the investigating team as a result of information being withheld or access being denied.

The scope of this report was discussed and agreed with the Client. No responsibility is accepted for conditions not encountered, which are outside of the agreed scope of work.

This report may suggest an opinion on a possible configuration of planting, management or other design factors. However, this is for guidance only and no liability can be accepted for its accuracy.

APPENDIX 1

Site Location Plan



NOTES

SITE BOUNDARY

drawing status: P L A N N I N G

revision:	description:	date:
P.01	Issued for PLANNING	02.05.17
P.02	Issued for PLANNING	25.08.17
P.03	Issued for PLANNING	25.09.17
P.04	Issued for PLANNING	23.02.18

P L A N N I N G

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N

0 5 10 15 20 25M

1:500

SITE LAYOUT PLAN

SCALE 1:500

project:	**17-010** - 1 Hampshire Street, London NW5 2TE		
drawing:	SITE LAYOUT PLAN		
date:	23.01.17	drawn by: LM	check: CC
scale:	1:500@A3	drwg no.: 101	rev. no.: P.04

APPENDIX 2

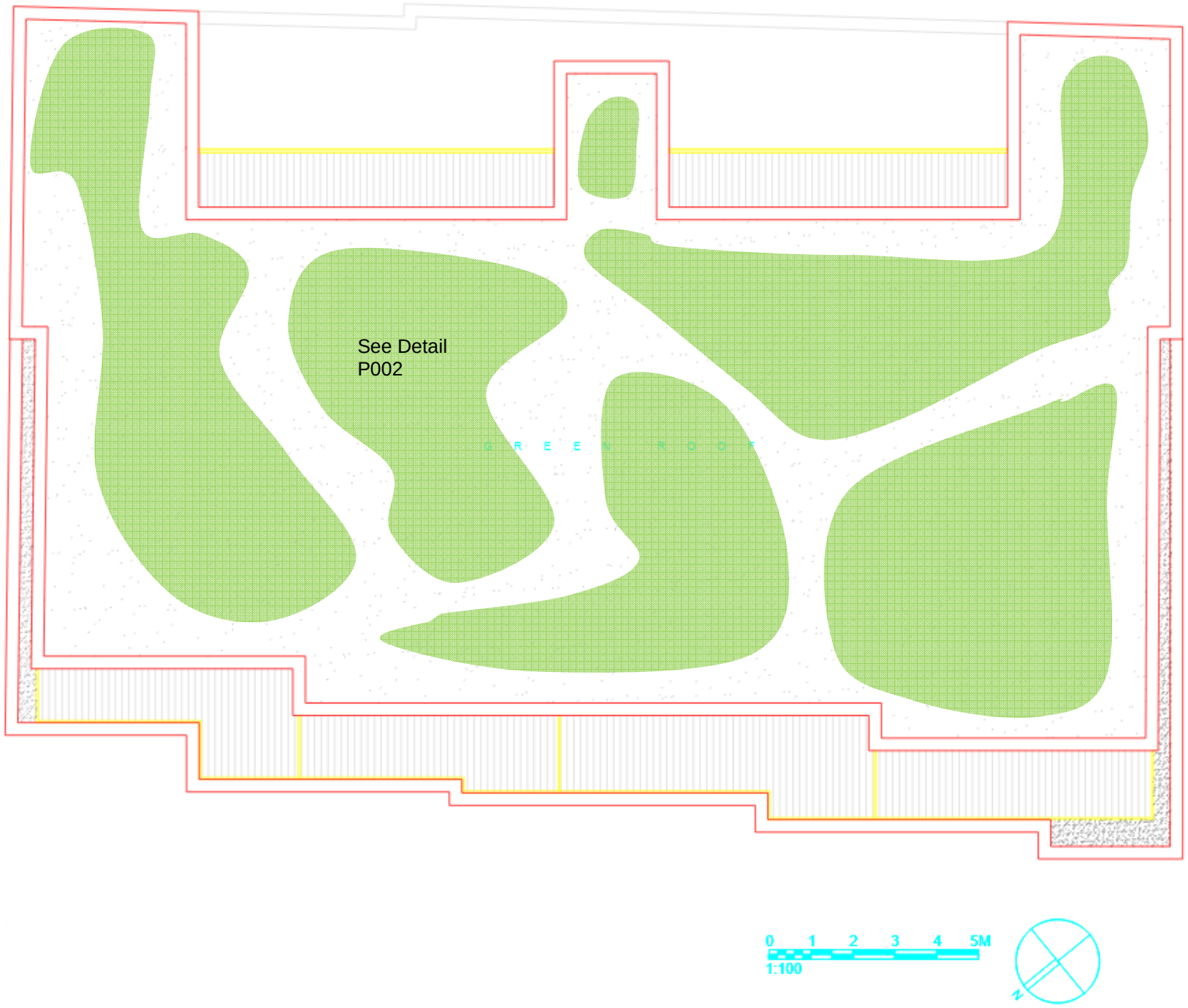
Plans and Sections

Living Roof Planting Scheme—P001

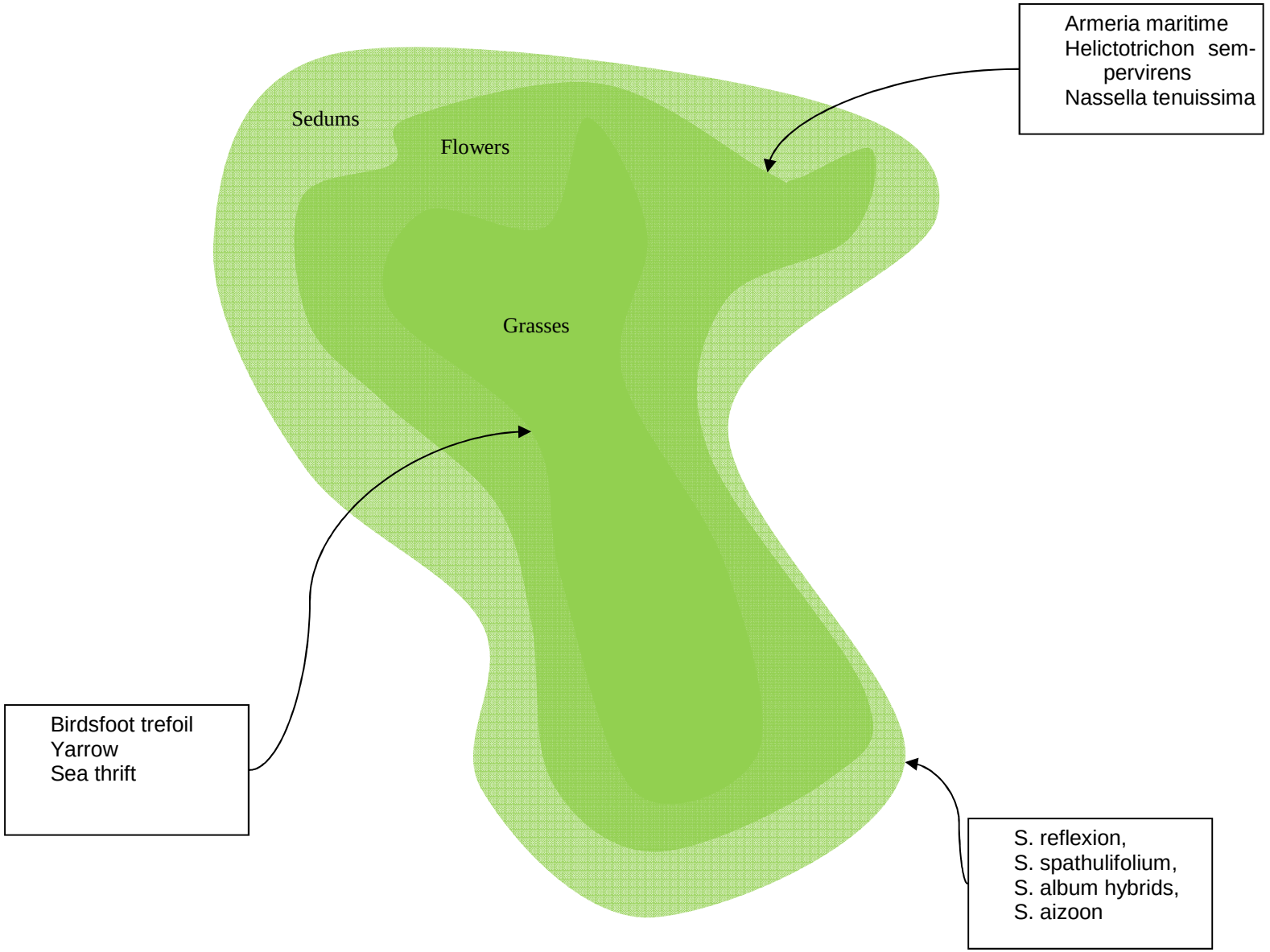
Note 1: Planting and substrate to continue under proposed solar PV panels**.**

