



Huntingdonshire Level 2 Strategic Flood Risk Assessment Site Summary

Site CfS:88

Final Draft Report

Prepared for
Huntingdonshire District Council

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This report describes work commissioned by Huntingdonshire District Council by an instruction via email dated 21 July 2025. The Client's representative for the contract was Frances Schulz of Huntingdonshire District Council. Freya Nation of JBA Consulting carried out this work.

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The methodology adopted and the sources of information used by JBA in providing its services are outlined in this Report. The work described in this Report was undertaken between 21 July 2025 and 6 November 2025 and is based on the conditions encountered and the information available during the said period. The scope of this Report and the services are accordingly factually limited by these circumstances.

The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate.

Acknowledgements

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1 Background

This is a Level 2 Strategic Flood Risk Assessment (SFRA) site screening report for Local Plan Site CfS:88. The content of this report assumes the reader has already consulted the 'HDC Level 1 SFRA' (2024) and read the 'HDC Level 2 SFRA Main Report' (2025) and is therefore familiar with the terminology used in this report.

1.1 Site CfS:88

- Location: Land to the West of Glatton Road, Sawtry
- Existing site use: Agricultural
- Existing site use vulnerability: Less vulnerable
- Proposed site use: Residential
- Proposed site use vulnerability: More vulnerable
- Site area (ha): 12.5
- Watercourse: Sawtry Brook (no detailed model)
- Environment Agency (EA) model: N/A
- Summary of requirements from Level 2 SFRA scoping stage:
 - Subject to the Exception Test as more vulnerable developed proposed in Flood Zone 3a
 - Assessment of fluvial flood depths, velocities and hazards
 - Assessment of surface water flood extents, depths and hazard
 - Assessment of all other sources of flood risk

