

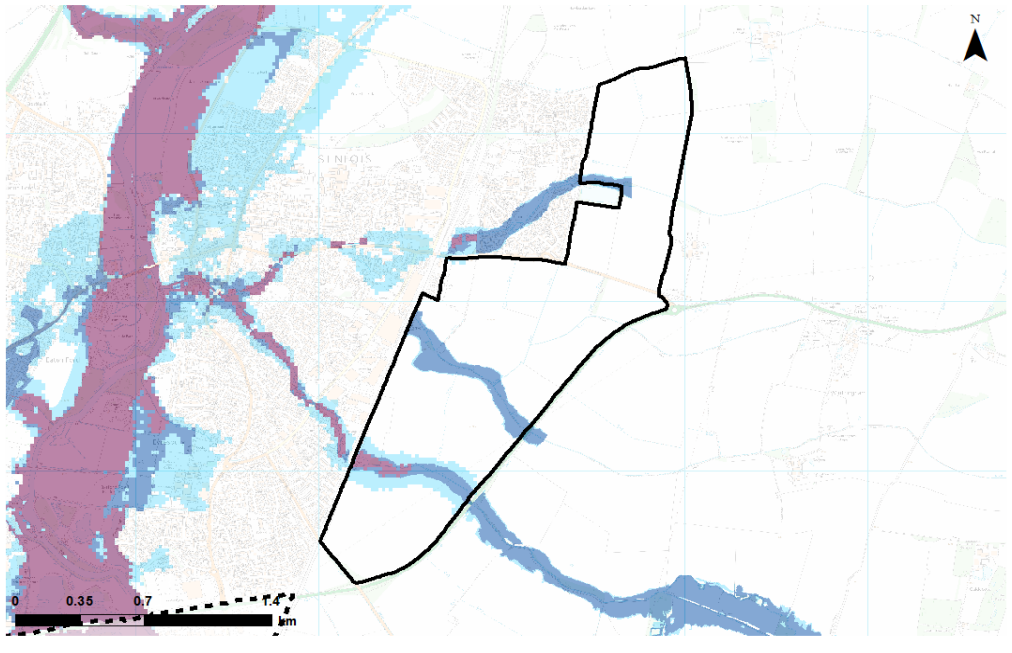
St Neots East (SN1)

OSNGR: 520069,259799	Area: 226.00ha		Greenfield	
Flood Zone Coverage:	FZ3b 1%	FZ3a 7%	FZ2 4%	FZ1 88%

Sources of flood risk:
 The site is affected by flood risk from the Fox Brook, Hen Brook and an unnamed tributary to the Fox Brook. There are also a number of smaller field drains within the site.
 The site is also affected by surface water flooding, although this tends to correspond with the locations of the Brooks and the unnamed watercourse and smaller drains.

Exception Test Required?
 Yes, if More Vulnerable and Essential Infrastructure development is located in FZ3a and for Highly Vulnerable development located in FZ2.
 Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
 More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
 Essential Infrastructure in Flood Zone 3b will require the Exception Test.

