Flood Risk Assessment for Planning

October 2026

Prepared for:

Aminah Ahad &
Mohammed Chowdhury

Location:

1 Lisher Road

Lancing

West Sussex

BN15 9EY

Our reference:

98289-AtelierCon-LisherRd



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1. Key Facts

Flood Risk Posed:

- Site is located within Flood Zones 1 and 2 when using the Environment Agency Flood Map for Planning (Rivers and Sea).
- Risk would appear to be predominantly tidal and originate from the English Channel and River Adur Estuary.
- The EA has provided modelled flood data from the Arun to Adur Flood Modelling completed by JBA Consulting in 2012.
- The site is entirely outside of the defended 1:200 year and 1:1000 year flood extents for the present day.
- The site is entirely outside of the undefended 1:200 year flood extent but partially within the undefended 1:1000 year flood extent for the present day.
- Comparison with the maximum undefended 1:1000 year present day flood level (4.49mAOD) with site topography shows the site is between 0.29m below and 0.31m above the flood level for this event.
- The site is shown to be within both the defended and undefended 2115 1:200 year flood extent and the defended 2115 1:1000 year flood extent.
- As the undefended 2115 1:200-year flood level is higher than the corresponding defended flood level, a precautionary approach has been adopted, with the undefended flood level utilised for the purposes of this assessment.
- Comparison of the undefended 2115 1:200-year climate change flood level (5.39mAOD) with the site topography indicates potential flood depths ranging from approximately 0.59m to 1.19m across the site during this event.
- According to EA data, there are no Flood Storage Areas located in close proximity to the site.
- The 2024 Adur and Worthing Level 1 SFRA identifies that the Beachy Head to Selsey Bill Shoreline Management Plan (SMP) adopts a 'Hold the Line' policy for the coastline in the vicinity of the site. The policy applies in the short, medium and long term and involves maintaining or upgrading the level of protection provided by coastal defences.
- The EA Surface Water Spatial Planning mapping indicates that the site is outside of the surface water flooding extents during the 1:30 year (3.3% AEP), 1:100 year (1% AEP) and 1:1000 year (0.1% AEP) for present day and climate change event (2061 to 2125).
- While the site is outside the 2024 Adur and Worthing Level 1 SFRA Groundwater Mapping, it falls within the GW1 zone for sea-level-rise impacts on groundwater. This means the groundwater level is more than 0.5m below the surface, and the region is above the current tidal level but below future tidal levels.
- According to the 2024 Adur and Worthing Level 1 SFRA, the site's postcode area (BN15 9) has had 45 recorded incidents of sewer flooding between January 2013 and May 2023.
- The site is located outside the maximum inundation extent on the EA Reservoir Inundation Map. The EA also advise on their website that reservoir flooding is extremely unlikely.
- The EA holds no records of historic flooding affecting the site. However, the EA holds records of historical flooding in the surrounding area in 1960, 1974, and 1976.

Flood Risk Mitigation:

- The proposed application is for the erection of a two-storey side extension.
- The proposed development fits within EA Standing Advice for domestic extensions.
- The proposed application is for a residential extension which does not exceed 250m^2.
- There will be no lowering of floor levels, new basements, ground floor bedrooms or intensification of usage.
- The site will remain a single dwelling. There will be no increase in vulnerability classification.
- Post development, the site will remain classified as "more vulnerable" (residential).
- In the event of an extreme flood without warning, residents should take refuge on the first floor of the property.

- Safe escape will be provided by a formal flood warning and evacuation plan, which will be prepared in liaison with the Emergency Planners and tied in with the existing Emergency Plans for the area.
- There will be no unacceptable loss of flood storage post development.
- Due to the small scale of the development, a full Surface Water Drainage Strategy is not required at this stage of planning.
- The applicant will register with the free Environment Agency Floodline Alert Direct service.

Assuming accordance with these flood risk management measures, Unda Consulting Limited consider the proposed application to be suitable in flood risk terms.

2. Introduction

2.1. Unda Consulting Limited have been appointed by Aminah Ahad & Mohammed Chowdhury (hereinafter referred to as "the applicant") to undertake a Flood Risk Assessment for the proposed development at 1 Lisher Road, Lancing, West Sussex, BN15 9EY (hereinafter referred to as "the site"). The FRA has been undertaken in accordance with the National Planning Policy Framework (NPPF) and the associated technical guidance.

2.2. This report presents our findings based on the readily available information and data relating to the site and surrounding drainage area.

2.3. The site appears to be located within Flood Zones 1 and 2 as defined by the Environment Agency (EA) on their Flood Map for Planning. Under the National Planning Policy Framework (NPPF), a FRA is required for all development or changes of use proposed:

- In Flood Zones 2 or 3 or see flood map for planning;
- Within Flood Zone 3b;
- Within Flood Zone 1 with a site area of 1 hectare or more;
- Within 'Flood Zones plus Climate Change', showing it is at increased risk of flooding from rivers or sea in future - see flood map for planning;
- With Flood Zone 1 and the flood map for planning shows it is at risk of flooding from surface water;
- In areas with critical drainage problems;
- Within Flood Zone 1 where the LPA's strategic flood risk assessment (SFRA) shows it will be at increased risk of flooding during its lifetime;
- That increases the vulnerability classification and may be subject to sources of flooding other than rivers or sea.

2.4. The assessment should demonstrate to the Local Planning Authority (LPA) and EA how flood risk will be managed now and over the development's lifetime, taking climate change into account, and with regard to the vulnerability of its potential users.

- Whether the proposed development is likely to be affected by current or future flooding from any source;
- Whether it will increase flood risk elsewhere;
- Whether the measures proposed to deal with these effects and risks are appropriate.

3. Existing Site

3.1. The existing site is a two storey residential dwelling.

3.2. The site is understood to have lawful planning permission for residential use.

3.3. The surrounding area is characterised by residential properties.

3.4. Existing plans are provided in the report Appendix.



Figure 1: Aerial imagery of site and surrounding area (Source: Google Earth)



Figure 2: Site location plan (Source: Applicant)

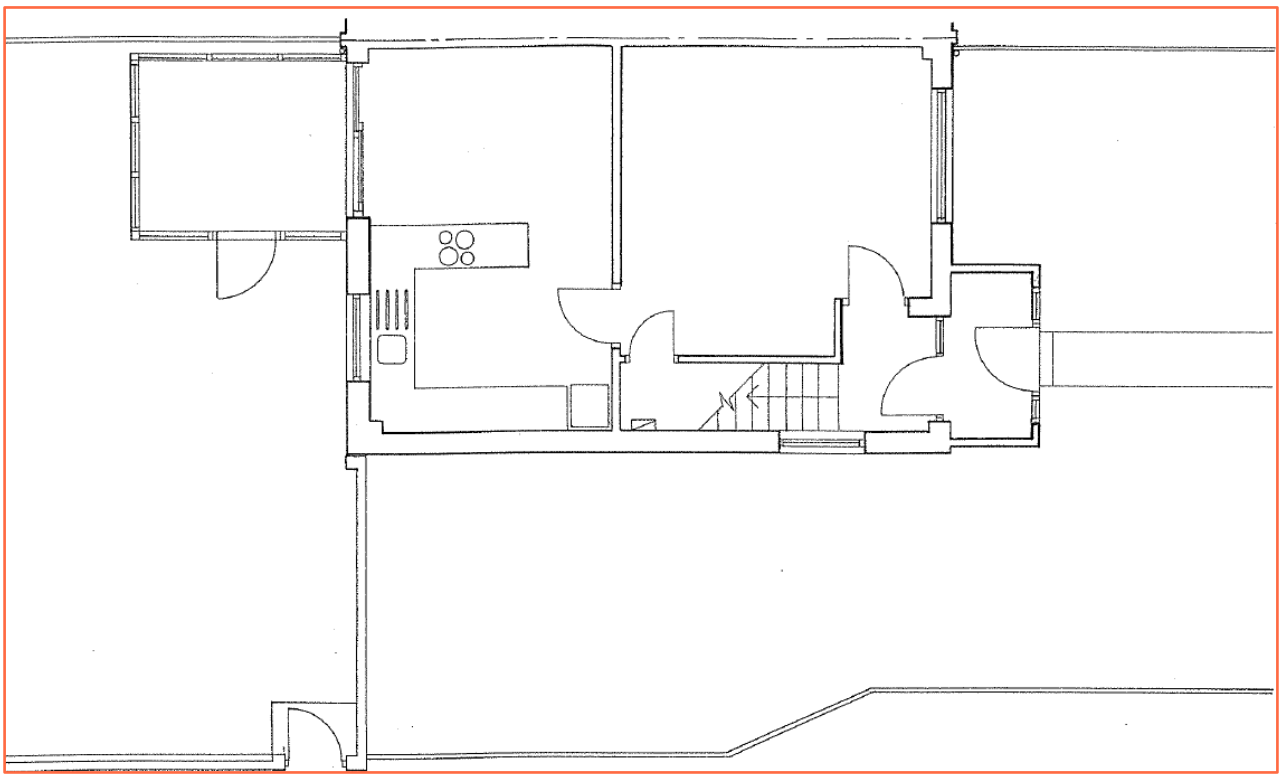


Figure 3: Existing ground floor plan (Source: Applicant)

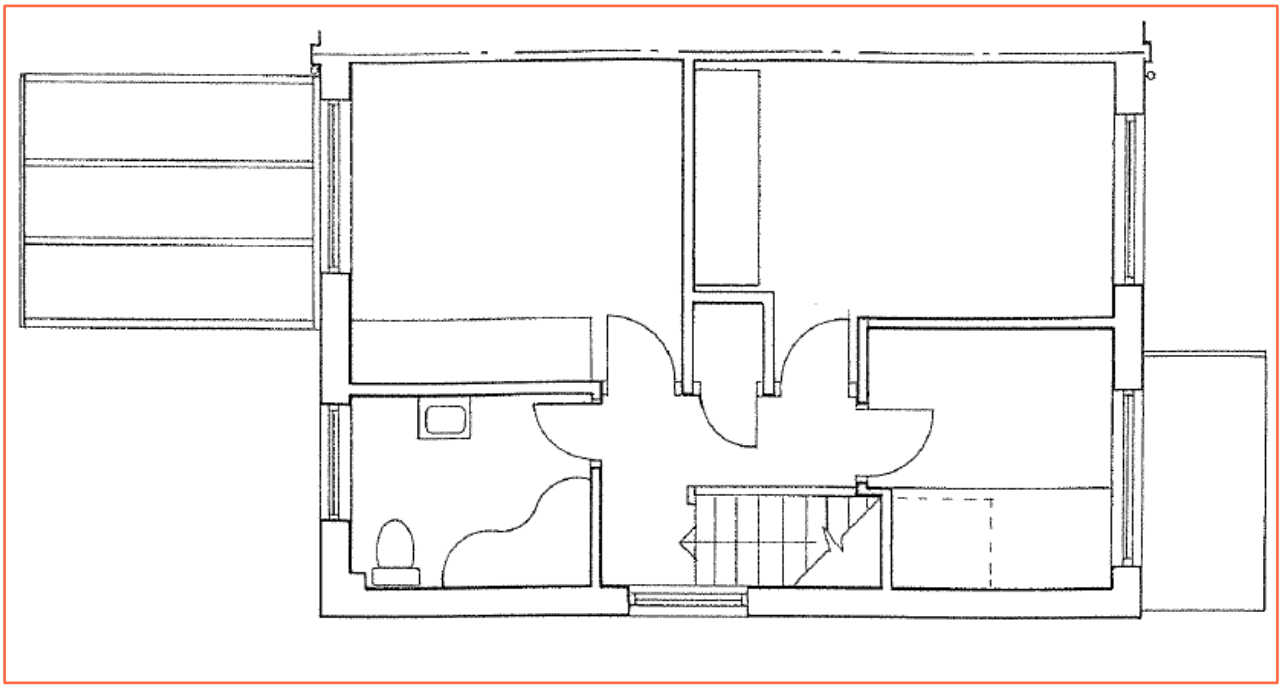


Figure 4: Existing first floor plan (Source: Applicant)

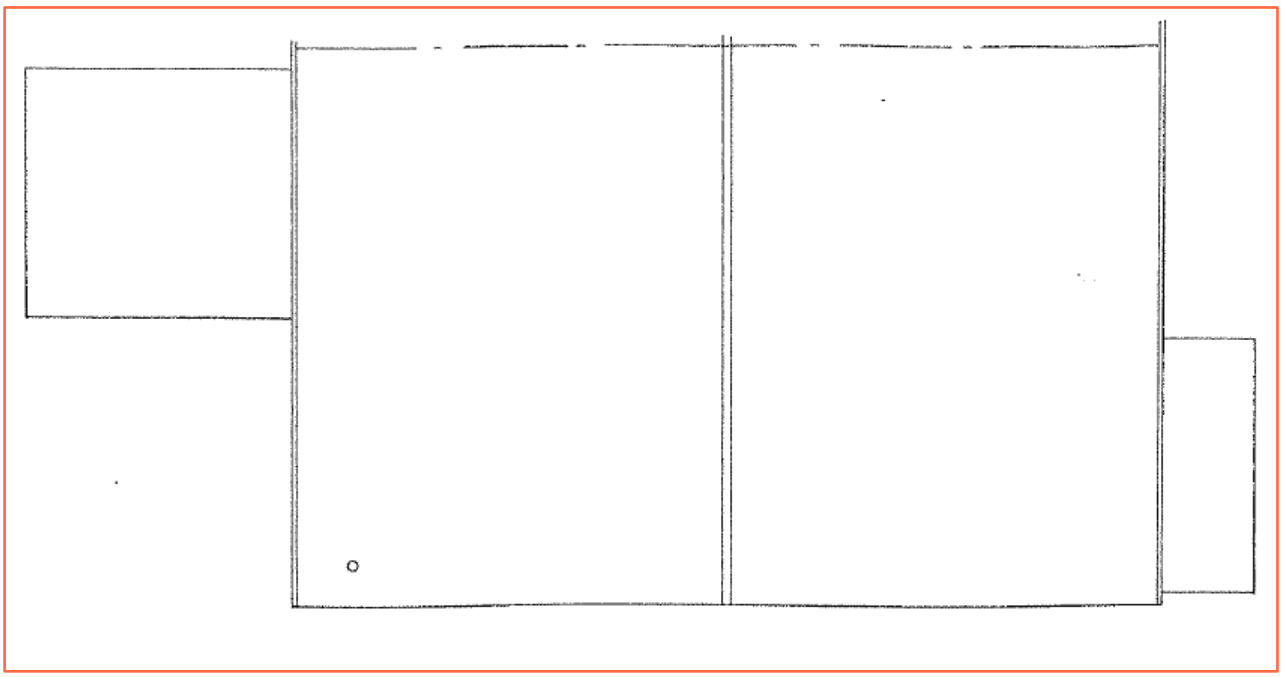


Figure 5: Existing roof plan (Source: Applicant)

Site Topography:

3.5. Environment Agency LiDAR has been used to assess the topography across the site and wider area. Light Detection and Ranging (LiDAR) is an airborne mapping technique, which uses a laser to measure the distance between the aircraft and the ground surface. Up to 100,000 measurements per second are made of the ground, allowing highly detailed terrain models to be generated at high spatial resolutions. The EA's LiDAR data archive contains digital elevation data derived from surveys carried out by the EA's specialist remote sensing team. Accurate elevation data is available for over 70% of England. The LiDAR technique records an elevation accurate to +/-5cm to 15cm with spatial resolutions ranging from 25cm to 2 metres. This dataset is derived from a combination of the full dataset which has been merged and re-sampled to give the best possible coverage. The dataset can be supplied as a Digital Surface Model (DSM) produced from the signal returned to the LiDAR (which includes heights of objects, such as vehicles, buildings and vegetation, as well as the terrain surface) or as a Digital Terrain Model (DTM) produced by removing objects from the Digital Surface Model. 1.0m horizontal resolution DTM LiDAR data has been used for the purposes of this study.