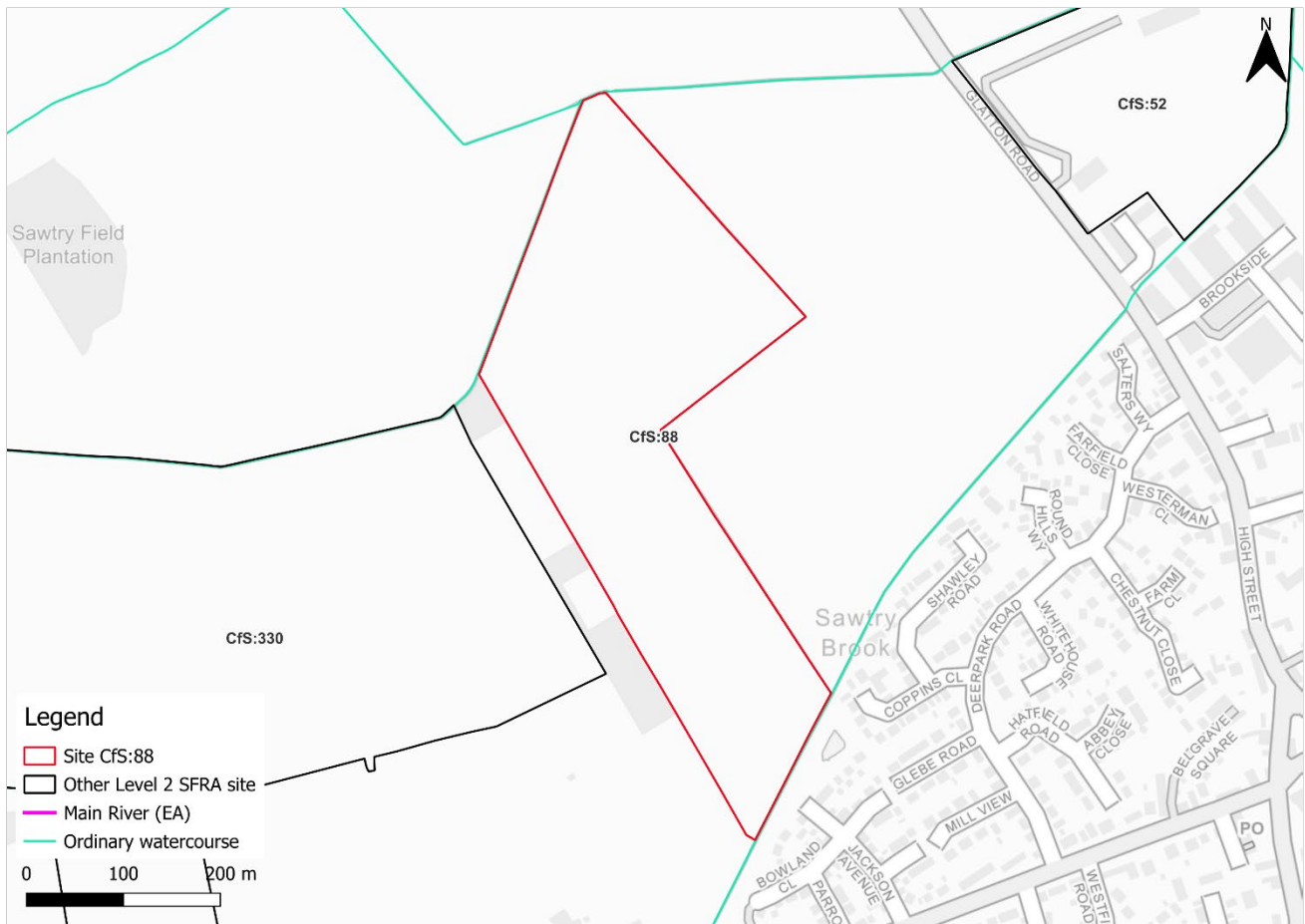


Figure 1-1: Existing site location boundary



Figure 1-2: Aerial photography

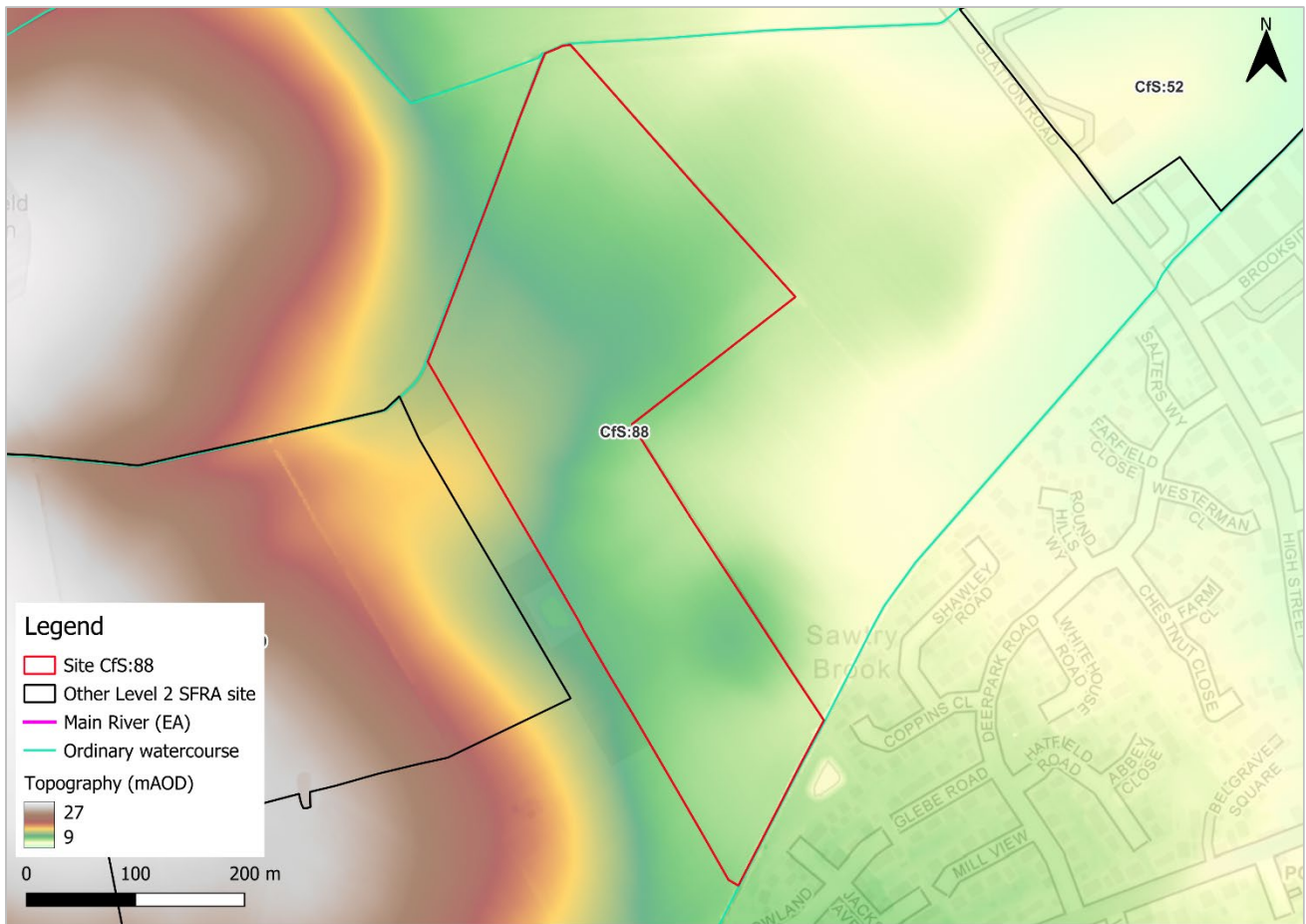


Figure 1-3: Topography

2 Flood risk from rivers

2.1 Existing risk

2.1.1 Flood Map for Planning and functional floodplain

Based on the EA's Flood Map for Planning (accessed July 2025) and Flood Zone 3b (functional floodplain), as updated in this Level 2 SFRA, the percentage areas of the site within each flood zone are stated in Table 2-1 and can be viewed on Figure 2-1. This version of the Flood Map for Planning does not consider flood defence infrastructure (Section 2.2) or the impacts of climate change (Section 2.3).

The site is predominantly within Flood Zone 1 indicating a low risk from rivers and the sea. However, the southeastern corner of the site is partially located within Flood Zones 3b, 3a and 2 due to the presence of the Sawtry Brook which flows along the southeastern site boundary. There is no detailed model available for Sawtry Brook, therefore the risk is likely based on the EA's New National Model. It is therefore not possible to assess fluvial flood depths or hazards.

There are also drainage ditches present along the northwestern, northeastern and eastern site boundaries which are not included within the Flood Map for Planning.

Table 2-1: Existing flood risk based on percentage area of site at risk

Flood Zone 1 (% area)	Flood Zone 2 (% area)	Flood Zone 3a (% area)	Flood Zone 3b (% area)
97	1	1	1

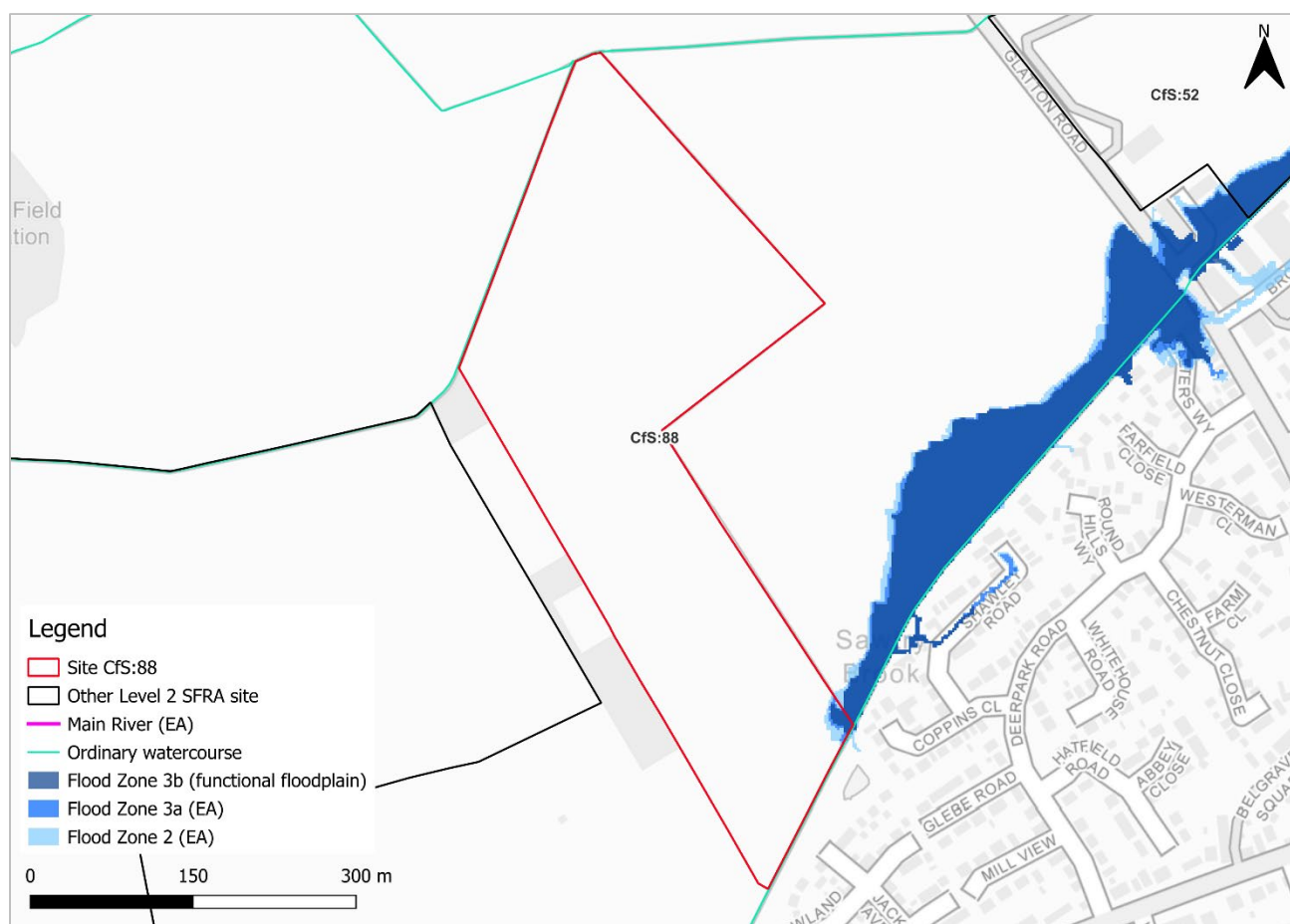


Figure 2-1: Existing risk

2.2 Flood risk management

2.2.1 Flood defences

There are no flood defences in the vicinity of the site, according to the EA's Spatial Flood Defences dataset.

2.2.2 Working with Natural Processes

The EA's Working with Natural Processes (WwNP) dataset has been interrogated to identify opportunities for Natural Flood Management (NFM) to reduce flood risk to the site and surrounding areas. These areas are shown in Figure 2-2. Note, the WwNP mapping is broadscale and indicative, therefore further investigation will be required for any land shown to have potential for WwNP. There is potential for riparian woodland planting along the northeastern, eastern and southeastern site boundaries; following the channels or the ordinary watercourses. Tree planting can help to reduce runoff.