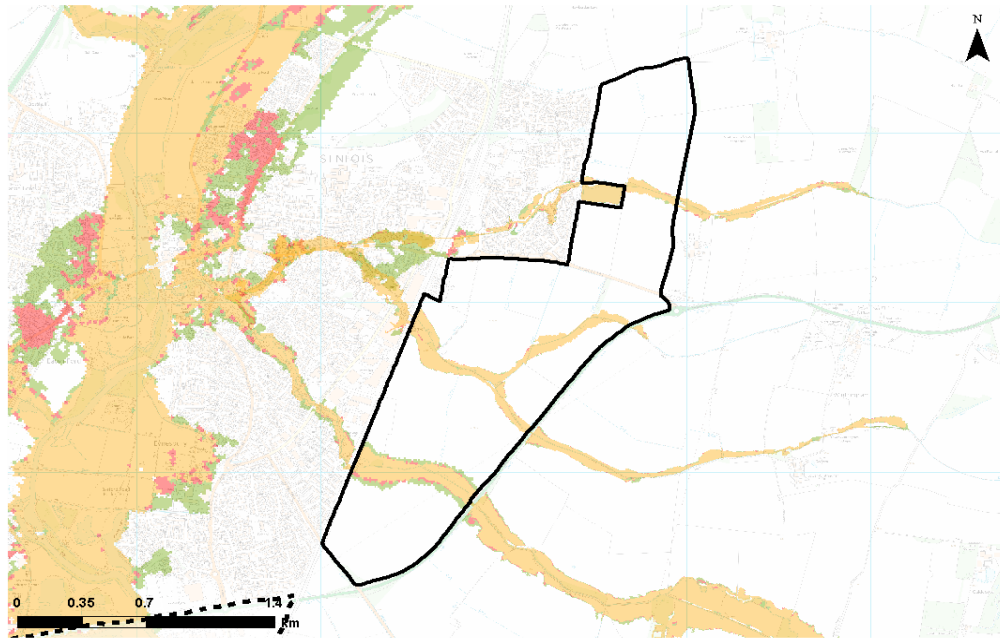
Flood Zone Map



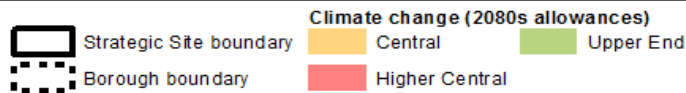
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Potential development location	Flood Zone 3b	Flood Zone 3a
Council boundary	Indicative Extent of Flood Zone 3b	Flood Zone 2

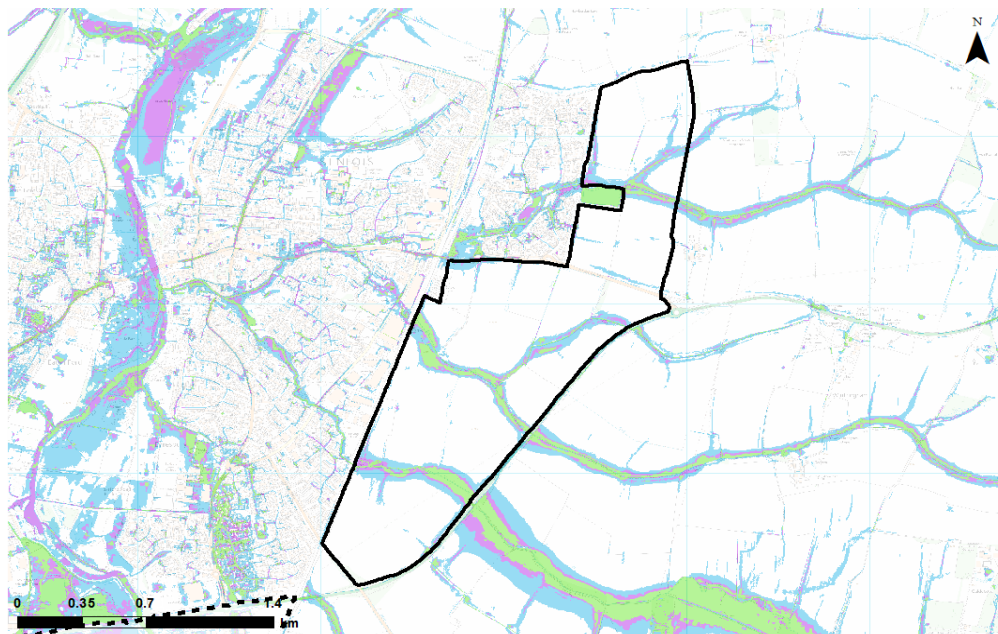
Climate Change Map



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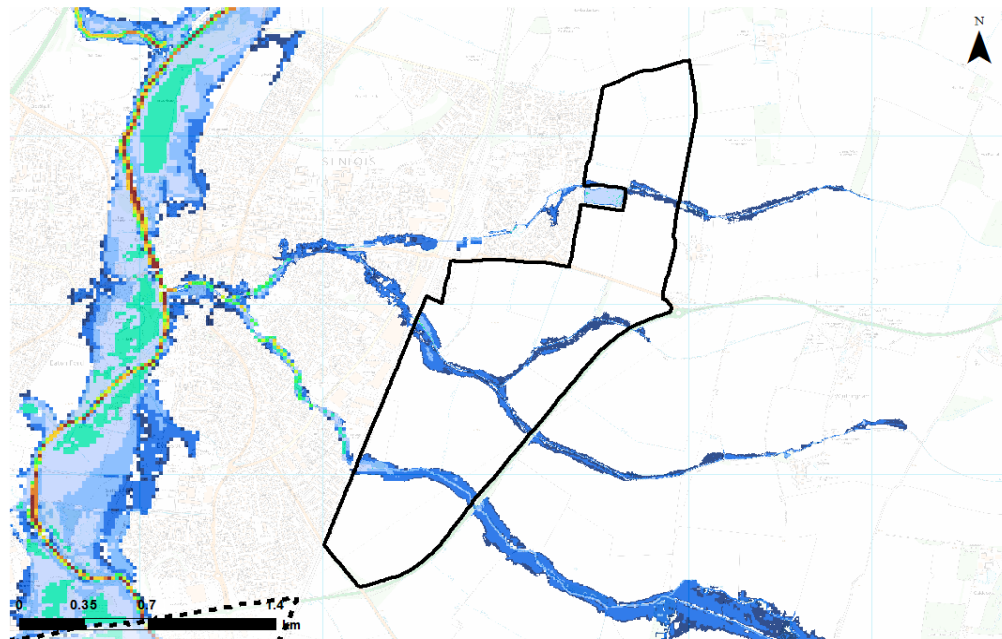
Surface Water Map