Note 2: Green areas indicate planting areas, these are indicative bare spaces may be changes to suite access requirements for solar panels.

Note 3: Details

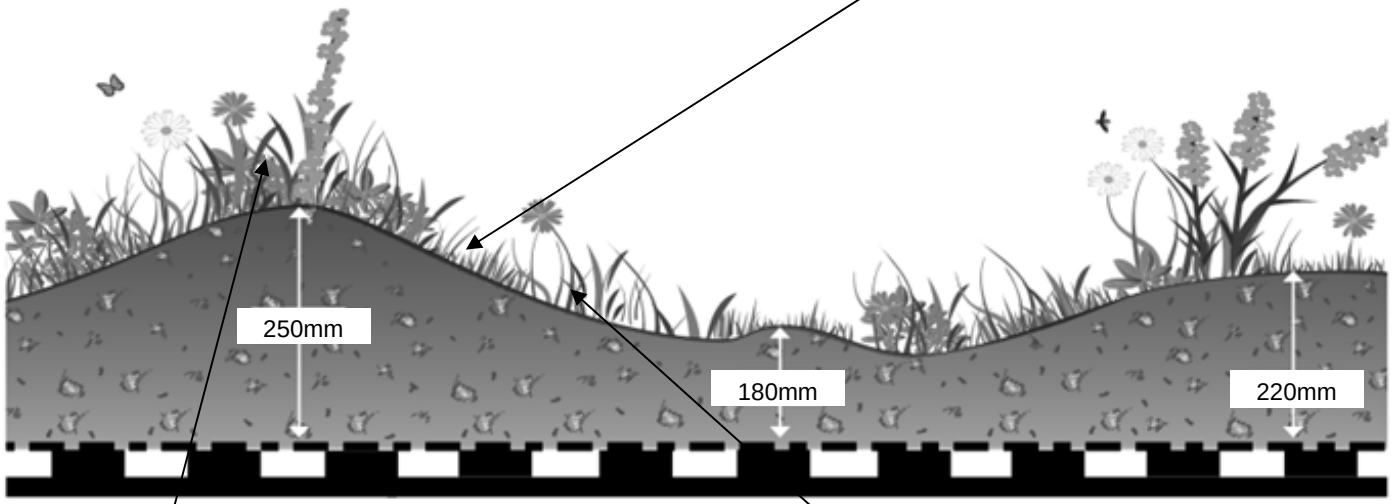


Detailed Planting —P002



Section —P003

Scale 1:10 @ A4



Armeria maritime
Helictotrichon sem-pervirens
Nassella tenuissima

Birdsfoot trefoil
Yarrow
Sea thrift

S. reflexion,
S. spathulifolium,
S. album hybrids,A
S. aizoon