GeoSmart Information

FloodSmart Plus

Flood Risk Assessment

Site Address

14a Derwent Avenue
Ickenham
Uxbridge
UB10 8HJ

Grid Reference

507270, 186395

Report Prepared for

Multi Creation

Date

29/01/2026

Report Status

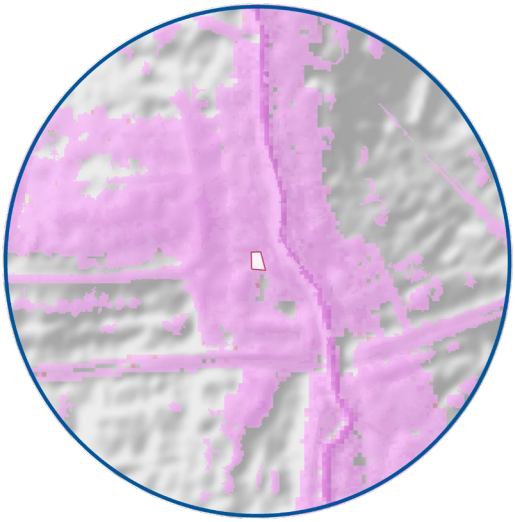
FINAL

Site Area

260 m^2

Report Reference

87602R1



RISK – Very Low to Low

The Site is mapped within the EA's fluvial Flood Zones 3 (High probability), with the flood risk originating from the River Pinn. According to the EA's RoFRS mapping, the Site has a High risk of flooding in both present day and climate change (2036-2069) scenarios, taking flood defences into account.

Following analysis of the baseline data the Site is considered to be at a Very Low risk of surface water flooding, a Negligible risk of groundwater flooding and a Low risk of flooding from artificial sources (reservoirs, canals and sewers).

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1. Executive summary

A review has been undertaken of national environmental data sets to assess the flood risk to the Site from all sources of flooding in accordance with the National Planning Policy Framework (NPPF) (2024) and National Planning Practice Guidance (NPPG) (published in 2014 and updated in September 2025). A site-specific flood risk assessment, to assess the flood risk to and from the development Site, is provided within this concise interpretative report written by an experienced GeoSmart consultant. Baseline flood risk and residual risks that remain after the flood risk management and mitigation measures are implemented are summarised in the table below.

Site analysis

Source of Flood Risk	Baseline[1]	After analysis[2]	After Mitigation[3]
River (fluvial) flooding	High	Very Low to Low	N/A
Sea (coastal/tidal) flooding	Very Low		N/A
Surface water (pluvial) flooding	High	Very Low	N/A
Groundwater flooding	Negligible		N/A
Other flood risk factors present	Yes (Reservoir flooding)		Yes
Is any other further work recommended?	Yes (see below)		

1 BASELINE risks assigned for the whole Site, using national risk maps, including the benefit of EA flood defences and the impacts of climate change.

2 AFTER ANALYSIS modification of risk assessment based on detailed site specific analysis including some or all of the following: flood model data, high resolution mapping, building location, access routes, topographic and CCTV surveys. Reasons for the change in classification are provided in the text.

3 AFTER MITIGATION risks include risks to proposed development / asset and occupants if mitigation measures recommended in this report are implemented, including the impacts of climate change.

*N/A indicates where mitigation is not required.

Summary of existing and proposed development

The Site is currently used within a residential capacity as a detached two storey dwelling including associated garage, patio and landscaped areas. Information provided by the client confirms that existing Finished Floor Levels (FFLs) are set 1050 mm above external ground levels.

Development proposals comprise of first-floor internal modifications to the existing dwelling and a first-floor dormer extension. Site plans are included within Appendix A.

Summary of flood risks

The flood risks from all sources have been assessed as part of this report and are as follows:

River (fluvial) and Sea (Estuarine/Coastal) flooding

According to the Environment Agency's (EA) Flood Map for Planning Purposes, the Site is located within a fluvial Flood Zone 3 (High probability), with the flood risk originating from the River Pinn. Web mapping produced for the Strategic Flood Risk Assessment (SFRA) confirms that the Site is located within the extent of Flood Zone 3b (Metis, 2024).

According to the EA's Risk of Flooding from Rivers and Sea (RoFRS) map, which considers the type, condition and crest height of flood defences, the Site has a High risk of flooding from the River Pinn, in both the present day and climate change (2036 to 2069) scenarios.

Historical flooding related to fluvial flooding in 1977 is understood to have previously occurred at the Site, where no raised defences were present.

Modelled flood data obtained from the EA has been analysed in line with the most up to date guidance on climate change (EA, 2022), to confirm a maximum "design" flood level at the Site.

- During a 1 in 100 year plus 21% climate change allowance event the flood level at the Site would be 37.47 mAOD.
- During this event, flood depths on-Site could be up to 0.61 m. FFLs of the existing property are set 1050 mm above external ground levels (estimated to be 37.91 mAOD) and hence no internal flooding is anticipated during all modelled scenarios.

Emergency evacuation routes are available to the west. In the event of a flood, safe refuge can be taken on the ground and first floor levels.

Baseline mapping indicates a High risk. However, the proposed development comprises of first-floor internal modifications and a first-floor dormer extension only, with no increase in ground-level footprint, no raising of ground levels, and no alterations or obstructions to overland flow routes. Furthermore, existing FFLs are set 0.44 m above the 1 in 100 plus 21% climate change flood level. The after-analysis fluvial risk to the development has therefore been reduced to Very Low to Low.

Surface water (pluvial) flooding

According to the EA's Risk of Flooding from Surface Water (pluvial) flood mapping, the Site has a High risk of pluvial flooding in both the present day and climate change (2050s) scenario.

- The majority of flood depths on-Site are between 0.20 and 0.30 m in the 1 in 100 year present day and climate change scenario events.

Baseline mapping indicates a High risk. However, due to the nature of the proposed development and as FFLs of the existing property are also set 1050 mm above external ground levels, the after-analysis pluvial risk to the development has been reduced to Very Low. There is an increased risk to the wider Site that may hinder access / egress.

Groundwater flooding

Groundwater Flood Risk screening data indicates there is a Negligible potential risk of groundwater flooding at the surface in the vicinity of the Site during a 1 in 100 year event.

The Site is underlain by permeable superficial deposits above permeable bedrock. Groundwater levels may rise in the bedrock and superficial aquifers in a seasonal response to prolonged rainfall recharge which may cause an unusually high peak in groundwater levels during some years. Groundwater levels may also rise in the bedrock aquifer in response to high river events due to the potential hydraulic continuity with the River Pinn.

Given the nature of the proposed development, and as FFLs of the existing property are also set 1050 mm above external ground levels, the baseline groundwater risk of Negligible is considered to be appropriate for the Site.

Artificial sources of flooding

The risk of flooding from artificial (man-made) sources such as reservoirs, sewers and canals has been assessed:

- The EA's Risk of Flooding from Reservoir map confirms the Site is at risk of reservoir flooding during a "dry day" and "wet day" scenario. The potential for a breach of a reservoir to occur and flooding affecting the Site is Low.
- Ordnance Survey (OS) data confirms there are no canals near to the Site.
- Web mapping as part of the SFRA (Metis, 2024) has identified 1-20 incidences of flooding as a result of surcharging sewers within the UB10 8 postcode.
- Records held by Thames Water indicate that there have been no incidences of flooding related to the surcharging of public sewers at the Site (Thames Water, 2026; Appendix C).
- Bridges have been identified within the vicinity of the Site. However, these structures are a significant distance upstream and downstream from the Site and are therefore deemed unlikely to represent a flood risk to the Site in the event of a blockage.

The risk of flooding from artificial sources is considered to be Low.

Recommendations

Recommendations for flood mitigation are provided below, based upon the proposed development and the flood risk identified at the Site.

- The proposed development comprises of first-floor internal modifications and a first-floor dormer extension only, with no increase in ground-level footprint, no raising of ground levels, and no alterations or obstructions to overland flow routes. FFLs of the existing property are set 1050 mm above external ground levels (estimated to be 37.91 mAOD), 0.44 m above the 1 in 100 plus 21% climate change fluvial flood level. As no internal works are proposed at the ground floor level, the development does not necessitate additional ground-floor flood resistance or resilience measures beyond the existing situation.
- A Flood Warning and Evacuation Plan (FWEP) is recommended to ensure persons using the Site can evacuate safely on receipt of a Flood Warning. Occupants of the Site should be signed up to receive EA Flood Alerts and Flood Warnings.
- The ongoing management and maintenance of existing and any proposed drainage networks, under the riparian ownership of the developer, should be undertaken in perpetuity with the development.

GeoSmart recommend the mitigation measures discussed within this report are considered as part of the proposed development where possible and evidence of this is provided to the Local Planning Authority as part of the planning application.

2. Introduction

Background and purpose

A site-specific flood risk assessment has been undertaken, to assess the flood risk to and from the development Site. This assessment has been undertaken by firstly compiling information concerning the Site and the surrounding area. The information gathered was then used to construct a 'conceptual site model', including an understanding of the appropriateness of the development as defined in the NPPF (2024) and the source(s) of any flood risk present, guided by the NPPG (Published in 2014 and updated in September 2025). Finally, a preliminary assessment of the steps that can be taken to manage flood risk to the development was undertaken.

This report has been prepared with reference to the NPPF (2024) and NPPG (2025).

"*The National Planning Policy Framework set out the Government's planning policies for England and how these are expected to be applied*" (NPPF, 2024).

The NPPF (2024) and NPPG (2025) promote a sequential, risk based approach to the location of development. This also applies to locating a development within a Site which has a variable risk of flooding.

"*The 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*" (Paragraph: 023. NPPG, 2025).

The purpose of this report is to provide clear and pragmatic advice regarding the nature and potential significance of flood hazards which may be present at the Site.

Report scope

In accordance with the requirements set out within NPPG 2022 (Paragraph: 021 Reference ID: 7-021-20220825), a thorough review of publicly and commercially available flood risk data and EA supplied data indicating potential sources of flood risk to the Site from rivers and coastal sources, surface run-off (pluvial), groundwater and reservoirs, including historical flood information and modelled flood extent. Appropriate measures are recommended to manage and mitigate the flood risk to the property.

Information obtained from the EA and a review of the West London Strategic Flood Risk Assessment (SFRA) (Metis, 2024) has been used to ascertain local flooding issues and, where appropriate, identify information to support a Sequential and/or Exception test required as part of the NPPF (2024).

The existing and future flood risk to and from the Site from all flood sources is assessed in line with current best practice using the best available data. The risk to the development has been assessed over its expected lifetime, including appropriate allowances for the impacts of climate change. Residual risks that remain after the flood risk management and mitigation

measures are implemented, are considered with an explanation of how these risks can be managed to keep the users of the development safe over its lifetime.

An indication of whether the Site will potentially increase flood risk elsewhere is provided, including where the proposed development increases the building footprint at the Site. A drainage strategy to control runoff can be commissioned separately if identified as a requirement within this report.

Report limitations

It is noted that the findings presented in this report are based on a desk study of information supplied by third parties. Whilst we assume that all information is representative of past and present conditions, we can offer no guarantee as to its validity and a proportionate programme of site investigations would be required to fully verify these findings.

The basemap used is the OS Street View 1:10,000 scale; however, the Site boundary has been drawn using BlueSky aerial imagery to ensure the correct extent and proportion of the Site is analysed.

This report excludes the consideration of potential hazards arising from any activities at the Site other than normal use and occupancy for the intended land uses. Hazards associated with any other activities have not been assessed and must be subject to a specific risk assessment by the parties responsible for those activities.

Datasets

The following table shows the sources of information that have been consulted as part of this report:

Table 1. Datasets consulted to obtain confirmation of sources of flooding and risk

Source of flooding	Datasets consulted				
	Commercial Flood Maps	Local Policy & Guidance Documents*	Environment Agency (Appendix B)	Thames Water (Appendix C)	OS Data
Historical	X	X	X		
River (fluvial) / Sea (tidal/coastal)	X	X	X		

Source of flooding	Datasets consulted				
	Commercial Flood Maps	Local Policy & Guidance Documents*	Environment Agency (Appendix B)	Thames Water (Appendix C)	OS Data
Surface water (pluvial)	X	X	X		
Groundwater	X	X			
Sewer		X		X	
Culvert/bridges		X			X
Reservoir		X	X		

*Local guidance and policy, referenced below, has been consulted to determine local flood conditions and requirements for flood mitigation measures.

Local policy and guidance

For this report, several documents have been consulted for local policy and guidance and relevant information is outlined below:

London Borough of Hillingdon Local Plan (London Borough of Hillingdon Council, 2020):

POLICY DMEI 9: Management of Flood Risk

A. Development proposals in Flood Zones 2 and 3a will be required to demonstrate that there are no suitable sites available in areas of lower flood risk. Where no appropriate sites are available, development should be located on the areas of lowest flood risk within the site. Flood defences should provide protection for the lifetime of the development. Finished floor levels should reflect the Environment Agency's latest guidance on climate change.

B. Development proposals in these areas will be required to submit an appropriate level Flood Risk Assessment (FRA) to demonstrate that the development is resilient to all sources of flooding.

C. Development in Flood Zone 3b will be refused in principle unless identified as an appropriate development in Flood Risk Planning Policy Guidance. Development for appropriate uses in Flood Zone 3b will only be approved if accompanied by an

appropriate FRA that demonstrates the development will be resistant and resilient to flooding and suitable warning and evacuation methods are in place.

D. Developments may be required to make contributions (through legal agreements) to previously identified flood improvement works that will benefit the development site.

E. Proposals that fail to make appropriate provision for flood risk mitigation, or which would increase the risk or consequences of flooding, will be refused.

West London Strategic Flood Risk Assessment (Metis, 2024):

3.11. Functional Floodplain

3.11.1. Definition

Flood Zone 3b (Functional floodplain) is defined as:

- Land within EA modelled fluvial and tidal flood risk extents predicted for up to and including 1 in 30 year return period events allowing for the impact of flood defences – Flood Zone 3b (fluvial / tidal).
- Land which is included within the EA's Flood Storage Areas dataset – Flood Zone 3b (fluvial / tidal).

Guidance

Strategic Flood Risk Assessments are carried out by local authorities, in consultation with the Environment Agency, to assess the flood risk to the area from all sources both now and in the future due to climate change. They are used to inform planning decisions to ensure inappropriate development is avoided (NPPF, 2024).

3. Site analysis

Site information

The Site is located in Ickenham, within the London Borough of Hillingdon in a setting of primarily residential land use at National Grid Reference TQ 07270 86395.

Figure 1. Aerial imagery of the Site (Bluesky, 2026)

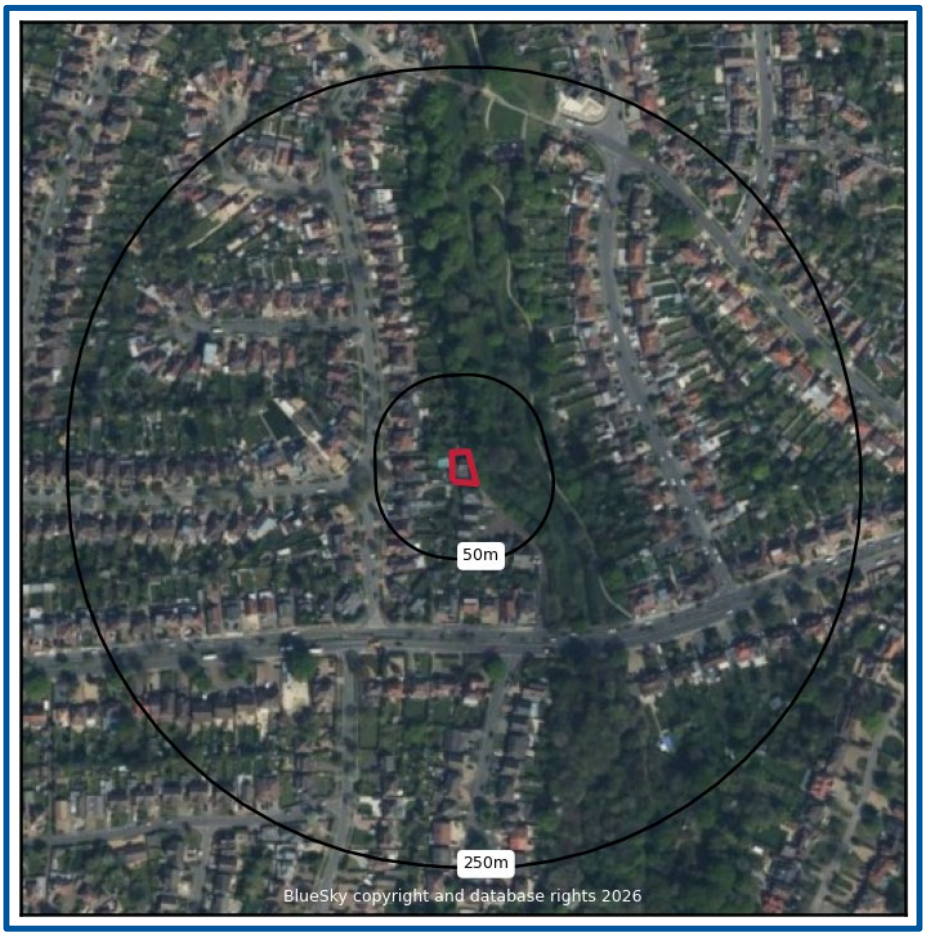


Figure 2 indicates that the Site is located within a valley formation, with ground levels falling towards the River Pinn.

Figure 3 (overleaf) indicates that the general ground levels on the Site are between 36.86 and 37.18 mAOD with the Site falling gradually in a southeasterly direction, towards the watercourse. This is based on EA elevation data obtained for the Site to a 1 m resolution with a vertical accuracy of ±0.15 m.

