

Quarrington Design Ltd

Flood Risk Assessment

**Proposed Siting of 2no Caravans for Residential
Occupation (Retrospective),
Drallam,
Swindlers Drove,
Pinchbeck,
Lincolnshire,
PE12 6BS.**

21.07.2025

Version 01

Contents

1.	INTRODUCTION	1
2.	SITE DESCRIPTION	1
3.	DEVELOPMENT PROPOSALS	3
4.	SEQUENTIAL AND EXCEPTION TEST	4
4.1.	SEQUENTIAL TEST	5
4.2.	EXCEPTIONS TEST	6
5.	FLOOD RISK SUMMARY	7
5.1.	ANALYSIS OF FLOOD RISKS	8
5.1.1.	RIVER AND TIDAL FLOOD	8
5.1.2.	OVERLAND FLOW (SURFACE WATER)	9
5.1.3.	PRIVATE INFRASTRUCTURE FAILURE	9
5.1.4.	PLUVIAL FLOODING	9
5.1.5.	ARTIFICIAL SOURCES	10
5.2.	RESIDUAL FLOOD RISK	10
6.	CLIMATE CHANGE	11
6.1.	RIVER FLOW CHANGE	11
6.2.	RAINFALL INTENSITY CHANGE	11
6.3.	SEA LEVEL CHANGE	12
6.4.	OFFSHORE WIND SPEED AND EXTREME WAVE HEIGHT	12
7.	FLOOD RISK MITIGATION	13
7.1.	FLOOD WARNING AND EVACUATION PROCEDURE	13
7.2.	FLOOR LEVELS AND SITE LAYOUT	14
7.3.	FLOOD RESILIENT CONSTRUCTION	15
8.	CONCLUSIONS AND RECOMMENDATIONS	17

APPENDICES

- A Development Proposal Drawings
- B Environment Agency Flood Mapping Data
- C South East Lincolnshire Strategic Flood Risk Assessment Maps
- D South East Lincolnshire Flood Mitigation Standing Advice Matrix – v4

1. INTRODUCTION

Government Guidance states:

'Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere.'

To demonstrate the appropriateness of any new development in areas at risk of flooding a site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

The requirements for flood risk assessments are generally as set out in the National Planning Policy Framework (NPPF) and the National Planning Policy Framework Planning Practice Guidance. The FRA should be commensurate with the risk of flooding to the proposed Development, for example, where the risk of flooding to the site is negligible (e.g. 'low probability' Flood Zone 1), there is little benefit to be gained in assessing the potential risk to life and/or property as a result of fluvial (river) flooding. Rather, emphasis should be placed on ensuring that runoff from the site does not exacerbate flooding lower than in the catchment.

This assessment has been produced in accordance with "Preparing a Flood Risk Assessment: Standing Guidance" by DEFRA and the Environment Agency.

This Flood Risk Assessment considers the impact of the proposed development in addition to the common ways in which flooding can occur. The conditions that currently exist in the location of the site are described, together with the methods used to identify and assess potential impacts caused from the development proposals.

Instruction has been received to produce a Flood Risk Assessment in support of an application for the siting of 2no caravans for residential occupation (retrospective) at Drallam, Swindlers Drive, Spalding.

This report is for the sole use of the applicant and only in respect of the application for which it was prepared. The report is, in part, based upon information provided by others and on the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from any third party has not been independently verified unless otherwise stated in the report.

2. SITE DESCRIPTION

The site is located on the west side of Swindlers Drove approximately 850m southeast of the village of Low Fulney, centred approximately on national grid reference TF 27488 22072.

The application site is approximately 0.95ha in a roughly triangular shape. The applicants existing dwelling, Drallam occupies the southern corner of the plot and to its north are a number of storage buildings of timber construction.

The site is in the district of South Holland.

The site fronts Swindlers Drove and runs up to Mallard Road at its western boundary. A number of residential dwellings are in proximity to the site to the east, south and west but the village of Low Fulney is characterised by agricultural and light industrial uses.

Topographically, the site sits at approximately 3.0m AOD in a notionally flat landscape. The A16 road runs north to south approximately 1.25km west of the site, elevated above the surrounding fields on a shallow embankment with ditches to either side.

Approximately 1.5km west of the site is the Coronation Channel of the River Welland, flowing in a north easterly direction towards Fosdyke.



Fig.1. Site Location

There are also a number of ordinary watercourses in the relatively flat landscape which surrounds the site. The network of ditches, which drain the predominantly arable land, contribute to man-made channels which outfall to the main rivers. The Wheat Mere Drain is the most notable local watercourse, which passes the site approximately 350m to its east.

The drains surrounding the site are maintained by South Holland Internal Drainage Board. The Lead Local Flood Authority is Lincolnshire County Council.

The local drainage flows north easterly and into the sea at the Welland Outfall, where the North Sea is defended, approximately 15km north of the site.

The site is identified on publicly available mapping as falling within flood zone 3a: **High Probability**. Having greater than 1% (1 in 100) annual probability of river flooding or 0.5% (1 in 200) annual probability of flooding from the sea **without defences**.

Flood advice from the Environment Agency under request reference EIR2025/03997 indicates that the site is at **Low Risk** of flooding from rivers and seas when existing defences are considered; having between 0.1% and 1% (1 in 1000 to 1 in 100) change of flooding in any given year.

The advice note also includes the following narrative, which suggests that a more detailed analysis of the site specific flood risks should be undertaken:

'In some locations, such as around the fens and the large coastal floodplains, showing the area at risk of flooding assuming no defences may give a slightly misleading picture in that if there were no flood defences, water would spread out across these large floodplains. This flooding could cover large areas of land but to relatively shallow depths and could leave pockets of locally slightly higher land as isolated dry islands. It is important to understand the actual risk of the flooding to these dry islands, particularly in the event of defence failure.'

Section 5.2 describes the risk of flooding from rivers and seas in greater detail.

3. DEVELOPMENT PROPOSALS

Appendix B of this document contains the proposed site plan which accompanies the application.

Figure 2 below is an extract from that plan, showing the static caravans outlined in red.

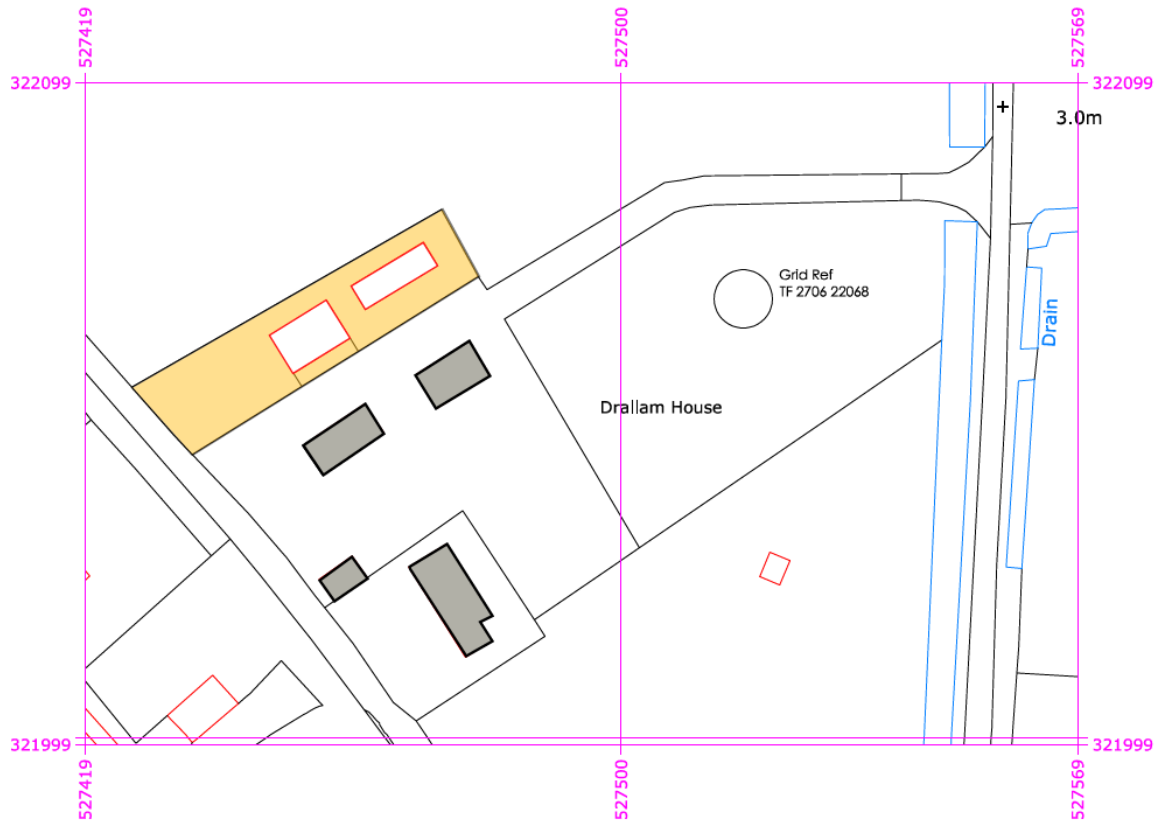


Fig 2: Proposed Site Plan (extract)

The caravans are positioned on porous granular surfacing which has been shaded yellow.

The existing external works which are unaffected by the application include a driveway and turning area which is of unbound granular construction. The remainder of the site is to be retained as grassland and soft landscaping.

4. SEQUENTIAL AND EXCEPTION TEST

Table 2 of NPPF is shown below and confirms that mobile homes intended for permanent use are classified as **'Highly Vulnerable'** in terms of flood risk.

Highly vulnerable

- Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding.
- Emergency dispersal points.
- Basement dwellings.
- Caravans, mobile homes and park homes intended for permanent residential use.
- Installations requiring hazardous substances consent. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure'.)

More vulnerable

- Hospitals
- Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels.
- Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels.
- Non-residential uses for health services, nurseries and educational establishments.
- Landfill* and sites used for waste management facilities for hazardous waste.
- Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

Fig 3: Technical Guidance to the National Planning Policy Framework, Annex 3 (extract)

Table 3 of the Technical Guidance to the NPPF shown below suggests that caravans, mobile homes and park homes intended for permanent residential use (as characterised in Annex 3) should not be permitted in Flood Zone 3a, however, it is important that the actual flood risk in the area is analysed in order to understand the impact of the zone 3a classification in the context of the proposals.

The nuanced arrangement for the management and maintenance of the site is more akin to that of a short-let caravan site with a specific warning and evacuation plan, which should allow the site to be classified as **'More Vulnerable'**. In this circumstance, the development would be appropriate subject to the Exception Tests being satisfied.

Flood risk vulnerability is discussed further in Section 7.

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	x	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	x	x	x	✓*

Key:

✓ Development is appropriate

x Development should not be permitted.

Fig 4: Technical Guidance to the National Planning Policy Framework, Table 3 (extract)

Planning Policy Guidance states that all developments in areas of flood risk have to show how they have passed the sequential test and the exception test.

The aim of the Sequential Test, as set out in the Planning Practice Guidance, is to ensure that a sequential approach is followed to steer new development to areas with the lowest probability of flooding through a review of available sites in the local area and their relative flood risk categorisation.

Once the Sequential Test has been satisfied the development must pass the Exceptions Test, for this it must be demonstrated that:

1. The development provides wider sustainability benefits to the community that outweigh flood risks, informed by the Strategic Flood Risk Assessment; and
2. A site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking into account of the vulnerability of its users, without increasing flood risk elsewhere, and where possible will reduce flood risk overall.

Both parts of this test must be satisfied in order for the development to be considered appropriate in terms of flood risk and there must be robust evidence in support of every part of the test.

4.1. SEQUENTIAL TEST

The application seeks retrospective approval for the siting of 2no static caravans for residential occupation.

Gov.UK mapping shows the site as being located in Flood Zone 3 (refer to Figure 5 below), with the great majority of the surrounding area also at high risk of flooding from rivers and seas.

The application seeks retrospective planning permission for the siting of 2no. caravans for residential use. As the development has already been implemented, the opportunity to apply the Sequential Test and seek alternative sites at lower flood risk is no longer feasible or relevant.

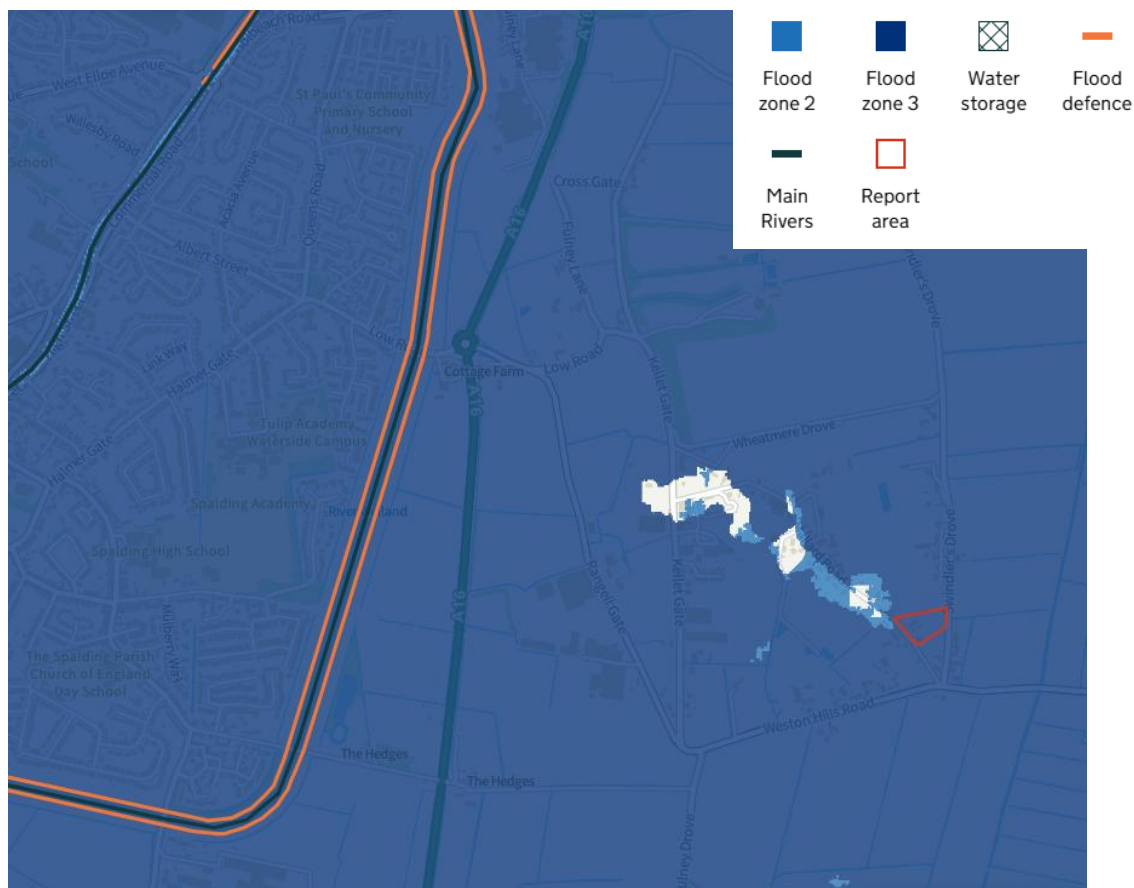


Fig 5: Flood Zones 2 and 3: Flood Map for Planning (GOV.UK extract)

In March 2025, updates were made to the GOV.UK website's flood risk information. The extents of Flood Zones 2 and 3 were revised to incorporate both detailed local models and an enhanced national model. These improvements enable a more precise assessment of flood risk for specific sites.

Fig.6 is extracted from the GOV.UK website and shows the present-day risk of flooding at the site from Rivers during 1% (1 in 100) annual probability events and from Seas during 0.5% (1 in 200) annual probability events, without the benefit of flood defences.

This map shows that the area of the site in which the static caravans are located is outside the latest zone 2 and 3 extents.

