



UK Flood Risk
Flood Risk Consultants

Flood Risk Assessment

37 Glamis Street, Bognor Regis PO21 1DJ

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UK Flood Risk

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Executive Summary

UK Flood Risk has been commissioned to prepare this Flood Risk Assessment (FRA) in support of a planning proposal for the conversion from house to HMO at 37 Glamis Street, Bognor Regis PO21 1DJ.

The principal sources of information to undertake flood risk assessment are the flood maps and data of the Environment Agency and the previous flood studies by the Local Authority.

In accordance with the NPPF Guidelines, the proposed development use is categorised as ‘more vulnerable’. As the site is located in Flood Zone 1 (i.e. low probability flooding), the proposed development is appropriate at this location.

There are no major watercourses in the vicinity of the site.

According to the information available from the Local Authority’s SFRA and the Environment Agency, there were no records of flooding events at the site.

The Environment Agency’s Flood Maps show that the site lies within the Flood Zone 1 (i.e. low probability flooding). Flood Zone 1 is an area where flooding from rivers and the sea is very unlikely. There is less than a 1 in 1000 chance of flooding occurring in any one given year (i.e. a less than 0.1% annual probability of flooding).

The Environment Agency’s flood risk map also indicates that the site will remain within the Flood Zone 1 (i.e. low probability flooding) when climate change is considered for the future 2070–2125-time frame.

According to the Environment Agency’s surface water flood maps, the site lies outside the predicted flood extents for surface water flooding during the 1 in 30-year and 1 in 100-year. The risk of flooding from these extreme surface water events is low. The flood maps also show that part of the site is located within the predicted flood extents for surface water flooding during the 1 in 1,000-year rainfall event.

The SFRA Areas Susceptible to Groundwater Flooding map around the site shows that the proposal site falls within the area identified as having a 75% or more areas susceptible to groundwater flooding. This indicates that groundwater flooding is a concern in this area.

The flood risk from other sources including sewer and reservoir is low.

As the site is subject to flood risk from the extreme surface water event of 1 in 1,000 year and due to the location of the site within an area with 75% or more area susceptible for groundwater, a range of flood proofing and resilient measures will be implemented to minimise potential damage and facilitate a quicker recovery and clean-up following a flooding event.

The proposed development will not lead to any increase in the surface runoff from the site.

The development will not give rise to backwater effects or divert water towards other properties.

This report demonstrates that the proposal will be safe, in terms of flood risk, for its design life and will not increase the flood risk elsewhere.

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Abbreviations

Abbreviation	Description
mAOD	Metres Above Ordnance Datum
EA	Environment Agency
FRA	Flood Risk Assessment
LLFA	Lead Local Flood Authority
NPPF	National Planning Policy Framework
SFRA	Strategic Flood Risk Assessment
SuDS	Sustainable Drainage Systems

1.0 Background

UK Flood Risk has been commissioned to prepare this Flood Risk Assessment (FRA) in support of a planning proposal for the conversion of a single family dwelling (5 No. bedrooms) into a House in Multiple Occupation (HMO) with 6 No. beds for 10 No. persons at 37 Glamis Street, Bognor Regis PO21 1DJ.

This Flood Risk Assessment (FRA) has been prepared in accordance with the requirements of the National Planning Policy Framework (NPPF, February 2025), the Environment Agency's Flood Risk Assessment (FRA) Guidance Notes, and recognised best practices in flood risk management. The assessment also complies with the Defra's National Standards for Sustainable Drainage Systems (SuDS) (July 2025), ensuring that the proposed development incorporates appropriate surface water drainage measures and addresses all relevant flood risk considerations.

2.0 FRA Requirements and Objectives

The key objectives of this Site-Specific Flood Risk Assessment (FRA) are to:

- Identify all potential sources of flooding that may affect the development site, including fluvial (river), surface water, groundwater, sewer, and reservoir flooding.
- Assess the level of flood risk to the proposed development, both in the present day and accounting for the potential impacts of climate change.
- Evaluate the suitability of the proposed development type and its location in relation to the identified flood risk, in accordance with the National Planning Policy Framework (NPPF) and relevant local policy.
- Demonstrate that the development will be safe for its lifetime without increasing flood risk elsewhere, through appropriate mitigation and resilience measures.
- Support the application of the Sequential Test and, where required, the Exception Test, to justify the location of development within a flood risk area.
- Inform the design of site layout and drainage strategy, ensuring flood risk is managed effectively through sustainable drainage solutions (SuDS) and other appropriate infrastructure.
- Comply with the requirements of the Environment Agency, Lead Local Flood Authority (LLFA), and Local Planning Authority (LPA) for managing flood risk in the planning process.

