



Huntingdonshire Level 2 Strategic Flood Risk Assessment Site Summary

Site CfS:165

Final 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. Amy Ewens 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:165. 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:165

- Location: Land to the rear of The Stilton Cheese Inn
- Existing site use: Mixed use (disused pub buildings in the west, agricultural in the east, existing access road)
- Existing site use vulnerability: More vulnerable
- Proposed site use: Residential
- Proposed site use vulnerability: More vulnerable
- Site area (ha): 0.57
- Watercourse: Unnamed and unmodelled ordinary watercourse
- Environment Agency (EA) model: N/A
- Summary of requirements from Level 2 SFRA scoping stage:
 - Assessment of surface water flood extent, depths and hazards
 - Assessment of all other sources of flood risk

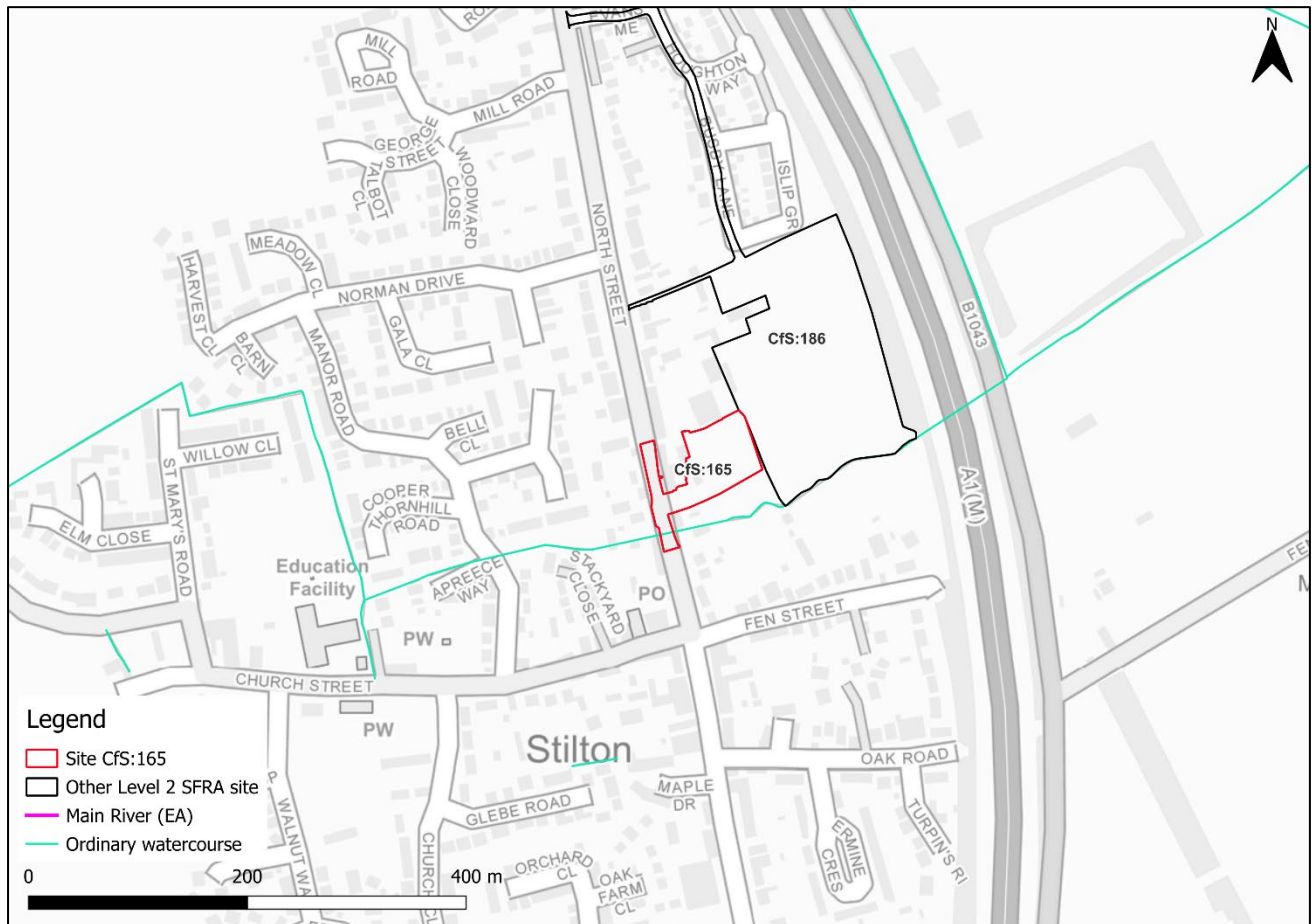


Figure 1-1: Existing site location boundary



Figure 1-2: Aerial photography

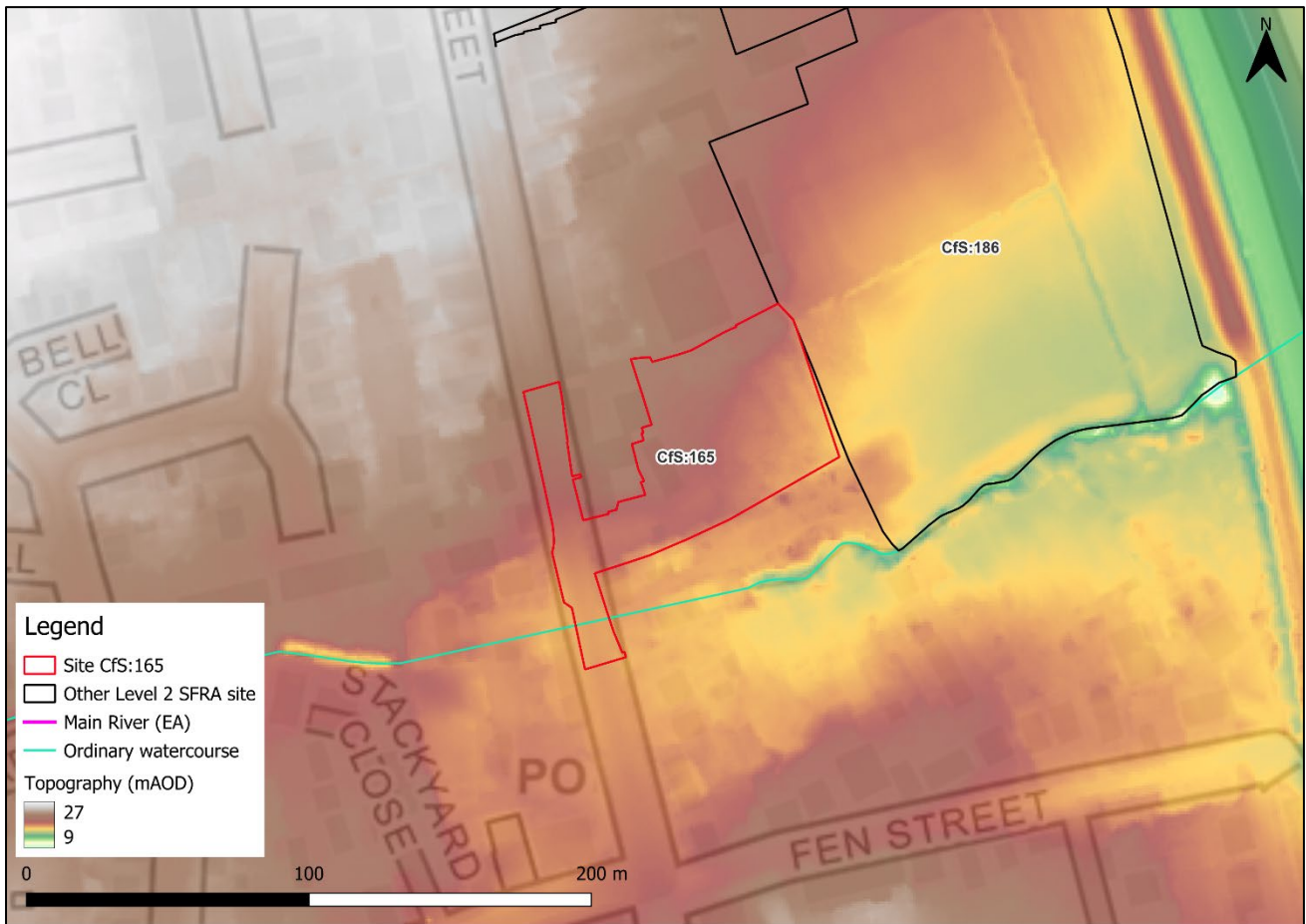


Figure 1-3: Topography

2 Flood risk from rivers and sea

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 whole site is modelled to be within Flood Zone 1 indicating it is at low risk of flooding from rivers. However, there may be risk from the unmodelled ordinary watercourse that runs through the site.