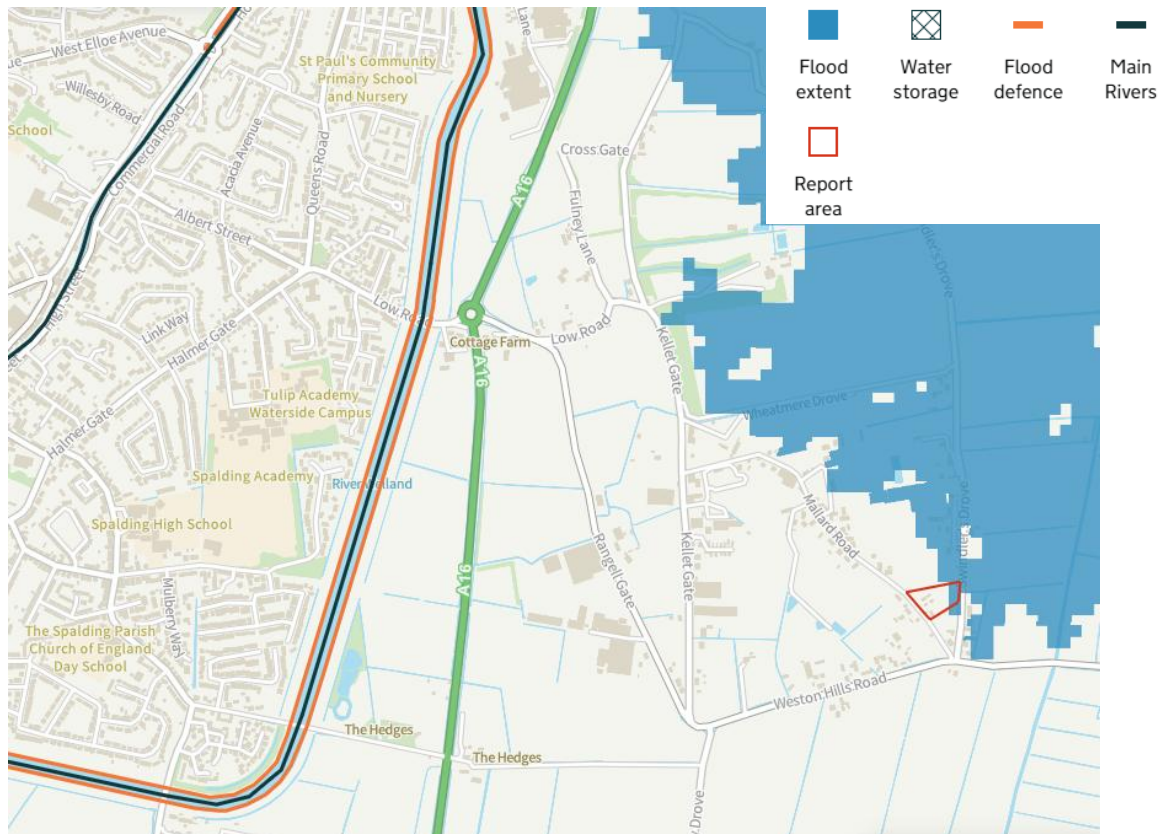


Fig 6: Flood Extents from Rivers (1 in 100), Sea (1 in 200): Flood Map for Planning (GOV.UK extract)

There is some inconsistency between the flood zone map and the source data maps which has been presented as supporting the flood zone classification, however, the latest mapping would suggest that the caravans are in flood zone 1 without the benefit of defences.

The site does benefit from flood defences along the River Welland and the Coronation Channel, and from sea defences along the tidal section of the River Welland which provide a 1 in 1000 year level of protection.

In consideration of the foregoing, it is recommended that the sequential test is considered passed and that the safety of the site is demonstrated through consideration of all available flood information, and identifying how any identified risks are appropriately mitigated (Part 2 of the Exceptions Test)

4.2. EXCEPTIONS TEST

Part 1 of the exceptions test will be satisfied by the Supporting Planning Statement and through compliance with South Holland District Council's planning policies.

This FRA indicates that the second part of the Exceptions test is satisfied and that the proposals would provide flood safety for the lifetime of the development (100 years) and not increase flood risk elsewhere.

5. FLOOD RISK SUMMARY

Source of Flooding	Description	Significance of risk prior to mitigation			Mitigation Measures	Significance of risk post mitigation		
		L	M	H		L	M	H
Rivers	The SEL SFRA shows the site within Flood Zone 3a (unprotected). The River Welland and the Coronation Channel defences may be overtopped or be breached in extreme events			✓	Investigate modelled river levels and review breach mapping for a range of events. Propose GFL above 1 in 100 cc flood. Propose flood resilient construction measures and recommend flood action plan	✓		
Tidal/Coastal	The SEL SFRA shows the site within Flood Zone 3a (unprotected) and is therefore classified as high-risk tidal flooding. The tidal River Welland coastal defences provide protection against tidal flooding			✓	Investigate existing flood defences and assess breach scenarios. Propose GFL above 1 in 200 cc flood. Propose flood resilient construction measures and recommend flood action plan	✓		
Water Courses	Several ordinary water courses contribute to the IDB systems but are not known to affect the site. Exceedance or breach of these systems may affect the site		✓		Seek evidence of flooding from local authority and riparian systems. Consider flood flow routes and future maintenance.	✓		
Groundwater	BGS identifies the site as being at low risk	✓				✓		
Overland flow (Surface Water)	Gov.uk data shows the site and surrounding area as 'very low risk'	✓				✓		
Ponds/Swales	No ponds and swales have been identified in the vicinity of the site	✓				✓		
Public infrastructure failure	There is no record of public infrastructure failure in the vicinity of the site	✓				✓		
Private infrastructure failure	The existing foul and surface water drainage systems on the site have not been investigated for adequacy, however there is no evidence of past failure.		✓		Ensure existing and proposed systems are designed for ease of future maintenance and that a suitable maintenance regime is in place	✓		
Pluvial (urban drainage)	Impermeable roof areas and new porous driveways have been installed as part of the development		✓		Design new surface water drainage systems in accordance with latest relevant SuDS guidance	✓		
Artificial sources	Several man-made drainage systems form part of the South Holland IDB catchments.		✓		SHIDB maintain their networks to a 1 in 100 year level of protection with 300mm freeboard.	✓		

5.1. ANALYSIS OF FLOOD RISKS

5.1.1. RIVER AND TIDAL FLOOD

The Environment Agency in response to flood data request reference EIR2025/03997 (Shown in Appendix B) includes the following statement:

'At present this site is not covered by any Environment Agency hazard mapping....

Detailed Hazard Mapping is available within the 2017 Update of South Holland Strategic Flood Risk Assessment.'

The South East Lincolnshire Strategic Flood Risk Assessment (SFRA) was published in March 2017, superseding the January 2010 South Holland District Council SFRA. The assessment includes advice for the flood risk engineers relating to the actual flood risk within the area from the range of sources.

The assessment includes Level 1 and 2 mapping which shows flood hazards, depth and velocity across the South Holland District from fluvial and tidal sources. The SFRA also provides standing advice for mitigation, in the form of a matrix (SFRA Appendix C).

Figure 7 below is an extract from the SFRA Residual Flood Hazard map for the district for 1% Fluvial and 0.5% Tidal events in the year 2115. The map shows that the area in which the static caravans are located has a hazard rating of between 0.75 and 1.25 (Danger for Some).

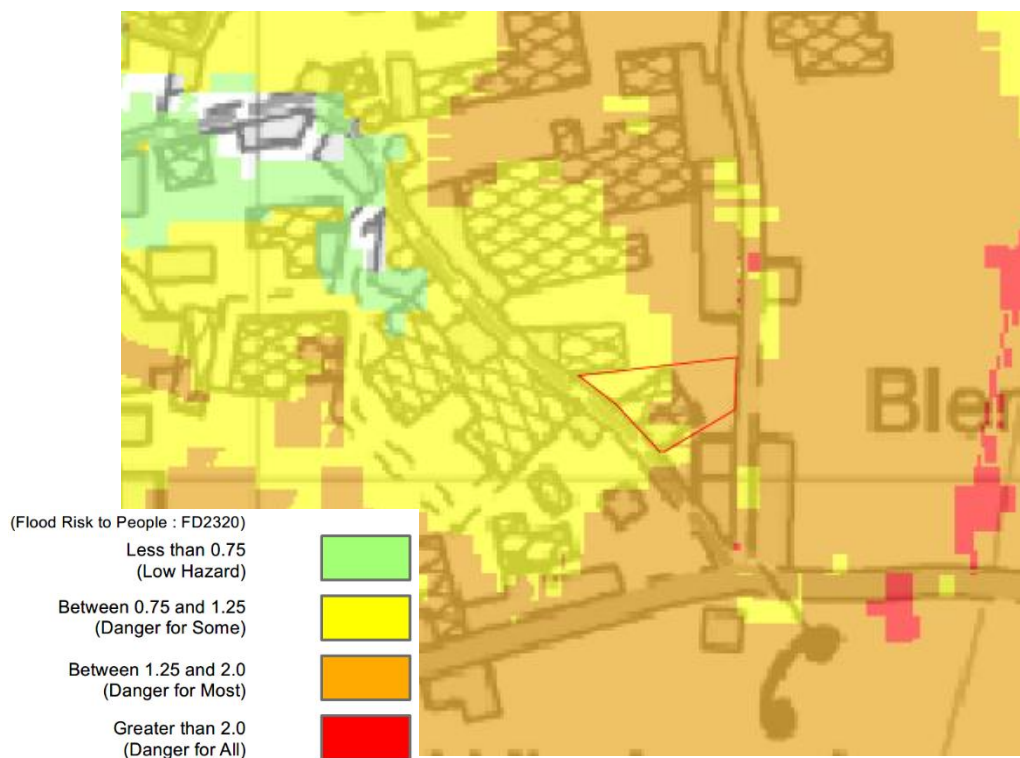


Fig.7: Residual Flood Hazard; Year 2115 1% Fluvial/0.5% Tidal (SEL SFRA Appendix A)

The SEL SFRA refers the engineer to the standing advice matrix in Appendix C which describes mitigation measures based on vulnerability classification and residual flood hazard rating.

Mitigation measures are described in Section 7 of this report.

5.1.2.OVERLAND FLOW (SURFACE WATER)

The site is in an open, flat landscape which is predominantly used for arable agriculture and is drained by a regular network of ditches. During periods of heavy rainfall, the ground may become saturated and surface water may collect in shallow depressions and in areas which are paved.

Figure 9 below from the Government online flood warning information service appears to include the caravans and surrounding surfacing which are the subject of this retrospective application. Therefore, their impact on the overall surface water regime has been considered in this model which shows that the development is not at risk of surface water flooding.

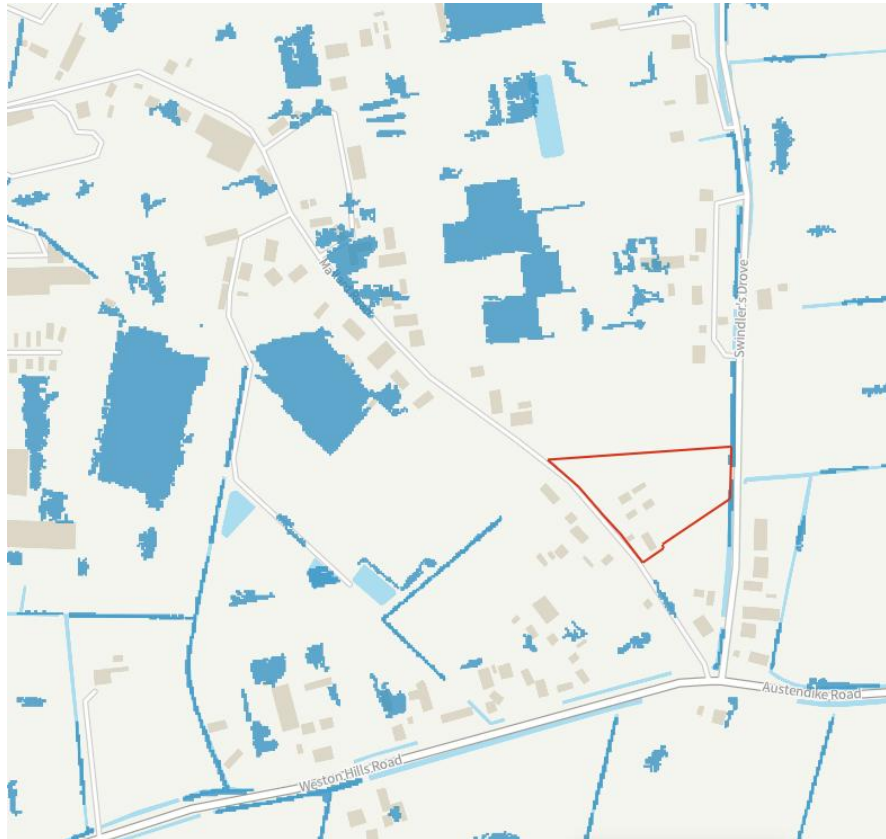


Fig.8: Flood Extents from Surface Water (1 in 100): Flood Map for Planning (GOV.UK extract)

5.1.3.PRIVATE INFRASTRUCTURE FAILURE

There are no available records of the existing drainage systems on the site so a technical assessment cannot be made of their suitability to accommodate the static caravans. There is no anecdotal evidence of either foul or surface water system failure and it is therefore assumed that the existing systems are adequate.

Although foul drainage is not part of the scope of this report, it would be advisable for the owners to commission a survey of the on-site systems to ensure that they are suitable to accommodate the foul and surface water volumes for the entire site.

5.1.4.PLUVIAL FLOODING

The static caravans have marginally increased the impermeable coverage of the site. When considered in combination with the other existing roofs and pavements, rain falling directly onto the site surfaces is a likely source of flooding.

Section 3 of this report describes how the static caravans are sited on porous granular surfacing, which is expected to serve as an infiltration blanket for the roof runoff.

There is no anecdotal evidence of the site flooding during storms events, which would suggest that the on-site systems are performing adequately.

5.1.5.ARTIFICIAL SOURCES

Artificial flooding sources include man-made channels and structures which convey, compound or affect flows of water. South Holland District and indeed much of Lincolnshire is low lying fen lands which are drained in carefully managed man-made channels which are generally pumped into higher level main rivers and these must be considered.

It is understood that the drains surrounding the site contribute to the Wheatmere Drain which is controlled downstream at the South Holland IDB Wisemans Pumping Station. The IDB state that their watercourses are generally maintained to provide a 1% (1 in 100) annual probability level of protection with a 300mm freeboard.

It is considered that there is low risk of flooding from these sources as the networks are continually monitored, manually regulated and maintained to a high standard by South Holland IDB.

5.2. RESIDUAL FLOOD RISK

The development is proposed within an area which is at risk of flooding from a breach of the flood defences on the River Welland or Coronation Channel. The South East Lincolnshire SFRA mapping shows that a breach would result in 'Danger to SOME for the 1% (1 in 100) annual probability scenarios.

The development is proposed within an area which is at risk of flooding from a breach of the flood defences of the tidal River Welland or at the Wash Sea defences. The South East Lincolnshire SFRA mapping shows that a breach would result in 'Danger to SOME for the 0.5% (1 in 200) annual probability scenarios.

Mitigation should be considered in the elevation of finished floor levels and implementation of flood resilient construction, in accordance with the SEL SFRA standing advice matrix.

An indirect risk to occupants may arise in the event of a significant flood as they attempt to leave the site and gain access to other areas. This risk should be mitigated through the implementation of a Flood Warning and Evacuation Plan (FWEP).

Risk of flooding from all other sources is considered to be low without mitigation.

6. CLIMATE CHANGE

National Planning Policy Framework (which details government requirements for the management and reduction of flood risk) requires the investigation of climate change on any proposed development. The Environment Agency have produced guidance on the allowances that are to be made to mitigate the future impact of climate change.

Climate change allowances are predictions of anticipated change for:

- peak river flow
- peak rainfall intensity
- sea level rise
- offshore wind speed and extreme wave height

6.1. RIVER FLOW CHANGE

For 'More Vulnerable' development in flood zone 3a EA guidance stated that 'Central' should be used to assess the range of allowances.

Welland Management Catchment peak river flow allowances ⊗

	Central	Higher	Upper
2020s	5%	10%	22%
2050s	4%	10%	26%
2080s	17%	28%	53%

Fig 9: Peak River Flow Climate Change Allowances by Management Catchment (GOV.UK extract)

It is understood that the flood mapping appended to the SEL SFRA includes a climate change allowance of 20% for the year 2115 fluvial breach events. As the latest guidance requires a 17% allowance in accordance with the table above, the SFRA mapping represents a conservative position.

6.2. RAINFALL INTENSITY CHANGE

Due to the nature of the development (permanent residential use) the design life must be considered to be more than 100 years and therefore the on-site drainage design and flood risk mitigation measures must use Upper End allowances to ensure climate change of 35% and 40% are taken into account for 3.3% (1 in 30) and 1% (1 in 100) annual probability events, in accordance with the table below.

Welland Management Catchment peak rainfall allowances ⊗

3.3% annual exceedance rainfall event

Epoch	Central allowance	Upper end allowance
2050s	20%	35%
2070s	25%	35%

1% annual exceedance rainfall event

Epoch	Central allowance	Upper end allowance
2050s	20%	40%
2070s	25%	40%

*Use '2050s' for development with a lifetime up to 2060 and use the 2070s epoch for development with a lifetime between 2061 and 2125.

Fig 10: Peak Rainfall Climate Change Allowances by Management Catchment (GOV.UK extract)

6.3. SEA LEVEL CHANGE

For 'More Vulnerable' development in flood zone 3a, guidance states that the 'higher central' should be used to assess the range of allowances.

<u>Area of England</u>	Allowance	2000 to 2035 (mm)	2036 to 2065 (mm)	2066 to 2095 (mm)	2096 to 2125 (mm)	Cumulative rise 2000 to 2125 (metres)
Anglian	Higher central	5.8 (203)	8.7 (261)	11.6 (348)	13 (390)	1.20
Anglian	Upper end	7 (245)	11.3 (339)	15.8 (474)	18.1 (543)	1.60

Fig 11: Peak Sea Level Change Allowances by River Basin District (GOV.UK extract)

To bring this into the context of the development today, it is recommended that climate change contingency allowances are applied in accordance with NPPF guidance for planners.

