FLOOD RISK ASSESSMENT

The Land North of Old Quarry House, Fenway, Steeple Aston

Client: [redacted]
Reference: U0753 FRA-v1

Aug-26

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The Land North of Old Quarry House, Fenway, Steeple Aston

Client: Matthew Watson

Reference: U0753 FRA-v1

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Purpose of this report

1.1 Urban Water has been appointed to undertake a Level 1 – Screening Study Flood Risk Assessment for a development located at OX25 4SS to support the Outline Planning Permission for up to 23 dwellings and associated open space with all matters reserved other than access.

Objectives

1.2 The objectives of this FRA are to demonstrate the following:

- Whether the proposed development will likely be affected by current or future flooding.
- Whether the proposed development will increase flood risk elsewhere.
- Whether the flood risks associated with the proposed development can be satisfactorily managed.
- Whether the measures proposed to deal with the flood risk are sustainable.

Documents Consulted

1.3 To achieve these objectives, the following documents have been consulted and referenced:

The National Planning Policy Framework (NPPF)
CIRIA C753 document The SuDS Manual, 2015
Local Flood Risk Management Strategy (LFRMS)
Level 1 Strategic Flood Risk Assessment (SFRA)
Aerial photographs and topographical survey of the site
British Geological Society Records
Local Council flood Maps
Environment Agency flood maps
The CIRIA publication 'C635 Designing for exceedance in urban drainage Good practice'

Development Site and Location

2.1 The site is located at Fenway, Steeple Aston. The nearest postcode is OX25 4SS. Refer to appendix A for site location plan.

2.2 The current use of the site is a greenfield. The current user vulnerability classification of the site is Water compatible. The site is located in the River Flood Zone 1. Refer to Appendix B for more details.

Development Proposals

2.3 The proposed development includes a residential development of up to 23 dwellings and associated open space with all matters reserved other than access. Refer to Appendix B for the layout of the proposed development.

2.4 The vulnerability classification of the proposed development is More vulnerable with an estimated lifetime between 50 and 100 years.

Site Hydrology and Hydrogeology

Hydrology 2.5 The River Cherwell is located approximately 1350 m away from the development.

Aquifer 2.6 The development is located within a secondary aquifer type A. Aquifers type A consist of permeable layers capable of supporting water supplies at a local rather than strategic scale. They are generally aquifers formerly classified as minor aquifers.

Source Protection Zone 2.7 The site is not located within a Source Protection Zone.

Groundwater Levels 2.8 The ground water levels for this site are unknown.

Site Geology

Bedrock 2.9 The British Geological Survey records of the site show that it is located within the Horsehay Sand Formation-Sandstone.

Superficial Deposits 2.10 The British Geological Survey records show there are no superficial deposits.

National Planning Policy Framework (NPPF)

3.1 The NPPF and its technical guidance is a set of planning policies with the key objective of contributing to sustainable development. As part of it, they ensure that flood risk and sustainability are considered during the planning process. This ensures that developments are not located in flood risk areas and directs developments to lower risk areas. The NPPF applies a sequential risk-based approach to determining land suitability for development in flood risk areas. The NPPF also encourages developers to seek opportunities to reduce the overall level of flood risk through the development layout and the application of Sustainable Drainage Systems (SuDS).

The Flood and Water Management Act (2010)

3.2 The Flood and Water Management Act aims to reduce the flood risk associated with extreme weather events. It provides robust flood risk management for people, homes and businesses and encourages using SuDS for developments. A robust SuDS strategy should consider the recommendations in this Flood Risk Assessment.

Strategic Flood Risk Assessment (SFRA)

3.3 Planning policy with regard to development and flood risk in the area is detailed in the Strategic Flood Risk Assessment (SFRA) which was published in 2022. The proposed development site is located within the administrative boundary of the Cherwell District Council North of Oxshire.

3.4 The SFRA commits to direct new development to locations at the lowest flood risk. The SFRA provides information on the levels and flood hazards that could result from flooding. The Environment Agency flood zone maps and the SFRA ignore the presence of existing flood defences when defining the potential extent of flooding.

3.5 This report follows the guidance given in the Strategic Flood Risk Assessment by evaluating the flood risk and providing relevant flood mitigation.

4.1 The NPPF guidance states that the sequential test is "to steer new development to areas with the lowest risk of flooding from any source. Where the test applies, development proposals should not be located in areas at risk of flooding where alternative sites, appropriate for the development, are reasonably available in areas with a lower risk of flooding. The area to which the test is applied should not be greater than the anticipated catchment of the development in terms of its likely occupiers or users."

Applicability of the Sequential Test

4.2 The flood risks were determined by identifying all the sources of flooding and assessing their possible impact and likelihood to development. It is confirmed that the development is:

- In Flood Zone 1, based on the Planning Flood Risk Map
- At Very Low risk of surface flooding
- At very low risk of groundwater flooding
- Outside of a critical drainage area
- Outside of an area with sewer flooding

4.3 Due to the flood risk on the development, a sequential test is not required. It is concluded that the current proposals pass the sequential test.

Exception Test

4.4 Fluvial flood risk has been assessed using the Environment Agency Flood Map for Planning, in accordance with the sequential risk-based approach set out in the NPPF and Planning Practice Guidance. The requirement for the Exception Test is determined by the vulnerability classification of the proposed land use in relation to the mapped Flood Zone designation. This ensures that the need for an Exception Test is based on the statutory flood map, while more detailed datasets are used within the FRA to refine site-specific risk and mitigation measures.

Step 1
Flood Zone categorisation

4.5 The proposed development is greater than 1 ha and falls within the Environment Agency (EA) Flood Zone 1. Therefore, a Site Specific Flood Risks Assessment is required under the NPPF. Flood Zone 1 is considered to have a low probability of flooding, with an annual probability of flooding of <0.1%. The chance of flooding is 1 in 1000 years or lower.

Step 2
Flood risk vulnerability

4.6 In Annex 3: Flood risk vulnerability classification of the NPPF Planning Practice Guide, the proposed development is classified as 'More vulnerable '.

Step 3
Flood Zone incompatibility

4.7 The Flood Risk vulnerability and Flood Zone incompatibility Annex F Table 3 of the NPPF states that More vulnerable developments do not require an exception test.

The Exception Test

4.8 The exception test is not required.

5.1 The development has been assessed for the following potential flood risks, river and tidal flood risk, surface water flooding, flooding from groundwater, reservoir flood risk and drainage systems.

Flood Defence and Historic Flooding

5.2 The Environment Agency records show that the site does not benefit from flood defences. They also show that the area around the site has not been flooded in the past. See Appendix C for details.

Flooding from river and sea

5.3 The proposed development is greater than 1 ha and falls within the Environment Agency (EA) Flood Zone 1. Therefore, a Site Specific Flood Risks Assessment is required under the NPPF. Flood Zone 1 is considered to have a low probability of flooding, with an annual probability of flooding of <0.1%. The chance of flooding is 1 in 1000 years or lower.

