

**Planning Application for extension to
Bakkavor Pizza
Sluice Road, Holbeach St Marks
Spalding PE12 8HF**

Flood Risk Assessment

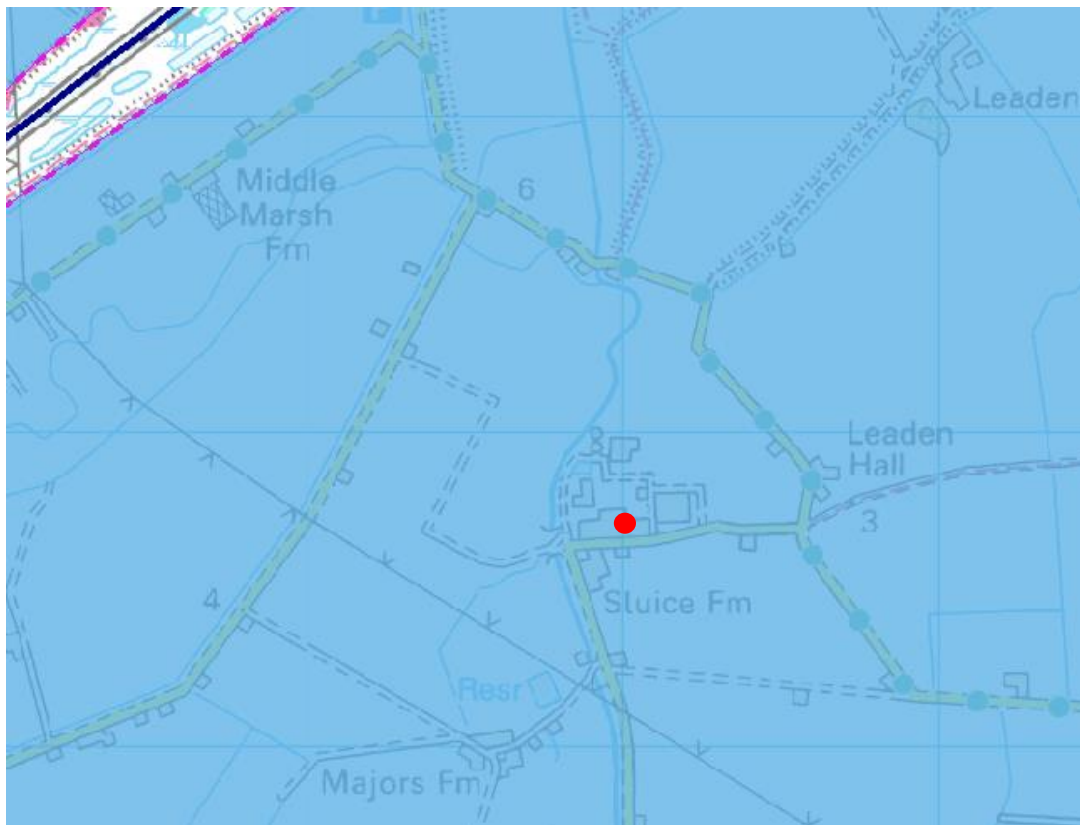
1 Introduction

This Flood Risk Assessment is written to accompany the planning application for the extension of premises of Bakkavor Pizza at the address above. The extension is to provide additional production space at this existing industrial site.

It has been written following the Technical Guidance to the National Planning Policy Framework, Standing Advice from the Environment Agency, the Planning Practice Guidance website and is based on information available in the South Holland District Council Strategic Flood Risk Assessment (final report January 2010).

2 Flood risk

The development site – marked with a red dot - is located in Zone 3 of the flood risk maps published by the Environment Agency.



3 **Sequential Test**

Zone 3 is defined as the zone comprising land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year. The probability ignores the presence of defences.

The risk is defined as “high probability”.

Appropriate uses in Zone 3 [1] are “the water-compatible and less vulnerable uses”.

The proposed development, being general industry, storage and distribution, falls under the classification of “less vulnerable”. [2]

Therefore the proposed development is considered appropriate. [3]

Table 3: Flood risk vulnerability and flood zone ‘compatibility’

Flood risk vulnerability classification (see table 2)		Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood zone (see table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test required	✓	✓
	Zone 3a	Exception Test required	✓	×	Exception Test required	✓
	Zone 3b functional floodplain	Exception Test required	✓	×	×	×

Key: ✓ Development is appropriate.
 × Development should not be permitted.

¹ As per Table 1 “Flood Zones of the Technical Guidance to the National Planning Policy Framework published by the Department for Communities and Local Government, March 2012.

² As per Table 2 “Flood Risk Vulnerability Classification” of the same document.

