



degadea
water, civils and environment

Flood Risk Assessment AEG6846_BN6_SayersCommon_01

Site Address: 1 Wintergreen Way
Mid Sussex
West Sussex
BN6 9ZQ

UK Experts in Flood Modelling, Flood Risk
Assessments, and Surface Water Drainage Strategies

degadea
water, civils and environment

Document Issue Record

Project: Flood Risk Assessment

Prepared for: Scott Percy

Reference: AEG6846_BN6_SayersCommon_01

Site Location: 1 Wintergreen Way, Mid Sussex, West Sussex, BN6 9ZQ

Issue	Date	Author	Check	Auth.	Comments
1	20/12/2024	Mace Latham	OM	DS	First issue

Please Note:

This report has been prepared for the exclusive use of the commissioning party and may not be reproduced without prior written permission from Aegaea Limited. All work has been carried out within the terms of the brief using all reasonable skill, care, and diligence. No liability is accepted by Aegaea Limited for the accuracy of data or opinions provided by others in the preparation of this report, or for any use of this report other than for the purpose for which it was produced. Where reference has been made to probability events, or risk probability, it does not ensure that there is no risk or that there is no residual risk from an extreme, unlikely or unforeseen flood event over the lifetime of the development.

Table of Contents

Summary	1
1. Introduction.....	4
Site Overview.....	4
Planning Policy and Guidance.....	7
2. Planning Policy.....	8
National Planning Policy Framework (NPPF)	8
Local Planning Policy	11
Sequential and Exception Tests	12
Summary.....	12
3. Consultation and Review.....	13
Documents and Online Mapping.....	13
4. Sources of Flood Risk.....	15
Fluvial.....	15
Tidal	17
Canals	18
Pluvial.....	18
Reservoirs.....	20
Groundwater.....	21
Sewers.....	22
5. Flood Risk Mitigation	24
Sources of Flooding.....	24
Increase to Flood Risk Elsewhere.....	25
6. Conclusions.....	26
Appendix A - Development Proposals.....	27

Summary

Development Description	Existing	Proposed
Development Type	A residential dwelling	Client is submitting an application to extend the footprint of the existing dwelling to create an ancillary annex.
EA Vulnerability Classification	More Vulnerable	More Vulnerable
Ground Floor Level	Ground levels within the site vary between approximately 20.6m AOD and 22.1m AOD based on EA 1m LiDAR.	No change, FFLs of the proposed annex extension are to be set no lower than existing FFLs.
Level of Sleeping Accommodation	First floor	First floor
Surface Water Drainage	N/A ¹	Proposal is a minor development and thus runoff should be discharged via existing system. Small scale SuDS such as rainwater planters and water butts could be implemented in external areas to provide betterment over existing situation.
Site Size	Approximately 590m ²	No change
Development Size	N/A ²	Proposed development less than 250m ²
Risk to Development	Summary	Comment
EA Flood Zone	Flood Zone 1	Proposed and existing footprint located outside all modelled pluvial flood risk areas.
Flood Source	Pluvial	
SFRA Available	Strategic Flood Risk Assessment Level 1 (Mid Sussex District Council, 2015)	
Management Measures	Summary	Comment
Ground floor level above extreme flood levels	Yes	Existing and proposed footprint outside all modelled fluvial and pluvial extents.
Safe Access/Egress Route	No	Proposal is for an extension to an existing dwelling and thus access/egress

Flood Resilient Design		arrangements would not differ from existing situation, post-development.
	Recommended	See mitigation measures detailed in Section 5.
	N/A ¹	Proposal is a minor development and thus runoff should be discharged via existing system. Small scale SuDS such as rainwater planters and water butts could be implemented in external areas to provide betterment over existing situation.
Site Drainage Plan	N/A ¹	
Flood Warning and Evacuation Plan	N/A ¹	Recommended that occupier monitor Met Office Weather Warnings for extreme weather events.
Offsite Impacts	Summary	Comment
Displacement of floodwater	Negligible	Development is classified as a minor development in terms of flood risk and therefore in isolation should not result in an increase in flood risk elsewhere in accordance with Paragraph 051 of the NPPG. In addition, the proposed extension lies in Flood Zone 1 and outside modelled pluvial flood extents.
Increase in surface run-off generation	Negligible	Proposal is a minor development and thus runoff should be discharged via existing system. Small scale SuDS such as rainwater planters and water butts could be implemented in external areas to provide betterment over existing situation.
Impact on hydraulic performance of channels	Negligible	The nearest watercourse is an unnamed ordinary watercourse which is approximately 15m from the south site boundary. The proposed development is approximately 20m from the ordinary watercourse. Therefore Ordinary Watercourse Consent (OWC) is not expected to be required.

¹ not required for this assessment

² data not available.

1. Introduction

- 1.1. Aegaea were commissioned by Scott Percy to undertake a Flood Risk Assessment (FRA) to facilitate a planning application for the proposed development. This FRA has been prepared in accordance with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance.
- 1.2. This FRA is intended to support a full planning application and as such the level of detail included is commensurate and subject to the nature of the proposals.

Site Overview

- 1.3. The site of the proposed development is 1 Wintergreen Way, Mid Sussex, West Sussex, BN6 9ZQ (Figure 1).



Figure 1: Site Location (Base map and data from Google Satellite Imagery ©)

- 1.4. The client is submitting an application to extend the footprint to create an ancillary annex to the main dwelling. The increased footprint will allow for greater habitable spaces including a new

kitchen and lounge area. The annex includes an internal doorway to the main dwelling and the application does not seek to create a separate unit.

- 1.5. In the absence of a topographical survey, Environment Agency Light Detection and Ranging (LiDAR) data Digital Terrain Model (DTM) has been used to review the topography of the site. The LiDAR data shows the ground elevation of the site varies between approximately 20.6m AOD (metres Above Ordnance Datum) and 22.1m AOD, falling to the west. The existing residential dwelling is located on ground levels of between approximately 20.9m AOD and 21.2m AOD with the proposed footprint within existing ground levels of between approximately 20.9m AOD and 21.0m AOD (Figure 2).