3.6. LiDAR remotely sensed digital elevation data suggests that the ground topography on site ranges from approximately 4.20mAOD to 4.80mAOD.

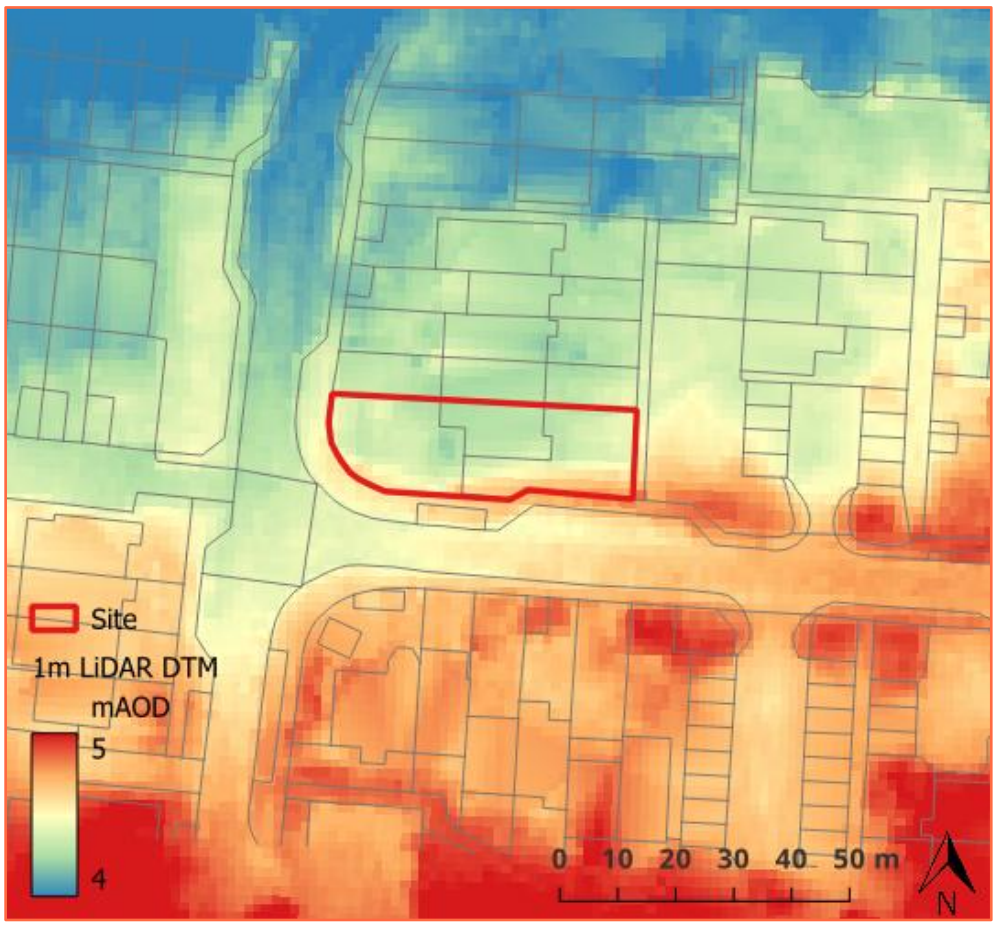


Figure 6: 1m LiDAR DTM (Source: EA, OS)

Existing Ground Conditions:

3.7. The 1:50,000 BGS map shows that the bedrock underlying the site is Newhaven Chalk Formation-Chalk.

3.8. The BGS mapping shows superficial deposits of Head-Clay, silt, sand and gravel.

3.9. The soil type taken from the UKSO Soil Map Viewer, shows the site to be located upon relatively deep soils of Colluvium soil parent material with a soil texture of clayey loam to sandy loam.

Nearby Watercourses / Drainage Features:

3.10. The site is located approximately 1550m inland of the English Channel. The nearest watercourses include a drain approximately 240m Northeast and a drain approximately 370m South.

4. Development Proposal

4.1. The proposed application is for the erection of a two-storey side extension.

4.2. The proposed application is for a residential extension which does not exceed 250m^2.

4.3. There will be no lowering of floor levels, new basements, ground floor bedrooms or intensification of usage. The site will remain a single dwelling.

4.4. There will be no increase in vulnerability classification.

4.5. Proposed plans are provided in the report Appendix.



Figure 7: Proposed site plan (Source: Applicant)

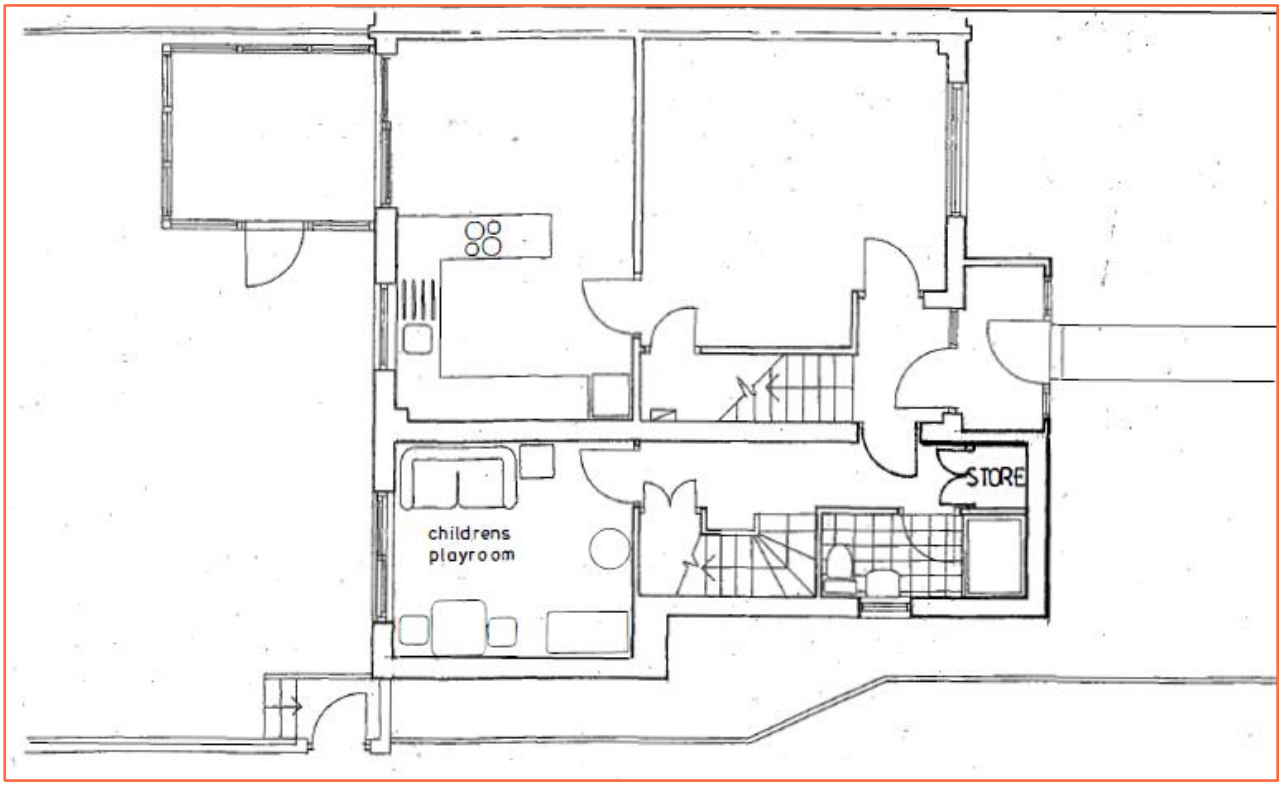


Figure 8: Proposed ground floor plan (Source: Applicant)

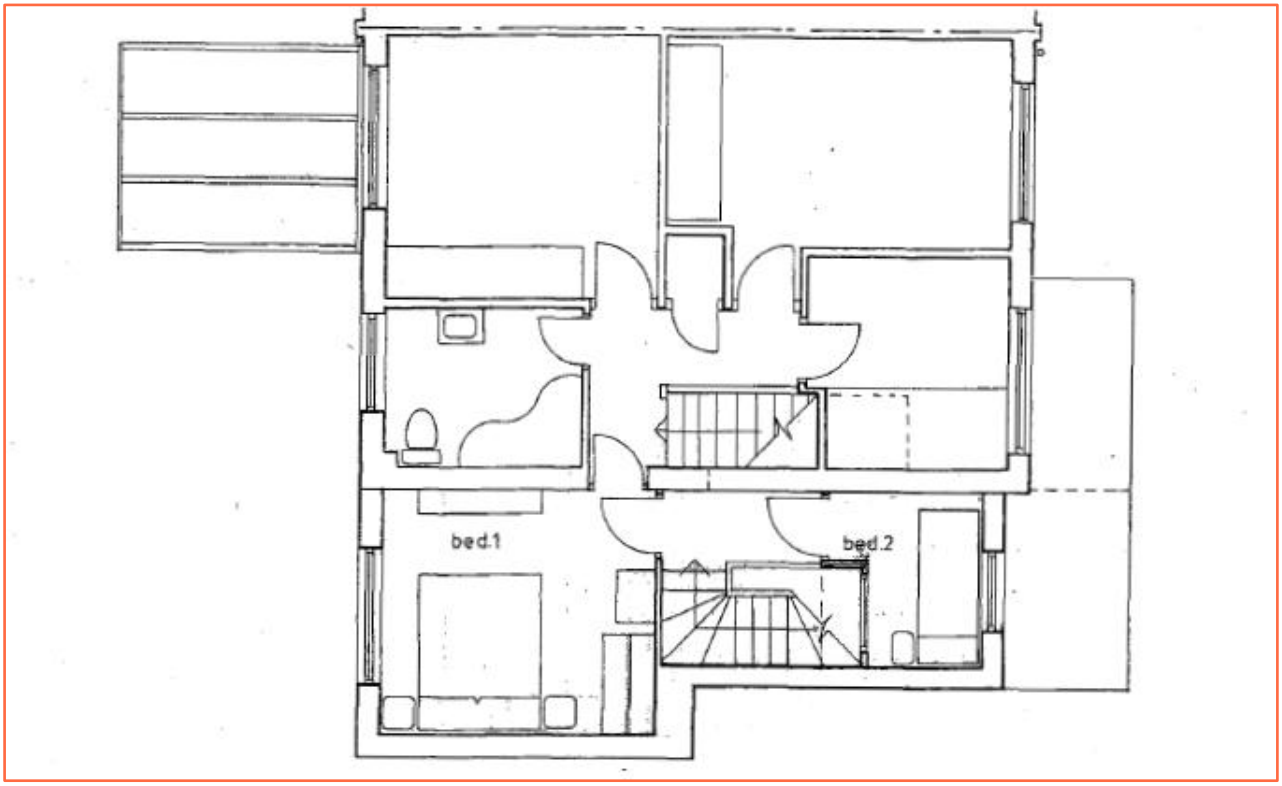


Figure 9: Proposed first floor plan (Source: Applicant)