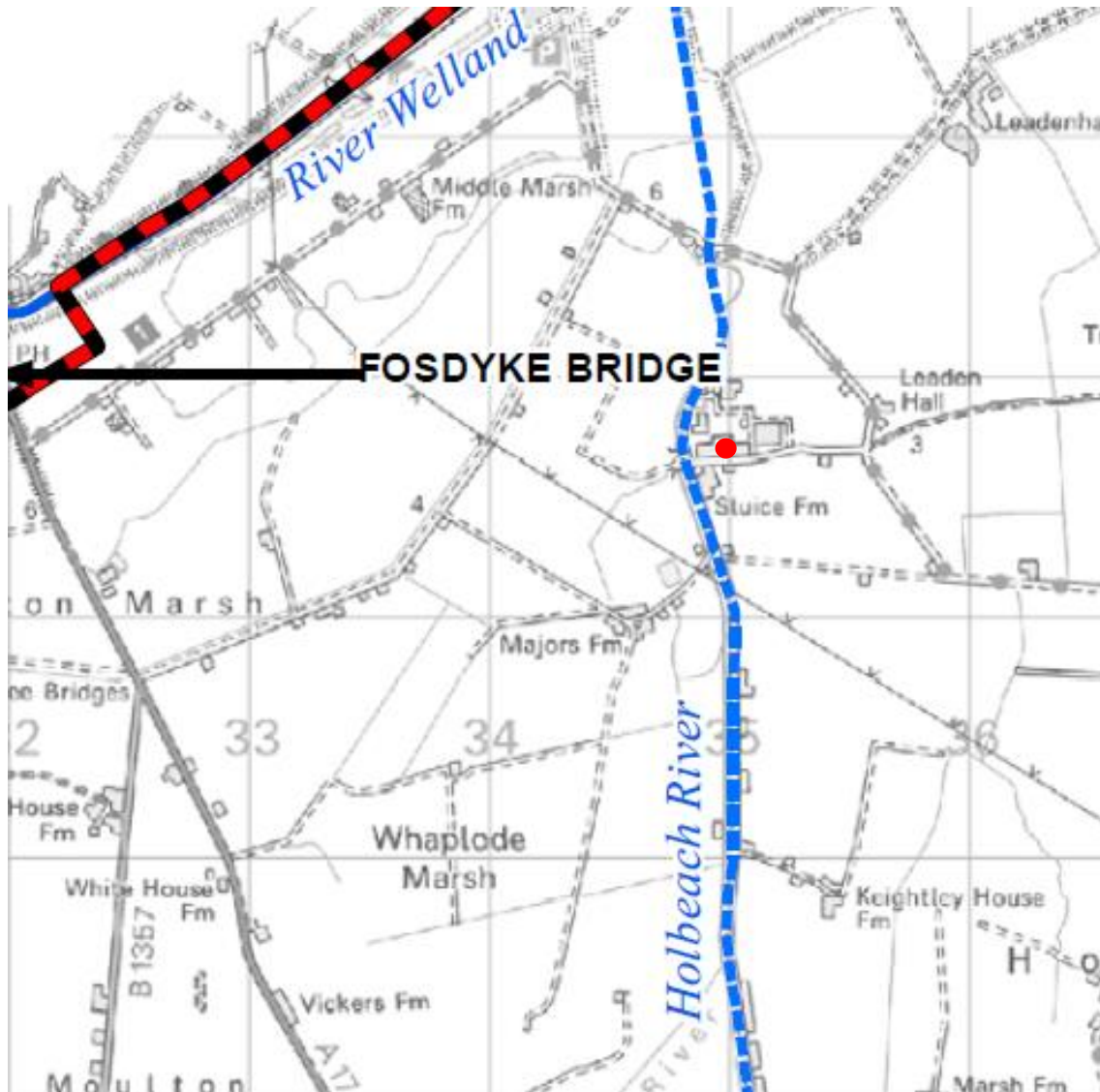
³ As per Table 3 “Flood Risk Vulnerability and Flood Zone Compatibility” of the same document.

4 Assessment against South Holland's Strategic Flood Risk Assessment

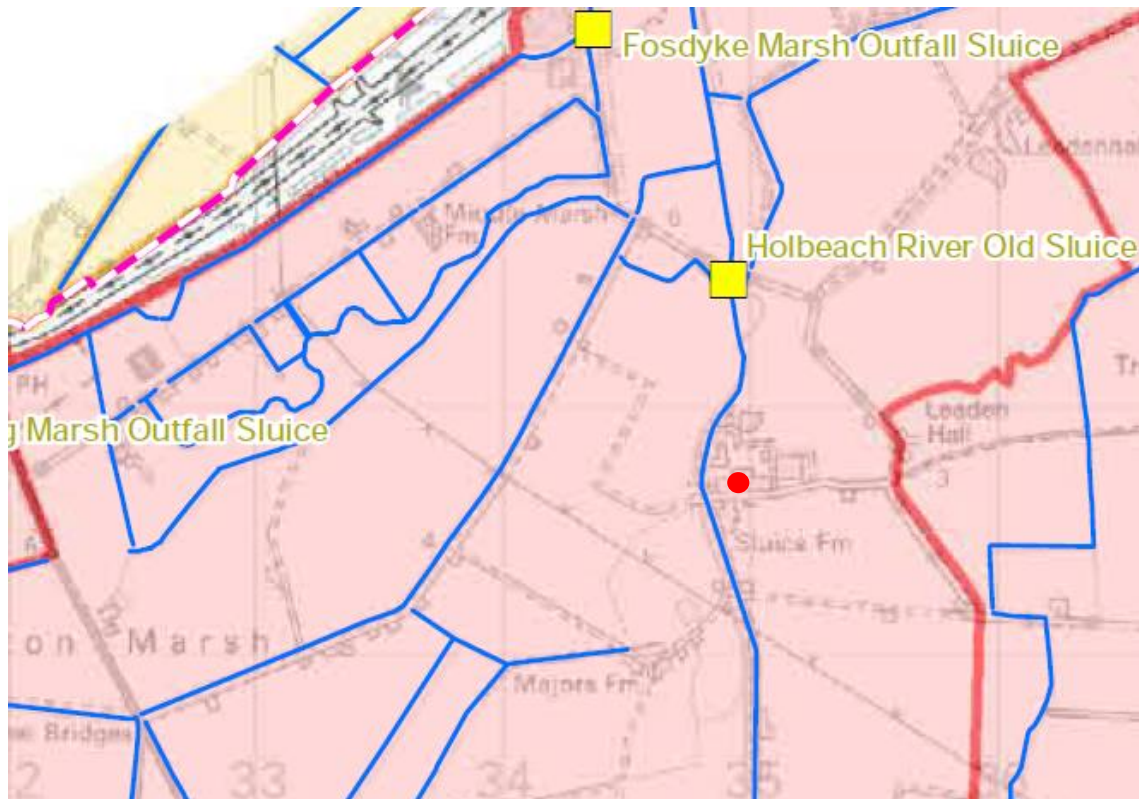
All maps below, showing the development site as a red dot, are the maps published in South Holland District Council "Strategic Flood Risk Assessment", Final Report January 2010. The maps are numbered as in the report.