5.4 The climate change allowance is not applicable for this site.

5.5 The site is located in an area outside of fluvial flooding flood risk.

5.6 It is concluded that the site is not affected by fluvial/sea flood risk.

Surface water (overland flows) flood risk

5.7 The Environment Agency maps show that the flood risk from surface water is very low. A residual risk of localised ponding remains unlikely. The Environment Agency surface water flood risk maps are defined by applying a specific procedure based on digital terrain models and assumptions regarding infiltration and urban drainage losses. The surface water flood maps are determined by the Environment Agency as follows:

5.8 *"Once we combined the data from local detailed models and the national model, we removed flooding to a depth of less than 75mm. This is because in surface water flood modelling, most land is covered by some water as rain falls across the area. While this*

very shallow floodwater may be an inconvenience, it is generally unlikely to prevent access or cause flooding to properties.

Building footprints are raised above their surroundings as part of the modelling process. We have used an uplift of 30cm above the 'zero' elevation of the building. This means that in the raw model outputs, buildings can look like they are not at risk of flooding.

The map does not provide property-specific data and cannot specify whether individual buildings are themselves at risk. However, it is important that the RoFSW maps indicate where buildings are considered to be in a flood risk area.

To do this, we infill building footprints, based on how much of the building's exterior wall and area of the property is wet.

We used building outlines from the OS MasterMap layer to do this.

Finally, we infill small dry areas (less than 50m2) surrounded by floodwater and remove small wet areas (less than 100m2). This is an important step in cleaning our data."

5.9 The strategic flood risk for the Cherwell District Council North of Oxshire confirms that the flood risk for the site is Very Low.

5.10 Based on the Environment Agency and the Strategic flood risk assessment's surface water mapping, it is concluded that the site is at Very Low risk of flooding from surface water sources.

Flooding from drainage systems in adjacent areas

5.11 The council records have been reviewed. The flooding from drainage incidents maps were not found in the Strategic Flood Risk Assessment. Therefore, for the purpose of this report, it has been assumed that the risk of flooding from drainage systems is low.

Reservoirs Risks

5.12 The Reservoir Flood Map (RFM) produced by the Environment Agency does not show the risk to individual properties of dam breach flooding. The maps do not indicate or relate to any particular probability of dam breach flooding. The maps were prepared for emergency planning purposes. They can be used to help reservoir owners produce on-site plans, and the Local Resilience Forum

produce off-site plans and to prioritise areas for evacuation/early warning in the event of a potential dam failure. The RFM shows that the development could be outside of the possible dam breach flooding path. See Appendix C.

Groundwater flood risk

5.13 The British Geological Survey's flood risk susceptibility maps show that the development has limited susceptibility to groundwater flooding. The risk of groundwater flood to the site is considered very low. Refer to appendix C for record drawings.

Critical Drainage Areas

5.14 The Strategic Flood Risk Assessment was reviewed as part of this assessment. However, it does not show the critical drainage areas within the council. For this report, it has been assumed that the site is outside of a notified critical drainage area.

6.1 The Flood hazard assessment has demonstrated that the site is:

- In Flood Zone 1, based on the Planning Flood Risk Map
- At Very Low risk of surface flooding
- At very low risk of groundwater flooding
- Outside of a critical drainage area
- Outside of an area with sewer flooding

6.2 Under the NPPF it is necessary to demonstrate that, for any new development on the site, it is possible to provide an adequate level of flood protection for personnel working or living at the development.

Design Flood Level

6.3 The proposed development is not affected by flood risk. It is concluded that no flood risk protection interventions are required for this development.

7.1 The NPPF specifically stipulates that consideration should be given to potential off-site flood impacts of any proposed development. These off-site impacts are in relation to the following:

- Surface water management
- Flood flow conveyance, storage and climate change

Surface Water Management

7.2 The surface water run-off will be disposed of using SuDS techniques. The aim is to provide a sustainable design that accommodates the proposed attenuation volume and replicates the existing drainage regime using the SuDS hierarchy. See drainage strategy produced for this project for more information.

7.3 With no increase in the rate of surface water discharge from the site, compared to the site in its current configuration, the proposed development would have no adverse impact on surface water flood risk at the site or surrounding area. The SuDS should be designed at the detailed project stage.

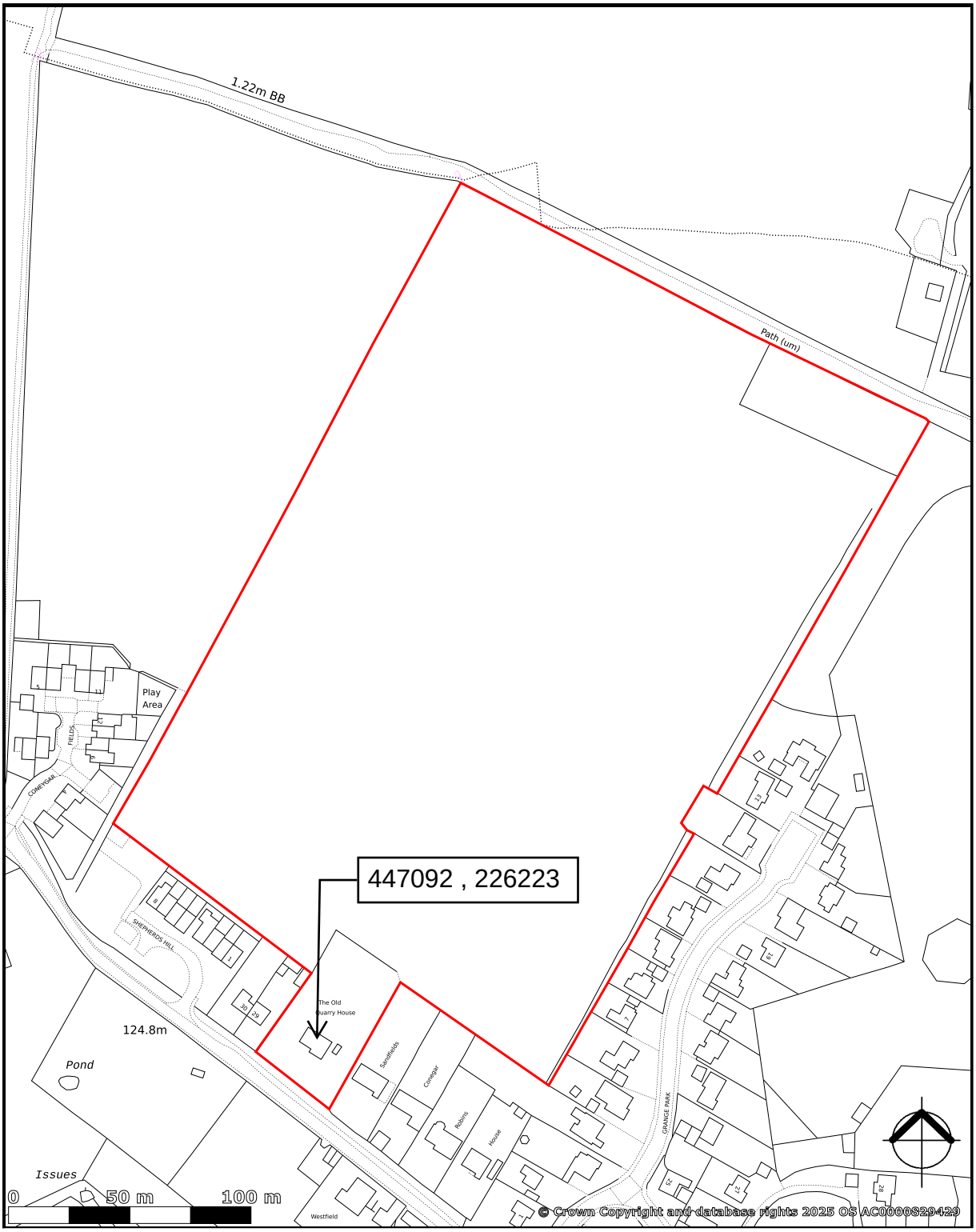
The SuDS Hierarchy (Source:EA Thames region, SuDS a practical guide)