Figure 2. Site Location and Relative Elevations (GeoSmart, 2026)

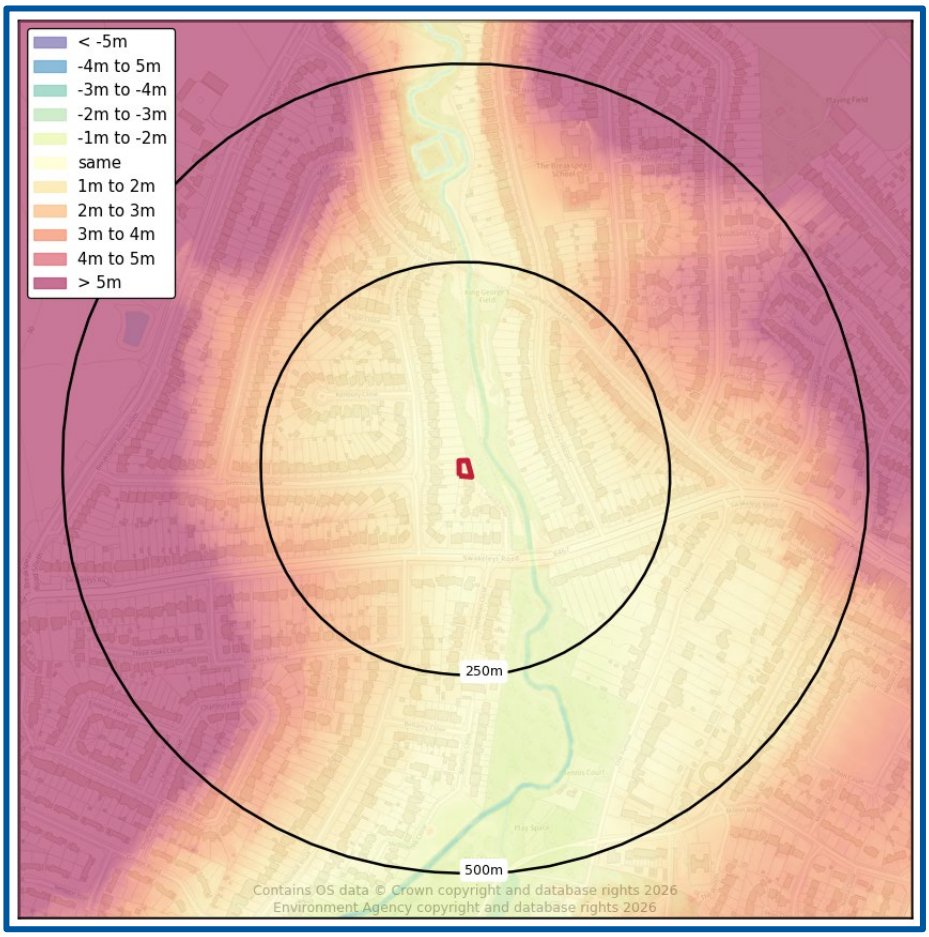
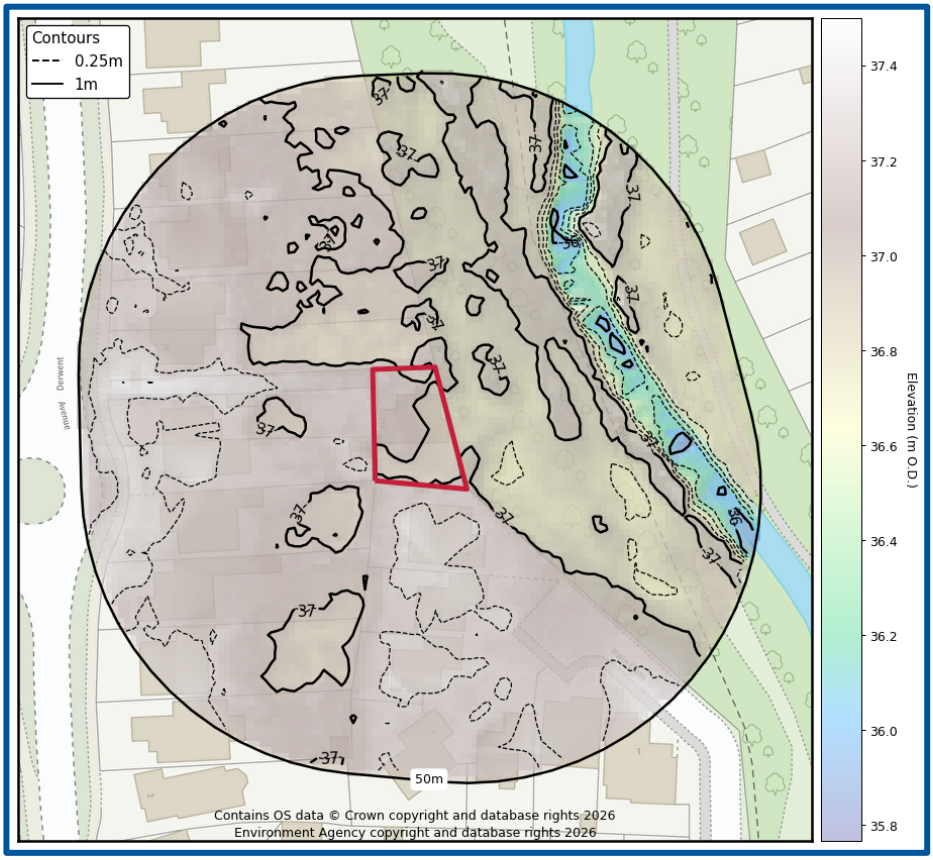


Figure 3. Environment Agency LiDAR ground elevation data (GeoSmart, 2026)



Development

The Site is currently used within a residential capacity as a detached two storey dwelling including associated garage, patio and landscaped areas. Information provided by the client confirms that existing Finished Floor Levels (FFLs) are set 1050 mm above external ground levels.

Development proposals comprise of first-floor internal modifications to the existing dwelling and a first-floor dormer extension. Site plans are included within Appendix A.

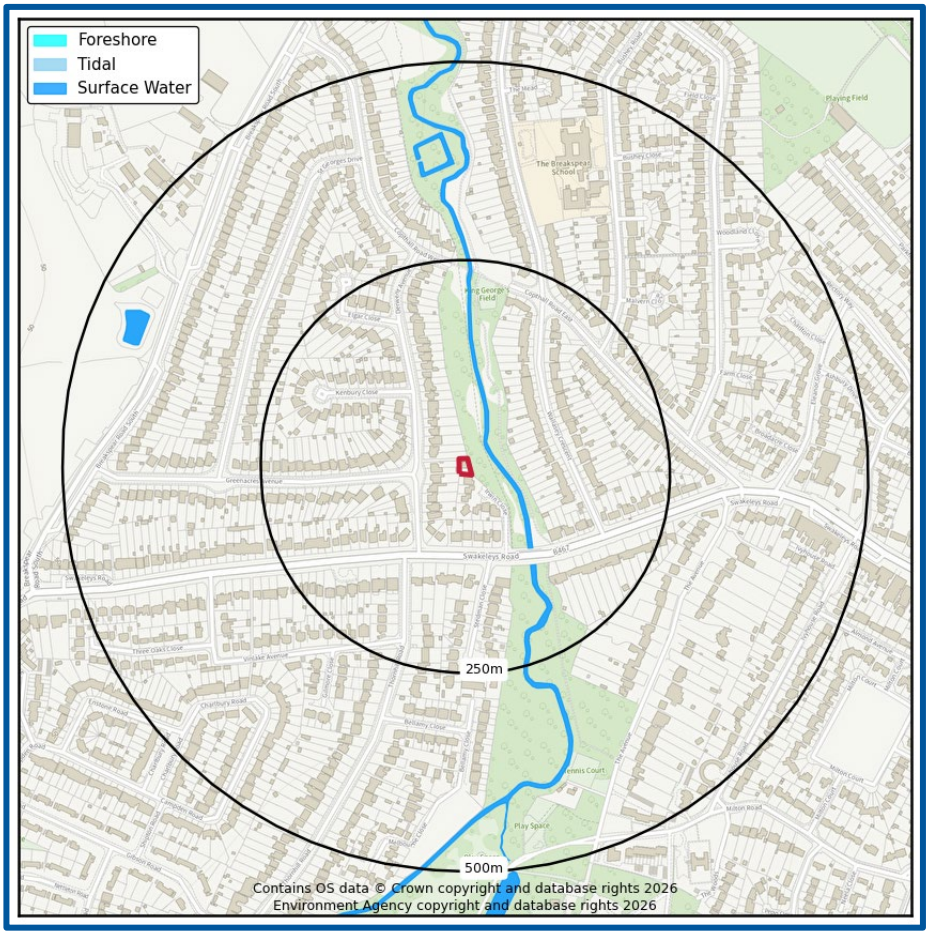
The effect of the overall development will not result in an increase in number of occupants and/or users of the building and will not result in the change of use, nature or times of occupation. According to Annex 3 of the NPPF (2024), the vulnerability classification of the existing development is More Vulnerable and proposed development is More Vulnerable. The estimated lifespan of the development is 100 years.

Hydrological features

According to Ordnance Survey (OS) mapping included in Figure 4, there are numerous surface water features within 500 m of the Site.

- The River Pinn is located c. 30 m to the east of the Site, flowing in a southerly direction.
- A balancing pond is located c. 430 m to the northwest of the Site at a higher elevation than the Site.
- A moat is located c. 370 m to the north of the Site, associated with the River Pinn at a higher elevation than the Site.

Figure 4. Surface water features (EA, 2026)



Proximity to relevant infrastructure

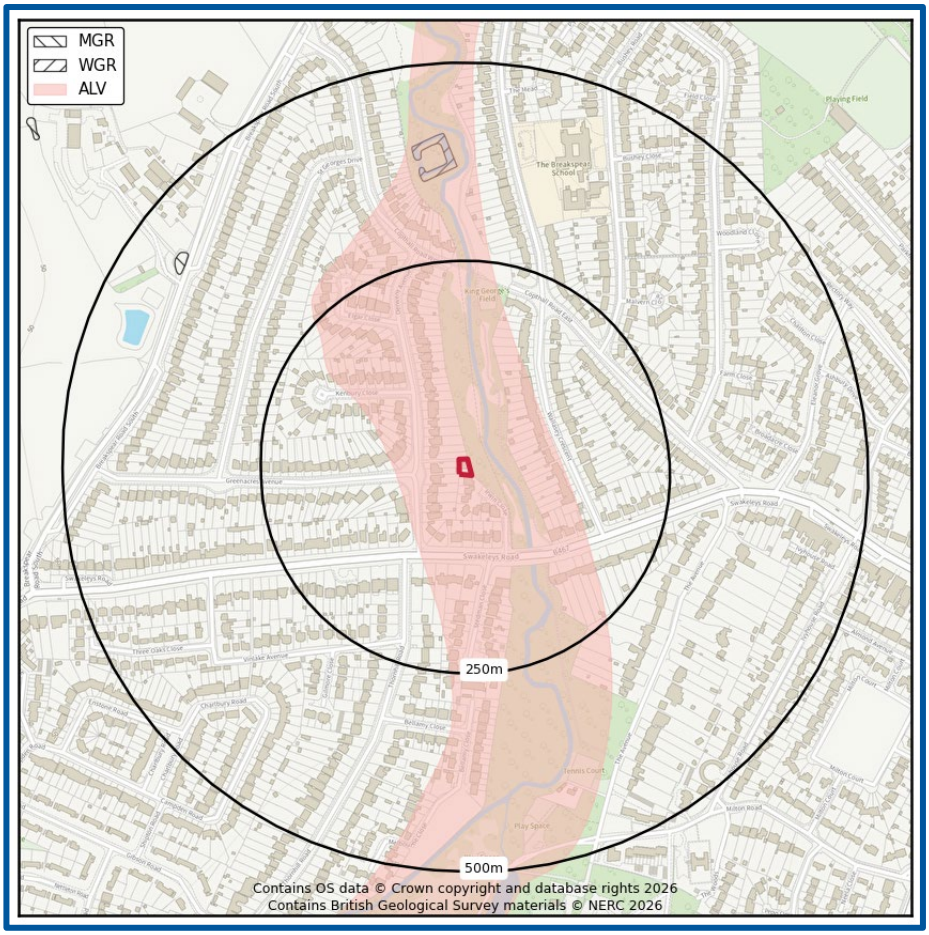
Infrastructure has been identified within proximity of the Site which could influence the risks of flooding to existing or future occupants. These include:

- A bridge associated with Swakeleys Road crosses the River Pinn c. 120 m to the southeast of the Site.
- A footbridge crosses the River Pinn c. 240 m north of the Site.

Hydrogeological features

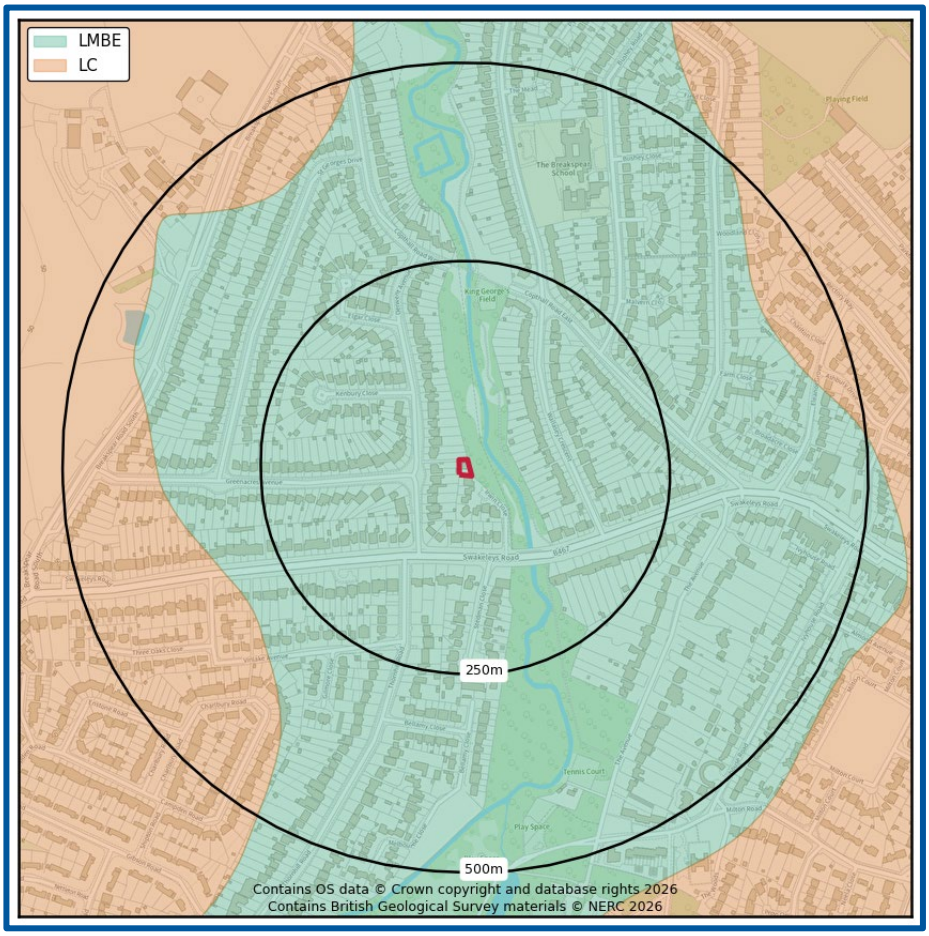
British Geological Survey (BGS) mapping indicates the underlying superficial geology (Figure 5) consists of Alluvium (ALV), which comprises silt and clay (BGS, 2026). These deposits are classified by the EA as a Secondary (A) Aquifer, which indicates it is likely to comprise permeable layers capable of supporting water supply at a local rather than strategic scale.

Figure 5. Superficial Geology and Artificial Deposits (BGS, 2026)



BGS mapping indicates the underlying bedrock geology (Figure 6) consists of the Lambeth Group (LMBE), which comprises clay, sand and silt (BGS, 2026). This bedrock geology is classified by the EA as a Secondary (A) Aquifer, which indicates it is likely to comprise permeable layers capable of supporting water supply at a local rather than strategic scale.

Figure 6. Bedrock Geology (BGS, 2026)



Geological conditions

A review of the BGS borehole database (BGS, 2026) indicates there are no relevant boreholes within the vicinity of the Site from which the mapped geology can be confirmed.

Groundwater

No nearby BGS borehole records are available, and therefore the depth to groundwater at the Site cannot be confirmed.

4. Flood risk to the development

Historical flood events

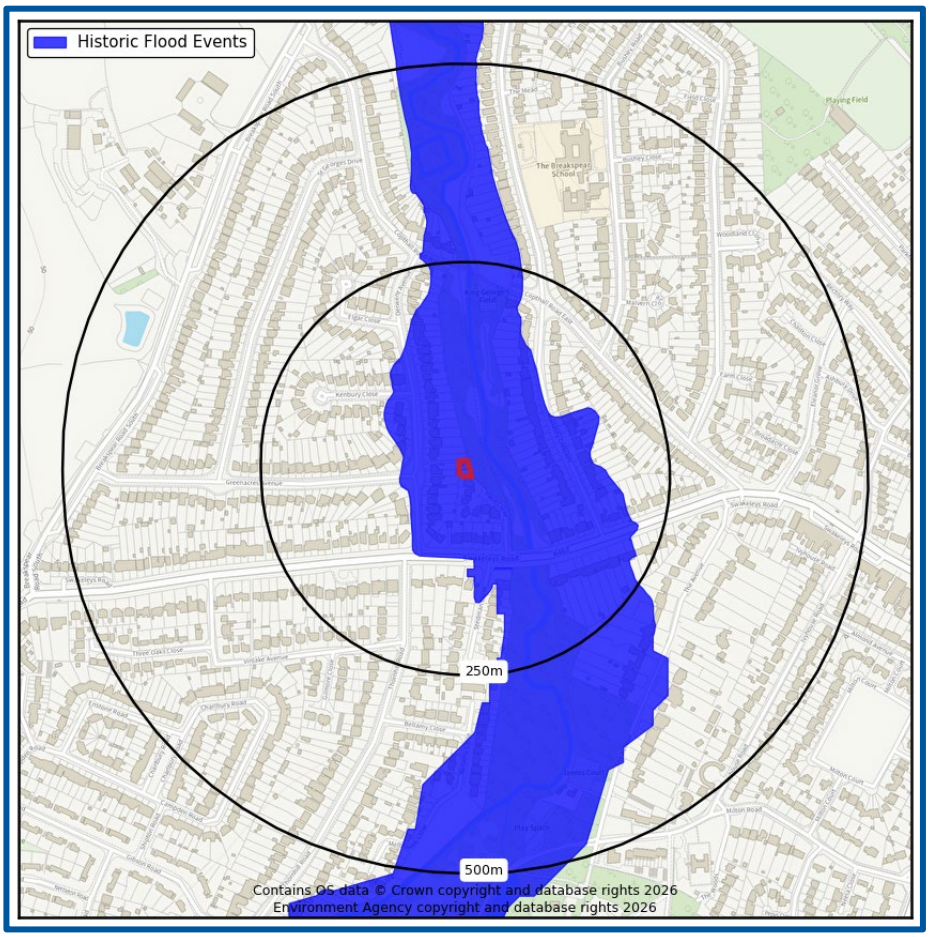
According to the EA's Historical Flood Map (Figure 7) and Web Mapping produced as part of the West London SFRA (Metis, 2024), a flood event has historically affected the Site.

- The Site was impacted by fluvial flooding in 1977 due to the exceedance of the channel capacity at the River Pinn, where no raised defences were present.

The client has confirmed that they are not aware of incidents of flooding at the Site.