The maps take into account the flood defences (where relevant).

Map 1 – Map of District

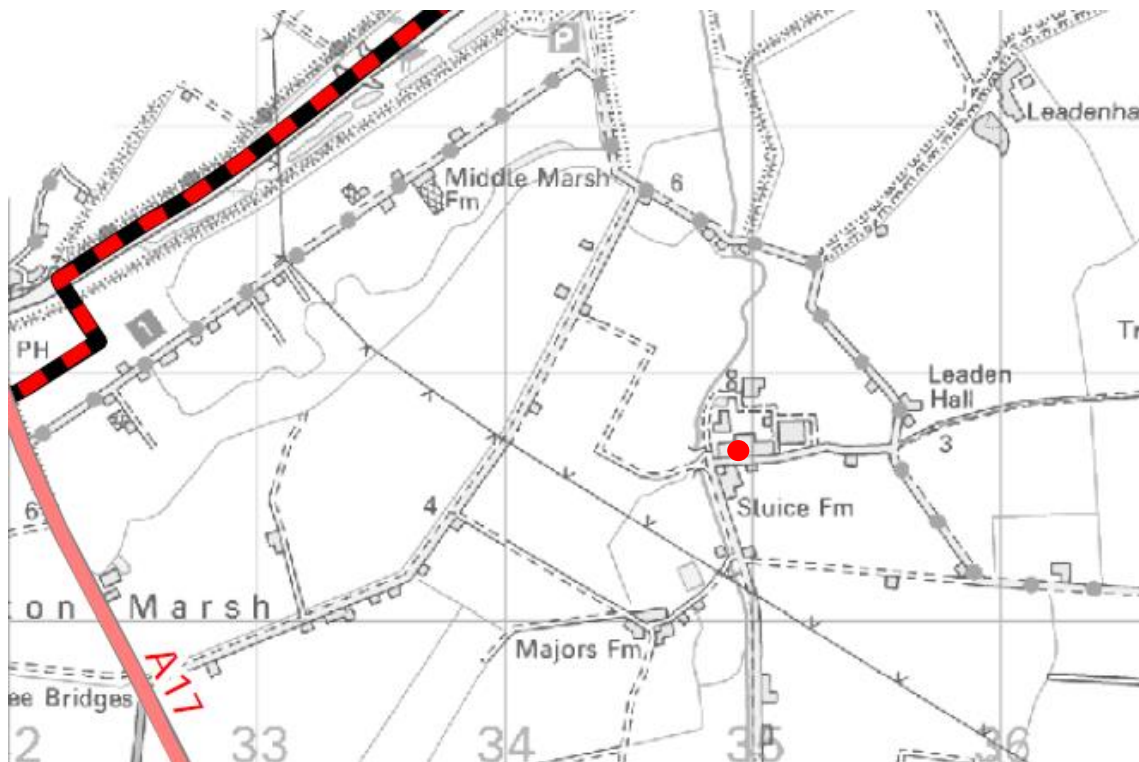


Map 2 – Internal Drainage Board Systems



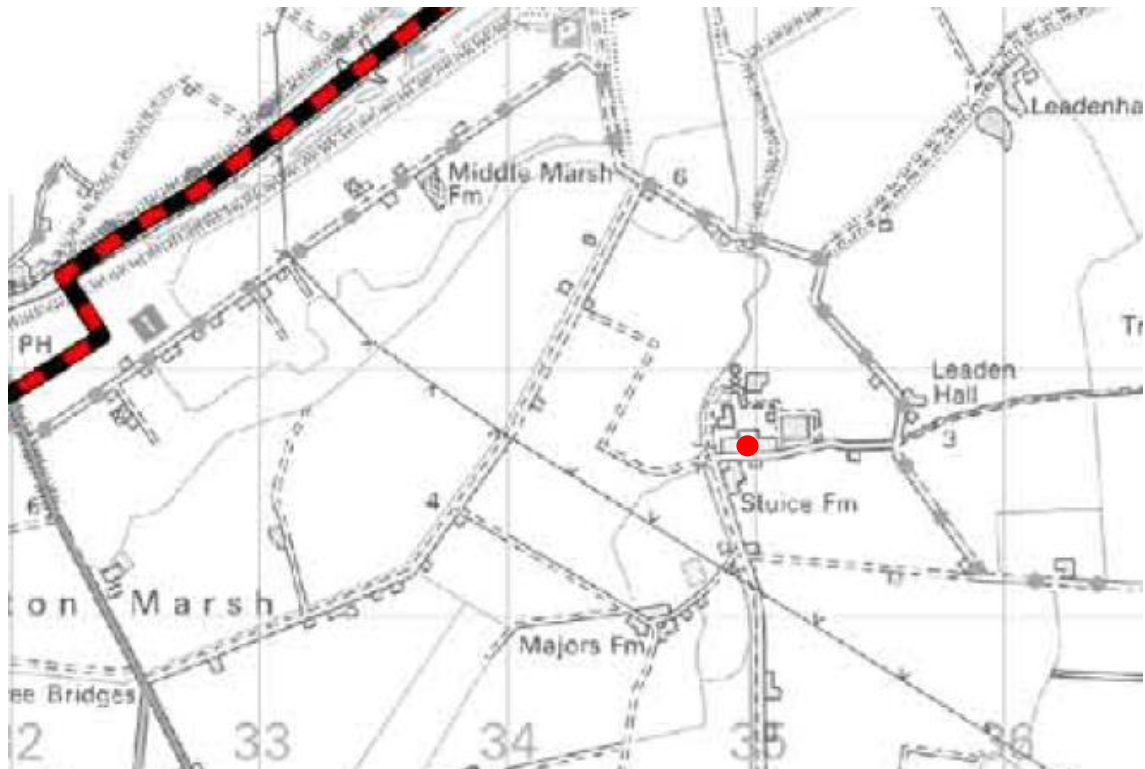
The site is in the catchment of the South Holland Internal Drainage Board.

