

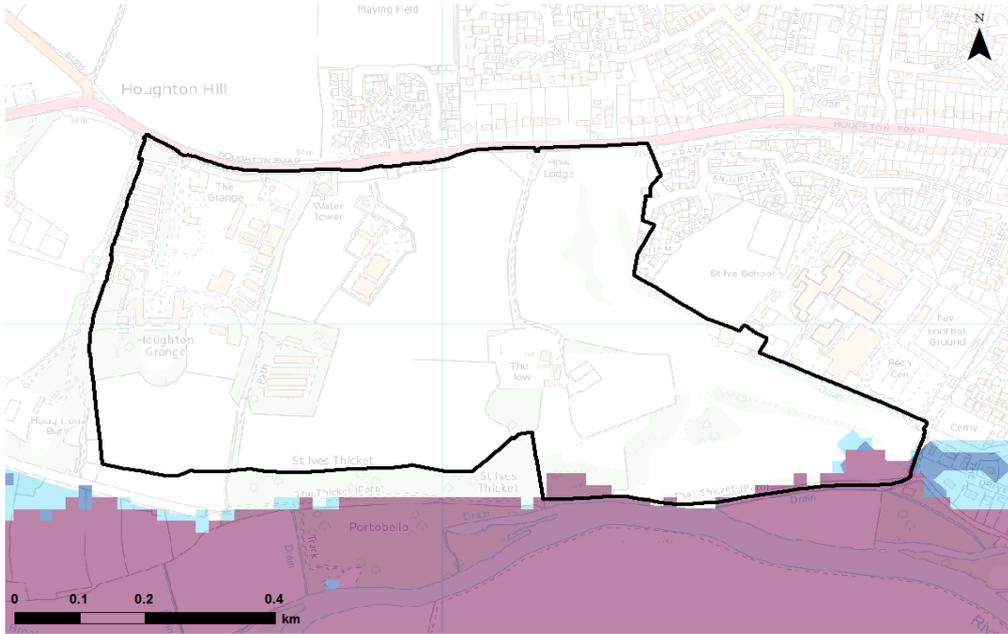
**St Ives West**

|                             |                      |                   |                   |                   |
|-----------------------------|----------------------|-------------------|-------------------|-------------------|
| <b>OSNGR:</b> 530009,271982 | <b>Area:</b> 53.79ha |                   | <b>Greenfield</b> |                   |
| <b>Flood Zone Coverage:</b> | <b>FZ3b</b><br>2%    | <b>FZ3a</b><br>0% | <b>FZ2</b><br>0%  | <b>FZ1</b><br>98% |

**Sources of flood risk:**  
 The site is not significantly affected by flooding. There is some risk of fluvial flooding to the south of the site from the River Great Ouse as well as some pockets of surface water risk throughout the site. However, the proportion of the site at risk of flooding is relatively low.