The purpose of historical flood data is to provide information on where and why flooding may have occurred in the past. The absence of any recorded events does not mean flooding has never occurred on-Site or that flooding will never occur at the Site.

Figure 7. EA Historic Flood Map (EA, 2026)



Rivers (fluvial) / Sea (coastal) / Estuarine (tidal) flooding

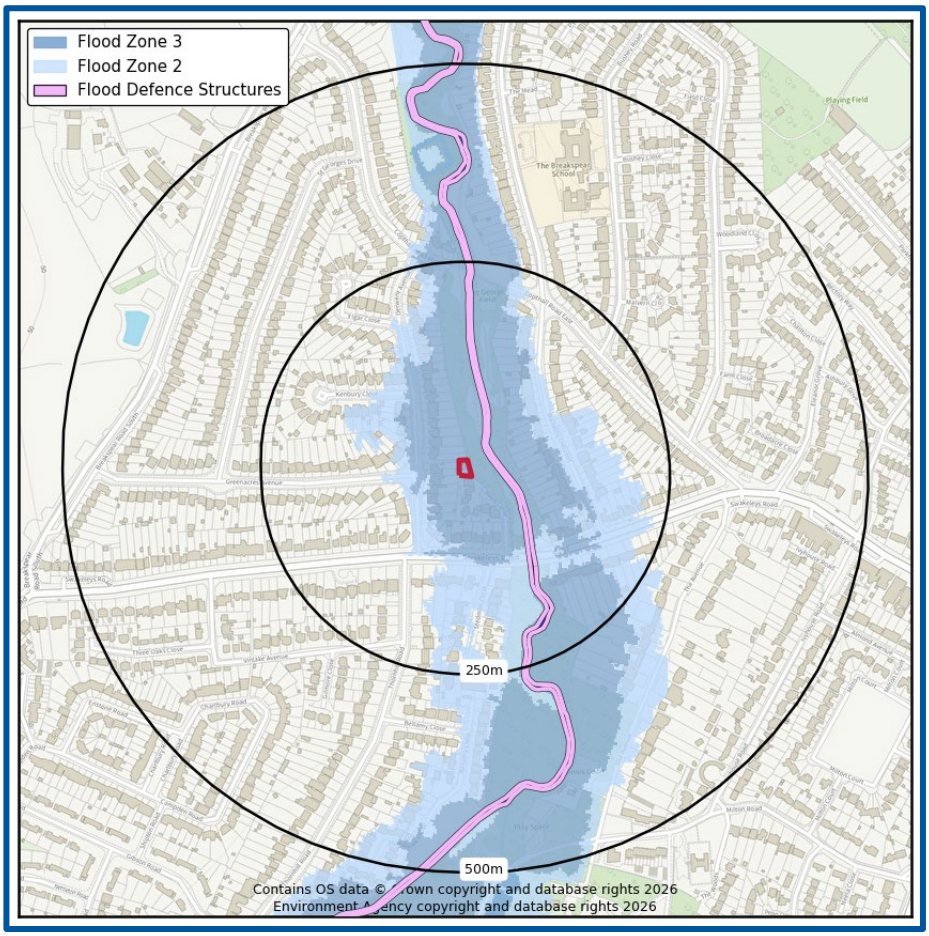
The predominant risk at the Site is from flooding from rivers, termed as fluvial flooding. The Site is located in an inland location and the risk of flooding from coastal and tidal processes are therefore considered to be Very Low.

River (fluvial) flooding occurs during times of heavy rainfall or snow melt when watercourses' capacity can be exceeded, over topping the banks and flood defences.

According to the EA's Flood Map for Planning Purposes (Figure 8), the Site is located within fluvial Flood Zone 3 and is therefore classified as having a High probability of fluvial flooding from the River Pinn.

Web mapping produced for the SFRA confirms that the Site is located within the extent of Flood Zone 3b (Metis, 2024).

Figure 8. EA Flood Map for Planning Purposes (EA, 2026)



Guidance

As defined in the NPPF (2024):

Ignoring the presence of any defences, land located in a Flood Zone 3 is considered to have High probability of flooding with a 1 in 100 year or greater annual probability of fluvial flooding or a 1 in 200 or greater annual probability of coastal flooding in any one year.

The site is located in a functional flood plain therefore only development of "Water-Compatible" and "Essential Infrastructure" land uses are suitable for this zone (see glossary for terminology).

Flood defences

Guidance

Sites that are located close to flood defences are likely to be zones where rapid inundation will occur in the event of the flood defences being overtopped or breached. A Site located close to flood defences (within 250 m) may require a more detailed FRA subject to local topography.

Existing flood defences

The EA's Asset Information Management Systems (AIMS) dataset (2026) identifies the following assets within the vicinity of the Site:

- Natural high ground (asset ID: 122618) is located c. 25 m to the east of the Site. The crest level of the defence is 37.30 mAOD and the standard of protection is a 1 in 2 year event. The condition of these defences was not included within the dataset at the time of writing. Based on the available information it can be considered that the Site does not benefit from formal flood defences, with the only protection afforded to the Site through the capacity of the watercourse.

Future flood defences

Web mapping produced as part of the SFRA (Metis, 2024) shows that planned flood alleviation scheme areas are present on the River Pinn, with the closest c. 470 m downstream and 500 m upstream of the Site.

The River Pinn and Cannon Brook flood reduction proposals Consultation document (EA, 2018) outlines the flood reduction options for the Ickenham area:

- 4A – New flood storage area. Utilising open space to the north of the River Pinn, across from Ruislip golf course to store flood water during high river flows.
- 4B – New flood storage area. Storage of water in fields to the southwest of where the railway line crosses the River Pinn during high river flows.
- 4C and 4D – Walls and embankments. Earth embankments or walls to keep water in the river corridor for longer during high river flows.

- 4E – New flood storage area. Utilising open space in Swakeleys Park to store flood water during high river flows.
- 4F – New flood storage area. Utilising woodland as an area for flood storage during high river flows.
- 4G and 4H – New flood storage areas. Utilising open space south of the A40 to store flood water during high river flows.

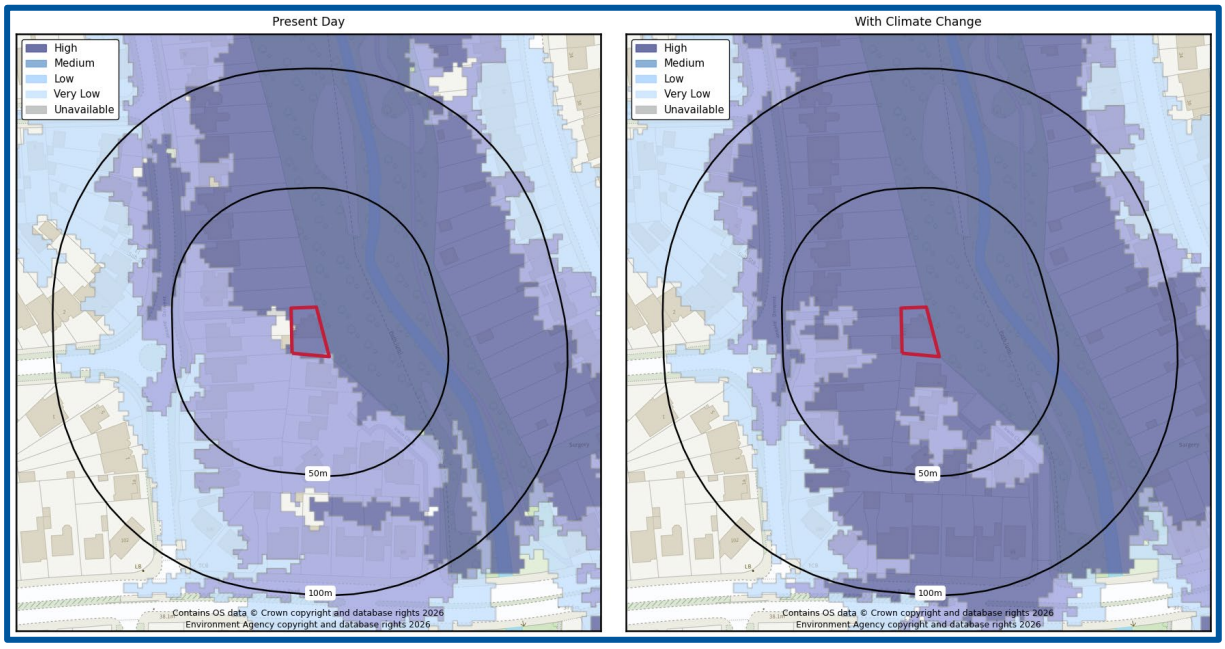
The Environment Agency has now reviewed the responses to the consultation and they are using these along with technical considerations, environmental and social impacts to develop the options further (EA, 2018).

Flood risk including the benefit of defences

The type and condition of existing flood defences influence the 'actual' risk of fluvial flooding to the Site, albeit the long-term residual risk of flooding (ignoring the defences) should be considered when proposing new development.

According to the EA's Risk of Flooding from Rivers and Sea (RoFRS) map (Figure 9), which considers the type, condition and crest height of flood defences, the Site has a High risk of flooding from the River Pinn. According to the RoFRS climate change (2036 to 2069) modelling, the risk rating is considered to remain as High.

Figure 9. Risk of Flooding from Rivers and Sea map present day and future (2036 to 2069) (EA, 2026)



Model data

As the Site is located within the EA's fluvial floodplain, modelled flood elevation data was obtained from the EA and has been used to assess flood risk and to provide recommendations for mitigation for the proposed development.

Defended modelled data from the Lower Pinn FAS Modelling Study (Jacobs, 2024) has been extracted from the 2D floodplain data provided at the Site[1]. The data is provided in the table below and is included within Appendix B.

Table 2. EA present day modelled flood data

Flood data	Flooding scenario		
	1 in 30 year	1 in 100 year	1 in 1000 year
Flood level (mAOD)	37.19	37.34	37.64
Flood depths on-Site (m)*	Up to 0.33	Up to 0.48	Up to 0.78
Internal flood depths (m)**	No flooding anticipated		

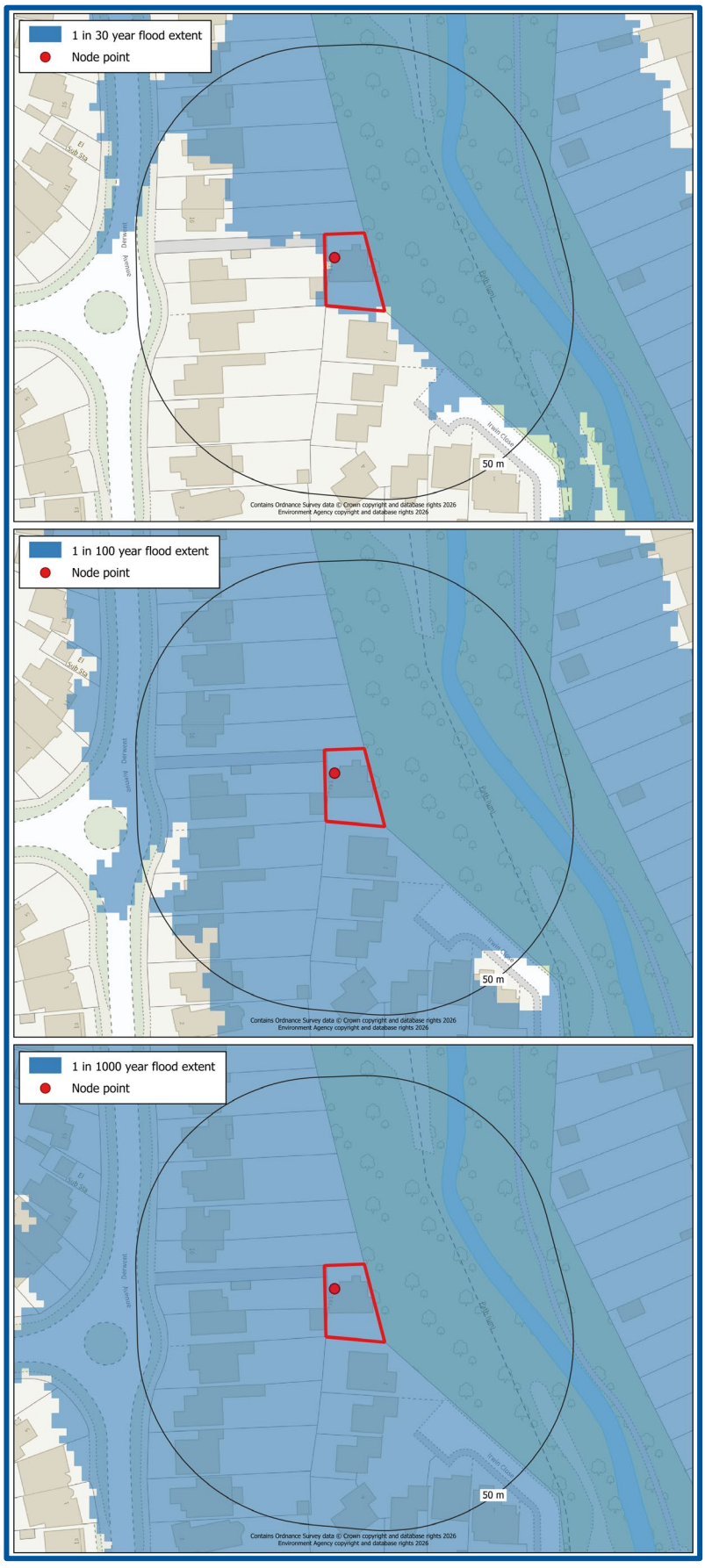
*Compared to LiDAR levels at the Site between 36.86 and 37.18 mAOD.

**Compared to estimated existing property FFLs – 37.91 mAOD (1050 mm above 36.86 mAOD).

Figure 10 (overleaf) confirms the flood extent associated with the present-day flooding scenarios.

[1] The accuracy of the modelled flood levels is not known. These are dependent on the accuracy of input datasets such as LiDAR data, used to model the impacts of flooding within the 2D domain. Confirmation of the accuracy of the modelled flood data can be obtained separately from the Environment Agency.

Figure 10. Modelled present day flooding scenarios (Jacobs, 2024)



Climate change factors

The EA's *Flood risk assessments: climate change allowances* guidance (published 19 February 2016 and updated May, 2022) has been used to inform a suitable increase in peak river flows for the proposed development. The updated guidance confirms 'More Vulnerable' developments are required to undertake a Basic assessment approach.

As the Site is located within the Colne Management Catchment, within the Thames region, and the proposed development is classed as More Vulnerable, where the proposed lifespan is approximately 100 years, the Central (21%) allowance has been used to determine a suitable climate change factor to apply to river data.

The Lower Pinn FAS Modelling Study (Jacobs, 2024) includes a modelled scenario for the 1 in 100 year event including a 21% allowance for climate change, which has been used to identify a suitable increase in river flows from the River Pinn.

Given the Flood Zone 3b classification of the Site, the Higher Central (35%) allowance has also been analysed. The available modelling does not include a 35% allowance for climate change so a stage relationship graph (Appendix D) has been produced to determine the flood level using the results of the Lower Pinn FAS Modelling Study (Jacobs, 2024).

Table 3. Flood levels plus climate change allowances

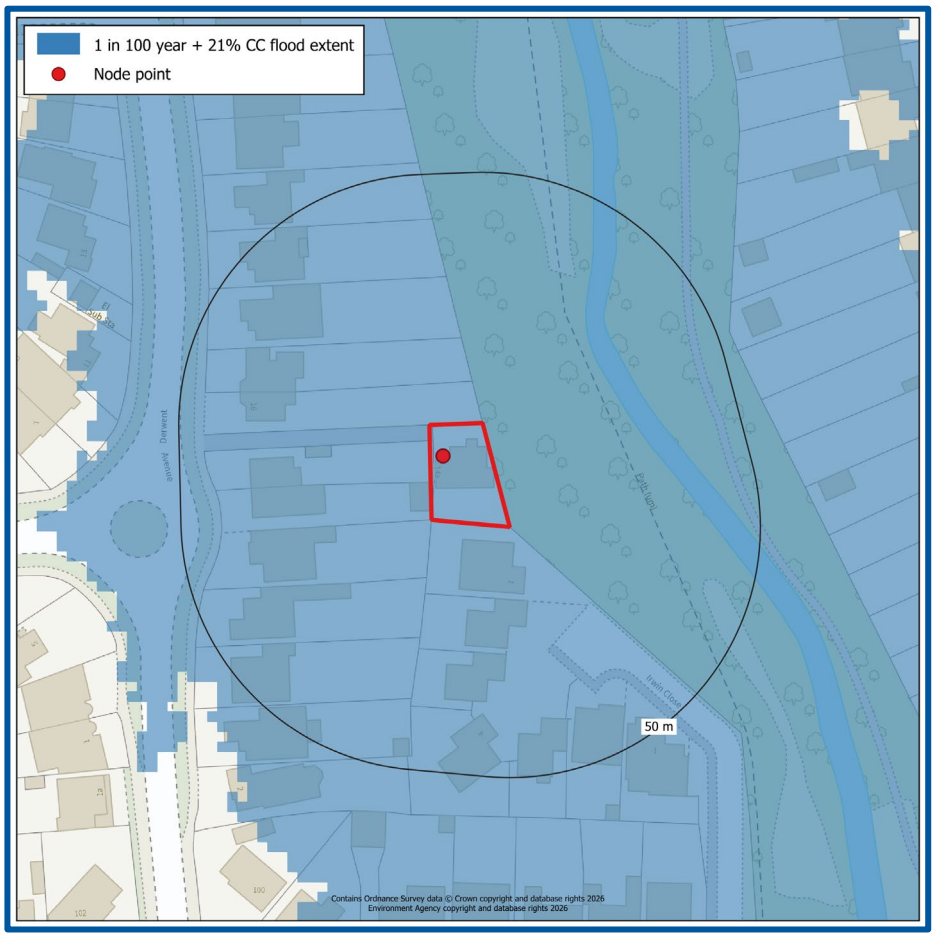
Flood data	Flooding scenario	
	1 in 100 year plus 21% central allowance for climate change	1 in 100 year plus 35% higher allowance for climate change
Modelled flood level (mAOD)	37.47	37.56
Flood depths on-Site (m)*	Up to 0.61	Up to 0.70
Internal flood depths (m)**	No flooding anticipated	

*Compared to LiDAR levels at the Site between 36.86 and 37.18 mAOD.

**Compared to estimated existing property FFLs – 37.91 mAOD (1050 mm above 36.86 mAOD).

Figure 11 (overleaf) confirms the flood extent associated with the climate change flooding scenario.