Map 4 – Development sites and key infrastructure



There are no development sites or key infrastructure in the vicinity of the development site.

Map 5 – Actual Risk Extend, Present Day, 1% Fluvial, 0.5% Tidal Event Probability



The site is located in the low or medium probability band (no colour), but reliant on protection by flood defences for the standard.

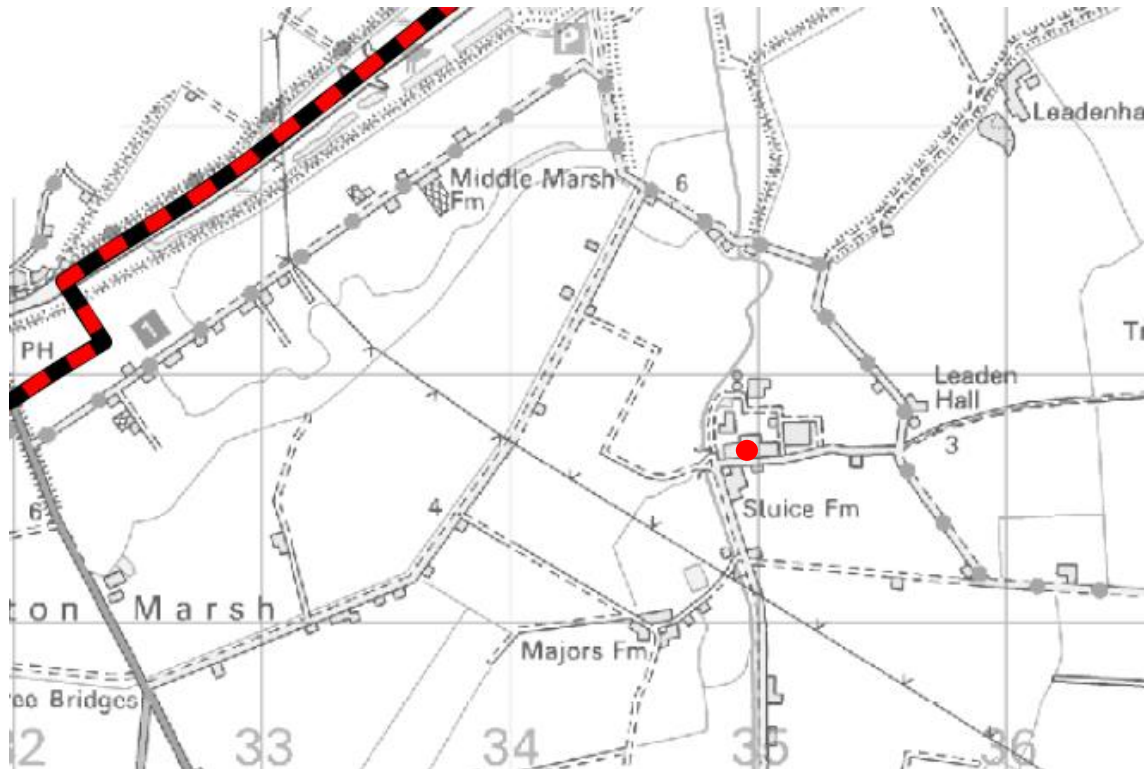


On map 12, showing the same risk in 2055, the development site is also located in the low or medium probability band.



