

Boorley Green Gateway

Vistry Homes Southern

Technical Note - Policy ESD2 and ESD7

14th August 2026

Revision 1

Preface

- 1.1. Written by AES Sustainability Consultants on behalf of Vistry Homes Southern, this statement has been prepared to address the comments from the case officer with regards to the commercial units at Boorley Green Gateway, in relation to Policy ESD 2.

*With regards to the non-residential development, the submission of the Energy Statement (rev 1) is noted, however whilst it comments on why green roofs have not been provided, **it does not comment on why rainwater harvesting and greywater recycling are not provided, as required by ESD2 of the Environmentally Sustainable Development SPD. It also does not demonstrate that the retail block achieves a 15% carbon dioxide emissions reduction via local low/zero carbon energy, as required by ESD6 Carbon Dioxide Reduction of the SPD.** Reference is made to a possible use of use of Air Source Heat Pumps and this would only equate to a 4.7% reduction in CO₂ emissions. I appreciate Vistry have only built the building to shell only and that the fit-out is being carried out by others, however sufficient information still needs to be provided to demonstrate full compliance with the condition.*

Policy ESD 2

- 1.2. Condition 22 of the outline permission, F/19/86233 requires that non-residential development meet the relevant essential requirements in the Eastleigh Borough Council's adopted Environmentally Sustainable Development Supplementary Planning Document, adopted March 2009. Policy ESD 2, as well as Policy ESD 7 which it refers to are listed below

ESD 2 Rainwater Harvesting and Grey Water Recycling

...Submit details of the rainwater harvesting and/or grey water recycling systems supplying all WC flushing and other appropriate uses for that development

OR

Compliance with Essential Requirement ESD 7 (Green Roofs)

OR

A combination of both

ESD 7 Green Roofs

The Council requires either: Green Roofs on at least 80% 1 of the area of:

all flatted residential development roofs (of 10 dwellings or more) and all non-residential and multi-residential development roofs (over 1000 sqm of external floorspace),

provided they are compatible with the Council's design objectives.

OR

Compliance with Essential requirement ESD 2 (Rainwater harvesting/ grey water recycling)

OR

A combination of both

Policy ESD 2 Response

- 1.3. Rainwater and greywater systems which recycle water for non-potable uses such as flushing toilets both require significant additional space for pumps and water storage, as well as adding significant extra cost. Greywater systems generally require storage tanks where grey water can be treated with chlorine before being re-directed to toilet cisterns.
- 1.4. For this reason these systems are currently generally installed in larger scale commercial developments where space is less of an issue and the demand for non-potable water is higher. There are no widely available and well tested reputable small scale systems that have been considered suitable for installation in the houses or apartments.
- 1.5. The infrastructure required to be in place for the internal use of rainwater is significant. This includes filtration systems, storage tanks, break tanks, mains water top up and backflow protection to ensure that stored rainwater cannot come in to contact with mains water.
- 1.6. As there are no significant sources of greywater in the commercial units, the only option would be rainwater systems. The only instance this water could be used is to flush toilets as rainwater is not approved for potable water use or for hand washing facilities. There are likely to be a limited number of toilets for staff use only meaning the demand for water that can be served with rainwater will be low. Part G of the building regulations recommends a maximum of 4.5litres per flush for a single flushing toilet meaning that significant infrastructure would need to be put in place for a very limited benefit.
- 1.7. Future occupiers of the houses on the development have the option to fit water butts for the watering of plants etc. depending on their own preferences and how they choose to use or develop their gardens and other external spaces.
- 1.8. The total water demand of the retail units is expected to be low by nature and the water demand of the residential development has been lowered as far as practicably possible with a calculated internal water usage of 96.1 litres/person/day, significantly below the building regulations compliant level.

Policy ESD 7 Response

- 1.9. The majority of roofs on this development are pitched roofs, which may be required to support solar PV systems for the residential development. Green roofs are generally constructed from reinforced concrete in order to support the increased load. The embodied carbon emissions associated with concrete are significantly greater than a timber structure, and therefore a pitched roof with timber trusses are likely to be the option with the lowest embodied carbon.
- 1.10. As well as higher embodied carbon, flat roofs have a lower lifespan than pitched roofs, with an expected lifespan of 10 – 20 years in comparison to around 30 for a pitched roof. In combination with the higher embodied carbon, this can mean that flat roofs have over double the whole life carbon cost of pitched roofs¹.
- 1.11. Additionally, a study included in the LETI Embodied Carbon Primer² of PV vs. a green roof was carried out by eTool Global UK, showing the higher carbon cost of a green roof vs. a roof used for PV.

¹ <https://www.lowcarbonbuildings.org.uk/construction/flat-roof-vs-pitched-roof-which-has-a-lower-carbon-footprint/>

² <https://www.leti.uk/ecp>

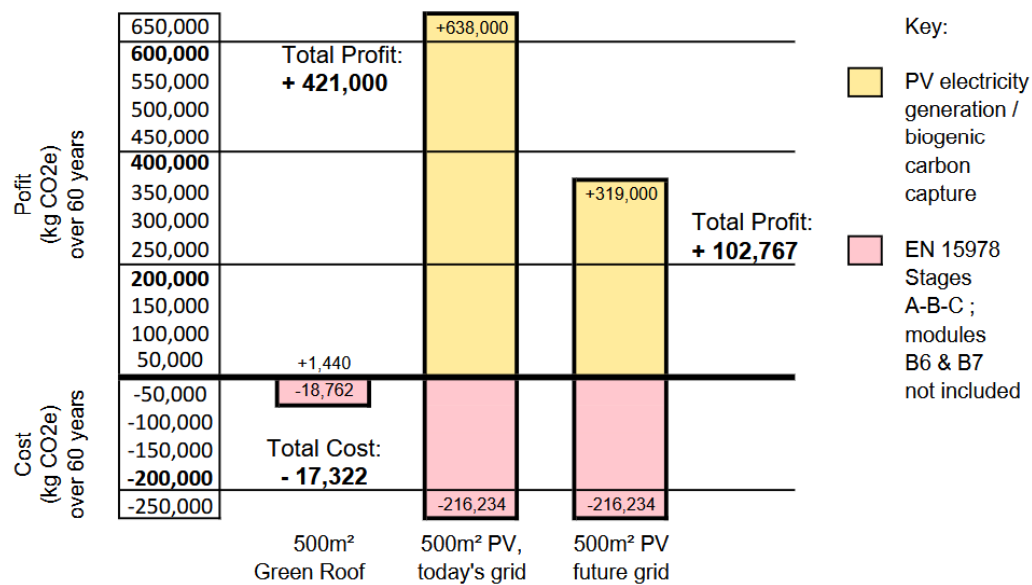


Figure 1. Study of PV vs. Green Roof, eTool Global UK

- 1.12. Due to the above reasons, green roofs are not considered appropriate for this development, and alternative measures for water retention and additional habitat creation are proposed in lieu.
- 1.13. Additional drainage features which will be incorporated into the design include; permeable pavements and surfaces, swales for attenuation and to convey surface water through the site, where levels allow, and the addition of a storage tank for water retention under the car park.
- 1.14. Further details relating to the requirements of Policy ESD 4 can be found in the Flood Risk Assessment and Drainage Strategy dated January 2020 as produced by PFA consulting.

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