The SFRA mapping uses a Feb 2017 baseline for 0.5% (1 in 200) annual probability tidal flooding in a 2115 scenario.

$$2115 \text{ to } 2125 = 10\text{yrs} \times 13\text{mm/yr} = 130\text{mm}$$

Given that principal risk of flooding at the site is from a breach in the tidal defences of the River Welland, it is considered that the marginal increase in water level approximately 3km from the application site with represent a negligible increase in flood hazard or water depth for the proposed development. A conservative approach in terms of floor level elevation will mitigate this increase.

6.4. OFFSHORE WIND SPEED AND EXTREME WAVE HEIGHT

As the development site is more than 18km from the sea at The Wash, offshore wind speed and extreme wave height influences are not considered relevant for this assessment. The primary flood risk remains associated with potential breaches of the nearby tidal defences, rather than direct coastal forces or wave action.

Accordingly, the focus of flood risk evaluation and mitigation strategies should remain centred on fluvial and tidal breach scenarios, as opposed to maritime hazards.

7. FLOOD RISK MITIGATION

Section 4 of this report discusses vulnerability classification of the site, making reference to Annex 3 of the NPPF flood risk guidance.

Under current UK planning guidance (e.g., the Flood Risk and Coastal Change PPG), park home sites are classified as 'highly vulnerable' because they are permanent residences and often house vulnerable occupants. However, the PPG allows discretion for local planning authorities when considering flood vulnerability, especially where appropriate mitigation is in place.

We consider that, with a fully implemented and maintained Flood Warning and Evacuation Plan (FWEP), and suitable mitigation in the form of raised levels and flood resilience, the site should reasonably be reclassified as 'more vulnerable', in line with how short-let caravan sites are assessed.

Discussions with the applicant, who is the owner and occupier of the main house at the site 'Drallam', have confirmed that he and the occupants of the static caravans are registered with the Government's Flood Warning Information service, so are already pre-warned of high water levels in the catchment.

The applicant and his family are present at the site in perpetuity, effectively acting as the site warden and emergency contact. This arrangement should be formalised through the FWEP to allow the vulnerability classification to be re-assessed.

South East Lincolnshire Strategic SFRA includes a standing advice matrix for minimum levels of mitigation based on vulnerability and flood hazard (see Appendix D).

'Non-major, More Vulnerable' uses with a 'Danger to Some' hazard rating are acceptable subject to the mitigation measures referred to in Cell E8.

The standing guidance for appropriate mitigation is as follows:

- Finished floor levels (FFL) should be informed by the predicted flood depth maps (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map) and set as required below (single storey proposals must use the 0.1% event, 2115 scenario, for setting FFL):
 - Depths of 0.25 - 0.5: FFL must be set 500mm above ground level, with flood resilient construction to a height 300mm above the predicted flood depth
 - depths 0 - 0.25: FFL must be set 300mm above ground level.
- The applicant is advised to refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).

7.1. FLOOD WARNING AND EVACUATION PROCEDURE

The site is shown to lie within Flood Zone 3 and in an area at risk of river/tidal flooding.

The proposed use of the premises is such that occupants would be familiar with their surroundings, although they may be asleep at the time of the flooding event; they are therefore potentially vulnerable during such an event.

The residents should sign up to flood warnings using Flood Warning Information service operated by the Government. Using this, they will be provided a warning of high-water levels within the catchment, thereby providing advanced warning of flood waters reaching the site. Local flood information is available from the Government Flood Warning Information website or obtained by their 'Quickdial' recorded information service.

It is recommended that a Flood Warning and Evacuation Plan (FWEP) is formalised, which would inform the occupants of actions to take before, during and after a flood event to ensure their safety, and to ensure their development will not impact on the ability of the local authority and the emergency services to safeguard the current population.

The FWEP should include:

1. How flood warning is to be provided, such as:

- Availability of existing flood warning systems;
- Where available, rate of onset of flooding and available flood warning time; and
- How flood warning is received.

2. What will be done to protect the development and contents, such as:

- How easily damaged items (including parked cars) or valuable items will be relocated;
- How services can be switched off (gas, electricity, water supplies);
- The use of flood protection products (e.g. flood boards, airbrick covers etc);
- The availability of staff/occupants/users to respond to a flood warning, including preparing for evacuation, deploying flood barriers across doors etc; and
- The time taken to respond to a flood warning.

3. Ensuring safe occupancy and access to and from the development, such as:

- Occupant awareness of the likely frequency and duration of flood events, and the potential need to evacuate;
- Safe access route to and from the development;
- If necessary, the ability to maintain key services during an event;
- Vulnerability of occupants, and whether rescue by emergency services will be necessary and feasible; and
- Expected time taken to re-establish normal use following a flood event (clean up times, time to re-establish service etc).

The Government provide a Personal Flood Plan template which should be kept up to date by the owner of the development. Further guidance on the creation of a personal flood plan can be found using the following link:

<https://www.gov.uk/government/publications/personal-flood-plan>

7.2. FLOOR LEVELS AND SITE LAYOUT

The application seeks retrospective consent for 2no static caravans. The map in figure 8 below shows that the area in which the static caravans are located on the site is crossed by the 0.25m flood depth contour.

Mapping for the 0.1% (1 in 1000) annual probability event is not provided in the SEL SFRA, nor has it been provided by the EA in response to our flood data request. Therefore the 0.5% (1 in 200) tidal flood scenario mapping has been used to establish a suitable FFL.



Fig.12: Residual Peak Flood Depth; Year 2115 1% Fluvial/0.5% Tidal (SEL SFRA Appendix B)

The minimum FFL of the static caravans should be set no lower than 500mm above the general ground levels of the site, which is considered a conservative approach in the local context.

7.3. FLOOD RESILIENT CONSTRUCTION

Flood-resilient buildings are designed to reduce the consequences of flooding and facilitate recovery from the effects of flooding sooner than conventional buildings. This is typically achieved through the use of water-resistant materials for floors, walls and fixtures and the siting of electrical controls, cables and appliances at higher than normal level.

In accordance with the standing advice set out in the SEL SFRA, flood resilient construction should be implemented to 300mm above the 0.5% (1 in 200) tidal flood level at the site.

Government guidance recommends key flood resilient measures as follows:

- Replace timber floors with concrete and cover with tiles,
- Replace window frames and doors with flood protective units of man-made materials
- Fit flood defence barriers to existing doorways and openings,
- Install flood protection plates or replace standard air bricks with special flood resistant ones
- Replace chipboard/MDF kitchen and bathroom units with stainless steel or plastic equivalents,
- Replace gypsum plaster with more water-resistant material, such as lime plaster or cement render,
- Route ground floor services from above and locate service meters and electrical points a minimum of 1500mm above floor level,
- Install main parts of the heating and ventilation system, such as a boiler, upstairs or significantly raised above the ground floor
- Put one-way valves into drainage pipes to prevent sewage backing up into the house

This list is not exhaustive, and further advice should be sought from an architect or engineer to obtain site specific flood protection information. More comprehensive guidance on the design of flood resilient buildings is also available via the following link:

www.planningportal.gov.uk/uploads/br/flood_performance.pdf



Static caravans are typically not built to the same flood resilience standards as permanent brick-and-mortar houses, it is therefore unlikely that all the flood resilience recommendations can be implemented.

To meet the flood resilience requirements set out in the SFRA, it is recommended that the floor levels are elevated to a height of 300mm above the predicted 0.5% (1 in 200) tidal flood levels, moving the entire structure clear of the saturated zone.

The 2115 flood depth map shows that the caravans are located above the 250mm depth contour; therefore, increasing the floor level to a minimum of 550mm above the general ground level (a further 50mm) is advised; in the absence of detailed site information, this would ensure that a conservative approach is taken.

As caravans are of relatively lightweight construction and may be buoyant in the event of an extreme flood event, it is recommended that they are anchored to the ground; suitable methods could include concrete anchor blocks or screw piles.

8. CONCLUSIONS AND RECOMMENDATIONS

Based on the work carried out in preparation of this report the following summary, conclusions and recommendations are made:

1. The client seeks approval for the siting of 2no static caravans for residential occupation (retrospective). This is a 'Highly Vulnerable' use in the context of Annex 3 of the NPPF.
2. The PPG allows discretion for local planning authorities when considering flood vulnerability, especially where appropriate mitigation is in place. It is proposed that a 'More Vulnerable' classification is applied to this application due to the nuanced circumstance regarding management and maintenance of the site.
3. From Environment Agency and publicly available flood data, and in the context of NPPF, the site is classified as lying within Flood Zone 3a: high probability of flooding from rivers or seas.
4. Analysis of detailed flood modelling data has confirmed that the site is unaffected by a 0.1% (1 in 1000) annual probability event with intact flood defences.
5. The principal residual risks of flooding at the site are a fluvial breach of the Coronation Channel during a 1% (1 in 100) annual probability event, or during a 0.5% (1 in 200) flooding event from the tidal River Welland; providing a 'Danger to Some' hazard rating.
6. Risk of flooding from all other sources is considered to be low.
7. The South East Lincolnshire Strategic Flood Risk Assessment classes the use as 'Non-major More Vulnerable' uses with a 'Danger to Some' hazard rating are acceptable subject to Appropriate mitigation and refers to cell E8 of the standing advice matrix.
8. The Exception Test is considered to be passed in accordance with guidance set out in in the South East Lincolnshire SFRA and if the recommendations of this report are adopted in terms of flood risk mitigation. The development is therefore considered appropriate within Flood Zone 3a.
9. To provide suitable level of protection and to ensure resilience in the event of a flood event, it is recommended that finished floor levels are raised 550mm above the surrounding general ground level.
10. The static caravans should be anchored to the ground, to ensure that they remain in-situ in the event of a flood.
11. To support a 'More Vulnerable' classification, a Flood Warning and Evacuation Plan (FWEP) should be created and kept up to date by the site owner of the site.
12. The site owner and all occupants should develop, and keep up to date, Personal Flood Plans for their properties.
13. There is a negligible increase proposed to the impermeable coverage of the site; however, it is recommended that the existing surface water drainage systems are investigated to confirm suitability, and that any necessary improvements are designed in accordance with the SuDS hierarchy.
14. It is recommended that advice is sought from insurers on the insurability of the proposed development.



APPENDIX A: DEVELOPMENT PROPOSAL DRAWINGS



APPENDIX B: ENVIRONMENT AGENCY FLOOD RISK INFORMATION

Kerry Phillips
info@quarringtondesignltd.co.uk

Our ref: EIR2025/03997
Date: 7 May 2025

Dear Kerry,

Flood Risk Information for Swindlers Drove Pinchbeck PE12 6BS

The flood risk information for the above site is set out below and attached. It is important you read any contextual notes on the maps provided.

If you are preparing a Flood Risk Assessment (FRA) for this site, please note this information may not be sufficient by itself to produce an adequate FRA to demonstrate the development is safe over its lifetime. Additional information may be required to carry out an appropriate assessment of all risks, such as the consequences of a breach in the flood defences.

We aim to review our information on a regular basis, so if you are using this data more than twelve months from the date of this letter, please contact us again to check it is still valid.

Please read the letter in full as the information covered has been updated in **April 2025**.

1. Flood Map for Planning

The attached map includes the current Flood Map for Planning for your area. The map indicates the Area at Risk of Flooding (Flood Zone 3) and the Extreme Flood Outline (Flood Zone 2) **assuming no flood defences exist**.

The Area at Risk of Flooding shows the land that could be impacted from a flood with a 0.5% or greater chance of occurring in any year for flooding from the sea, or a 1% or greater chance of occurring in any year for fluvial (river) flooding.

The Extreme Flood Outline shows the land that could be impacted from a flood which has between a 1% and 0.1% chance of occurring in any year for fluvial (river) flooding, or between a 0.5% and 0.1% annual probability of sea flooding, or the highest recorded historic extent if greater.

In some locations, such as around the fens and the large coastal floodplains, showing the area at risk of flooding assuming no defences may give a slightly misleading picture in that if there were no flood defences, water would spread out across these large floodplains. This flooding could cover large areas of land but to relatively shallow depths and could leave pockets of locally slightly higher land as isolated dry islands. It is important to understand the actual risk of the flooding to these dry islands, particularly in the event of defence failure.

The Flood Map for Planning also shows the location of formal raised flood defences and flood storage reservoirs. It represents areas at risk of flooding for present day only and does not take account of climate change.

The Flood Map for Planning only indicates the extent and likelihood of flooding from rivers or the sea. It should also be remembered flooding may occur from other sources such as surface water sewers, road drainage, etc.

2. Recorded Flood Outlines

With regards to the history of flooding I can advise we do not have any records of flooding in this area. It is possible recent flooding may have occurred which we are currently investigating, therefore this information may be subject to change.

It is possible other flooding may have occurred which other risk management authorities, such as the Lead Local Flood Authority (ie top tier council) or Internal Drainage Board (where they exist) have responsibility.

3. Schemes in the area

There are no ongoing capital projects to reduce or sustain the current flood risk to this area.

4. Fluvial Flood Risk Information

The site may be at risk from main rivers in the form of residual risk due to the failure of flood management infrastructure such as a breach of a raised flood defence. You may need to undertake further assessment of this residual risk using the data provided.

The site may also be at risk from local ordinary watercourses for which other risk management authorities, such as the Lead Local Flood Authority (ie top tier council) or Internal Drainage Board (where they exist) have responsibility.

4.1 Fluvial Defence Information

The existing fluvial defences reducing the risk of flooding from main river to this site consist of earth embankments. They are in fair condition and reduce the risk of flooding (at the defence) to a 1% (1 in 100) chance of occurring in any year. We inspect these defences routinely to ensure potential defects are identified.

4.2 Fluvial Modelled Levels and Flows

Available modelled fluvial flood levels and flows for the model nodes shown on the attached map are set out in the data table attached. This data is taken from the model named on the data table, which is the most up-to-date model currently available.

Please note these levels are “in-channel” levels and therefore may not represent the flood level on the floodplain, particularly where the channel is embanked or has raised defences.

Our models may not have the most up to date climate change allowances. In time we will update our models for the latest allowances. You should refer to ['Flood risk assessments: climate change allowances'](#) to check if the allowances modelled are appropriate for the type of development you are proposing and its location. You may need to undertake further assessment of future flood risk using different allowances to ensure your assessment of future flood risk is based on best available evidence.

4.3 Fluvial Modelled Flood Extents

Please find attached a map showing available modelled flood extents, taking into account flood defences, for your area. This data is taken from the model named on the map, which is the most up-to-date model currently available.

In some cases the flood extents shown may not be from main river, but may be from other sources such as IDB lowland drainage networks.

4.4 Fluvial Hazard Mapping

For certain locations we have carried out modelling to map the maximum values of flood depth, velocity and hazard rating (danger to people) resulting from overtopping and / or breaching of defences at specific locations for a number of scenarios.

At present this information is available for fluvial flood risk in Northampton, Lincoln, Wainfleet and some isolated rural locations.

The number of locations we have this information for is expected to increase in time.

At present this site is not covered by any Environment Agency hazard mapping.

Detailed Hazard Mapping is available within the 2017 Update of South Holland Strategic Flood Risk Assessment. This can be downloaded via the following link:

<http://www.southeastlincslocalplan.org/water/>

customer service line 03708 506 506
gov.uk/environment-agency

5. Tidal Flood Risk Information

This site is considered to be at risk from tidal flooding.

6. Development Planning

If you would like local guidance on preparing a flood risk assessment for a planning application, please contact our Sustainable Places team at LNplanning@environment-agency.gov.uk. It will help if you mention this data request and attach your site location plan.

We provide free preliminary advice; additional/detailed advice, review of draft FRAs and meetings are chargeable at a rate set to cover our costs, currently £100 (plus VAT) per hour of staff time. Further details are available on our website at <https://www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals>.

General advice on flood risk assessment for planning applications can be found on GOV.UK at <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications>

Climate change will increase flood risk due to overtopping of defences. Please note, unless specified otherwise, the climate change data included has an allowance for 20% increase in flow. Updated guidance on how climate change could affect flood risk to new development - 'Flood risk assessments: climate change allowances' was published on GOV.UK in **July 2021**. The appropriate updated climate change allowance should be applied in a Flood Risk Assessment.

You should also consult the Strategic Flood Risk Assessment produced by your local planning authority.

7. Data Licence and Other Supporting Information

We respond to requests for recorded information we hold under the Freedom of Information Act 2000 (FOIA) and the associated Environmental Information Regulations 2004 (EIR).

This information is provided in accordance with the Open Government Licence which can be found here: <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

Further information on flood risk can be found on the GOV.UK website at:
<https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather>

Rights of appeal

If you are not satisfied with our decision, you can contact us within two calendar months to ask for the decision to be reviewed. We will then conduct an internal review of our response to your request and give you our decision in writing within 40 working days.

If you are not satisfied with the outcome of the internal review, you can then make an appeal to the Information Commissioner Office, the statutory regulator for EIR and the Freedom of Information Act 2002. The address is: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire. SK9 5AF.

Tel: 0303 123 1113 (local rate) or 01625 545 745 (national rate) | Fax: 01625 524 510
Email: casework@ico.org.uk | Website: www.ico.org.uk

8. Other Flood Risk Management Authorities

The information provided with this letter relates to flood risk from main river or the sea. The Flood Map for Surface Water can be viewed at <https://www.gov.uk/check-long-term-flood-risk>

Additional information may be available from other risk management authorities, such as the Lead Local Flood Authority (ie top tier council) or Internal Drainage Board (where they exist).