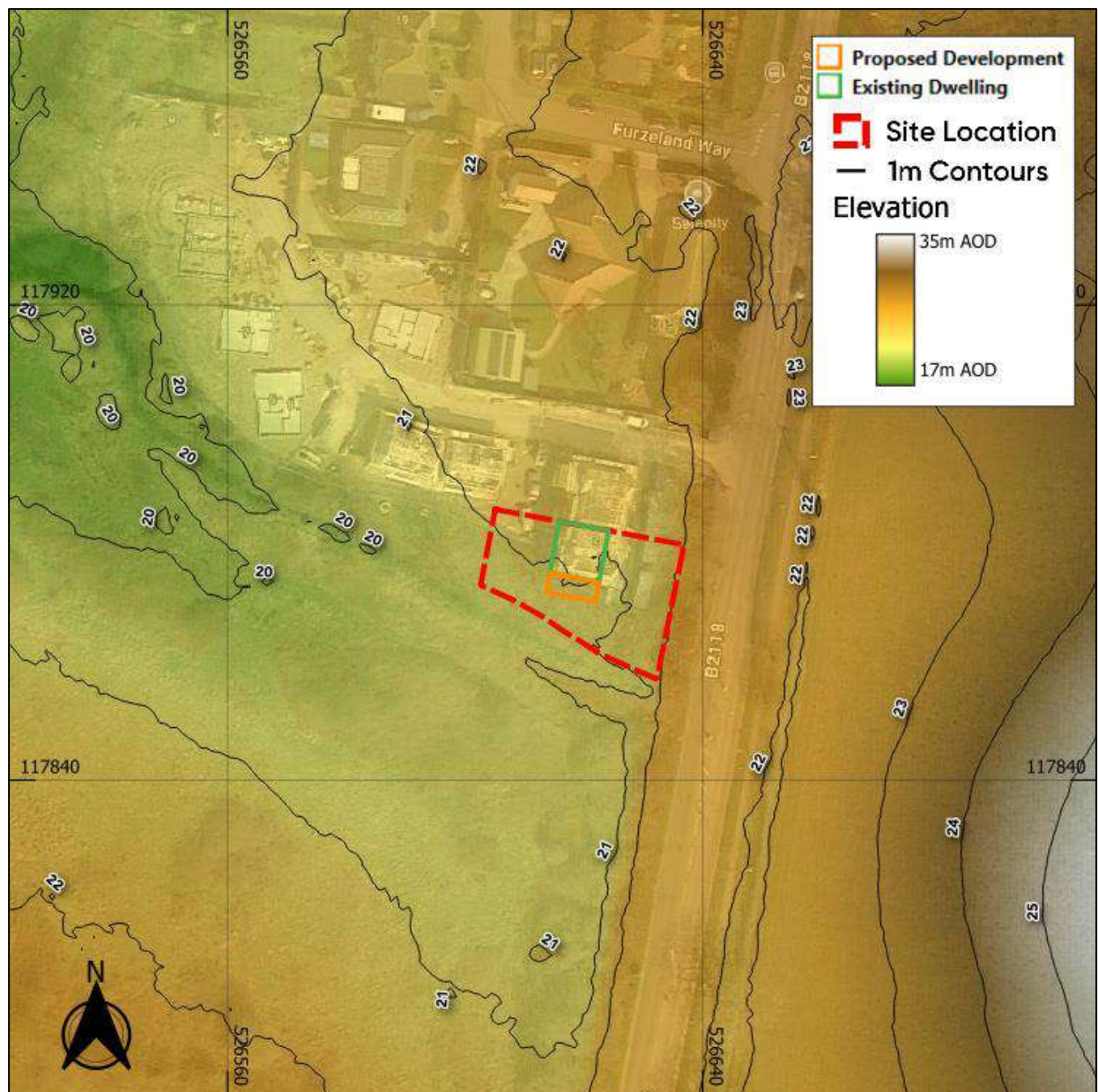


Figure 2: Site Topography (Base map and data from Google Satellite Imagery (CC-BY-SA). Contains public sector information licensed under the Open Government Licence v3.0)

- 1.6. Mid Sussex District Council is the Local Planning Authority (LPA) for the site and West Sussex County Council is the designated Lead Local Flood Authority (LLFA). The site sits within the Environment Agency's Solent and South Downs region.

Planning Policy and Guidance

1.7. UK government planning guidance states¹ that an FRA is required for developments which are:

- *in flood zones 2 or 3 including minor development and change of use*
- *more than 1 hectare (ha) in flood zone 1*
- *less than 1 ha in flood zone 1, including a change of use in development type to a more vulnerable class (for example from commercial to residential), where they could be affected by sources of flooding other than rivers and the sea (for example surface water drains, reservoirs)*
- *in an area within flood zone 1 which has critical drainage problems as notified by the Environment Agency*

1.8. Review of the EA Risk of Flooding from Surface Water dataset showed that the site is affected partially within the modelled 1 in 1000-year pluvial flood event. Therefore, an FRA is required in accordance with Mid Sussex District Council guidance.

1.9. The objective of this FRA is to demonstrate that the proposals are acceptable in terms of flood risk. This report summarises the findings of the study and specifically addresses the following issues in the context of the current legislative regime:

- Fluvial/tidal flood risk
- Surface water flood risk
- Risk of flooding from other sources

¹ <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications#when-you-need-an-assessment>

2. Planning Policy

- 2.1. Inappropriate development in a flood risk area could pose significant risk in terms of personal safety and damage to property for the occupiers of the development or for people elsewhere. The approach taken in the assessment of flood risk at the planning stage is set out in national, regional, and local planning policy and associated guidance. This section summarises the key policies and guidance relevant to the proposed development.

National Planning Policy Framework (NPPF)

- 2.2. The National Planning Policy Framework² (NPPF) (MHCLG, 2024) which includes UK Government policy on development and flood risk states:

170. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.

176. Applications for some minor development and changes of use should also not be subject to the sequential test, nor the exception test [set out below], but should still meet the requirements for site-specific flood risk assessments set out in footnote 63.

181. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*

² <https://www.gov.uk/guidance/national-planning-policy-framework>, last updated Dec 2024

- b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;*
- c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*
- d) any residual risk can be safely managed; and*
- e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.*

2.3. Paragraph 051 of the Flood Risk and Coastal Change Planning Practice Guidance (PPG) states:

Minor development means:

- minor non-residential extensions (industrial/commercial/leisure etc): extensions with a floorspace not in excess of 250 square metres.*
- alterations: development that does not increase the size of buildings, e.g. alterations to external appearance.*
- householder development: for example, sheds, garages, games rooms etc within the curtilage of the existing dwelling, **in addition to physical extensions to the existing dwelling itself**. This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling (e.g. subdivision of houses into flats) or any other development with a purpose not incidental to the enjoyment of the dwelling.*

2.4. As such, the proposal would be considered a Minor Development under the PPG.

2.5. Footnote 63 of the NPPF states:

A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

2.6. Flood Zones in England are defined as follows:

Table 1: Flood Zone Definitions

Flood Zone	Definition
Zone 1 Low Probability	Land having less than 1 in 1,000 annual probability of river or sea flooding (all land outside Zones 2 and 3).
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding.
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)

- 2.7. An FRA should be appropriate to the scale, nature, and location of the development. It should identify and assess the risk from all sources of flooding to and from the development and demonstrate how any flood risks will be managed over the lifetime of the development.
- 2.8. An assessment of hydrological impacts should be undertaken, including to surface water runoff and impacts to drainage networks in order to demonstrate how flood risk to others will be managed following development and taking climate change into account.

Local Planning Policy

- 2.9. The Local Plan prepared by the Local Planning Authority, Mid Sussex District Council, sets out the policies for development in the local area.
- 2.10. Policy DP41 Flood Risk and Drainage outlines the requirements for new development within the area. It states:

Strategic Objectives: 1) To promote development that makes the best use of resources and increases the sustainability of communities within Mid Sussex, and its ability to adapt to climate change; and 2) To support sustainable communities which are safe, healthy and inclusive.

Evidence Base: Gatwick Sub Region Water Cycle Study; Strategic Flood Risk Assessment; Water. People. Places SuDS guidance.

Proposals for development will need to follow a sequential risk-based approach, ensure development is safe across its lifetime and not increase the risk of flooding elsewhere. The District Council's Strategic Flood Risk Assessment (SFRA) should be used to identify areas at present and future flood risk from a range of sources including fluvial (rivers and streams), surface water (pluvial), groundwater, infrastructure and reservoirs.

Particular attention will be paid to those areas of the District that have experienced flooding in the past and proposals for development should seek to reduce the risk of flooding by achieving a reduction from existing run-off rates.

Sustainable Drainage Systems (SuDS) should be implemented in all new developments of 10 dwellings or more, or equivalent non-residential or mixed development unless demonstrated to be inappropriate, to avoid any increase in flood risk and protect surface and ground water quality. Arrangements for the long term maintenance and management of SuDS should also be identified.

For the redevelopment of brownfield sites, any surface water draining to the foul sewer must be disconnected and managed through SUDS following the remediation of any previously contaminated land.

SuDS should be sensitively designed and located to promote improved biodiversity, an enhanced landscape and good quality spaces that improve public amenities in the area, where possible.

The preferred hierarchy of managing surface water drainage from any development is:

- 1. Infiltration Measures*
- 2. Attenuation and discharge to watercourse; and if these cannot be met,*
- 3. Discharge to surface water only sewers.*

Land that is considered to be required for current and future flood management will be safeguarded from development and proposals will have regard to relevant flood risk plans and strategies.

Sequential and Exception Tests

- 2.11. The Sequential and Exception Tests are applied in specific cases defined by UK Government policy. Their purpose is to drive development to areas of low flood risk and to support developments which improve flood risk for developments in areas at risk of flooding.
- 2.12. The proposed development is viewed as a minor development in accordance with the EA standing advice. In accordance with NPPF paragraph 176, minor developments should not be subject to the sequential or exception tests but should still meet the requirements for site-specific flood risk assessments set out in footnote 63.

Summary

- 2.13. This flood risk assessment has been prepared with due consideration to the above local and national policy.

