

SUSTAINABILITY STATEMENT

Proposed Three Flats
Land Adjacent to 42 Bulmershe Road,
Reading,
RG1 5RJ

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Report produced by-

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1.0 Introduction

1.1 The site is located in an urban location on the south east side of the junction of London Rd and Wokingham Rd to the east of Reading town centre and to the north of the Reading University.

1.2 42 Bulmershe road is a late 19th century semidetached Edwardian townhouse of four storeys. The existing semi-detached building consists of 4 self-contained flats – one on each of the basement, ground, first and second floors.

1.3 The proposed scheme is a two-storey dwelling attached to the existing, essentially creating an end of terraced building consisting of 3 flats:

A basement two-bedroom flat,
a ground floor two-bedroom flat,
A first floor two-bedroom flat,

And the proposed works consist of:

- Demolition of the existing garage
- Excavation of the new foundations
- Erection of the new dwelling house with appropriate tanking of the lower ground floors
- All proposed works to comply with the Building regulations 2018 standards.

1.4 The existing site area and location is shown in the aerial photo in Figure 1 below, with the proposed site location plan shown in Figure 2 and the proposed building layout plan shown in Figure 3.



Figure 1: Existing Aerial Photo of site location and area.

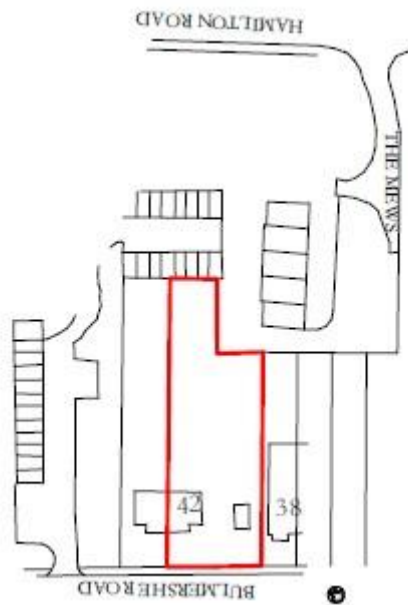


Figure 2: Proposed Site Location Plan.



Figure 3: Proposed floor plans.

2.0 Proposed Approach to Sustainability

2.1 This statement sets out the approach the applicant is proposing to adopt to ensure the proposal meets high standards of sustainability. The report includes a discussion of the full range of sustainability issues as shown below:

- Energy & carbon emissions
- Water conservation
- Flood risk, surface & waste water management
- Ecology & biodiversity
- Waste & pollution
- Materials selection and sustainable construction methods

2.2 This will demonstrate that this proposed development will meet the requirements of policies CS1 & CS2 of the Reading Core Strategy.

3.0 Energy Conservation and Carbon Emissions

3.1 The generation of energy to heat, light and cool buildings is responsible for approximately half of the total CO₂ emissions of the UK. Part L of the Building Regulations requires a minimum standard of energy efficiency in new and refurbishment development.

3.2 As regards dealing with carbon emissions arising from energy use within buildings it is important to consider designing in energy efficiency measures as part of the construction of the buildings as these can be difficult to retrofit in the future and this will also reduce the amount of energy required by a building.

3.3 Reduction of heat loss is a key factor of this and it is proposed that insulation within floors, roofs and walls will exceed the minimum standards required under Part L1 (Conservation of Fuel and Power) of the Building Regulations, as will the U-values for glazing and doors.

3.4 Initial thoughts are to aim for U-values below minimum Part L compliance and these will be confirmed once detailed design commences, should planning permission be granted.

3.5 An air tight building will also play a major part in the reduction of heat loss via the external envelope and coupled with adequate ventilation to ensure internal air quality, is an important element in energy efficient building design. Attention will be given to potential areas of air ingress, such as where services enter the residential units and seals around window units.

3.6 The exact heating and hot water system for the proposed dwellings has yet to be finalised, however, current thought is to install high efficiency COMBI boiler-based heating, with full time and temperature zone controls for both heating and hot water delivery, resulting to energy used as and where required. Additional smart control systems such as a weather compensation unit may also be incorporated into the heating specification but this is subject to the design SAPs.

3.8 Where artificial light is required, the focus will be on the provision of the energy efficient lighting systems as appropriate to locational requirements.

3.9 The option to utilise solar energy technologies has also been considered – thermal for water heating and photovoltaics (PV) for electricity generation.

3.11 The use of energy conscious design principles and a fabric first approach means that the building should remain energy efficient for its entire lifetime and the overall requirement for energy input is reduced for heating and hot water.

4.0 Water Resource Management

4.1 The UK has a poor record in being profligate with its abundant water resource and the South-East of England is recognised as suffering from water stress, therefore, on this site only water efficient products will be specified.

4.2 The actual specifications of the water using products are yet to be established, however, the following notional specification is considered realistic for this type of new development.