Figure 11. Modelled climate change flooding scenario (Jacobs, 2024)



Risk after further analysis

Baseline RoFRS mapping indicates there is a High risk of fluvial flooding in the climate change (2036 to 2069) scenario. The proposed development comprises of first-floor internal modifications and a first-floor dormer extension only, with no increase in ground-level footprint, no raising of ground levels, and no alterations or obstructions to overland flow routes. FFLs of the existing property are also set 1050 mm above external ground levels (estimated to be 37.91 mAOD), 0.44 m above the 1 in 100 plus 21% climate change flood level. The after-analysis fluvial risk to the development has therefore been reduced to Very Low to Low, with the Low risk reflecting the significant external flood depths.

Surface water (pluvial) flooding

Surface water flooding occurs when intense rainfall exceeds the infiltration capacity of the ground and overwhelms the drainage systems. It can occur in most locations even at higher elevations and at significant distances from river and coastal floodplains.

According to the EA's Risk of Flooding from Surface Water (pluvial) flood mapping, the Site has a High risk of pluvial flooding.

Figure 12 (overleaf) confirms the extent and depth of flooding in multiple modelled flood scenarios in the present day:

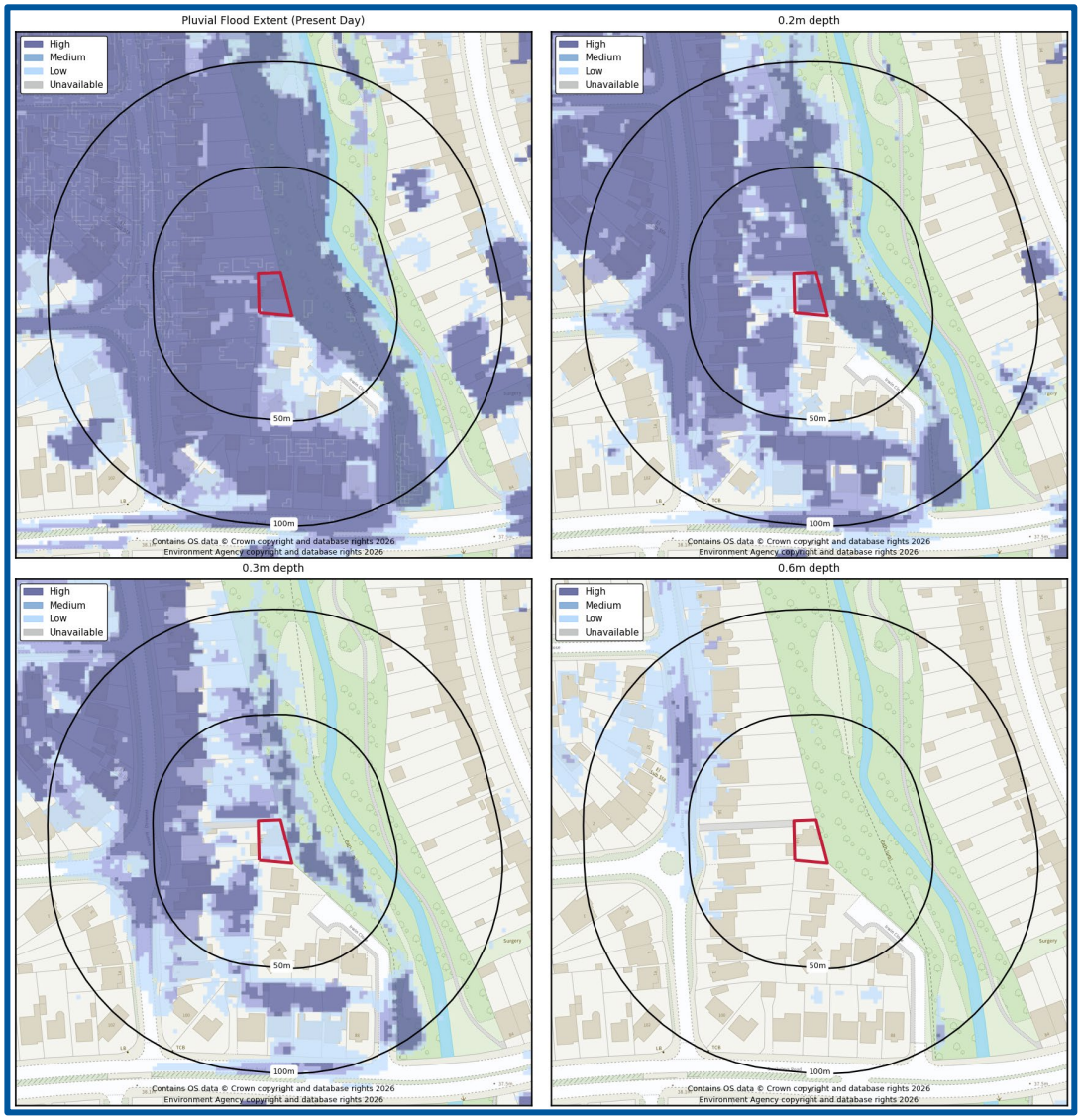
- During the High risk (>3.3% AEP) and Medium risk (3.3 - 1% AEP) events, the entirety of the Site is modelled to be affected. The majority of flood depths are between 0.20 and 0.30 m.
- During the Low risk event (1 - 0.1% AEP) , the entirety of the Site is also modelled to be affected, with flood depths increasing to between 0.30 and 0.60 m.

Interpolated flood levels were not estimated for each modelled pluvial event as EA LiDAR contours do not reliably match flood extents within the vicinity of the Site.

Pluvial flooding is likely to impact access and egress during the High risk event (>3.3% AEP), with modelled flood depths of up to 0.60 m in the adjacent highway, Derwent Avenue.

Guidance
According to EA's surface water flood risk map, areas of the Site are at: • High risk - chance of flooding of greater than 1 in 30 (3.3%).

Figure 12. EA present day surface water flood extent and depth map (EA, 2026)



Web mapping as part of the SFRA confirms the Site is located within a Critical Drainage Area (CDA) (Metis, 2024).

Guidance

According to EA's surface water flood risk map the following advisory guidance applies to the Site:

Flood Depth

- 0.15 to 0.3 m - Flooding would: typically exceed kerb height, likely exceed the level of a damp-proof course, cause property flooding in some areas
- 0.3 to 0.9 m - Flooding is likely to exceed average property threshold levels and cause internal flooding. Resilience measures are typically effective up to a water depth of 0.6 m above floor level.

Surface water flooding flow routes

Analysis of OS mapping, ground elevation data and the EA's pluvial flow route mapping in the 1 in 1000 year (Low probability) event and Overland Flow Pathways mapping confirms the Site is located on a potential overland flow route.

Given that the proposed development comprises of internal modifications and a first-floor dormer extension only, with no increase in ground-level footprint and no raising of ground levels, there are not anticipated to be any alterations/obstructions to overland flow routes.

Climate change factors

Paragraph 002 of the National Planning Practice Guidance (2025) requires consideration of the 1% AP (1 in 100 year) event, including an appropriate allowance for climate change.

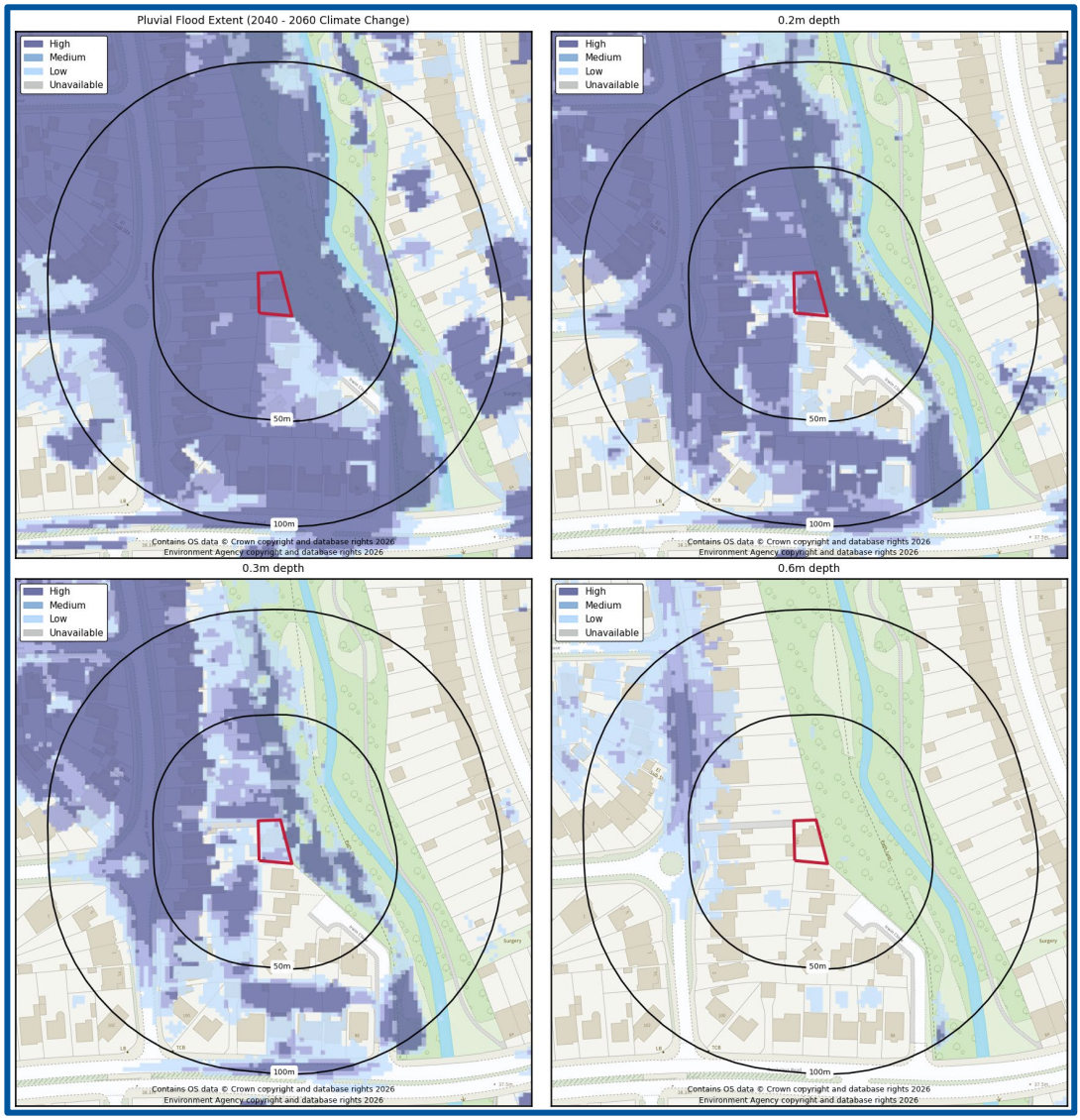
As the Site is located within the Colne Management Catchment and the proposed development is classed as More Vulnerable, where the proposed lifespan is approximately 100 years, the Upper End (40%) allowance is required to determine a suitable climate change factor to apply to rainfall data.

As part of RoFSW mapping, climate change modelling has been applied exclusively for the central allowance up to the 2050s epoch. Whilst it should be noted that the risk of pluvial flooding is likely to be greater than this dataset indicates for the lifetime of the development, in the absence of more extensive modelling scenarios this data is considered the best resource at the time of writing.

According to the RoFSW climate change modelling (Figure 13, overleaf), the entirety of the Site is modelled to be affected during all return period events. Flood depths are modelled to remain similar to present day scenarios.

Baseline RoFSW mapping indicates there is a High risk of pluvial flooding in the climate change (2040 to 2060) scenario. The proposed development comprises of first-floor internal modifications and a first-floor dormer extension only, with no increase in ground-level footprint, no raising of ground levels, and no alterations/obstructions to overland flow routes. FFLs of the existing property are also set 1050 mm above external ground levels (estimated to be 37.91 mAOD). The after-analysis pluvial risk to the development has therefore been reduced to Very Low. It is noted that there is an increased risk to the wider Site and access and egress.

Figure 13. EA future (2040 to 2060) surface water flood extent and depth map (EA, 2026)

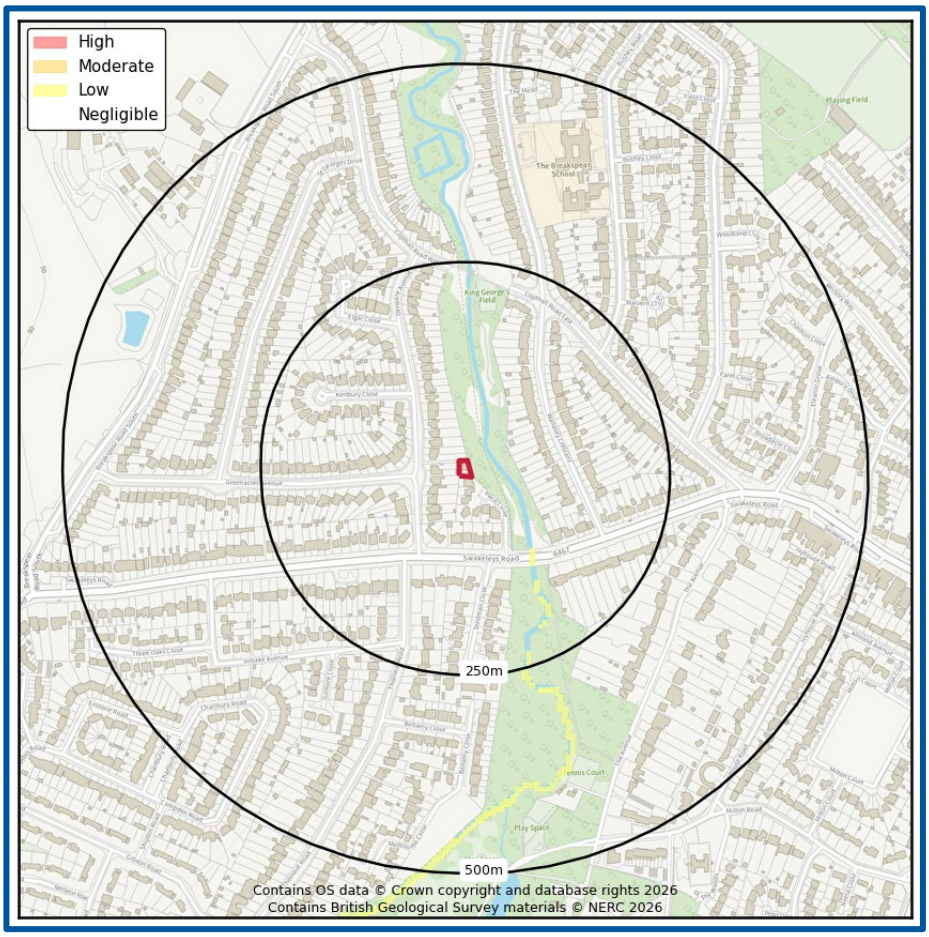


Groundwater flooding

Groundwater flooding occurs when sub-surface water emerges from the ground at the surface or into Made Ground and structures. This may be as a result of persistent rainfall that recharges aquifers until they are full; or may be as a result of high river levels, or tides, driving water through near-surface deposits. Flooding may last a long time compared to surface water flooding, from weeks to months. Hence the amount of damage that is caused to property may be substantially higher.

Groundwater Flood Risk screening data (Figure 14) indicates there is a Negligible risk of groundwater flooding at the surface in the vicinity from permeable bedrock and superficial aquifers during a 1 in 100 year event.

Figure 14. GeoSmart GW5 Groundwater Flood Risk Map (GeoSmart, 2026)



Mapped classes within the screening map combine likelihood, possible severity and the uncertainty associated with predicting the subsurface system. The map is a national scale screening tool to prompt site-specific assessment where the impact of groundwater flooding would have significant adverse consequences. Mapping limitations and a number of local factors may reduce groundwater flood risk to land and property even where it lies within mapped groundwater flood risk zones, which do not mean that groundwater floods will occur across the whole of the risk area.

A site-specific assessment has been undertaken to refine the groundwater risk screening information on the basis of site-specific datasets (see Section 3) to develop a conceptual groundwater model. The risk rating is refined further using the vulnerability of receptors including occupants and the existing and proposed Site layout, including the presence of basements and buried infrastructure. The presence of any nearby or on-Site surface water features such as drainage ditches, which could intercept groundwater have also been considered.

- The client has confirmed that there are no existing basements and a basement is not proposed as part of the development. *Note: the risks are higher for basements, buried infrastructure and soakaway systems which may be affected by high groundwater levels.*
- According to a review of the hydrogeology (Section 3), the Site is underlain by permeable superficial deposits above permeable bedrock. Groundwater levels may rise in the bedrock and superficial aquifers in a seasonal response to prolonged rainfall recharge which may cause an unusually high peak in groundwater levels during some years. Groundwater levels may also rise in the bedrock aquifer in response to high river events due to the potential hydraulic continuity with the River Pinn.
- There are no nearby boreholes from which the underlying groundwater depth can be inferred.
- Web mapping produced as part of the SFRA (Metis, 2024) includes the EA's Areas Susceptible to Groundwater Flooding mapping, which was developed as a screening tool for Local Authorities at a strategic scale. This mapping indicates that the Site is located in a 1 km square where less than 25% of the land is susceptible to groundwater emergence.
- The web mapping also confirms that there is an increased potential for elevated groundwater within permeable superficial deposits on-Site (Metis, 2024).
- The hydrogeological characteristics suggest there is potential for a groundwater table beneath the Site.

The baseline groundwater flood risk rating is Negligible. The proposed development comprises of first-floor internal modifications and a first-floor dormer extension only, with no increase in ground-level footprint, no raising of ground levels, and no alterations/obstructions to overland flow routes. FFLs of the existing property are also set 1050 mm above external ground levels (estimated to be 37.91 mAOD). The after-analysis groundwater risk to the development is therefore considered to be Negligible.

Guidance
Negligible Risk - There will be a remote possibility that incidence of groundwater flooding could lead to damage to property or harm to other sensitive receptors at, or near, this location.

Climate change predictions suggest an increase in the frequency and intensity of extremes in groundwater levels.

- Rainfall recharge patterns will vary regionally resulting in changes to average groundwater levels.
- A rise in peak river levels will lead to a response of increased groundwater levels in adjacent aquifers subject to the predicted climate change increases in peak river level for the local catchment.

The impact of climate change on groundwater levels beneath the Site is linked to the predicted rise in peak river levels, as well as the variation in rainfall recharge, which is uncertain.

Flooding from artificial sources

Artificial sources of flood risk include waterbodies or watercourses that have been amended by means of human intervention rather than natural processes. Examples include reservoirs (and associated water supply infrastructure), docks, sewers and canals. The flooding mechanism associated with flood risk from artificial sources is primarily related to breach or failure of structures (reservoir, lake, sewer, canal, flood storage areas, etc.)