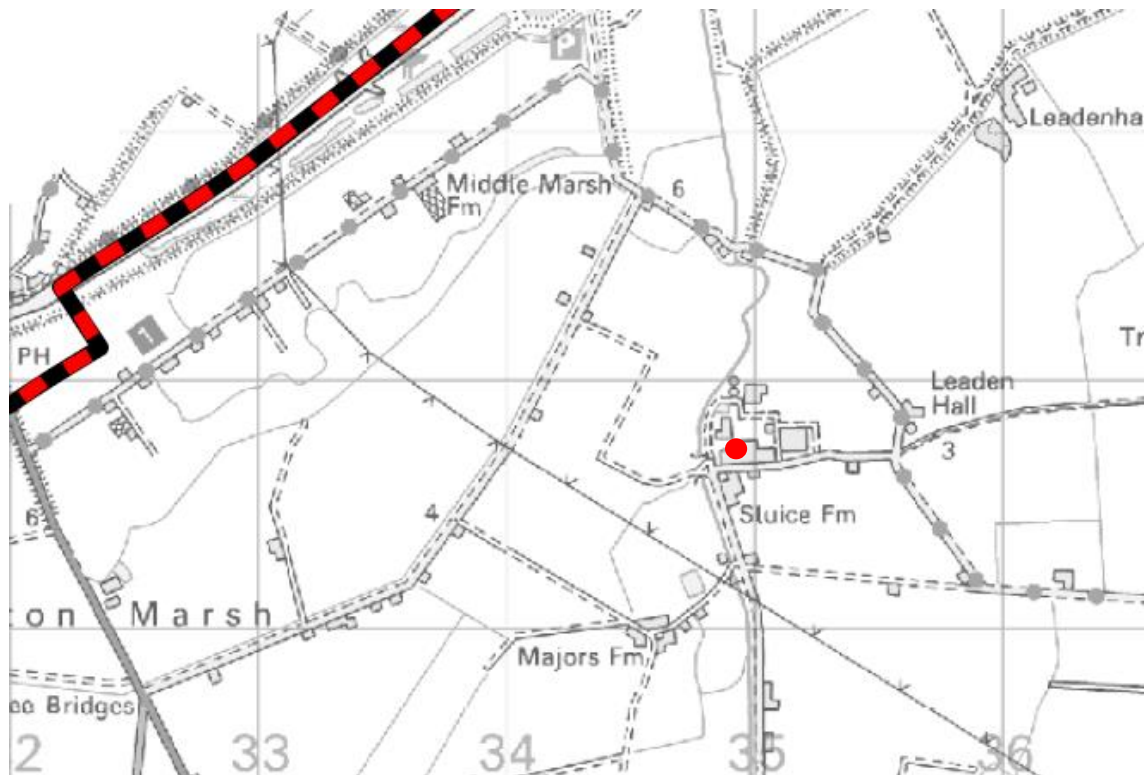
On map 13, showing the same risk in 2115, the development site is also located in the low or medium probability band.

Map 6 - Actual Risk Peak Depth, Present Day, 1% Fluvial, 0.5% Tidal Event Probability



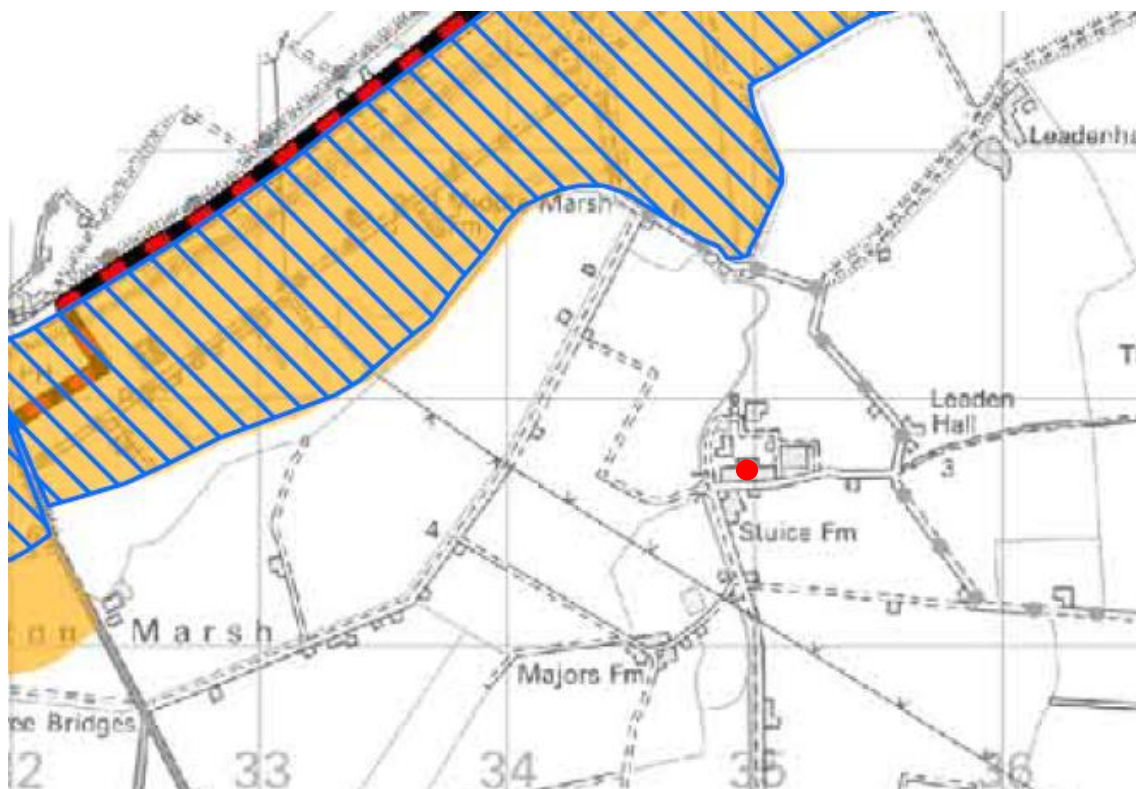
The development site is outside the zones with a current risk peak depth.

Map 7 - Actual Risk Peak Velocity, Present Day, 1% Fluvial, 0.5% Tidal Event Probability



The development site is outside the zones with a current risk peak velocity.

Map 16 – Rapid Inundation Zones, Present Day and 2115



The site is located outside both zones.