Most Sustainable	*SUDS technique*	*Flood Reduction*	*Pollution Reduction*	*Landscape & Wildlife Benefit*
	Living roofs	✔	✔	✔
	Basins and ponds - Constructed wetlands - Balancing ponds - Detention basins - Retention ponds	✔	✔	✔
	Filter strips and swales	✔	✔	✔
	Infiltration devices - soakaways - infiltration trenches and basins	✔	✔	✔
	Permeable surfaces and filter drains - gravelled areas - solid paving blocks - porous paviors	✔	✔	
Least Sustainable	- over-sized pipes/tanks - storms cells			

9.1 It is concluded that subject to the proposed mitigation measures, the site can be developed in accordance with the provisions of the NPPF and the requirements of the Environment Agency and the local planning authority.

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

Appendix A



created on edozo

Plotted Scale - 1:2,500

Appendix B

Residential Development , Old Quarry House

Scale bar 1:1000
0 20 40 60 80 100

Accommodation Schedule

Type	Beds / Person	No of
A - Bungalow	2 bed / 3 per	1
B - Bungalow	2 bed / 4 per	2
C - Apartment	2 bed / 4 per	4
D - House	2 bed / 4per	1
E - House	3 bed / 5 per	5
F - House	3 bed / 5 per	1
G - House	3 bed / 5 per	2
H - House	4 bed / 6 per	3
I - House	4 bed / 8 per	4
		23

North



Indicative Site Layout

1. This drawing and content is copyright © of coombes : everitt architects limited and should not be copied without their prior writtten consent.
2. For construction purposes only, do not scale drawing. All dimensions to be checked on site prior to construction and any discrepancies reported to contract administrator.
3. Do not use this drawing for setting out unless drawing specifically indicates setting out points.
4. Engineering information is indicative only and should be taken from structural engineers design.

Rev	Initial	Description / Amendment	Date
B	JE	Additional traffic calming added	02/07/2026
A	JE	New woodland area added	15/05/2026

Drawing title:	Indicative Site Layout
Project:	Residential Development Old Quarry House, Steeple Aston, Oxfordshire, OX25 4SS
Scale:	1:1000 @ A1
Date:	31.03.2026
Client:	[redacted]
Drawn by:	JE
Drawing No:	25.20.019.PL003 Rev B