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)
100	0	0	0

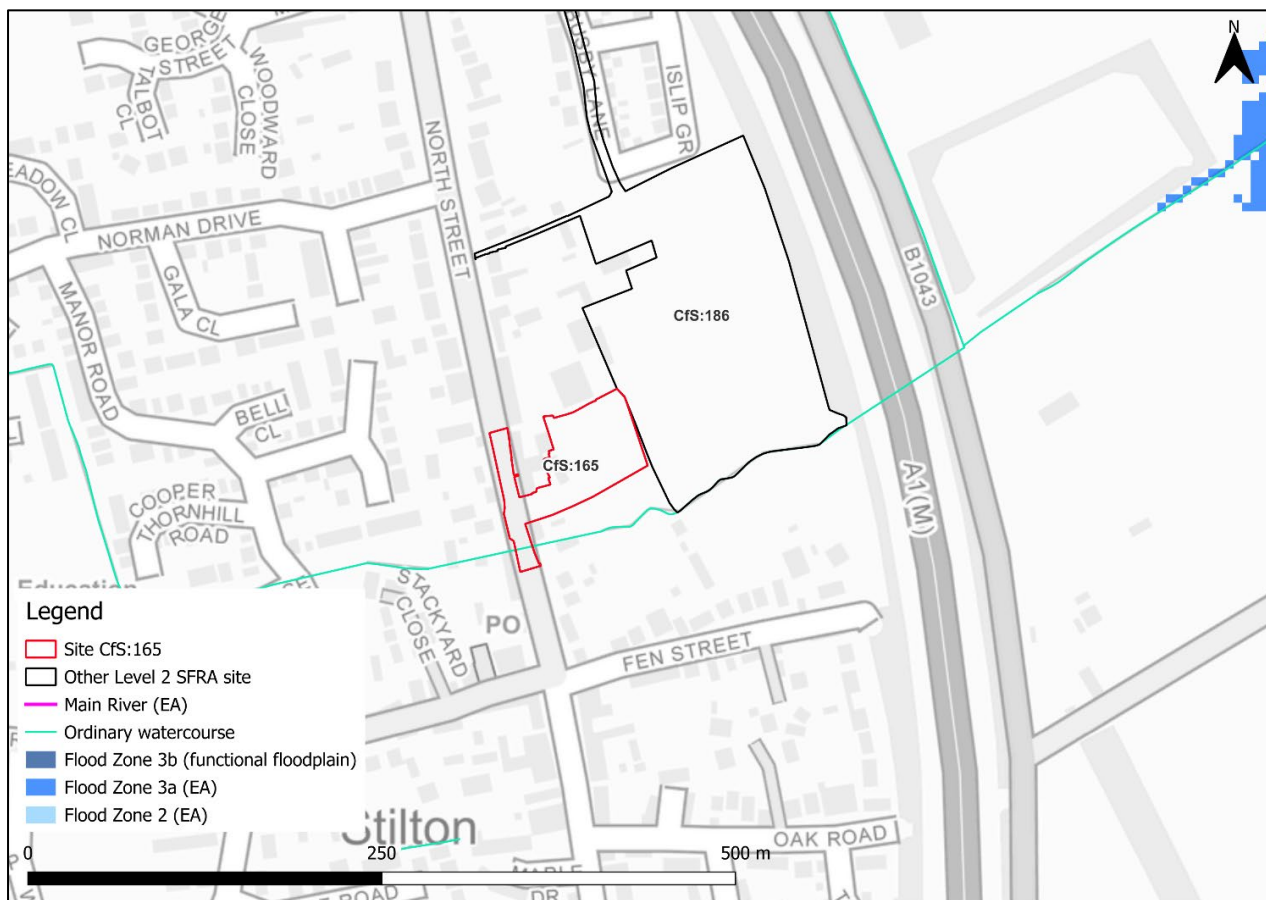


Figure 2-1: Existing risk

2.2 Flood risk management

2.2.1 Flood defences

The site does not benefit from any formal engineered flood defences, 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. A small area in the southeast of the site along the ordinary watercourse is identified to have potential for woodland planting, which can slow flows, reduce sediment delivery to the watercourse and reduce bankside erosion.



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

2.3 Impacts from climate change

2.3.1 Fluvial

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

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 which shows that there are no recorded historic flood incidents 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 an 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 an FWA.

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 North Street in the west, to the north or the south. However, the southern route would need to be informed through modelling of the ordinary watercourse.