3. Consultation and Review

Documents and Online Mapping

- 3.1. Local Governments and Lead Local Flood Authorities provide documents which contain data and policies on flood risk and new development in their areas. These documents are introduced and briefly summarised below. For the purposes of this FRA, these documents have been reviewed for relevant information and any relevant data is discussed within the appropriate sub heading of this report.
- 3.2. The following sources of information have been reviewed for this assessment:
- Flood Map for Planning on the Environment Agency website <https://flood-map-for-planning.service.gov.uk/>
 - Long Term Flood Risk Information on the Environment Agency website <https://www.gov.uk/check-long-term-flood-risk>
 - National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2024)
 - Planning Practice Guidance - Flood Risk and Coastal Change (Ministry of Housing, Communities and Local Government, 2022)
 - Geoindex Onshore (British Geological Survey, 2024)
 - Mid Sussex District Plan 2014-2031³ (Mid Sussex District Council, 2018)
 - West Sussex Preliminary Flood Risk Assessment⁴ (West Sussex County Council, 2011) and Preliminary Flood Risk Assessment Addendum⁵ (West Sussex County Council, 2017)
 - Level 1 Strategic Flood Risk Assessment⁶ (Mid Sussex District Council, 2015)

³ <https://www.midsussex.gov.uk/media/3406/mid-sussex-district-plan.pdf>

⁴ https://www.westsussex.gov.uk/media/1626/west_sussex_pfra.pdf

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/698548/PFRA_West_Sussex_County_Council_2017.pdf

⁶ <https://www.midsussex.gov.uk/media/2609/strategic-flood-risk-assessment.pdf>

- West Sussex Local Flood Risk Management Strategy (2013-2018)⁷ (West Sussex County Council, 2014)

Preliminary Flood Risk Assessment (PFRA)

- 3.3. The PFRA, published in 2011 and 2017, is a high-level appraisal of flood risk across Lead Local Flood Authority West Sussex County Council. The flood risk from all sources, including fluvial, surface water, groundwater, and surcharged sewers is evaluated. It is the basis upon which the Local Flood Risk Management Strategy is produced.
- 3.4. The PFRA summarises historical flood incidents in West Sussex County Council. The site is not recorded as having been affected by any flood event.

Strategic Flood Risk Assessment (SFRA)

- 3.5. The SFRA, published in 2015, provides the evidence base for the Local Planning Authority Mid Sussex District Council Local Plan and guidance for consideration when determining planning applications. The SFRA seeks to place new development into areas of lower flood risk taking into account current flood risk, future flood risk, and the effect a proposed development would have on the risk of flooding.
- 3.6. The SFRA mapping provided by Mid Sussex District Council has been used throughout production of this report as a source of information, particularly pertaining to historical flood incidents.

Local Flood Risk Management Strategy (LFRMS)

- 3.7. The Local Flood Risk Management Strategy sets out roles and responsibilities for flood risk management, assesses the risk of flooding in the area, where funding can be found to manage flood risk, and the policies, objectives, and actions of the Lead Local Flood Authority.
- 3.8. The West Sussex County Council LFRMS is used within this report to identify any flood management infrastructure and historical incidences of flooding.

⁷ https://www.westsussex.gov.uk/media/1595/local_flood_risk_management_strategy.pdf

4. Sources of Flood Risk

Fluvial

- 4.1. Flooding from watercourses arises when flows exceed the capacity of the channel, or where a restrictive structure is encountered, resulting in water overtopping the banks into the floodplain.

Main Rivers

- 4.2. There are no main rivers within or in the vicinity of the site. The nearest EA Main River is the 'Herrings Stream' which is approximately 1.5km northwest of the site.

Ordinary Watercourses

- 4.3. The nearest ordinary watercourse is an unnamed watercourse located to the south of the site, approximately 15m from the site boundary. According to OS mapping, this watercourse is culverted beneath the B2118 and flows from east to west past the site location. The watercourse is approximately 20m south of the proposed development, therefore an Ordinary Watercourse Consent (OWC) is not expected to be required.

EA Flood Map for Planning

- 4.4. The site is wholly located within Flood Zone 1 based on the EA Flood Map for Planning (Figure 3). Flood Zone 1 denotes a risk of flooding from fluvial sources less than 1 in 1000 (0.1%) annual probability.

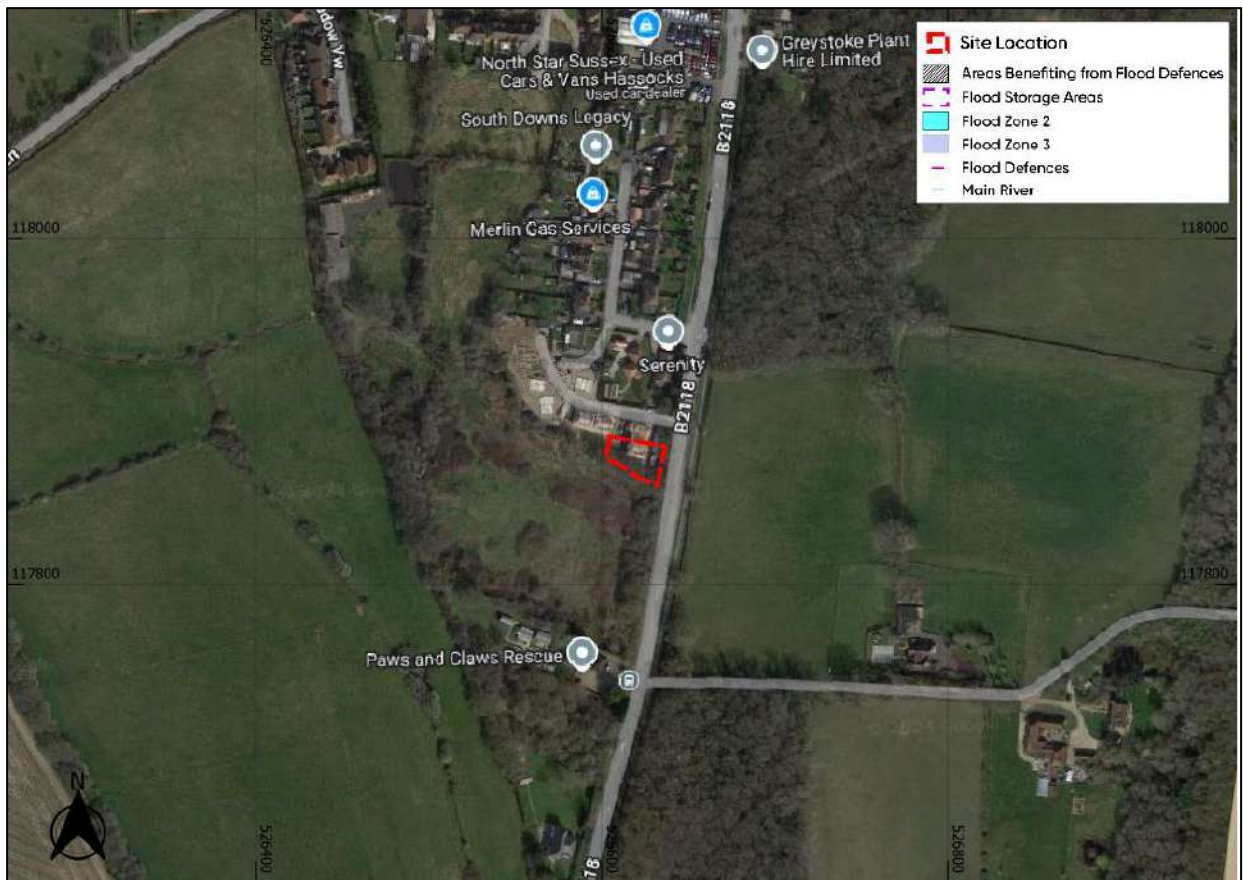


Figure 3: EA Flood Map for Planning (Base map and data from Google Satellite Imagery (CC-BY-SA). Contains public sector information licensed under the Open Government Licence v3.0)

Historical Fluvial Flooding

- 4.5. The EA Recorded and Historical Flood Outlines show no record of historical fluvial flooding on or in the vicinity of the site (Figure 4).