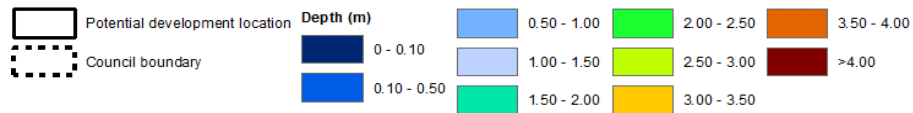
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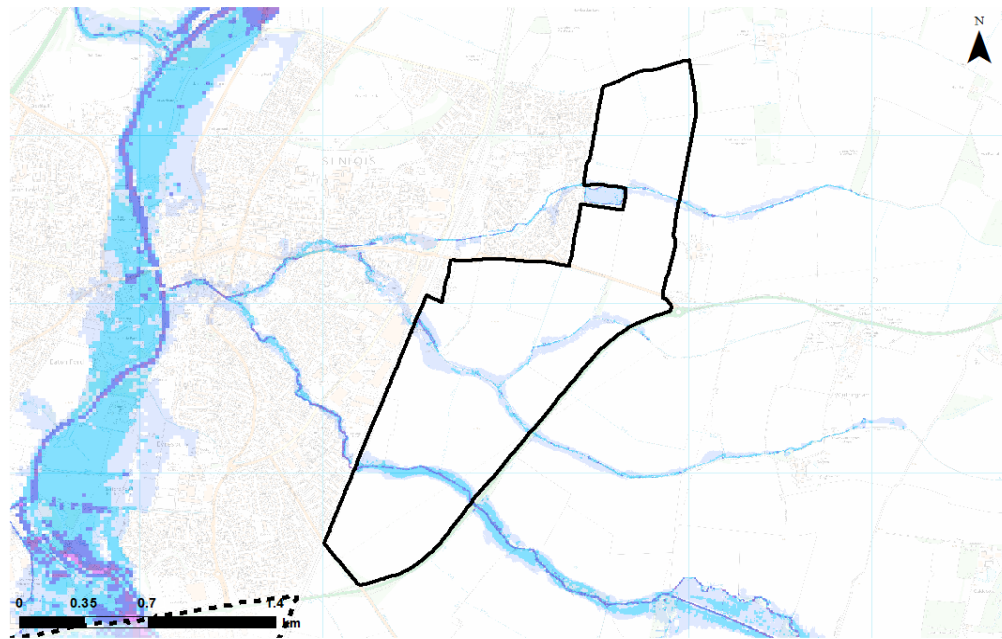
Depth Map - fluvial flooding (1% Annual exceedance probability)



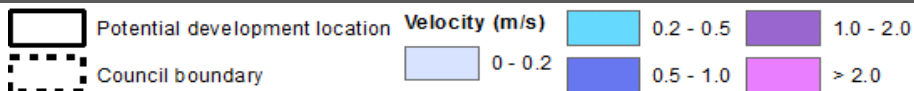
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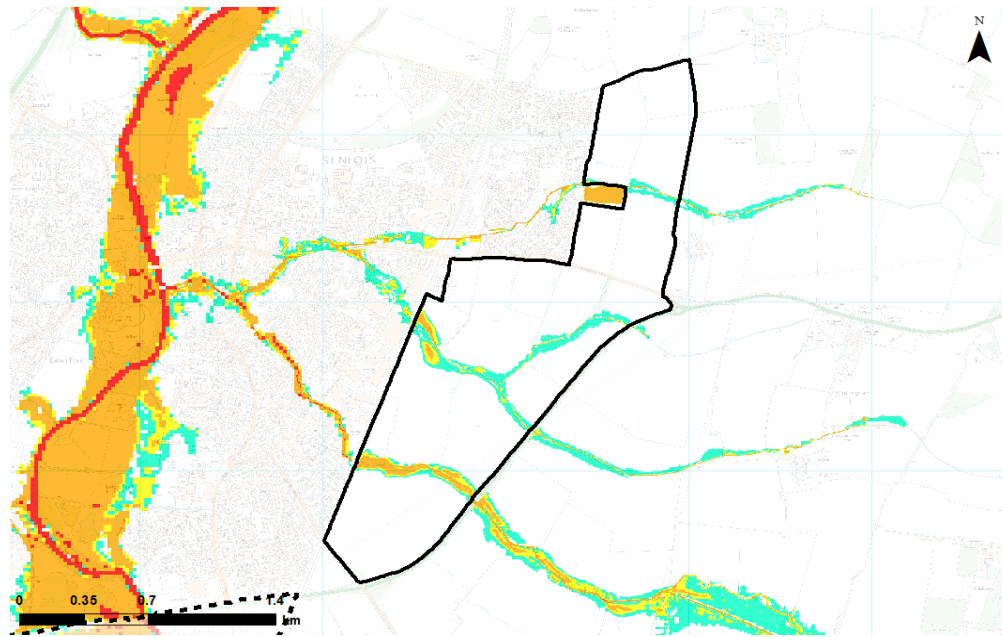
Velocity Map - fluvial flooding (1% Annual exceedance probability)