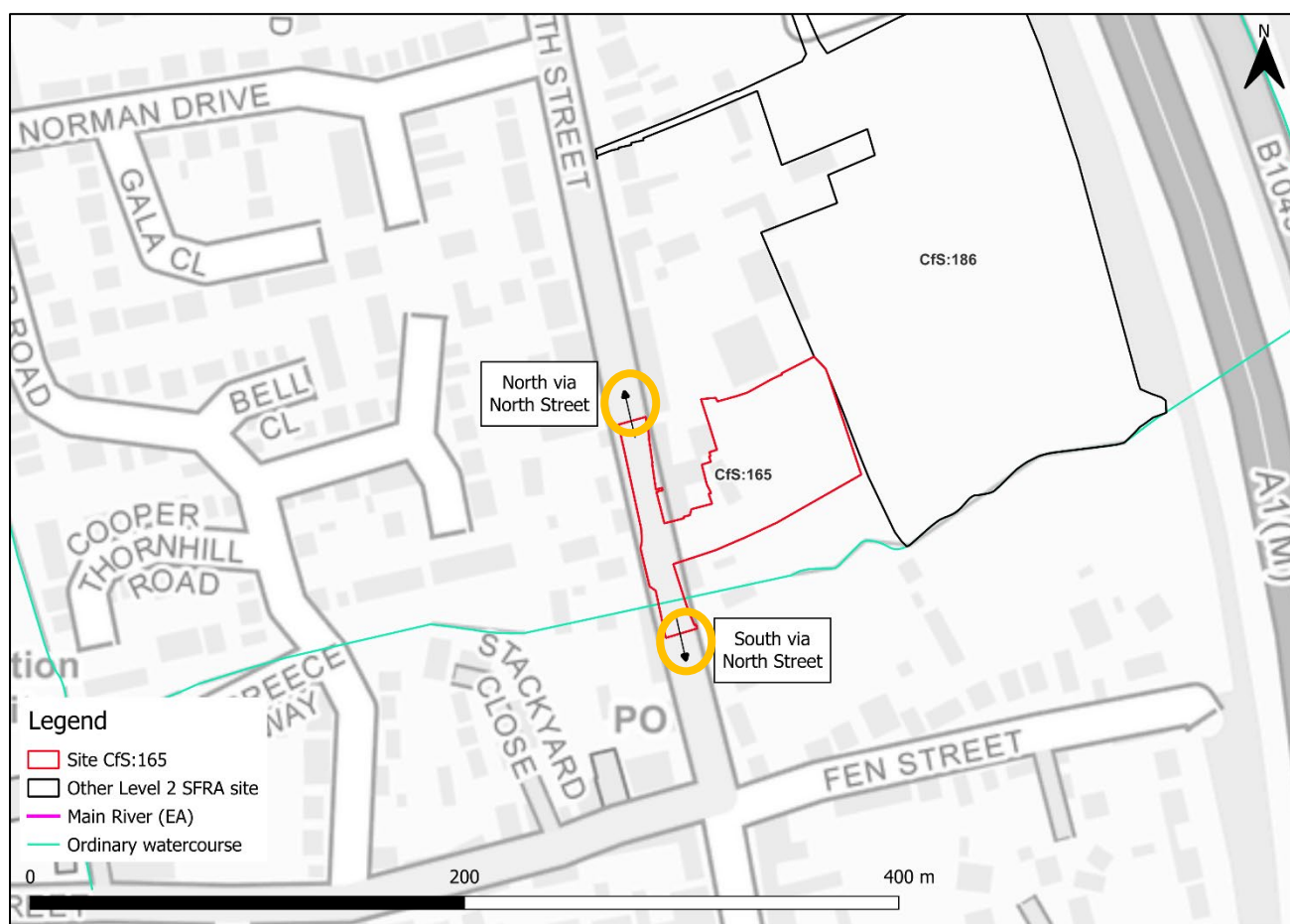


Figure 2-3: Potential access and escape routes

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

- Observations:
 - The extent of fluvial risk from the unmodelled ordinary watercourse is currently unknown. Using the 0.1% AEP surface water event as a proxy, risk is modelled to remain largely confined to the southwest and southeast of the site.
- Mitigation:
 - The site-specific FRA should develop a model of the ordinary watercourse 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 the neighbouring site Cfs:186, it would be prudent to formulate a strategy to develop these sites in tandem and for consultation between each developer to take place to ensure a joined-up approach for sustainable development is in place.
 - If works are proposed on or near the ordinary watercourse, a separate permission may be required. The type of permission needed and whether it

must be sought from the Environment Agency, Lead Local Flood Authority or Internal Drainage Board will depend on the activity and location proposed.

- Access and escape:
 - Safe access and escape routes must be available at times of flood and appear to be available from the northwest of the site, via North Street.

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 to the site is predominantly very low. However, approximately 9% of the site is at high risk, with an additional 3% at medium risk and 6% at low risk. Risk is largely contained in the southwest and southeast extents of the site along the ordinary watercourse affecting the access road to the south.

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)
82	6	3	9

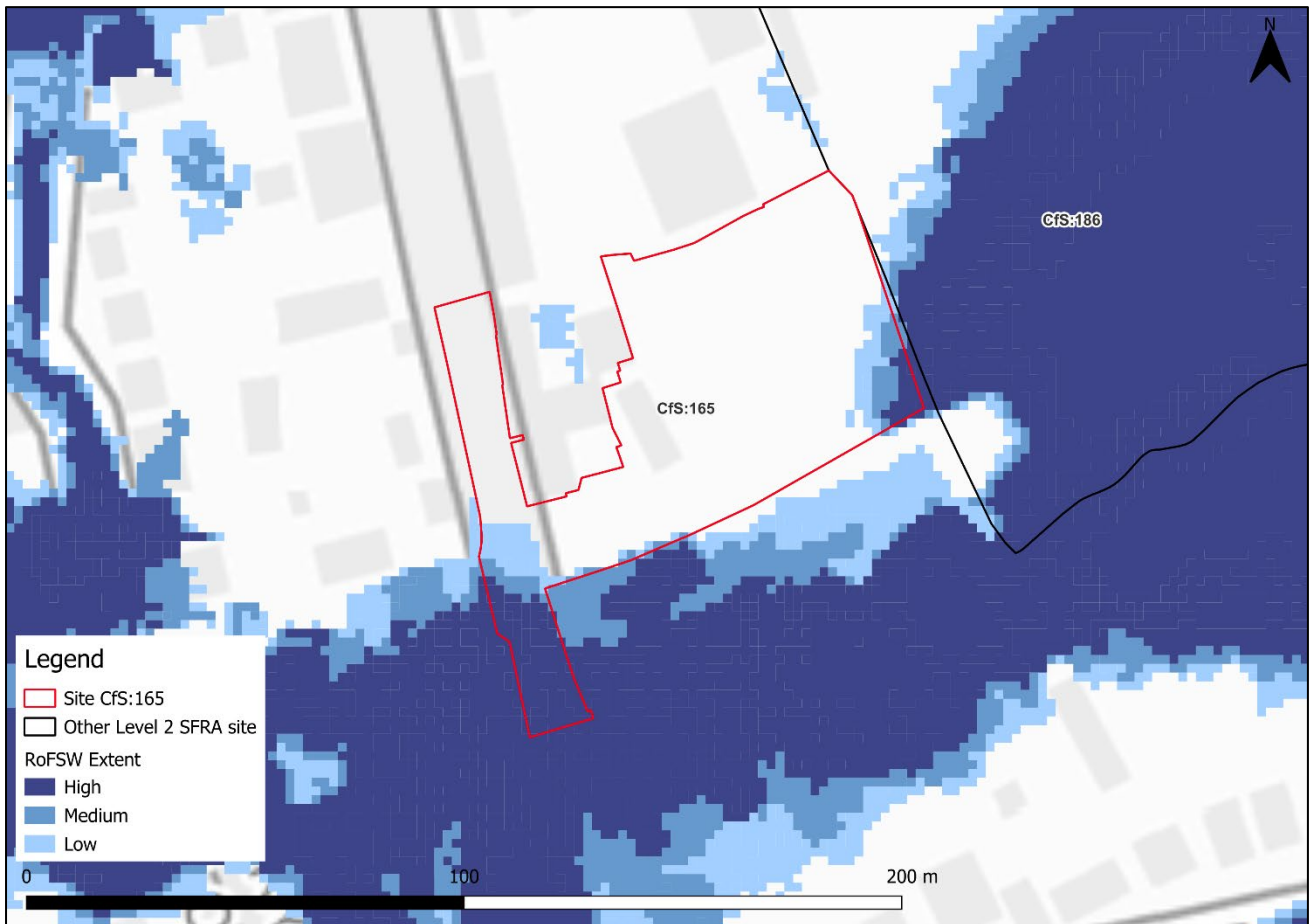


Figure 3-1: Surface water flood extents (NaFRA2 - Risk of Flooding from Surface Water map)

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

Based on the EA's national scale third generation RoFSW map, flood depths during the medium risk event are predicted to reach between 0.30m and 0.60m in the southwest of the site on the access road. Flooding is predicted to be a significant hazard in this area. However, it is assumed that built development would not take place in this area.

