



124 Cleveland Street, London, W1T 6PG
Further Details to Support Discharge of Condition 4 (ref. 2015/2784/P)

Green Sedum Blanket

A sedum blanket system features up to 14 species of sedums with some mosses and grasses to ensure plant diversity. The succulent plants are frost, wind and drought tolerant and are selected to suit our climate and provide colour and interest through the spring and early summer.

A sedum blanket utilises the vegetation support layer and is installed over a substrate base of around 80mm depth which allows for increased rainwater attenuation capacity, thus reducing the level of rainwater entering the drainage system.

Green roof vegetation blankets provide an instant carpet of plant coverage. These are lightweight and include a broad mix of plant species for diversity in foliage and flower. The pre-cultivated plants will be grown on a filter fleece. The filter fleece is rolled out over the top of the drainage and retains the nutrients and fines within the substrate layer above. This will provide a support base for the specially developed substrate growing medium that will give stability to the vegetation.

The configuration of an extensive and semi-intensive green roof is made up of a number of layers, typically:

- A root resistant material
- A moisture retention/protection layer
- A drainage/reservoir layer
- A filter layer
- Growing medium
- A pre-grown vegetation (sedum and native species wildflower) blanket/mat.

The proposed sedum blanket would comprise a mix of or similar to the below species:

- Sedum spathulifolium 'Purpureum'
- Sedum spathulifolium 'Cape Blanco'
- Sedum 'Ruby Glow'
- Sedum spectabile (Brilliant Group) 'Brilliant'
- Sedum 'Carl'
- Sedum 'Matrona'
- Sedum (Herbstfreude Group) 'Herbstfreude'
- Sedum telephium (Atropurpureum Group) 'Purple Emperor'
- Sedum 'Bertram Anderson'
- Sedum kamtschaticum var. kamtschaticum 'Variegatum' (v)
- Sedum kamtschaticum var. floriferum 'Weihenstephaner Gold'
- Sempervivum arachnoideum
- Sedum erythrostictum 'Frosty Morn' (v)
- Sedum 'Munstead Red'
- Sedum spectabile 'Iceberg'
- Sedum caucicola

Justification

A sedum blanket is considered to be the most appropriate roof type in this instance. The existing area for the proposed area of the green roof is approximately 11 sqm, therefore the limited size of the roof restricts biodiversity value of other roof types. It is considered that the sedum blanket is the most cost effective in this case.

A sedum blanket is low maintenance and does not require a lot of upkeep. It is also a very versatile, exceptionally lightweight green roof system. It provides excellent cover and increased protection to the waterproofing system. The plants are grown on a 'blanket' that is harvested like turf and installed by rolling out on top of the waterproofing and any other landscaping components required. The blankets are very lightweight, easy to maintain and provide instant greening to the roof.

It should be noted that the green roof is not intended for general access or leisure purposes and is purely intended to provide ecological benefits and improve the aesthetic appearance of the building.

Maintenance Plan

Maintenance of the green roof will be carried out in conjunction with the information which has already been submitted, as well as what is described below.

1. To ensure that the biodiversity of the green roof is not threatened, the roof will be maintained and weeded twice to four times a year (carried out between March and November) in accordance with manufacturer recommendations. This purpose of this is to control undesirable invasive plants and to ensure individual species (e.g. Buddleia and grass species) are prevented from outcompeting other species.
2. Maintenance will also be undertaken during these periods to remove invading woody plants, which could damage the waterproof lining of the roof or block drainage outlets. All debris will be removed from the roof and not simply flushed down rainwater pipes. The roof is not in the vicinity of taller trees, therefore it is not considered that the roof will need frequent maintenance in this respect.
3. Maintenance will include ensuring that all rainwater outlets are free from blockages so that water can flow freely.
4. Generally speaking, sedum roofs require no artificial watering following establishment. Continuous daily watering will only promote weeds and other unwanted plants species. However, artificial irrigation can be carried out if required. Irrigation will only be activated during prolonged periods of hot dry weather, or if the sedum plants are showing signs of distress. In terms of water supply, a water tap will be supplied on the external wall by the window at the roof level.
5. Safe access will be gained to the roof, and relevant Health and Safety procedures will be followed when working at roof level. Access will be via the landing window from the common part staircase.
6. An annual check by an ecologist will enable floral species composition to be assessed and, if required, suitable steps taken and advice given to improve the biodiversity of the green roof. The colour and rate of growth will be examined to establish the health of the plants.



7. Bare patches will be repaired, but only during the growing season (ideally during March/April or late August until the end of September). Clumps of Sedum will be taken from areas of abundant growth and placed on bare patches by pressing gently into the soil. A light sprinkling of sand mixed with compost or substrate will improve the uptake of cuttings. The Sedum cuttings will grow best if this is carried out during spring maintenance and kept moist and free of temperature extremes such as frost and intense sun. Compost or topsoil can be used for smaller bare patches.
8. The faunal species present (particularly invertebrate and bird) will be recorded to inform future management.
9. Sedum blankets contain little in the way of natural nutrient and so fertiliser must be applied at the required time to help the plants become resistant to weather and temperature extremes. Fertiliser will be applied annually during March/April.