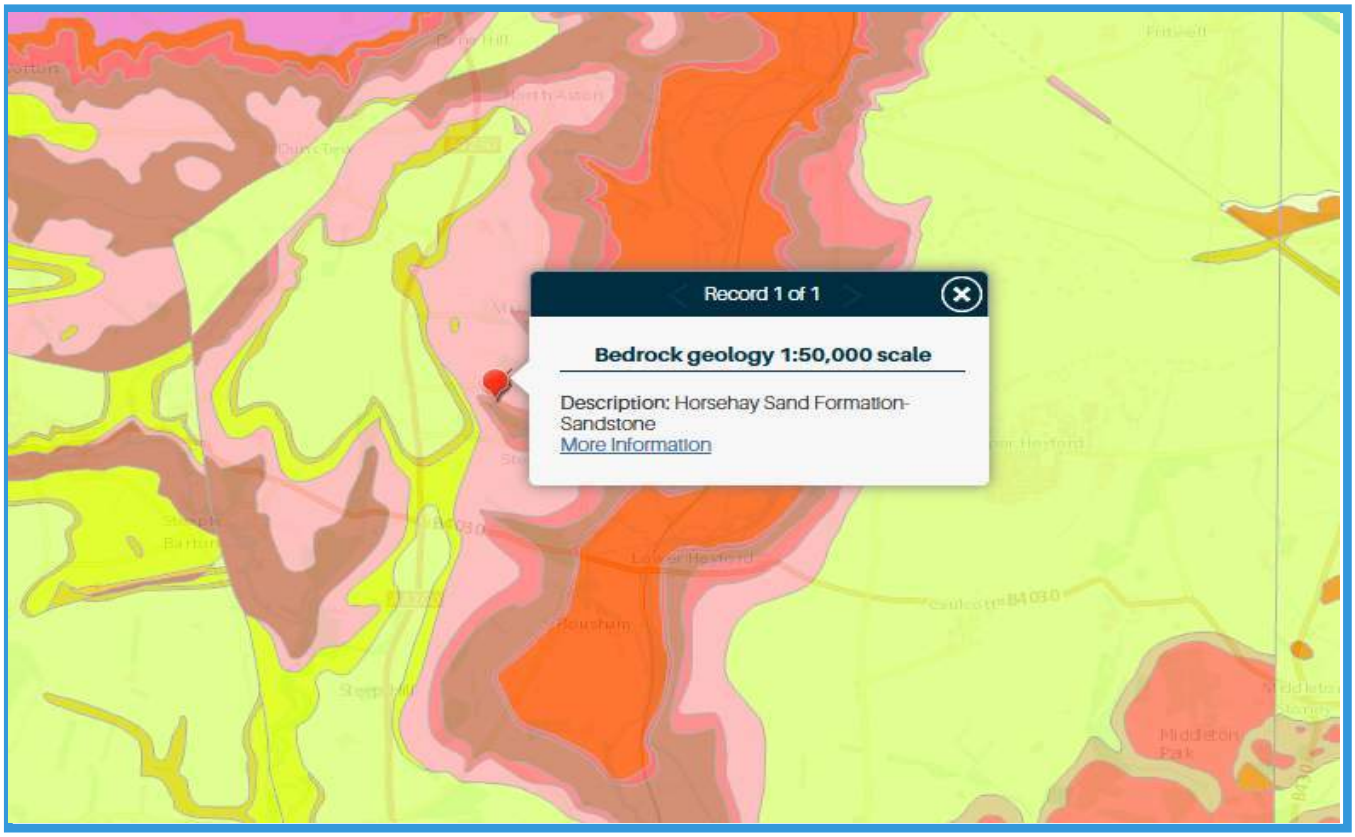
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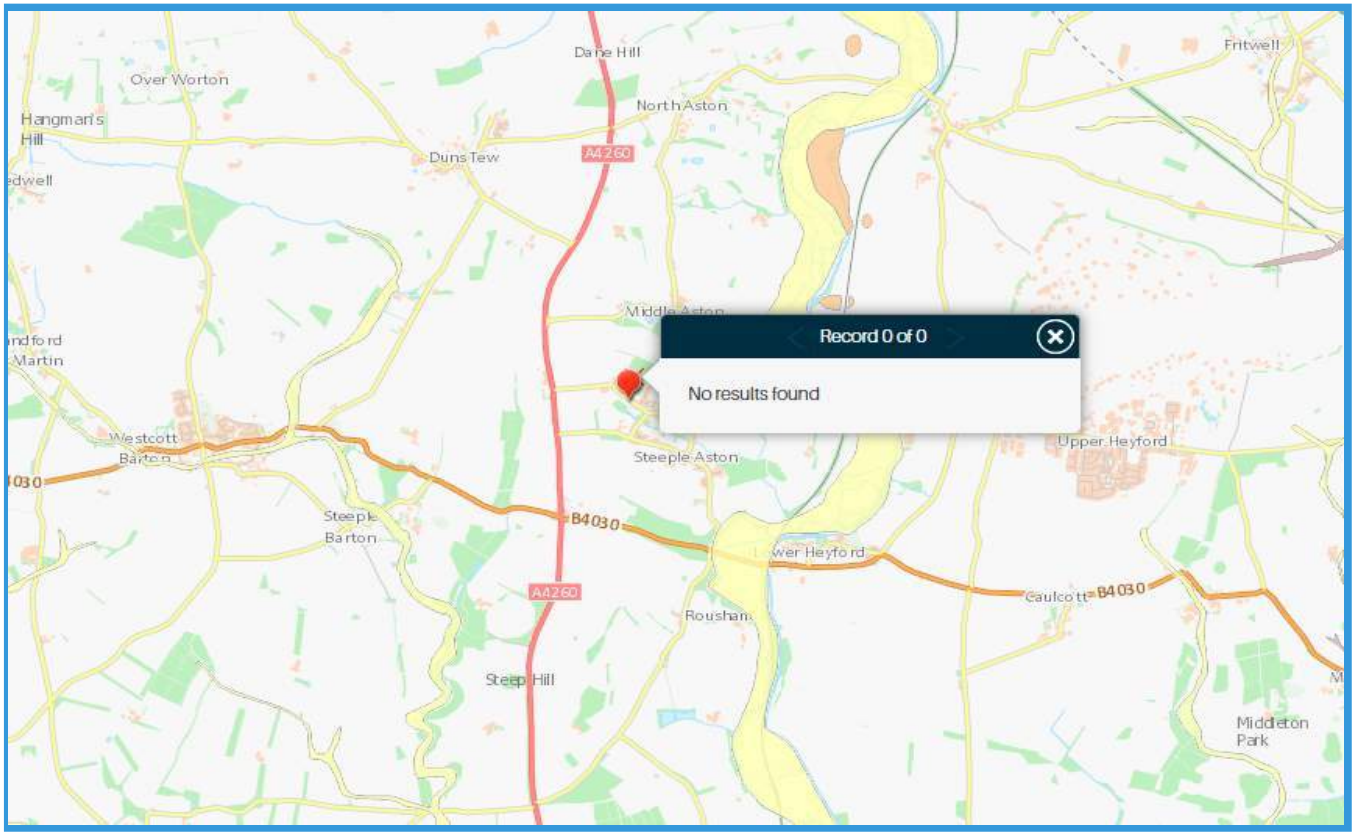
RIBA
Chartered Practice

Appendix C

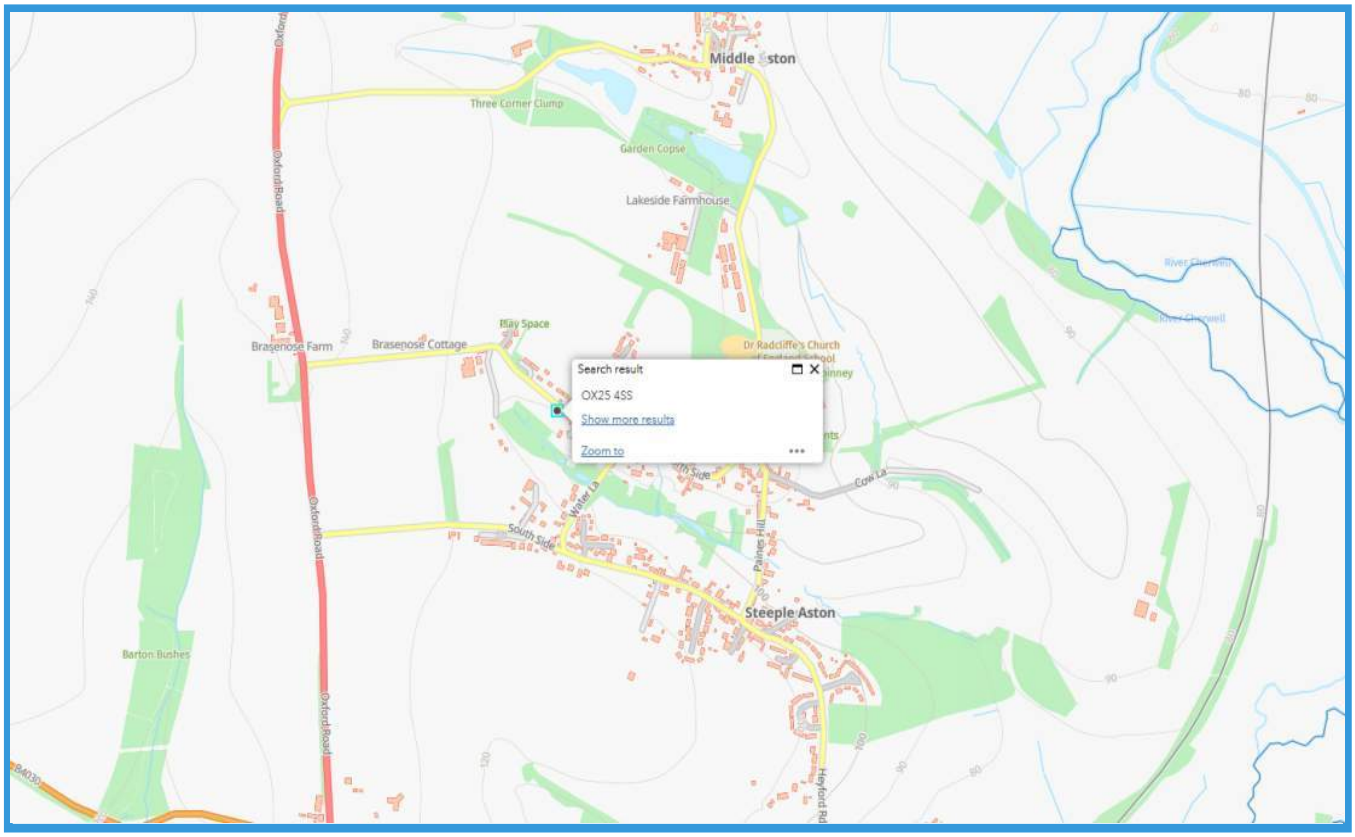
GEOLOGY - BEDROCK - Horsehay Sand Formation-Sandstone