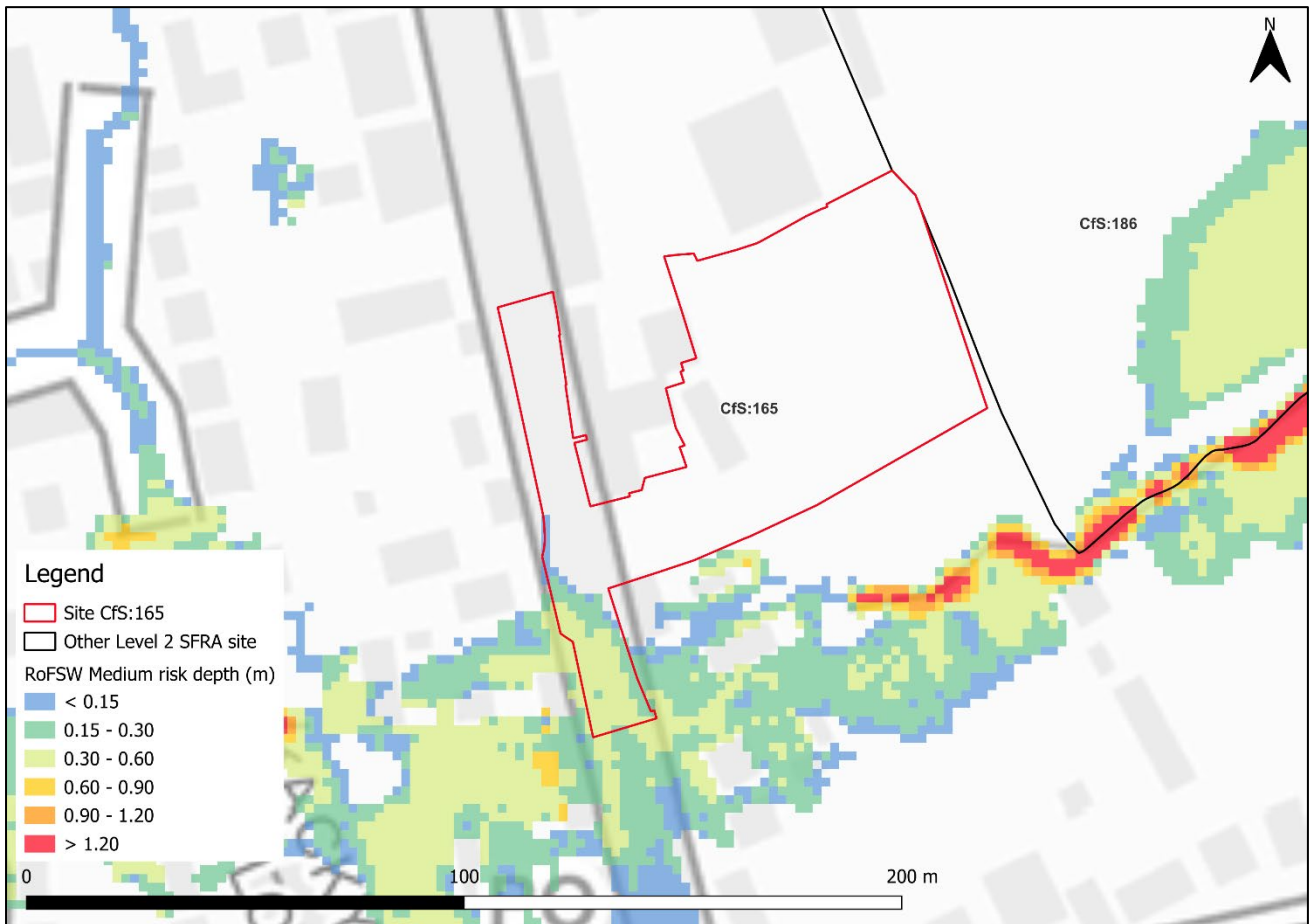


Figure 3-2: Medium risk event surface water flood depths (Third generation - Risk of Flooding from Surface Water map)

