

0255 PIPWELL MANOR
Saracen's Head, Lincolnshire, PE12 8AY
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FLOOD RISK ASSESSMENT

Contents

- 1 Introduction
- 2 Development Site and Locations
- 3 Development Proposals
- 4 Planning Policy & Flood Zone Classification
- 5 Sequential and Exception Test
- 6 Site Specific Flood Risk
- 7 Flood Management
- 8 Flood Risk Mitigation

1: Introduction

This Flood Risk Assessment supports the planning application for proposed alterations and an extension to Pipwell Manor, Saracen's Head, Lincolnshire.

The purpose of this report is to outline the potential flood risk to the site, the impact of the proposed development on flood risk elsewhere, and the proposed measures which could be incorporated to mitigate the identified risk.

2: Development Site and Locations

The site is located in Saracen's Head, Lincolnshire with National Grid reference TF341269 - 534181 Easting and 326958 Northing. The site is currently being used as a residential dwelling.



Figure 1: Pipwell Manor marked on aerial view of Saracen's Head



Figure 2: Pipwell Manor as viewed from the street

3: Development Proposals

The proposed development is to extend the existing footprint by creating an oak-timber framed garden room extension to the rear of the property, window alterations, and some minor internal alterations.

The development is classified as 'More Vulnerable' according to the NPPF. The supposed lifetime of residential development can be assumed to be at least 100 years.

4: Planning Policy and Flood Zone Classification

Local Development Documents

The South East Lincolnshire Local Plan 2011-2036 was adopted in March 2019. Policy 4 sets out the requirements for flood risk reduction.

The South East Lincolnshire Strategic Flood Risk Assessment (SFRA) was adopted in March 2017, to ensure there is an evidence base to inform Local Plan and Development Management decisions.

Flood Zone Classification

The Environment Agency (EA) 'Flood Map for Planning – Rivers and Sea' included below indicates a section of the property is located within **Flood Zone 3** which means there is a high probability of flooding from rivers and the sea.

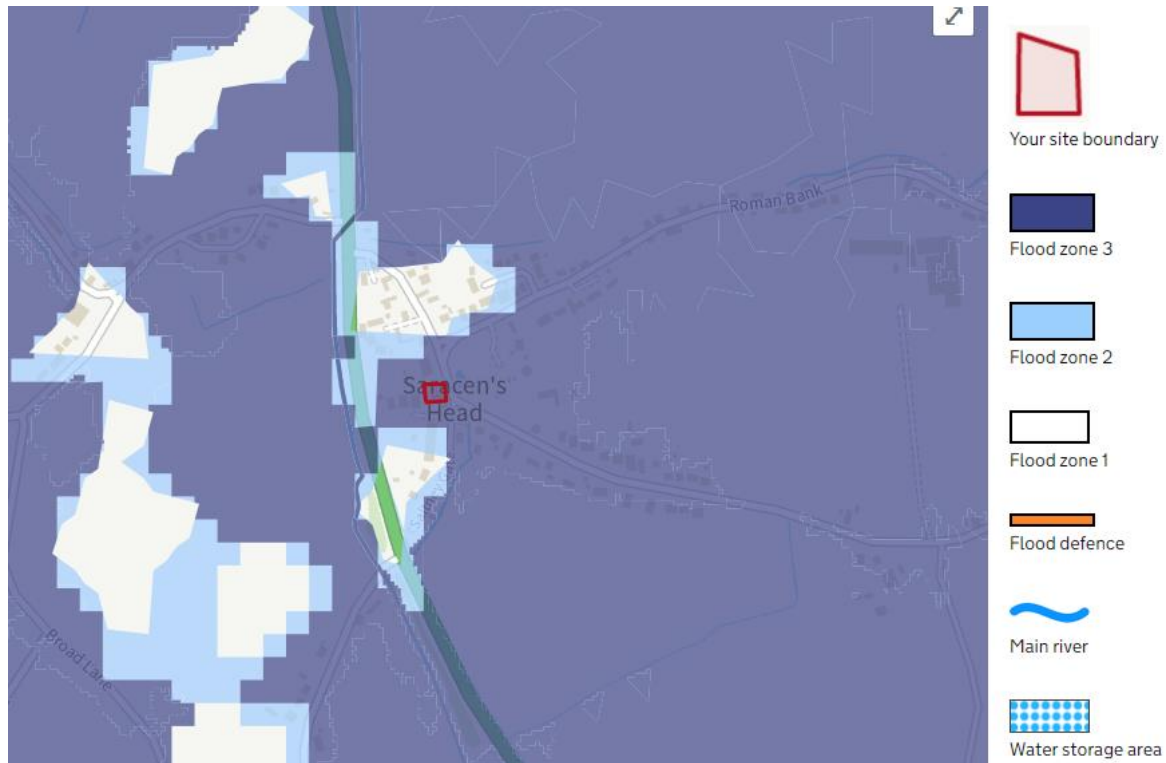


Figure 3: Map showing location of Pipwell Manor within Flood Zone 3

The 'Long Term Flood Risk' for this postcode is indicated as 'Very Low' chance of yearly flooding from surface water and other sources of flooding including reservoir and ground water, and a 'Low' chance of yearly flooding from rivers and the sea.