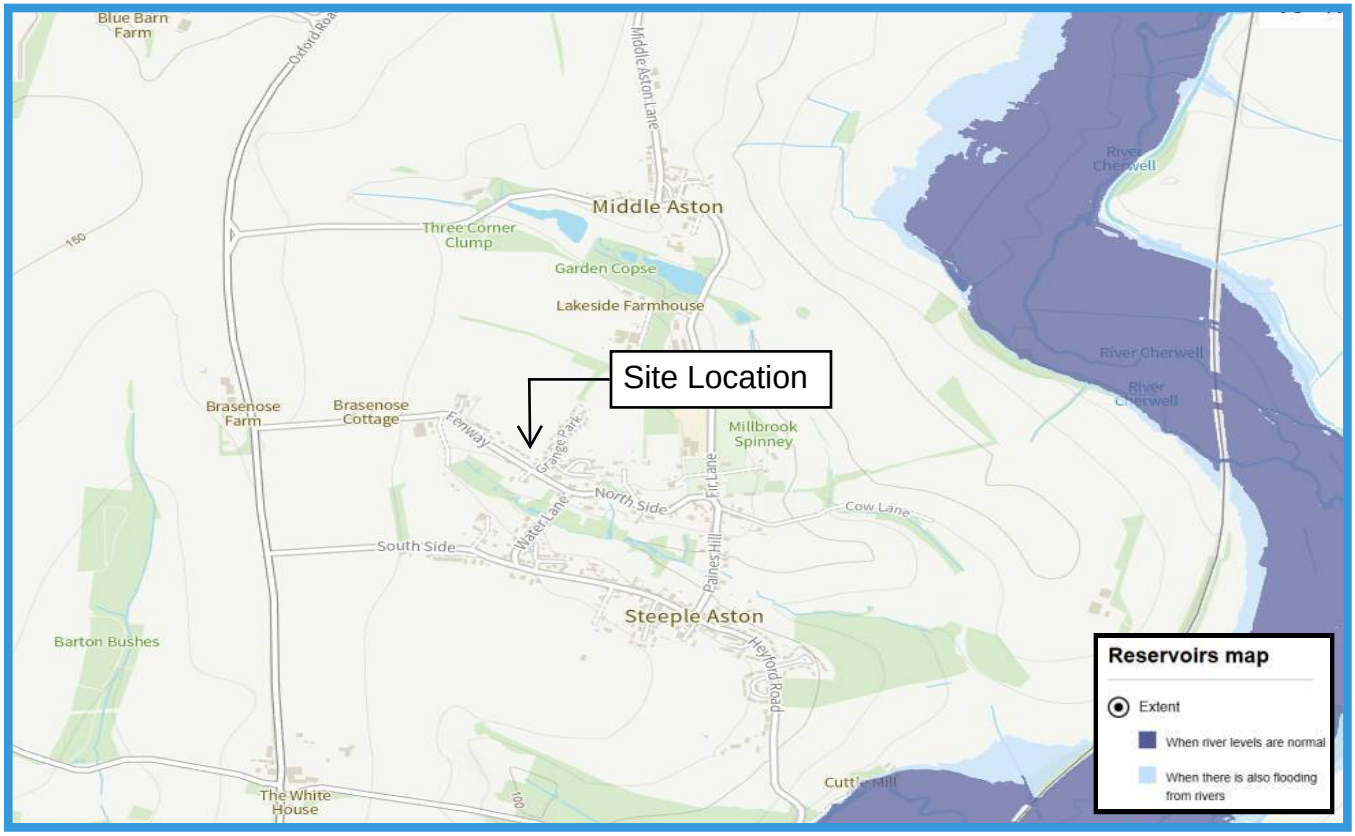
GEOLOGY - SUPERFICIAL DEPOSITS - No results found



Main River Map



Reservoirs Map



SITE SURFACE WATER FLOOD RISK

High risk means a chance of flooding greater than 3.3% (1:30)
Medium risk means a chance of flooding of btw 1% (1:100) and 3.3%
Low risk means a chance of flooding of btw 0.1% (1:1000) and 1%
Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding



DEPTH



RIVER AND SEA FLOOD RISK MAP

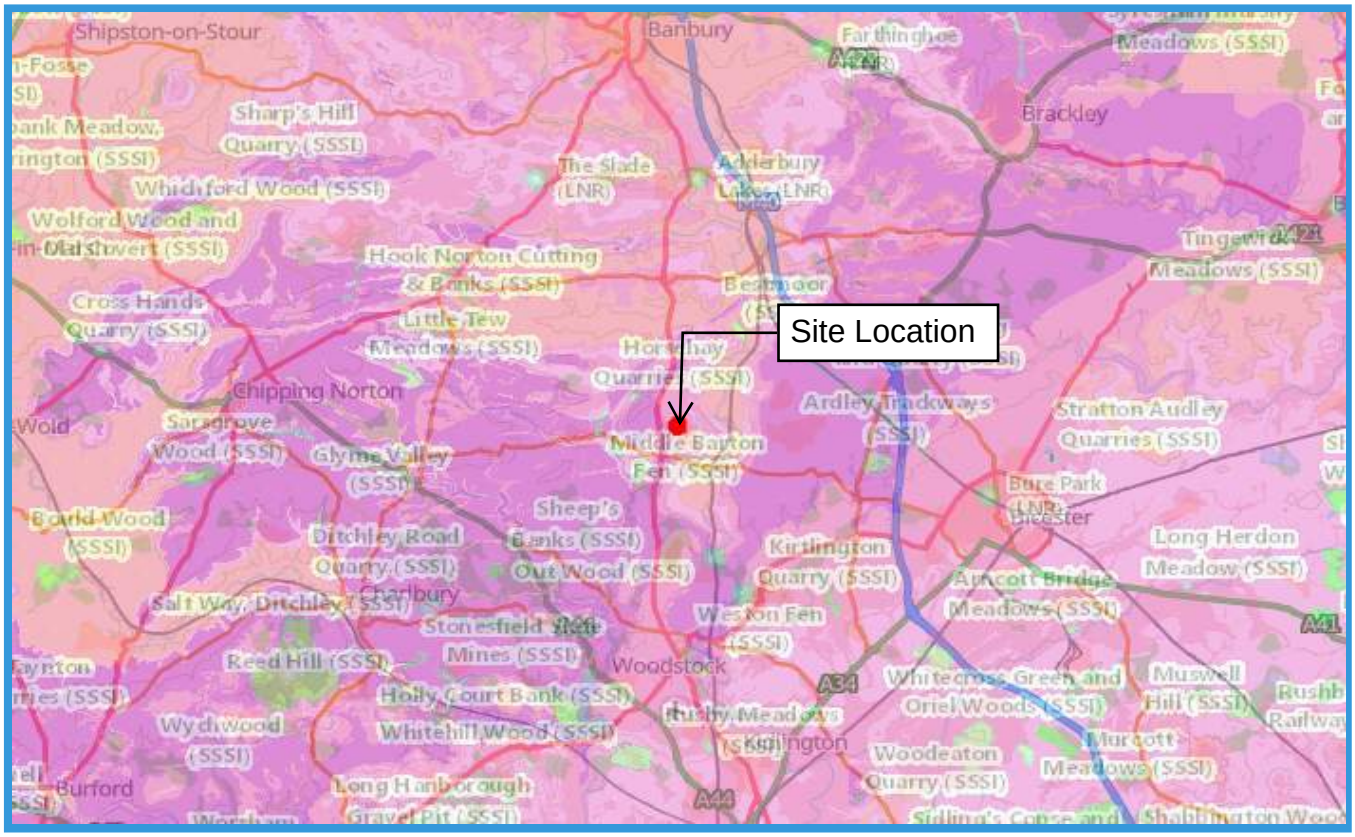
- High - greater than or equal to 1 in 30 (3.3%) chance of flooding in any year
- Medium –Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance of flooding in any given year
- Low –Less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) chance of flooding in any given year
- Very low –less than 1 in 1000 (0.1%) chance of flooding in any given year