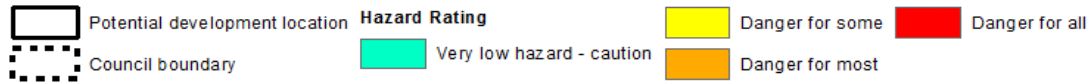
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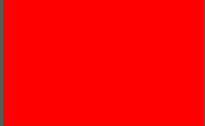



Hazard Map - fluvial flooding (1% Annual exceedance probability)



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SuDS & the development site:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving may have to use non-infiltrating systems given the possible risk from groundwater.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is possible infiltration techniques will not be suitable. This should be confirmed via site investigations to assess the potential for infiltration.
Detention		This option may be feasible provided site slopes are < 5% at the location of the detention feature. A liner may be required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided site slopes are <5% and the depth to the water table is >1m. A liner may be required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner may be required to prevent the egress of groundwater.

Drainage strategies should demonstrate that an appropriate number of treatment stages have been delivered. This depends on the factors such as the type of development, primary source of runoff and likelihood of contamination. Guidance should be sought from the LLFA and other guidance documents such as the CIRIA SuDS Manual (C753).

Flood Defences:

There are no flood defences at this site.

Emergency Planning:

There are currently no flood warning areas covering this site.

Access & Egress:

The main access and egress routes to the site appear to be via the B1428 and the B1046; neither of these routes are significantly affected by fluvial or surface water.

Climate Change:

The floodplains of the Fox and Hen Brooks appears to be fairly constrained within this area - there is not much difference in extent between the 1% and the 1% AEP event when the 2080s climate change allowances are applied. Therefore, it is likely that climate change will not have a significant impact on the extent of flooding from these watercourses. However, it may increase the depth of flooding in the area affected. Climate change may also increase the extent, depth and frequency of surface water flooding in the future.

Implications for Development:

Use of the Sequential Approach means, given the size of the site, development can be placed away from Flood Zones 2 and 3, with the area affected by flooding left undeveloped. Approximately 198 hectares of land is available outside of the Flood Zones.

Safe access and egress is not an issue for this site.

Broadscale assessment of suitable SuDS has indicated a number of different types may be possible; given the size of the site, the type of SuDS system used is less likely to be limited by the amount of land available for development.

The site is not covered by the Environment Agency's Flood Warning Service. However, if development is placed outside of the Flood Zones, then access to a Flood Warning would not be required.

The site is not known to benefit from any flood defences. Given the size and location of the site, it is possible the site could be used to implement strategic solutions to alleviate flood risk in the urban areas downstream; development should consider the feasibility of including any strategic storage solution, depending on the land available.

Guidance for Developers:

[Mapping in this table is based on results from a 2D model developed for this SFRA. This model does not take into account the upstream flood attenuation pond on the Fox Brook.](#)

At the planning application stage, a site-specific flood risk assessment will be required to confirm Flood Zone 2 and 3 extents. Other sources of flooding should also be considered. Where a site specific FRA has produced modelling outlines which differ from the Flood Map for Planning then a full evidence based review would be required; where this is acceptable to the EA then amendments to the Flood Map for Planning may take place.

Resilience measures will be required if buildings are situated in the flood risk area.

The peak flows on the Fox and Hen Brook and any unnamed watercourses should be considered when considering drainage.

Assessment for runoff should include allowance for climate change effects.

New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff.

Onsite attenuation schemes would need to be tested against the hydrographs of the Fox and Hen Brooks and any unnamed watercourses to ensure flows are not exacerbated downstream within the catchment.

New development must seek opportunities to reduce overall level of flood risk at the site, for example by:

- o Reducing volume and rate of runoff
- o Relocating development to zones with lower flood risk
- o Creating space for flooding.
- o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space.

Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.