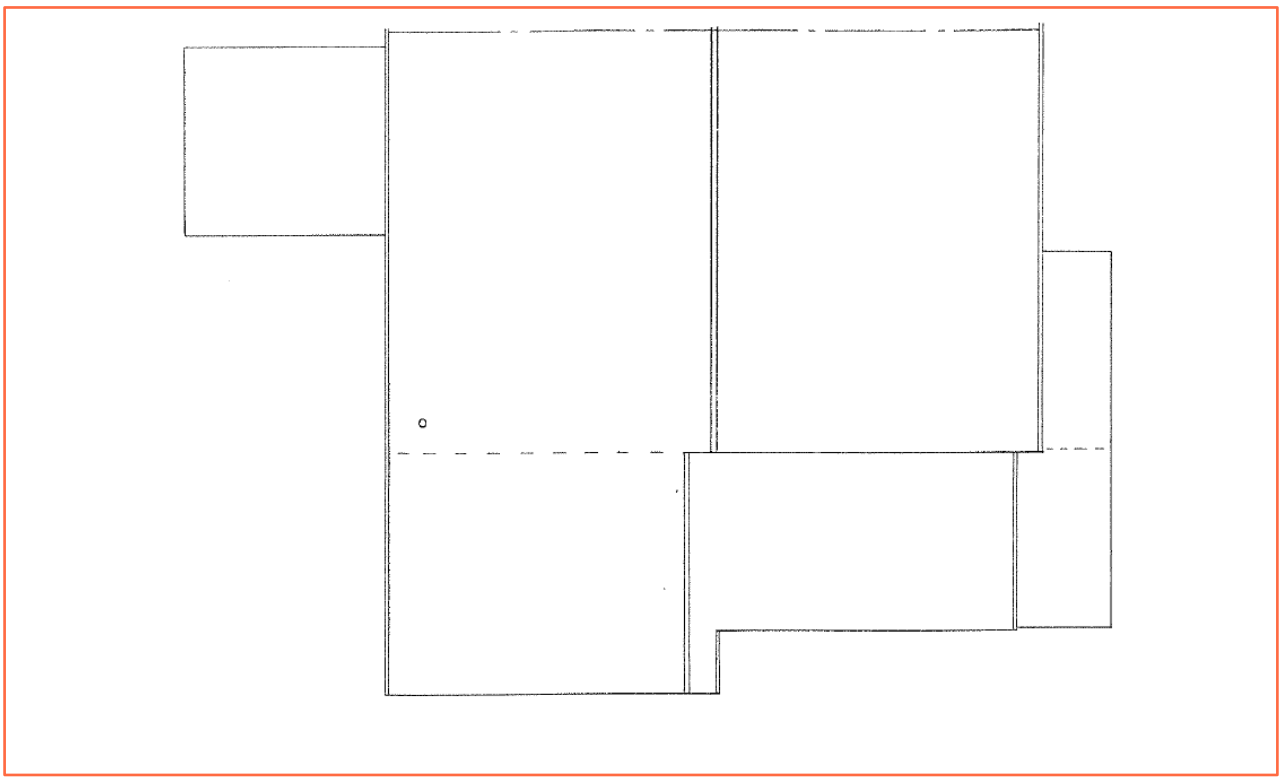


Figure 10: Proposed roof plan (Source: Applicant)

5. Flood Risk Assessment

Flood Zones:

5.1. Within planning, Flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences. They are shown on the Environment Agency's Flood Map for Planning (Rivers and Sea), available on the Environment Agency's website.

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map for Planning – all land outside Zones 2, 3a and 3b)
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: • land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or • land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

Table 1: Environment Agency Flood Map for Planning (Rivers and Sea) (Source: EA)

5.2. The Flood Zones are created using local flood model outputs, recorded flood outlines and national flood model information. These are combined to generate extents of land at flood risk, with the aim of using the best available flood risk information in any one location. The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding.



Figure 11: Environment Agency Flood Map for Planning (Rivers and Sea) (Source: EA)

5.3. The site is located within Flood Zone 1 (Low Probability), which means it is defined as land having a less than 1:1000 annual probability of river or sea flooding and Flood Zone 2 (Medium Probability), which means it is defined as land having between a 1:100 and 1:1000 annual probability of river flooding; or Land having between a 1:200 and 1:1000 annual probability of sea flooding.

EA Flood Zones plus Climate Change:

5.4. The Flood Zones plus climate change dataset shows how the combined extent of Flood Zones 2 and 3 could increase with climate change over the next century, ignoring the benefits of any existing flood defences. The EA have assumed no changes to flood defences or land-use that could occur in future. The effects of climate change on flood risk which may be seen in the future could be different to those currently considered.

5.5. The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5.

5.6. The datasets shown on Flood Map for Planning are aimed at supporting planners and developers to make long-term decisions about the location and design of development and the use of land. Such decisions need to account for the full anticipated lifetime of the development being planned.

5.7. The EA have therefore chosen:

- The 'Central' allowance for the 2080s epoch (2070-2125) for risk of flooding from rivers
- The 'Upper End' allowance for risk of flooding from the sea, accounting for cumulative sea level rise to 2125

5.8. The Flood Zones plus climate change dataset is created using local flood model outputs, recorded flood outlines and national flood model information, and by adding climate change scenarios from local and national modelling, using the maximum extents from:

- Rivers and sea with defences 3.3%, 1%/0.5% and 0.1% AEPs
- Rivers and sea without defences 1%/0.5% and 0.1% AEPs

5.9. The extents are merged to create a single outline.

5.10. No data is available for the EA Flood Zones plus climate change (2070 to 2125) extent at the site.

Tidal (English Channel/River Adur Estuary):

5.11. The English Channel is a part of the Atlantic Ocean that separates southern England from northern France. It extends approximately 560km from the Atlantic Ocean in the west to the Strait of Dover in the east, where it connects to the North Sea. The English Channel borders the coastline of West Sussex, including the coastal settlement of Lancing.

5.12. The River Adur is a river in West Sussex which flows southwards through the South Downs before discharging into the English Channel at Shoreham-by-Sea, east of Lancing. The river is tidal throughout its lower reaches and forms an estuary at Shoreham-by-Sea. The surrounding coastal areas, including Lancing, are susceptible to tidal flooding associated with elevated sea levels and storm surges.

Detailed Flood Modelling:

5.13. The EA has provided modelled flood data from the Arun to Adur Flood Modelling completed by JBA Consulting in 2012.

5.14. Flood extents and levels have been provided for the defended and undefended scenarios for the present day and with climate change.

5.15. The site is entirely outside of the defended 1:200 year and 1:1000 year flood extents for the present day.

5.16. The site is entirely outside of the undefended 1:200 year flood extent but partially within the undefended 1:1000 year flood extent for the present day.

5.17. Approximate ground topography on site ranges between 4.20mAOD to 4.80mAOD.

	1:200yr (mAOD)	1:1000yr (mAOD)
Defended	Outside	Outside
Undefended	Outside	4.49

Table 2: Arun to Adur present day flood levels on site (Source: EA)

5.18. Comparison with the maximum undefended 1:1000 year present day flood level (4.49mAOD) with site topography shows the site is between 0.29m below and 0.31m above the flood level for this event.

5.19. The site is shown to be within both the defended and undefended 2115 1:200 year flood extent and the defended 2115 1:1000 year flood extent.

	2115 1:200yr (mAOD)	2115 1:1000yr (mAOD)
Defended	5.05	5.16
Undefended	5.39	Data not provided

Table 3: Arun to Adur 2115 flood levels on site (Source: EA)

5.20. As the undefended 2115 1:200-year flood level is higher than the corresponding defended flood level, a precautionary approach has been adopted, with the undefended flood level utilised for the purposes of this assessment.

5.21. Comparison of the undefended 2115 1:200-year climate change flood level (5.39mAOD) with the site topography indicates potential flood depths ranging from approximately 0.59m to 1.19m across the site during this event.

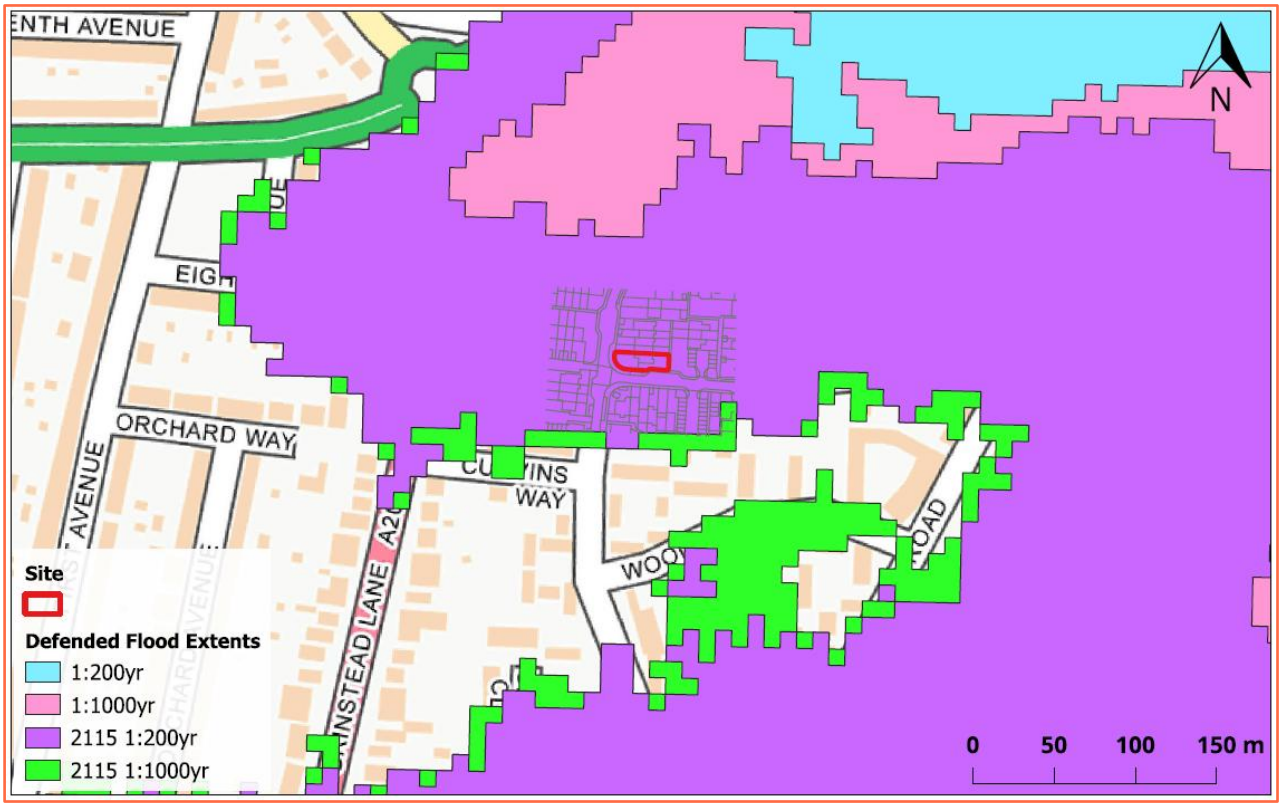


Figure 12: Defended flood extents (Source: EA)

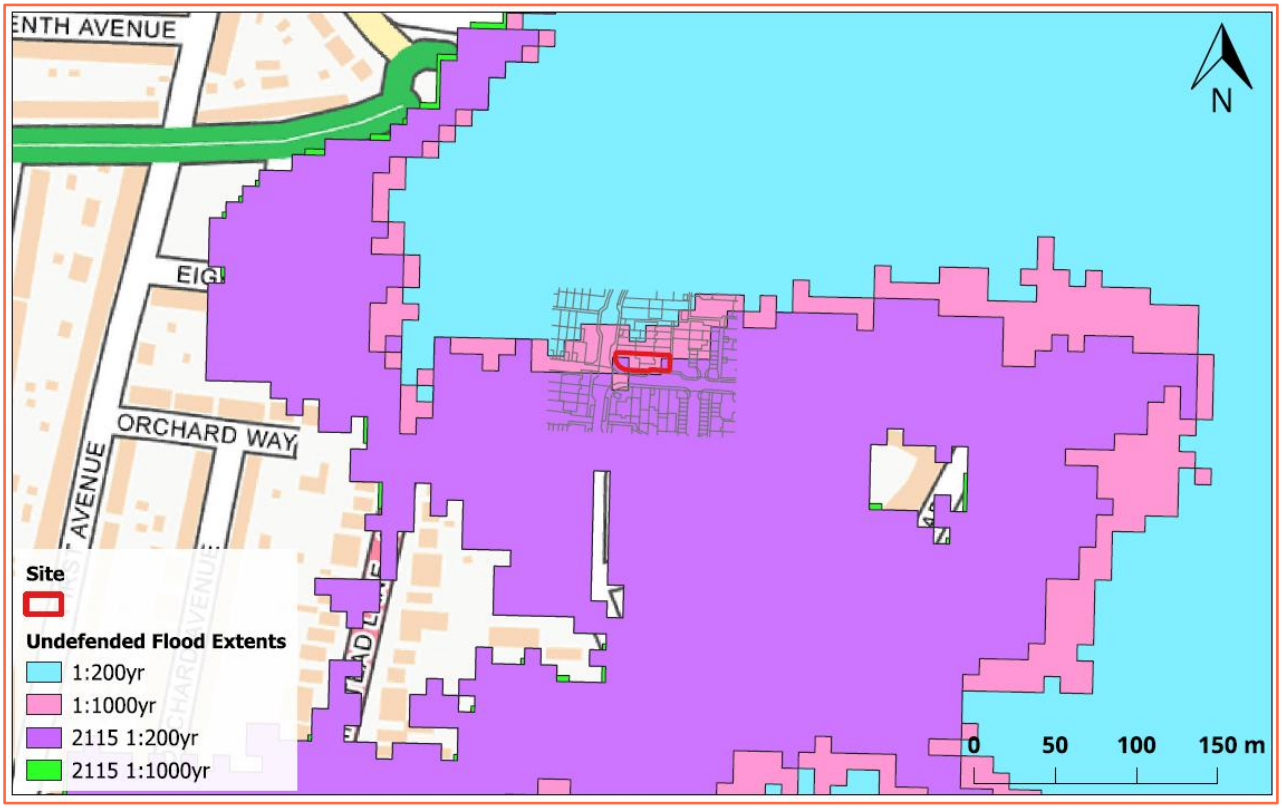


Figure 13: Undefended flood extents (Source: EA)

Flood Storage Areas:

5.22. Flood Storage Areas are areas that act as a balancing reservoir, storage basin or balancing pond. Their purpose is to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel. It may also delay the timing of a flood peak so that its volume is discharged over a longer time interval. Flood storage areas do not completely remove the chance of flooding and can be overtopped or fail in extreme weather conditions.

5.23. According to EA data, there are no Flood Storage Areas located in close proximity to the site.

Flood Defences:

5.24. Flood defences are typically raised structures that alter natural flow patterns and prevent floodwater from entering property in times of flooding. They are generally categorised as either 'formal' or 'informal' defences. A 'formal' flood defence is a structure that was built specifically for the purpose of flood defence, and is maintained by its respective owner, which could be the EA, Local Authority, or an individual. An 'informal' flood defence is a structure that has not been specifically built to retain floodwater, and is not maintained for this specific purpose, but may afford some protection against flooding.