3.0 General Description of the Site and the Proposals

3.1. Description of the site

The proposed development site is located at 37 Glamis Street, Bognor Regis PO21 1DJ, and is approximately centred on the Ordnance Survey Grid Reference SZ 93723 99309 (**Appendix A Figure 1**). The site lies within the administrative boundary of the Arun District Council and West Sussex County Council acts as the Lead Local Flood Authority (LLFA) for the area and is responsible for the management of flood risk from surface water, groundwater, and ordinary watercourses, in accordance with the Flood and Water Management Act 2010.

The site covers an area of approximately 217m². Approximately 100m² is occupied by the building and 59m² by hardstanding paving. Approximately 58m² is covered by soft landscaping (**Appendix B**).

Access to the site is via Glamis Street. The surrounding area is characterized by predominantly residential use (**Appendix A Figure 2**).

The British Geological Survey's geological maps are provided in **Appendix C**. The geological maps show that the bedrock of the site comprises Lambeth Group-Clay, Silt and Sand. These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea). The superficial deposits comprise of River Terrace Deposits (Undifferentiated)-Sand, Silt and Clay. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting).

There are no major watercourses in the vicinity of the site.

The site has a relatively flat topography. Further details regarding the existing site conditions are provided in **Appendix B**.

3.2. Proposed Development

The proposal is for the conversion of a single family dwelling (5 No. bedrooms) into a House in Multiple Occupation (HMO) with 6 No. beds for 10 No. persons. The proposal will not lead to any increase in the existing building footprint area. Further details about the proposals have been provided in **Appendix B**.

4.0 Development and Flood Risk Policy

4.1. National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF, February 2025) sets out the government's planning policies for England. The NPPF sets out planning and policies related to development planning and flood risk using a sequential characterisation of risk based on planning zones and the Environment Agency's Flood Maps. The aim of the flood risk assessment is to identify which Flood Zones the site is located in and vulnerability classification relevant to the proposed development, based on an assessment of current and future conditions.

4.2. Flood Zones

The Flood Zones refer to the probability of river and sea flooding which ignores the presence of defences. The national flood maps have been developed by the Environment Agency that shows the risk of tidal and/or fluvial flooding across England and Wales for different return period events. The Environment Agency's Flood Maps are the maps which have been developed using broad scale hydraulic modelling. It is therefore important to understand that the flood maps may not be very accurate at a site-specific level which may need further field observation and measurements. The Flood Zones do not take into account of the climate change impacts which must be considered in any flood risk assessment as required by the NPPF.

4.3. Sequential and Exception Tests

As set out in the NPPF, the overall aim of the Sequential Test should be to steer new development to Flood Zone 1 (Low Probability Flooding). Where there are no reasonably available sites in Flood Zone 1, the Local Authority should take into account the flood risk vulnerability of land uses and consider reasonably available sites in Flood Zone 2, applying the Exception Test if required. Where there are no reasonably available sites in Flood Zones 1 or 2, the suitability of sites in Flood Zone 3 should be considered, taking into account the flood risk vulnerability of land uses and applying the Exception Test if required.

As the proposal is located in Flood Zone 1 (i.e. low probability flooding), the Sequential Test will not be required.

The Exception Test, as set out in the NPPF Framework, is a method to demonstrate and help ensure that flood risk to people and property will be managed satisfactorily, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available. There are two requirements to meet for the Exception Tests. The proposed development will provide wider sustainability benefits to the community that outweigh flood risk, and that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall.

4.4. Vulnerability of Use and Flood Risk Assessment

The proposed development is categorised as 'more vulnerable' (**Table 2**). The site is located in Flood Zone 1 (i.e. low probability flooding). The proposed development is therefore considered appropriate at this location (**Table 3**). A site-specific Flood Risk Assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

This FRA aims to demonstrate that the proposal will remain safe for its lifetime and will not increase flood risk elsewhere.

4.5. NPPF Flood Zones

Table 1 below shows the NPPF Flood Zones and the requirements and policy aims in terms of undertaking site-specific flood risk assessment.