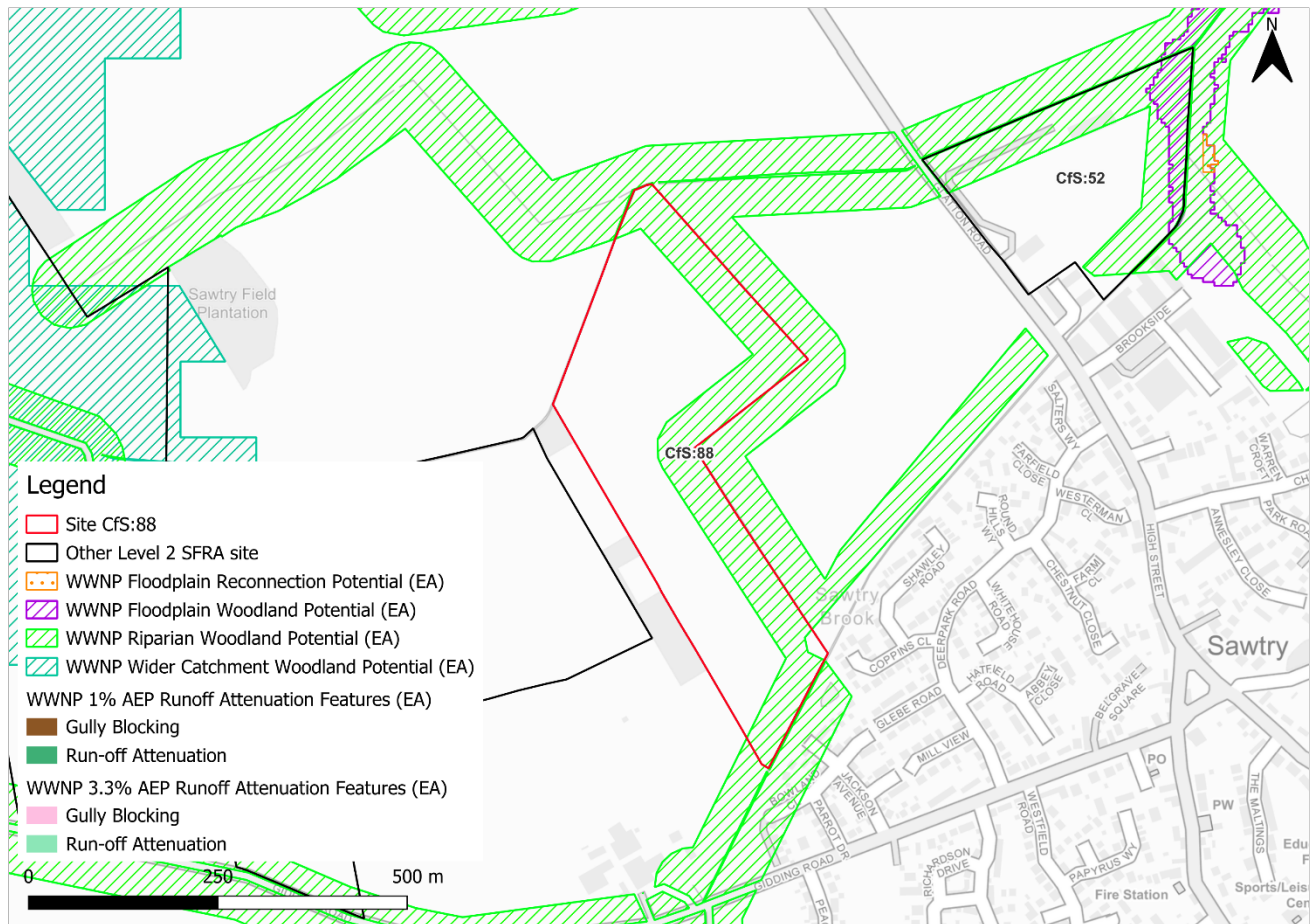


Figure 2-2: Natural Flood Management (NFM) potential mapping

2.3 Impacts from climate change

2.3.1 Fluvial

The EA's SFRA guidance states that SFRA's should assess the central allowance for less, more, highly vulnerable, and water compatible development. The higher central allowance should be assessed for essential infrastructure. However, as there is no existing detailed model of Sawtry Brook, modelling of the climate change has not been possible.

The impacts of climate change on flood risk from Sawtry Brook have been modelled by the EA through the New National Model which models the central allowance (+6% on peak river flows for the Old Bedford and Middle Level EA management catchment) for the 3.3% AEP defended, 1% AEP defended and undefended, and 0.1% AEP defended and undefended fluvial events. The flood extents during the defended and undefended events are similar. During the defended climate change events, risk as modelled to be similar to that shown in Flood Zones 2 and 3a, impacting the southeastern corner of the site, adjacent to Sawtry Brook, as shown in Figure 2-3.

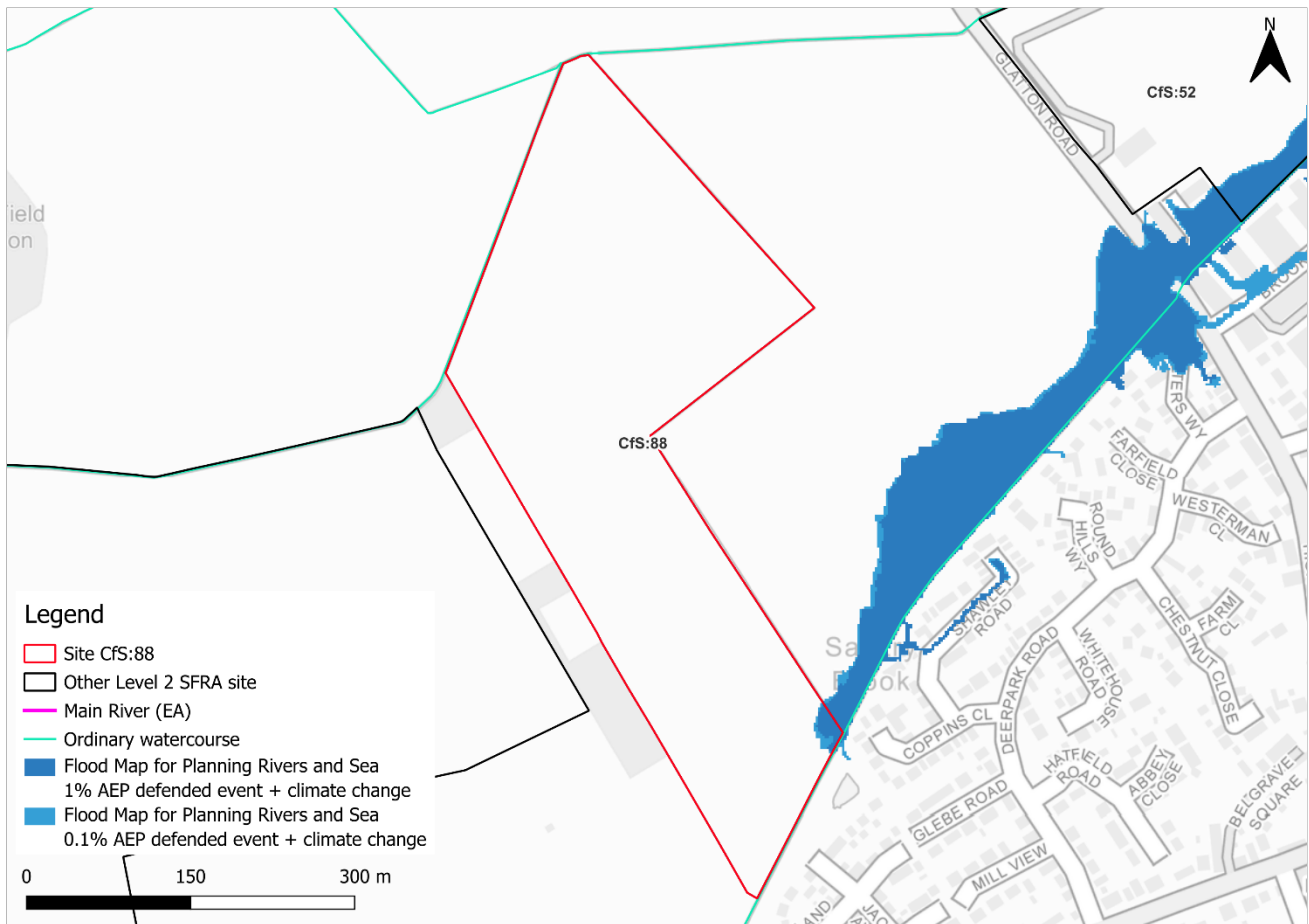


Figure 2-3: Flood Map for Planning 1% and 0.1% AEP defended flood events +6% (central climate change allowance)

2.3.2 Tidal

The EA's Flood Map for Planning shows the site is not at risk from tidal climate change.

2.4 Historic flood incidents

The EA's Historic Flood Map (HFM) and Recorded Flood Outlines (RFO) datasets have been considered. There are no recorded historic flood events within the vicinity of the site.

2.5 Emergency planning

2.5.1 Flood warning

The EA operates a Flood Warning Service for properties located within a Flood Warning Area (FWA) for when a flood event is expected to occur. The site is not located within a FWA.

Flood alerts may be issued before a flood warning for properties located within a Flood Alert Area (FAA) to provide advance notice of the possibility of flooding. A flood alert may be

issued when there is less confidence that flooding will occur in a FWA. The site is not located within a FAA.

2.5.2 Access and escape routes

Based on available information, safe access and escape routes could likely be achieved during a flood event via Glatton Road to the northeast, travelling north, as shown by the orange circle in Figure 2-4. However, discussions would be required with the landowner of the land to the east of the site.