5.25. Asset inspections are undertaken on average every six months, although some critical assets are assessed on a more regular basis. It is possible that adjacent assets are inspected on different dates, which may result in two assets of a similar state of repair having different condition ratings. It is unclear when both assets were last inspected.

5.26. Condition ratings of assets may also be affected by the time of year the surveys are conducted, as vegetation may obscure the asset in the summer months, or accessibility may be an issue during winter months. These factors would not usually affect the recorded condition rating of an asset unless the asset is on a borderline between two ratings.

5.27. The 2024 Adur and Worthing Level 1 SFRA identifies that the Beachy Head to Selsey Bill Shoreline Management Plan (SMP) adopts a 'Hold the Line' policy for the coastline in the vicinity of the site. The policy applies in the short, medium and long term and involves maintaining or upgrading the level of protection provided by coastal defences.

5.28. The SFRA identifies that tidal and coastal flood defences are present along much of the Adur and Worthing coastline, although their condition and standard of protection vary. The Lancing coastal frontage is managed by the Environment Agency, with the shingle beach and associated rock groynes providing protection against coastal flooding. The continued management of these defences, supported by the 'Hold the Line' policy, is expected to help manage tidal flood risk in the surrounding area.

Residual Risk (breach or overtopping of flood defences):

5.29. Breaching of flood defences can cause rapid inundation of areas behind flood defences as flow in the river channel discharges through the breach. A breach can occur with little or no warning, although they are much more likely to occur with extreme river levels or tides when the stresses on flood defences are highest. Flood water flowing through a breach will normally discharge at a high velocity, rapidly filling up the areas behind the defences, resulting in significant damage to buildings and a high risk of loss of life. Breaches are most likely to occur in soft defences such as earth embankments although poorly maintained hard defences can also be a potential source of breach.

5.30. Overtopping of flood defences occurs when water levels exceed the protection level of raised flood defences. The worst case occurs when the fluvial or tidal levels exceed the defence level as this can lead to prolonged flooding. Less severe overtopping can occur when flood levels are below defence levels, but wave action causes cyclic overtopping, with intermittent discharge over the crest level of the defence. Flood defences are commonly designed with a freeboard to provide protection against overtopping from waves. The risk from overtopping due to exceedance of the flood defence level is much more significant than the risk posed by wave overtopping. Exceedance

of the flood defence level can lead to prolonged and rapid flooding with properties immediately behind the defences at highest risk.

Pluvial (Surface Water):

5.31. Pluvial (surface water) flooding occurs when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead.

5.32. The mapping below shows the Environment Agency Surface Water Spatial Planning dataset. The Environment Agency advise that the dataset is designed to provide an indication of flood risk from surface water to an area of land and is not suitable for determining whether an individual property is at risk of flooding. The mapping is intended to support planning assessments and inform planning decisions and may indicate where further investigation is required.

5.33. As of May 2026, the Surface Water Spatial Planning datasets provide an assessment of the extent and depths of flooding that may occur from surface water during a range of modelled rainfall events.

5.34. The datasets show the total extent of an area at risk of flooding from surface water and the extent of areas at risk of flooding from surface water to defined depth bands for different scenarios.

5.35. The mapping shows the risk of flooding from surface water, for annual exceedance probabilities (AEP) expressed as a return period. These are produced for both the present day risk of flooding from surface water, and climate change scenarios have been produced to indicate the predicted impacts of climate change on future flood risk.

5.36. These datasets show the risk of flooding from surface water for the following annual exceedance probability (AEP) scenarios:

- 1 in 30 year annual probability event (3.3% AEP).
- 1 in 100 year annual probability event (1% AEP).
- 1 in 1000 year annual probability event (0.1% AEP).

5.37. The EA climate change surface water mapping is based upon the UK Climate Projections 2018 (UKCP18) and utilises the Representative Concentration Pathway (RCP) 8.5 emissions scenario. The updated mapping incorporates climate change allowances to represent the predicted impacts of climate change on surface water flood risk over the period 2061 to 2125. The 'Upper end' (based on the 95th percentile) for the 2070s epoch (2061-2125) has been used for the climate change scenarios.

5.38. The EA Surface Water Spatial Planning mapping indicates that the site is entirely outside of the surface water flooding extents during the 1:30 year (3.3% AEP), 1:100 year (1% AEP) and 1:1000 year (0.1% AEP) under present day conditions.

5.39. The EA Surface Water Spatial Planning mapping indicates that the site is entirely outside of the surface water flooding extents during the 1:30 year (3.3% AEP), 1:100 year (1% AEP) and 1:1000 year (0.1% AEP) climate change event (2061 to 2125).

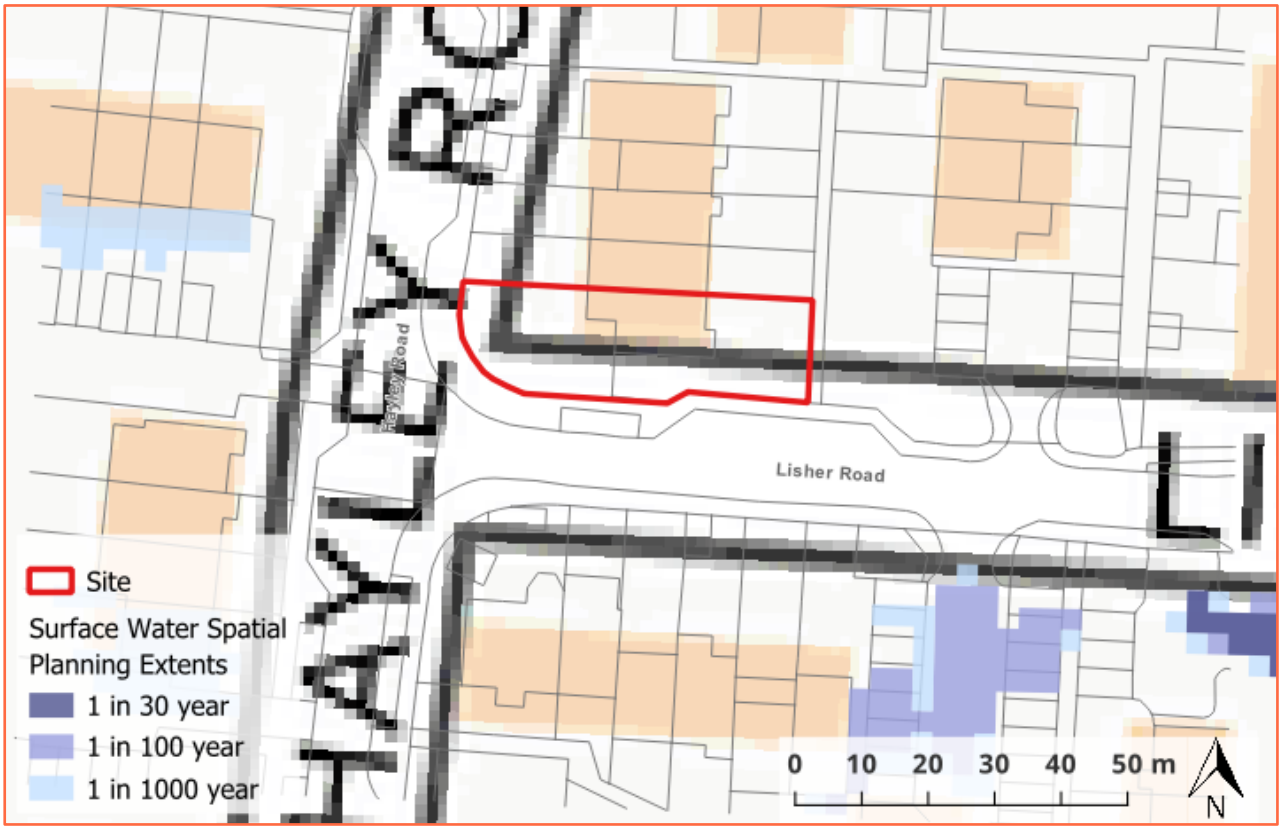


Figure 14: Environment Agency Surface Water Spatial Planning Extents – present day (Source: EA, OS)

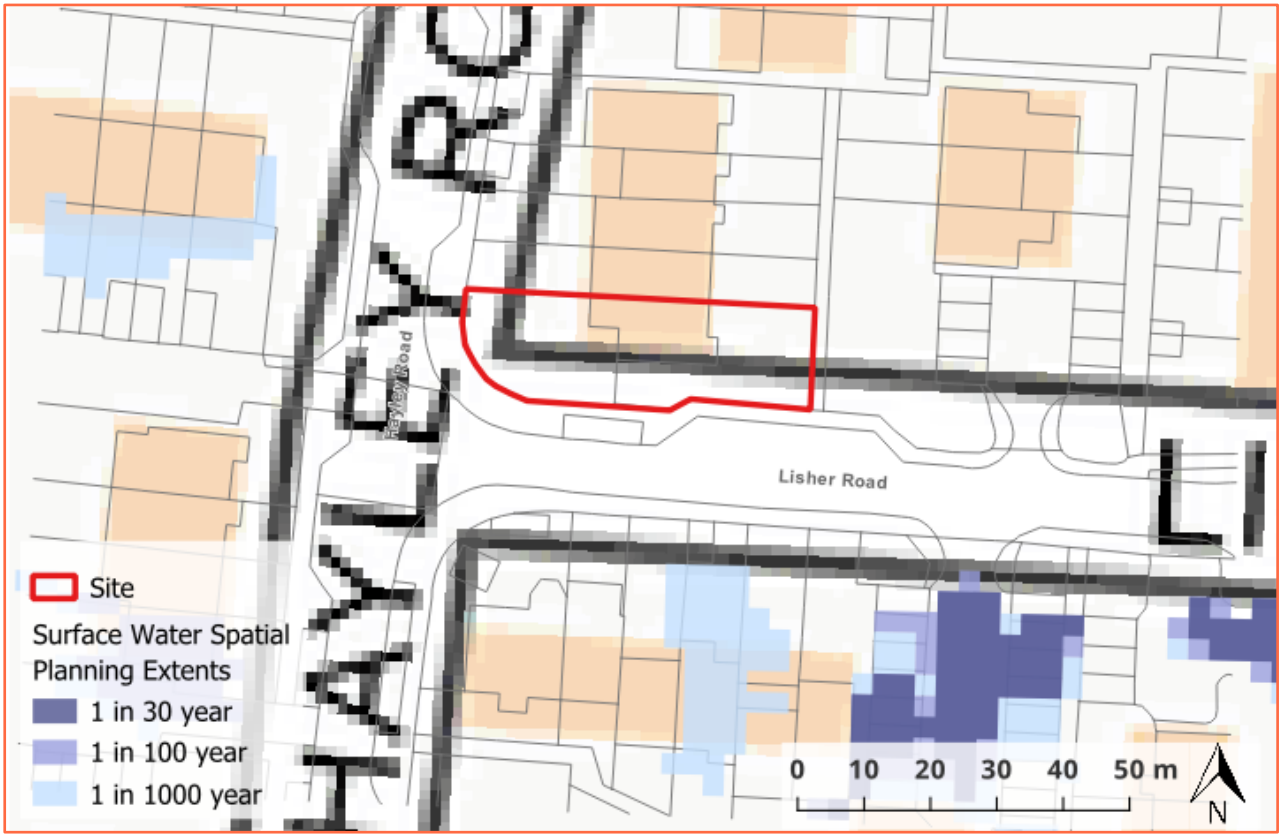


Figure 15: Environment Agency Surface Water Spatial Planning Extents – climate change (Source: EA, OS)

Critical Drainage Areas:

5.40. A Critical Drainage Area (CDA) is an area that has critical drainage problems and which has been notified to the local planning authority as such by the Environment Agency in line with the National Planning Policy Framework (NPPF). In these locations, there is a need for surface water to be managed to a higher standard than normal to ensure any new development will contribute to a reduction in flooding risks in line with NPPF. These higher standards are determined by the Environment Agency.

5.41. According to the 2024 Adur and Worthing Level 1 SFRA, the site is not located within a Critical Drainage Area.

Groundwater:

5.42. Groundwater flooding occurs as a result of water rising up from the underlying rocks or from water flowing from abnormal springs. This tends to occur after much longer periods of sustained high rainfall. Higher rainfall means more water will infiltrate into the ground and cause the water table to rise above normal levels. Groundwater tends to flow from areas where the ground level is high, to areas where the ground level is low. In low-lying areas the water table is usually at shallower depths anyway, but during very wet periods, with all the additional groundwater flowing towards these areas, the water table can rise up to the surface causing groundwater flooding.

5.43. Groundwater flooding is most likely to occur in low-lying areas underlain by permeable rocks (aquifers). These may be extensive, regional aquifers, such as chalk or sandstone, or may be localised sands or river gravels in valley bottoms underlain by less permeable rocks. Groundwater flooding takes longer to dissipate because groundwater moves much more slowly than surface water and will take time to flow away underground.

5.44. The 2024 Adur and Worthing Level 1 SFRA identifies groundwater flooding as a potential source of flooding within Lancing. The SFRA uses JBA Groundwater Flood Risk Mapping to assess the potential for groundwater emergence, with groundwater levels varying across the surrounding area.

5.45. The SFRA identifies that tidal conditions and future sea level rise may influence groundwater levels in Lancing. However, the mapping is intended for broad-scale assessment and may not fully represent localised ground conditions.

5.46. While the site is outside the 2024 Adur and Worthing Level 1 SFRA Groundwater Mapping, it falls within the GW1 zone for sea-level-rise impacts on groundwater. This means the groundwater level is more than 0.5m below the surface, and the region is above the current tidal level but below future tidal levels.