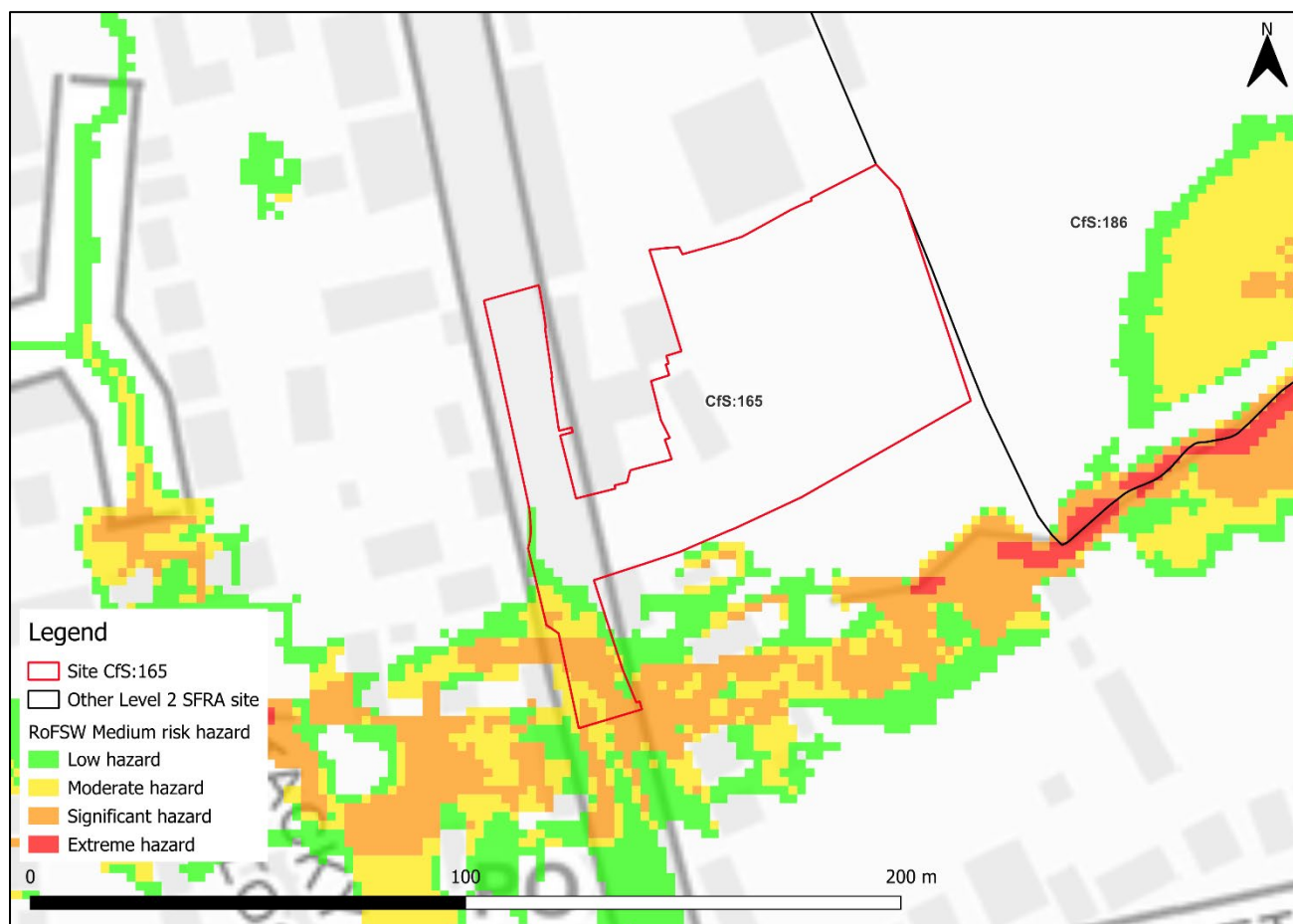


Figure 3-3: Medium risk event surface water flood hazard¹ (Third generation - Risk of Flooding from Surface Water map)

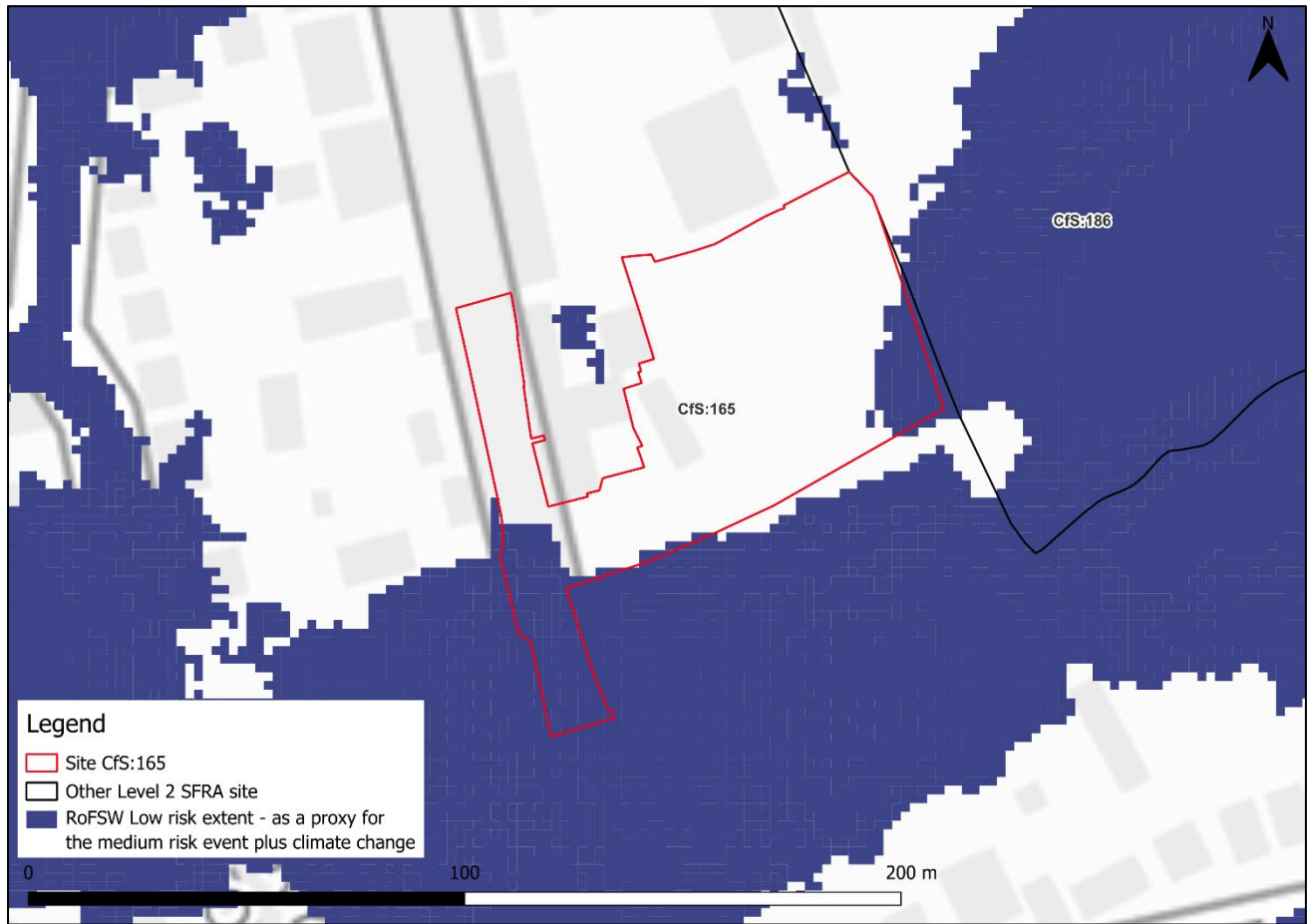
3.2 Impacts from climate change

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.

Surface water risk for the medium risk event plus climate change is predicted in the southwest and southeast site extents. Depths are predicted to increase to between 0.60m and 0.90m in the southwest and between 0.30m and 0.60m in the southeast. Flooding in the southwest is predicted to cause an extreme hazard along the ordinary watercourse

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

where it is culverted under North Street, and a moderate hazard in the majority of the risk area.



