

Dear Adur & Worthing Council,

Re: Change of use from C3 Dwellinghouse to Large HMO (Sui Generis).

1. Introduction

This Flood Risk Assessment (FRA) has been prepared in support of a planning application for the change of use of the existing dwelling at 16 Elm Road, Worthing, BN11 1PG to an eight-bedroom House in Multiple Occupation (HMO), together with the construction of a modest single-storey rear extension and associated internal alterations. The assessment has been prepared in accordance with the National Planning Policy Framework (NPPF), the Planning Practice Guidance (PPG) on Flood Risk and Coastal Change, the Environment Agency's Flood Risk Standing Advice and the Environment Agency Flood Map for Planning, including the recently published Flood Zones plus Climate Change mapping.

The purpose of this assessment is to demonstrate that the proposed development will remain safe throughout its lifetime, taking account of the potential effects of climate change, whilst ensuring that flood risk elsewhere is not increased.

2. Site and Development Description

The application site comprises an existing two-storey detached residential property located on Elm Road within an established residential area of Worthing. The surrounding area is characterised by residential development and associated infrastructure. Planning permission is sought for the change of use of the existing dwelling to an eight-bedroom House in Multiple Occupation, together with internal alterations and the construction of a modest single-storey rear extension. The extension results in a limited increase in the overall building footprint but remains wholly within the existing residential curtilage. The proposal does not involve the construction of a basement, any significant alteration to existing ground levels or the creation of additional external hardstanding.

3. Flood Risk Context

The Environment Agency Flood Map for Planning identifies the application site as lying within Flood Zone 1, which is defined as land having a less than 0.1% annual probability of river or sea flooding.

The Environment Agency's Flood Zones plus Climate Change mapping indicates that the site may become susceptible to flooding between approximately 2070 and 2125 as a consequence of projected climate change impacts. Whilst this mapping does not alter the site's current Flood Zone designation, it identifies locations where future flood risk should be considered when determining planning applications. The proposal therefore considers not only the current flood risk but also the anticipated impacts of climate change over the expected lifetime of the development.

4. Sources of Flood Risk

The principal source of potential flooding identified for the site is the future increase in fluvial and tidal flood extents associated with climate change. The site is not currently identified as being at significant risk of flooding from rivers or the sea. The proposal introduces a modest increase in roof area associated with the single-storey extension, resulting in a small increase in surface water runoff. However, this increase is limited in scale and will be managed through the existing drainage system serving the property.

The development does not include basement accommodation and there is no evidence that groundwater flooding currently presents a significant constraint to the site. As with all urban developments, there remains a residual possibility of flooding arising from exceptionally intense rainfall events or temporary surcharge of the public sewer network. However, these risks are not materially increased by the proposed development.

5. Flood Risk Vulnerability

The proposed development represents the continued residential use of an existing dwelling through its conversion to an HMO. Although occupancy levels will increase, the proposal does not introduce a substantially different or more vulnerable form of development when assessed against the flood risk vulnerability classifications contained within the Planning Practice Guidance. The proposal therefore remains compatible with the site's current flood risk designation and the future climate change considerations identified by the Environment Agency.

6. Impact of the Development on Flood Risk

The proposed extension represents a modest increase in the footprint of the existing building but does not result in development extending beyond the established residential curtilage. The proposal does not involve the raising or lowering of ground levels, the diversion of watercourses or the obstruction of any recognised flood flow routes. Consequently, the development will not reduce flood storage capacity or increase flood risk to neighbouring land. Although the extension generates a small increase in roof runoff, this additional discharge is minimal and will be accommodated within the existing drainage infrastructure serving the property. Given the limited scale of the extension, the development is not expected to materially alter the existing hydrological characteristics of the site.

7. Sequential Test and Planning Policy

The proposal relates to the adaptation and continued use of an existing residential property rather than the development of a new site. The National Planning Policy Framework seeks to direct new development towards areas at the lowest probability of flooding through the Sequential Test. The application site is currently located within Flood Zone 1, representing the lowest category of flood risk.

Whilst the Environment Agency's Flood Zones plus Climate Change mapping identifies the site as potentially being affected by flooding during the latter part of the development's lifetime, the proposal concerns the re-use of an established residential building that cannot reasonably be relocated elsewhere. The proposed extension is modest in scale, remains within the existing residential curtilage and does not materially increase flood risk. The proposal therefore represents the sustainable reuse and improvement of an existing residential property whilst appropriately considering future climate change projections.