Sewer flooding

Flooding from the sewer network can occur when flow entering the system exceeds its available discharge capacity, the system becomes blocked or it cannot discharge due to a high water level in the receiving watercourse. Water then begins to back up through the sewers and surcharge through manholes, potentially flooding highways, and properties.

Web mapping as part of the SFRA has identified 1-20 incidences of flooding as a result of surcharging sewers within the UB10 8 postcode. However, it is recognised that this five digit postcode covers a large area and instances of flooding are not specific to the Site (Metis, 2024).

Records held by Thames Water indicate that there have been no incidences of flooding related to the surcharging of public sewers at the Site (Thames Water, 2026; Appendix C).

Guidance

Properties classified as “at risk” are those that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system either once or twice in the ten year reference period. Records held by the sewage utility company provide information relating to reported incidents, the absence of any records does not mean that the Site is not at risk of flooding.

Canal failure

Canals typically present a residual risk to Site rather than a direct flood risk due to the water levels being highly managed within an operating zone. Flooding can still occur from canals as a result of overtopping due to prolonged rainfall or embankment failure.

According to Ordnance Survey (OS) mapping, there are no canals within 500 m of the Site and therefore the risk is considered to be Negligible.

Water supply infrastructure

Water supply infrastructure is comprised of a piped network to distribute water to private houses or industrial, commercial or institution establishments and other usage points. In urban areas, this represents a particular risk of flooding due to the large amount of water supply infrastructure, its condition and the density of buildings.

The risks of flooding to properties from burst water mains cannot be readily assessed. If more information regarding the condition and history of the water supply infrastructure within the vicinity of the Site is required, then it is advisable to contact the local water supplier Thames Water).

Culverts and bridges

The blockage of watercourses or structures by debris (that is, any material moved by a flowing stream including vegetation, sediment and man-made materials or refuse) reduces flow capacity and raises water levels, potentially increasing the risk of flooding. High water levels can cause saturation, seepage and percolation leading to failure of earth embankments or other structures. Debris accumulations can change flow patterns, leading to scour, sedimentation or structural failure.

Bridges have been identified within the vicinity of the Site. However, these structures are a significant distance upstream and downstream from the Site and are therefore deemed unlikely to represent a flood risk to the Site in the event of a blockage.

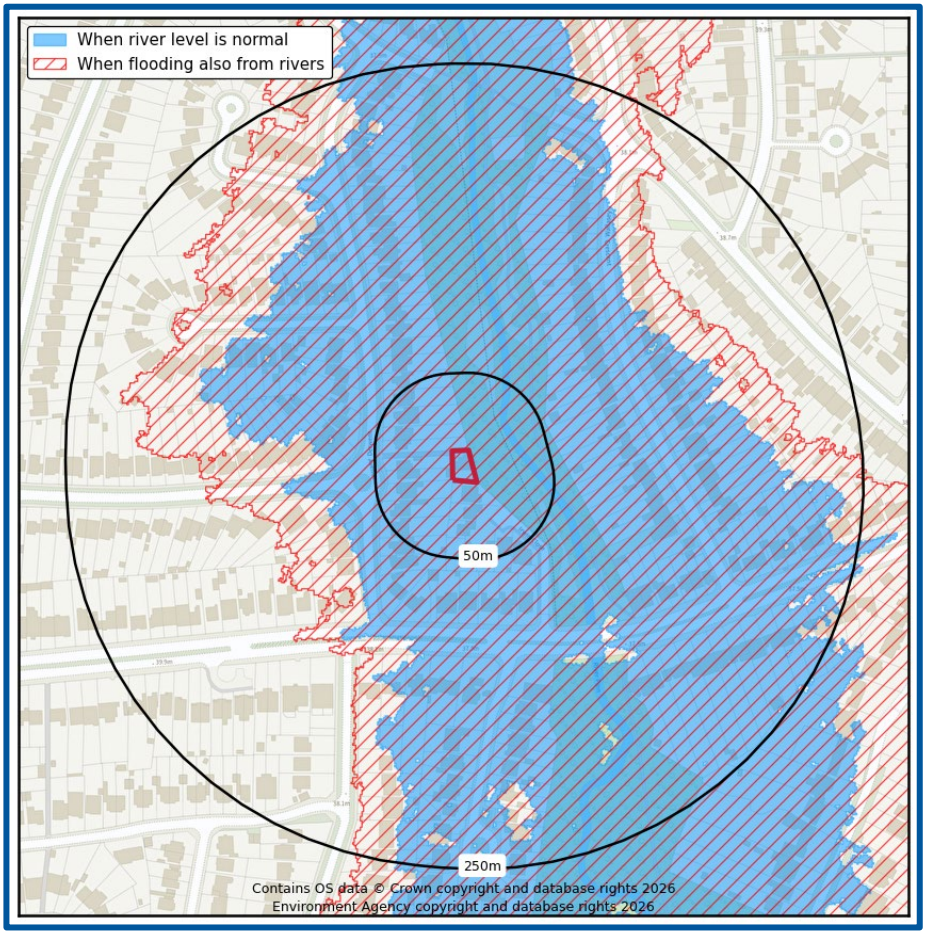
Reservoir flooding

According to the EA's Risk of Flooding from Reservoir mapping the Site is at risk of flooding from reservoirs during a "dry day" and "wet day" scenario (Figure 15) (EA, 2026).

A "dry day" scenario predicts the flooding that would occur if the dam/reservoir failed when rivers are at normal levels.

The "wet day" scenario predicts how much worse the flooding might be if a river is already experiencing an extreme natural flood. The combination of both reservoir and fluvial defence breaches are considered extremely unlikely.

Figure 15. EA Risk of Reservoir Flooding (EA, 2026)



Guidance

The risk of reservoir flooding is related to the failure of a large reservoir (holding over 25,000 m^3 of water) and is based on the worst-case scenario. Reservoir flooding is extremely unlikely to occur (EA, 2026).

5. Flood risk from the development

Floodplain storage

Where flood storage from any source of flooding is to be lost as a result of development, on-site level-for-level compensatory storage, accounting for the predicted impacts of climate change over the lifetime of the development, should be provided. Where it is not possible to provide compensatory storage on site, it may be acceptable to provide it off-site if it is hydraulically and hydrologically linked.

The loss of floodplain storage is less likely to be a concern in areas benefitting from appropriate flood risk management infrastructure or where the source of flood risk is solely tidal.

The development is located within a fluvial Flood Zone 3b but does not involve an increase in building footprint. Therefore, there would be no displacement of flood water and compensatory flood storage is not required.

Drainage and run-off

The development proposals will not involve the alteration of any external features (or any changes to existing impermeable and permeable areas), an estimation of surface water runoff is not considered to be required.

Any changes to the existing drainage system will be undertaken in accordance with best practice and care will be taken to ensure the new development does not overload/block any existing drainage or flow pathways to/from the Site.

6. Suitability of the proposed development

The information below outlines the suitability of proposed development in relation to national and local planning policy.

National policy and guidance

The aims of the national planning policies are achieved through application of the Sequential Test and in some cases the Exception Test.

Guidance

Sequential test: The aim of this test is to steer new development towards areas with the lowest risk of flooding (NPPF, 2024). Reasonably available sites located in Flood Zone 1 should be considered before those in Flood Zone 2 and only when there are no reasonably available sites in Flood Zones 1 and 2 should development in Flood Zone 3 be considered.

Exception test: In some cases, this may need to be applied once the Sequential Test has been considered. For the exception test to be passed it must be demonstrated that the development would provide wider sustainability benefits to the community that outweigh flood risk and a site-specific FRA must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

Suitability of the proposed development, and whether the Sequential and Exception Tests are required, is based on the risk of flooding from all sources aiming to steer development towards low-risk areas. The flood risk vulnerability classification of the existing and proposed development must also be compatible with the respective Flood Zone. Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

This report has been produced to assess all development types, prior to any development. The vulnerability classification and Flood Zones are compared within the table overleaf (Table 2 of the NPPG (2025)).

The proposed development is first floor dormer extension to the existing property and is therefore defined as minor development.

Paragraph 176 of the NPPF (2024) states: *"Applications for some minor development and changes of use [62] 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".*

The NPPG (2025) defines a 'minor development' as *"householder development, alterations and small non-residential extensions (with a footprint of less than 250 m^2)."*

As a result, as the proposals are defined as "minor development – householder development" they are not subject to the Sequential Test or an Exception Test.

Table 4. Flood risk vulnerability and flood zone 'incompatibility (taken from NPPG, 2025)

Flood risk vulnerability classification		Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood Zone	Zone 1 – low probability	✓	✓	✓	✓	✓
	Zone 2 – medium probability	✓	✓	Exception test required	✓	✓
	Zone 3a - high probability	Exception test required	✓	X	Exception test required	✓
	Zone 3b – functional flood plain	Exception test required	✓	X	X*	X

*As the development proposals are for a minor development the Sequential and Exception Tests are not required.

EA Flood Risk Standing Advice for vulnerable developments located in Flood Zones 2 or 3 (February, 2022)

For all relevant vulnerable developments (i.e. more vulnerable, less vulnerable and water compatible), advice on the points should be followed:

- Surface water management;
- Access and evacuation; and,
- Floor levels.

Surface water management

Plans for the management of surface water need to meet the requirements set out in either the local authority's:

- Surface water management plan where available; OR,
- Strategic flood risk assessment.

They also need to meet the requirements of the approved building regulations Part H: drainage and water disposal. Read section H3 rainwater drainage.

Planning permission is required to use a material that can't absorb water (e.g. impermeable concrete) in a front garden larger than 5m^2.

Access and evacuation

Details of emergency escape plans should be provided for any parts of a building that are below the estimated flood level.

Plans should show:

- Single storey buildings or ground floors that don't have access to higher floors can access a space above the estimated flood level, e.g. higher ground nearby;
- Basement rooms have clear internal access to an upper level, e.g. a staircase;
- Occupants can leave the building if there's a flood and there's enough time for them to leave after flood warnings.

Floor levels

The following should be provided:

- Average ground level of your site;
- Ground level of the access road(s) next to your building; and,
- Finished floor level of the lowest room in your building.

Finished floor levels should be a minimum of whichever is higher of 300 mm above the:

- Average ground level of the site;
- Adjacent road level to the building; OR
- Estimated river or sea flood level.

You should also use construction materials that have low permeability up to at least the same height as finished floor levels.

If you cannot raise floor levels to meet the minimum requirement, you will need to:

- Raise them as much as possible;
- Consider moving vulnerable uses to upper floors; and,
- Include extra flood resistance and resilience measures.

When considering the height of floor levels, you should also consider any additional requirements set out in the SFRA. Flood water can put pressure on buildings causing structural issues. If your design aims to keep out a depth of more than 600 mm of water, you should get advice from a structural engineer. They will need to check the design is safe.

Extra flood resistance and resilience measures

Follow the guidance in this section for developments in flood risk areas where you cannot raise the finished floor levels to the required height. You should design buildings to exclude flood water where possible and to speed recovery in case water gets in.

Make sure your flood resilience plans for the development follow the guidance in the CIRIA Property Flood Resilience Code of Practice. Please note that the code of practice uses the term 'recovery measures'. In this guide we use 'resilience measures'.

Flooding can affect the structural stability of buildings. If your building design would exclude more than 600 mm of flood water, you should get advice from a structural engineer. They will need to check the design is safe. Only use resistance measures that will not cause structural stability issues during flooding. If it is not possible to safely exclude the estimated flood level, exclude it to the structural limit then allow additional water to flow through the property.

The design should be appropriately flood resistant and resilient by:

- Using flood resistant materials that have low permeability to at least 600 mm above the estimated flood level;
- Making sure any doors, windows or other openings are flood resistant to at least 600 mm above the estimated flood level;
- Using flood resilient materials (for example lime plaster) to at least 600 mm above the estimated flood level;
- By raising all sensitive electrical equipment, wiring and sockets to at least 600 mm 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; and,
- Ensuring that soil pipes are protected from back-flow such as by using non-return valves.

Temporary or demountable flood barriers are not appropriate for new buildings. Only consider them for existing buildings when:

- There is clear evidence that it would be inappropriate to raise floor levels and include passive resistance measures; and,
- An appropriate flood warning or other appropriate trigger is available.

If proposals involve the development of buildings constructed before 1919, refer to Flooding and Historic Buildings guidance produced by Historic England.

7. Resilience and mitigation

Based on the flood risk identified at the Site, the national and local policies and guidance and proposed development, the mitigation measures outlined within this section of the report are likely to help protect the development from flooding.

Sea (coastal/tidal) flood mitigation measures

As the Site is not identified as being at risk of flooding from the sea, mitigation measures are not required.

Rivers (fluvial) flood mitigation measures

The Site is located within an area which is affected by flooding from rivers. The following table confirms the flood depths associated with the Site.

Table 5. Modelled present day and climate change flood levels

Flood data	Flooding scenario		
	1 in 100 year	1 in 100 year plus 21% CC	1 in 1000 year
Flood level (mAOD)	37.34	37.47	37.64
Flood depths on-Site (m)*	Up to 0.48	Up to 0.61	Up to 0.78
Internal flood depths (m)**	No flooding anticipated		

*Compared to LiDAR levels at the Site between 36.86 and 37.18 mAOD.

**Compared to estimated existing property FFLs – 37.91 mAOD (1050 mm above 36.86 mAOD).

The proposed development comprises of first-floor internal modifications and a first-floor dormer extension only, with no increase in ground-level footprint, no raising of ground levels, and no alterations or obstructions to overland flow routes. FFLs of the existing property are set 1050 mm above external ground levels (estimated to be 37.91 mAOD), 0.44 m above the 1 in 100 plus 21% climate change flood level. As no internal works are proposed at the ground floor level, the development does not necessitate additional ground-floor flood resistance or resilience measures beyond the existing situation.

A Flood Warning and Evacuation Plan (FWEP) is recommended to ensure persons using the Site can evacuate safely on receipt of a Flood Warning. Occupants of the Site should be signed up to receive EA Flood Alerts and Flood Warnings.

Surface water (pluvial) flood mitigation measures

A High surface water (pluvial) flooding risk has been identified at the Site. The proposed development comprises of first-floor internal modifications and a first-floor dormer extension only, with no increase in ground-level footprint, no raising of ground levels, and no alterations or obstructions to overland flow routes. In addition, FFLs of the existing property are set 1050 mm above external ground levels (estimated to be 37.91 mAOD). As no internal works are proposed at the ground floor level, the development does not necessitate additional ground-floor flood resistance or resilience measures beyond the existing situation.

The regular maintenance of any drains and culverts surrounding/on the Site under the riparian ownership of the developer should be undertaken to reduce the flood risk.

Groundwater flood mitigation measures

As the Site is not identified as being at risk of groundwater flooding, mitigation measures are not required.

Reservoir flood mitigation measures

According to the EA data, the Site is at risk of flooding from reservoirs.

There would be a relatively high rate and onset of flooding associated with a reservoir breach; therefore, it is unlikely that safe access could be achieved unless a long warning period was provided. Occupants should get to the highest level of the building as possible and contact the emergency services. FFLs of the existing property are set 1050 mm above external ground levels which is likely to reduce the risk of reservoir flooding at the Site.

Other flood risk mitigation measures

As the Site is not identified as at risk from other sources, mitigation measures are not required.

Residual flood risk mitigation measures

The risk to the Site has been assessed from all sources of flooding and appropriate mitigation and management measures proposed to keep the users of the development safe over its lifetime. There is, however, a residual risk of flooding associated with the potential for failure of mitigation measures if regular maintenance and upkeep are not undertaken. If mitigation measures are not implemented or maintained, the risk to the development will remain as the baseline risk.

Further flood mitigation information

More information on flood resistance, resilience and water entry can be found here: http://www.planningportal.gov.uk/uploads/br/flood_performance.pdf

Emergency evacuation - safe access / egress and safe refuge

Emergency evacuation to land outside of the floodplain should be provided if feasible. Where this is not possible, More Vulnerable developments and, where possible, development in general (including basements), should have internal stair access to an area of safe refuge within the building to a level higher than the maximum likely water level. An area of safe refuge should be sufficient in size for all potential users and be reasonably accessible to the emergency services.

Emergency evacuation from the development and the Site should only be undertaken in strict accordance with any evacuation plans produced for the Site, with an understanding of the flood risks at the Site including available mitigation, the vulnerability of occupants and preferred evacuation routes.

Flood warnings

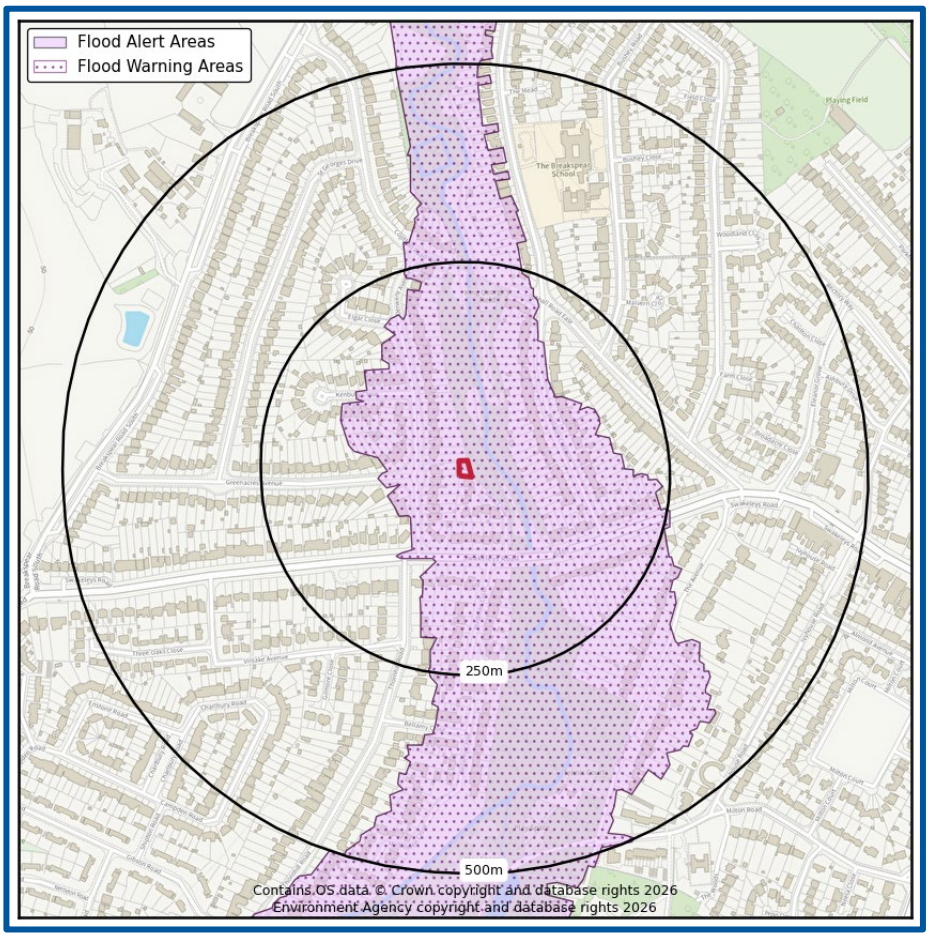
The EA operates a flood warning service in all areas at risk of flooding; this is available on their website: https://www.gov.uk/check-flood-risk. The Site is located within an EA Flood Alert and Warning coverage area so is able to receive alerts and warnings (Figure 16). All warnings are also available through the EA's 24 hour Floodline Service (0345 988 1188).