Table 1 - NPPF Flood Zones and Requirements (NPPF Technical Guidance)

Zone 1: Low Probability Flood Zone	This is defined as the land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%).
Appropriate uses	All uses of land are appropriate in this zone.
FRA requirements	For development proposals on sites comprising 1 ha or above the vulnerability to flooding from other sources as well as from river and sea flooding, and the potential to increase flood risk elsewhere through the addition of hard surfaces and the effect of the new development on surface water run-off, should be incorporated in a FRA.
Policy aims	

	Developers and local authorities should seek opportunities to reduce the overall level of flood risk through the layout and form of the development, and the appropriate application of sustainable drainage techniques.
Zone 2: Medium Probability Flood Zone	This is defined as the land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1%) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% - 0.1%) in any year.
Appropriate uses	The water-compatible, less vulnerable and more vulnerable uses of land and essential infrastructure in Table 2 are appropriate in this zone. Highly vulnerable uses in Table 2 are only appropriate in this zone if the Exception Test is passed.
FRA requirements	All proposals in this zone should be accompanied by a FRA.
Policy aims	Developers and local authorities should seek opportunities to reduce the overall level of flood risk through the layout and form of the development, and the appropriate application of sustainable drainage techniques.
Zone 3a: High Probability Flood Zone	This is defined as the land assessed as having a 1 in 100 or greater annual probability of river flooding (<1%) or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
Appropriate uses	The water-compatible and less vulnerable uses of land in Table 2 are appropriate in this zone. The highly vulnerable uses (Table 2) should not be permitted in this zone. The more vulnerable and essential infrastructure uses in Table 2 should only be permitted in this zone if the Exception Test is passed. All proposals in this zone should be accompanied by a FRA.
FRA requirements	

Policy aims	Developers and local authorities should seek opportunities to: ❖ reduce the overall level of flood risk through the layout and form of the development and the appropriate application of sustainable drainage techniques; ❖ relocate existing development to land with a lower probability of flooding; ❖ create space for flooding to occur by allocating and safeguarding open space for flood storage.
Zone 3b: Functional Floodplain	This is the land where water has to flow or be stored in times of flood. This zone is generally defined as the land which would flood with an annual probability of 1 in 20 (5%AEP) or greater in any year. The Local Council may define the Functional Floodplain area with a different annual probability of event.
Appropriate uses	Only the water-compatible uses and the essential infrastructure listed in Table 2 that has to be there should be permitted. It should be designed and constructed to: ❖ remain operational and safe for users in times of flood; ❖ result in no net loss of floodplain storage; ❖ not impede water flows; ❖ not increase flood risk elsewhere.
FRA requirements	All proposals in this zone should be accompanied by a FRA.
Policy aims	In this zone, developers and local authorities should seek opportunities to: ❖ reduce the overall level of flood risk through the layout and form of the development and the appropriate application of sustainable drainage techniques; ❖ relocate existing development to land with a lower probability of flooding.

Table 2 - Flood Risk Vulnerability Classification (NPPF Technical Guidance)

Essential Infrastructure	Essential transport infrastructure and strategic utility infrastructure, including electricity generating power stations and grid and primary substations.
Highly Vulnerable	❖ Police stations, Ambulance stations and Fire stations and Command Centres and telecommunications installations and emergency dispersal points. ❖ Basement dwellings, caravans, mobile homes and park homes intended for permanent residential use. ❖ Installations requiring hazardous substances consent.
More Vulnerable	❖ Hospitals, residential institutions such as residential care homes, children's homes, ❖ Social services homes, prisons and hostels. ❖ Buildings used for: dwelling houses, student halls of residence, drinking establishments, nightclubs, hotels and sites used for holiday or short-let caravans and camping. ❖ Non-residential uses for health services, nurseries and education. ❖ Landfill and waste management facilities for hazardous waste.
Less Vulnerable	❖ Buildings used for shops, financial, professional and other services, restaurants and cafes, offices, industry, storage and distribution, and assembly and leisure. ❖ Land and buildings used for agriculture and forestry. ❖ Waste treatment (except landfill and hazardous waste facilities), minerals working and processing (except for sand and gravel). ❖ Water treatment plants and sewage treatment plants (if adequate pollution control measures are in place).