I hope we have correctly interpreted your request. If you have any queries or would like to discuss the content of this letter further please contact Rachael Storey using the email address below and quoting our EIR reference number above.

Yours sincerely,



02030253515

for John O'Neill

Welland and Nene Partnerships and Strategic Overview Team Leader

e-mail PSOWN@environment-agency.gov.uk

Enc.

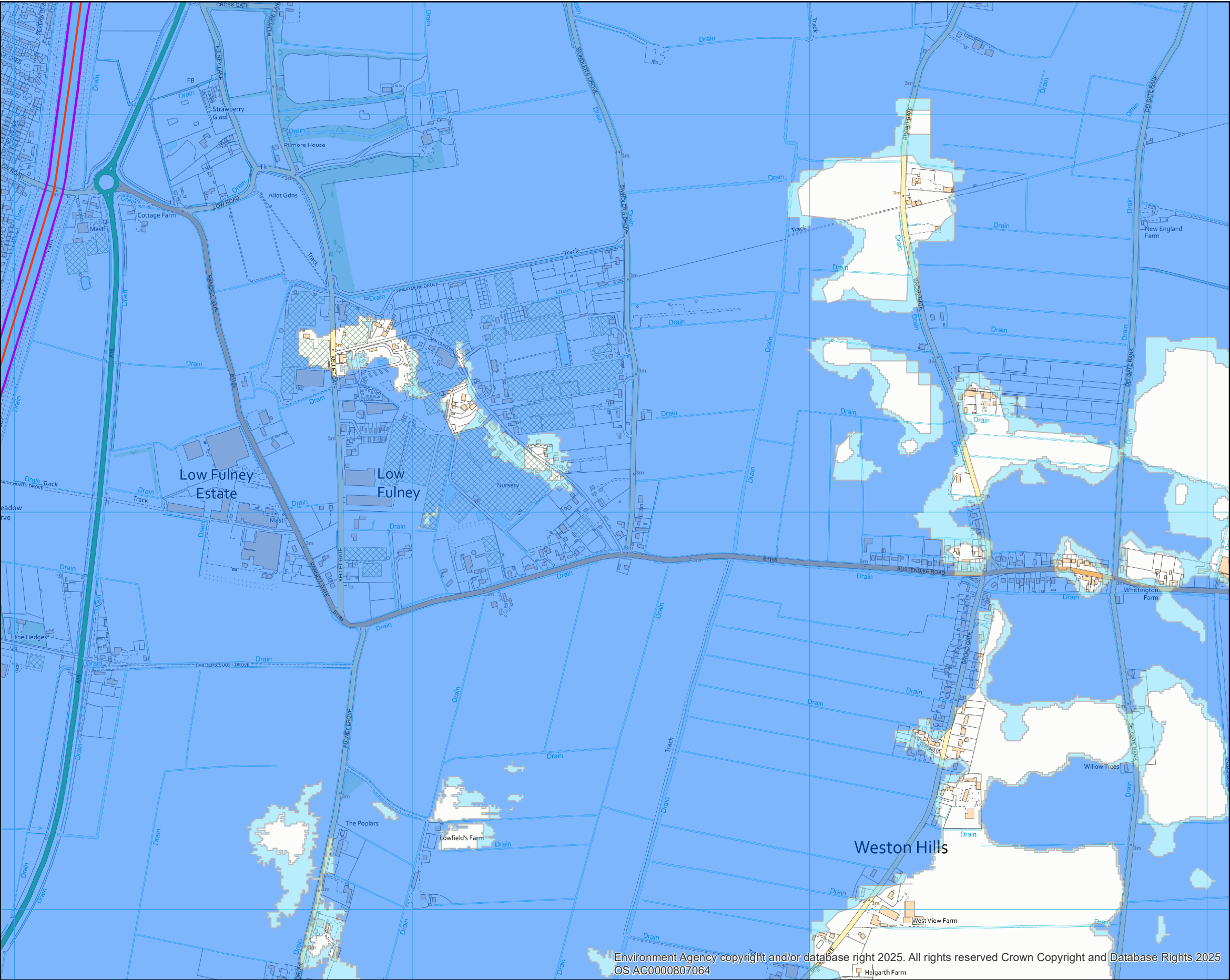
Flood Map for Planning

Modelled Node Points Map

Modelled Fluvial Levels and Flows Data Sheet

Modelled Flood Extent Maps

Flood Map centred on TF 27510 22054 - created May 2025 [Ref: EIR2025-03997]



Scale 1:10,000



Legend

- Main Rivers
- Raised Defences
- Flood Storage Areas

Flood Zones 2 and 3 Rivers and Sea

Flood Zone

- Flood Zone 2
- Flood Zone 3

Dark blue shows the area that could be affected by flooding, either from rivers or the sea, if there were no flood defences. This area could be flooded:

- from the sea by a flood that has a 0.5% (1 in 200) or greater chance of happening each year.
- or from a river by a flood that has a 1% (1 in 100) or greater chance of happening each year.

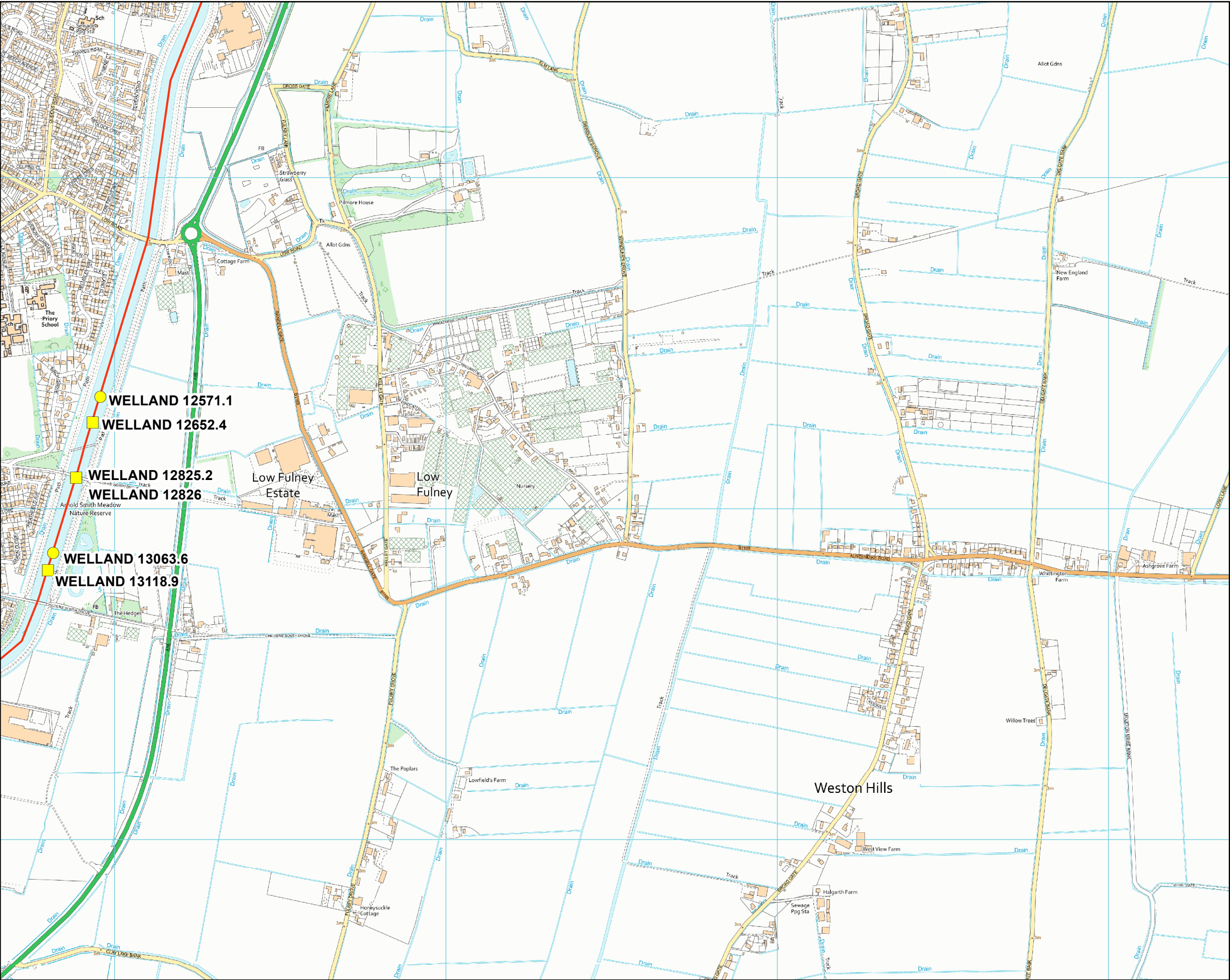
Light blue shows the extent of the Extreme Flood Outline, which represents the extent of a flood event with a 0.1% chance of occurring in any year, or the highest recorded historic extent if greater.

These two colours show the extent of the natural floodplain if there were no flood defences or certain other manmade structures and channel improvements. Sites outside the two extents, but behind raised defences, may be affected by flooding if the defences are overtopped or fail.

Created by the Partnerships and Strategic Overview Team, Kettering

Environment Agency copyright and/or database right 2025. All rights reserved Crown Copyright and Database Rights 2025 OS AC0000807064

Node Map centred on : TF 27510 22054 - created May 2025 [Ref: EIR2025-03997]



Scale 1:12,000

Legend

- Modelled Flows
- Modelled Levels
- Main Rivers

Created by the Partnerships and Strategic Overview Team, Kettering

Fluvial Flood Levels (mODN)

The fluvial flood levels for the model nodes shown on the attached map are set out in the table below. They are measured in metres above Ordnance Datum Newlyn (mODN).

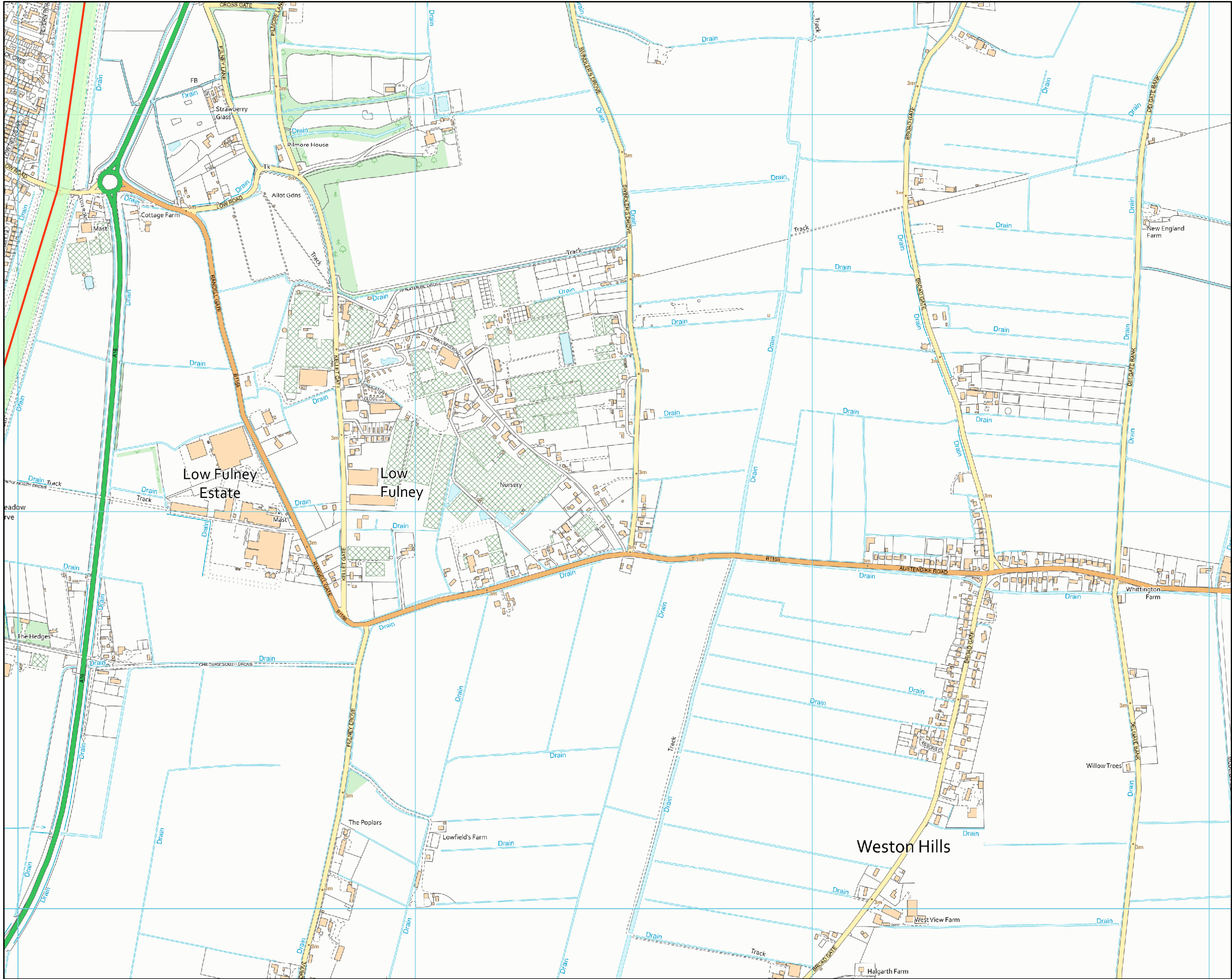
Node Label	Easting	Northing	Annual Exceedance Probability - Maximum Water Levels (mODN)											
			50% (1 in 2)	20% (1 in 5)	10% (1 in 10)	5% (1 in 20)	3.33% (1 in 30)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc 20% Climate Change	0.5% (1 in 200)	0.1% (1 in 1000)	0.1% (1 in 1000) inc 20% Climate Change
WELLAND 12571.1	525957	322337	3.66	3.94	4.11	4.36	4.42	4.42	4.43	4.45	4.68	4.47	4.48	4.68
WELLAND 12825.2	525884	322094	3.66	3.95	4.12	4.36	4.42	4.43	4.44	4.46	4.68	4.48	4.49	4.68
WELLAND 13063.6	525815	321866	3.67	3.95	4.12	4.37	4.43	4.44	4.45	4.46	4.68	4.48	4.50	4.68

Fluvial Flood Flows (m³/s)

The fluvial flood flows for the model nodes shown on the attached map are set out in the table below. They are measured in metres cubed per second (m³/s).

Node Label	Easting	Northing	Annual Exceedance Probability - Maximum Flows (m³/s)											
			50% (1 in 2)	20% (1 in 5)	10% (1 in 10)	5% (1 in 20)	3.33% (1 in 30)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc 20% Climate Change	0.5% (1 in 200)	0.1% (1 in 1000)	0.1% (1 in 1000) inc 20% Climate Change
WELLAND 12652.4	525934	322259	69.30	84.57	95.88	109.05	112.81	114.54	116.06	117.54	117.04	116.95	116.73	116.17
WELLAND 12826	525884	322093	68.62	84.03	95.35	108.49	112.37	114.21	115.84	117.32	116.58	116.69	116.51	115.99
WELLAND 13118.9	525799	321813	67.90	83.30	94.55	107.69	111.69	113.99	115.53	116.91	116.18	116.36	116.20	115.70

Modelled Flood Extents (with defences) Model: Welland Strategic Model (2016)
centred on TF 27510 22054 - created May 2025 [Ref: EIR2025-03997]