DEPTH



MAGIC RESULTS



Site Check Results

Site Check Report generated on Fri Jan 23 2026

The following features have been found in your search area:

You selected the location: Centroid Grid Ref: SP47152635

Aquifer Designation Map (Bedrock) (England)

TYPOLOGY	Secondary A
TYPOLOGY	Unproductive

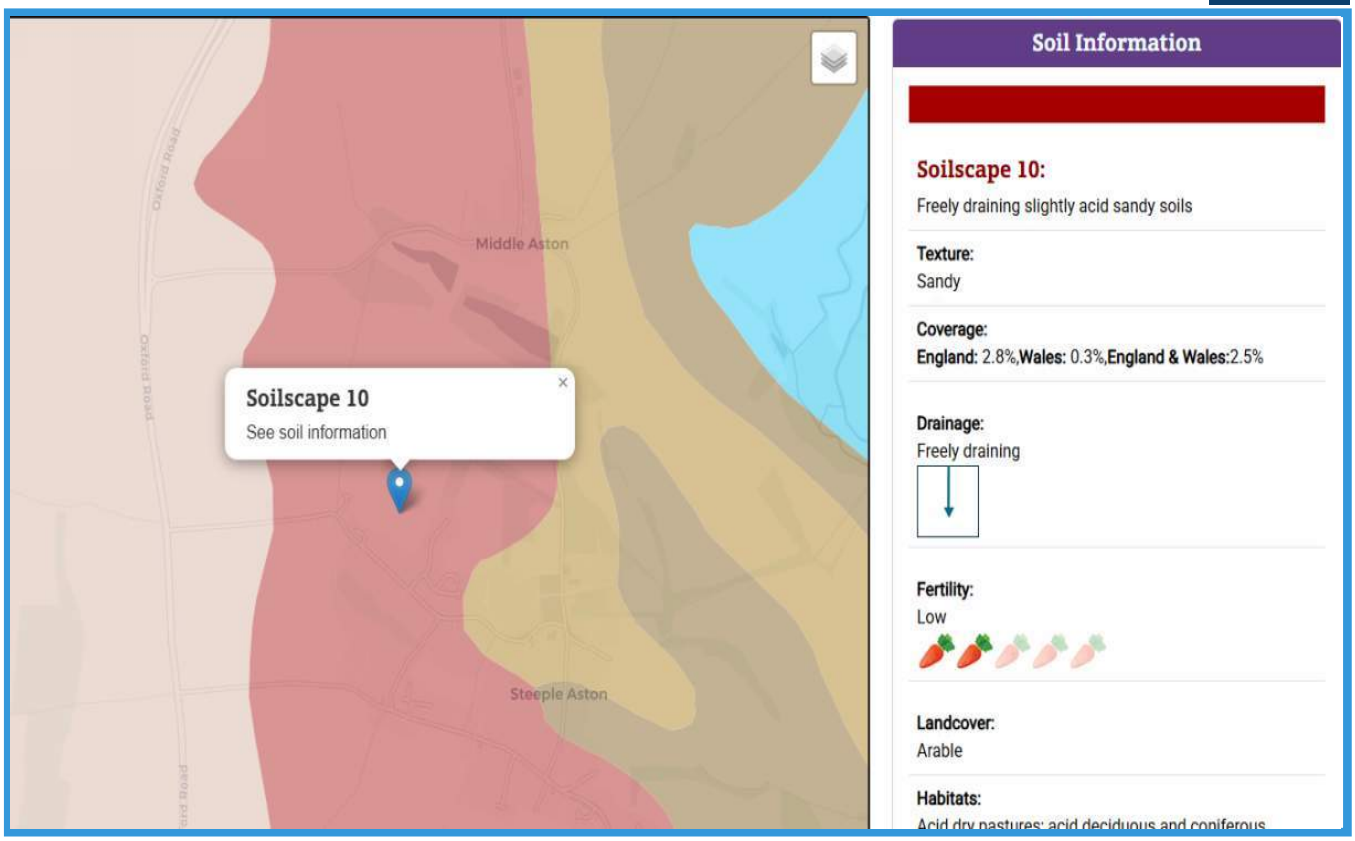
Aquifer Designation Map (Superficial Drift) (England)

