GREEN ROOF – MAINTENANCE PLAN

FOR THE ERECTION OF A SINGLE STOREY, 1-BEDROOM SINGLE DWELLING

LAND ADJACENT TO PEGASUS COURT, 105 ST. PANCRAS WAY, LONDON, NW1 0RA

PREPARED BY: ABP ARCHITECTURAL SERVICES LIMITED

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1.0 Introduction

1.1 The objective of this Green Roof Maintenance Plan is to provide and maintain the proposed green roof.

1.2 Green Roofs may not be a familiar sighting at present times in towns and cities, however successful examples across the UK has shown encouragement accumulating to make a unique contribution to the quality of the urban environment.

1.3 This maintenance plan must be read in conjunction with the associated drawings.

1.4 A copy of this maintenance plan will be issued to the Principal Contractor & property purchaser for continuing future use.

1.5 Consideration has been taken to this green roof maintenance plan for present and future use.

Benefits of Green Roofs

1.6 Green roofs have a range of benefits. The larger the area of green roof coverage, either individually or cumulatively in an area, the more significant to benefits, but each roof can have local benefits.

Some of the benefits that green roofs may have include:

- Value to biodiversity – providing habitat, shelter and feeding opportunities, providing a link in the urban network of green spaces.
- Assisting in meeting the targets of biodiversity action plans.
- Improving the view from nearby buildings.
- Providing extra insulation for a building.
- Reducing heating and cooling bills, depending on the building.
- Extending roof life by protecting it from weather conditions.
- Helps to cleanse the air of some dust and pollutants.
- Lowering temperatures in and around the building in summer.
- Moderating the urban "heat island" effect. This will become increasingly important as climate change increases temperatures.
- Slowing the storm water run-off by retaining moisture and moderating the discharge to street sewers which are then better able to cope in storms.
- Providing extra noise insulation.
- Creating new open space for relaxation.

These benefits will depend on the building form and the detail of the particular green roof, although all green roofs are potentially beneficial to wildlife.

"Apart from our green roof creating a feeling of connectedness between our building and its surrounding gardens, it also provides an insulation layer to keep in heat in winter, and cool by evaporation in summer. It benefits the atmosphere by absorbing pollutants from the busy south circular road nearby, and its native wildflower meadow habitat provides a riot of colour in summer and an oasis for native insect and other invertebrate wildlife. The building's occupants greatly enjoy working in a building whilst being entertained by visiting squirrels and birds."
Lucy-Anne Bishop, Environment Projects Officer and office occupier at CUE Building Horniman Museum

Types of Green Roofs

1.7 A Green Roof is composed of various layers that create an environment suitable for plant growth that does not damage the fabric of the building. Green roofs convert wasted roof area into viable green space for public benefit and for the benefit of biodiversity.

These are two types of green roofs:

- **Intensive** – A deep layer of soil to support a variety of plants such as flowers and shrubs but requiring regular maintenance. Intensive roof

gardens can grow a range of plants, and with native species can provide a rich habitat for wildlife.

- **Extensive** – Lightweight, often with shallower growing material, requiring little maintenance. The type of growing medium chosen affects the type of habitat created, which may reflect the building's natural surroundings. This type of roof is sometimes also known as a brown roof although not all extensive roofs, e.g. sedum roofs, are brown.

The best choice for this project **(Land Adjacent to Pegasus Court, 105 St. Pancras Way, London, NW1 0RA)** the extensive green roof type would fit best.

How Regular Maintenance Maximises Green Roof Performance

1.8 Below are a set of reasons to look after a Green Roof:

- Regular check-ups can spot problems with the visible roof structure before they get expensive.
- Each layer of a green roof interacts with the other constituents to form a dynamic system. A seemingly small problem in one area could be detrimental to the whole roof if it is not addressed quickly enough.
- It's cheaper to spend a little every year to keep the green roof build up in good order than it is to replace the whole thing when it fails.
- A well maintained, healthy green roof will reduce the buildings' energy usage, saving money and reducing carbon emissions.
- A neglected green roof is unattractive and gives a bad impression.
- A vibrant and well-functioning green roof soon becomes a mini wildlife sanctuary. Our experts can give you tips on developing your green roof to increase biodiversity.
- A well-functioning green roof could improve productivity by reducing sick building syndrome.
- Unwanted plants such as tree seedings establishing themselves in the growing medium could damage the structure of the building if they are not removed as part of a regular green roof maintenance regime.
- A healthy, attractive, well-functioning green roof can increase property values.

Maintenance and Care Plan

1.9 Below are a set of points that would need to be complied with for maintaining the proposed green roof:

- Weed out unwanted plants. The soil comes with weeds and during the first season it is crucial to remove them to let the still junior plants establish. If you let the weeds run free then the plants we installed will be crowded out and you will be left with a roof full of dead weeks.

- Keep the drainage areas clear of plants. The border around the edge of the roof and the gravelled areas around drain outlets and other roof penetrations should be kept clear of all plant life and vegetation. Plants growing too close to the drain will clog it up, which completely defeats the purpose of having a drain. Biannual weeding should suffice.

- Add compost biannually. Nutrient-rich compost should be added to the roof garden in spring and autumn. This provides plants with important nutrients and replenishes the soil.

- Weed out unwanted plants (again!). Being on a roof, seeds dropped by birds or carried by the wind inevitably find their way into your roof garden. Some of the seedlings are fine and can be left alone. Others, such as a budding oak tree, are not desirable. Most likely your roof could never support the weight of an oak, unless your building something like Derry and Toms in London. Monthly walk-throughs should be scheduled to monitor the types of vegetation growing on your roof. Unwanted plants, such as the aforementioned oak tree, should be replanted somewhere else, if possible. Get a group of friends together and do some guerrilla gardening with those “unwanted” plants!

- Green roofs should be watered as little as possible. Water is extremely heavy and creates additional weight on the roof. For lightweight roofs with 4-6 inches of growing medium, desert-type plants are ideal because they require so little water. Experiment with plant types and, depending on how much rain you get, try to get to the point where you don’t have to water your roof at all. When it does become necessary to water your plants, err on the side of under watering. Also, if your roof garden is on a pitched roof, begin watering at the top of the roof to the water can trickle down through the plants at the bottom, which may not need any water at all.

- Watch out for pests and diseases. Keep an eye out for pests and diseases that may come to your roof garden. While green roofs are designed to attract insects and increase biodiversity, sometimes unwanted insects come along.

- Keep a detailed maintenance log/diary. Schedule when you're going to do these check-ups (and follow through!) and keep and detailed record of your findings. This will also help you see what plants do best in your roof's environment.