Water-compatible Development	❖ Flood control infrastructure, water transmission infrastructure and pumping stations. ❖ Sewage transmission infrastructure and pumping stations. ❖ Sand and gravel workings. ❖ Docks, marinas and wharves, navigation facilities. ❖ MOD defence installations. ❖ Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location ❖ Water-based recreation (excluding sleeping accommodation). ❖ Lifeguard and coastguard stations. ❖ Amenity open space, nature conservation and biodiversity, outdoor sports and recreation. ❖ Essential sleeping or residential accommodation for staff required by uses in this category, subject to a warning and evacuation plan.
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Table 3 - Flood Risk Vulnerability and Flood Zone 'compatibility'

Vulnerability Classification (Refer Table 2)		Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Flood Zones	Flood Zone 1	✓	✓	✓	✓	✓
	Flood Zone 2	✓	✓	Exception Test	✓	✓
	Flood Zone 3a	Exception Test	✓	✗	Exception Test	✓
	Flood Zone 3b	Exception Test	✓	✗	✗	✗

✓ Development is appropriate

✗ Development should not be permitted

4.6. Strategic Flood Risk Assessment (SFRA)

The Arun District Council's Level 1 Strategic Flood Risk Assessment (SFRA, August 2016) is a comprehensive study that assesses the potential risks and impacts of flooding in the area. The SFRA provides important information to support land use planning, development control, emergency planning, and community resilience.

The SFRA considers a range of potential flood risks, including those from rivers, surface water, and groundwater sources. The study includes detailed flood risk maps that identify areas at risk of flooding and the potential consequences of flooding, such as property damage, business disruption, and loss of life.

The SFRA also provides guidance on flood risk management strategies and measures that can be implemented to mitigate the potential impacts of flooding. This includes measures such as flood defences, land use planning controls, emergency response planning, and public awareness and education campaigns.

The SFRA provides a strategic overview of all forms of flood risk throughout the area, now and in the future. This document, and the associated web-based mapping delivered as part of the SFRA, is designed to help address local requirements, manage development requirements, and manage the risk of flooding posed to both residents and buildings.

The Local Authority's SFRA is an important tool for ensuring that flood risk is considered in land use planning and development decisions. It supports the Local Authority's efforts to manage flood risk and build resilience in the face of potential flooding events.

5.0 Assessment of Flood Risk

5.1. History of Flooding

The Arun District Council's Level 1 Strategic Flood Risk Assessment (SFRA, August 2016) provides brief information on past flooding events in the area. The SFRA reported some historical flooding incidents in the wider area, however, there were no recorded flooding events at the site.

In addition, information on historic flooding was obtained from the Environment Agency's online records of historic flood events in the area. The historic flood maps indicate that there are no recorded instances of historical flooding in the vicinity of the site.

5.2. Risk of Fluvial/Tidal Flooding

There are no major watercourses in the vicinity of the site. The Environment Agency's Flood Map around the site is shown in **Appendix D Figure 1** which shows that the site lies within the Flood Zone 1 (i.e. low probability flooding). Flood Zone 1 is an area where flooding from rivers and the sea is very unlikely. There is less than a 1 in 1000 chance of flooding occurring in any one given year (i.e. a less than 0.1% annual probability of flooding).

Appendix D Figure 2 shows that the site will remain within the Flood Zone 1 (low probability flooding) when climate change is considered for the future 2070-2125-time frame.

5.3. Risk of Flooding From Artificial Water Bodies

There were no known flood risks from any artificial water bodies near the site.

5.4. Risk of Groundwater Flooding

In recent years, groundwater has been increasingly recognised as a significant source of flooding in the UK. According to the British Geological Survey (BGS), groundwater flooding occurs when the water table in permeable rocks rises high enough to enter basements or cellars, or even emerge above the ground surface. Unlike other types of flooding, groundwater flooding is not always directly linked to specific rainfall events and is typically of longer duration, potentially lasting for weeks or even months.

The SFRA has provided maps for the Areas Susceptible to Groundwater Flooding (AStGWF), which is a strategic scale map showing groundwater flood areas on a 1km

square grid. The data was produced to annotate indicative Flood Risk Areas for Preliminary Flood Risk Assessment (PFRA) studies and allow the Lead Local Flood Authorities (LLFAs) to determine whether there may be a risk of flooding from groundwater. The relevant Areas Susceptible to Groundwater Flooding (ASStGWF) map around the site is provided in **Appendix E**. The map shows that the proposal site falls within the area identified as having a 75% or more areas susceptible to groundwater flooding. This indicates that groundwater flooding is a concern in this area.

Within the Strategic Flood Risk Assessment (SFRA), evidence of historical groundwater flooding is very limited. There were no reported past flooding events resulted from groundwater in this area. However, it is important to note that the risk of groundwater flooding is highly variable and largely dependent on local geological and hydrological conditions at any given time.

Based on information provided by the landowner, there are no known records of groundwater flooding incidents at or near the site. Taking into account both the available evidence and local knowledge, it is reasonable to conclude that the risk of groundwater flooding to the site is low.