5 Assessment against South Holland's Residual Risk Maps

All maps in this section, again showing the development site as a red dot, are the maps published on South Holland website showing the residual risks to the site. The maps show the consequences assuming any part of the raised defences may fail, regardless of apparent standard, together with the consequences of over topping that would occur ^[4].

Residual Risk Extent Present Day, 1% Fluvial, 0.5% Tidal – District



At the present day, the site is shown just at the edge of the high probability band but within the low probability risk band (shown white on the map).

⁴ Quoted from South Holland District SFRA, Final Report, January 2010, Chapter 12 “Residual Risk”.

Residual Risk Extent 2055, 1% Fluvial, 0.5% Tidal – District

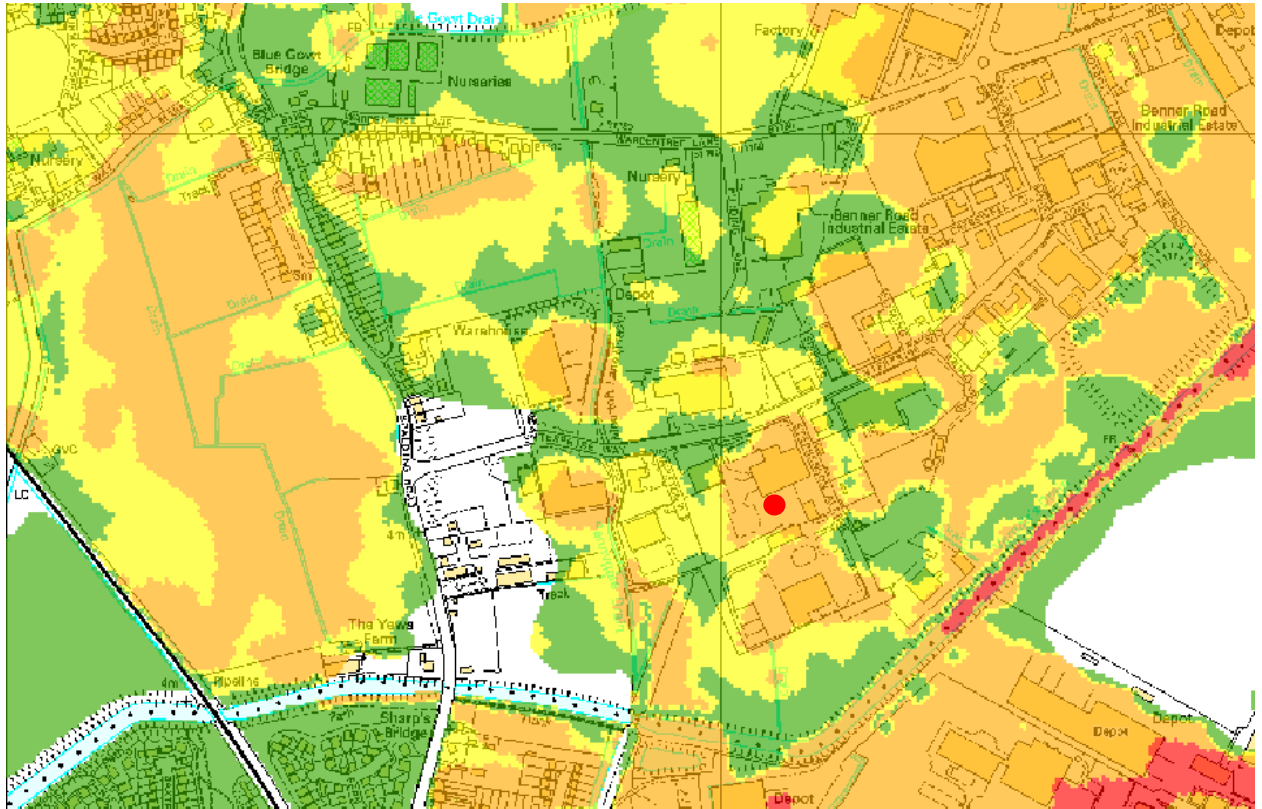


In 2055, the site is still shown just in the low probability band (above) and in 2115 it still shown in the low probability band but the high probability band advances further towards the site (below).