Scale 1:10,000



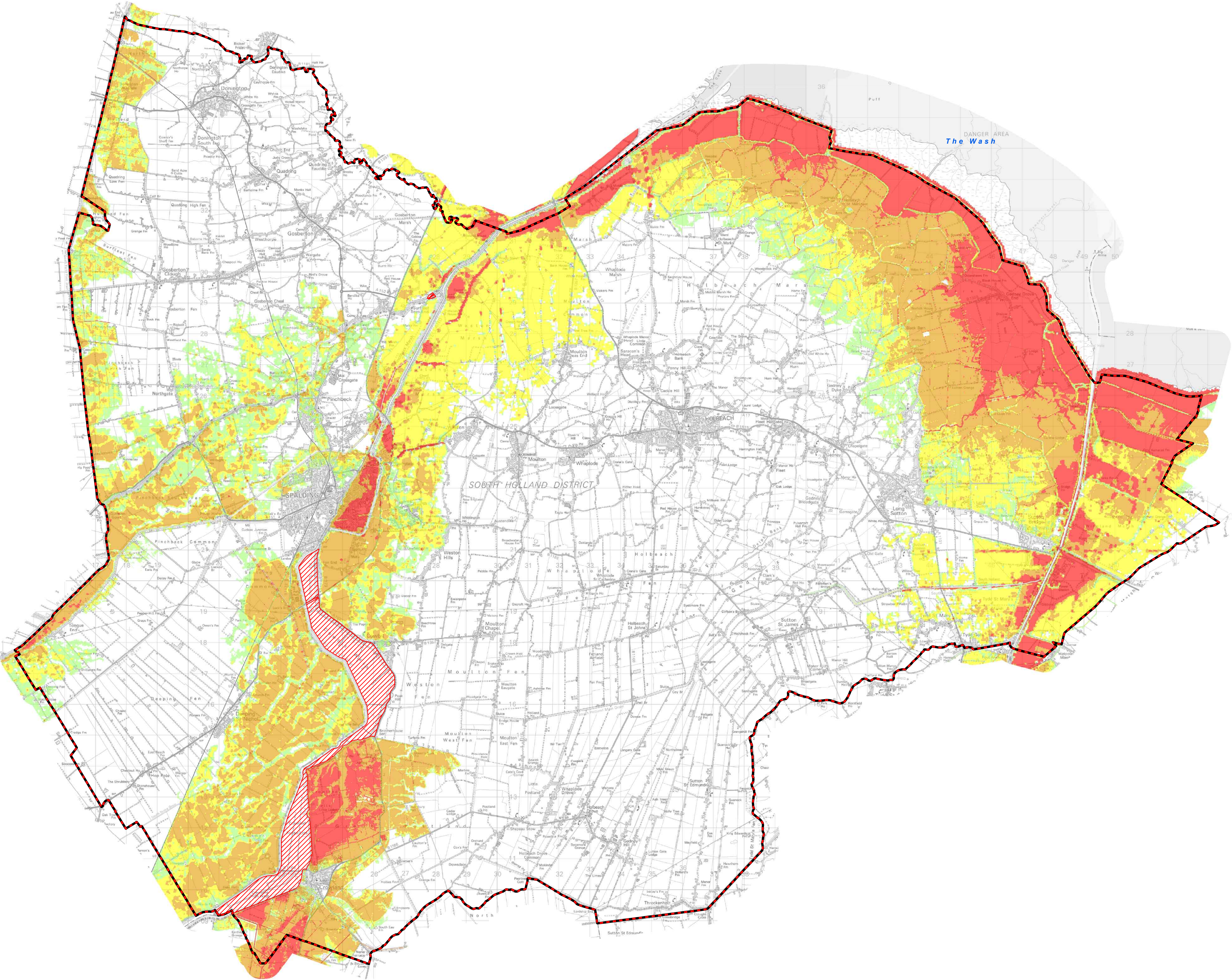
Legend

- Main Rivers
- 3.33% (1 in 30) fluvial event
- 1% (1 in 100) fluvial event
- 1% (1 in 100) inc 20% climate change fluvial event
- 0.1% (1 in 1000) fluvial event
- 0.1% (1 in 1000) inc 20% climate change fluvial event

Created by the Partnerships and Strategic Overview Team,
Kettering



APPENDIX C: SOUTH EAST LINCOLNSHIRE SFRA MAPS



- ### NOTES
1. The potential flooding consequences shown on this map primarily relate to flooding from the sea and main rivers taking into account the presence of current flood risk management measures such as flood defences.
 2. This update only included new flood risk information from River Welland (Fluvial), River Glen (Fluvial) and Tidal hazard mapping (River Welland, River Nene and the Wash sea defences). No new information from the Internal Drainage Boards and associated systems was used for this update.
 3. In addition to the potential flood extents shown on this map, there may be shallow flooding in low-lying rural areas
 4. The consequences designated as being a Residual Risk arise from direct overtopping of defences, where this would occur, together with breach failure which is assumed could occur at any point along the defences.
 5. Functional Floodplain encompasses areas where water is intended to flow or be stored in times of flood.
 6. Land outside South Holland District is not considered.
 7. This map shows the extents only of the flooding probability bands relevant to the map Title

Map Legend

Max Hazard
(Flood Risk to People : FD2320)

- Less than 0.75 (Low Hazard)
- Between 0.75 and 1.25 (Danger for Some)
- Between 1.25 and 2.0 (Danger for Most)
- Greater than 2.0 (Danger for All)

Functional Floodplain

South Holland District Boundary

2	Feb 17	Modelling and Mapping Update
1	Dec 16	Modelling and Mapping Update
REV	DATE	REMARKS
This map is reproduced from the Ordnance Survey map with the permission of the Controller of HM Stationery Office, © Crown Copyright . Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings Licence No: 100018215, 2009		



ROYAL HASKONINGDHV
RIGHTWELL HOUSE
BRETTON
PETERBOROUGH
PE3 8DW
TEL +44 (0)1733 334455
FAX +44 (0)1733 262243



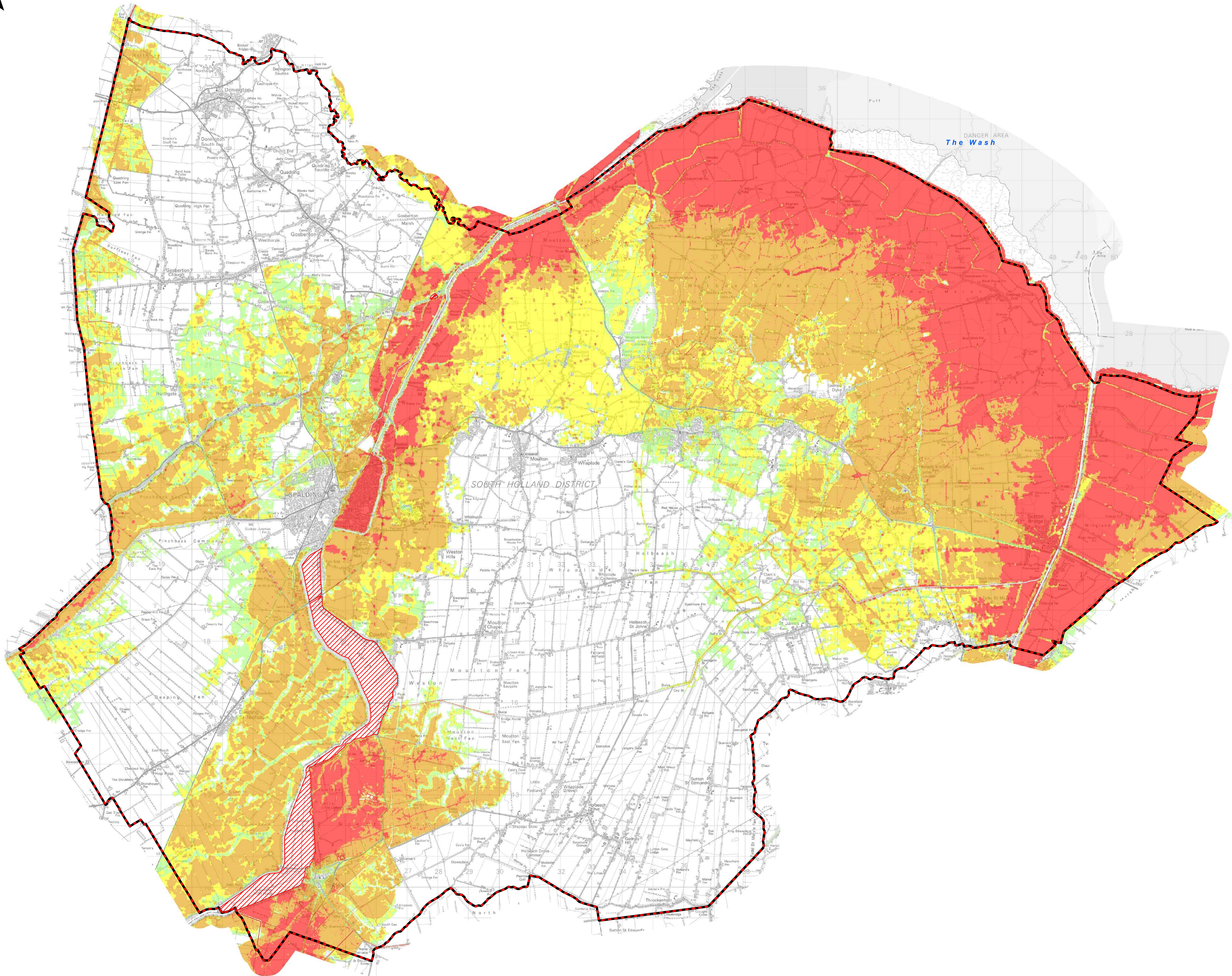
SOUTH HOLLAND DISTRICT COUNCIL
COUNCIL OFFICES
PRIORITY ROAD
SPALDING
LINCOLNSHIRE
PE11 2XE

UPDATE OF STRATEGIC FLOOD RISK ASSESSMENT

Residual Flood Hazard District - Present Day

1% Fluvial / 0.5% Tidal Event Probability

DATE OF ISSUE: Feb 2017	REV NO: 2
SCALE: 1 : 60,000 @ A1	MAP NO:



NOTES

1. The potential flooding consequences shown on this map primarily relate to flooding from the sea and main rivers taking into account the presence of current flood risk management measures such as flood defences.
2. This update only included new flood risk information from River Welland (Fluvial), River Glen (Fluvial) and Tidal hazard mapping (River Welland, River Nene and the Wash sea defences). No new information from the Internal Drainage Boards and associated systems was used for this update.
3. In addition to the potential flood extents shown on this map, there may be shallow flooding in low-lying rural areas
4. The consequences designated as being a Residual Risk arise from direct overtopping of defences, where this would occur, together with breach failure which is assumed could occur at any point along the defences.
5. Functional Floodplain encompasses areas where water is intended to flow or be stored in times of flood.
6. Land outside South Holland District is not considered.
7. This map shows the extents only of the flooding probability bands relevant to the map Title

Map Legend

Max Hazard	
(Flood Risk to People : FD2320)	
Less than 0.75 (Low Hazard)	
Between 0.75 and 1.25 (Danger for Some)	
Between 1.25 and 2.0 (Danger for Most)	
Greater than 2.0 (Danger for All)	
Functional Floodplain	
South Holland District Boundary	

2	Feb 17	Modelling and Mapping Update
1	Dec 16	Modelling and Mapping Update
REV	DATE	REMARKS

This map is reproduced from the Ordnance Survey map with the permission of the Controller of HM Stationery Office, © Crown Copyright . Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings
Licence No: 100018215, 2009



ROYAL HASKONINGDHV
RIGHTWELL HOUSE
BRETTON
PETERBOROUGH
PE3 8DW
TEL +44 (0)1733 334455
FAX +44 (0)1733 262243



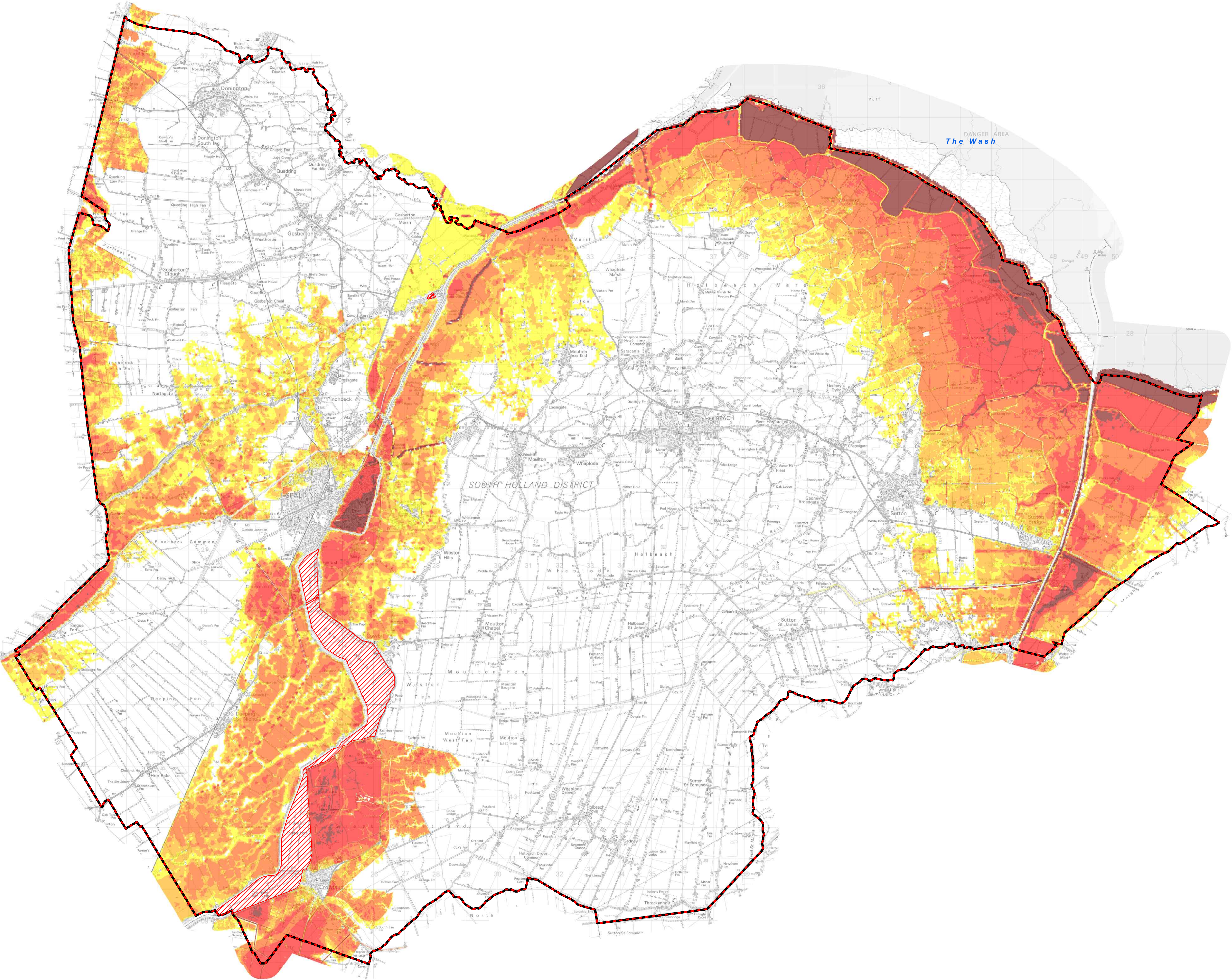
SOUTH
HOLLAND
DISTRICT COUNCIL

SOUTH HOLLAND DISTRICT COUNCIL
COUNCIL OFFICES
PRIORITY ROAD
SPALDING
LINCOLNSHIRE
PE11 2XE

UPDATE OF STRATEGIC
FLOOD RISK ASSESSMENT

Residual Flood Hazard
District - Year 2115
1% Fluvial / 0.5% Tidal Event Probability

DATE OF ISSUE: Feb 2017	REV NO: 2
SCALE: 1 : 60,000 @ A1	MAP NO:



NOTES

1. The potential flooding consequences shown on this map primarily relate to flooding from the sea and main rivers taking into account the presence of current flood risk management measures such as flood defences.
2. This update only included new flood risk information from River Welland (Fluvial), River Glen (Fluvial) and Tidal hazard mapping (River Welland, River Nene and the Wash sea defences). No new information from the Internal Drainage Boards and associated systems was used for this update.
3. In addition to the potential flood extents shown on this map, there may be shallow flooding in low-lying rural areas
4. The consequences designated as being a Residual Risk arise from direct overtopping of defences, where this would occur, together with breach failure which is assumed could occur at any point along the defences.
5. Functional Floodplain encompasses areas where water is intended to flow or be stored in times of flood.
6. Land outside South Holland District is not considered.
7. This map shows the extents only of the flooding probability bands relevant to the map Title

Map Legend

Peak Depth	
0m - 0.25m	
0.25m - 0.5m	
0.5m - 1m	
1m - 2m	
2m +	
Functional Floodplain	
South Holland District Boundary	

2	Feb 17	Modelling and Mapping Update
1	Dec 16	Modelling and Mapping Update
REV	DATE	REMARKS

This map is reproduced from the Ordnance Survey map with the permission of the Controller of HM Stationery Office, © Crown Copyright . Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings
Licence No: 100018215, 2009