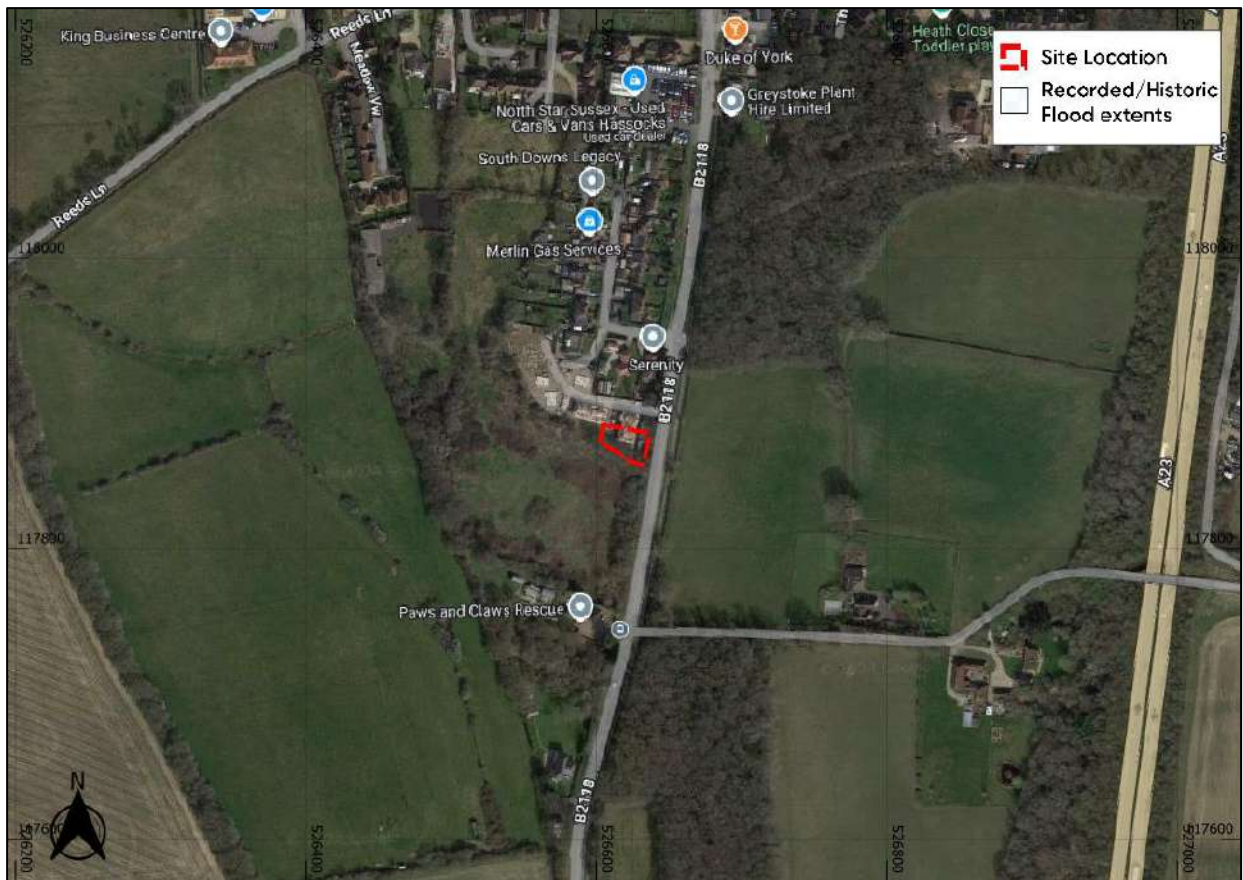


Figure 4: EA Historic Flood Mapping (Base map and data from Google Satellite Imagery (CC-BY-SA). Contains public sector information licensed under the Open Government Licence v3.0)

Fluvial Flood Risk Summary

- 4.6. As the proposed footprint is wholly located within Flood Zone 1 and lies outside the extent of historical fluvial flooding events; the fluvial risk to the development is considered to be low.

Tidal

- 4.7. Tidal flooding occurs when a high tide and high winds combine to elevate sea levels. An area behind coastal flood defences can still flood if waves overtop the defences or break through them. Tidal flooding can also occur a long way from the coast by raising river levels. Water may overtop the river bank or river defences when tide levels are high.
- 4.8. The site is a significant distance from any tidal source and above the anticipated extreme tidal levels, even when considering the impacts of climate change.
- 4.9. Therefore, the risk of flooding from tidal sources is considered to be low.

Canals

- 4.10. The Canal and River Trust (CRT) generally maintains canal levels using reservoirs, feeders, and boreholes and manages water levels by transferring it within the canal system.
- 4.11. No CRT maintained canals are identified within a 1km radius as per the CRT Network mapping⁸.
- 4.12. Therefore, the risk of flooding to this site from canals is considered to be low.

Pluvial

- 4.13. Pluvial flooding can occur during prolonged or intense storm events when the infiltration potential of soils, or the capacity of drainage infrastructure is overwhelmed leading to the accumulation of surface water and the generation of overland flow routes.

EA Surface Water Flooding Analysis

- 4.14. Annual surface water flood risk is labelled by the EA as:
- 'High Risk'; >3.3% AEP (annual probability greater than 1 in 30).
 - 'Medium Risk'; 1.1% to 3.3% AEP (annual probability between 1 in 100 and 1 in 30).
 - 'Low Risk'; 0.1% to 1% AEP (annual probability between 1 in 1000 and 1 in 100).
 - 'Very Low Risk'; <0.1% AEP (annual probability less than 1 in 1000).
- 4.15. Examination of the EA's Flood Risk from Surface Water mapping for 'High' Risk, 'Medium' Risk, and 'Low' Risk AEP flood risk mapping shows approximately 95% of the site is at a 'Very Low' risk of surface water flooding with the remaining 5% (approximate) of the southwestern site boundary considered to be at a 'Low' risk (Figure 5).
- 4.16. It is important to note that the existing residential dwelling and proposed footprint are considered to be at a 'Very Low' risk.