Residual Risk Extent 2115, 1% Fluvial, 0.5% Tidal – District

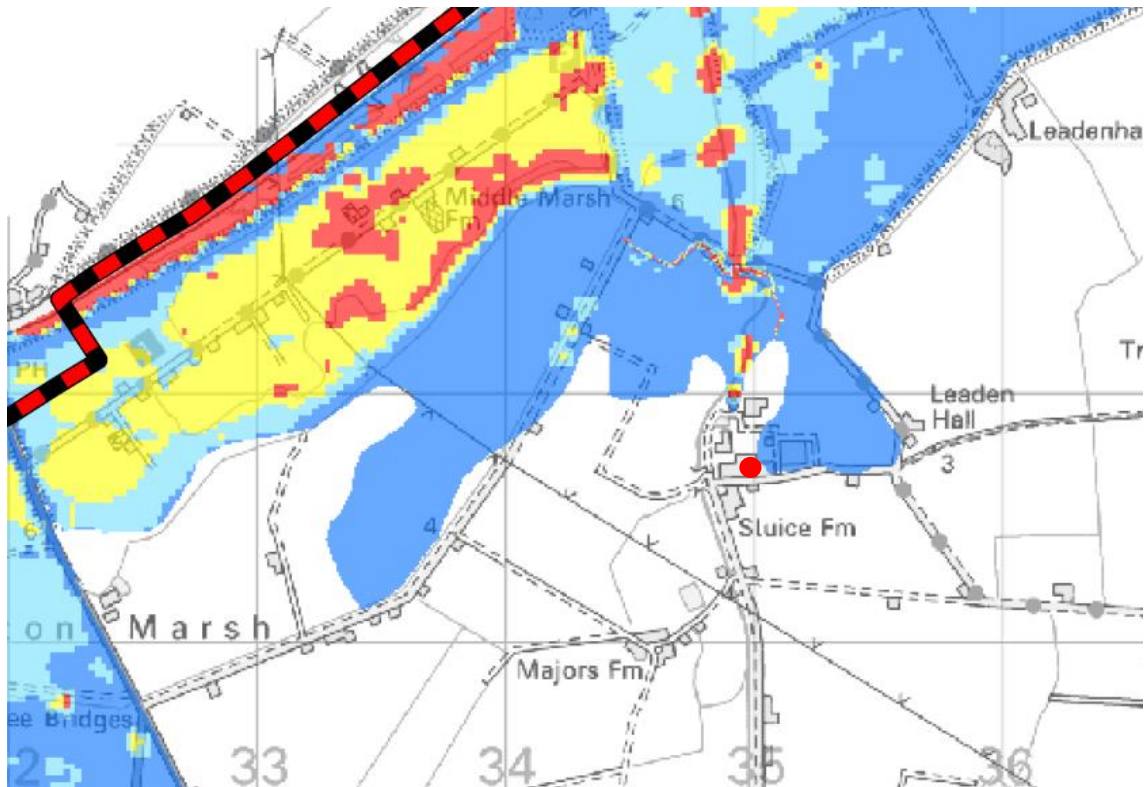


Residual Flood Hazard 2115, 1% Fluvial, 0.5% Tidal – Spalding

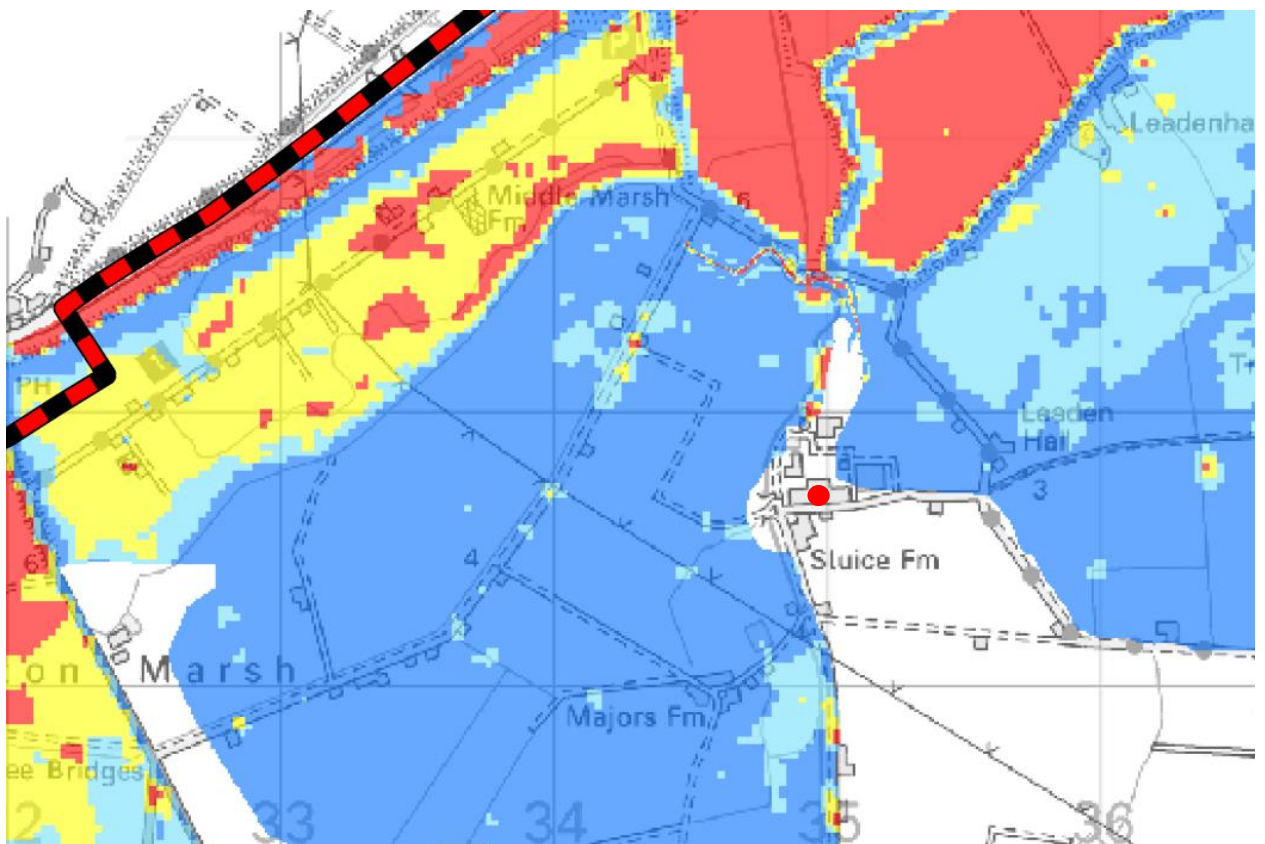


The site, at present outside the area at risk, will in 2115 be located within the area with a significant residual risk of flooding in case of breach of flooding defences (shown orange).

