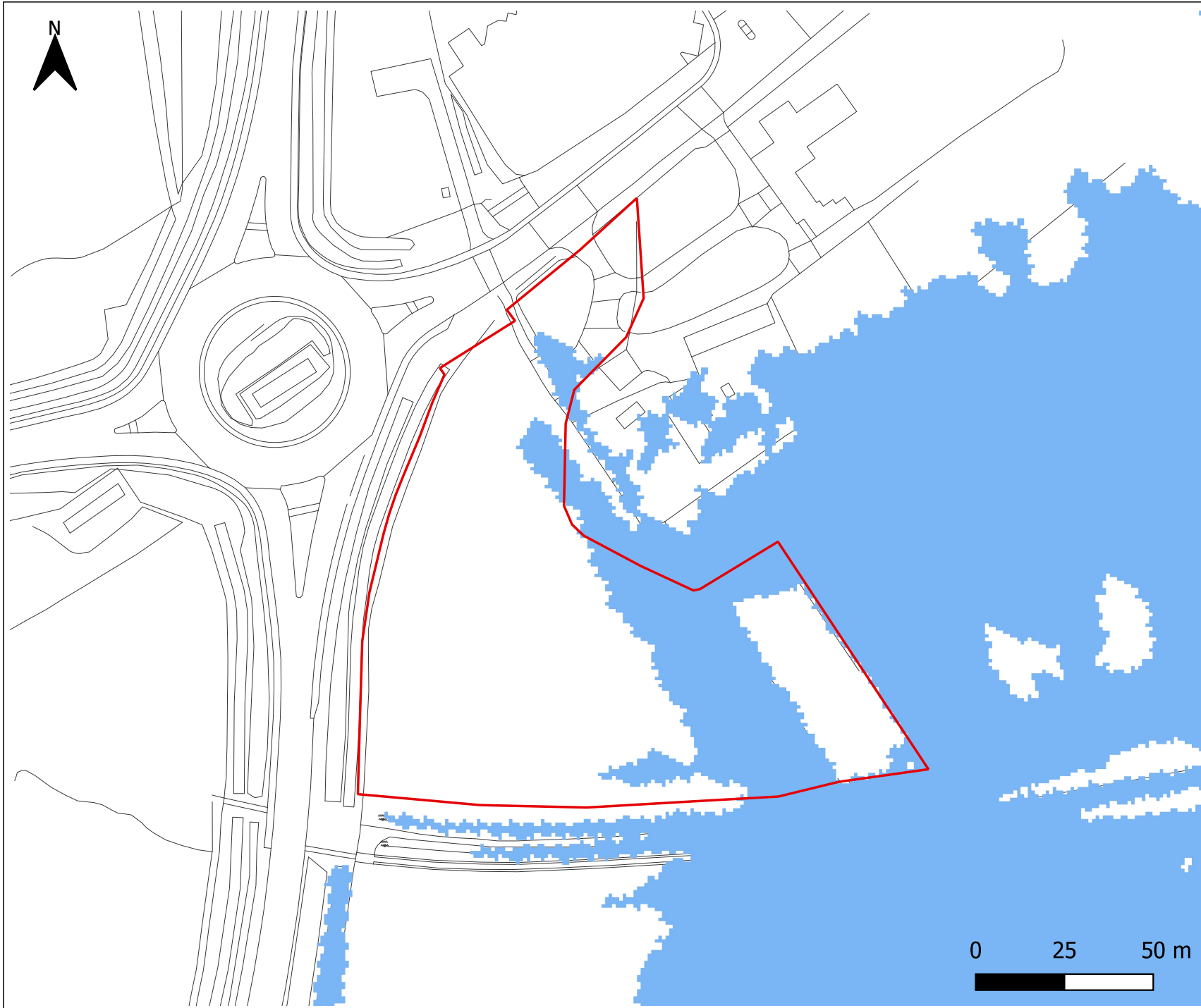




Key

 Development Site Boundary

Risk of Flooding from Reservoirs:
When river levels are normal



When there is also flooding from rivers



ARP ASSOCIATES
Chartered Consulting Engineers

Northwest House, 5-6 Northwest Business Park, Servia Hill, Leeds LS6 2QH
Telephone: 0113 245 8498 E-Mail: leeds@arpassociates.co.uk
www.arpassociates.co.uk

