

**North of Edison Bell Way, Huntingdon**

<b>OSNGR:</b> 523414,272140	<b>Area:</b> 0.62ha		<b>Brownfield</b>	
<b>Flood Zone Coverage:</b>	<b>FZ3b</b> 0%	<b>FZ3a</b> 5%	<b>FZ2</b> 95%	<b>FZ1</b> 0%

**Sources of flood risk:**  
 Fluvial flood risk to the site is from Barracks Brook. Although the watercourse is culverted through the site, the culvert becomes surcharged in floods of a higher than the 1% AEP, causing the site to flood.  
 The site is also shown to be at risk from surface water flooding, although mainly from 0.1% AEP events.

**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

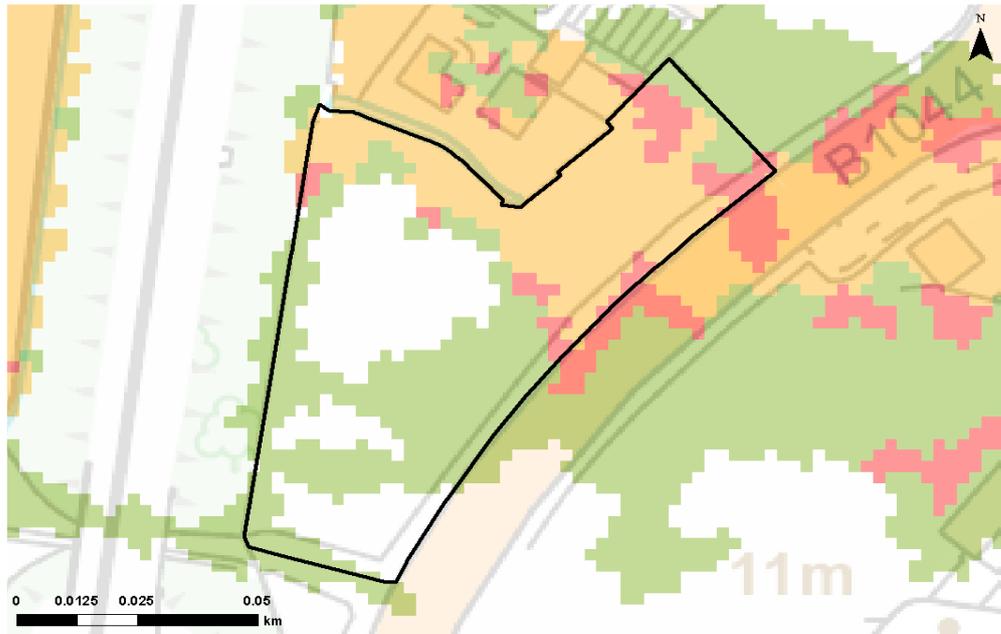