- Flood Alert: River Pinn and Woodridings Stream (062WAF28Pinn); Quick Dial code: 172711.
- Flood Warning: River Pinn at Ickenham (062FWF28Ickenham); Quick Dial code: 172708.

The EA aims to issue Flood Warnings 2 hours in advance of a flood event. Flood Warnings can provide adequate time to enable protection of property and evacuation from a Site, reducing risk to life and property.

As the Site is located within an area likely to be impacted by surface water flooding, consideration should be made for occupants to sign up to the MET Office extreme weather warnings. Weather warnings are issued when the weather is deemed to have a potential impact on people categorised as: Yellow (consideration of taking steps to minimise impacts), Amber (change plans to protect persons and property) and Red (take direct action to keep yourself and others safe). Occupants should take the appropriate action, subject to the severity of the warning.

Figure 16. EA Flood Warning Coverage for the local area (EA, 2026)



Emergency evacuation

Where possible, a safe access and egress route with a 'very low' hazard rating from areas within the floodplain to an area wholly outside the 1 in 100 year flood event including an allowance for climate change should be demonstrated.

Based on the EA's Flood Zone Map the closest dry evacuation area within Flood Zone 1 is along Greenacres Avenue (c. 100 m west – direct measurement). It is advised that evacuation from the premises would be the preferred option in a flood event if safe to do so. It is recommended that residents prepare to evacuate as soon as an EA Flood Warning is issued in order to completely avoid flood waters.

On-Site refuge

Evacuation should be the primary action in preference, however safe refuge could be sought at ground and first floor level in a worst-case scenario.

Other relevant information

Occupants should be signed up to receive EA Flood Alerts, EA Flood Warnings and MET Office extreme weather warnings. Registration to the Environment Agency's flood warning scheme can be done by following this link: https://www.gov.uk/sign-up-for-flood-warnings.

8. Conclusions and recommendations

Table 6. Risk ratings following Site analysis

Source of Flood Risk	Baseline[1]	After analysis[2]	After Mitigation[3]
River (fluvial) flooding	High	Very Low to Low	N/A
Sea (coastal/tidal) flooding	Very Low		N/A
Surface water (pluvial) flooding	High	Very Low	N/A
Groundwater flooding	Negligible		N/A
Other flood risk factors present	Yes (Reservoir flooding)		Yes
Is any other further work recommended?	Yes (see below)		

1 BASELINE risks assigned for the whole Site, using national risk maps, including the benefit of EA flood defences and the impacts of climate change.

2 AFTER ANALYSIS modification of risk assessment based on detailed site specific analysis including some or all of the following: flood model data, high resolution mapping, building location, access routes, topographic and CCTV surveys. Reasons for the change in classification are provided in the text.

3 AFTER MITIGATION risks include risks to proposed development / asset and occupants if mitigation measures recommended in this report are implemented, including the impacts of climate change.

*N/A indicates where mitigation is not required.

The table overleaf provides a summary of where the responses to key questions are discussed in this report.

Table 7. Summary of responses to key questions in the report

Key sources of flood risks identified	Fluvial and pluvial (see Section 4).
Are standard mitigation measures likely to provide protection from flooding to/from the Site?	N/A (see Section 7).
Is any further work recommended?	Yes (See exec summary and Section 7)

9. References and glossary

References

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Glossary

General terms

BGS	British Geological Survey
EA	Environment Agency
GeoSmart groundwater flood risk model	GeoSmart's national groundwater flood risk model takes advantage of all the available data and provides a preliminary indication of groundwater flood risk on a 50m grid covering England and Wales. The model indicates the risk of the water table coming within 1 m of the ground surface for an indicative 1 in 100 year return period scenario.
Dry-Island	An area considered at low risk of flooding (e.g. In a Flood Zone 1) that is entirely surrounded by areas at higher risk of flooding (e.g. Flood Zone 2 and 3)
Flood resilience	Flood resilience or wet-proofing accepts that water will enter the building, but through careful design will minimise damage and allow the re-occupancy of the building quickly. Mitigation measures that reduce the damage to a property caused by flooding can include water entry strategies, raising electrical sockets off the floor, hard flooring.
Flood resistance	Flood resistance, or dry-proofing, stops water entering a building. Mitigation measures that prevent or reduce the likelihood of water entering a property can include raising flood levels or installation of sandbags.
Flood Zone 1	This zone has less than a 0.1% annual probability of river flooding
Flood Zone 2	This zone has between 0.1 and 1% annual probability of river flooding and between 0.1% and 0.5 % annual probability sea flooding
Flood Zone 3	This zone has more than a 1% annual probability of river flooding and 0.5% annual probability of sea flooding
Functional Flood Plain	An area of land where water has to flow or be stored in times of flood.
Hydrologic model	A computer model that simulates surface run-off or fluvial flow. The typical accuracy of hydrologic models such as this is ±0.25m for estimating flood levels at particular locations.
OS	Ordnance Survey
Residual Flood Risk	The flood risk remaining after taking mitigating actions.

SFRA	Strategic Flood Risk Assessment. This is a brief flood risk assessment provided by the local council
SuDS	A Sustainable drainage system (SuDS) is designed to replicate, as closely as possible, the natural drainage from the Site (before development) to ensure that the flood risk downstream of the Site does not increase as a result of the land being developed. SuDS also significantly improve the quality of water leaving the Site and can also improve the amenity and biodiversity that a Site has to offer. There are a range of SuDS options available to provide effective surface water management that intercept and store excess run-off. Sites over 1 Ha will usually require a sustainable drainage assessment if planning permission is required. The current proposal is that from April 2014 for more than a single dwelling the drainage system will require approval from the SuDS Approval Board (SABs).

Aquifer Types

Principal aquifer	These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale.
Secondary A aquifer	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.
Secondary B aquifer	Predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.
Secondary undifferentiated	Has been assigned in cases where it has not been possible to attribute either category A or B to a rock type due to the variable characteristics of the rock type.
Unproductive Strata	These are rock layers or drift deposits with low permeability that has negligible significance for water supply or river base flow.

NPPF (2024) terms

Exception test	Applied once the sequential test has been passed. For the exception test to be passed it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk and a site-specific FRA must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.
Sequential test	Aims to steer new development to areas with the lowest probability of flooding.
Essential infrastructure	Essential infrastructure includes essential transport infrastructure, essential utility infrastructure and wind turbines.
Water compatible	Water compatible land uses include flood control infrastructure, water-based recreation and lifeguard/coastal stations.
Less vulnerable	Less vulnerable land uses include police/ambulance/fire stations which are not required to be operational during flooding and buildings used for shops/financial/professional/other services.
More vulnerable	More vulnerable land uses include hospitals, residential institutions, buildings used for dwelling houses/student halls/drinking establishments/hotels and sites used for holiday or short-let caravans and camping.
Highly vulnerable	Highly vulnerable land uses include police/ambulance/fire stations which are required to be operational during flooding, basement dwellings and caravans/mobile homes/park homes intended for permanent residential use.

Data sources

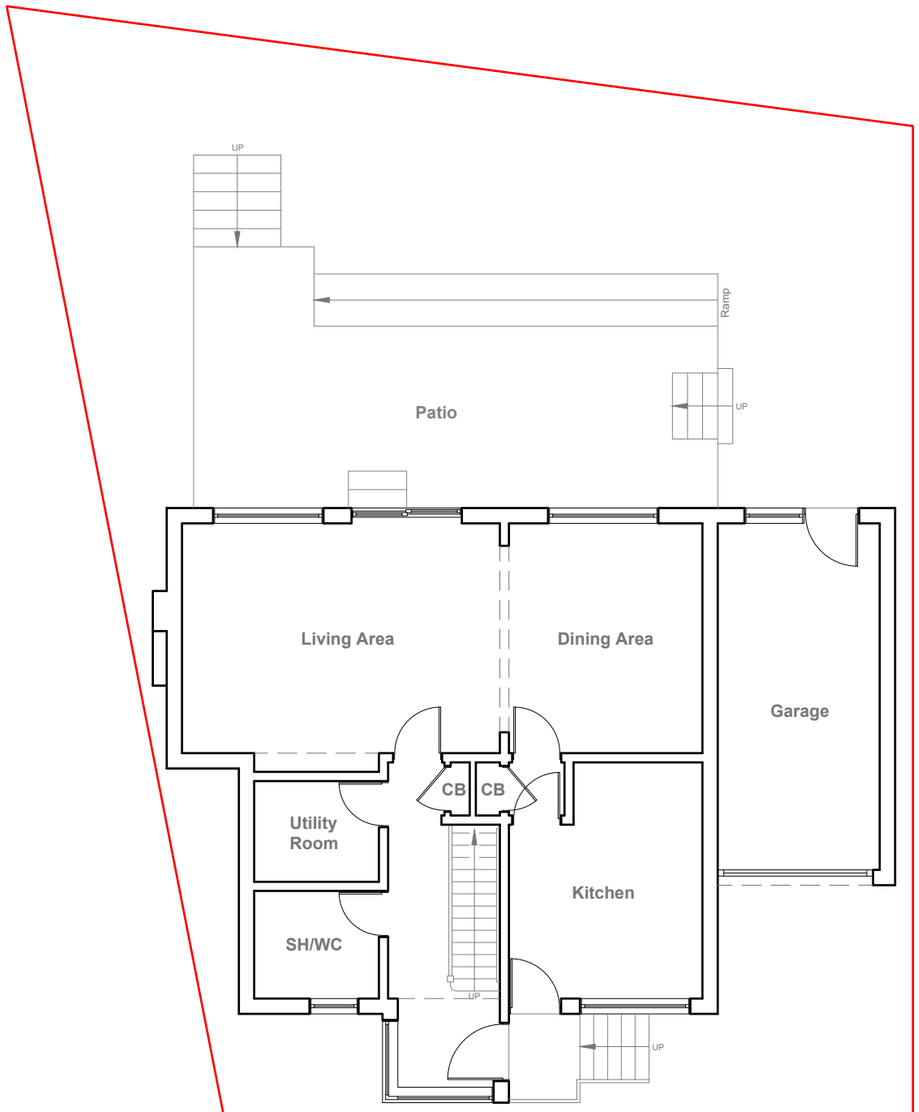
Aerial Photography	Contains Ordnance Survey data © Crown copyright and database right 2026 BlueSky copyright and database rights 2026
Bedrock & Superficial Geology	Contains British Geological Survey materials © NERC 2026 Ordnance Survey data © Crown copyright and database right 2026
Flood Risk (Flood Zone/RoFRS/Historic Flooding/Pluvial/Surface Water Features/Reservoir/ Flood Alert & Warning)	Environment Agency copyright and database rights 2026 Ordnance Survey data © Crown copyright and database right 2026
Flood Risk (Groundwater)	GeoSmart, BGS & OS GW5 (v2.4) Map (GeoSmart, 2026) Contains British Geological Survey materials © NERC 2026 Ordnance Survey data © Crown copyright and database right 2026
Location Plan	Contains Ordnance Survey data © Crown copyright and database right 2026
Topographic Data	OS LiDAR/EA Contains Ordnance Survey data © Crown copyright and database right 2026 Environment Agency copyright and database rights 2026

10. Appendices

GeoSmart Information

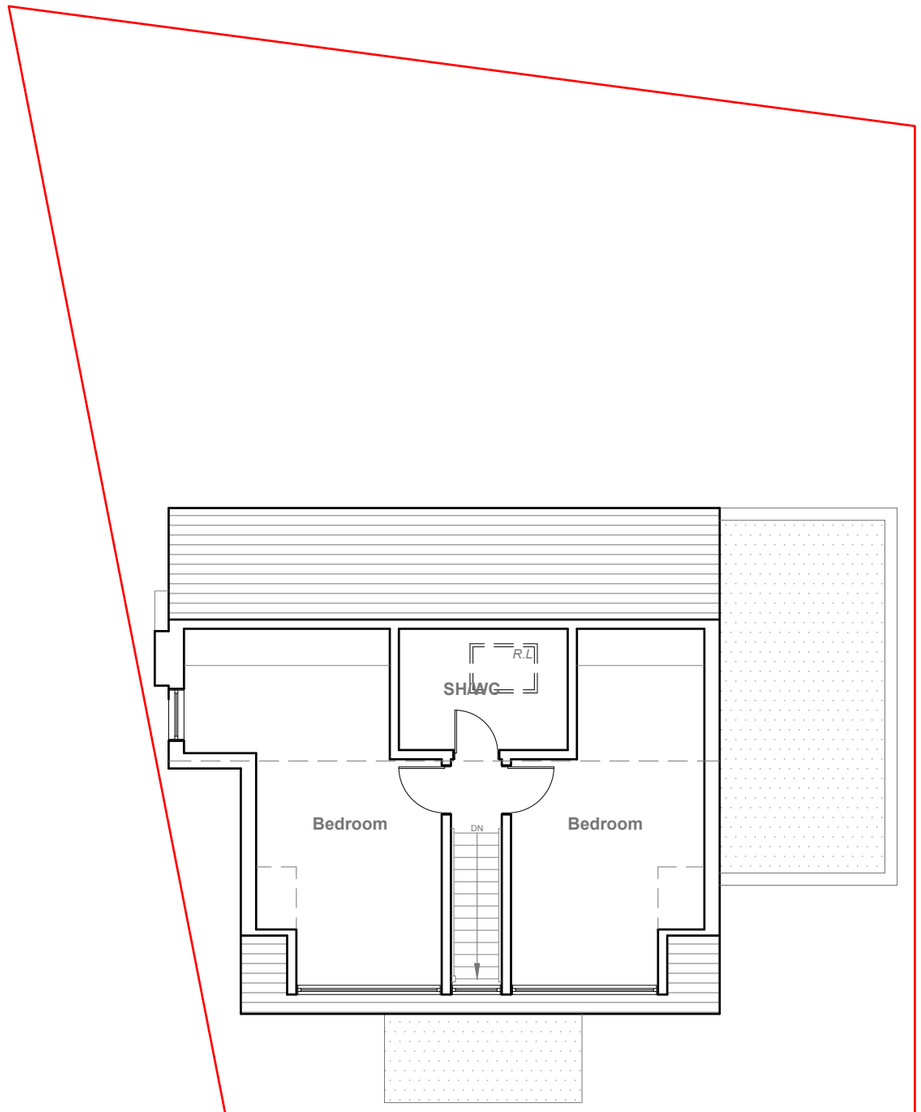
Appendix A

Site plans



Existing Ground Floor Plan

Scale 1:100



Existing Loft Floor Plan

Scale 1:100

Multi Creation

239 Western Road, Southall, Middlesex, UB2 5HS 020 8571 1369 info@multicreation.co.uk

Project:
14A Derwent Avenue,
Ickenham,
Uxbridge,
UB10 8HJ

Title:
Existing
Ground Floor Plan
& Loft Floor Plan

Scale: 1:100 @ A3
Date: October 2025
Drawing No.: 3868/01/JG
Revision

Key:
- Walls
- Fittings
- Demolition
- Steel
- Plumbing
- Foundation

Scale Bar:

1:50 — 0 1 2 5 M

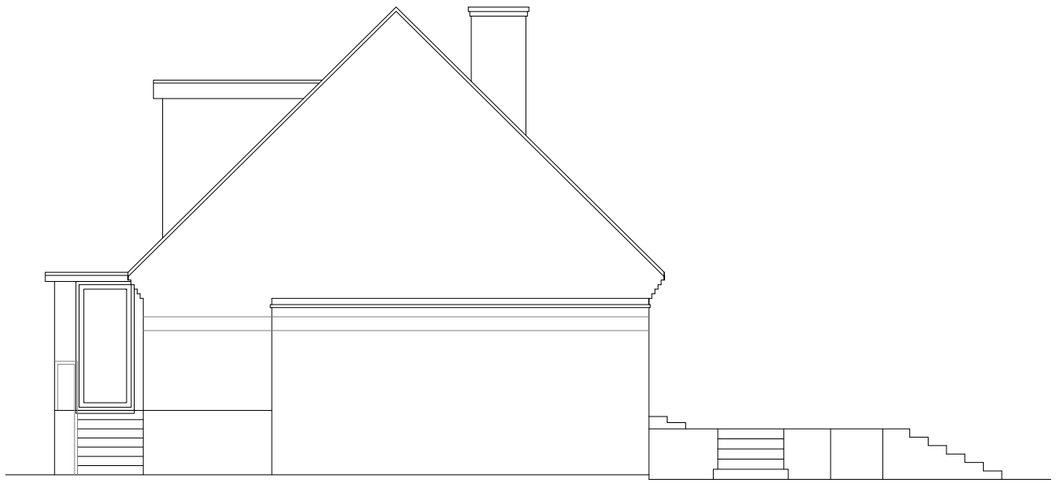
1:100 — 0 1 2 5 10 M

1:200 — 0 4 10 20 M

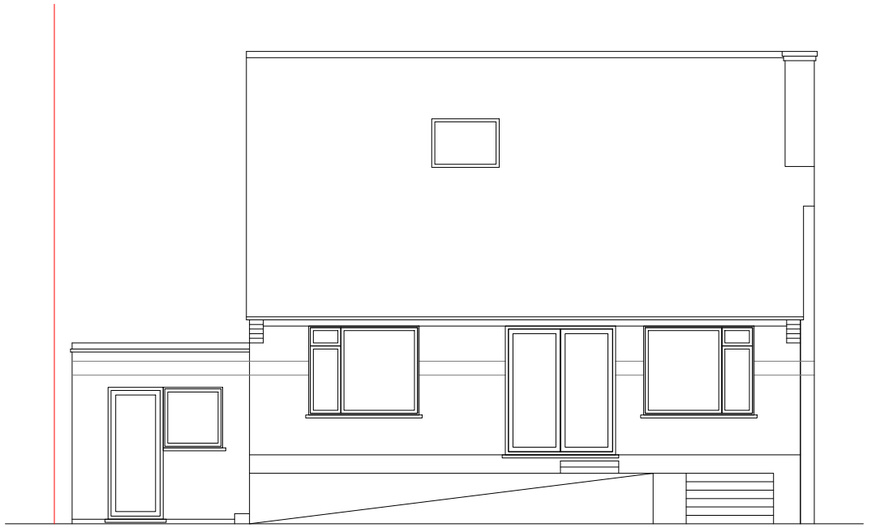
General Notes:

GENERAL NOTES APPLY TO ALL DRAWINGS. DIMENSIONS ARE IN MILLIMETER, UNLESS SPECIFIED OTHERWISE.
DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS & CONDITIONS ON SITE BEFORE THE START OF ANY WORK.
ALL WORK TO COMPLY WITH CURRENT BUILDING REGULATIONS & CODES OF PRACTICE.
ALL STRUCTURAL ELEMENTS ARE TO BE CROSS CHECKED WITH STRUCTURAL CALCULATIONS.
REPORT OF ANY DISCREPANCY OR VARIATION TO THE DESIGNER IMMEDIATELY PRIOR TO ANY WORKS.
CONTRACTOR SHALL MAINTAIN THE IMMEDIATE CONSTRUCTION SITE IN A SECURE, CLEAN & SAFE MANNER.
MEASURES TO BE PUT IN PLACE DURING AND AFTER THE DEMOLITION TO ENSURE THE PROTECTION OF THE PUBLIC, PUBLIC AMENITIES AND ADJOINING PROPERTIES. PRIOR TO THE START OF ANY WORK, IT IS THE RESPONSIBILITY OF THE OWNER TO SERVE PARTY WALL NOTICES TO ALL NEIGHBOURS.
CONTRACTOR TO TAKE FULL RESPONSIBILITY FOR ALL TEMPORARY WORKS INCLUDING DESIGN & ERECTION.
A STATEMENT IS REQUIRED FROM THE APPLICANT, PRINCIPAL DESIGNER & PRINCIPAL CONTRACTOR IN ORDER FOR A NOTICE OF COMPLETION TO BE SUBMITTED TO BUILDING CONTROL.