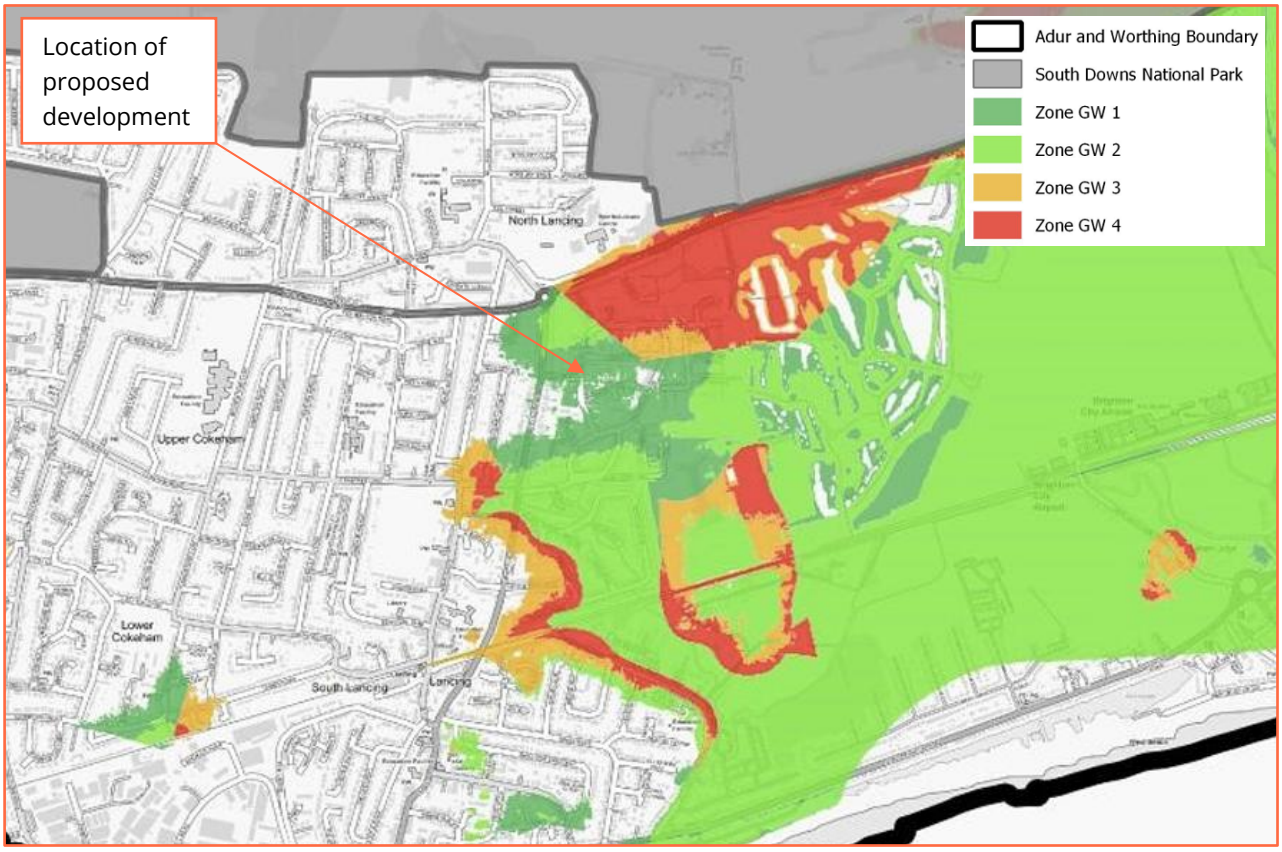


Figure 16: Tidal Risk Groundwater Zones (Source: 2024 Adur and Worthing SFRA, Appendix K)

5.47. No information has been provided to suggest that the site has flooded historically due to groundwater.

Sewer:

5.48. Sewer flooding occurs when the sewer network cannot cope with the volume of water that is entering it. It is often experienced during times of heavy rainfall when large amounts of surface water overwhelm the sewer network causing flooding. Temporary problems such as blockages, siltation, collapses and equipment or operational failures can also result in sewer flooding.

5.49. All Water Companies have a statutory obligation to maintain a register of properties/areas which have reported records of flooding from the public sewerage system, and this is shown on the DG5 Flood Register. This includes records of flooding from foul sewers, combined sewers and surface water sewers which are deemed to be public and therefore maintained by the Water Company. The DG5 register records of flood incidents resulting in both internal property flooding and external flooding incidents. Once a property is identified on the DG5 register, water companies can typically put funding in place to address the issues and hence enable the property to be removed from the register. It should be noted that flooding from land drainage, highway drainage, rivers/watercourses and private sewers is not recorded within the register.

5.50. According to the 2024 Adur and Worthing Level 1 SFRA, the site's postcode area (BN15 9) has had 45 recorded incidents of sewer flooding between January 2013 and May 2023.

5.51. However, these records cover the wider postcode area, and no information has been identified to confirm that the site itself has historically experienced sewer flooding.

Other Sources:

5.52. Reservoirs with an impounded volume in excess of 25,000 cubic metres (measured above natural ground level) are governed by the Reservoirs Act and are listed on a register held by the Environment Agency. The site is located outside the maximum inundation extent on the EA Reservoir Inundation Map. The EA also advise on their website that reservoir flooding is extremely unlikely. There has been no loss of life in the UK from reservoir flooding since 1925. All major reservoirs have to be inspected by specialist dam and reservoir Engineers. In accordance with the Reservoirs Act 1975 in England, these inspections are monitored and enforced by the EA themselves. The risk to the site from reservoir flooding is therefore minimal and is far lower than that relating to the potential for fluvial / tidal flooding to occur. The Environment Agency Reservoir Flood Map illustrated below, illustrates the largest area that might be flooded if the storage area were to fail and release the water it is designed to hold during a flood event.

5.53. Records of flooding from reservoirs and canals are erratic as there is no requirement for the Environment Agency to provide information on historic flooding from canals and raised reservoirs on plans. In particular, the NPPF does not require flood risk from canals and raised reservoirs to be shown on the Environment Agency flood zones.

5.54. Overflows from canals can be common as they are often fed by land drainage, and often do not have controlled overflow spillways. Occasionally, major bank breaches also occur, leading to rapid and deep flooding of adjacent land.

5.55. No information has been provided to suggest that the site is susceptible to flooding from other sources.

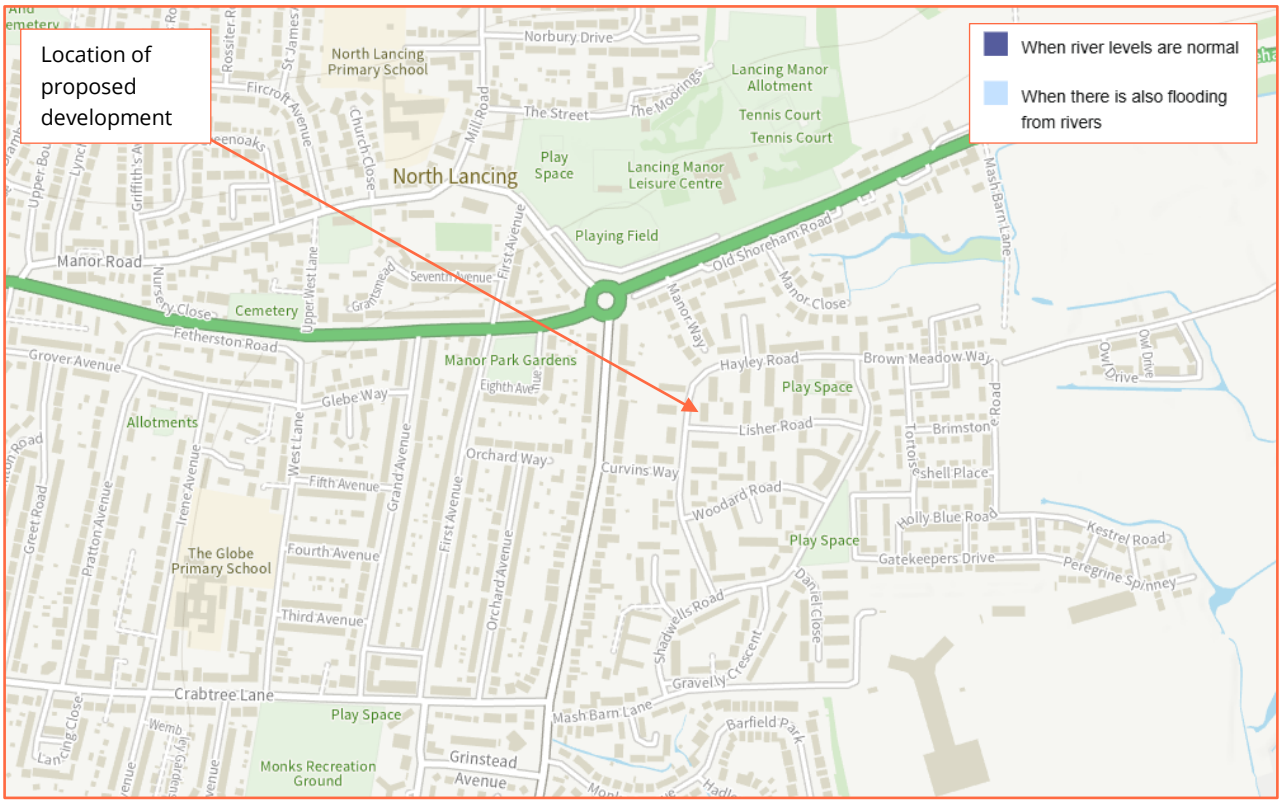


Figure 17: Extract from Environment Agency Reservoir Flood Map (Source: EA)

Historical Flood Events:

5.56. The EA hold records of historic flood events from rivers and the sea. The EA map flooding to land, not individual properties. Their historic flood event record outlines are an indication of the geographical extent of an observed flood event. Their historic flood event outlines do not give any indication of flood levels for individual properties. They also do not imply that any property within the outline has flooded internally.

5.57. The EA holds no records of historic flooding affecting the site.

5.58. However, the EA holds records of historical flooding in the surrounding area in 1960, 1974, and 1976.

5.59. The EA historical flood records are not comprehensive, and they advise that further enquiries locally are made with specific reference to flooding at the location.

6. Flood Risk Management

Vulnerability to Flooding:

6.1. The National Planning Policy Framework (NPPF) classifies different land uses according to their vulnerability to flooding. The Flood Risk Vulnerability Classification is set out in Annex F, Table 2 of the NPPF, a copy of which is provided in the report Appendix.

6.2. The existing site is classified as "More Vulnerable" (residential).

6.3. Post development, the site will remain "More Vulnerable" as the application is for a two-storey extension to remain a single dwelling. As such, there will be no increase in vulnerability classification.

EA Standing Advice for Minor Extensions:

6.4. EA Standing Advice guidance is for domestic extensions and non-domestic extensions where the additional footprint created by the development does not exceed 250m^2. It should not be applied if an additional dwelling is being created, e.g. a self-contained annexe or additional commercial unit.

6.5. The EA Standing Advice guidance also recommends floor levels are set at least 600 millimetres (mm) above the estimated flood level with flood resistant materials up to at least 600mm above the estimated flood level. This can be reduced to 300mm if there is a high level of certainty about the estimated flood level and conversely increased if there is a particularly high level of uncertainty.

6.6. If constraints are present which do not allow the raising of floor levels to 600mm, extra flood resistance and resilience measures will need to be incorporated to protect the development.

6.7. Given the nature of the proposed development, the finished floor levels will be set no lower than existing, and therefore extra flood resistance and resilience measures will be incorporated into the proposed development 600mm above the estimated flood level.

6.8. As such, the development as a whole is considered to fit within EA standing advice for domestic extensions.

Physical Design Measures:

6.9. The site is located within Flood Zones 1 and 2 according to the EA Flood Map for planning (Rivers and the Sea).

6.10. The EA Surface Water Spatial Planning Extents mapping suggests that the site is located outside of all extents for present day and climate change events.

6.11. No sleeping accommodation is proposed on the ground floor.

6.12. The EA Standing Advice states that the design should be appropriately flood resistant and resilient by:

- Using flood resistant materials that have low permeability to at least 600mm above the estimated flood level;
- Making sure any doors, windows or other openings are flood resistant to at least 600mm above the estimated flood level;
- Using flood resilient materials (for example lime plaster) to at least 600mm above the estimated flood level;
- By raising all sensitive electrical equipment, wiring and sockets to at least 600mm above the estimated flood level;
- Making it easy for water to drain away after flooding such as installing a sump and a pump;

- Making sure there is access to all spaces to enable drying and cleaning;
- Ensuring that soil pipes are protected from back-flow such as by using non-return valves.

6.13. To help protect against flooding during extreme events, the applicant has agreed to implement flood resistant design measures into the development where practical and feasible, in consultation with the Local Authority building control department. These measures can include the following:

- Solid concrete ground floor slab, with waterproof membrane;
- Waterproof screed used on ground floors;
- Closed-cell foam used in wall cavities;
- Waterproof ground floor internal render;
- External walls rendered resistant to flooding to at least 600mm above ground floor level;
- Exterior ventilation outlets, utility points and air bricks fitted with removable waterproof covers;
- Electrical incomer and meter situated at least 600mm above ground floor level;
- Boilers, control and water storage / immersion installed at least 600mm above ground floor level;
- Gas meter installed at least 600mm above ground floor level;
- Plumbing insulation of closed-cell design;
- Non-return valves fitted to all drain and sewer outlets;
- Manhole covers secured;
- Kitchen units of solid, water resistant material at ground floor level;
- Use of MDF carpentry (i.e. skirting, architrave, built-in storage) avoided at ground floor level;
- Stairs of solid hardwood construction with wood faces treated to resist water penetration at ground floor level.

6.14. A flood proof door should be installed for external ground floor level doors, or demountable flood defence barriers to defend lower ground level doorways and low windows if a flood door is not practical or other planning constraints prevent it.

Safe Escape:

6.15. The Flood Risk and Coastal Change Planning Practice Guidance (PPG) states that access considerations should include the voluntary and free movement of people during a design flood, as well as the potential for evacuation before a more extreme flood, considering the effects of climate change for the lifetime of the development. Emergency access and escape plans are needed if any part of a development is below the estimated design flood level, which connects the site to an area away from current or future flood risk.

6.16. The site is situated within Flood Zones 1 and 2 when using the Environment Agency Flood Map for Planning (Rivers and Sea).