⁸ <https://canalrivertrust.org.uk/canals-and-rivers>

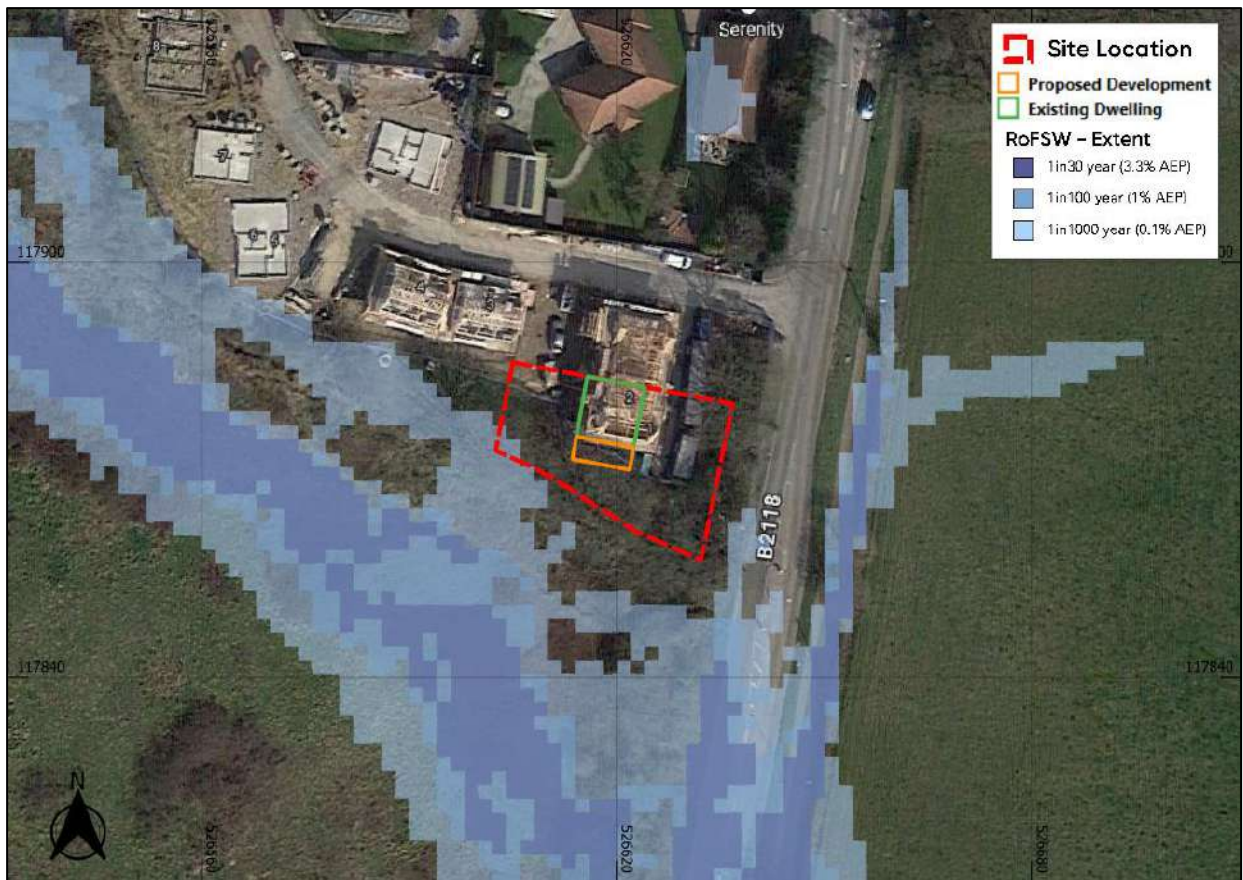


Figure 5: EA Surface Water Flood Risk Mapping (Base map and data from Google Satellite Imagery (CC-BY-SA). Contains public sector information licensed under the Open Government Licence v3.0)

- 4.17. Given the existing dwelling and proposed footprint is located outside of the modelled 'High', 'Medium' and 'Low' surface water flood risks, no flood depths have been recorded during the modelled 1 in 30-year (3.3% AEP), 1 in 100-year (1% AEP) or 1 in 1000-year (0.1% AEP) scenarios.

1 in 1000-year Flood Risk

- 4.18. The modelled in 1000 year (0.1% AEP) pluvial flood scenario has been shown below to visualise the flood depths recorded across the site during this event (Figure 6).
- 4.19. Analysis of the modelled 1 in 1000-year (0.1% AEP) flood risk shows the southwestern corner of the site observing flood depths of up to 300mm. However, this area has the lowest ground level elevations across the site, as ground levels decrease to meet the unnamed ordinary watercourse to the south of the site.
- 4.20. It is important to note that the proposed and existing footprint are not shown to be affected in this modelled pluvial event.



been added to the reservoir. Although a breach is unlikely the consequences would be significant, leading to rapid inundation of the downstream floodplain.

- 4.24. According to the EA's Flood Risk from Reservoirs mapping, the site is outside modelled flood extents in the event of a reservoir flooding (Figure 7).

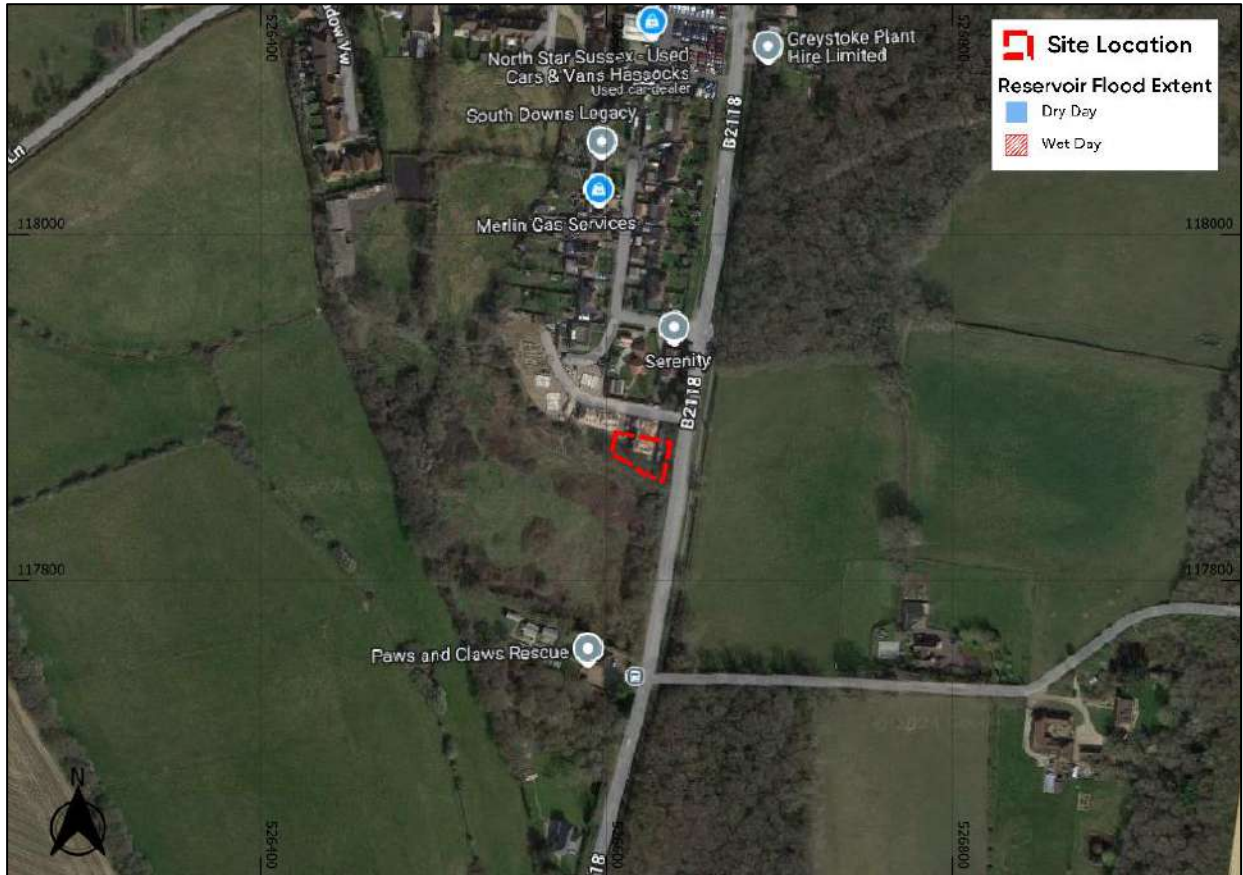


Figure 7: EA Reservoir Flood Risk Mapping (Base map and data from google Satellite Imagery (CC-BY-SA). Contains public sector information licensed under the Open Government Licence v3.0)

- 4.25. Therefore, the risk of reservoir flooding to the site is considered to be low.

Groundwater

- 4.26. Groundwater flooding occurs in areas where underlying geology is permeable and water can rise within the strata sufficiently to breach the surface.
- 4.27. The British Geological Survey's (BGS) mapping shows no superficial deposits underlying the site. The bedrock geology underlying the site is mapped as Weald Clay Formation comprised of mudstone.

- 4.28. On review of the BGS borehole records, no boreholes were identified within a 300m radius of the site.
- 4.29. The Mid Sussex District Council SFRA (2015) details the following on groundwater flooding;
- *Area affected by groundwater flooding: 0.164km², 0.049% of Total [District] Area.*
 - *The majority of the district is considered to have medium potential for groundwater flooding.*
 - *The West Sussex Strategic Flood Risk Assessment (2010), produced by Capita Symonds on behalf of West Sussex County Council, identified a single groundwater flooding event at Cuckfield.*
- 4.30. Considering the information above from the SFRA (2015), coupled with the fact that the development proposals do not include any proposed basements/ sub-terranean levels, the risk from groundwater flooding to the development is considered to be low.

Sewers

- 4.31. Foul or surface water sewers can be a cause of flooding if the drainage network becomes overwhelmed, either by blockage or due to local development beyond the designed capabilities of the drainage system.
- 4.32. The SFRA (2015) includes mapping of internal and external sewer incidents provided by Southern Water DG5 database. The site is not located within any areas identified as being impacted by historical internal or external sewer incidents (Figure 8).