**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.

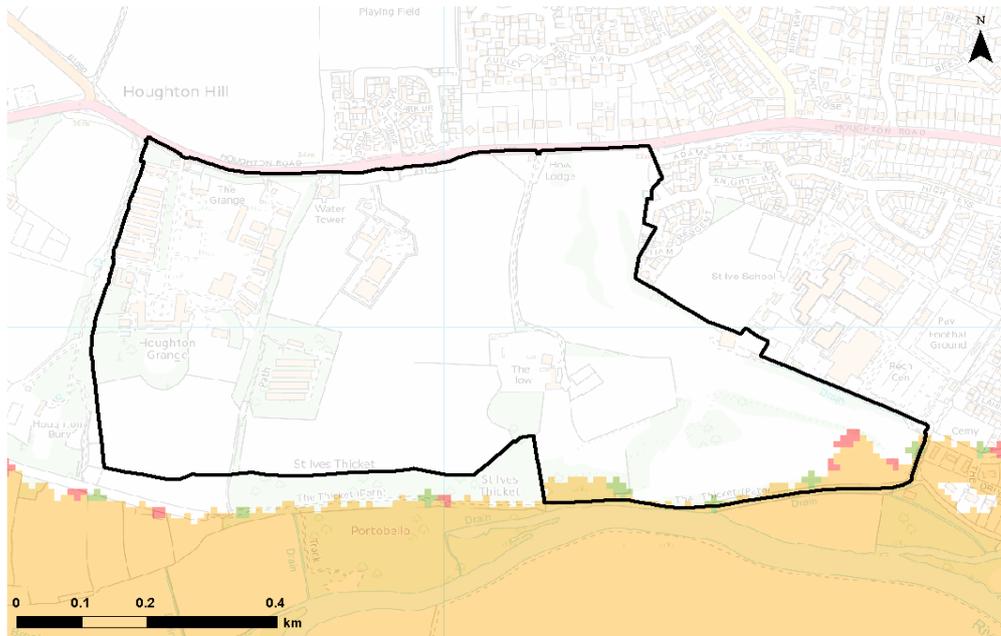
**Flood Zone Map**



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

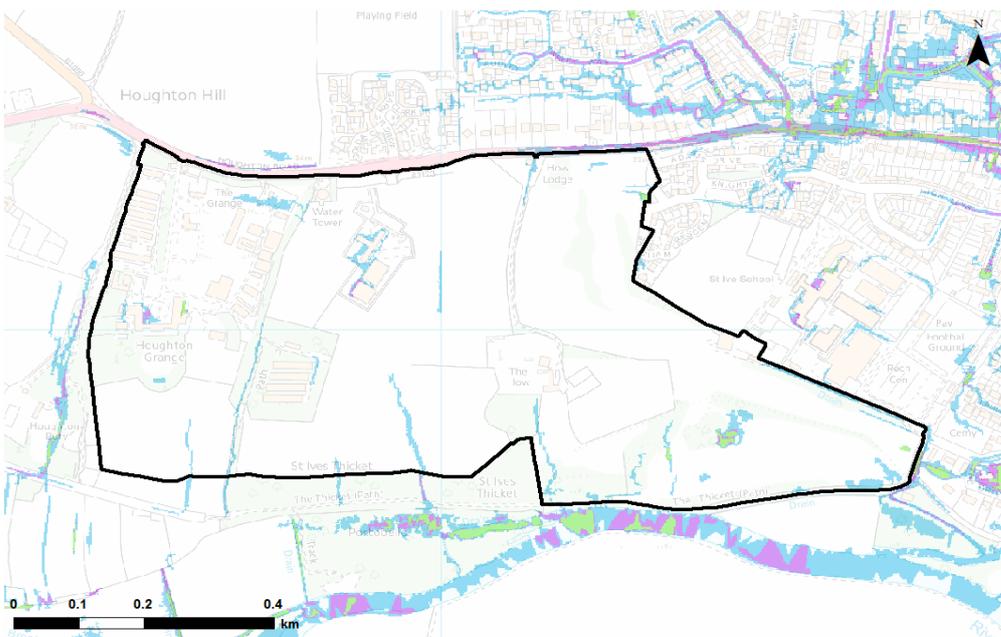
### Climate Change Map



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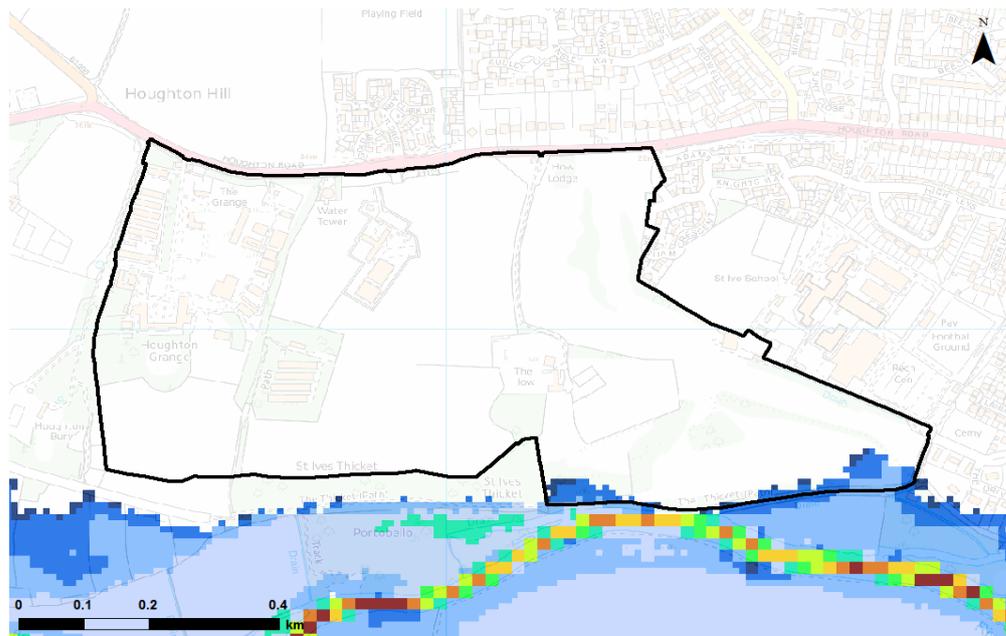
### Surface Water Map