6.17. Tidal flooding from storm surges is well understood and tidal storm surges are monitored and predicted. As such, it is unlikely that the site would flood unexpectedly without sufficient flood warning for evacuation.

6.18. The tidal cycles generally dictate 6 hours between the peak and trough of the tidal cycle, and as such after a likely maximum of 6 hours water will be able to drain from the site. The duration of any tidal flooding would be likely to be limited to a period of a few hours around high water.

6.19. In the event of an extreme flood without warning, residents should take refuge on the first floor of the property.

6.20. Safe escape will be provided by a formal flood warning and evacuation plan, which will be prepared in liaison with the Emergency Planners and tied in with the existing Emergency Plans for the area.

6.21. Site users should follow the warning and evacuation procedure detailed in the following section.

Flood Warning:

6.22. The EA is responsible for issuing flood warnings. Flood warnings are issued to the emergency services and local authorities. Both private individuals and organisations can sign-up to receive warnings via phone, text or email. This system of receiving warnings is currently voluntary.

6.23. Advice regarding severe flood warnings will generally be given during weather forecasts on local radio and TV. In the case of extreme events, warnings can also be disseminated via door to door visits by the police or locally appointed flood wardens.

6.24. The applicant has agreed to subscribe to the EA's flood warning service.

6.25. The EA issue flood warnings/alerts to specific areas when flooding is expected. The site lies within the Shoreham Town and Lancing Flood Warning Area.

Flood Warning	Flood Alert	Flood Warning	Severe Flood Warning
			
What it means?	Flooding is possible. Be prepared.	Flooding is expected. Immediate action required.	Severe flooding. Danger to life.
When it's used?	Two hours to two days in advance of flooding.	Half an hour to one day in advance of flooding.	When flooding poses a significant threat to life.
What to do?	Be prepared to act on your flood plan. Prepare a flood kit of essential items. Monitor local water levels and the flood forecast on our website.	Move family, pets and valuables to a safe place. Turn off gas, electricity and water supplies if safe to do so. Put flood protection equipment in place.	Stay in a safe place with a means of escape. Be ready should you need to evacuate from your home. Co-operate with the emergency services. Call 999 if you are in immediate danger.

Table 4: EA Flood Warning Service

Flood Plan:

6.26. It is recommended that the applicant and future owners, occupiers and Landlords of the property prepare a flood plan to protect life and property during a flood event:

Action	
Before a flood	• Find out if you are at risk of flooding. • Find out if you can receive flood warnings. • Prepare and keep a list of all your important contacts to hand or save them on your mobile phone. • Think about what items you can move now and what you would want to move to safety during a flood such as pets, cars, furniture, and electrical equipment. • Know how to turn off gas, electricity and water supplies. • Prepare a flood kit of essential items and keep it handy. It can include copies of important documents, a torch, a battery-powered or wind-up radio, blankets and warm clothing, waterproofs, rubber gloves and a first aid kit including all essential medication. • Consider buying flood protection products such as flood boards and airbrick covers to help reduce flood water getting into your property.
During a flood	• Tune into your local radio station on a battery or wind-up radio. • Fill jugs and saucepans with water. • Grab your flood kit - if you have prepared one. • Collect blankets, torch, first aid kit, medication and food. • Move important documents, personal items, valuables, and lightweight belongings upstairs or to high shelves. • Raise large items of furniture, or put them in large bags if you have them. • Move people, outdoor belongings, cars and pets to higher ground. • Switch off water, gas and electricity at mains when water is about to enter your home. Do not touch sources of electricity when standing in water. • Fit flood protection products, if you have them, for example flood boards, airbrick covers, sandbags. • Put plugs in sinks and baths. Weigh them down with a pillowcase or plastic bag filled with soil. • If you do not have non-return valves fitted, plug water inlet pipes with towels or cloths. • Move your family and pets upstairs or to a high place with a means of escape. • Listen to the advice of the emergency service and evacuate if told to do so. • Avoid walking or driving through flood water. Six inches of fast-flowing water can knock over an adult and two feet of water can move a car.
After a flood	• If you have flooded, contact your insurance company as soon as possible. • Take photographs and videos of your damaged property as a record for your insurance company. • If you don't have insurance, contact your local authority for information on grants and charities that may help you. • Flood water can contain sewage, chemicals and animal waste. Always wear waterproof outerwear, including gloves, wellington boots and a face mask. • Have your electrics, central heating and water checked by qualified engineers before switching them back on.

Table 5: Flood plan

Off-Site Impacts:

Fluvial Floodplain Storage:

6.27. The NPPF requires that where development is proposed in undefended areas of floodplain, which lie outside of the functional floodplain, the implications of ground raising operations for flood risk elsewhere needs to be considered. Raising existing ground levels may reduce the capacity of the floodplain to accommodate floodwater and increase the risk of flooding by either increasing the depth of flooding to existing properties at risk or by extending the floodplain to cover properties normally outside of the floodplain. Flood storage capacity can be maintained by lowering ground levels either within the curtilage of the development or elsewhere in the floodplain, in order to maintain at least the same volume of flood storage capacity within the floodplain.

6.28. In undefended tidal areas, raising ground levels is unlikely to impact on maximum tidal levels so the provision of compensatory storage should not be necessary.

6.29. For development in a defended flood risk area, the impact on residual flood risk to other properties needs to be considered. New development behind flood defences can increase the residual risk of flooding if the flood defences are breached or overtopped by changing the conveyance of the flow paths or by displacing flood water elsewhere. If the potential impact on residual risk is unacceptable then mitigation should be provided.

The site is situated within an area at tidal flood risk. As such, there will be no unacceptable loss of flood storage post development.

Surface Water Drainage:

6.30. The development will utilise Sustainable drainage systems (SuDS) design in accordance with the NPPF for Planning Applications and the drainage hierarchy as follows:

1. Store rainwater for later use;
2. Infiltration techniques;
3. Attenuate rainwater by storing in tanks for gradual release;
4. Discharge rainwater direct into watercourse;
5. Discharge rainwater into surface water sewer;
6. Discharge rainwater into a combined sewer.

6.31. Due to the small scale of the development, a full Surface Water Drainage Strategy is not required at this stage of planning. However, SuDS features will be incorporated into the development where practically possible or will utilise the existing arrangement on site. As such, any change in surface water runoff from the site will likely be negligible.

7. Sequential and Exception Test

7.1. The Sequential Test aims to ensure that development does not take place in areas at high risk of flooding when appropriate areas of lower risk are reasonably available.

7.2. The Sequential Test is applied to developments in areas identified as being at risk of any source of flooding now or in the future. The Sequential Test ensures that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account.

7.3. The sequential approach is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. This means avoiding, so far as possible, development in current and future medium and high flood risk areas considering all sources of flooding including areas at risk of surface water flooding. Other forms of flooding need to be treated consistently with river and tidal flooding in mapping probability and assessing vulnerability, so that the sequential approach can be applied across all areas of flood risk.

7.4. The site is situated within Flood Zones 1 and 2 when using the Environment Agency Flood Map for Planning (Rivers and Sea).

7.5. The EA Surface Water Spatial Planning mapping indicates that the site is outside of the surface water flooding extents during the 1:30 year (3.3% AEP), 1:100 year (1% AEP) and 1:1000 year (0.1% AEP) events for present day and climate change (2061 to 2125).

	Flood Risk Vulnerability Classification				
Flood Zones	**Essential Infrastructure**	**Highly Vulnerable**	**More Vulnerable**	**Less Vulnerable**	**Water Compatible**
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a	Exception Test required	X	Exception Test required	✓	✓
Zone 3b	Exception Test required	X	X	X	✓

Table 6: Flood risk vulnerability and flood zone 'compatibility' (Source: NPPF Table 3 Technical Guidance)

7.6. Using the table above, the proposed application is considered to be suitable within Flood Zone 2. The Sequential and Exception Tests do not need to be applied to minor developments and changes of use. This application is for a residential extension to the existing building – Minor development.

8. Discussion and Conclusion

8.1. Unda Consulting Limited have been appointed by Aminah Ahad & Mohammed Chowdhury to undertake a Flood Risk Assessment for the proposed development at 1 Lisher Road, Lancing, West Sussex, BN15 9EY. The FRA has been undertaken in accordance with the National Planning Policy Framework (NPPF) and the associated technical guidance.

8.2. The existing site is a two-storey residential dwelling. The site is understood to have lawful planning permission for residential use. The surrounding area is characterised by residential properties.

8.3. The proposed application is for the erection of a two-storey side extension.

8.4. The proposed application is for a residential extension which does not exceed 250m^2. There will be no lowering of floor levels, new basements, ground floor bedrooms or intensification of usage. The site will remain a single dwelling. There will be no increase in vulnerability classification.

8.5. The existing site is classified as “More Vulnerable” (residential). Post development, the site will remain “More Vulnerable” as the application is for a two-storey extension to remain a single dwelling. As such, there will be no increase in vulnerability classification.

8.6. The site is located within Flood Zone 1 (Low Probability), which means it is defined as land having a less than 1:1000 annual probability of river or sea flooding and Flood Zone 2 (Medium Probability), which means it is defined as land having between a 1:100 and 1:1000 annual probability of river flooding; or Land having between a 1:200 and 1:1000 annual probability of sea flooding.

8.7. The risk would appear to be predominantly tidal and originate from the English Channel and River Adur Estuary.

8.8. The EA has provided modelled flood data from the Arun to Adur Flood Modelling completed by JBA Consulting in 2012.

8.9. Flood extents and levels have been provided for the defended and undefended scenarios for the present day and with climate change.

8.10. The site is entirely outside of the defended 1:200 year and 1:1000 year flood extents for the present day.

8.11. The site is entirely outside of the undefended 1:200 year flood extent but partially within the undefended 1:1000 year flood extent for the present day.

8.12. Comparison with the maximum undefended 1:1000 year present day flood level (4.49mAOD) with site topography shows the site is between 0.29m below and 0.31m above the flood level for this event.

8.13. The site is shown to be within both the defended and undefended 2115 1:200 year flood extent and the defended 2115 1:1000 year flood extent.

8.14. As the undefended 2115 1:200-year flood level is higher than the corresponding defended flood level, a precautionary approach has been adopted, with the undefended flood level utilised for the purposes of this assessment.

8.15. Comparison of the undefended 2115 1:200-year climate change flood level (5.39mAOD) with the site topography indicates potential flood depths ranging from approximately 0.59m to 1.19m across the site during this event.

8.16. According to EA data, there are no Flood Storage Areas located in close proximity to the site.

8.17. The 2024 Adur and Worthing Level 1 SFRA identifies that the Beachy Head to Selsey Bill Shoreline Management Plan (SMP) adopts a 'Hold the Line' policy for the coastline in the vicinity of the site. The policy applies in the short, medium and long term and involves maintaining or upgrading the level of protection provided by coastal defences.

8.18. The EA Surface Water Spatial Planning mapping indicates that the site is outside of the surface water flooding extents during the 1:30 year (3.3% AEP), 1:100 year (1% AEP) and 1:1000 year (0.1% AEP) for present day and climate change event (2061 to 2125).

8.19. While the site is outside the 2024 Adur and Worthing Level 1 SFRA Groundwater Mapping, it falls within the GW1 zone for sea-level-rise impacts on groundwater. This means the groundwater level is more than 0.5m below the surface, and the region is above the current tidal level but below future tidal levels.

8.20. According to the 2024 Adur and Worthing Level 1 SFRA, the site's postcode area (BN15 9) has had 45 recorded incidents of sewer flooding between January 2013 and May 2023.

8.21. The site is located outside the maximum inundation extent on the EA Reservoir Inundation Map. The EA also advise on their website that reservoir flooding is extremely unlikely.

8.22. The EA holds no records of historic flooding affecting the site. However, the EA holds records of historical flooding in the surrounding area in 1960, 1974, and 1976.

In Summary:

- The proposed application is for the erection of a two-storey side extension.
- The proposed development fits within EA Standing Advice for domestic extensions.
- The proposed application is for a residential extension which does not exceed 250m^2.
- There will be no lowering of floor levels, new basements, ground floor bedrooms or intensification of usage.
- The site will remain a single dwelling. There will be no increase in vulnerability classification.
- Post development, the site will remain classified as "more vulnerable" (residential).
- In the event of an extreme flood without warning, residents should take refuge on the first floor of the property.
- Safe escape will be provided by a formal flood warning and evacuation plan, which will be prepared in liaison with the Emergency Planners and tied in with the existing Emergency Plans for the area.
- There will be no unacceptable loss of flood storage post development.
- Due to the small scale of the development, a full Surface Water Drainage Strategy is not required at this stage of planning.
- The applicant will register with the free Environment Agency Floodline Alert Direct service.

Assuming accordance with these flood risk management measures, Unda Consulting Limited consider the proposed application to be suitable in flood risk terms.

Unda Consulting Limited
October 2026

Appendix

A – Development Plans:

- Site location, existing and proposed plans – Applicant.

B – EA Flood Map for Planning:

- Flood Map for Planning – Environment Agency.

C – NPPF Annex F, Table 2:

- NPPF Annex F, Table 2: Flood risk vulnerability classification table.