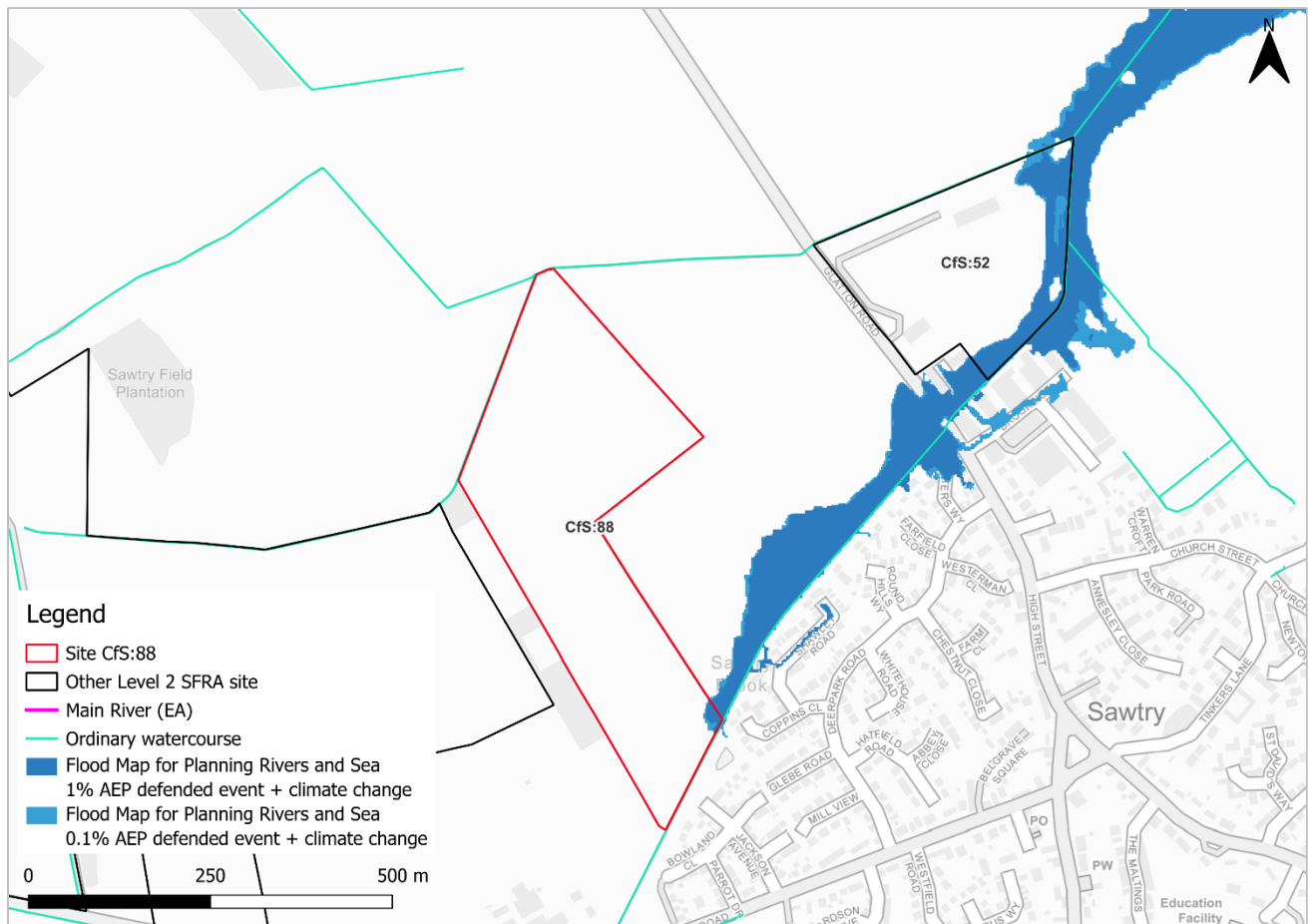


Figure 2-4: Potential access and escape route

2.6 Observations, mitigation options, site suitability, sequential approach to development management - fluvial

- Observations:
 - The proposed development of the site would see a change in the risk classification from less vulnerable to more vulnerable, according to the NPPF.
 - The majority of the site is within Flood Zone 1 and therefore at low risk of flooding from rivers and sea. However, the site is partially located within fluvial Flood Zone 3a and therefore must be subject to the exception test. Risk from climate change is not modelled to further impact the site.

- There is no detailed model available for Sawtry Brook. The flood zones, including for climate change, are therefore likely to be based on the EA's New National Model.
- The extent of fluvial risk from the unmodelled watercourses along the northwestern, northeastern and eastern site boundaries is currently unknown. Using the 0.1% AEP surface water event as a proxy, risk from the ordinary watercourses may not significantly impact the site. However, the risk areas are not consistent with the course of the channels.
- The area of the site at risk should be left as open greenspace.
- Defences:
 - There are no defences protecting the site, according to the EA's Spatial Flood Defences dataset.
- Mitigation:
 - The site-specific FRA should develop a model of Sawtry Brook and the other unnamed ordinary watercourses to fully understand the onsite fluvial risk and look to include the channel and risk areas within a blue green corridor.
 - Were development of this site to proceed, given the proximity of this site to neighbouring site CfS:330, it would be prudent to formulate a strategy to develop these sites in tandem and for consultation between each landowner to take place to ensure a joined-up approach for sustainable development is in place.
 - Given the proximity of the site to Sawtry Brook and other ordinary watercourses, a flood risk activity permit for development may be required. The type of permission required must be sought from the Environment Agency, Lead Local Flood Authority or Internal Drainage Board.
- Access and escape:
 - Safe access and escape routes must be available at times of flood and appear to be available from the northeast of the site, via Glatton Road, travelling north. However, use of the land for access will need to be granted by the landowner.

3 Flood risk from surface water

3.1 Existing risk

The NaFRA2 Risk of Flooding from Surface Water (RoFSW) mapping received a significant update and was published January 2025, including for surface water flood extents and depths. However, at the time of writing, the EA has confirmed that the depth information available is not structured in a way that is suitable for planning purposes. Therefore, this Level 2 SFRA considers the third generation RoFSW depth and hazard mapping in addition to the NaFRA2 extents, as agreed with the EA. Surface water depth and hazard should be modelled at the site-specific FRA stage.

3.1.1 Risk of Flooding from Surface Water - NaFRA2 extents

Based on the EA's national scale RoFSW map, as updated in January 2025, surface water flood risk across the site is varied. 4% of the site is modelled to be at risk during the high risk event, a further 8% is at risk in the medium risk event and another 20% is at risk during the low risk event. 68% of the site is at very low risk of flooding from surface water, as shown in Table 3-1. Risk is largely confined to the northern and southern site boundaries where large flow paths cross the site. The flow path at the south of the site follows the channel of Sawtry Brook. There is also a smaller flow path which flows through the centre of the site, as shown in Figure 3-1.

Table 3-1: Existing surface water flood risk based on percentage area at risk using the NaFRA2 RoFSW map

Very low risk (% area)	Low risk (% area)	Medium risk (% area)	High risk (% area)
68	20	8	4