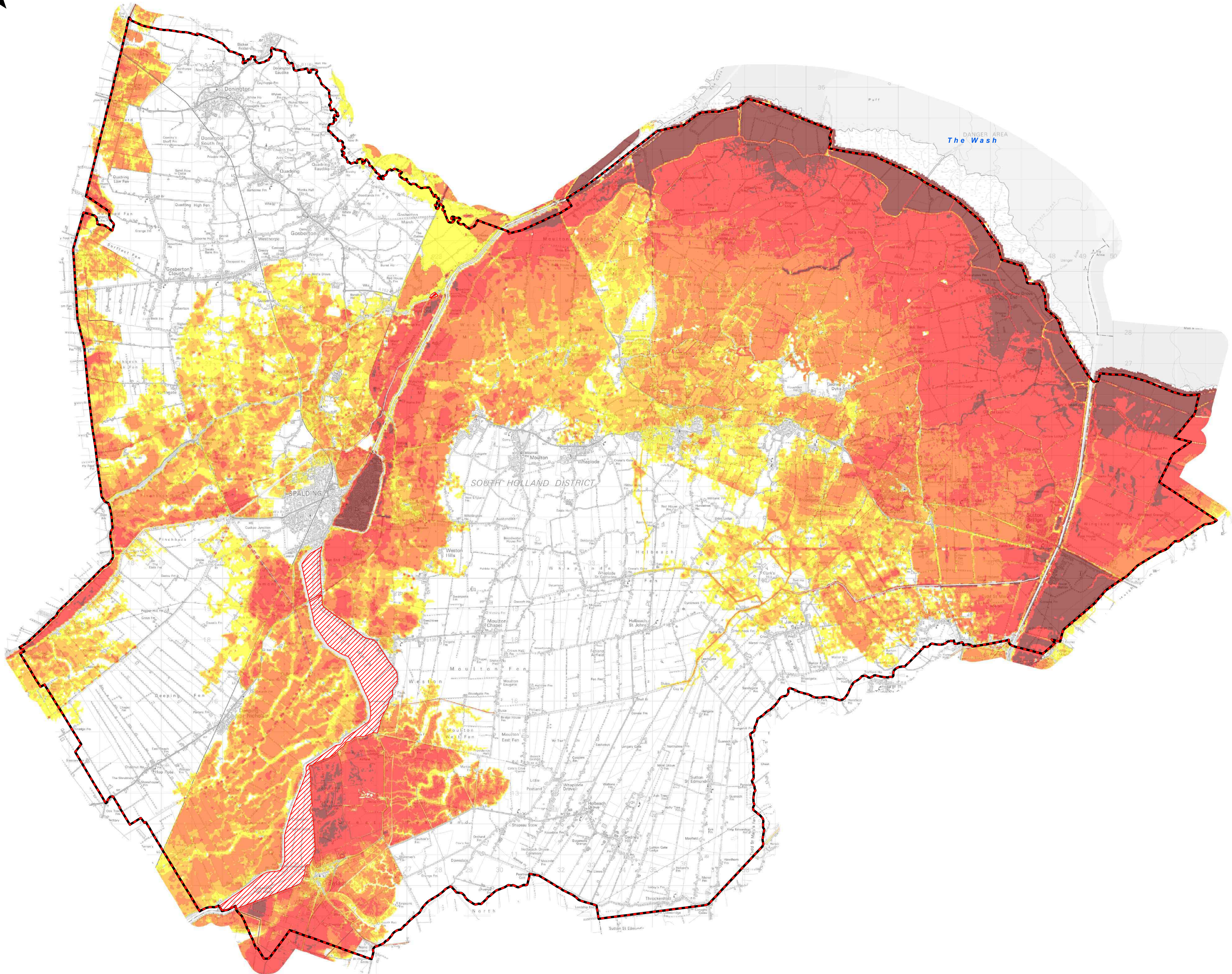
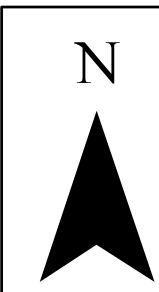
ROYAL HASKONINGDHV
RIGHTWELL HOUSE
BRETTON
PETERBOROUGH
PE3 8DW
TEL +44 (0)1733 334455
FAX +44 (0)1733 262243



SOUTH HOLLAND DISTRICT COUNCIL
COUNCIL OFFICES
PRIORITY ROAD
SPALDING
LINCOLNSHIRE
PE11 2XE

**UPDATE OF STRATEGIC
FLOOD RISK ASSESSMENT**
**Residual Peak Depth
District - Present Day
1% Fluvial / 0.5% Tidal Event Probability**

DATE OF ISSUE: Feb 2017	REV NO: 2
SCALE: 1 : 60,000 @ A1	MAP NO:



NOTES

- 1. The potential flooding consequences shown on this map primarily relate to flooding from the sea and main rivers taking into account the presence of current flood risk management measures such as flood defences.
- 2. This update only included new flood risk information from River Welland (Fluvial), River Glen (Fluvial) and Tidal hazard mapping (River Welland, River Nene and the Wash sea defences). No new information from the Internal Drainage Boards and associated systems was used for this update.
- 3. In addition to the potential flood extents shown on this map, there may be shallow flooding in low-lying rural areas
- 4. The consequences designated as being a Residual Risk arise from direct overtopping of defences, where this would occur, together with breach failure which is assumed could occur at any point along the defences.
- 5. Functional Floodplain encompasses areas where water is intended to flow or be stored in times of flood.
- 6. Land outside South Holland District is not considered.
- 7. This map shows the extents only of the flooding probability bands relevant to the map Title

Map Legend

Peak Depth	
0m - 0.25m	
0.25m - 0.5m	
0.5m - 1m	
1m - 2m	
2m +	
Functional Floodplain	
South Holland District Boundary	

2	Feb 17	Modelling and Mapping Update
1	Dec 16	Modelling and Mapping Update
REV	DATE	REMARKS

This map is reproduced from the Ordnance Survey map with the permission of the Controller of HM Stationery Office, © Crown Copyright . Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings
Licence No: 100018215, 2009



ROYAL HASKONINGDHV
RIGHTWELL HOUSE
BRETTON
PETERBOROUGH
PE3 8DW
TEL +44 (0)1733 334455
FAX +44 (0)1733 262243

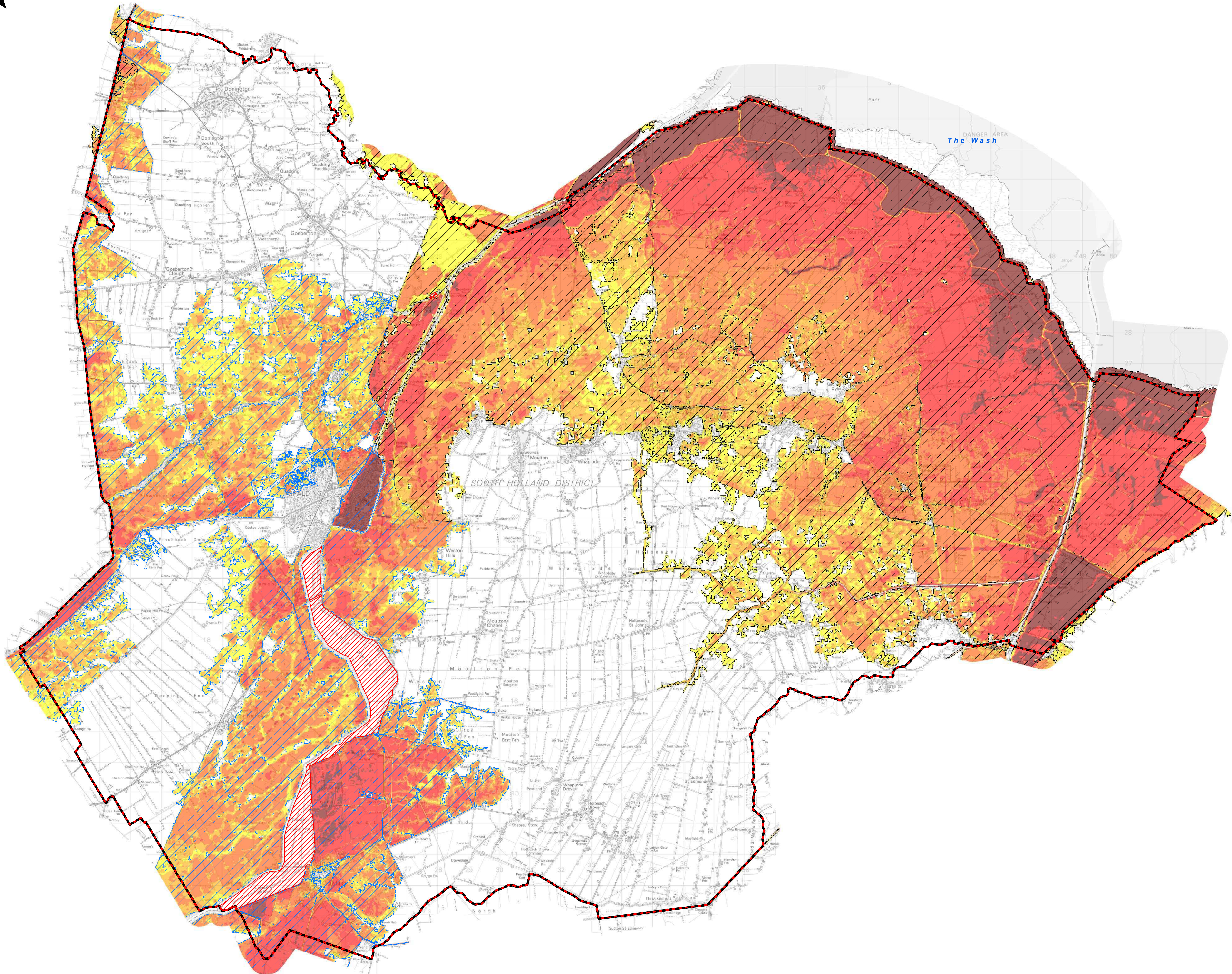


SOUTH HOLLAND DISTRICT COUNCIL
COUNCIL OFFICES
PRIORY ROAD
SPALDING
LINCOLNSHIRE
PE11 2XE

UPDATE OF STRATEGIC
FLOOD RISK ASSESSMENT

Residual Peak Depth
District - Year 2115
1% Fluvial / 0.5% Tidal Event Probability

DATE OF ISSUE: Feb 2017	REV NO: 2
SCALE: 1 : 60,000 @ A1	MAP NO:



- NOTES**
1. The potential flooding consequences shown on this map primarily relate to flooding from the sea and main rivers taking into account the presence of current flood risk management measures such as flood defences.
 2. This update only included new flood risk information from River Welland (Fluvial), River Glen (Fluvial) and Tidal hazard mapping (River Welland, River Nene and the Wash sea defences). No new information from the Internal Drainage Boards and associated systems was used for this update.
 3. In addition to the potential flood extents shown on this map, there may be shallow flooding in low-lying rural areas
 4. The consequences designated as being a Residual Risk arise from direct overtopping of defences, where this would occur, together with breach failure which is assumed could occur at any point along the defences.
 5. Functional Floodplain encompasses areas where water is intended to flow or be stored in times of flood.
 6. Land outside South Holland District is not considered.
 7. This map shows the extents only of the flooding probability bands relevant to the map Title

Map Legend

Peak Depth	
0m - 0.25m	
0.25m - 0.5m	
0.5m - 1m	
1m - 2m	
2m +	
Fluvially dominated extent	
Tidally dominated extent	
Functional Floodplain	
South Holland District Boundary	

2	Feb 17	Modelling and Mapping Update
1	Dec 16	Modelling and Mapping Update
REV	DATE	REMARKS
This map is reproduced from the Ordnance Survey map with the permission of the Controller of HM Stationery Office, © Crown Copyright . Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings Licence No: 100018215, 2009		



ROYAL HASKONINGDHV
RIGHTWELL HOUSE
BRETTON
PETERBOROUGH
PE3 8DW
TEL +44 (0)1733 334455
FAX +44 (0)1733 262243



SOUTH HOLLAND DISTRICT COUNCIL
COUNCIL OFFICES
PRIORY ROAD
SPALDING
LINCOLNSHIRE
PE11 2XE

**UPDATE OF STRATEGIC
FLOOD RISK ASSESSMENT
Residual Peak Depth
Extent of Fluvial and Tidal Domination
District - Year 2115
1% Fluvial / 0.5% Tidal Event Probability**

DATE OF ISSUE: Feb 2017	REV NO: 2
SCALE: 1 : 60,000 @ A1	MAP NO:



APPENDIX D: SOUTH EAST LINCOLNSHIRE STANDING ADVICE MATRIX

	A	B	C	D	E	F	G	H
1	Glossary/Key							
2	Please refer to the National Planning Practice Guidance (Table 3) for advice on when the Sequential and Exception Tests are applicable	Environment Agency Environmental Permitting Regime distance - any works within 8m of fluvial Main River, or 16m of tidal defences (including culverting or control of flow of any river or stream)	Danger to ALL (Hazard Rating >2)	Danger to MOST (Hazard Rating 1.25 - 2)	Danger to SOME (Hazard Rating 0.75 - 1.25)	Low Hazard (Hazard Rating 0 - 0.75)	Flood Zone 3	Flood Zone 2
3	Water Compatible (excluding development that includes essential ancillary sleeping or residential accommodation)	Consult EA	Appropriate Mitigation	Appropriate Mitigation	Appropriate Mitigation	Appropriate Mitigation	No Comment	No Comment
4	Major & Non-major* 'Less Vulnerable' uses, e.g. commercial/industrial development	Consult EA	Consult EA	Appropriate Mitigation	Appropriate Mitigation	No Comment	No Comment	No Comment
5	Tidal Risk Scenario advice only. New short-let Camping and Caravan Sites (incl. log cabins & chalets) - subject to flood warning and evacuation plan	Consult EA	Appropriate Mitigation	Appropriate Mitigation	Appropriate Mitigation	Appropriate Mitigation	Appropriate Mitigation	Appropriate Mitigation
6	Fluvial Risk Scenario advice only. New short-let Camping and Caravan Sites (incl. log cabins & chalets) - subject to flood warning and evacuation plan	Consult EA	EA OBJECTS to the principle of development due to risk to life	EA OBJECTS to the principle of development due to risk to life	Appropriate Mitigation	Appropriate Mitigation	Appropriate Mitigation	Appropriate Mitigation
7	Change of Use - Less Vulnerable to More Vulnerable or within More Vulnerable category, involving increase in risk to people - <i>please see note for other categories & exclusions</i>	Consult EA	Consult EA	Consult EA	Appropriate mitigation	Appropriate mitigation	No Comment	No Comment
8	Non-major* 'More Vulnerable' uses, including residential development & residential holiday accom. (less than 10 dwellings/units or less than 0.5ha in size), <i>except short-let caravan sites - see A5 & A6 above</i>	Consult EA	Consult EA	Appropriate Mitigation	Appropriate Mitigation	Appropriate Mitigation	No Comment	No Comment
9	Major* 'More Vulnerable' uses including residential development & residential holiday accom (not including camping/caravan sites) - greater than 10 dwellings/units or 0.5ha in size	Consult EA	Consult EA	Consult EA	Consult EA	Consult EA	Consult EA	No Comment
10	Essential Infrastructure	Consult EA	Consult EA	Consult EA	Consult EA	Consult EA	Consult EA	No Comment
11	Highly Vulnerable' uses, e.g. caravans, mobile homes and park homes intended for permanent residential use - With the Exception of buildings and infrastructure explicitly for use in emergencies (which should be referred to the EA for bespoke advice)	Consult EA	Object - Contrary to NPPF	Object - Contrary to NPPF	Object - Contrary to NPPF	Object - Contrary to NPPF	Object - Contrary to NPPF	Consult EA
12	<i>* definition taken from T&CP Direction 2009</i>							

Cell: A1
Comment: NPPF - National Planning Policy Framework
NPPG - National Planning Practice Guidance
ST - National Planning Policy Framework Flood Risk Sequential Test
ET - National Planning Policy Framework Flood Risk Exception Test
EA - Environment Agency
SEL - South East Lincolnshire (incorporating Boston Borough Council & South Holland District Council)
SFRA - South East Lincolnshire Strategic Flood Risk Assessment
LPA - Local Planning Authority (Boston Borough Council/South Holland District Council as applicable)
LLFA - Lead Local Flood Authority (Lincolnshire County Council)
PD - Permitted Development
FFL - Finished Floor Level
GF - Ground Floor
ROY Zones - Red, Orange, Yellow Hazard Zones (Danger to All, Most & Some)
< - Less than
> - Greater than
NB: The advice in this matrix relates to flood risk from fluvial and tidal sources only. Applicants will need to discuss flooding from other sources with the relevant flood risk management authority.

The LPA is reminded that the advice contained in this matrix relates to flood resistance/resilience to built development. The LPA will still need to be satisfied with regard to the safety of people (including those with restricted mobility), the ability of such people to reach places of safety including safe refuges within buildings and the ability of the emergency services to access such buildings to rescue and evacuate those people, having regard to the Hazard Zone within which development proposals lie.

Cell: C2
Comment: This category includes potential flood depths of between 0.3m to >2.5m; and potential velocities of 0 to 5m/s.

Cell: D2
Comment: This category includes potential flood depths of between 0.2m to 2.0m; and potential velocities of 0 to 5m/s.

Cell: E2
Comment: This category includes potential flood depths of between 0.05m to 0.5m; and potential velocities of 0 to 5m/s.

Cell: F2
Comment: This category includes potential flood depths of between 0.5m to 0.25m; and potential velocities of 0 to 4m/s.

Cell: G2
Comment: This is the area comprising of 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. This does not consider the presence of defences.

Please note that this column relates to land within FZ3 that does not lie within any hazard zone. If the land lies within a hazard zone, please refer to the advice under the relevant hazard rating column

Cell: H2
Comment: This is the area comprising of land assessed as having between a 1 in 100 and a 1 in 1000 annual probability of river flooding (1% - 0.1%) or between a 1 in 200 and a 1 in 1000 annual probability of flooding from the sea (0.5% - 0.1%) in any year. This does not consider the presence of defences.

Please note that this column relates to land within FZ2 that does not lie within any hazard zone. If the land lies within a hazard zone, please refer to the advice under the relevant hazard rating column

Cell: B3
Comment: Under the terms of the Environmental Permitting Regulations 2016 any proposed works or structures in, under, over or within 8 metres measured horizontally from the foot of any bank on the landward side, or where there is no bank, within 8 metres measured horizontally from the top edge of the batter enclosing a main river or within 16m of a tidal defence structure may need to obtain a permit from, or register an exemption with, the Environment Agency. The applicant is requested to contact the Environment Agency's Flood and Coastal Risk Management team on 03708 506 506 for further information. Please note that an Environment Agency permit/exemption may be required irrespective of any Town and Country Planning Act approvals/permissions.