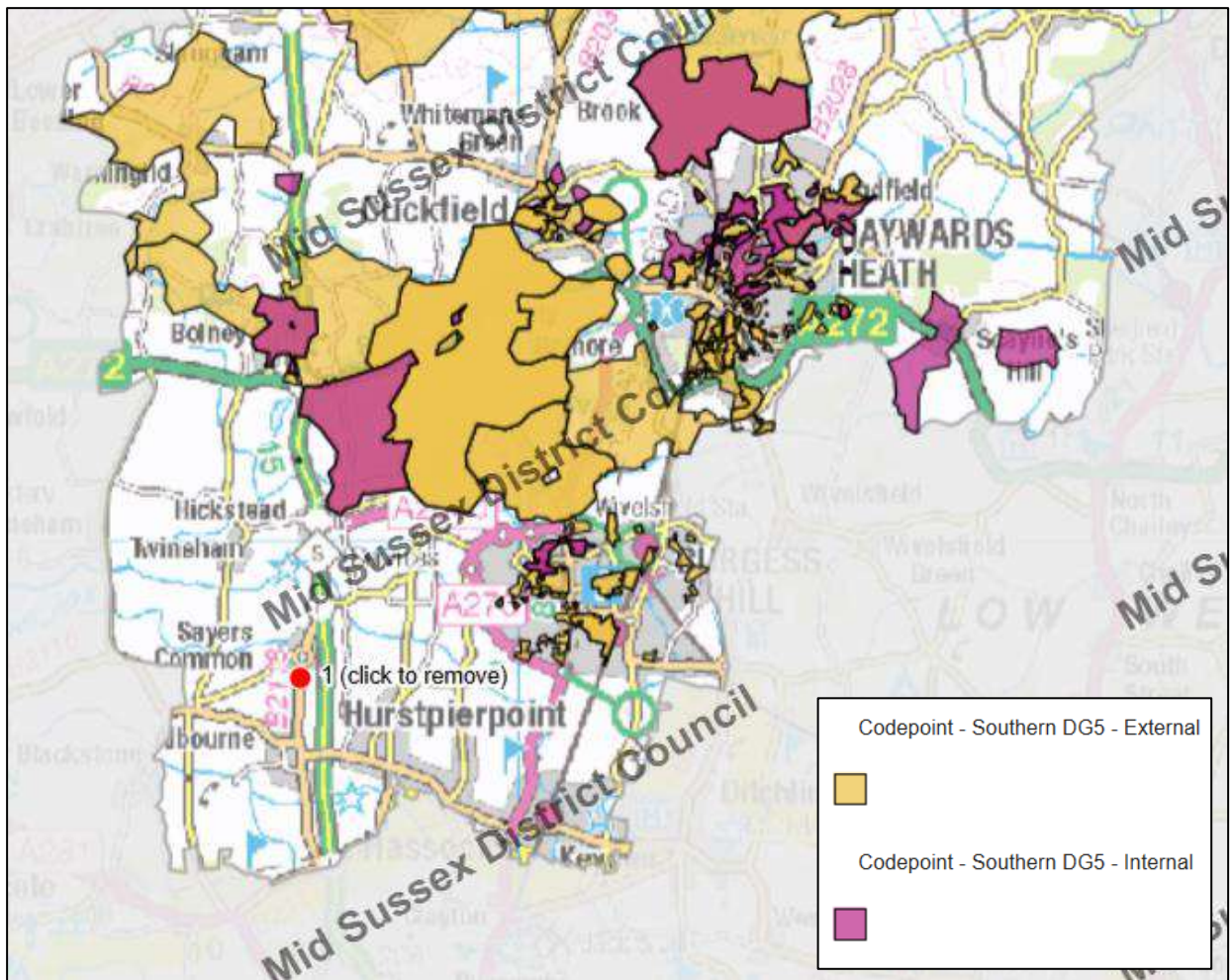


Figure8: Southern Water Internal and External Flooding Incidents (Mid Sussex District Council SFRA, 2015). Site represented by red circle labelled '1' (click to remove)

4.33. The development is therefore considered to be at low risk of flooding from sewers.

5. Flood Risk Mitigation

Sources of Flooding

- 5.1. Based on the data reviewed above and analysis in Section 4 of this report, flood risk to the proposed development from fluvial, tidal, canal, pluvial, reservoir, groundwater and sewer flood sources are considered to be low.
- 5.2. However, as the site is affected during the modelled 1 in 1000 year (0.1% AEP) pluvial event, a precautionary approach should be taken to reduce the flood risk to the site.
- 5.3. Therefore, it is recommended that the extension incorporates flood resistance and resilience measures in accordance with *Improving the Flood Performance of New Buildings – Flood Resilient Construction*⁹. The following measures are recommended, but are not limited to, to be incorporated into the design where possible:

- *Air brick covers to be installed.*
- *Engineering bricks to be used to at least 300mm to act as a freeboard; this will increase resistance to water penetration.*
- *External renders are effective barriers to water penetration and should be used with blocks (or bricks) to at least 300mm for a freeboard. External cement renders with lime content (in addition to cement) can induce faster surface drying.*
- *All new plumbing insulation to be a closed cell design.*
- *Cavity insulation should preferably incorporate rigid closed cell materials as these retain integrity and have low moisture take-up.*
- *Non-return valves should be installed on the new drainage systems throughout the new development. It is also recommended that these valves are retrofitted on to any reused existing sewer connections to prevent backflow of diluted sewage. Maintenance of these valves is important to*

⁹ https://assets.publishing.service.gov.uk/media/5a797ab2ed915d07d35b5da4/flood_performance.pdf

ensure their continued effectiveness so should be maintained in line with manufactures recommendations.

- 5.4. Small scale SuDS such as rainwater planters and water butts should be incorporated into the rear garden of the residential dwelling to provide betterment over the existing scenario.
- 5.5. Residents of the residential dwelling should also monitor Met Office Weather Warnings to be prepared for extreme weather events.
- 5.6. As a further precaution and risk reduction, it is recommended that residents sign up to receive Met Office Severe Weather Warnings. The Met Office issues weather warnings up to 5 days in advance, through the National Severe Weather Warning Service, when severe weather has the potential to bring impacts to the UK. It is also possible to stay up to date with weather warnings through the Met Office app (available on both android and apple), social media (twitter, Facebook) or email alerts.
- 5.7. During periods of bad weather, residents should monitor local weather reports and sign up for the Met Office UK weather warnings. Warnings can be monitored through an Apple/Android app, Twitter or directly via emails.

Increase to Flood Risk Elsewhere

- 5.8. The proposals constitute a Minor Development under the NPPF and Paragraph 051 of the Flood Risk and Coastal Change Planning Practice Guidance (PPG) states:

Minor developments are unlikely to raise significant flood issues unless:

- *they would have an adverse effect on a watercourse, floodplain or its flood defences;*
- *they would impede access to flood defence and management facilities, or;*
- *where the cumulative impact of such developments would have a significant effect on local flood storage capacity or flood flows.*

- 5.9. As such, and given that the proposed extension is in Flood Zone 1 and outside the modelled pluvial flood events, the proposed development in isolation should have a negligible impact on flood risk elsewhere.