The site is outside of any of the identified hazard areas on the South East Lincolnshire SFRA Residual Flood Hazard Map for the 1% fluvial and 0.5% tidal event (fig. 4). It is also outside the area at risk of flooding on South East Lincolnshire SFRA Residual Peak Depth Map for the 1% fluvial and 0.5% tidal event (fig. 5).



Figure 4

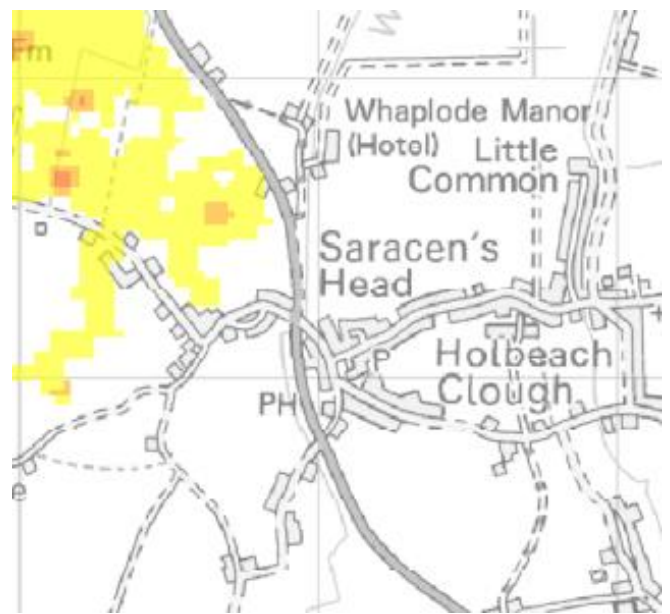


Figure 5

5: Sequential Test and Exception Test

As a 'More Vulnerable' residential development lying within Flood Zone 3, the Sequential and Exception Test must be applied.

Sequential Test

The Sequential Test aims to steer development towards areas where the risk of flooding is lowest.

As much of the South Holland district lies within Flood Zone 3, opportunities to relocate the development to another lower-risk site are limited. Furthermore, the SFRA Hazard and Depth maps should be used to assist with the Sequential Test. These maps identify that the site is not at risk during the present day 1% fluvial and 0.5% tidal event, therefore the risk of flooding is extremely low and as it is unlikely that a site with lower risk will be identified, the Sequential Test has been passed.

Exception Test

The Exception Test aims to ensure development will;

- 'provide wider sustainability benefits to the community that outweigh flood risk'
- 'be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall'

It has already been demonstrated that the flood risk is very low in this site. The Design and Access Statement will further emphasise the benefits of the development. The remainder of this Assessment will demonstrate that the risk of flooding at this site is very low, especially when mitigation measures are taken, and that flood risk elsewhere will not be increased. Therefore, the development is considered to pass the Exception Test.

6: Site Specific Flood Risk

Local Flood Assets

The map below highlights flood defences surrounding the site, represented by the orange lines.