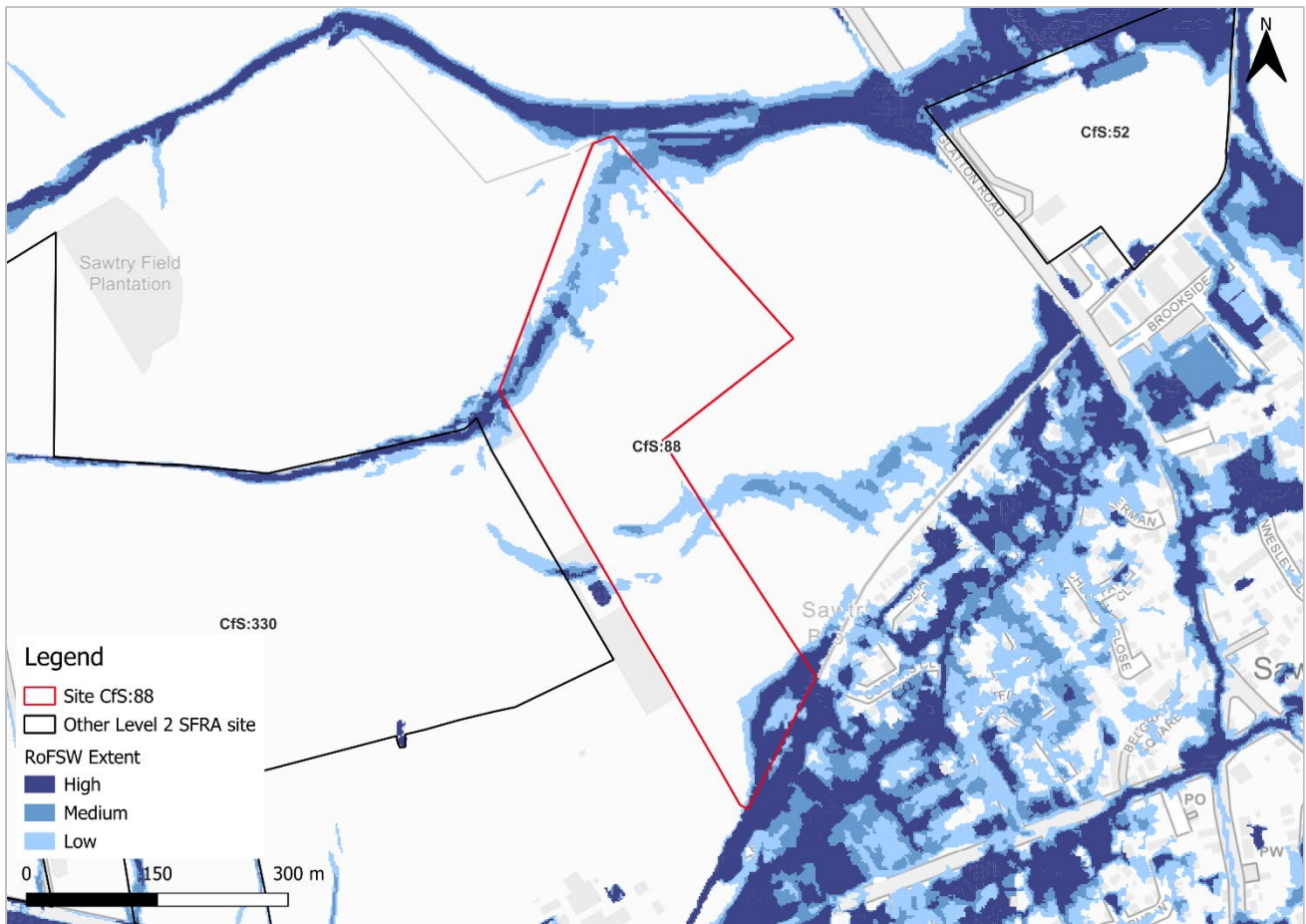


Figure 3-1: Surface water flood extents (NaFRA2 - Risk of Flooding from Surface Water map)

3.1.2 Risk of Flooding from Surface Water - third generation depths and hazard

The flood extents from the NaFRA2 RoFSW and the third generation map are similar, though the third generation map does not show a flow path along the southeastern site boundary.

Based on the EA's national scale third generation RoFSW map, during the medium risk event, flood depths across the site remain less than 0.15m (Figure 3-2) with a low flood hazard rating (Figure 3-3). Depths are modelled to be shallow and hazards low.

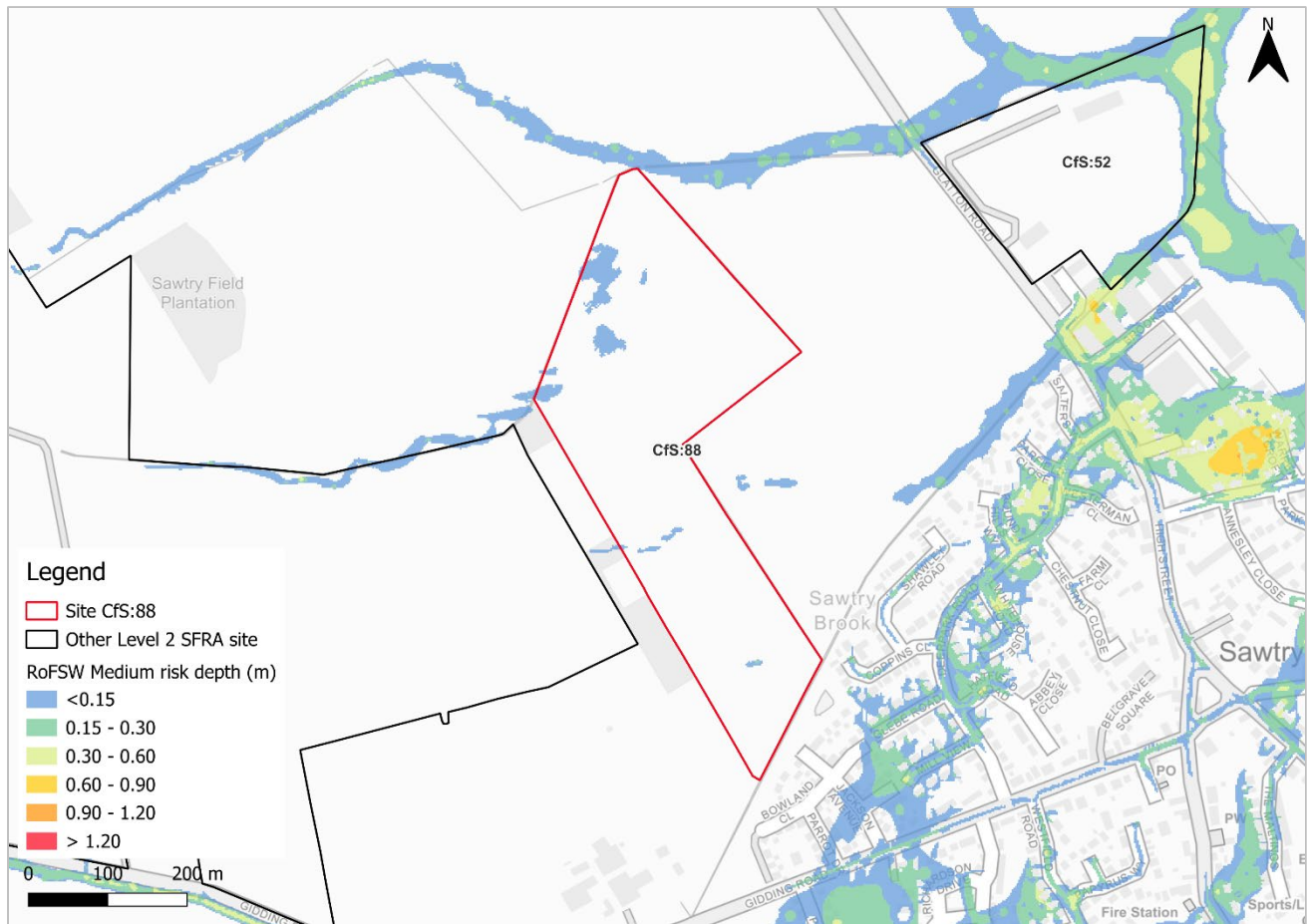


Figure 3-2: Medium risk event surface water flood depths (Third generation - Risk of Flooding from Surface Water map)