Appendix A



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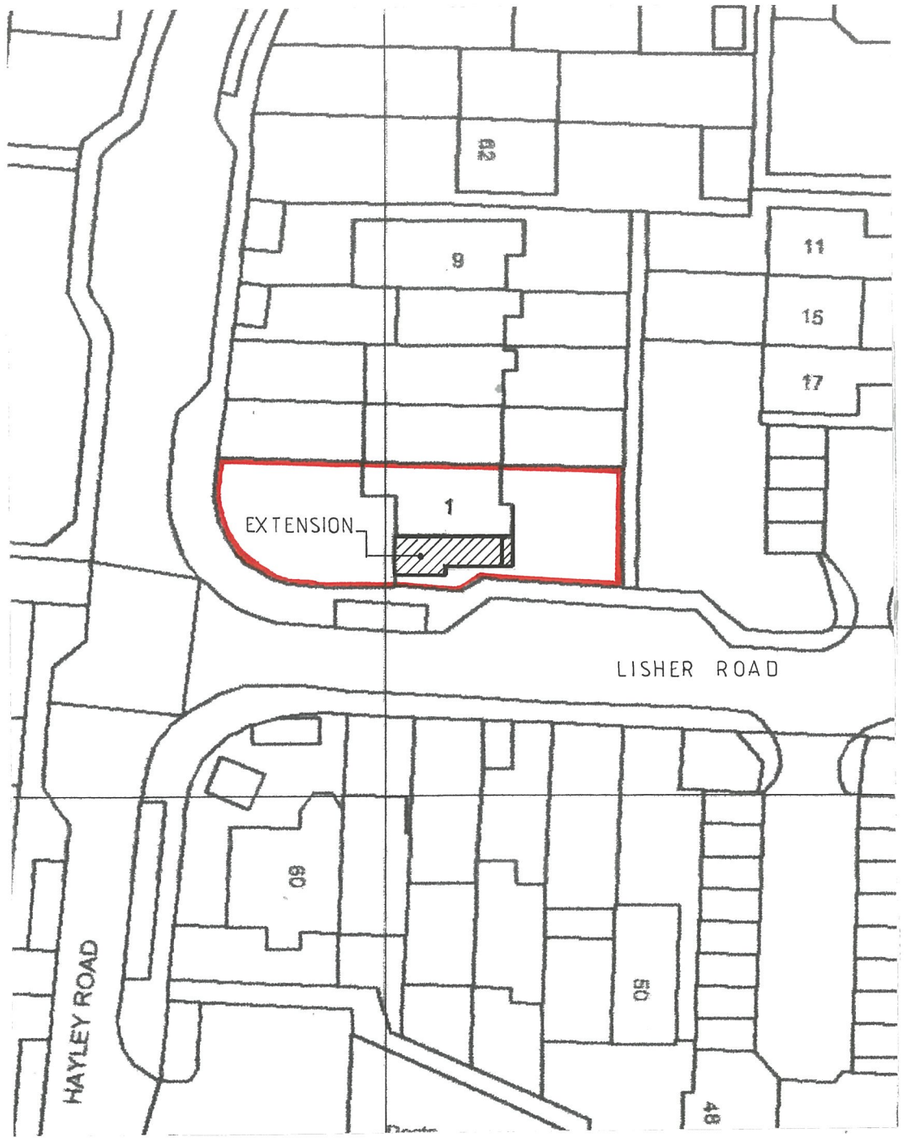
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bn44 3ye

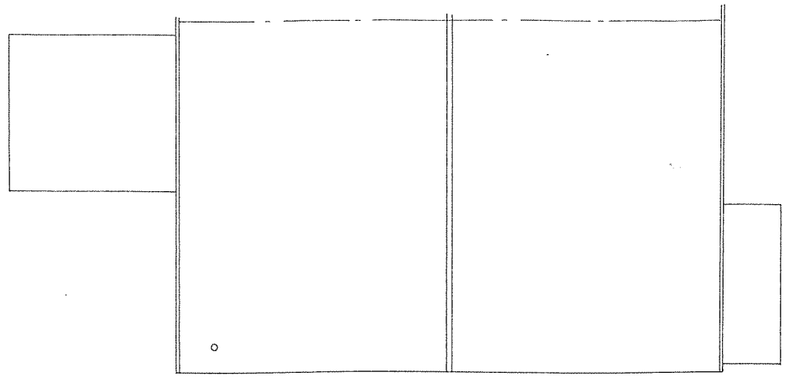
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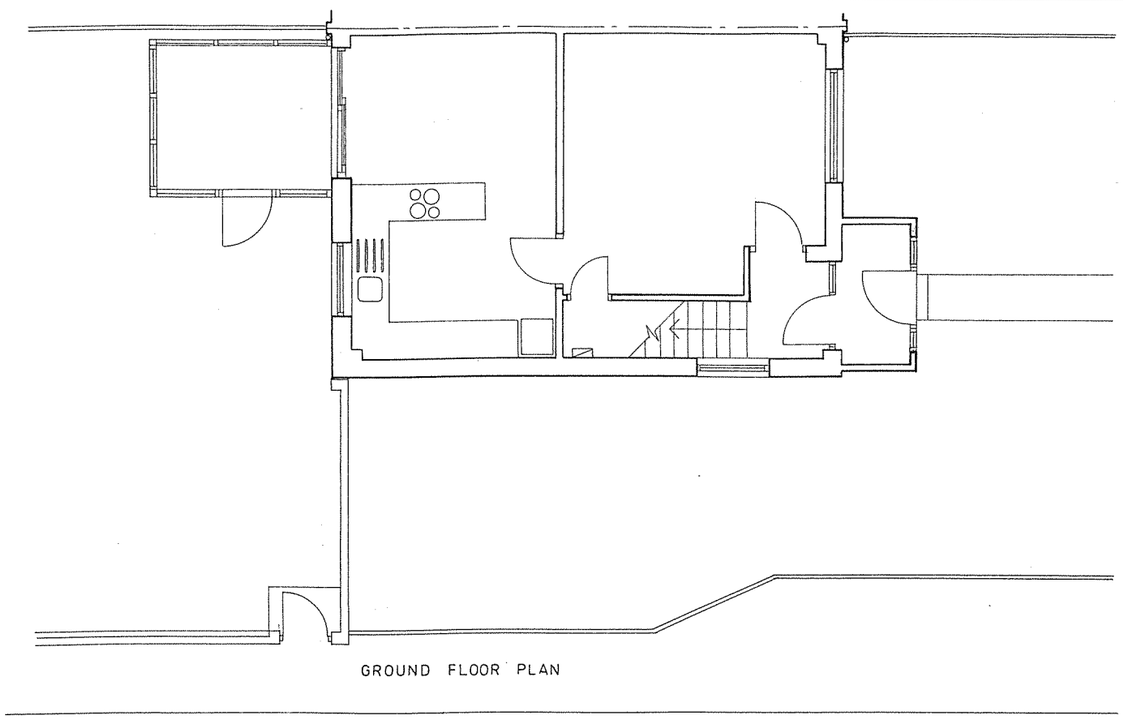
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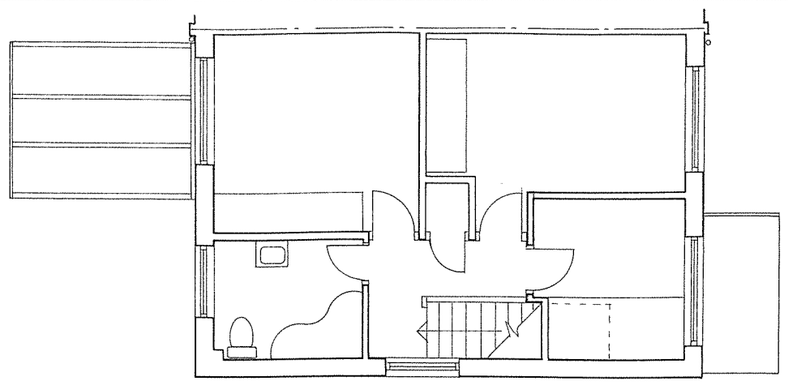


ROOF PLAN

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GROUND FLOOR PLAN



FIRST FLOOR PLAN

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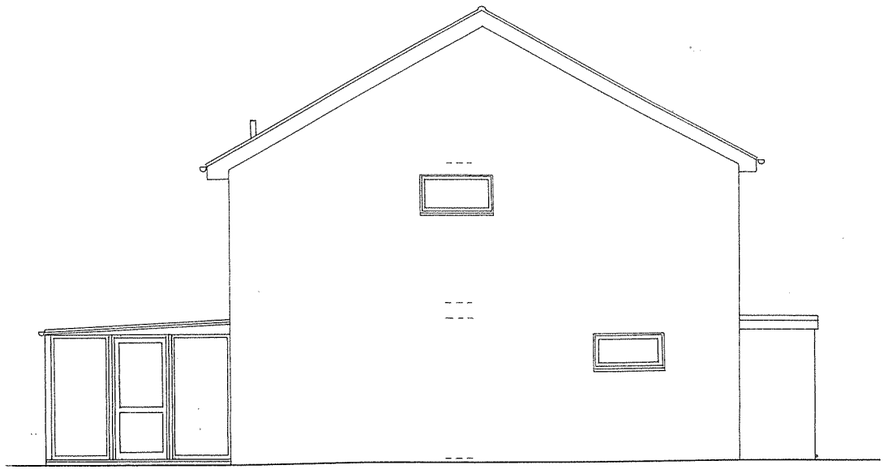
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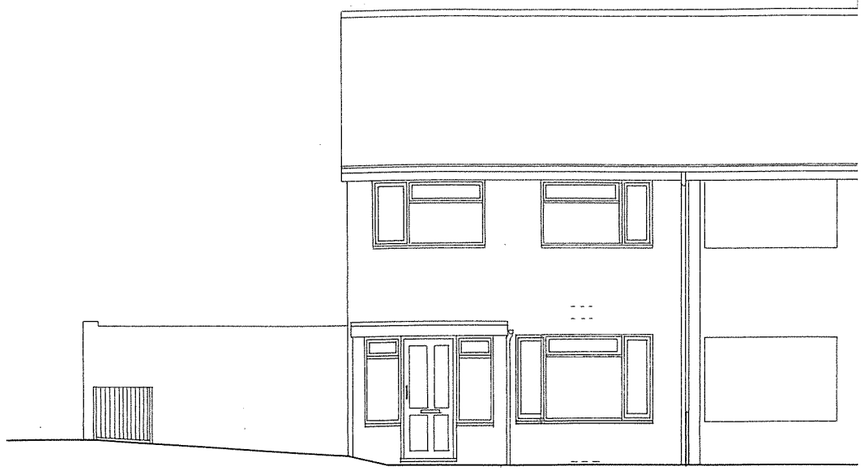
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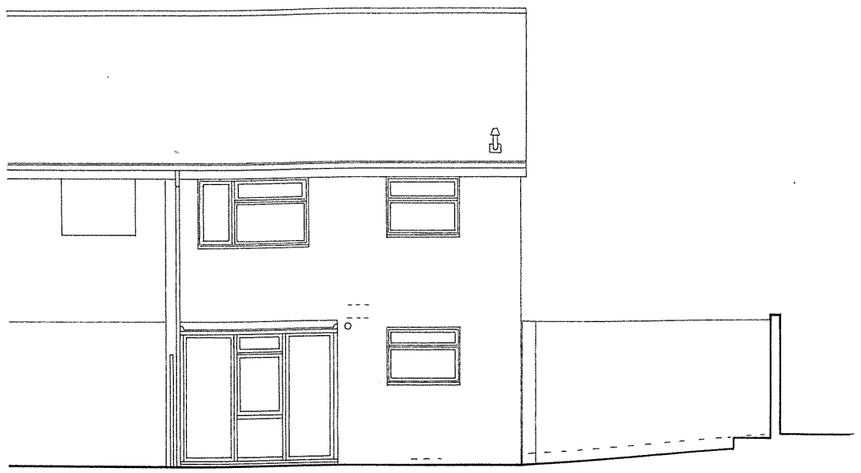


SOUTH ELEVATION

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EAST ELEVATION



WEST ELEVATION

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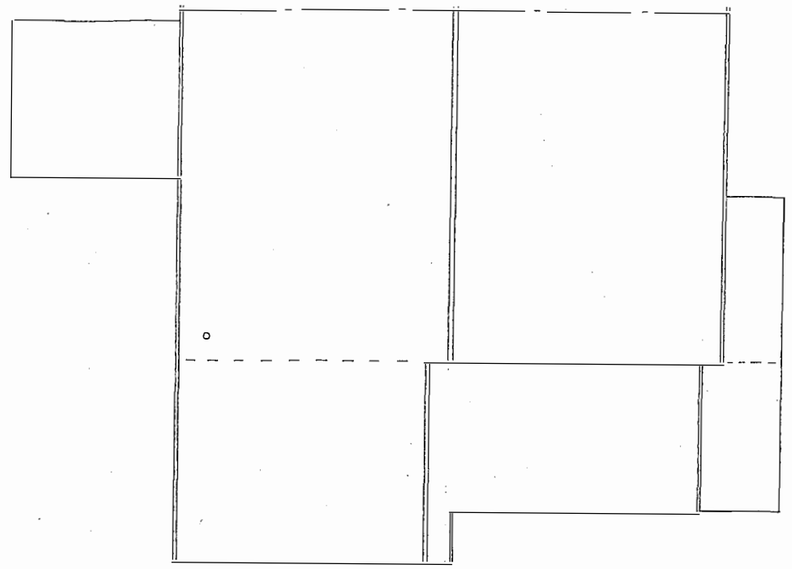
Client :