**Flood Zone Map**



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

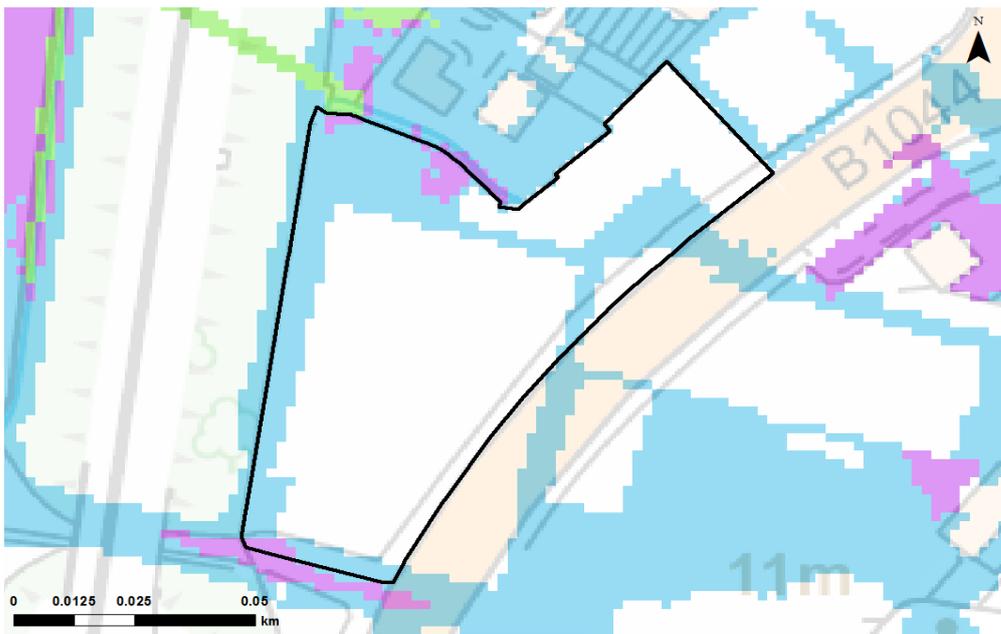
**Climate Change Map**



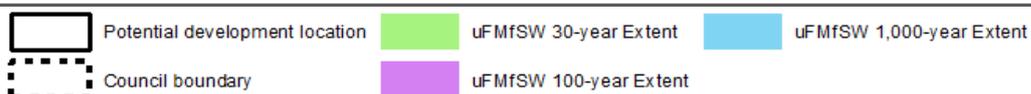
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**Surface Water Map**



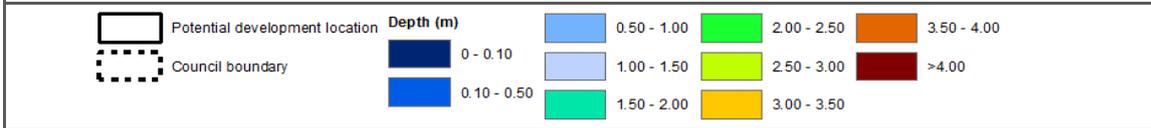
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**Depth Map - fluvial flooding (1% Annual exceedance probability)**



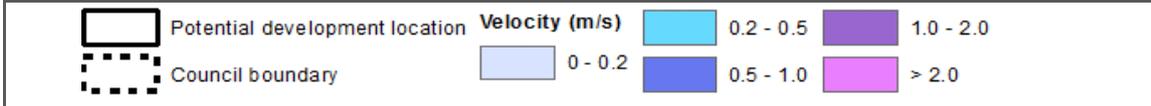
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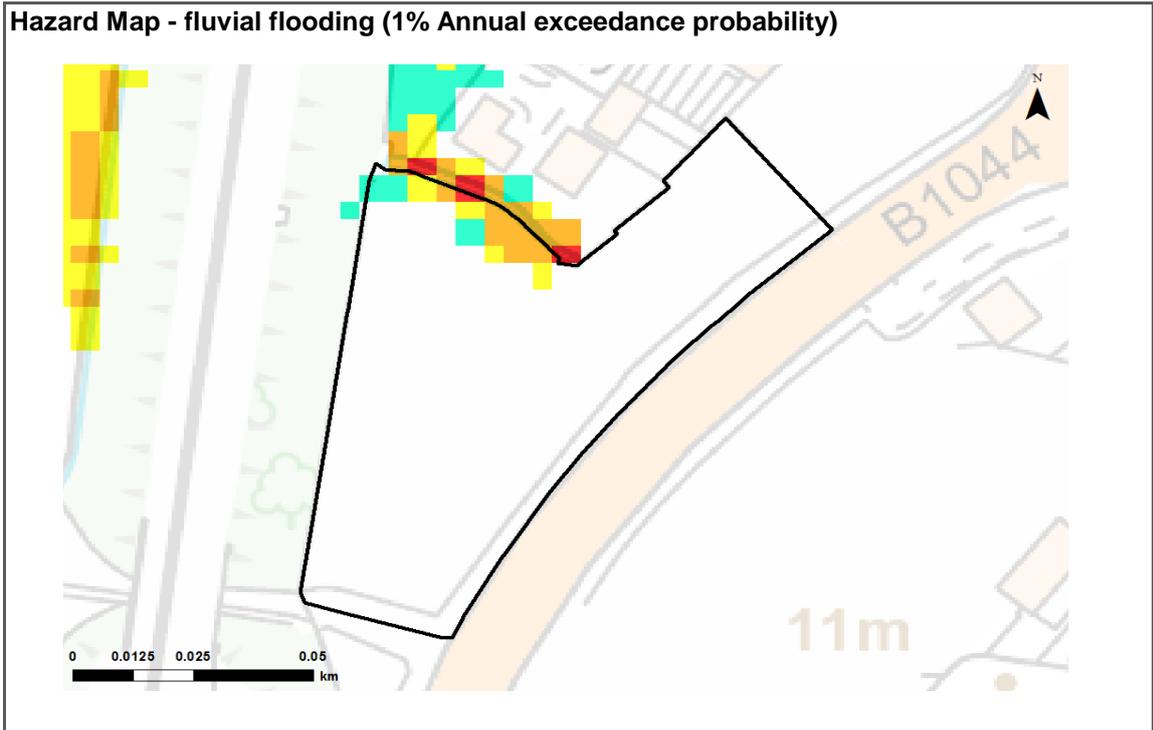