6. Conclusions

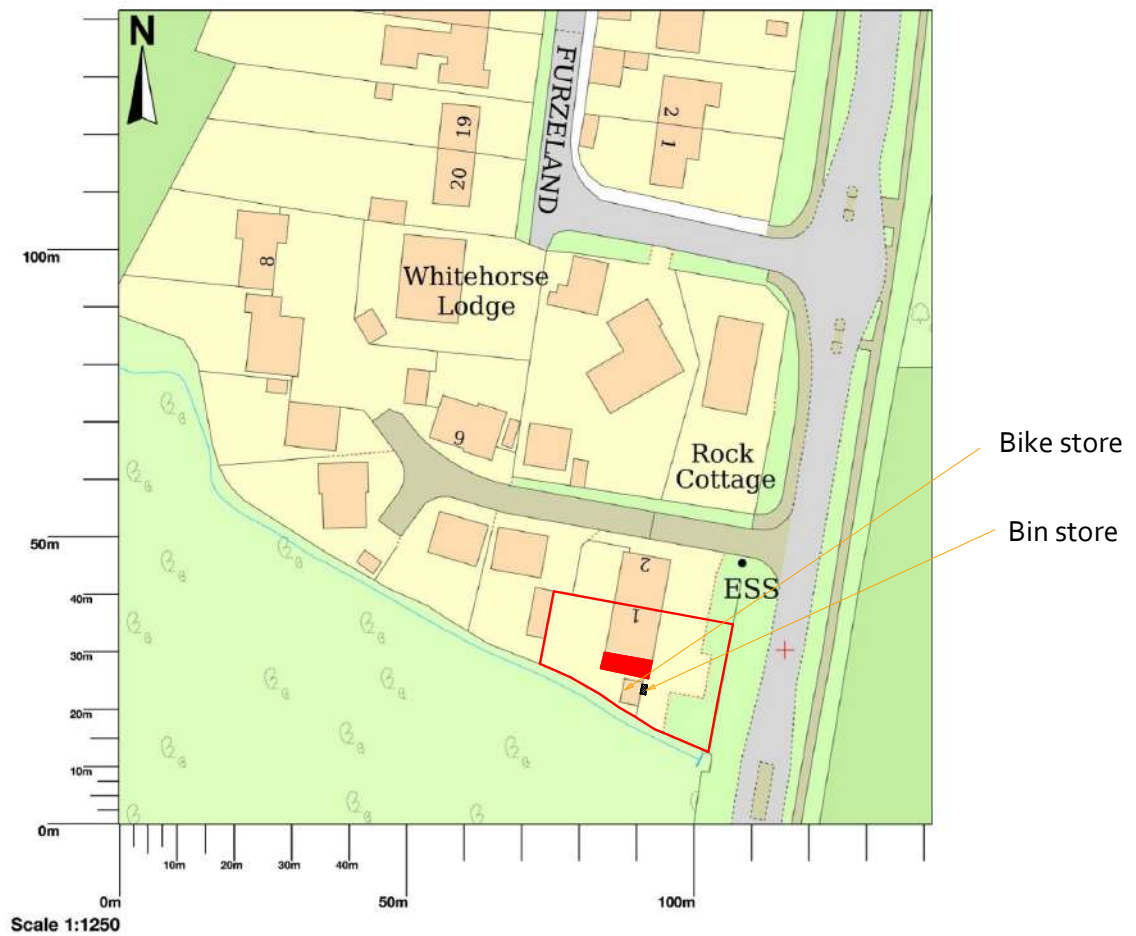
- 6.1. This FRA has been undertaken with reference to the requirements of NPPF and Planning Practice Guidance with respect to the development at 1 Wintergreen Way, Mid Sussex, West Sussex, BN6 9ZQ. It has been written to support a planning application and prepared with due consideration to the nature of the proposed development to provide the appropriate level of detail.
- 6.2. An assessment of the risk of flooding from all sources has been undertaken and is summarised in the table below:

Source of Flooding	Flood Risk Summary
Fluvial Pluvial Tidal Reservoirs Groundwater Sewers Canals	The proposed development is considered to be at a low risk from these sources of flooding.

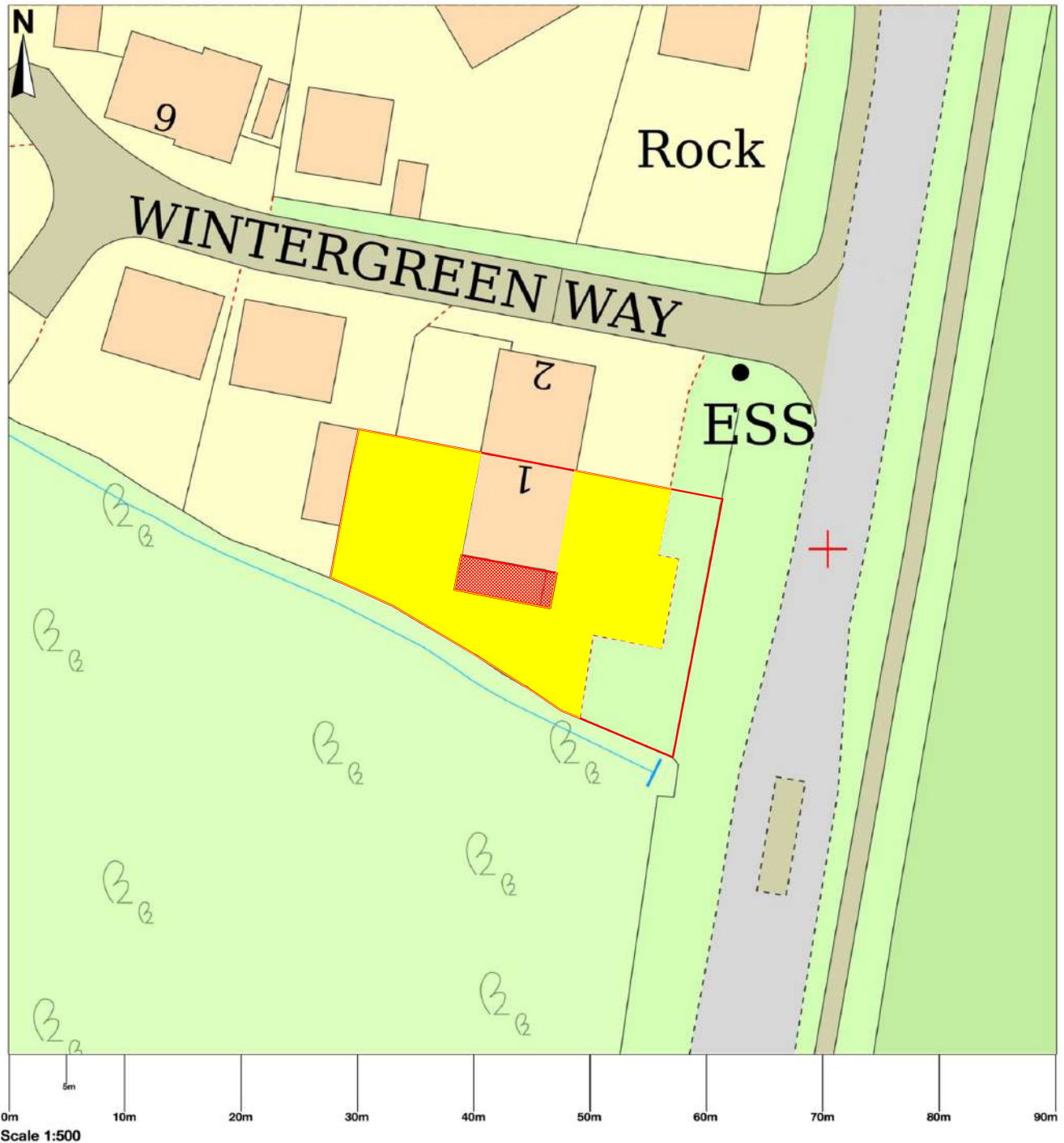
- 6.3. The FRA supports the planning application and demonstrates that there is an acceptable level of flood risk to the site if the mitigation strategies recommended are implemented in the scheme. The development does not increase flood risk off site or to the wider area.
- 6.4. This Flood Risk Assessment should be submitted as part of the planning application to satisfy the requirements under NPPF.