The Environment Agency may also request the removal of some Permitted Development rights in this location.

Cell: C3
Comment: The Environment Agency recommends that the LPA checks the proposed development will operate under flood conditions (i.e. essential electrical equipment), and that appropriate mitigation measures/flood resilience techniques have been incorporated into the development. We recommend that essential equipment is set above the 0.1% breach event depth in the climate change (2115) scenario.

Please refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).

The Environment Agency OBJECTS to proposals, which include ground floor ancillary sleeping accommodation as an adequate standard of safety will not be achievable within the predicted flood depths as shown in the Strategic Flood Risk Assessment/Hazard Mapping.

Marina developments sometimes pose particular issues and we recommend direct consultation with the Environment Agency on such development for bespoke advice.

Cell: D3

Comment: The Environment Agency recommends that the LPA checks the proposed development will operate under flood conditions (i.e. essential electrical equipment), and that appropriate mitigation measures/flood resilience techniques have been incorporated into the development. We recommend that essential equipment is set above the 0.1% breach event depth in the climate change (2115) scenario.

Please refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).

The Environment Agency OBJECTS to proposals, which include ground floor ancillary sleeping accommodation as an adequate standard of safety will not be achievable within the predicted flood depths as shown in the Strategic Flood Risk Assessment/Hazard Mapping.

Marina developments sometimes pose particular issues and we recommend direct consultation with the Environment Agency on such development for bespoke advice.

Cell: E3

Comment: The Environment Agency recommends that the LPA checks the proposed development will operate under flood conditions i.e. essential electrical equipment, and that appropriate mitigation measures/flood resilience techniques have been incorporated into the development. We recommend that essential equipment is set above the 0.1% breach event depth in the climate change (2115) scenario.

Please refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).

Marina developments sometimes pose particular issues and we recommend direct consultation with the Environment Agency on such development for bespoke advice.

Cell: F3

Comment: The Environment Agency recommends that the LPA checks the proposal will operate under flood conditions i.e. essential electrical equipment, and that appropriate mitigation measures/flood resilience techniques have been incorporated into the development.

Please refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).

Cell: B4

Comment: Under the terms of the Environmental Permitting Regulations 2016 any proposed works or structures in, under, over or within 8 metres measured horizontally from the foot of any bank on the landward side, or where there is no bank, within 8 metres measured horizontally from the top edge of the batter enclosing a main river or within 16m of a tidal defence structure may need to obtain a permit from, or register an exemption with, the Environment Agency. The applicant is requested to contact the Environment Agency's Flood and Coastal Risk Management team on 03708 506 506 for further information. Please note that an Environment Agency permit/exemption may be required irrespective of any Town and Country Planning Act approvals/permissions.

Cell: C4

Comment: The proposal must be referred to the Environment Agency with a supporting Flood Risk Assessment, which contains evidence to justify the chosen finished floor level. This should be raised as high as practicable (minimum 300mm above the existing ground level).

The Flood Risk Assessment should also include confirmation that appropriate mitigation measures/flood resilience techniques have been incorporated into the development.

Please refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).

Single storey buildings should be built with FFLs above the flood level (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map). If this is not practicable an area of safe refuge will need to be provided or an appropriate flood warning and evacuation plan will need to be submitted to and approved by the LPA.

It is recommended that proposals are referred to the Environment Agency at the pre-application stage in the process.

Cell: D4

Comment: The Environment Agency recommends that the following mitigation is incorporated into the development.

The finished floor levels should be raised as high as practicable (minimum 300mm above the existing ground level). The Environment Agency recommends that appropriate mitigation measures/flood resilience techniques are incorporated into the development. Please refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).

Single storey buildings should be built with FFLs above the predicted flood depth (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map). If this is not practicable an area of safe refuge will need to be provided or an appropriate flood warning and evacuation plan will need to demonstrate how this risk will be managed. It is the responsibility of the Local Planning Authority to determine the adequacy of the plan.

Cell: E4

Comment: The Environment Agency recommends that the following mitigation is incorporated into the development.

The finished floor levels should be raised as high as practicable (minimum 300mm above the existing ground level). The Environment Agency recommends that appropriate mitigation measures/flood resilience techniques are incorporated into the development. Please refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).

Single storey buildings should be built with FFLs above the predicted flood depth (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map). If this is not practicable an area of safe refuge should be provided or an appropriate flood warning and evacuation plan will need to demonstrate how this risk will be managed. It is the responsibility of the Local Planning Authority to determine the adequacy of the plan.

Cell: B5
Comment: Under the terms of the Environmental Permitting Regulations 2016 any proposed works or structures in, under, over or within 8 metres measured horizontally from the foot of any bank on the landward side, or where there is no bank, within 8 metres measured horizontally from the top edge of the batter enclosing a main river or within 16m of a tidal defence structure may need to obtain a permit from, or register an exemption with, the Environment Agency. The applicant is requested to contact the Environment Agency's Flood and Coastal Risk Management team on 03708 506 506 for further information. Please note that an Environment Agency permit/exemption may be required irrespective of any Town and Country Planning Act approvals/permissions.

Cell: C5
Comment: The NPPG requires that proposals for holiday or short-let caravans and camping sites are accompanied by a flood warning and evacuation plan, undertaken and agreed in consultation with the LPA's Emergency Planning Officer.

It is recommended that static caravans are secured to the ground using an adequate mechanism such as chains and ground anchors and the finished floor level set at a minimum 300mm above ground level.

The Environment Agency requires the imposition of the following condition:

CONDITION: No caravans/chalets/log cabins on the site shall be occupied between 1 November (or the following Sunday, if half terms extends into November) in any one year and 14 March in the succeeding year.

REASON: To reduce the impact of flooding.

If the application is for occupancy outside of these dates, please refer the application to the Environment Agency, together with the FRA, for site specific assessment of the risks and bespoke advice.

Cell: D5
Comment: The NPPG requires that proposals for holiday or short-let caravans and camping sites are accompanied by a flood warning and evacuation plan, undertaken and agreed in consultation with the LPA's Emergency Planning Officer.

It is recommended that static caravans are secured to the ground using an adequate mechanism such as chains and ground anchors and the finished floor level set at a minimum 300mm above ground level.

The Environment Agency requires the imposition of the following condition:

CONDITION: No caravans/chalets/log cabins on the site shall be occupied between 1 November (or the following Sunday, if half terms extends into November) in any one year and 14 March in the succeeding year.

REASON: To reduce the impact of flooding.

If the application is for occupancy outside of these dates, please refer the application to the Environment Agency, together with the FRA, for site specific assessment of the risks and bespoke advice.

Cell: E5
Comment: The NPPG requires that proposals for holiday or short-let caravans and camping sites are accompanied by a flood warning and evacuation plan, undertaken and agreed in consultation with the LPA's Emergency Planning Officer.

It is recommended that static caravans are secured to the ground using an adequate mechanism such as chains and ground anchors and the finished floor level set at a minimum 300mm above ground level.

The Environment Agency requires the imposition of the following condition:

CONDITION: No caravans/chalets/log cabins on the site shall be occupied between 1 November (or the following Sunday, if half terms extends into November) in any one year and 14 March in the succeeding year.

REASON: To reduce the impact of flooding.

If the application is for occupancy outside of these dates, please refer the application to the Environment Agency, together with the FRA, for site specific assessment of the risks and bespoke advice.

Cell: F5
Comment: The NPPG requires that proposals for holiday or short-let caravans and camping sites are accompanied by a flood warning and evacuation plan, undertaken and agreed in consultation with the LPA's Emergency Planning Officer.

It is recommended that static caravans are secured to the ground using an adequate mechanism such as chains and ground anchors and the finished floor level set at a minimum 300mm above ground level.

Cell: G5
Comment: The NPPG requires that proposals for holiday or short-let caravans and camping sites are accompanied by a flood warning and evacuation plan, undertaken and agreed in consultation with the LPA's Emergency Planning Officer.

It is recommended that static caravans are secured to the ground using an adequate mechanism such as chains and ground anchors and the finished floor level set at a minimum 300mm above ground level.

Cell: H5
Comment: The NPPG requires that proposals for holiday or short-let caravans and camping sites are accompanied by a flood warning and evacuation plan, undertaken and agreed in consultation with the LPA's Emergency Planning Officer.

It is recommended that static caravans are secured to the ground using an adequate mechanism such as chains and ground anchors and the finished floor level set at a minimum 300mm above ground level.

Cell: B6
Comment: Under the terms of the Environmental Permitting Regulations 2016 any proposed works or structures in, under, over or within 8 metres measured horizontally from the foot of any bank on the landward side, or where there is no bank, within 8 metres measured horizontally from the top edge of the batter enclosing a main river or within 16m of a tidal defence structure may need to obtain a permit from, or register an exemption with, the Environment Agency. The applicant is requested to contact the Environment Agency's Flood and Coastal Risk Management team on 03708 506 506 for further information. Please note that an Environment Agency permit/exemption may be required irrespective of any Town and Country Planning Act approvals/permissions.

Cell: C6
Comment: The Environment Agency OBJECTS to new short-let camping and caravan sites (incl. log cabins & chalets) in this hazard area as it is not possible to mitigate against the depths and/or velocity of flooding that could be experienced in this hazard category, which present a danger to all.

Cell: D6
Comment: The Environment Agency OBJECTS to new short-let camping and caravan sites (incl. log cabins & chalets) in this hazard area as it is not possible to mitigate against the depths and/or velocity of flooding that could be experienced in this hazard category, which present a danger to most.

Cell: E6
Comment: The NPPG requires that proposals for holiday or short-let caravans and camping sites are accompanied by a flood warning and evacuation plan, undertaken and agreed in consultation with the LPA's Emergency Planning Officer.

It is recommended that static caravans are secured to the ground using an adequate mechanism such as chains and ground anchors and the finished floor level set at a minimum 300mm above ground level.

Cell: F6
Comment: The NPPG requires that proposals for holiday or short-let caravans and camping sites are accompanied by a flood warning and evacuation plan, undertaken and agreed in consultation with the LPA's Emergency Planning Officer.

It is recommended that static caravans are secured to the ground using an adequate mechanism such as chains and ground anchors and the finished floor level set at a minimum 300mm above ground level.

Cell: G6
Comment: The NPPG requires that proposals for holiday or short-let caravans and camping sites are accompanied by a flood warning and evacuation plan, undertaken and agreed in consultation with the LPA's Emergency Planning Officer.

It is recommended that static caravans are secured to the ground using an adequate mechanism such as chains and ground anchors and the finished floor level set at a minimum 300mm above ground level.

Cell: H6
Comment: The NPPG requires that proposals for holiday or short-let caravans and camping sites are accompanied by a flood warning and evacuation plan, undertaken and agreed in consultation with the LPA's Emergency Planning Officer.

It is recommended that static caravans are secured to the ground using an adequate mechanism such as chains and ground anchors and the finished floor level set at a minimum 300mm above ground level..

Cell: A7
Comment: Please note change of use of land to caravan/camping sites are excluded from this category - see cells A5&A6 above for advice.

The EA makes 'no comments' to the following change of use applications (see NPPG Table 2 for Vulnerability Classification):
Water Compatible to Water Compatible;
Less Vulnerable use to Less Vulnerable use;
More Vulnerable use to Less Vulnerable use;
More Vulnerable use to More Vulnerable use - where there is no increase in risk to people (if this is not clear, please refer to the EA for bespoke advice)

All other change of use applications within the 'Danger to All' and 'Danger to Most' categories should be referred to the EA with a site specific FRA to obtain bespoke advice.

Cell: B7	
Comment:	Under the terms of the Environmental Permitting Regulations 2016 any proposed works or structures in, under, over or within 8 metres measured horizontally from the foot of any bank on the landward side, or where there is no bank, within 8 metres measured horizontally from the top edge of the batter enclosing a main river or within 16m of a tidal defence structure may need to obtain a permit from, or register an exemption with, the Environment Agency. The applicant is requested to contact the Environment Agency's Flood and Coastal Risk Management team on 03708 506 506 for further information. Please note that an Environment Agency permit/exemption may be required irrespective of any Town and Country Planning Act approvals/permissions.
	The Environment Agency may also request the removal of some Permitted Development rights in this location.
Cell: C7	
Comment:	The proposal should be referred to the Environment Agency with a supporting Flood Risk Assessment, which demonstrates that the proposal will be safe for its lifetime.
	The Environment Agency is likely to object to proposals including ground floor habitable accommodation.
	The FRA should aim to identify mitigation measures in line with those required for new build development of the same type, as far as this is practicable.
Cell: D7	
Comment:	The proposal should be referred to the Environment Agency with a supporting Flood Risk Assessment, which demonstrates that the proposal will be safe for its lifetime.
	The Environment Agency is likely to object to proposals including ground floor habitable accommodation.
	The FRA should aim to identify mitigation measures in line with those required for new build development of the same type, as far as this is practicable.
Cell: E7	
Comment:	The Environment Agency recommends that the proposal is accompanied by a Flood Risk Assessment which confirms that appropriate mitigation measures/flood resilience techniques have been incorporated into the development up to the predicted flood level (see Max Depth Map for 2115 scenarios).
	Please refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).
	The FRA should aim to identify mitigation measures in line with those required for new build development of the same type, as far as this is practicable.
	The Environment Agency OBJECTS to proposals which include self contained ground floor residential accommodation as an adequate standard of safety will not be achievable within the predicted flood depths as shown in the Strategic Flood Risk Assessment/Hazard Mapping. You may wish to refer applications that include self-contained ground flood residential accommodation to us for a bespoke response.
Cell: F7	
Comment:	The Environment Agency recommends that the proposal is accompanied by a Flood Risk Assessment which confirms that appropriate mitigation measures/flood resilience techniques have been incorporated into the development up to the predicted flood level (see Max Depth Map for 2115 scenarios).
	Please refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).
	The FRA should aim to identify mitigation measures in line with those required for new build development of the same type, as far as this is practicable.
Cell: A8	
Comment:	Housing proposals will need to pass the flood risk Sequential Test as outlined in the NPPF & NPPG. To do this applicants will need to demonstrate that there is an identified need for the housing, which is not being met by those sites allocated in the Local Plan.
	It is recommended that applicants discuss this with the relevant Planning Officer to ascertain the likelihood of the proposal passing the ST prior to working up a detailed planning application. In the event that the proposal passes the ST, an accompanying Flood Risk Assessment will also need to demonstrate that the proposal can be made safe for its lifetime, referring to the mitigation advice contained in this matrix.
Cell: B8	
Comment:	Under the terms of the Environmental Permitting Regulations 2016 any proposed works or structures in, under, over or within 8 metres measured horizontally from the foot of any bank on the landward side, or where there is no bank, within 8 metres measured horizontally from the top edge of the batter enclosing a main river or within 16m of a tidal defence structure may need to obtain a permit from, or register an exemption with, the Environment Agency. The applicant is requested to contact the Environment Agency's Flood and Coastal Risk Management team on 03708 506 506 for further information. Please note that an Environment Agency permit/exemption may be required irrespective of any Town and Country Planning Act approvals/permissions.
	The Environment Agency may also request the removal of some Permitted Development rights in this location.
Cell: C8	
Comment:	The Environment Agency requires direct consultation on proposals in this hazard zone. The NPPF requires that proposals are accompanied by a Flood Risk Assessment which contains evidence that appropriate mitigation measures/flood resilience techniques have been incorporated into the development.

The applicant is advised to refer to the following document for information on flood resilience and resistance techniques to be included: ‘Improving Flood Performance of New Buildings - Flood Resilient Construction’ (DCLG 2007).

Finished floor levels (FFL) should be informed by the predicted flood depth maps (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map) and set as required below (single storey proposals must use the 0.1% event, 2115 scenario, for setting FFLs):

depths of >1.6m
It is unlikely that mitigation measures would prevent flood water from entering the building at ground floor level. Therefore, proposals must have a minimum of 2 storeys with no ground floor habitable accommodation. The first floor living accommodation must be above the highest predicted flood depth. *

depths of 1-1.6m
Proposals must have a minimum of 2 storeys, with FFL set a minimum of 1m above existing ground level, flood resilient construction to a height 300mm above the predicted flood depth, and demountable defences to 600mm above FFL.

depths 0.5 - 1m
FFL must be set 1m above ground level, with flood resilient construction to a height of 300mm above the predicted flood depth.

depths of 0.25 - 0.5
FFL must be set 500mm above ground level, with flood resilient construction to a height 300mm above the predicted flood depth.

depths 0 - 0.25
FFL must be set 300mm above ground level.

* Where there is to be no ground floor habitable accommodation, the Environment Agency requires the imposition of the following conditions in order to ensure this space is not subsequently developed:

CONDITION
The ground floor[s] of the [property][properties][plot nos. *] hereby approved shall be used as [garage][WC][utility][bath/shower room] only and as annotated on approved drawings ***, and for no other habitable accommodation.

REASON
In accordance with the details of the application and to ensure that there is no sleeping or vulnerable living accommodation on the ground floor, in order to protect the inhabitants of the property from the risk of flooding in accordance with the NPPF.

