

**South of The Foundry Factory Bank Ramsey (RA1)**

<b>OSNGR:</b> 528409,286021	<b>Area:</b> 1.52ha		<b>Greenfield</b>	
<b>Flood Zone Coverage:</b>	<b>FZ3b</b> Unconfirmed	<b>FZ3a</b> 100%	<b>FZ2</b> 0%	<b>FZ1</b> 0%

**Sources of flood risk:**  
 The main source of flood risk to the site is from High Lode. There is also a residual risk to the site in the event of failure or overtopping of High Lode's embankments. Surface water flood risk is minimal.

**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.

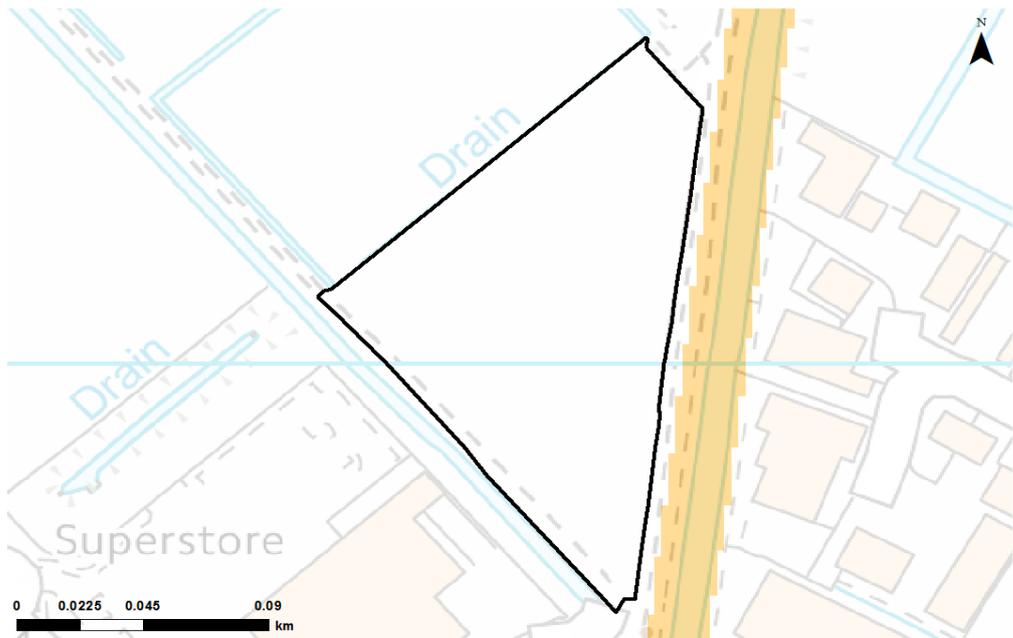
**Flood Zone Map**



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

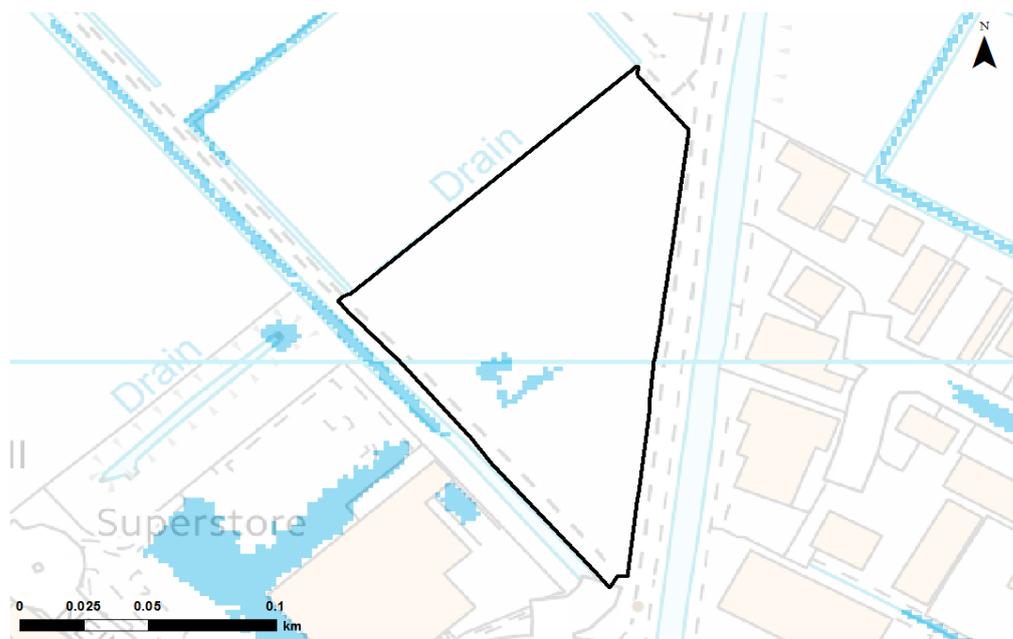
**Climate Change Map**



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**Surface Water Map**



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<b>SuDS &amp; the development site:</b>		
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 to prevent the egress of groundwater or if there are any contamination issues.
Filtration		All filtration techniques are likely to be suitable. A liner may be required to prevent the egress of groundwater or if there are any contamination issues.
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.
<p>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).</p>		
<p><b>Flood Defences:</b> There are no flood defences at this site.</p>		
<p><b>Emergency Planning:</b> This site is covered by the Middle Level Commissioner Area Flood Warning Area</p>		
<p><b>Access &amp; Egress:</b> Mapping shows the main access route, Raymon Road, and all surrounding routes to be at risk from a 1% AEP event. Safe refuge would be required as part of a development to ensure safety if occupiers of the site were unable to evacuate in a flood.</p>		
<p><b>Climate Change:</b> Climate change modelling suggests High Lode will remain in bank for a 1% AEP event with all three 2080 climate change allowances applied. Climate change may increase the extent and depth of surface water flooding in the future to the extent that it may affect the site.</p>		
<p><b>Implications for Development:</b> Use of the Sequential Approach will be required to place vulnerable development outside of high risk areas. Given the whole of the site is located in Flood Zone 3 this may restrict the type and amount of development within the site. Safe access and egress is at risk from both fluvial and surface water flooding; in order to pass the Exception Test, development will need to ensure that safe access and egress can be provided for the lifetime of the development. Development should also ensure that there is no increase in flood risk that may exacerbate safe access and egress. 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 partially covered by the Environment Agency's Flood Warning Service. Given the potential access and egress issues, development may need to consider provision of safe refuge in the event of occupiers being unable to evacuate. 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.</p>		

### **Guidance for Developers:**

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. 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

Given the whole of the site is within flood zone 3 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.

Mapping in this table is based on the Flood Map for Planning. A detailed model will be required of High Lode to assess the extent of flood risk to the site including residual risk in the event of breach or overtopping of the embankments.

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

The peak flows on High Lode 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 High Lode to ensure flows are not exacerbated downstream within the catchment.

Development should be in accordance with the IDB by-laws and policies.

Safe access and egress will need to be demonstrated particularly in the event of failure of embankments or pumps; currently access and egress is affected by fluvial flooding from a 1% AEP event (undefended).

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, The Commissioners, Ramsey, Upwood and Great Raveley IDB and the Environment Agency should be undertaken at an early stage.