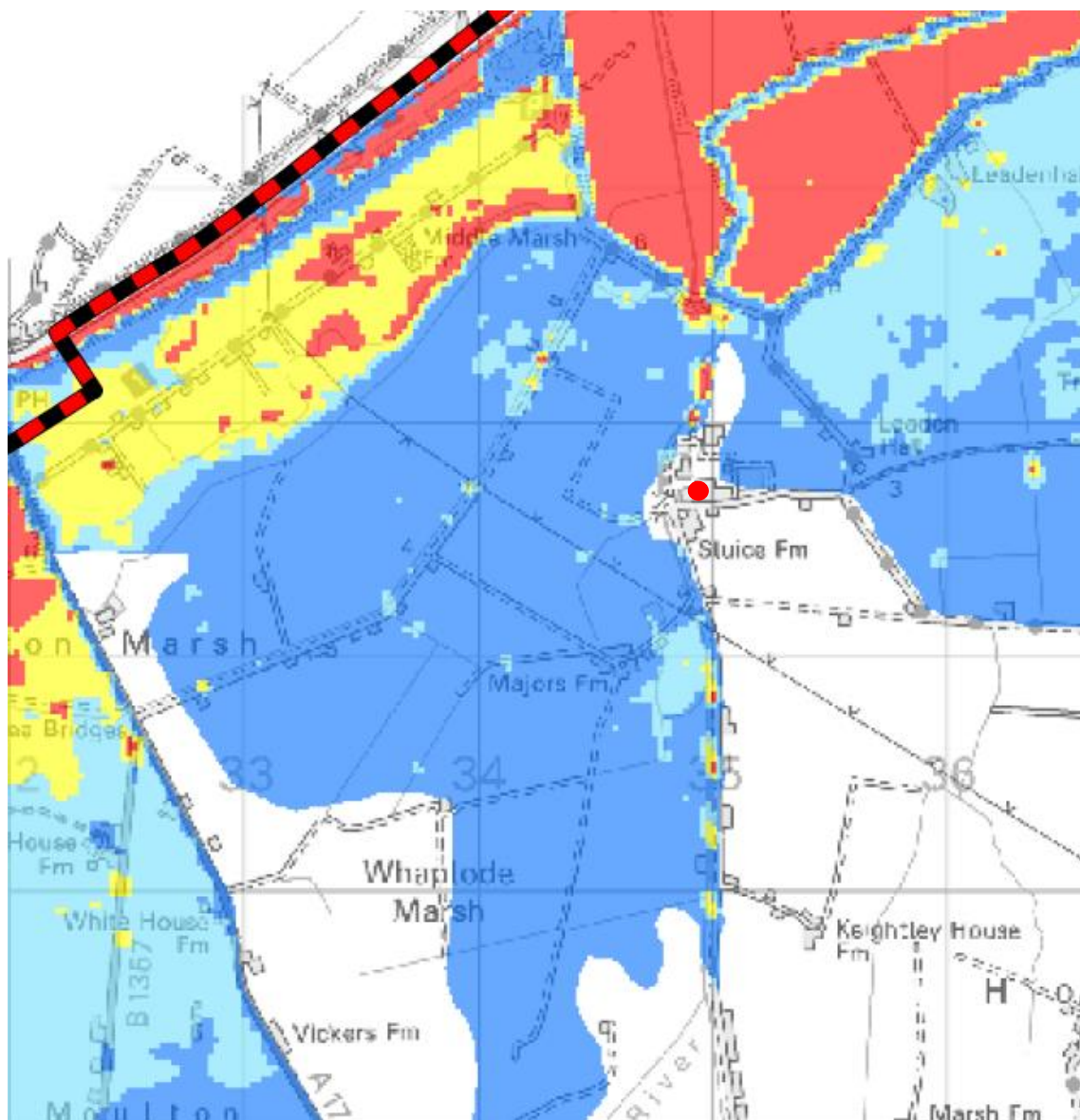
Residual Peak Depth Present Day, 1% Fluvial, 0.5% Tidal – District



Residual Peak Depth 2115, 1% Fluvial, 0.5% Tidal – District



The site of the extension is outside the zones with residual peak depths, both at present and in 2115.



The site is outside the zones with peak depths.

6 Assessment against Environment Agency's Standing Advice for Minor Extensions

The proposed extension is 136 m², therefore is defined as a minor extension (non-domestic extensions less than 250 m²) by the Environment Agency.

Flood risk to property

Based on the information shown on maps 5, 12 and 13, the development should avoid flood damage during the 1% annual probability river flood and the 0.5% annual probability sea flood in any year until 2115.

Management of surface water

The development is an extension of the food production area of an established business on an already developed site. The 136 m² extension will be located in an existing hardstanding area of the site, therefore will not increase the current surface water run-off. It is proposed to direct the rainwater run-off from the roof to the existing rainwater system.

Flood resilience and resistance

The proposed finished floor level of the development will be 150mm above existing floor level, with no basement. It is deemed sufficient given that the site is shown free of risk of residual flood water until at least 2115.

The development is of a commercial nature (not occupied at night), therefore risk to life is low and emergency escape measures have not been deemed required.

The applicant already subscribes to the Environment Agency free Floodline Warning Direct service.

Other sources of flooding (not rivers or the sea)

Other sources of flooding identified in South Holland Strategic Flood Risk Assessment are from any shortfalls in capacity in the internal drainage network.

7 Conclusion

The application is for the extension of food production facilities for an existing established business.

Taking into account all the information above, and providing that the current flood defences for the district are maintained, we are of the opinion that the development is appropriate in terms of risk of flooding.