CONDITION
Notwithstanding the provision of the Town and Country Planning (General Permitted Development) Order 1995 (or any order revoking and re-enacting that Order with or without modification), no extensions to provide additional habitable/living accommodation shall be erected [other than those expressly authorised by this permission].

REASON
To reduce the risk and impact of flooding.

Cell: D8
Comment: The NPPF requires that proposals are accompanied by a Flood Risk Assessment which contains evidence that appropriate mitigation measures/flood resilience techniques have been incorporated into the development.

Finished floor levels (FFL) should be informed by the predicted flood depth maps (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map) and set as required below (single storey proposals must use the 0.1% event, 2115 scenario, for setting FFLs):

depths of >1.6m
It is unlikely that mitigation measures would prevent flood water from entering the building at ground floor level. Therefore, proposals must have a minimum of 2 storeys with no ground floor habitable accommodation. The first floor living accommodation must be above the highest predicted flood depth. *

depths of 1-1.6m
Proposals must have a minimum of 2 storeys, with FFL set a minimum of 1m above existing ground level, flood resilient construction to a height 300mm above the predicted flood depth, and demountable defences to 600mm above FFL.

depths 0.5 - 1m
FFL must be set 1m above ground level, with flood resilient construction to a height of 300mm above the predicted flood depth.

depths of 0.25 - 0.5
FFL must be set 500mm above ground level, with flood resilient construction to a height 300mm above the predicted flood depth.

depths 0 - 0.25
FFL must be set 300mm above ground level.

* Where there is to be no ground floor habitable accommodation, the Environment Agency requires the imposition of the following conditions in order to ensure this space is not subsequently developed:

CONDITION
The ground floor[s] of the [property][properties][plot nos. *] hereby approved shall be used as [garage][WC][utility][bath/shower room] only and as annotated on approved drawings ***, and for no other habitable accommodation.

REASON
In accordance with the details of the application and to ensure that there is no sleeping or vulnerable living accommodation on the ground floor, in order to protect the inhabitants of the property from the risk of flooding in accordance with the NPPF.

CONDITION
Notwithstanding the provision of the Town and Country Planning (General Permitted Development) Order 1995 (or any order revoking and re-enacting that Order with or without modification), no extensions to provide additional habitable/living accommodation shall be erected

[other than those expressly authorised by this permission].

REASON
To reduce the risk and impact of flooding.

The applicant is advised to refer to the following document for information on flood resilience and resistance techniques to be included: ‘Improving Flood Performance of New Buildings - Flood Resilient Construction’ (DCLG 2007).

Cell: E8
Comment: The NPPF requires that proposals are accompanied by a Flood Risk Assessment which contains evidence that appropriate mitigation measures/flood resilience techniques have been incorporated into the development.

Finished floor levels (FFL) should be informed by the predicted flood depth maps (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map) and set as required below (single storey proposals must use the 0.1% event, 2115 scenario, for setting FFL):

depths of 0.25 - 0.5
FFL must be set 500mm above ground level, with flood resilient construction to a height 300mm above the predicted flood depth.

depths 0 - 0.25
FFL must be set 300mm above ground level.

The applicant is advised to refer to the following document for information on flood resilience and resistance techniques to be included: ‘Improving Flood Performance of New Buildings - Flood Resilient Construction’ (DCLG 2007).

Cell: F8
Comment: The NPPF requires that the proposal is accompanied by a Flood Risk Assessment which contains evidence that appropriate mitigation measures/flood resilience techniques have been incorporated into the development.

Please refer to the following document for information on flood resilience and resistance techniques to be included: ‘Improving Flood Performance of New Buildings - Flood Resilient Construction’ (DCLG 2007).

FFL must be set 300mm above ground level for two storey proposals. Single storey proposals must set FFLs above the 0.1% event breach depth in the 2115 scenario.

Cell: A9
Comment: Housing proposals will need to pass the flood risk Sequential Test as outlined in the NPPF & NPPG. To do this applicants will need to demonstrate that there is an identified need for the housing, which is not being met by those sites allocated in the Local Plan.

It is recommended that applicants discuss this with the relevant Planning Officer to ascertain the likelihood of the proposal passing the ST prior to working up a detailed planning application. In the event that the proposal passes the ST, an accompanying Flood Risk Assessment will also need to demonstrate that the proposal can be made safe for its lifetime, referring to the mitigation advice contained in this matrix.

Cell: B9
Comment: Under the terms of the Environmental Permitting Regulations 2016 any proposed works or structures in, under, over or within 8 metres measured horizontally from the foot of any bank on the landward side, or where there is no bank, within 8 metres measured horizontally from the top edge of the batter enclosing a main river or within 16m of a tidal defence structure may need to obtain a permit from, or register an exemption with, the Environment Agency. The applicant is requested to contact the Environment Agency's Flood and Coastal Risk Management team on 03708 506 506 for further information. Please note that an Environment Agency permit/exemption may be required irrespective of any Town and Country Planning Act approvals/permissions.

The Environment Agency may also request the removal of some Permitted Development rights in this location.

Cell: C9
Comment: The Environment Agency requires direct consultation on proposals in this hazard zone. The NPPF requires that proposals are accompanied by a Flood Risk Assessment which contains evidence that appropriate mitigation measures/flood resilience techniques have been incorporated into the development. The Environment Agency also wishes to be consulted on the Sequential Test evidence. Applicants will need to demonstrate that housing proposals are required to meet an identified local housing need.

The applicant is advised to refer to the following document for information on flood resilience and resistance techniques to be included: ‘Improving Flood Performance of New Buildings - Flood Resilient Construction’ (DCLG 2007).

Finished floor levels (FFL) should be informed by the predicted flood depth maps (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map) and set as required below (single storey proposals must use the 0.1% event, 2115 scenario, for setting FFLs):

depths of >1.6m
It is unlikely that mitigation measures would prevent flood water from entering the building at ground floor level. Therefore, proposals must have a minimum of 2 storeys with no ground floor habitable accommodation. The first floor living accommodation must be above the highest predicted flood depth. *

depths of 1-1.6m
Proposals must have a minimum of 2 storeys, with FFL set a minimum of 1m above existing ground level, flood resilient construction to a height 300mm above the predicted flood depth, and demountable defences to 600mm above FFL.

depths 0.5 - 1m
FFL must be set 1m above ground level, with flood resilient construction to a height of 300mm above the predicted flood depth.

depths of 0.25 - 0.5
FFL must be set 500mm above ground level, with flood resilient construction to a height 300mm above the predicted flood depth.

depths 0 - 0.25
FFL must be set 300mm above ground level.

* Where there is to be no ground floor habitable accommodation, the Environment Agency requires the imposition of the following conditions in order to ensure this space is not subsequently developed:

CONDITION
The ground floor[s] of the [property][properties][plot nos. *] hereby approved shall be used as [garage][WC][utility][bath/shower room] only and as annotated on approved drawings ***, and for no other habitable accommodation.

REASON
In accordance with the details of the application and to ensure that there is no sleeping or vulnerable living accommodation on the ground floor, in order to protect the inhabitants of the property from the risk of flooding in accordance with the NPPF.

CONDITION
Notwithstanding the provision of the Town and Country Planning (General Permitted Development) Order 1995 (or any order revoking and re-enacting that Order with or without modification), no extensions to provide additional habitable/living accommodation shall be erected [other than those expressly authorised by this permission].

REASON
To reduce the risk and impact of flooding.

The Flood Risk Assessment must also include details of surface water drainage arrangements and demonstrate that the proposal will not increase flood risk elsewhere - the LPA should seek the advice of the LLFA with respect to the adequacy of this element of the assessment.

Cell: D9
Comment: The Environment Agency requires direct consultation on proposals in this hazard zone. The NPPF requires that proposals are accompanied by a Flood Risk Assessment which contains evidence that appropriate mitigation measures/flood resilience techniques have been incorporated into the development. The Environment Agency also wish to be consulted on the Sequential Test evidence. Applicants will need to demonstrate that housing proposals are required to meet an identified local housing need.

The applicant is advised to refer to the following document for information on flood resilience and resistance techniques to be included: ‘Improving Flood Performance of New Buildings - Flood Resilient Construction’ (DCLG 2007).
Finished floor levels (FFL) should be informed by the predicted flood depth maps (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map) and set as required below (single storey proposals must use the 0.1% event, 2115 scenario, for setting FFLs):

depths of >1.6m
It is unlikely that mitigation measures would prevent flood water from entering the building at ground floor level. Therefore, proposals must have a minimum of 2 storeys with no ground floor habitable accommodation. The first floor living accommodation must be above the highest predicted flood depth. *

depths of 1-1.6m
Proposals must have a minimum of 2 storeys, with FFL set a minimum of 1m above existing ground level, flood resilient construction to a height 300mm above the predicted flood depth, and demountable defences to 600mm above FFL.

depths 0.5 - 1m
FFL must be set 1m above ground level, with flood resilient construction to a height of 300mm above the predicted flood depth.

depths of 0.25 - 0.5
FFL must be set 500mm above ground level, with flood resilient construction to a height 300mm above the predicted flood depth.

depths 0 - 0.25
FFL must be set 300mm above ground level.

* Where there is to be no ground floor habitable accommodation, the Environment Agency requires the imposition of the following conditions in order to ensure this space is not subsequently developed:

CONDITION
The ground floor[s] of the [property][properties][plot nos. *] hereby approved shall be used as [garage][WC][utility][bath/shower room] only and as annotated on approved drawings ***, and for no other habitable accommodation.

REASON
In accordance with the details of the application and to ensure that there is no sleeping or vulnerable living accommodation on the ground floor, in order to protect the inhabitants of the property from the risk of flooding in accordance with the NPPF.

CONDITION
Notwithstanding the provision of the Town and Country Planning (General Permitted Development) Order 1995 (or any order revoking and re-enacting that Order with or without modification), no extensions to provide additional habitable/living accommodation shall be erected [other than those expressly authorised by this permission].

REASON
To reduce the risk and impact of flooding.

The Flood Risk Assessment must also include details of surface water drainage arrangements and demonstrate that the proposal will not increase flood risk elsewhere - the LPA should seek the advice of the LLFA with respect to the adequacy of this element of the assessment.

Cell: E9
Comment: The Environment Agency requires direct consultation on proposals in this hazard zone. The NPPF requires that proposals are accompanied by a Flood Risk Assessment which contains evidence that appropriate mitigation measures/flood resilience techniques have been incorporated into the development. The Environment Agency also wishes to be consulted on the Sequential Test evidence. Applicants will need to demonstrate that housing proposals are required to meet an identified local housing need.

The applicant is advised to refer to the following document for information on flood resilience and resistance techniques to be included: ‘Improving Flood Performance of New Buildings - Flood Resilient Construction’ (DCLG 2007).

Finished floor levels (FFL) must be informed by the predicted flood depth maps (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map) and set as required below (Single storey proposals must use the 0.1% event, 2115 scenario, for setting FFL):

depths of 0.25 - 0.5

FFL must be set 500mm above ground level with flood resilient construction to a height 300mm above the predicted flood depth.

depths 0 - 0.25
FFL must be set 300mm above ground level.

The Flood Risk Assessment must also include details of surface water drainage arrangements and demonstrate that the proposal will not increase flood risk elsewhere - the LPA should seek the advice of the LLFA with respect to the adequacy of this element of the assessment.

Cell: F9
Comment: The Environment Agency requires direct consultation on proposals in this hazard zone. The NPPF requires that proposals are accompanied by a Flood Risk Assessment which contains evidence that appropriate mitigation measures/flood resilience techniques have been incorporated into the development.

The applicant is advised to refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).

Finished floor levels (FFL) must be informed by the predicted flood depth maps (refer to the relevant 2115 1% fluvial or 0.5% tidal Max Depth Map) and set as required below (single storey proposals must use the 0.1% event, 2115 scenario, for setting FFL).

depths 0 - 0.25
FFL must be set 300mm above ground level.

The Flood Risk Assessment must also include details of surface water drainage arrangements and demonstrate that the proposal will not increase flood risk elsewhere - the LPA should seek the advice of the LLFA with respect to the adequacy of this element of the assessment.

Cell: G9
Comment: The Environment Agency requires direct consultation on proposals in this flood zone. The NPPF requires that proposals are accompanied by a Flood Risk Assessment which contains evidence that appropriate mitigation measures/flood resilience techniques have been incorporated into the development.

The applicant is advised to refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).

Finished floor levels (FFL) should be set 300mm above ground level.

The Flood Risk Assessment must also include details of surface water drainage arrangements and demonstrate that the proposal will not increase flood risk elsewhere - the LPA should seek the advice of the LLFA with respect to the adequacy of this element of the assessment.

Cell: B10
Comment: Under the terms of the Environmental Permitting Regulations 2016 any proposed works or structures in, under, over or within 8 metres measured horizontally from the foot of any bank on the landward side, or where there is no bank, within 8 metres measured horizontally from the top edge of the batter enclosing a main river or within 16m of a tidal defence structure may need to obtain a permit from, or register an exemption with, the Environment Agency. The applicant is requested to contact the Environment Agency's Flood and Coastal Risk Management team on 03708 506 506 for further information. Please note that an Environment Agency permit/exemption may be required irrespective of any Town and Country Planning Act approvals/permissions.

The Environment Agency may also request the removal of some Permitted Development rights in this location.

Cell: C10
Comment: The application must be referred to the Environment Agency together with a supporting Flood Risk Assessment, which demonstrates that the proposal will remain operational during a 0.1% event (2115 scenario) and that appropriate mitigation measures/flood resilient construction techniques have been incorporated into the development.

Cell: D10
Comment: The application must be referred to the Environment Agency together with a supporting Flood Risk Assessment, which demonstrates that the proposal will remain operational during a 0.1% event (2115 scenario) and that appropriate mitigation measures/flood resilient construction techniques have been incorporated into the development.

Cell: E10
Comment: The application must be referred to the Environment Agency together with a supporting Flood Risk Assessment, which demonstrates that the proposal will remain operational during a 0.1% event (2115 scenario) and that appropriate mitigation measures/flood resilient construction techniques have been incorporated into the development.

Cell: F10
Comment: The application must be referred to the Environment Agency together with a supporting Flood Risk Assessment, which demonstrates that the proposal will remain operational during a 0.1% event (2115 scenario) and that appropriate mitigation measures/flood resilient construction techniques have been incorporated into the development.

Cell: G10
Comment: The application must be referred to the Environment Agency together with a supporting Flood Risk Assessment, which demonstrates that the proposal will remain operational during a 0.1% event (2115 scenario) and that appropriate mitigation measures/flood resilient construction techniques have been incorporated into the development.

Cell: B11
Comment: Under the terms of the Environmental Permitting Regulations 2016 any proposed works or structures in, under, over or within 8 metres measured horizontally from the foot of any bank on the landward side, or where there is no bank, within 8 metres measured horizontally from the top edge of the batter enclosing a main river or within 16m of a tidal defence structure may need to obtain a permit from, or register an exemption with, the Environment Agency. The applicant is requested to contact the Environment Agency's Flood and Coastal Risk Management team on 03708 506 506 for further information. Please note that an Environment Agency permit/exemption may be required irrespective of any Town and Country Planning Act approvals/permissions.

The Environment Agency may also request the removal of some Permitted Development rights in this location.

Cell: C11	Comment: In accordance with Table 3 of the NPPG, highly vulnerable uses are not appropriate in Flood Zone 3. However, due to the extent of the Flood Zone along the coast, exceptions may be made for essential installations such as Police, Ambulance and Fire stations etc. Such proposals should be referred to the Environment Agency for bespoke advice at pre-application stage.
Cell: D11	Comment: In accordance with Table 3 of the NPPG, highly vulnerable uses are not appropriate in Flood Zone 3. However, due to the extent of the Flood Zone along the coast, exceptions may be made for essential installations such as Police, Ambulance and Fire stations etc. Such proposals should be referred to the Environment Agency for bespoke advice at pre-application stage.
Cell: E11	Comment: In accordance with Table 3 of the NPPG, highly vulnerable uses are not appropriate in Flood Zone 3. However, due to the extent of the Flood Zone along the coast, exceptions may be made for essential installations such as Police, Ambulance and Fire stations etc. Such proposals should be referred to the Environment Agency for bespoke advice at pre-application stage.
Cell: F11	Comment: In accordance with Table 3 of the NPPG, highly vulnerable uses are not appropriate in Flood Zone 3. However, due to the extent of the Flood Zone along the coast, exceptions may be made for essential installations such as Police, Ambulance and Fire stations etc. Such proposals should be referred to the Environment Agency for bespoke advice at pre-application stage.
Cell: G11	Comment: In accordance with Table 3 of the NPPG, highly vulnerable uses are not appropriate in Flood Zone 3. However, due to the extent of the Flood Zone along the coast, exceptions may be made for essential installations such as Police, Ambulance and Fire stations etc. Such proposals should be referred to the Environment Agency for bespoke advice at pre-application stage.
Cell: H11	Comment: The application should be referred to the Environment Agency together with a supporting Flood Risk Assessment, which demonstrates that with appropriate mitigation the proposal will be safe for its lifetime. Please refer to the following document for information on flood resilience and resistance techniques to be included: 'Improving Flood Performance of New Buildings - Flood Resilient Construction' (DCLG 2007).