No Features found

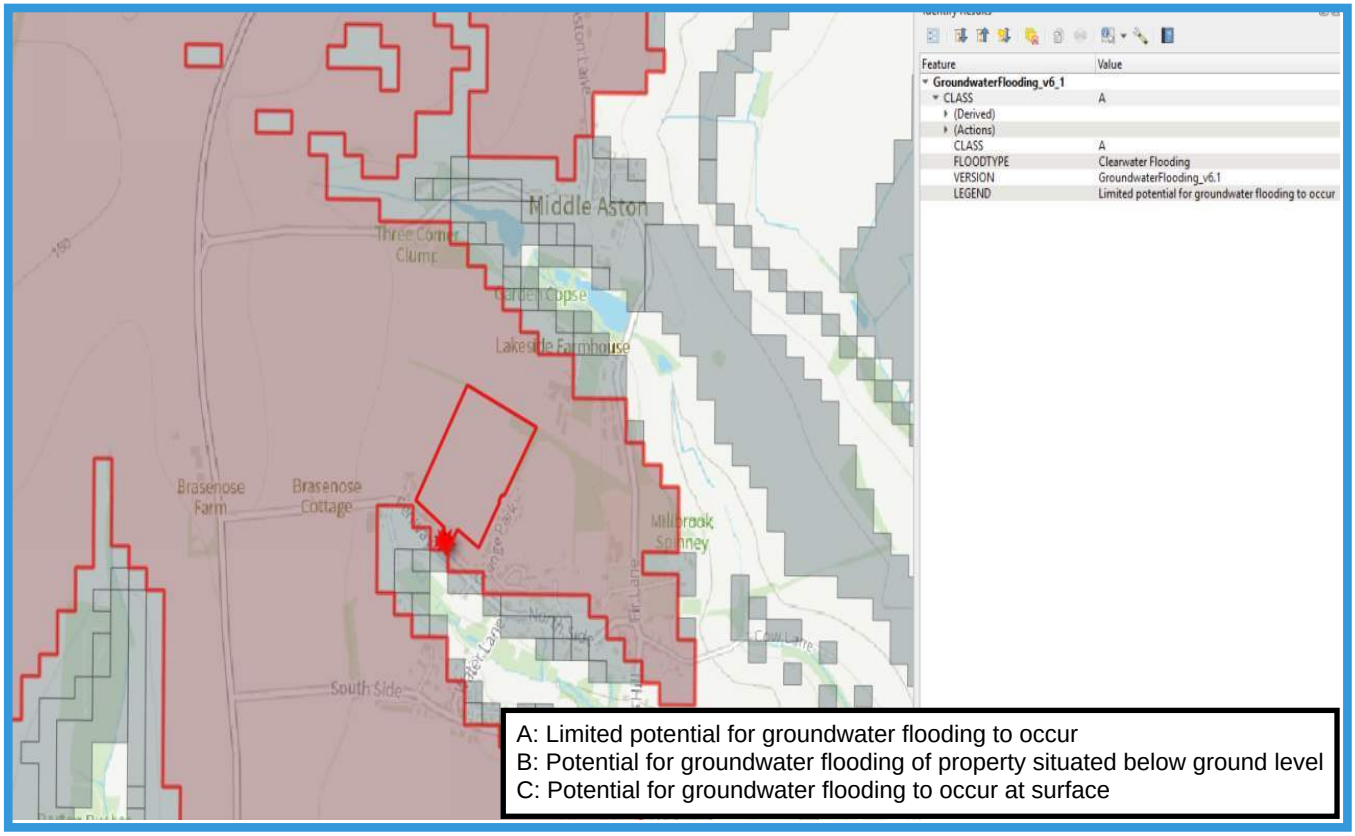
Source Protection Zones merged (England)