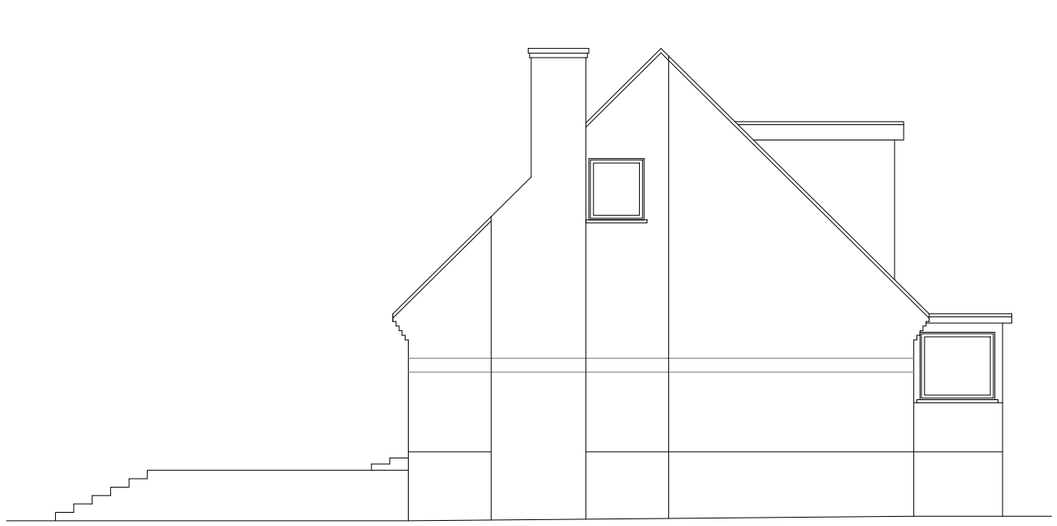
Existing Front Elevation
Scale 1:100



Existing Side Elevation
Scale 1:100



Existing Rear Elevation
Scale 1:100



Existing Side Elevation
Scale 1:100

Multi Creation

239 Western Road, Southall, Middlesex, UB2 5HS 020 8571 1369 info@multicreation.co.uk

Project:
14A Derwent Avenue,
Ickenham,
Uxbridge,
UB10 8HJ

Title:
Existing Elevations

Scale: 1:100 @ A3
Date: October 2025
Drawing No.: 3868/02/JG
Revision

Key:
- Walls
- Fittings
- Demolition
- Steel
- Plumbing
- Foundation

Scale Bar:

1:50 — 0 1 2 5 M

1:100 — 0 1 2 5 10 M

1:200 — 0 4 10 20 M

General Notes:

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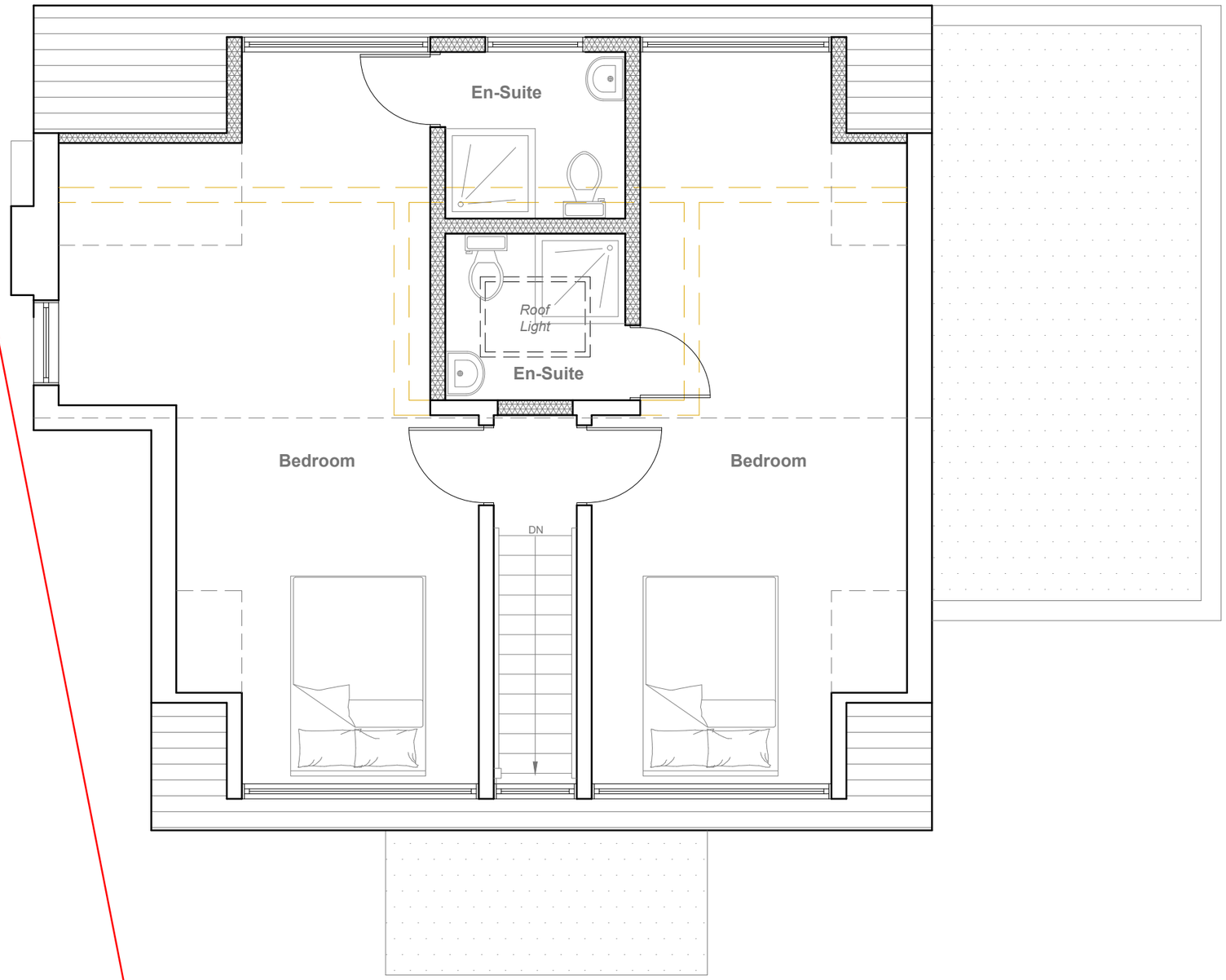

Proposed First Floor Plan

Scale 1:50

ulti creation

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Project:
14A Derwent Avenue,
Ickenham,
Uxbridge,
UB10 8HJ

Title:
Proposed
First Floor Plan

Scale: 1:50 @ A3
Date: October 2025
Drawing No.: 3868/04/JG
Revision

Key:
Walls
Fittings
Demolition
Steel
Plumbing
Foundation

Scale Bar:

1:50 — 0, 1, 2, 5 M

1:100 — 0, 1, 2, 5, 10 M

1:200 — 0, 4, 10, 20 M

General Notes:

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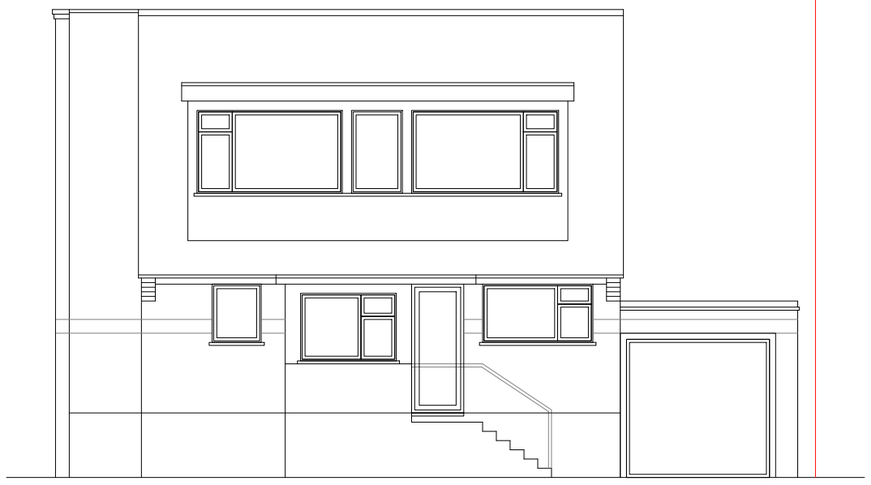
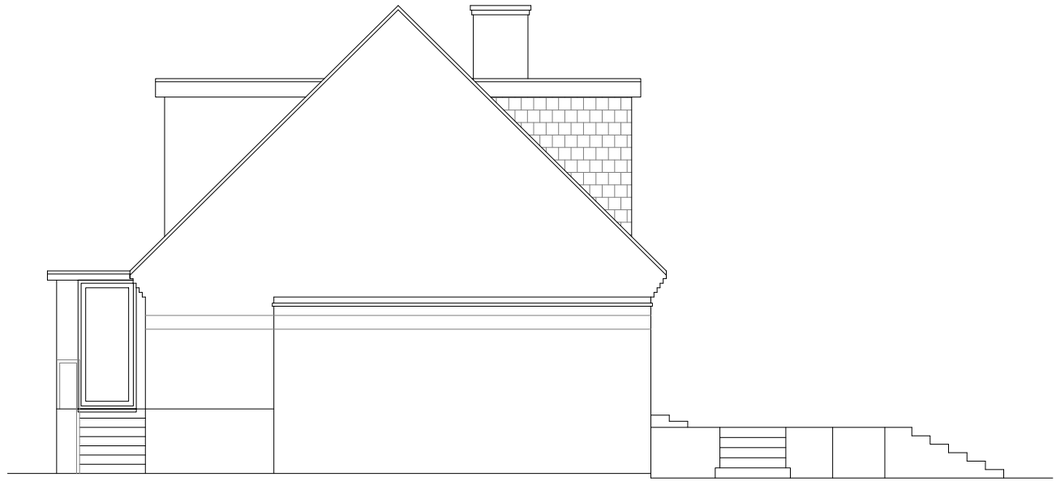
Proposed External Finish
Materials to Match Existing
External Finish Materials.

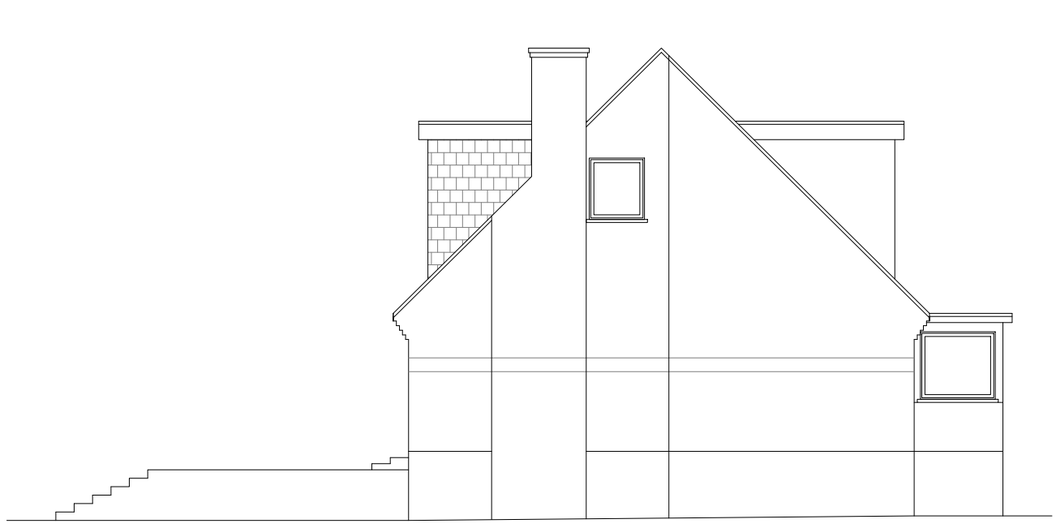


Proposed Front Elevation
Scale 1:100



Proposed Side Elevation
Scale 1:100

Proposed Rear Elevation
Scale 1:100



Proposed Side Elevation
Scale 1:100

Multicreation

239 Western Road, Southall, Middlesex, UB2 5HS 020 8571 1369 info@multicreation.co.uk

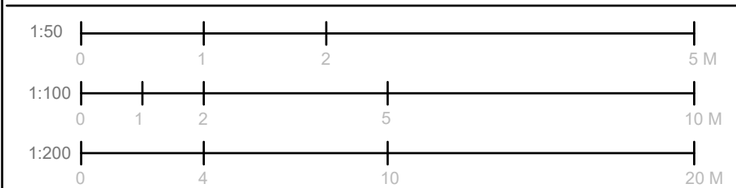
Project:
14A Derwent Avenue,
Ickenham,
Uxbridge,
UB10 8HJ

Title:
Proposed
Elevations

Scale: 1:100 @ A3
Date: October 2025
Drawing No.: 3868/05/JG
Revision

Key:
- Walls
- Fittings
- Demolition
- Steel
- Plumbing
- Foundation

Scale Bar:



General Notes:

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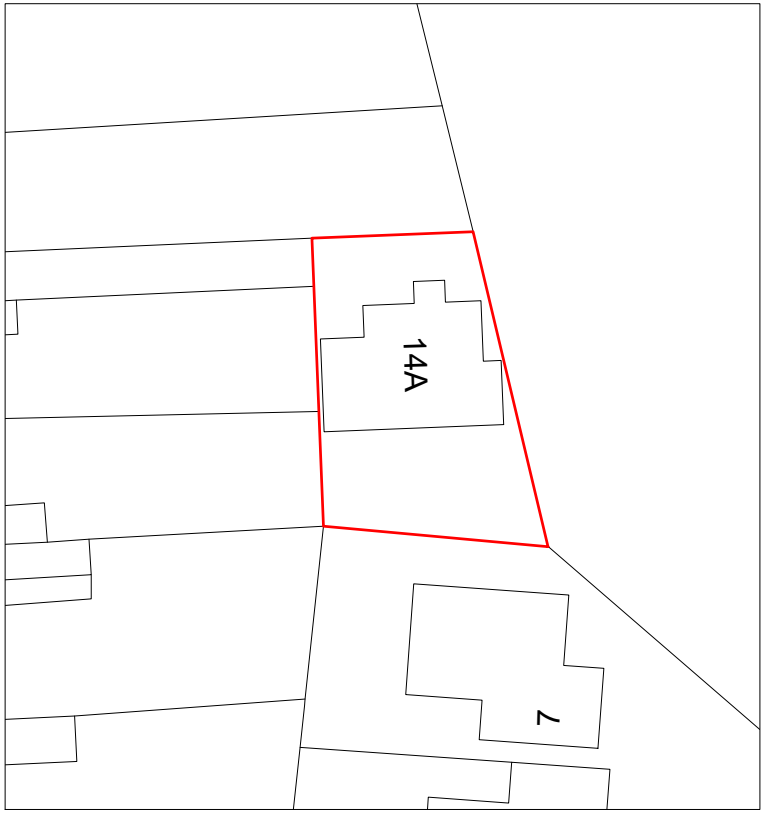
Location Plan
Scale 1:1250



Block Plan
Scale 1:500

N

Multicreation	Project: 14A Derwent Avenue, Ickenham, Uxbridge, UB10 8HJ	Title: Location & Block Plan	Scale: 1:500/1250 @ A4 Date: October 2025 Drawing No.: 3868/06/JG Revision	Scale Bar: 1:500 0 10 20 50 M 1:1250 0 25 50 125 M

239 Western Road, Southall, Middlesex, UB2 5HS 020 8571 1369 info@multicreation.co.uk

GeoSmart Information

Appendix B

Environment Agency data

creating a better place
for people and wildlife

Rosa Whitehurst

rosamundwhitehurst@geosmartinfo.co.uk

Our ref: EIR2025/47324
Date: 22 December 2025

Dear Rosa Whitehurst,

RE: Environmental Information Regulations: EIR2025/47324

Thank you for your request for information regarding 251204/HF05 - 87602 REF 14A Derwent Avenue, Ickenham, Uxbridge, UB10 8HJ flood data request , which we received on 3 December 2025.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

Please note that we have recently changed our process for responding to modelled data requests, please read the information within this letter for further details.

Your request for a Product 4 falls under the exemption in provision 6(1)(a) and (b) of Environmental Information Regulations 2004 (EIR) which states that
'……6.—(1) Where an applicant requests that the information be made available in a particular form or format, a public authority shall make it so available, unless—
(a) it is reasonable for it to make the information available in another form or format; or
(b) the information is already publicly available and easily accessible to the applicant in another form or format……'

On this occasion we are not providing the information in the Product 4 format for the following reasons:

- Complying with the preference would incur a significant cost, which the public authority [The Environment Agency] cannot pass on to the requester.
- Providing shapefiles used to create a Product 4 allows us to make the information available at a lower cost; and
- The impact on the available resources of the public authority. [The Environment Agency], of supplying shapefiles used to create a Product 4, is therefore much less.