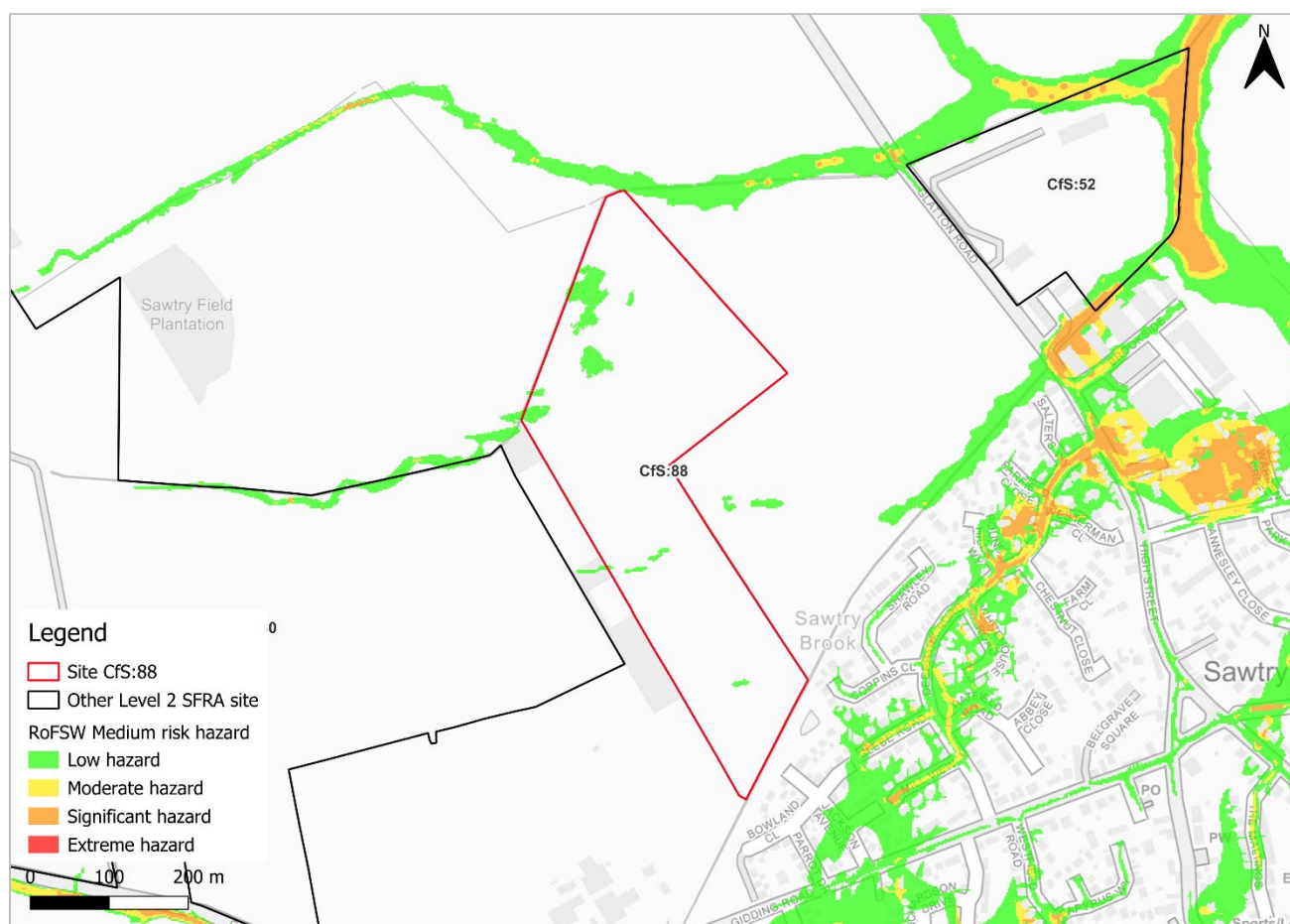


Figure 3-3: Medium risk event surface water flood hazard¹ (Third generation - Risk of Flooding from Surface Water map)

3.2 Impacts from climate change

The NaFRA2 RoFSW mapping now includes one modelled climate change scenario, the 2050s central allowance for the high, medium and low risk events. However, the upper end allowance on peak rainfall for the 2070s should be assessed in SFRAs. Therefore, at the time of writing, the available national surface water climate change mapping is unsuitable for consideration in development planning. This Level 2 SFRA considers the low risk surface water event as a conservative proxy for the medium risk event plus climate change, as agreed with the EA. The impact of climate change on surface water flood risk should be fully accounted for at the site-specific FRA stage.

Based on the information available, surface water flood risk to the site may increase with climate change. The flow paths across the northern and southern boundary, as well as across the centre of the site, may expand in size. Flood depths are modelled to predominantly remain shallow below 0.15m with a low flood hazard rating, though the depths and hazards mapping do not represent the NaFRA2 RoFSW map, therefore the

¹ Based on Section 7.5 Hazard rating. What is the Risk of Flooding from Surface Water map? Report version 2.0. April 2019. Environment Agency

depth and hazard mapping (as shown in Figure 3-5 and Figure 3-6) may not be fully representative of potential risk. This reinforces the requirement for detailed assessment of surface water at the FRA stage.



Figure 3-4: Low risk event surface water flood extent, as a proxy for the medium risk event plus climate change (NaFRA2 - Risk of Flooding from Surface Water map)

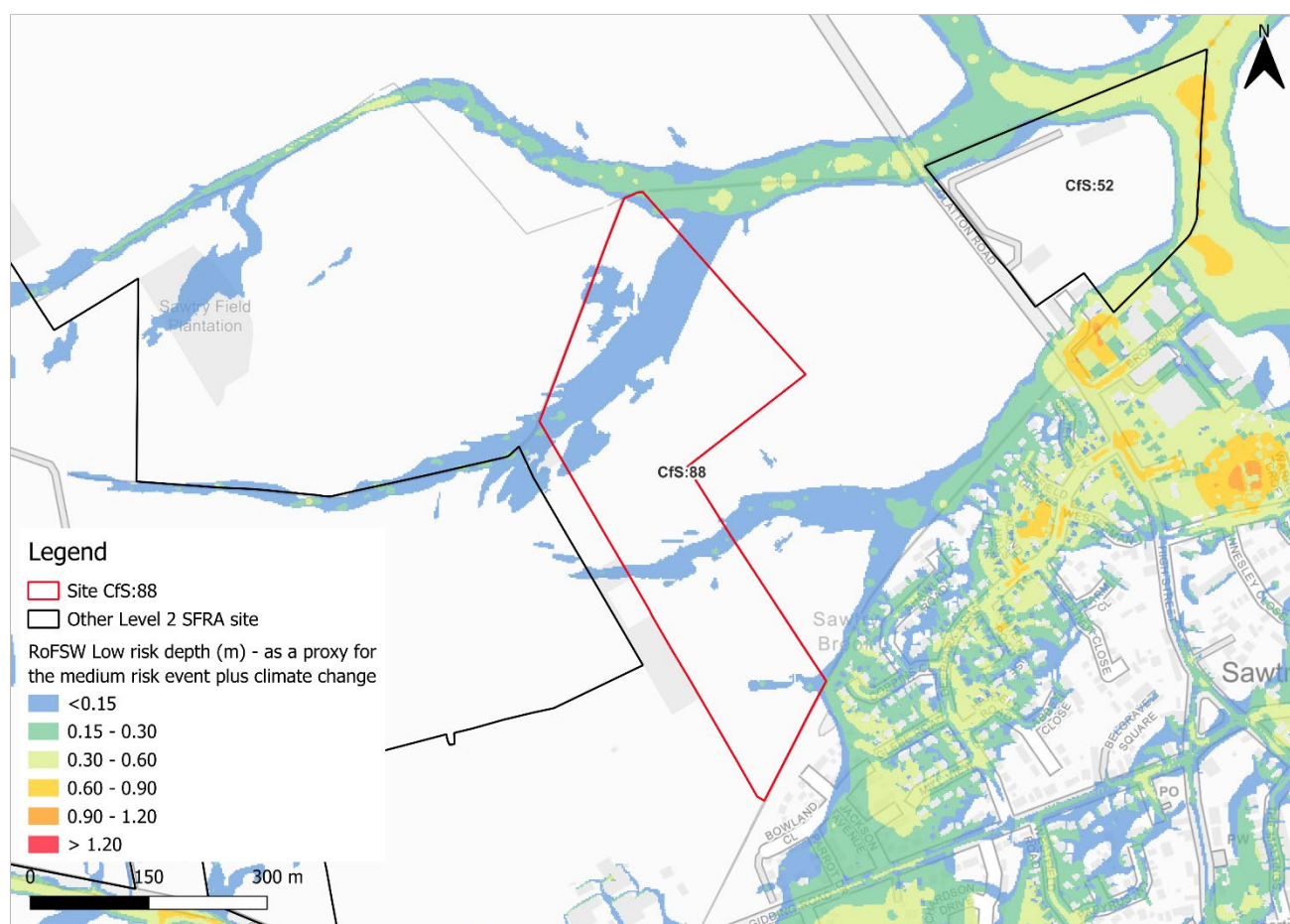


Figure 3-5: Low risk event surface water flood depths, as a proxy for the medium risk event plus climate change (Third generation - Risk of Flooding from Surface Water map)

