

# APPENDIX 11

## Technical Summary of Dublin City Council Green and Blue Roof Guide (2021)

### 1.0 Introduction

'Green blue roofs' are a vital component in improving the urban environment of Dublin by supporting drainage infrastructure, enhancing biodiversity, creating recreational opportunities and greening the city.

Green blue roofs support the vision of a greener and more liveable city.

This Appendix identifies what constitutes a green blue roof and sets out a series of 'green blue roof requirements' which will be considered in the assessment of planning applications.

Dublin City Council's (DCC) Green and Blue Roof Guide (2021) [hereafter referred to as the Green Blue Roof Guide] has been published as a standalone document.

Applicants should consult this Appendix together with the Green Blue Roof Guide for guidance on how to comply with DCC development plan policy SI23, which sets out the requirement for green blue roofs on all new development with roof areas in excess of 100 sq. m.

The DCC Green Blue Roof Guide expands on how schemes should deliver in accordance with development plan policy and sets out the required standards for green blue roofs.

### 1.1 What are Green and Blue Roofs?

A green roof is a roof or deck onto which vegetation is grown, or habitats for wildlife are established. There are various types of green roofs including: extensive and intensive roofs, roof gardens, biodiverse roofs and brown roofs. Green roofs can also serve an amenity function where designed for this purpose.

'Extensive green roofs' are defined as having a minimum substrate depth of 80mm and 'intensive green roofs' are defined as having a minimum substrate depth of 200mm<sup>59</sup>. Extensive roofs are typically planted with sedums or grass while a less restricted planting palette is found on intensive roofs. 'Brown roofs' provide a soil substrate which is left to self-seed and vegetate.

Blue roofs hold rainwater run-off directly on roofs and podium decks and release stored surface water at a controlled flow rate through

<sup>59</sup> Source; The GRO Green Roof Guide [<https://livingroofs.org/wp-content/uploads/2016/03/grocode2014.pdf> last accessed 28/07/2021]

a 'flow control'<sup>60</sup>. Green roofs are converted to a blue roof through the incorporation of flow control. Storing rainwater that falls on the roof provides the potential to reduce or remove the requirement for attenuation storage elsewhere on a development. Blue roofs do not have to be vegetated. Flow can be stored within open or closed hard landscape structures on roofs and podium decks.

**Green roofs which provide attenuation of surface water are the approach preferred by Dublin City Council.**

## 1.2 Benefits of Green and Blue Roofs

The provision of green and blue roofs supports many of the development plan's core policies. Green and blue roofs where designed appropriately can:

- Reduce the volume and rate of surface water entering the drainage system (policies SI21 and SI22)
- Help to improve air quality by absorbing airborne pollutants (policy SI34).
- Assist in addressing the loss of habitat and biodiversity which occurs from development and provides for new opportunities as part of redevelopment (policies GI16 and GI17).
- Facilitate green infrastructure being incorporated to site design (policies GI6 and GI7), particularly where the building takes up the entire footprint of the site.
- Minimise the relative heating of urban areas and reduce the need for heating and cooling within buildings, therefore, reducing carbon emissions (policy CA8).
- Potential to contribute to the requirements of communal open space in residential developments (see Chapter 15 and policy GI3).

This Appendix should be read in conjunction with:

<sup>60</sup> Flow control – opening through which peak flows are restricted to a predetermined rate

### Dublin City Council Development Plan (2022 – 2028)

- Chapter 3: Climate Action
- Chapter 9: Sustainable Environmental Infrastructure and Flood Risk
- Chapter 10: Green Infrastructure and Recreation
- Chapter 15: Development Standards, Section 15.6
- Appendix 12: Technical Summary of Dublin City Council's Sustainable Drainage Design and Evaluation Guide (2021)
- Appendix 13: Dublin City Council Surface Water Management Guidance

### National Policy

- National Biodiversity Action Plan (2017-2021)

### Dublin City Policy

- Draft Dublin City Biodiversity Action Plan 2021 – 2025
- Dublin City Parks Strategy 2019 – 2022

## 2.0 Green Blue Roof Requirements

### 2.1 Green Blue Roof Requirement 1 - Applicable Development Types

All development types are considered appropriate for green blue roof application.

#### Exemptions

Exemptions will only apply in exceptional circumstances and will be considered by the planning authority on a case-by-case basis.

Residential development will be considered for exemption where there is not a continuous roof that is centrally managed i.e. the owner of each dwelling is responsible for their own roof. This will include individual dwellings and extensions to same.

An exemption may also be applicable where the green blue roof is considered to be incompatible with conservation (built heritage)

requirements or other over-riding design requirements.

Exemptions will only be granted by DCC where it is demonstrated that suitable provision is made for SuDS measures (in accordance with Dublin City Council Sustainable Drainage Design and Evaluation Guide (2021) and all other planning requirements – see Appendix 12) and that appropriate sustainable drainage measures can be delivered on the site without the use of a green blue roof.

## 2.2 Green Blue Roof Requirement 2 – Areal Coverage

Planning applications which include roof areas of greater than 100 sq. m. with flat and gently sloped roofs are considered appropriate for green blue roof application.

The extent of roof area which provides growing medium for vegetation must meet the following coverage requirements as a percentage of total roof area.

Type of green roof	Minimum coverage (% of total roof area being developed)
Extensive	70%
Intensive	50%

The percentage coverage is considered to make a reasonable allowance for the provision of overruns, roof lights, fire breaks, service penetrations and hard landscape.

### Exemptions

Where roofs include photovoltaic (PV) panels, the design should consider the appropriateness of the PV panels being positioned over the vegetated areas of the roof.

Roof areas that are not considered for green roof due to the presence of solar panels should still be considered for blue roof.

## 2.3 Green Blue Roof Requirement 3 – Hydraulic Operation

The design of green blue roofs will make provision for suitably sized emergency/ exceedance overflow(s).

## 2.4 Green Blue Roof Requirement 4 – Use

The design of the green blue roof should maximise biodiversity and/ or amenity benefits.

Green blue roof designs should be designed to ensure that any amenity use (e.g. use as communal open space) can be facilitated without effecting storage capacity or drainage function of the green blue roof.

## 2.5 Green Blue Roof Requirement 5 - Access, Operation and Maintenance

All green blue roofs shall be designed with consideration of their future maintenance requirements.

Sedums, succulents and soils with low organic content are considered to be naturally fire-retardant and do not present a unique risk to propagating flame spread relative to a conventional flat or gently sloped roof. All green blue roofs shall be designed in consideration of current fire safety requirements.