4.3 The water consumption (L/person/day) for the proposed dwellings show a figure of 106.9l/p/d with the following proposed specification (which is below the 125.00l/p/d allowed under Building Regulations):

- Dual 6.0/3.0 litre flush
- WCs Shower average flow rates of 8.0L/min
- Basin average tap flow rates of 5.0L/min
- Kitchen tap average flow rates of 8.0L/min
- Bath average overflow capacities of 180 litres

4.4 Should a more generous specification for internal water using products be decided upon, then thought will be given to the installation of grey-water harvesting systems, such as the EcoPlay unit, pictured below, however, rainwater harvesting will not be utilised as the carbon footprint arising from the pumps involved with such a system is heavy and it is more efficient to specify the low flush WCs detailed above in 4.3.



Figure 4: EcoPlay Unit above WC

4.5 Externally, there is planting area and the several area with mown that can benefit from the installation of a rainwater harvesting butt, so during the designed landscaping and after planning permission has been granted, it will be implemented.

4.6 The provision of water meters is also recognised as an important tool in reducing water usage and in a domestic context it can encourage people to monitor and reduce their water consumption by an average of 10% to 15%. Therefore, the flats will have an individual, easily accessible water meter installed as part of the specification.

5.0 Flood Risk, Surface & Waste Water Management

5.1 The Environment Agency's Flood Mapping for the area shows the site is not located within an area considered to be at risk from flooding – see <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map> .

5.2 There are additional areas of hard-standing as a result of the proposed scheme which will be taken care of the relevant SUDs with adequate permeable paving and gully after planning permission should be granted. The rainwater for the new roof of the proposed scheme will be discharged in a new soakaway which will be constructed to the rear of the proposal 5meters away from any building in comply with the Building regulations.

6.0 Ecology & Biodiversity

6.1 An ecology appraisal for the site has been undertaken by The Ecology Co-op and this involved a site visit.

6.2 The appraisal identifies that the majority of the site is covered by bramble scrub, small self-seeded apple (*Malus sp.*), hazel (*Corylus avellana*) and elm (*Ulmus sp.*) trees. There are large piles of garden waste and building materials scattered across the site. The site supports a medium sized garden shed.

6.3 The proposed works will require the clearing of the site, therefore the following recommendations are made to enable works to proceed without offences being committed under UK and/or EU wildlife legislation.

- The clearance of any vegetation within the site prior to works should be undertaken outside the bird nesting season (1st April to 31st August), unless a hand search is first conducted by a suitably qualified ecologist.

- The Ecology Co-operation was asked to undertake a Reptile survey on land north of 42 Bulmershe Road, Reading after potential habitat was identified during a Phase 1 survey.
- The objective of the survey was to identify the presence or absence of reptile species, determine approximate populations and provide mitigation advice should it be necessary.
- During the seven surveys no reptile species were recorded at this site, this suggests that no reptiles are present on the site. However, whilst it is possible to prove presence, it is almost impossible to prove absence.
- The reptile survey on this site has demonstrated the likely absence of reptiles and no further survey effort or mitigation for reptile species is recommended in this instance. However, if during clearance work any reptiles are found the clearance of vegetation, all work should stop immediately, and advice should be sought from an ecologist.

7.0 Waste & Pollution

7.1 Waste arising from the construction process has been an area of focus for some years now, with the industry making good strides in re-use and reduction of materials, which not only helps the environment, it also engenders significant cost savings to developers.

7.2 Having this in mind, the appointed contractor for the scheme will be encouraged to develop a comprehensive site waste management plan (SWMP) prior to the start of construction reflecting the recognition that reduction of waste begins in the design and ordering stage of a project and carries on through to the sign-off of the building. This SWMP will set targets and procedures for the sorting, reusing and recycling of construction waste into defined waste groups, either on site or through a licensed contractor at a waste transfer station.

7.3 Pollution can occur in various guises and attempts will be made to design out or mitigate against several issues identified below.

7.4 At the construction stage there can potentially be noise nuisance for neighbouring properties and all contractors will be made aware of and expected to comply with policies to prevent this issue. They will also be expected to have and operate policies to facilitate against air and water pollution from their activities and to have procedures in place should an accident occur.

7.5 Light pollution will be countered by the use of external lighting which only involves energy efficient fittings, daylight detectors and angling/capping to prevent unnecessary glare.

8.0 Materials Selection and Sustainable Construction Methods

8.1 The final material specification in terms of actual product and suppliers has not yet been confirmed for this project but the construction will follow the below lines.

8.2 Whenever possible all building and finishing materials will be sought from local suppliers and manufacturers registered to an environmental management scheme such as FSC or PEFC (for timber based products), BES6001, ISO14001 or EMAS. This will ensure that the materials have been sourced from suppliers certified as ethical and responsible as far in to the supply chain as possible.

8.3 All insulation materials selected for the building will have a Global Warming Potential of below 5 and where possible be made from natural products.

8.4 Finally, attention will also be paid to materials specified for the internal environment with a focus on materials/finishes containing low/no volatile organic compounds (VoCs) to improve the internal environment for occupants as internal air pollution is increasingly recognised as having negative impacts on health.

9.0 Summary

9.1 In summary, this development demonstrates a strong commitment to sustainability by incorporating many sustainable features that are consistent with achieving a high level of overall sustainability.

9.2 In short, given the nature of the scheme, along with the intentions outlined within this report, the proposed development is deemed to meet the levels of sustainability required by RBC.