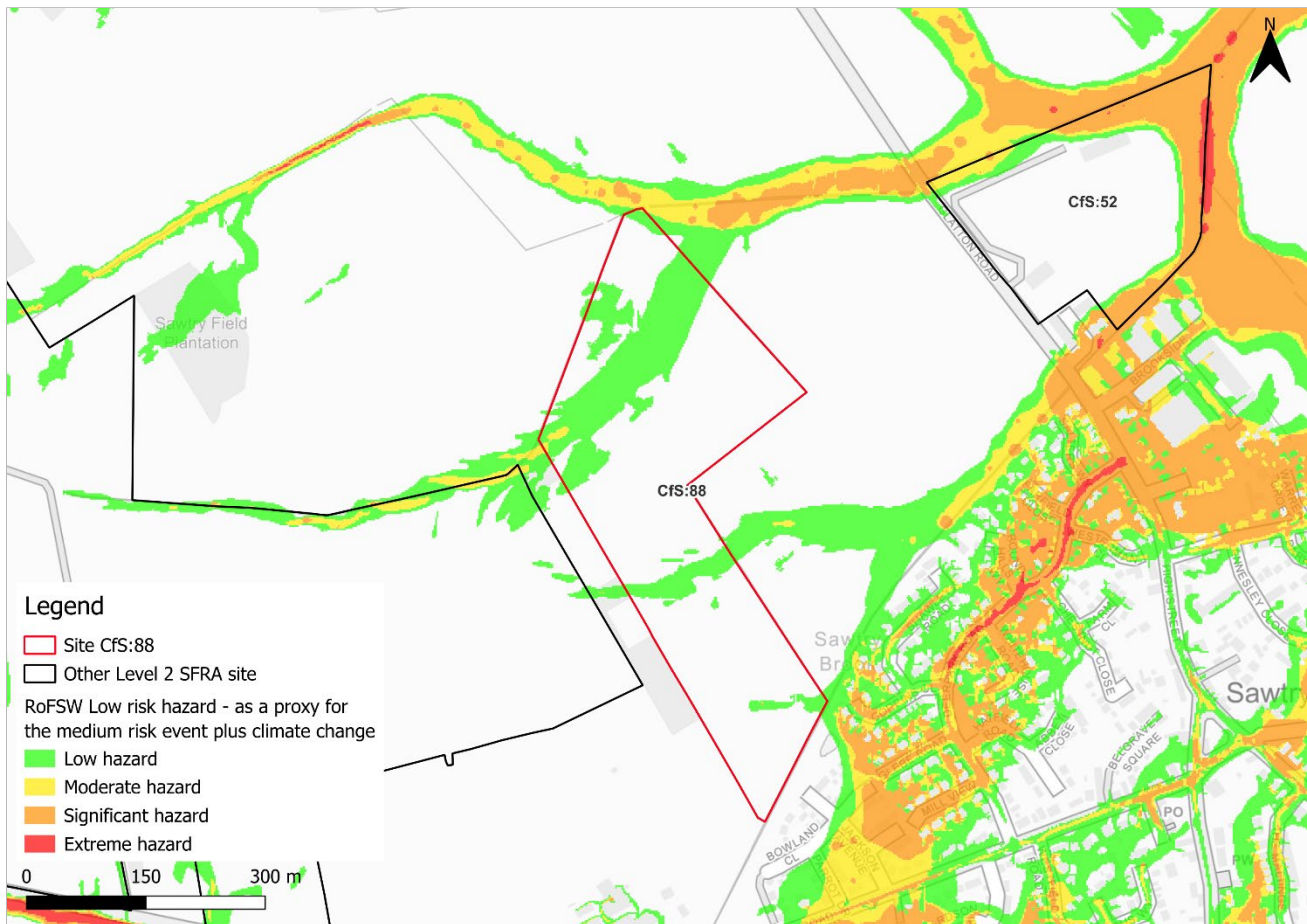


Figure 3-6: Low risk event surface water flood hazard, as a proxy for the medium risk event plus climate change (Third generation - Risk of Flooding from Surface Water map)

3.3 Observations, mitigation options, site suitability, sequential approach to development management - surface water

- Current risk to the site is varied. Surface water risk in the high, medium and low risk events is generally confined to the northern and southern site boundaries. There is also a smaller flow path across the centre of the site.
- The effects of climate change on surface water have not been modelled for this SFRA, however the low risk surface water event has been used as a proxy for the medium risk event plus climate change. Risk is greater than in the medium risk event, with a greater extent of ponding in all three existing flow paths.
- Surface water flood depths, hazards, including for the impact of climate change should be considered further through the site-specific FRA and drainage strategy. Any surface water modelling at the FRA stage should consider flood depths and hazards.
- The drainage strategy must ensure there is no increase in surface water flood risk elsewhere as a result of new development. Greenfield rates will apply, and the developer should follow the National SuDS guidance and any local guidance available from the LLFA.

- Topographic low spots and the major flow paths should be retained in site layout and design. Infilling of depressions or channels must be avoided.
- The RoFSW map is not suitable for identifying whether an individual property will flood and is therefore indicative. The RoFSW map is not appropriate to act as the sole evidence for any specific planning or regulatory decision or assessment of risk in relation to flooding at any scale without further supporting studies, modelling, or evidence.

4 Cumulative impacts assessment and high risk catchments

4.1 Level 1 cumulative impacts assessment

A cumulative impact assessment was completed through the Huntingdonshire Level 1 SFRA (2024), which aimed to identify catchments sensitive to the cumulative impact of new development. This site is located within one catchment, namely, the Middle Level catchment. This catchment is ranked as a medium sensitivity catchment. Planning considerations for sites at medium sensitivity to the cumulative impacts of development can be found in Appendix G of the Level 1 SFRA. Cumulative impacts of development should also be considered as part of a site-specific FRA.

5 Groundwater, geology, soils, SuDS suitability

Risk of groundwater emergence is assessed in this SFRA using JBA's 5m Groundwater Emergence Map. This dataset is recommended for use by the EA in the SFRA Good Practice Guide². Figure 5-1 shows the map covering this site and the surrounding areas. Table 5-1 explains the risk classifications.

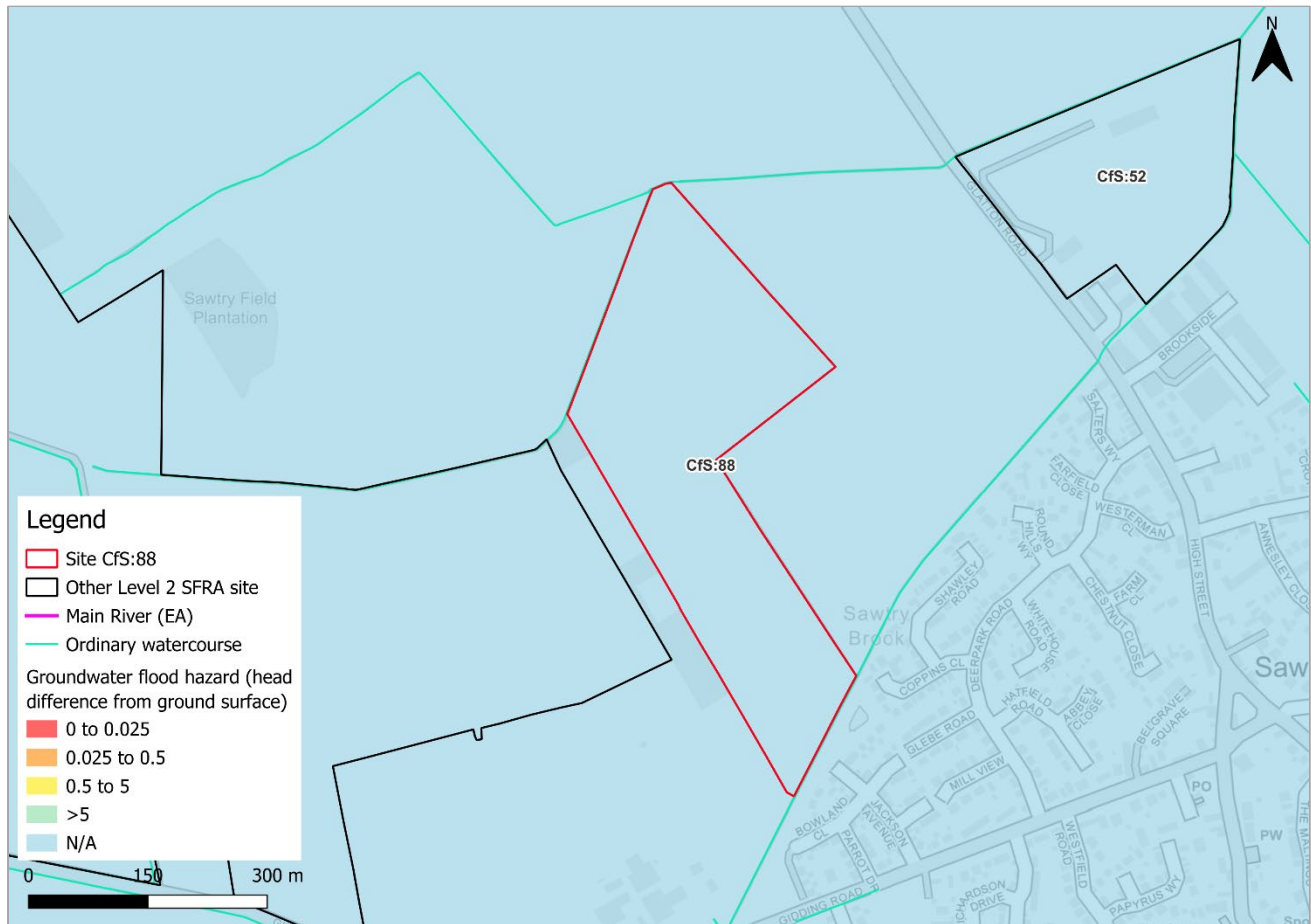


Figure 5-1: JBA 5m Groundwater Emergence Map

The entire site and surrounding area are classified as no risk of groundwater emergence. Any infiltration SuDS should therefore be suitable across the whole site.