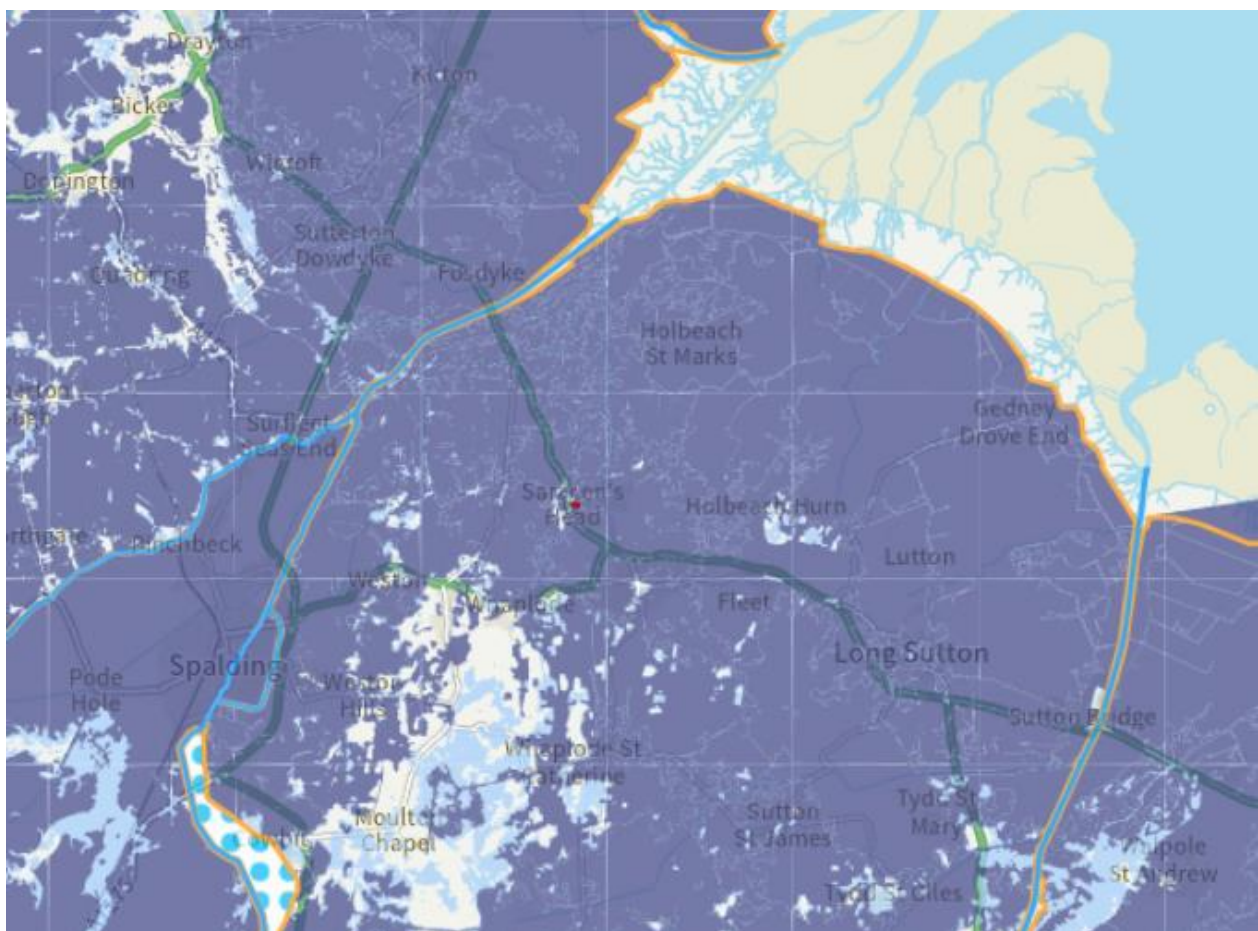


Figure 6: Flood defences around the site

Sources of Flooding

Potential sources of flooding include local blockages in the drainage system and overtopping and breaching of the tidal defences at The Wash and River Welland.

Historic Flooding

No recorded evidence of historic flooding events at the site has been found.

Climate Change

Increased rainfall intensity and duration due to climate change are likely to impact the site due to their effects on the local drainage network, as well as raising tide levels, however this is not expected to cause tidal flooding during the design life of the development (100 years).

7: Flood Management

As the site is at risk of flooding in a residual risk breach event, even though there is a very low risk of floodwater entering the buildings the following robust flood management provisions will be implemented.

- Occupants will register for the EA's *Floodline Warnings Direct* Service which is available for this site. Should a flood warning be received, or a flood event be otherwise predicted, occupants will evacuate in good time before any local flooding occurs to dry ground.
- Should occupants choose not, or fail to evacuate early, but then need to leave the site during flood conditions they would still be able to wade safely through floodwater with shallow depths to dry ground. As the site is located at the edge of any potential area of flooding, there would be low flow velocity and consequently a low level of danger assessed by Table 13.1 of FD2320/TR2.
- Alternatively, residents might remain in their houses and ascend to safe refuge on the upper floors to remain well clear of flooding outside the buildings or even of any floodwater entering at ground level. In the event of a need for evacuation of any personnel, e.g., for medical reasons, attendance by the emergency services would not be precluded by the depths of the floodwater in the access roads.
- In neither case would the occupants be exposed to any danger.
- Should there be a failure of Little Holland Pumping Station and conditions were such to put properties and land at risk of flooding, the Internal Drainage Board would take emergency action to maintain the drainage level of service by using temporary pumping equipment.

8: Flood Risk Mitigation

The floor levels of the proposed extensions will be no lower than existing floor levels. With the above in mind, appropriate flood mitigation measures would include;

- Construction on a masonry slab with damp proof course. Solid concrete floors with damp proof membranes are generally regarded as the most flood resistant floor type as they can reduce the rate of seepage into the building and are generally easier to clean and restore when compared to suspended floors. Floor levels will be consistent with the main house.
- External Walls - A general principle for flood resilient design is to use durable and breathable materials that promote easy draining to allow effective drying out in the event of flooding. A pre-constructed oak frame is proposed with inset double glazed full height panes.
- All electrical sockets will be set at 450mm above finished ground level
- New Doors - Generally solid doors and frames are less susceptible to flood damage than hollow core types which can fill up with contaminated water during flooding which can be difficult to drain, therefore solid oak doors are proposed.
- New Windows - well sealed double-glazed units will be used with hardwood frames.