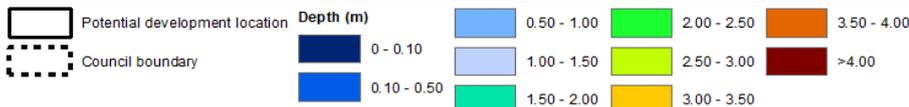
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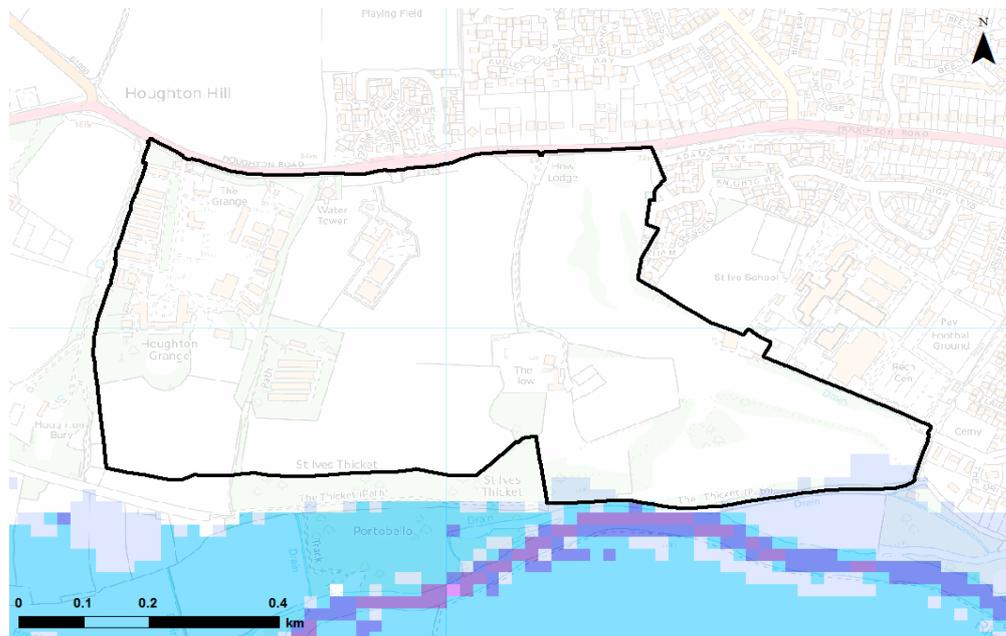
**Depth Map - fluvial flooding (1% Annual exceedance probability)**



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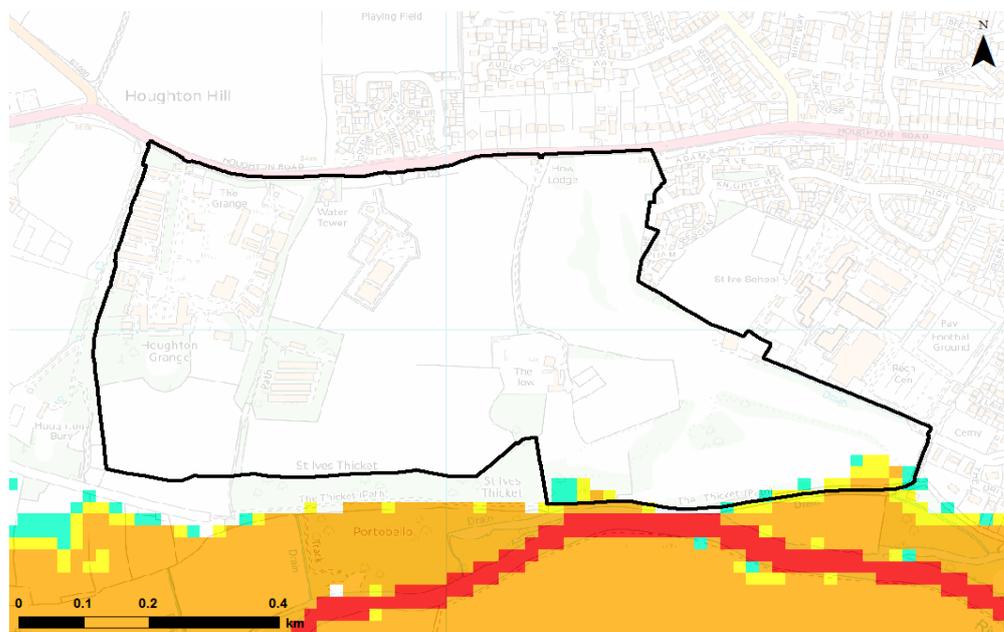
**Velocity Map - fluvial flooding (1% Annual exceedance probability)**



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



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|   |                                |   |   |   |   |                |
|---|--------------------------------|---|---|---|---|----------------|
|  | 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 both to and from groundwater.  |
| 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. Additionally, proposed SuDS should be discussed with relevant stakeholders (LPA, LLFA and EA) at an early stage to understand possible constraints given that the site is located with a Source Protection Zone. |
| 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 contamination 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).

The site is located within a Source Protection Zone. As such, infiltration techniques should only be used where there are suitable levels of treatment, although it is possible that infiltration may not be permitted. Proposed SuDS should be discussed with relevant stakeholders (LPA, LLFA and EA) at an early stage to understand possible constraints

**Flood Defences:**

There are no flood defences at this site.

**Emergency Planning:**

There are currently no flood warning areas covering this site.

**Access & Egress:**

Availability of safe access and egress is not an issue for this site.

**Climate Change:**

The floodplains of the River Great Ouse appears to be fairly constrained within this area - there is not much difference in extent between the 1% AEP event and the 1% AEP event with the 2080s climate change allowances applied. Therefore, it is likely that climate change will not have a significant impact on the extent of flooding from these watercourses. It may, however, 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 flood risk left undeveloped. Approximately 52 hectares of land is available outside of Flood Zones 2 and 3.

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 the Environment Agency's Downstream Ouse 1D-2D model.](#)

At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3. 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 River Great Ouse 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 River Great Ouse 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.