² [Strategic flood risk assessment good practice guide. ADEPT. December 2021.](#)

Table 5-1: Groundwater Hazard Classification

Groundwater head difference (m)*	Class label
0 to 0.025	Groundwater levels are either at very near (within 0.025m of) the Within this zone there is a risk of groundwater flooding to both surface and subsurface assets. Groundwater may emerge at significant rates and has the capacity to flow overland and/or pond
0.025 to 0.5	Groundwater levels are between 0.025m and 0.5m below the ground surface in the 100-year return period flood event. Within this zone there is a risk of groundwater flooding to surface and subsurface assets. There is the possibility of groundwater emerging at the surface locally.
0.5 to 5	There is a risk of flooding to subsurface assets, but surface
>5	Groundwater levels are at least 5m below the ground surface in the 100-year return period flood event. Flooding from groundwater is not likely.
N/A	This zone is deemed as having a negligible risk from groundwater
*Difference is defined as ground surface in mAOD minus modelled groundwater table in mAOD.	



Figure 5-2: Soils and geology

6 Residual risk

Although a site may be afforded some protection from defences and / or drainage infrastructure, there is always a residual risk of flooding from asset failure i.e. breaching / overtopping of flood defences, blockages of culverts or drainage assets.

6.1 Potential blockage

There does not appear to be any residual risk to the site.

6.2 Flood risk from reservoirs

The EA's Reservoir Flood Maps (RFM) (2021) show where water may go in the unlikely event of a reservoir or dam failure. A 'dry day' scenario assumes that the water level in the reservoir is the same as the spillway level or the underside of the roof for a service reservoir and the watercourses upstream and downstream of the reservoir are at a normal level. A 'wet day' scenario assumes a worst-case scenario where a reservoir releases water held on a 'wet day' when local rivers have already overflowed their banks.

The site is not modelled to be at risk from reservoir flooding.

7 Overall site assessment

7.1 Can part b) of the exception test be passed?

This site is required to pass part b) of the exception test as it is proposed for more vulnerable development and is located within Flood Zone 3a. Based on the information presented in this Level 2 SFRA, the exception test could be passed and the site allocated, assuming the risk areas can remain as open greenspace. However, the test should be reapplied at the application stage as some flood risk information has not been available for consideration in this Level 2 SFRA, as outlined below. The test should also be reapplied if more recent information about existing or potential flood risk becomes available at application stage.

7.2 Recommendations summary

Based on the evidence presented in the Level 1 SFRA (2024) and this Level 2 SFRA:

- It should be appropriate to develop the site for more vulnerable purposes should the risk areas be left as open greenspace and allowed to flood whilst accounting for climate change.
- The risk area should be included within design as a blue green corridor along Sawtry Brook.
- Detailed modelling of Sawtry Brook and the other ordinary watercourses along the northwestern, northeastern and eastern site boundaries should be carried out at the FRA stage. This modelling should inform site layout and design.
- A detailed drainage strategy will be required for any new development, given the site is currently greenfield.
- Safe access and escape routes must be established, perhaps via Glatton Road.
- Opportunities for NFM features to reduce flood risk to the site and surrounding areas should be explored at the site-specific FRA stage.

7.3 Site-specific FRA requirements and further work

At the planning application stage, the following should be considered:

- Full detailed flood modelling of Sawtry Brook and the unnamed ordinary watercourses to assess up to date risk to the site.
- Further modelling to understand the impacts of climate change on fluvial and surface water flood risk to the site.
- Further consideration of surface water flood risk, including a drainage strategy. Discharge rates should remain at greenfield rates at a minimum.
- The requirement of a permit for developing near an ordinary watercourse should be investigated.

- FRA should be carried out in line with the latest versions of the NPPF; FRCC-PPG; EA online guidance; the HDC Local Plan, and national and local SuDS policy and guidelines.
- Throughout the FRA process, consultation should be carried out with, where applicable, the local planning authority; the lead local flood authority; emergency planning officers; the Environment Agency; Anglian Water; the highways authorities; and the emergency services.

8 Licencing

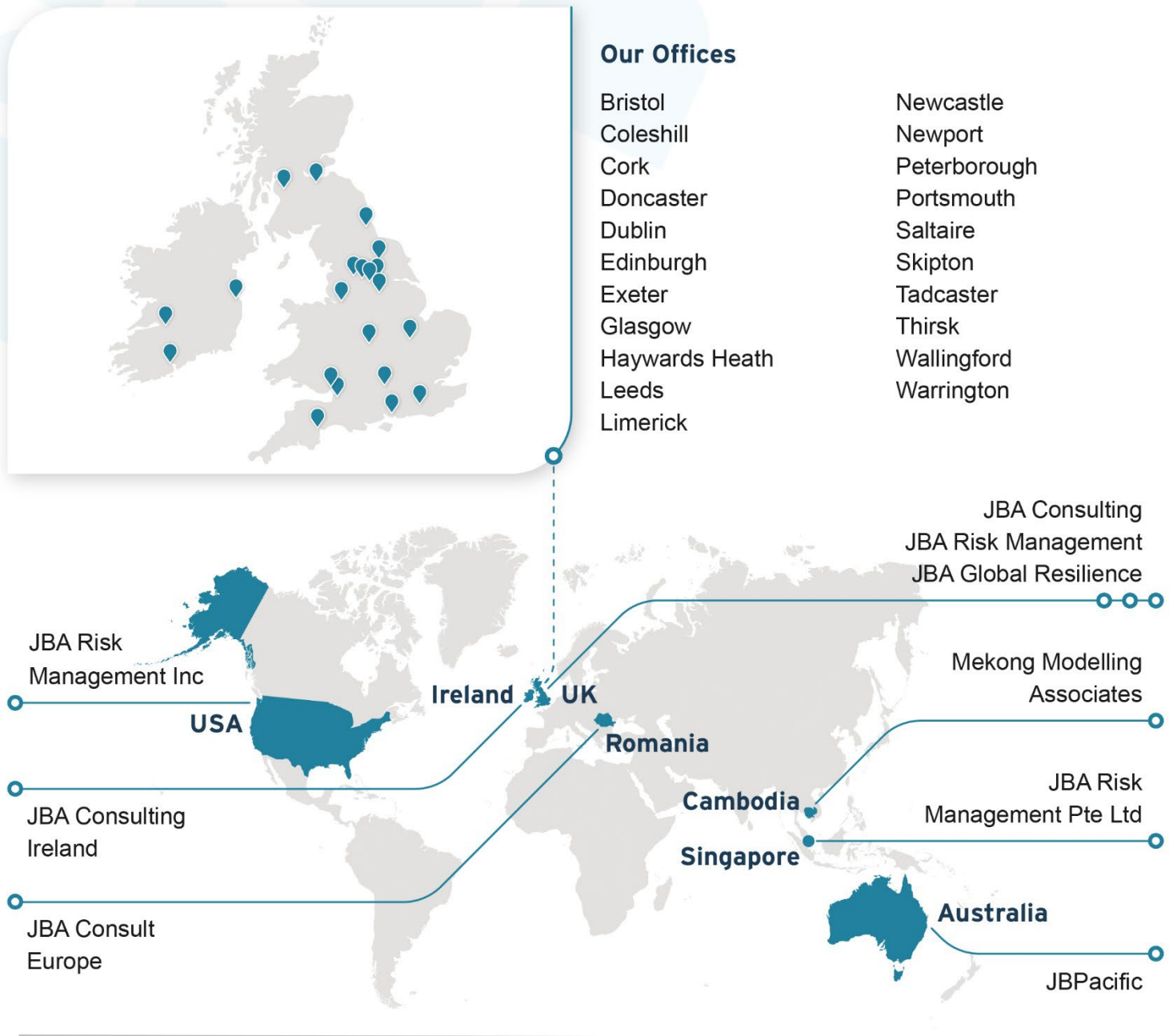
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