We are licensing the supplied data to you under the Environment Agency Conditional Licence. You must first check this supporting information, to determine if the conditions of use are suitable for your purposes. If the conditions for use are not

suitable for your purposes, this information is not provided with a licence for use, and the data is provided for the right to read only.

Product 4 data is derived from the shapefiles supplied below and the following open data sources:

Flood Map for Planning - Flood Zones

Historic Flood Map https://data.gov.uk/dataset/historic-flood-map1

Please note, that the Flood Map for Planning is available to view and export maps for your site at: https://flood-map-for-planning.service.gov.uk/

Please note that our historic flood event maps may not be comprehensive. We would therefore advise that you make further enquiries locally with specific reference to flooding at your location.

You should consider contacting the relevant Local Planning Authority and/or water/sewerage undertaker for the area.

Please be aware that flooding can come from different sources. Examples of these are:

- from rivers or the sea.
- surface water (i.e. rainwater flowing over or accumulating on the ground before it is able to enter rivers or the drainage system). Please contact the Lead Local Flood Authority the London Borough of Hillingdon.
- overflowing or backing up of sewer or drainage systems which have been overwhelmed. Please contact the local water company.
- groundwater (i.e. rising up from underground aquifers), Please contact the Lead Local Flood Authority the London Borough of Hillingdon.

Currently the Environment Agency can only supply flood risk data relating to the chance of flooding from rivers or the sea.

Please find attached guidance on how to use this data.

The following information is not available under the Open Government Licence, but we may be able to license it to you under the Environment Agency Conditional Licence:

P5 & 6 - River Pinn Modelling Study (JBA, 2015)	https://fcrm.quatrix.it/download/39f3b5fc-ffb1-4280-b80a-d4ae4cc62612 **(This is a temporary link, so please download the data as soon as possible. If it does expire you will need to contact us again for a new link for this data).**
P5 & 6 - Lower Pinn FAS (2024)	https://fcrm.quatrix.it/download/0a3690ca-4c69-4e3e-bc26-d4ef895064da **(This is a temporary link, so please download the data as soon as possible. If it does expire you will need to contact us again for a new link for this data).**
Description	• River Pinn Modelling Study (JBA, 2015) • Lower Pinn FAS (2024)
Licence	Environment Agency Conditional Licence
Conditions	1.0 You may use the Information for your internal or personal purposes and may only sublicense others to use it if you do so under a written licence which includes the terms of these conditions and the agreement and in particular may not allow any period of use longer than the period licensed to you. 2.0 Notwithstanding the fact that the standard wording of the Environment Agency Conditional Licence indicates that it is perpetual, this Licence has a limited duration of 5 years at the end of which it will terminate automatically without notice. 3.0 We have restricted use of the Information as a result of legal restrictions placed upon us to protect the rights or confidentialities of others. In this instance it is because of third party data. If you contact us in writing (this includes email) we will, as far as confidentiality rules allow, provide you with details including, if available, how you might seek permission from a third party to extend your use rights. 4.1 The Information may contain some data that we believe is within the definition of “personal data” under the Data Protection Act 1998, but we consider that we will not be in breach of the Act if we disclose it to you with conditions set out in this condition and the conditions above. This personal data comprises names of individuals or commentary relating to property that may be owned by an individual or commentary relating to the activities of an individual.

	4.2 Under the Act a person who holds and uses or passes to others personal data is responsible for any compliance with the Act and so we have no option but to warn you that this means you have responsibility to check that you are compliant with the Act in respect of this personal data. 5.0 The location of public water supply abstraction sources must not be published to a resolution more detailed than 1km2. Information about the operation of flood assets should not be published. 6.1 Where we have supplied model data which may include model inputs or outputs you agree to supply to the Environment Agency copies of any assessments/studies and related outputs, modifications or derivatives created pursuant to the supply to you of the Information, all of which are hereinafter referred to as “the Data”. 6.2 You agree, in the public interest to grant to the Environment Agency a perpetual royalty free non-exclusive licence to use the Data or any part thereof for its internal purposes or to use it in any way as part of Environment Agency derivative products which it supplies free of charge to others such as incorporation into the Environment Agency's Open Data mapping products.
Information Warnings	Please be aware that model data is not raw, factual or measured but comprises of estimations or modelled results based on the data available to us. **River Pinn Modelling Study (JBA, 2015) - Conditions/Information Warnings:** It is important to note that this model has been designed for catchment wide flood risk mapping, with an intended use on a strategic/appraisal/design scale. It was not created specifically for Flood Risk Assessments, or to produce flood levels for particular development sites within the catchment. If you are intending to use the model for planning purposes, you must review and update the model where necessary to ensure it is site specific, fit for your intended purpose, and to best practice standards. Please also note that any model changes will need to be reviewed by the Environment Agency as part of the Flood Risk Assessment

submission. Further guidance around undertaking hydraulic modelling can be found here: River modelling: technical standards and assessment - GOV.UK (www.gov.uk).

Please be aware that model data is not raw, factual, or measured, but comprises of estimations or modelled results based on the data available to us. Defended modelled outlines take into account catchment wide defences.
Due to the good condition of the model, the finished floor levels should be set to 1 in 100-year flood level + climate change allowance + 600mm. This is based on a risk score developed from assessing model age, site topography, recent flooding, model report, source-pathway-receptor, and the status of any flood mitigation projects.

Lower Pinn FAS (2024) - Conditions/Information Warnings:
The flood zones on the Flood Map For Planning are outdated due to the pause on updates whilst we wait for the publication of NaFRA2 in 2025 (https://www.gov.uk/guidance/updates-to-national-flood-and-coastal-erosion-risk-information). Please note this is a new model for the Lower Pinn informing the interim flood zones (included in the ShareFile link) and these flood zones should be used over those currently available on the Flood Map for Planning.
It is important to note that this model has been designed for catchment wide flood risk mapping, with an intended use on a strategic/appraisal/design scale. It was not created specifically for Flood Risk Assessments, or to produce flood levels for particular development sites within the catchment.

If you are intending to use the model for planning purposes, you must review and update the model where necessary to ensure it is site specific, fit for your intended purpose, and to best practice standards. Please also note that any model changes will need to be reviewed by the Environment Agency as part of the Flood Risk Assessment submission. Further guidance around undertaking hydraulic modelling can be found here: River modelling: technical standards and assessment - GOV.UK (www.gov.uk).

Please be aware that model data is not raw, factual, or measured, but comprises of estimations or modelled results

	based on the data available to us. Defended modelled outlines take into account catchment wide defences. Due to the good condition of the model, the finished floor levels should be set to 1 in 100-year flood level + climate change allowance + 600mm. This is based on a risk score developed from assessing model age, site topography, recent flooding, model report, source-pathway-receptor, and the status of any flood mitigation projects.
Attribution	Contains Environment Agency information © Environment Agency and/or database rights. May contain Ordnance Survey data © Crown copyright 2025 Ordnance Survey 100024198.

However, you MUST first check the supporting information and the above link to determine if the conditions on use are suitable for your purposes. If they aren't, this information is not provided with a licence for use, and the data is provided for read right only.

Here is the link to the climate change allowances:
https://www.gov.uk/government/publications/peak-river-flow-climate-change-allowances-by-management-catchment

Further details about the Environment Agency information supplied can be found on the GOV.UK website:

https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather

If you have requested this information to help inform a development proposal, then you should note the information on GOV.UK on the use of Environment Agency Information for Flood Risk Assessments
https://www.gov.uk/planning-applications-assessing-flood-risk
If you are looking at producing a flood risk assessment then please see: Flood Risk Assessment template and guidance note (available from the Planning Portal page - What to include in your flood risk assessment)

Data Available Online
Many of our flood datasets are available online:

- Flood Map for Planning - Flood Zones , AIMS Spatial Flood Defences (inc. standardised attributes)

- Risk of flooding from rivers and sea and surface water - Check the long term flood risk for an area in England - GOV.UK
- To request products for planning purposes - Flood map for planning - GOV.UK
- Download the risk of flooding from surface water Technical map - Check your long term flood risk - GOV.UK
- Flood risk management: information for flood risk management authorities, asset owners and local authorities - GOV.UK
- Download the data for the risk of flooding from rivers and sea (RoFRS) Risk of Flooding from Rivers and Sea
- Historic Flood Map and Recorded Flood Outlines - data.gov.uk
- View details on projects/schemes, maintenance, Assets and Defences
- Current Flood Warnings
- Sign up for flood warnings - GOV.UK
- Open data

Rights of appeal

If you are not satisfied with our decision, you can contact us within two calendar months to ask for the decision to be reviewed. We will then conduct an internal review of our response to your request and give you our decision in writing within 40 working days.

If you are not satisfied with the outcome of the internal review, you can then make an appeal to the Information Commissioner Office, the statutory regulator for the Environmental Information Regulations 2004 and the Freedom of Information Act 2000. Please follow this link to the ICO online complaints portal. The address is: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire. SK9 5AF.

Tel: 0303 123 1113 (local rate) or 01625 545 745 (national rate) | Fax: 01625 524 510 Email: icocasework@ico.org.uk | Website: www.ico.org.uk

Yours sincerely,

creating a better place
for people and wildlife

Environment Agency

Naoimh Richardson
HNL Area Customers and Engagement Team

To report environmental problems please visit www.gov.uk/report-environmental-problem or call the incident hotline on 0800 80 70 60

Please tell us how we did

To help improve your experience as a customer we are currently gathering feedback. If you would like to take part in a short customer satisfaction survey, please click the link below:

Environment Agency FOI Customer Satisfaction Survey

GeoSmart Information

Appendix C

Thames Water sewer flooding history

Sewer Flooding
History Enquiry

Property Searches

Geosmart Information Ltd

Suite 9-11
1st Floor
Old Bank

Search address supplied	14a Derwent Avenue Ickenham Uxbridge UB10 8HJ
Your reference	87602
Our reference	SFH/SFH Standard/2026_5278854
Received date	**26 January 2026**
Search date	**26 January 2026**

Thames Water Utilities Ltd
Property Searches, Clearwater Court, Vastern Road, Reading RG1 8DB

property.searches@thameswater.co.uk
thameswater.co.uk/propertysearches

0800 009 4540

Sewer Flooding
History Enquiry

Thames Water Property Searches

Search address supplied: 14a,Derwent Avenue,Ickenham,Uxbridge,UB10 8HJ

This search is recommended to check for any sewer flooding at a specific address or area

TWUL are responsible in respect of the following:-

(i) any negligent or incorrect entry in the records searched;

(ii) any negligent or incorrect interpretation of the records searched;

(iii) and any negligent or incorrect recording of that interpretation in the search report

(iv) compensation payments

Thames Water Utilities Ltd
Property Searches, Clearwater Court, Vastern Road, Reading RG1 8DB

property.searches@thameswater.co.uk
thameswater.co.uk/propertysearches

0800 009 4540

Sewer Flooding
History Enquiry

Thames Water Property Searches

History of Sewer Flooding

Is the requested address or area at risk of flooding due to overloaded public sewers?

The flooding records held by Thames Water indicate that there have been no incidents of flooding in the requested area as a result of surcharging public sewers.

For your guidance:

- A sewer is “overloaded” when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
- “Internal flooding” from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
- “At Risk” properties are those that the water company is required to include in the Regulatory Register that is presented annually to the Director General of Water Services. These are defined as properties that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Company’s reporting procedure.
- Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the At Risk Register.
- Properties may be at risk of flooding but not included on the Register where flooding incidents have not been reported to the Company.
- Public Sewers are defined as those for which the Company holds statutory responsibility under the Water Industry Act 1991.
- It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Company. This report excludes flooding from private sewers and drains and the Company makes no comment upon this matter.
- For further information please contact Thames Water on Tel: 0800 316 9800 or website www.thameswater.co.uk

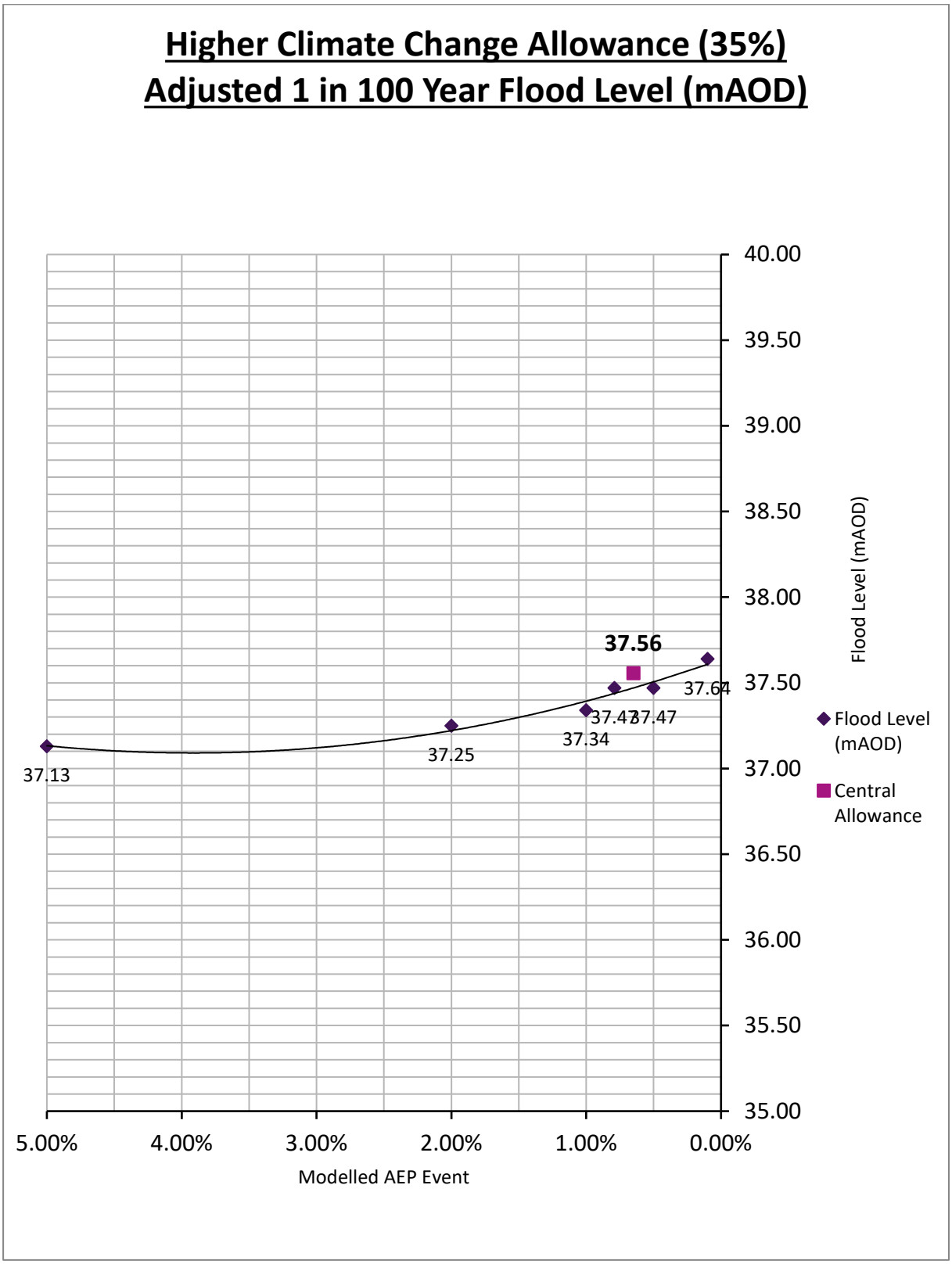
Thames Water Utilities Ltd
Property Searches, Clearwater Court, Vastern Road, Reading RG1 8DB

property.searches@thameswater.co.uk
thameswater.co.uk/propertysearches

0800 009 4540

Appendix D

Stage (level) relationship graph



Disclaimer

This report has been prepared by GeoSmart in its professional capacity as soil, groundwater, flood risk and drainage specialists, with reasonable skill, care and diligence within the agreed scope and terms of contract and taking account of the manpower and resources devoted to it by agreement with its client and is provided by GeoSmart solely for the internal use of its client.

The advice and opinions in this report should be read and relied on only in the context of the report as a whole, taking account of the terms of reference agreed with the client. The findings are based on the information made available to GeoSmart at the date of the report (and will have been assumed to be correct) and on current UK standards, codes, technology and practices as at that time. They do not purport to include any manner of legal advice or opinion. New information or changes in conditions and regulatory requirements may occur in future, which will change the conclusions presented here.

This report is confidential to the client. The client may submit the report to regulatory bodies, where appropriate. Should the client wish to release this report to any other third party for that party's reliance, GeoSmart may, by prior written agreement, agree to such release, provided that it is acknowledged that GeoSmart accepts no responsibility of any nature to any third party to whom this report or any part thereof is made known. GeoSmart accepts no responsibility for any loss or damage incurred as a result, and the third party does not acquire any rights whatsoever, contractual or otherwise, against GeoSmart except as expressly agreed with GeoSmart in writing.

For full T&Cs see http://geosmartinfo.co.uk/terms-conditions

Important consumer protection information

This search has been produced by GeoSmart Information Limited, Suite 9-11, 1st Floor, Old Bank Buildings, Bellstone, Shrewsbury, SY1 1HU.

Tel: 01743 298 100

Email: info@geosmartinfo.co.uk

GeoSmart Information Limited is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom.
- sets out minimum standards which firms compiling and selling search reports have to meet.
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals.
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.
- By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports.
- act with integrity and carry out work with due skill, care and diligence.
- at all times maintain adequate and appropriate insurance to protect consumers.
- conduct business in an honest, fair and professional manner.
- handle complaints speedily and fairly.
- ensure that products and services comply with industry registration rules and standards and relevant laws.
- monitor their compliance with the Code.

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs contact details:

The Property Ombudsman scheme

Milford House

43-55 Milford Street

Salisbury

Wiltshire SP1 2BP

Tel: 01722 333306

Fax: 01722 332296

Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk. Please ask your search provider if you would like a copy of the search code

Complaints procedure

GeoSmart Information Limited is registered with the Property Codes Compliance Board as a subscriber to the Search Code. A key commitment under the Code is that firms will handle any complaints both speedily and fairly. If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk.

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision. Complaints should be sent to:

Liz Lloyd

Finance Manager

GeoSmart Information Limited

Suite 9-11, 1st Floor,

Old Bank Buildings,

Bellstone, Shrewsbury, SY1 1HU

Tel: 01743 298 100

support@geosmartinfo.co.uk

11. Terms and conditions, CDM regulations and data limitations

Terms and conditions can be found on our website:

http://geosmartinfo.co.uk/terms-conditions/

CDM regulations can be found on our website:

http://geosmartinfo.co.uk/knowledge-hub/cdm-2015/

Data use and limitations can be found on our website:

http://geosmartinfo.co.uk/data-limitations/