**Velocity Map - fluvial flooding (1% Annual exceedance probability)**



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	Potential development location	<b>Hazard Rating</b>		Danger for some		Danger for all
	Council boundary		Very low hazard - caution		Danger for most	

**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 and that the site is classified as Brownfield.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		Mapping suggests that the site slopes are suitable for all forms of detention. A liner may be required due to the site potential groundwater flooding or if there are any contamination issues.
Filtration		All filtration techniques are likely to be suitable. If the site has contaminated land or groundwater issues; a liner will be required.
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 and if there are any contamination issues.

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 route, the B1044, is shown to be at risk during the 0.1% AEP event and from surface water flooding. However, there is an alternative route via Ermine Street which is largely unaffected by both fluvial and surface water flooding.

**Climate Change:**

Water levels in the Barracks Brook may increase in the future and flooding may become more frequent. Climate change modelling suggests that, although the watercourse is culverted through the site, the capacity of the culvert to carry flows may decrease and result in surcharge and flooding from a 1% AEP event in the future.

**Implications for Development:**

The whole of the site is located in Flood Zones 2 and 3 and, therefore, the amount and type of development for this site may be restricted. Any Highly Vulnerable development placed within Flood Zone 2 and any More Vulnerable and Essential Infrastructure development placed within FZ3a will be required to pass the Exception Test. .

Given the whole of the site is within flood zone 3 and 2 flood compensation will be required on a level for level volume for volume basis for any proposed loss of floodplain. Therefore land within the vicinity and outside the proposed site may be required for flood compensation, see section 8.3.4 of the SFRA main report. Prospects for effective mitigation would need to be established before taking the site forward.

Although the main access and egress route is affected by flooding, there is an alternative route via Ferrers Road. However, climate change may increase the extent of surface water and fluvial flooding in the future and have the potential to affect routes.

The watercourse is culverted under the site; the culvert will need to be assessed as part of a site specific flood risk assessment to determine whether there is sufficient capacity to convey water in the future with potential increases in flow due to climate change. The potential impacts of blockage of the culvert should also be investigated and any affect on the development site should be mitigated against.

Broadscale assessment of suitable SuDS has indicated a number of different types may be possible; however, given the size of the site and the proportion of the site at risk from flooding, the type of SuDS system used may be influenced by amount of land available; depending on the system used there may be an impact on the amount of land available for development and the cost of development.

The site is not known to benefit from any flood defences. Given the size and location of the site, it is unlikely the site itself could be used to implement strategic solutions to alleviate flood risk elsewhere in the catchment. The upper reaches of the Barrack Brook are also considerably urbanised, making any upstream balancing unfeasible due to the lack of available land.

**Guidance for Developers:**

[Mapping in this table is based on results from the Environment Agency's Barracks Brook 2D model.](#)

At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones. 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

Implications of culvert blockage should be considered as part of the site-specific flood risk assessment.

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

The peak flows on the Barracks Brook 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 Barracks Brook 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 Zone 2 as public open space.

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