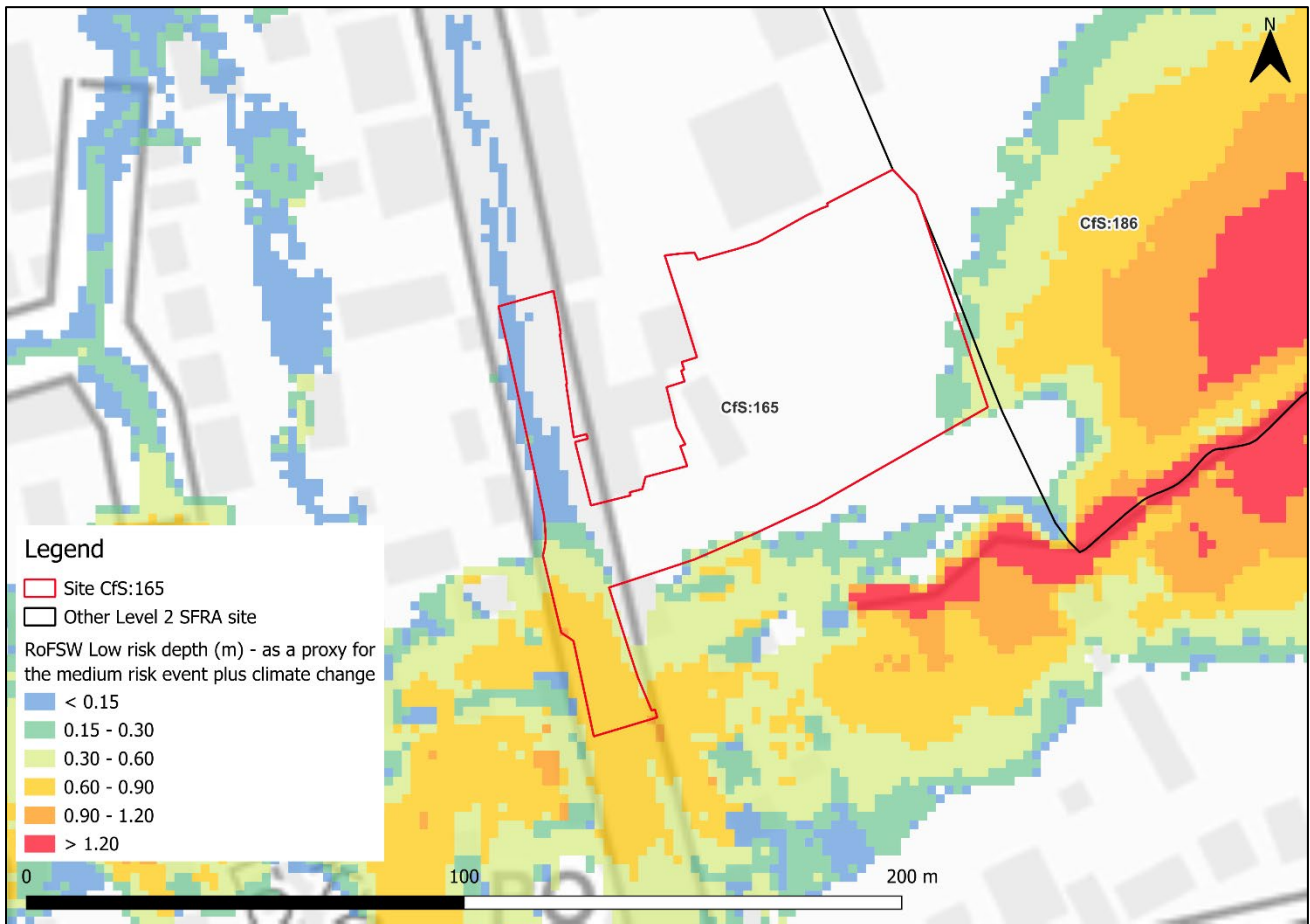


Figure 3-5: Low risk event surface water flood depths, as a proxy for the medium risk event plus climate change (Third generation - Risk of Flooding from Surface Water map)

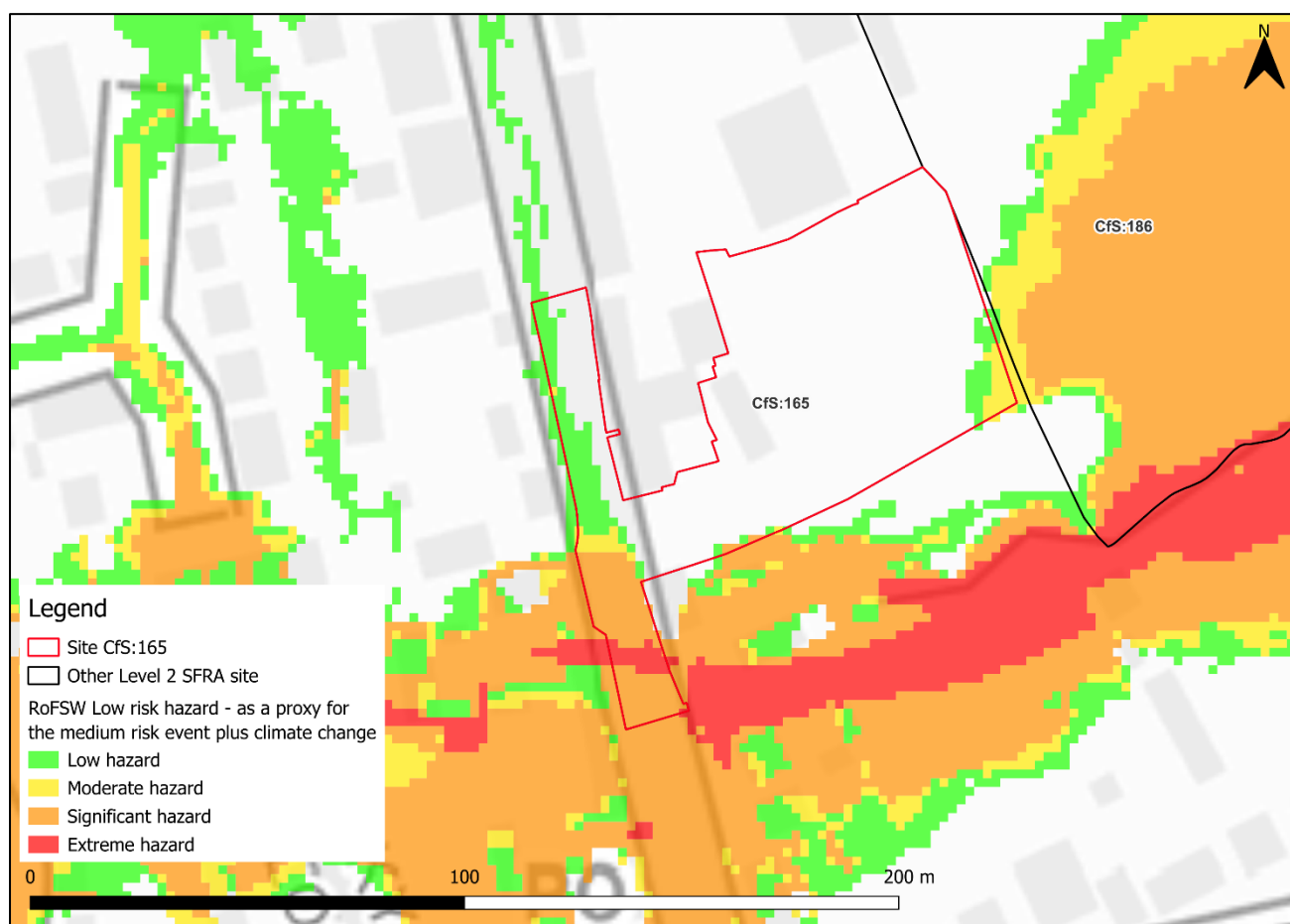


Figure 3-6: Low risk event surface water flood hazard, as a proxy for the medium risk event plus climate change (Third generation - Risk of Flooding from Surface Water map)

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

- Current risk to the site is predominantly very low, with 82% of the site being at very low surface water flood risk. Surface water risk in the high and medium risk events is confined to the southwest and southeast of the site on the access road (North Street).
- 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 largely similar to the medium risk event, with a greater extent of flooding in the southwest and southeast. There is also predicted to be greater depths and hazards.
- The impact of climate change on surface water should be considered further through a site-specific FRA. Any surface water modelling at the FRA stage should consider flood depths and hazards.
- Were development plans to proceed, a full detailed drainage strategy would be required to ensure there is no increase in surface water flood risk elsewhere as a result of new development.