8. Flood Risk Mitigation and Resilience Measures

Although the present-day probability of flooding is low, the proposed development incorporates a number of proportionate flood resilience measures in recognition of future climate change. The finished floor level of the extension will be constructed no lower than the existing ground floor level of the dwelling. External ground levels surrounding the extension will continue to direct surface water away from the building wherever practicable.

Where replacement materials are installed during the refurbishment works, consideration will be given to the use of durable wall and floor finishes capable of being cleaned and reinstated following any future flood event. Where reasonably practicable, electrical sockets, switches and vulnerable services within the extension will be positioned above standard low-level installations, whilst critical electrical equipment and plant will be located away from areas most susceptible to flooding. Surface water from the new roof will be collected through conventional rainwater goods and discharged to the existing drainage system. The proposal does not permit uncontrolled discharge onto neighbouring land or the public highway.

Collectively, these measures provide an appropriate level of resilience for a development located within present-day Flood Zone 1 whilst acknowledging future climate change projections.

9. Safe Access and Egress

The property benefits from direct access onto Elm Road, which forms part of the established highway network. The proposal does not alter existing access arrangements or reduce opportunities for occupants to leave the site should an exceptional flood event occur. The existing first floor accommodation provides an area of refuge should occupants be required to remain temporarily within the building until conditions improve or assistance becomes available. Given the site's current Flood Zone 1 designation and the nature of the proposed development, safe access and egress arrangements are considered satisfactory for the lifetime of the development.

10. Surface Water Drainage Strategy

The proposal includes a modest increase in roof area associated with the single-storey extension. Due to the site's location and prevailing ground conditions, infiltration drainage and soakaways are not considered feasible. Rainwater from the proposed extension will therefore discharge into the existing drainage system serving the property. The drainage works will be designed and constructed in accordance with the Building Regulations and the requirements of the relevant statutory undertaker. The increase in impermeable area associated with the extension is limited and is not expected to materially increase the rate or volume of runoff leaving the site. The proposal therefore maintains an appropriate drainage strategy without increasing flood risk elsewhere.

11. Residual Risk and Emergency Planning

Residual flood risk remains associated with exceptionally severe weather events that exceed the design capacity of drainage infrastructure or future climate projections. The proposed development incorporates a number of measures that will assist in reducing the consequences of such events. These include maintaining existing finished floor levels, providing first-floor accommodation capable of acting as a place of refuge, ensuring positive drainage of roof water and incorporating flood resilient construction measures where reasonably practicable.

Residents will also be able to monitor Environment Agency flood information and respond to any future flood warnings should such warnings become available for the area. Given the modest scale of the proposal and the site's current location within Flood Zone 1, the residual risks are considered to be low and acceptable.

12. Conclusion

This Flood Risk Assessment has considered the current and future flood risk associated with the proposed conversion of the existing dwelling at 16 Elm Road, Worthing to an eight-bedroom House in Multiple Occupation together with the construction of a modest single-storey rear extension.

The site is currently located within Flood Zone 1 and is therefore at low risk of flooding. Whilst the Environment Agency's Flood Zones plus Climate Change mapping indicates that flooding may become more likely towards the end of the development's anticipated lifetime, the proposal has been designed to respond appropriately to this future risk.

The development represents the continued use and improvement of an existing residential property, with only a modest increase in building footprint. No significant alterations to ground levels are proposed, no flood storage will be lost and the proposal will not increase flood risk to neighbouring land.

Additional surface water generated by the extension will be discharged through the existing drainage system, as infiltration drainage is not feasible on this site. Appropriate flood resilience measures will be incorporated into the refurbishment and extension works to improve the building's ability to withstand future flood events.

It is therefore concluded that the proposed development can be occupied safely throughout its anticipated lifetime, taking account of the effects of climate change, whilst ensuring that flood risk elsewhere is not increased. The proposal is therefore considered to accord with the objectives of the National Planning Policy Framework, the Planning Practice Guidance on Flood Risk and Coastal Change, and the Environment Agency's flood risk guidance.

Kind Regards,

Ashley Harrison
Director & Architect

PMR Architecture