Appendix A - Development Proposals

1 Wintergreen Way, Sayers Common, Hassocks, BN6 9ZQ



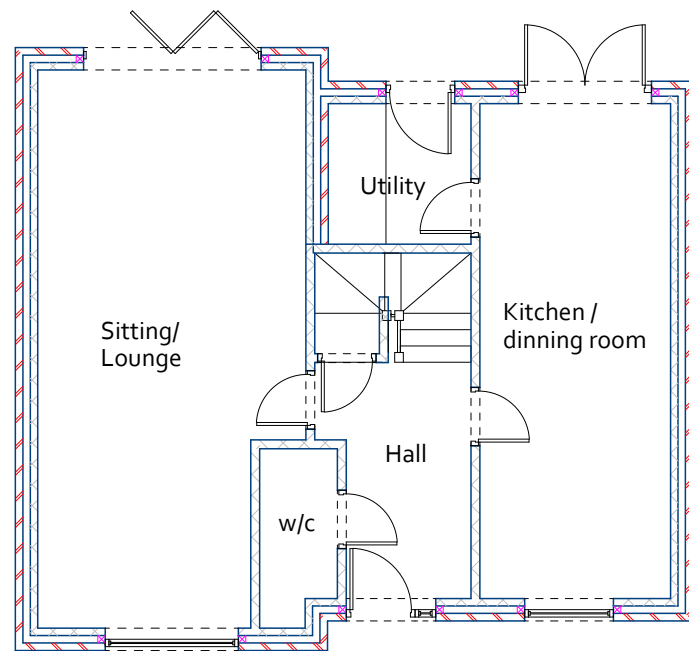
1 Wintergreen Way, Sayers Common, Hassocks, BN6 9ZQ



Planning Drawings

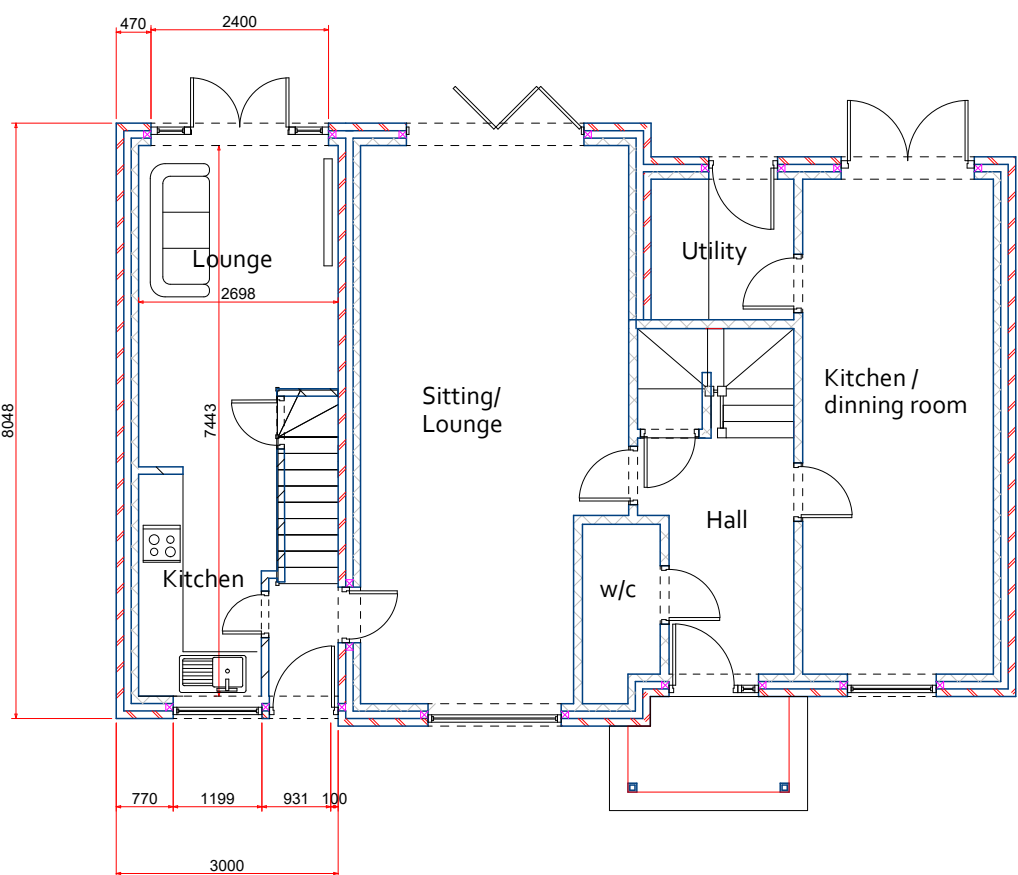
Existing Layout

Scale 1 : 100



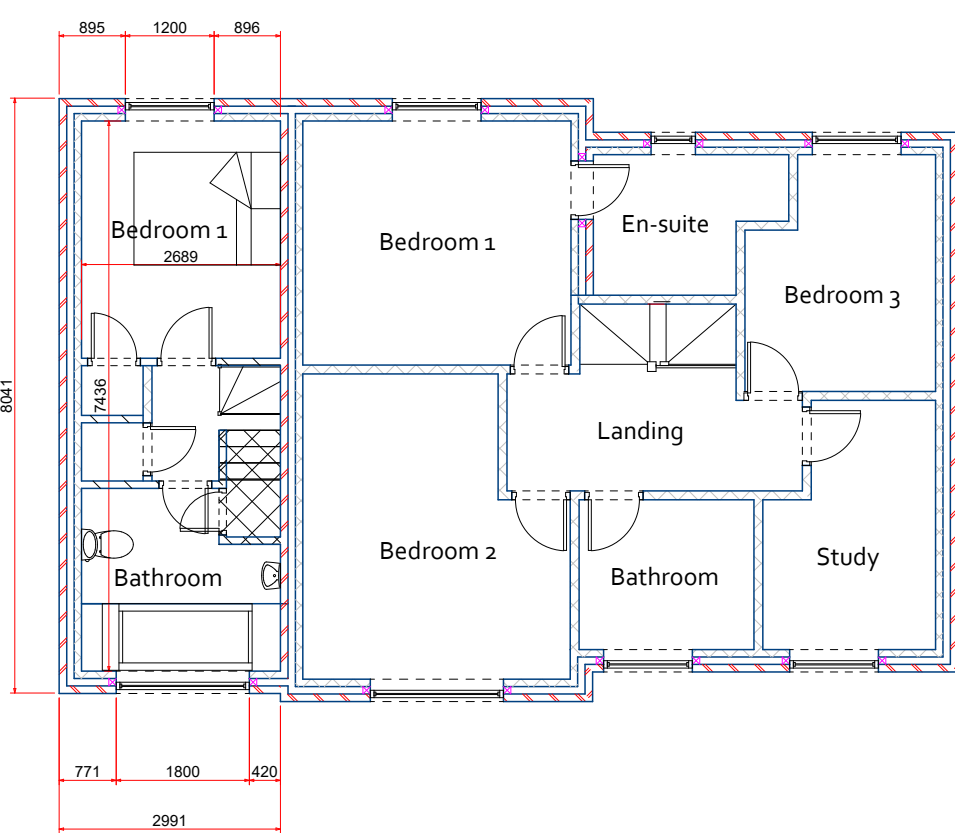
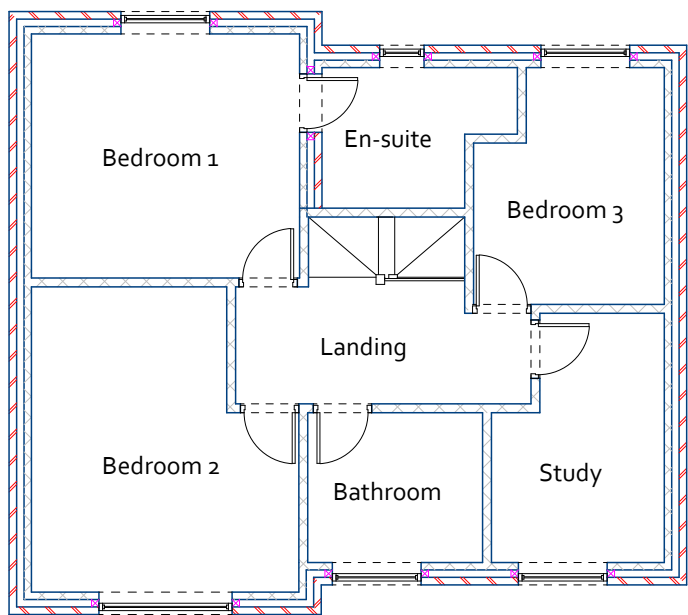
Proposed Layout

Scale 1 : 100



Elevations Existing

Scale 1 : 100



Photographic Survey



Client - Scott Percy

Address - 1 Wintergreen Way,
Sayers Common,
BN6 9ZQ

Page Size - A1



- 1. All Dimensions In Millimetres Unless Otherwise Stated
- 2. New Roof Tiles to match existing in type ,colour & face
- 3. New facing brickwork to match existing
- 4. The requirements of the party wall act should be observed
- 5.No part of the proposed extension ,including Foundations and gutters, should encroach the property boundary