- Greenfield runoff rates will apply for the majority of the site, and the developer should follow the National SuDS guidance and any local guidance available from the LLFA. This may require surface water modelling based on layout plans and detailed design and consultation with the LLFA.
- Safe access and escape appear to be possible when accounting for climate change from the north of the North Street access road.
- Assessment of any current drainage system in place should be carried out to ascertain any current capacity issues and whether the current system could accommodate the proposed residential development or whether further capacity will be required.
- 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.
- The LLFA are concerned the site is a higher risk for hazardous depths of flooding and as a brownfield site this should be mitigated for carefully in any redevelopment. The LLFA agree with the recommendation that capacity of the existing drainage system should be assessed.

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.

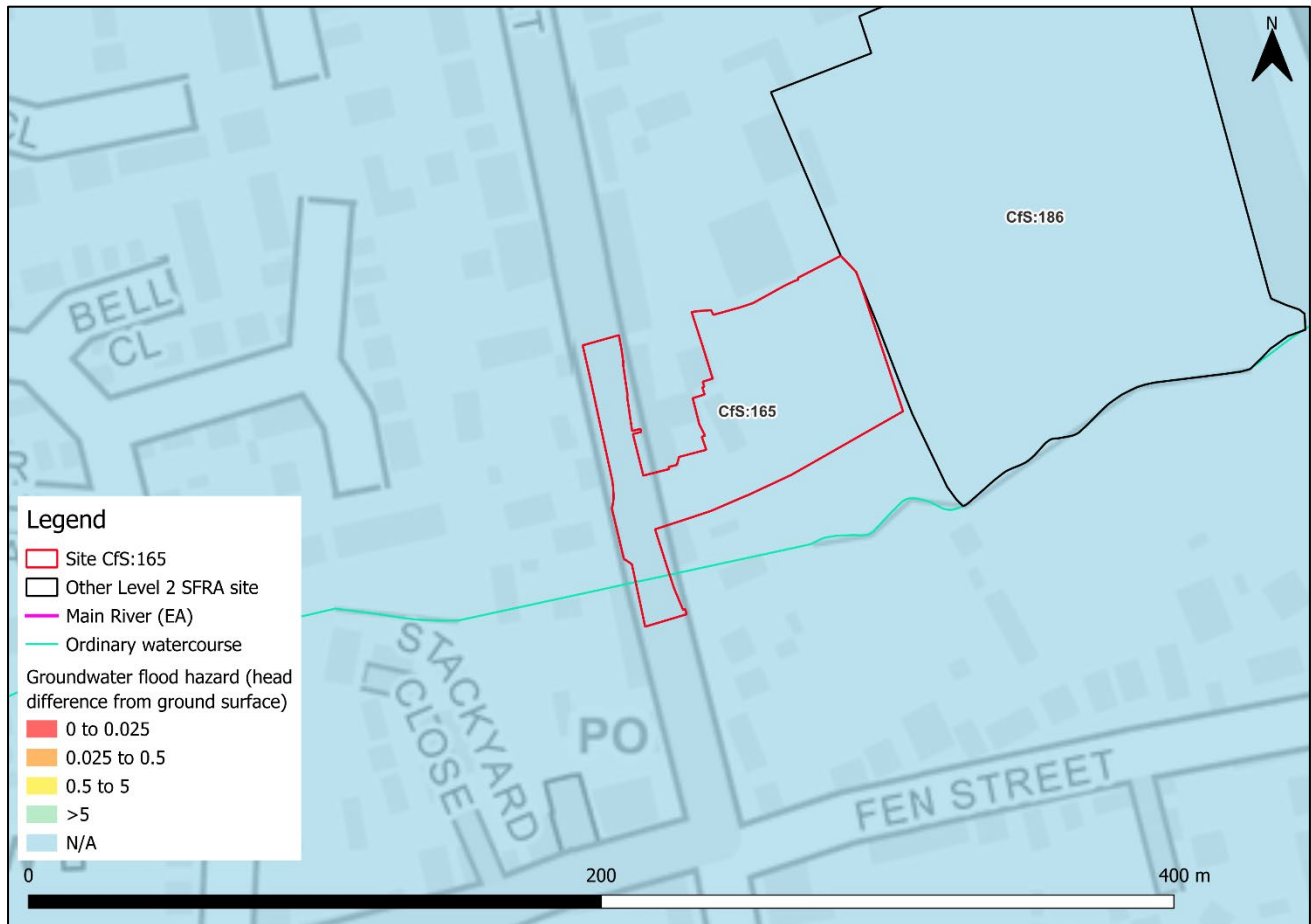


Figure 5-1: JBA 5m Groundwater Emergence Map

The site is shown to be at no risk of groundwater emergence. Infiltration SuDS should therefore be suitable at this 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 ground surface in the 100-year return period flood event. 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 within any topographic low spots.
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	Groundwater levels are between 0.5m and 5m below the ground surface in the 100-year return period flood event There is a risk of flooding to subsurface assets, but surface manifestation of groundwater is unlikely.
>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	No risk. This zone is deemed as having a negligible risk from groundwater flooding due to the nature of the local geological deposits.
*Difference is defined as ground surface in mAOD minus modelled groundwater table in mAOD.	