No Features found

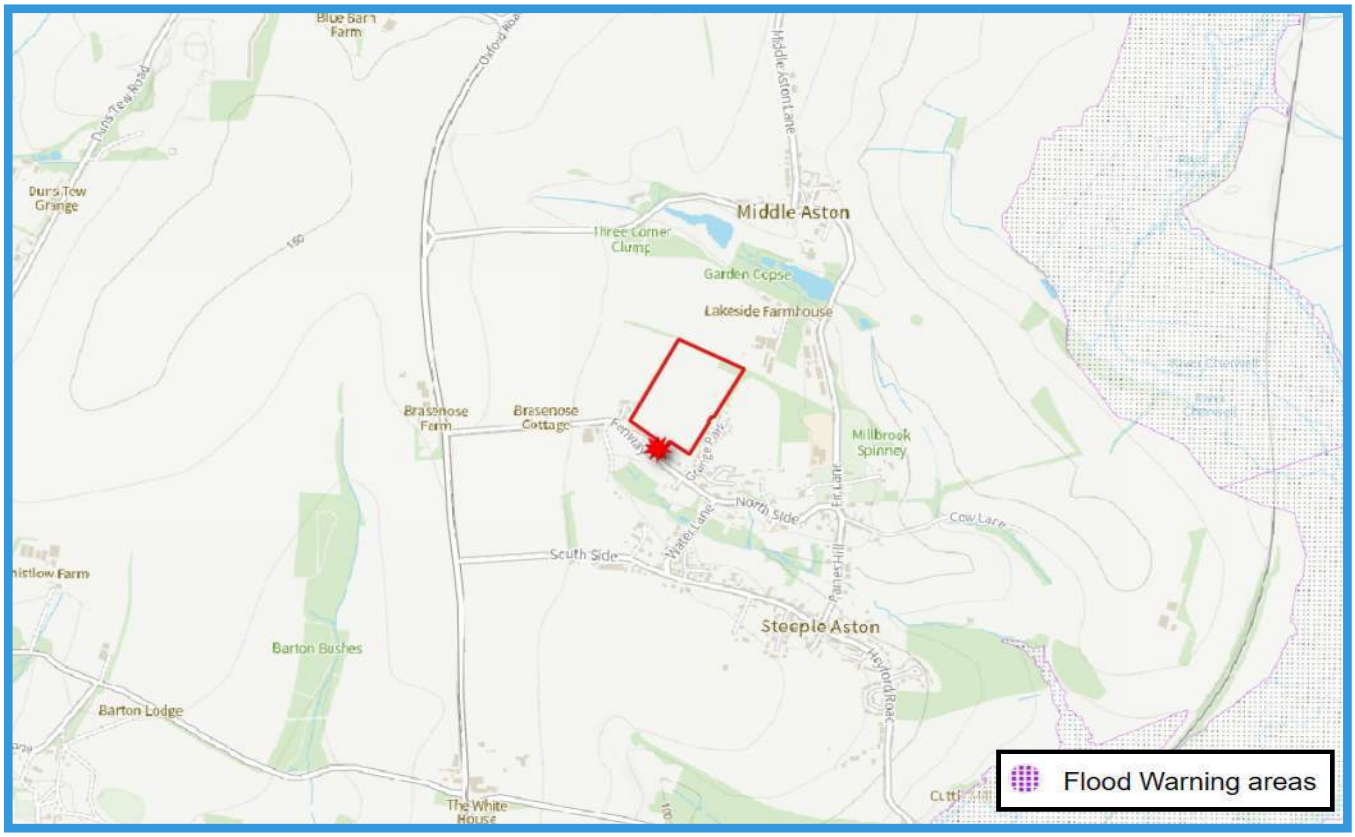
SOILSCAPES MAP



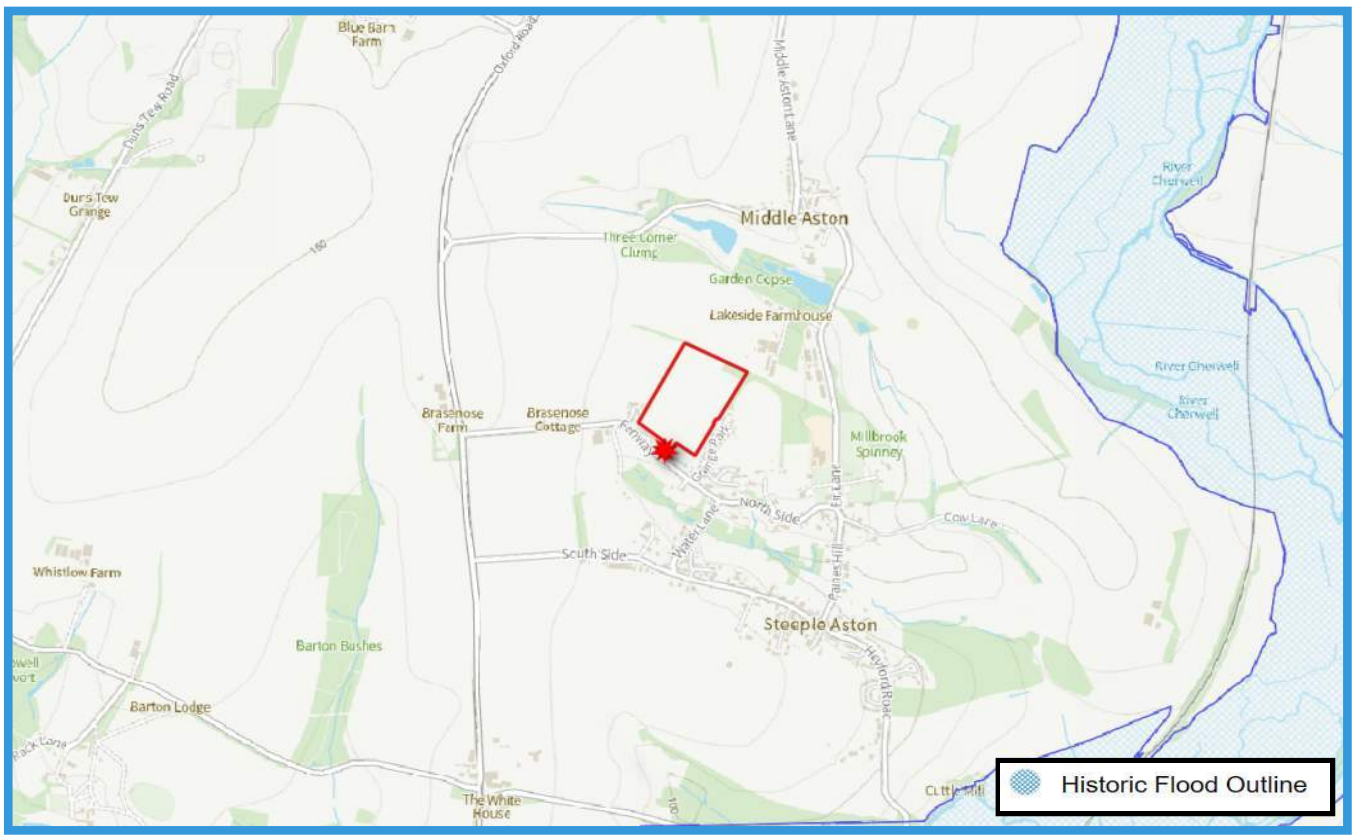
GROUND WATER FLOOD RISK



FLOOD WARNING AREA



HISTORIC FLOOD MAP



Flood map for planning

Your reference	Location (easting/northing)	Created
Unspecified	**447169/226386**	**4 August 2026 17:09**

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

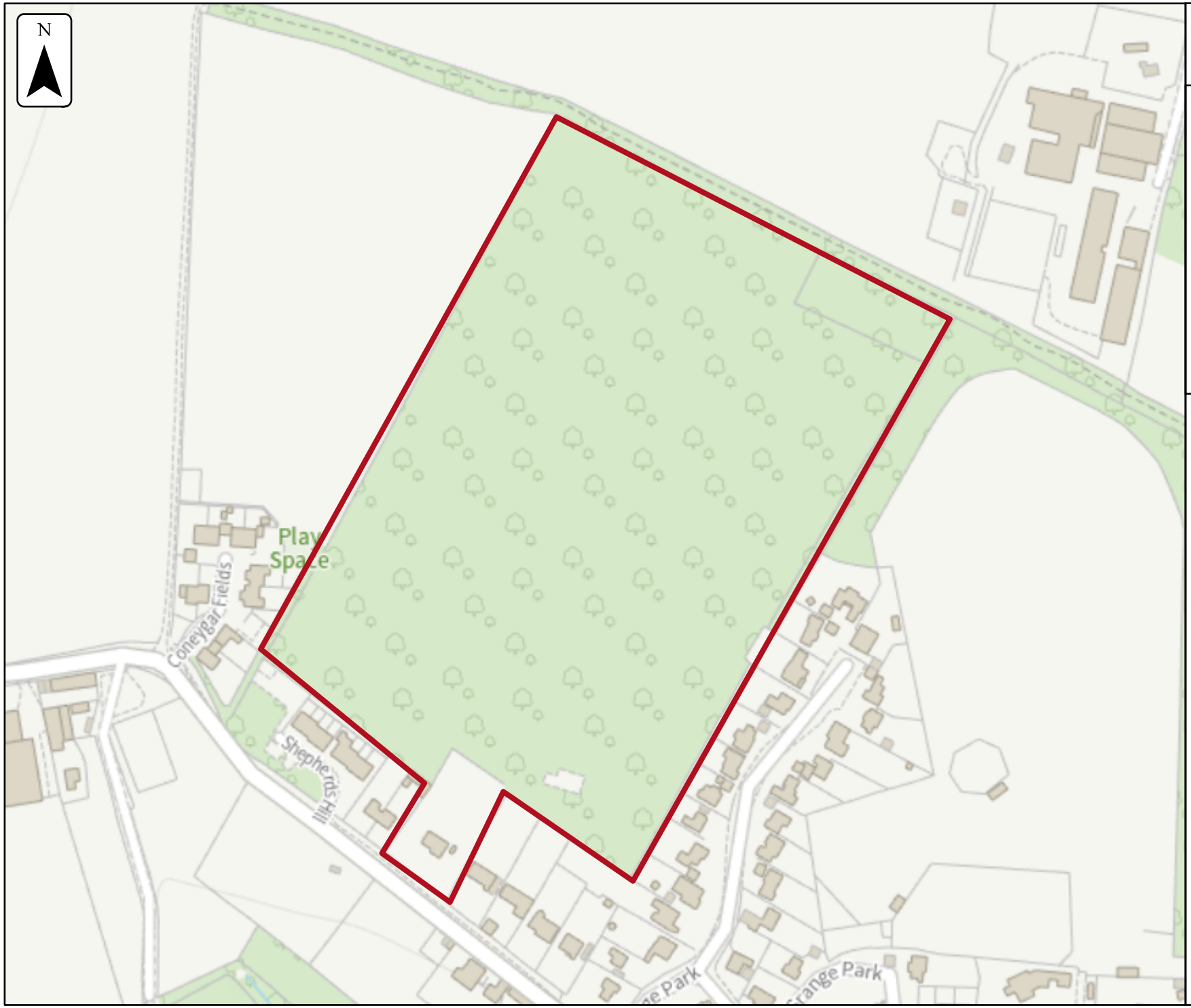
Notes

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

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

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Environment Agency

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
447169/226386

Scale
1:2,500

Created
4 Aug 2026 17:09

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

0 20 40 60 m

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