5.5. Risk of Surface Water Flooding

Surface water flooding occurs when the infiltration capacity of the land or the drainage capacity of the local sewer network is exceeded, causing excess rainwater to flow overland. The severity of surface water flooding is influenced by several factors, including the degree of soil saturation prior to the rainfall event, soil and geological permeability, topography (e.g. slope steepness), and the intensity of land use.

The Environment Agency maintains mapping data on the risk of surface water flooding. Relevant maps are included in **Appendix D Figures 3, 4, and 5**. According to the flood maps, the site lies outside the predicted flood extents for surface water flooding during the 1 in 30-year and 1 in 100-year. The risk of flooding from these extreme surface water events is low.

The flood maps also show that part of the site is located within the predicted flood extents for surface water flooding during the 1 in 1,000-year rainfall event.

5.6. Risk of flooding from Reservoirs

The Environment Agency's reservoir flood map in **Appendix D Figure 6** indicated that the proposal site is located outside of the maximum extent of flooding from reservoir. According to the Environment Agency, the reservoir flooding is extremely unlikely to

happen and reservoirs in the UK have an extremely good safety record; indeed, there has been no loss of life in the UK from reservoir flooding since 1925. The Environment Agency is the enforcement authority for the Reservoirs Act 1975 in England and Wales. All large reservoirs must be inspected and supervised by reservoir panel engineers on a regular basis. It is therefore assumed that these reservoirs are regularly inspected, and essential safety work is carried out. These reservoirs therefore present a managed residual risk.

5.7. Flood Risk from Sewers

Sewer flooding is commonly caused by excess surface water entering the drainage network, which can lead to the surcharging of sewers. The Strategic Flood Risk Assessment (SFRA) provides limited information regarding sewer flooding in the area. However, no records of sewer flooding incidents have been identified at the site.

It is important to recognise that the absence or presence of historic sewer flooding does not necessarily reflect the current or future risk to a site. Infrastructure upgrades may have been implemented to address previous issues, or conversely, deterioration of local drainage systems in areas with no past incidents could increase the future risk.

According to information provided by the landowner, there is no known history of sewer flooding at the site. Based on this evidence and local knowledge, it is reasonable to conclude that the risk of sewer flooding to the site is low.

5.8. Impact of Climate Change

In July 2021 the 'Flood Risk Assessments: Climate Change Allowances' were updated from the originally published Climate Change allowances on GOV.UK. The guidelines outline the peak river flow climate change allowances by management catchment. The range of Climate Change allowances is based on percentiles. A percentile is a measure used in statistics to describe the proportion of possible scenarios that fall below an allowance level. The 50th percentile is the point at which half of the possible scenarios for peak flows fall below it and half fall above it. The central allowance is based on the 50th percentile, higher central is based on the 70th percentile and the upper end is based on the 90th percentile.

The proposal site is located within the Arun and Western Streams Management Catchment and within the South East River Basin District. The relevant climate change allowances are summarised in **Table 4**.

Table 4 - Peak river flow allowances by Management Catchment and River Basin District

Management Catchment Name / River Basin District	Climate Change allowance	Total potential change anticipated for the '2020s' (2015 to 2039)	Total potential change anticipated for the '2050s' (2040 to 2069)	Total potential change anticipated for the '2080s' (2070 to 2115)
Arun and Western Streams / South East	Upper end	27%	36%	64%
	Higher central	16%	19%	36%
	Central	11%	13%	25%

Using peak river flow allowances for flood risk assessments

The guideline suggests to consider the flood zone and the appropriate flood risk vulnerability classification to decide which allowances applies to the development or plan.

In flood zones 2 or 3a for:

- Essential infrastructure – use the higher central allowance,
- Highly vulnerable – use central allowance (development should not be permitted in flood zone 3a),
- More vulnerable – use the central allowance,
- Less vulnerable – use the central allowance,
- Water compatible – use the central allowance.

In flood zone 3b for:

- Essential infrastructure – use the higher central allowance,
- Highly vulnerable – development should not be permitted,
- More vulnerable – development should not be permitted,
- Less vulnerable – development should not be permitted,

- Water compatible – use the central allowance.

Assessment of Climate Change Impact for the Site

The proposal site is located within the Arun and Western Streams Management Catchment and within the South East River Basin District. However, as the site is located in Flood Zone 1, the climate change allowances are not directly relevant for the fluvial flood risk assessment for this site.