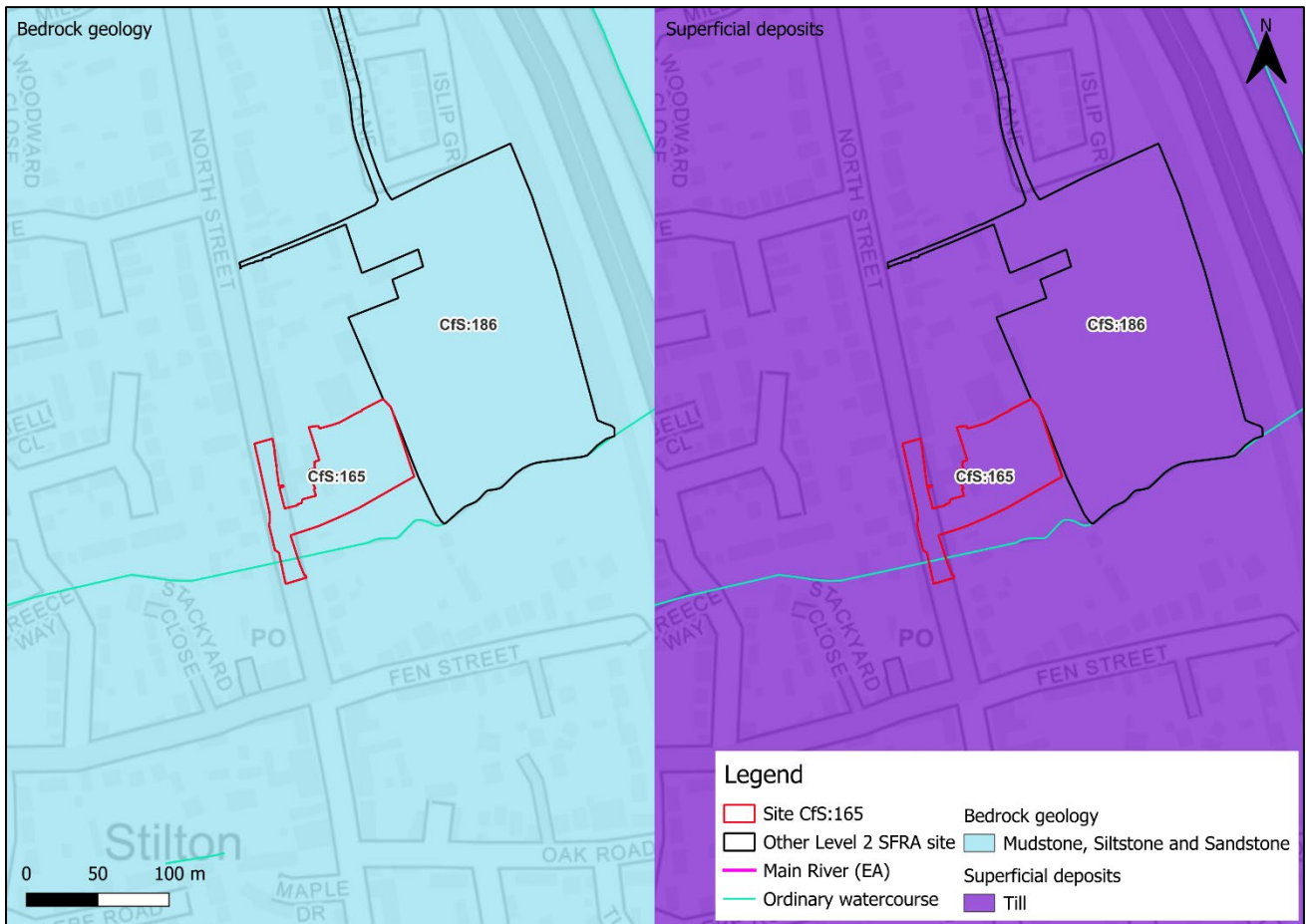


Figure 5-2: Soils and geology

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.

Residual risk at this site may come from a potential blockage of the structure beneath North Street through which the ordinary watercourse flows eastwards.

6.1 Potential blockage / breach

The ordinary watercourse which runs along the southern extent of the site is culverted to the southwest of the site and re-emerges to the southeast.

A blockage of this culvert may cause flooding to the site, depending on the severity of the blockage and the magnitude of the flood event. Such a scenario should be investigated at the FRA stage. Culvert course inspections and condition surveys may be required, including for consultation with the culvert owner.

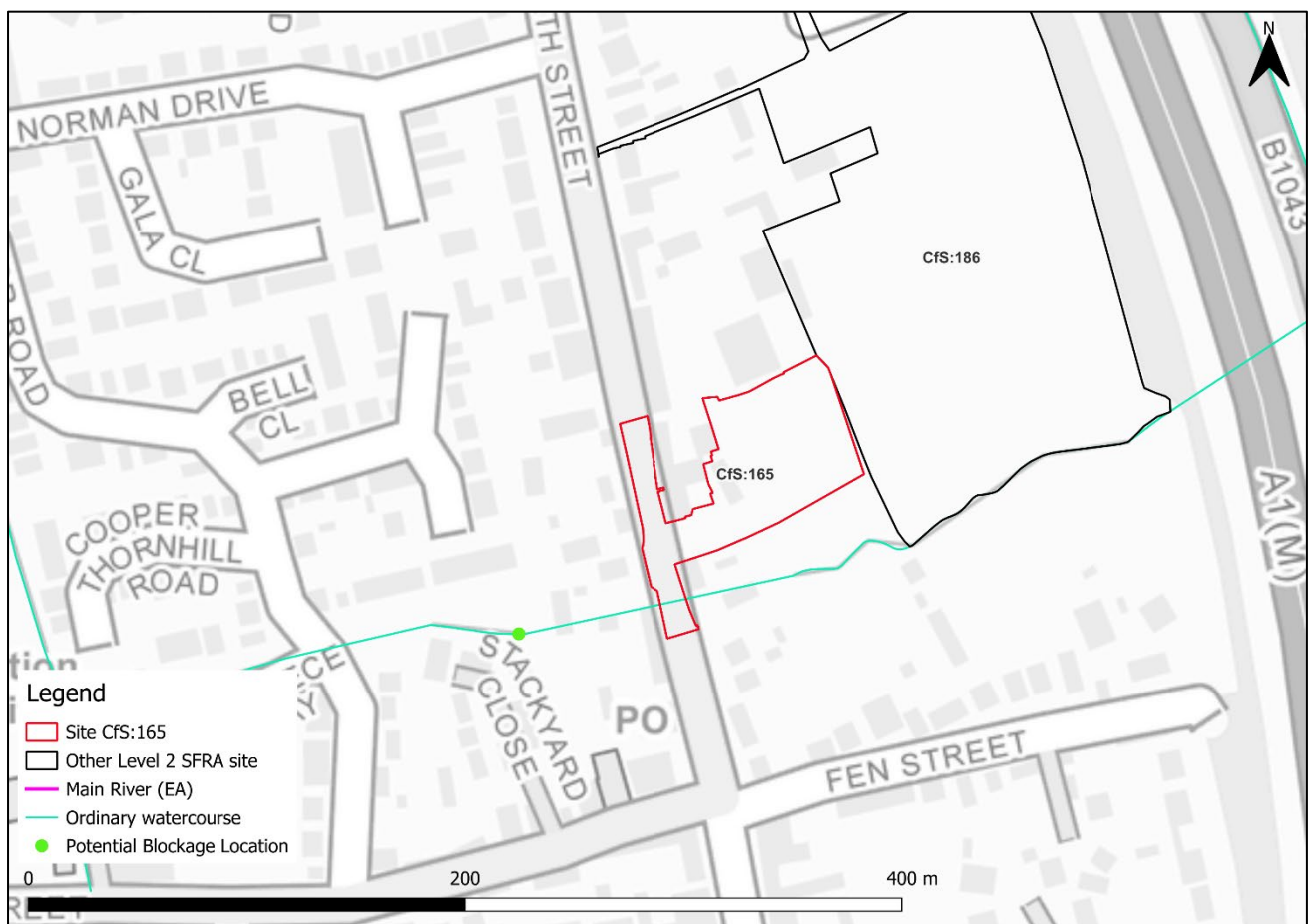


Figure 6-1: Potential blockage / breach locations

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 not required to pass part b) of the exception test as it is not located within Flood Zone 3a, however it must still be proven that the development can be safe for its lifetime, which is 100 years for residential development.

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 this site for more vulnerable purposes given its location within Flood Zone 1.
- Modelling of the ordinary watercourse should inform the FRA and subsequent site design and layout.
- A detailed drainage strategy will be required for any new development, given a large part of the site is currently greenfield.
- There is potential residual risk to the site from a blockage of the culvert beneath North Street.
- Safe access and escape routes should be considered further to ensure safe evacuation of site users at all times during a flood event.
- Were development of this site to proceed, given the proximity of this site to the neighbouring site CfS:186, it would be prudent to formulate a strategy to develop these sites in tandem and for consultation between each developer to take place to ensure a joined-up approach for sustainable development is in place.

7.3 Site-specific FRA requirements and further work

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

- Full detailed flood modelling of the ordinary watercourse to assess up to date existing, future and residual risks to the site.
- A drainage strategy will be required for the site. Discharge rates should remain at greenfield rates at a minimum for the majority of the site.
- A condition assessment of the culvert under the southern site extent and investigate the impact of a potential blockage of the structures.
- The 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.

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