Drawing Title : Existing Elevations

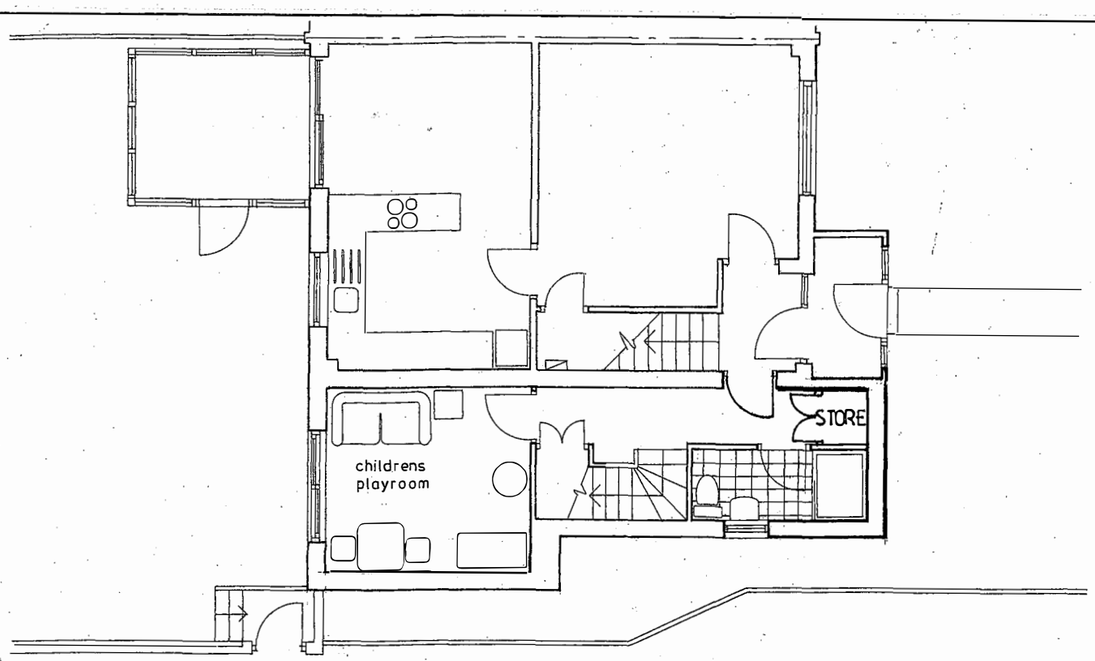
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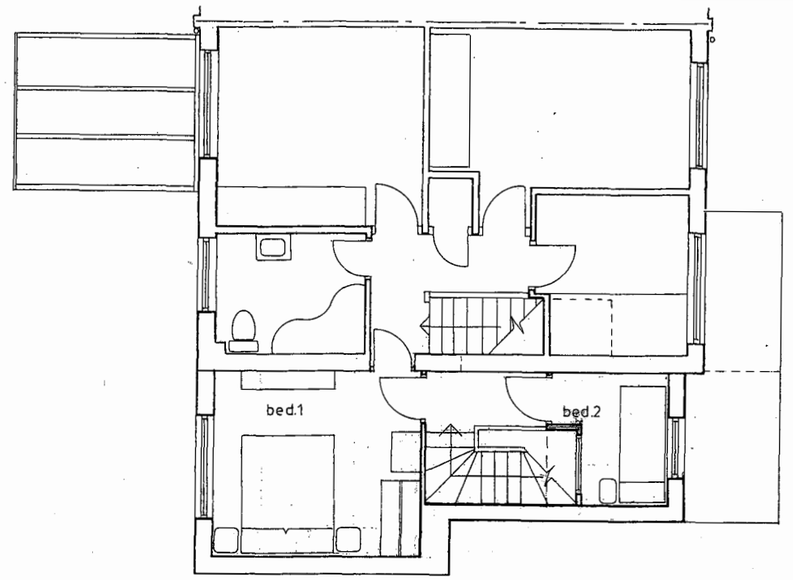




ROOF PLAN



GROUND FLOOR PLAN



FIRST FLOOR PLAN

REV A OCT '26 HALLWAY ACCESS

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steyning
bn44 3ye

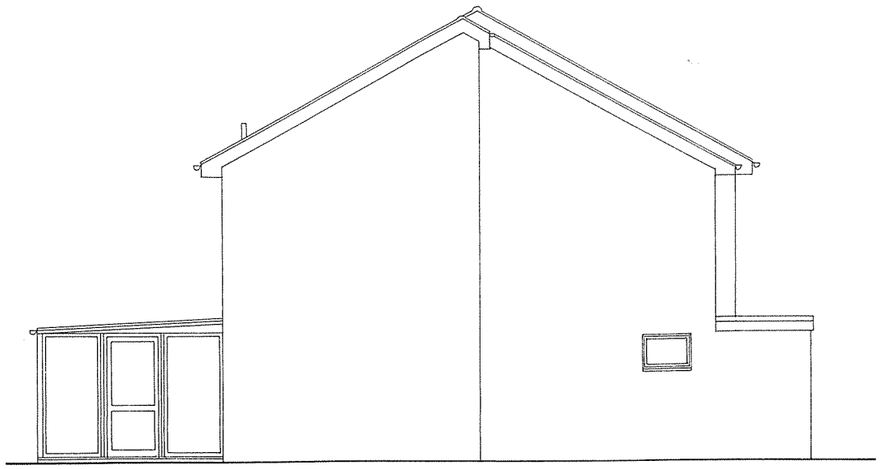
phone 07977 070 031
e.mail peter@atelierconsultants.co.uk

Project : 1 LISHER ROAD, BN15 9EY

Client :

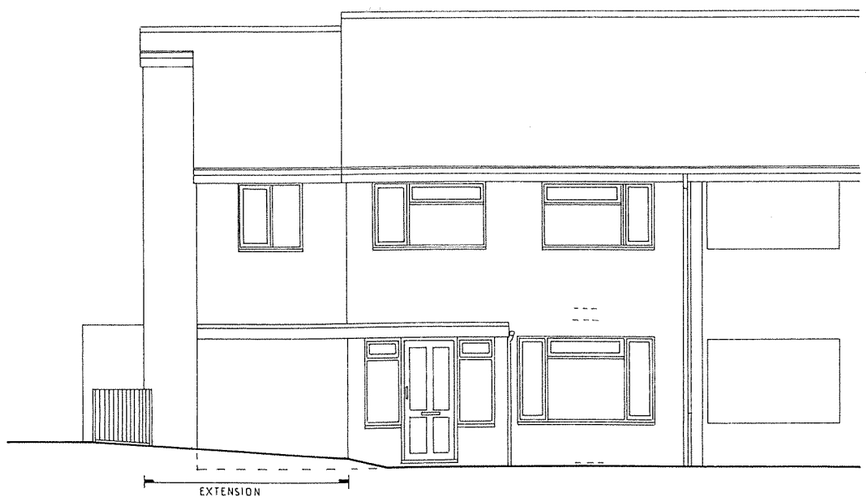
Drawing Title : Proposed Plans

Scale: 1:100 @ A3 Date: July 2026 Drawing Number: 289 / P / 010 Rev. A

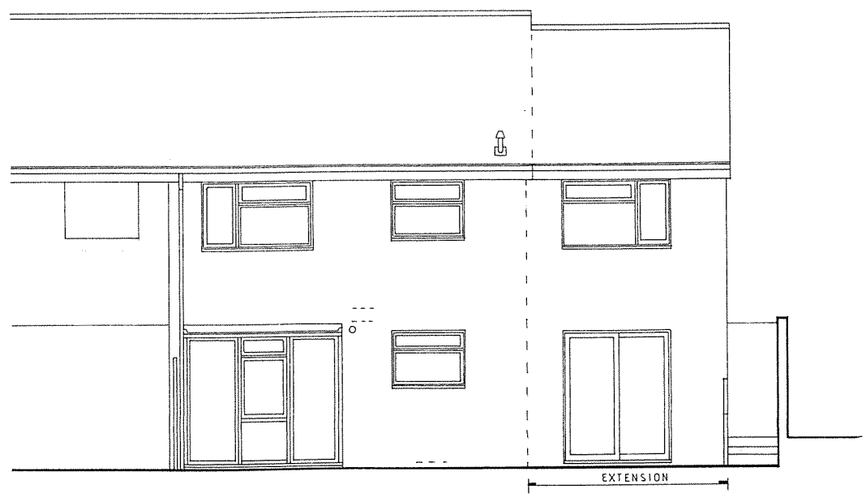


SOUTH ELEVATION

0 1 2 3 4 5 6 7 8 9 10 metres @ 1:100



EAST ELEVATION



WEST ELEVATION

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Client :

Drawing Title : Proposed Elevations

Scale: 1:100 @ A3 Date: July 2026 Drawing Number: 289 / P / 011 Rev.



0 10 20 30 40 50
METRES @1:500

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Project : 1 LISHER ROAD, BN15 9EY

Client :

Drawing Title : Local Precedent Locations

Scale: 1:500 @ A3 Date: July 2026 Drawing Number: 289 / P / 012 Rev.

Appendix B

Flood map for planning

Your reference	Location (easting/northing)	Created
Unspecified	**518702/105322**	**1 October 2026 15:16**

Your selected location is in flood zone 2, an area with a medium probability of flooding.

This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see https://www.gov.uk/guidance/flood-risk-assessment-standing-advice)

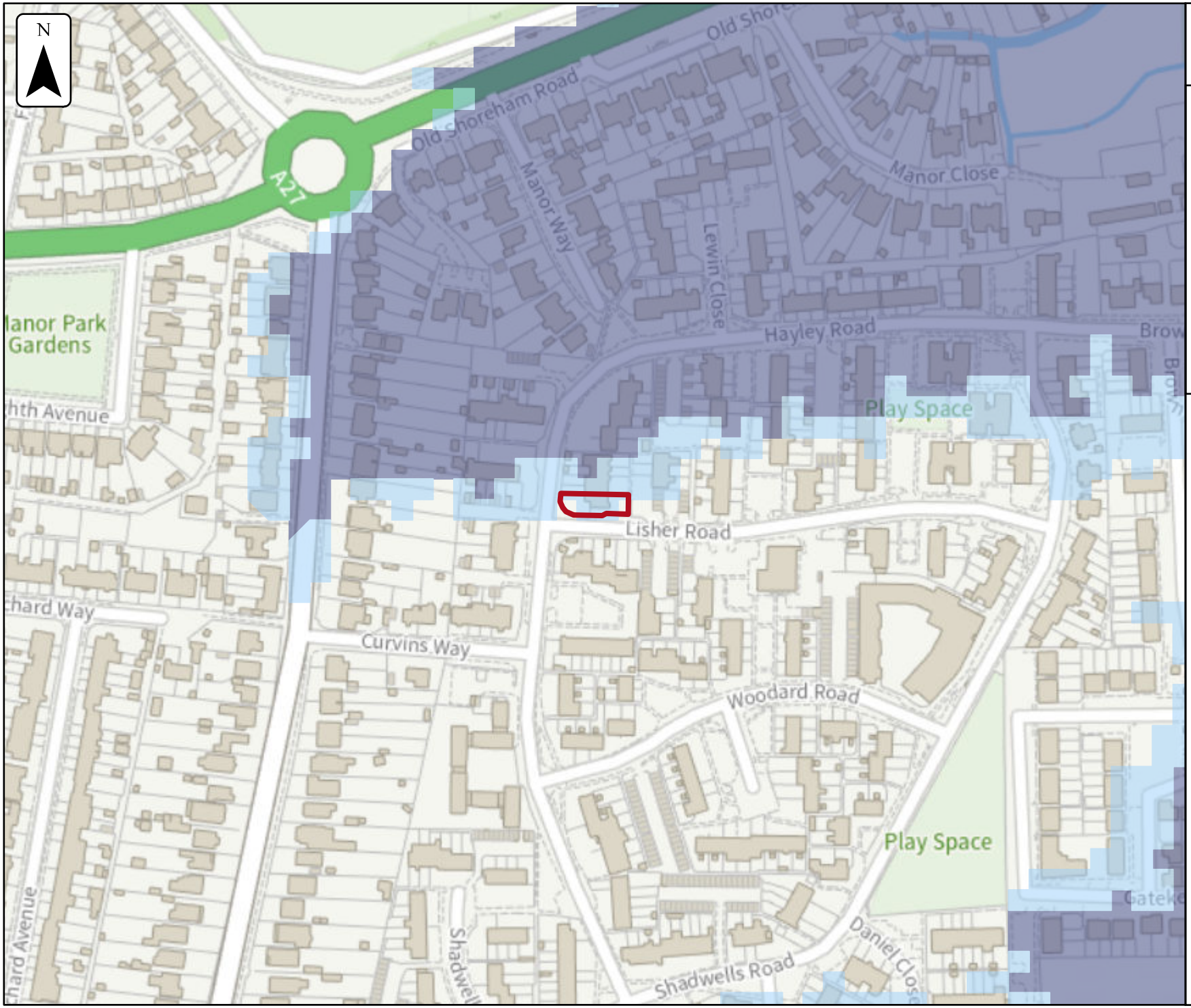
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2026 AC0000807064. https://flood-map-for-planning.service.gov.uk/os-terms



Environment Agency

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
518702/105322

Scale
1:2,500

Created
1 Oct 2026 15:16

- Flood zone 3
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Water storage area

0 20 40 60 m

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Appendix C

Annex F, Table 2: Flood risk vulnerability classification	
Essential Infrastructure:	• Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. • Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including for electricity generation and storage, electricity network infrastructure, telecommunications infrastructure, water supply reservoirs and water treatment works that need to remain operational in times of flood. • Wind turbines. • Solar farms. • Hydrogen production facilities. • Carbon Capture, distribution and storage facilities. • Heat networks. • Data Centres. • Electric vehicle charging stations.
Highly Vulnerable:	• Police and ambulance stations, fire stations and command centres. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use. • Installations requiring hazardous substances consent or which fall under The Control of Major Accident Hazards Regulations 2015. Where there is a demonstrable need for such installations – including bulk storage associated with port or similar facilities, and energy infrastructure and carbon capture or storage – to be located at coastal, water-side, or other high flood risk areas, they should be classified as 'Essential Infrastructure'. • Installations requiring a radioactive substances regulations permit for disposal to landfill or dedicated near-surface disposal by burial.
More Vulnerable: [78] Landfill in this annex is as defined in Schedule 10 of the Environmental Permitting (England and Wales) Regulations 2010	• Hospitals. • Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. • Buildings used for dwelling houses (including floating/rising designs), student halls of residence, drinking establishments, nightclubs and hotels. • Non–residential uses for health services, nurseries and educational establishments. • Landfill[78] and sites used for waste management facilities for hazardous waste. • Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.
Less Vulnerable:	• Police, ambulance and fire stations which are not required to be operational during flooding. • Buildings used for: shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'more vulnerable' class; 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 working). • Water treatment works which do not need to remain operational during times of flood. • Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place. • Car parks. • Land-raising (unless part of or enabling a development with a higher vulnerability classification).
Water-Compatible Development:	• Flood control infrastructure. • Water transmission infrastructure and pumping stations. • Sewage transmission infrastructure and pumping stations. • Sand and gravel working. • Docks, marinas and wharves. • Navigation facilities. • Ministry of 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 and essential facilities such as changing rooms. • Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

National Planning Policy Framework Annex F, Table 2: Flood risk vulnerability classification