6.0 Mitigation Measures

6.1. Recommended Finished Floor Level

To provide an appropriate level of flood protection, it is generally recommended that finished floor levels (FFLs) are set at least 300 mm above the 1 in 100-year annual probability fluvial flood level (1% AEP) or the 1 in 200-year annual probability tidal flood level (0.50% AEP), including an allowance for climate change. However, as the site is located in Flood Zone 1 (i.e. low probability flooding), raising the finished floor level will not be required.

6.2. Flood Proofing and Resilient Measures (Up to 600mm from Ground Levels)

As the site is subject to flood risk from the extreme surface water event of 1 in 1,000 year and due to the location of the site within an area with 75% or more area susceptible for groundwater, the following flood proofing and resilient measures will be adopted, where practicable, to minimise the damage and to enable quick recovery and clean up after the flooding event:

- Automatic or manual covers will be used for air bricks to prevent water from entering through ventilation holes.
- All service entries will be sealed (e.g. with expanding foam or similar closed cell material).
- Closed cell insulation will be used for pipes which are below the predicted flood levels.

- Wiring for telephone, TV, Internet and other services will be protected by suitable insulation to minimise damage.
- Important documents, electronics and valuable belongings will be stored on higher floors or in waterproof containers to avoid water damage.
- Cracks and gaps in walls, floors, and around pipes will be sealed.
- Building materials that are effective for a 'water exclusion strategy' will be used which include: engineering bricks, cement-based materials including water retaining concrete and dense stone.

6.3. Surface Water Management

The proposal involves conversion from house to HMO. The development will not result in any increase to the existing building footprint, and no external alterations or changes to the existing land cover are proposed. As a result, there will be no increase in impermeable surfaces, and therefore, no expected increase in surface water runoff from the site. The existing drainage infrastructure will be retained and utilised to serve the proposed development. Given these factors, the implementation of additional Sustainable Drainage Systems (SuDS) is not considered necessary in this case.

7.0 Assessment of Impact on flow of floodwater

The proposed development comprises conversion from house to HMO. The proposals will not lead to an increase in the existing building footprint area. This means there will be no increase in the displaced floodwater as a result of the building footprint. The development will not give rise to backwater effects or divert water towards other properties.

8.0 Conclusion

The proposal is for the conversion of a single family dwelling (5 No. bedrooms) into a House in Multiple Occupation (HMO) with 6 No. beds for 10 No. persons at 37 Glamis Street, Bognor Regis PO21 1DJ.

In accordance with the NPPF Guidelines, the proposed development use is categorised as 'more vulnerable'. As the site is located in Flood Zone 1 (i.e. low probability flooding), the proposed development is appropriate at this location.

There are no major watercourses in the vicinity of the site.

According to the information available from the Local Authority's SFRA and the Environment Agency, there were no records of flooding events at the site.

The Environment Agency's Flood Maps show that the site lies within the Flood Zone 1 (i.e. low probability flooding). Flood Zone 1 is an area where flooding from rivers and the sea is very unlikely. There is less than a 1 in 1000 chance of flooding occurring in any one given year (i.e. a less than 0.1% annual probability of flooding).

The Environment Agency's flood risk map also indicates that the site will remain within the Flood Zone 1 (i.e. low probability flooding) when climate change is considered for the future 2070–2125-time frame.

According to the Environment Agency's surface water flood maps, the site lies outside the predicted flood extents for surface water flooding during the 1 in 30-year and 1 in 100-year. The risk of flooding from these extreme surface water events is low. The flood maps also show that part of the site is located within the predicted flood extents for surface water flooding during the 1 in 1,000-year rainfall event.

The SFRA Areas Susceptible to Groundwater Flooding map around the site shows that the proposal site falls within the area identified as having a 75% or more areas susceptible to groundwater flooding. This indicates that groundwater flooding is a concern in this area.

The flood risk from other sources including sewer and reservoir is low.

As the site is subject to flood risk from the extreme surface water event of 1 in 1,000 year and due to the location of the site within an area with 75% or more area susceptible for groundwater, a range of flood proofing and resilient measures will be implemented to minimise potential damage and facilitate a quicker recovery and clean-up following a flooding event.

The proposed development will not lead to any increase in the surface runoff from the site.

The development will not give rise to backwater effects or divert water towards other properties.

This report demonstrates that the proposal will be safe, in terms of flood risk, for its design life and will not increase the flood risk elsewhere.

Appendix A Site Location Maps

Appendix B Existing Site and Proposed Plans

Appendix C Geological Map

Appendix D Environment Agency's Flood Maps

Appendix E Areas Susceptible for Groundwater