Project
**PROPOSED DEVELOPMENT
AT HOLBEACH ROAD,
SPALDING**

Client
**COMMERCIAL DEVELOPMENT
PROJECTS LTD**

Title
**RISK OF FLOODING
FROM RESERVOIRS**

Date
MAY 2024

Drawn
MGW

Scale
AS SHOWN

Job No.
1506/54

APPENDIX E

INTERNAL DRAINAGE BOARD INFORMATION

Matthew Wilson

From: Planning Department <planning@wlma.org.uk>
Sent: Tuesday 14 May, 2024 4:02 pm
To: Matthew Wilson
Subject: RE: 1506-54 Flood risk and surface water management - Site at Spalding, Lincolnshire
Attachments: WMA_LDC_Application_Form-v16.pdf; WMA_LDC_Application_Form-v16.docx; 01_LDC_Guidance-v8.pdf

Our Ref: 24_27256_Q

Good Afternoon Matthew,

I can confirm that this site lies within the Internal Drainage District of the South Holland IDB, specifically within the pumped catchment known as Wisemans (catchment map available here: [CMT193P](#)). Immediately to the north lies a separate catchment known as Lords (catchment map available here: [CMT208P](#)).

Please see responses to your information request in **red** below:

- Any available modelled flood data outputs relevant to the site.

Please see below modelled water levels (for the 1 in 2, 1 in 30 and 1 in 100 + climate change allowance year events) for the closest IDB arterial (maintained) watercourses to the site, known as B25 Old Exeter Drain (Drain ID DRN193P2503) and R07 Lords (Drain ID DRN208P0704), which lie to the east and north of the site, respectively (refer to the catchment maps in the links above for details on the location of these two watercourses). **Please note the climate change scenario used in the Board's modelling may not meet current standards.**

Wisemans Pumped Catchment (B)

Drain Name	Drain ID	Chainage	Easting	Northing	Water Levels (Metres AOD)		
					2yr	30yr	100yr+CC
B25 Old Exeter Drain	DRN193P2503	2400	527493	324308	1.33	1.75	2.34
		1894	527448	323782	1.33	1.75	2.32
		1862	527447	323746	1.32	1.74	2.27

Model was undertaken in October 2010

For B25 Old Exeter Drain, I have compiled levels at three separate points (please use the Easting and Northings provided to see the locations). This IDB drain is to the east of the site, and we are aware of connections into this system from the riparian network from the west, as shown at chainage 1894 and 1862 in the table.

Lords Pumped Catchment (R)

Drain Name	Drain ID	Chainage	Easting	Northing	Water Levels (Metres AOD)		
					2yr	30yr	100yr+CC
R07 Lords	DRN208P0704	9305	526788	324031	1.44	2.07	2.48

Model was undertaken in October 2014

The data we hold for R07 Lords finishes at the point at which the open watercourse is then culverted within the verge parallel to the north of the A151 (at the approximate location X 526788, Y 324031). This is where the level is taken as shown in the table above.

- Any available flood defence breach/pumping station failure modelling outputs relevant to the site.

I have liaised with the Board's Area Manager, and we have no records of any flood defence breaches or pumping station failures in proximity to the site.

- Information on any known/historical flooding within or near to the site.

We are not aware of any known / historical flooding within or near to the site. I would recommend contacting the Lincolnshire County Council as they would investigate certain flooding events under their responsibilities as the Lead Local Flood Authority for the area. Further information, including links to completed and ongoing flood investigations, can be found on the LCC website: <https://www.lincolnshire.gov.uk/flood-risk-management/flood-investigations>.

The site lies adjacent to three Ordinary Watercourses: A watercourse on the southern boundary and a watercourse which passes through the east of the site are not board maintained, but are understood to be tributaries of the 'Wisemans' catchment of the South Holland Internal Drainage Board area, which has an eventual pumped discharge into the South Holland Main Drain. There is a further watercourse on the east of the site, adjacent to the A16/A151, which is considered likely to discharge to the same IDB catchment, but may be a Highway Drainage Asset. We would be grateful if you could confirm any knowledge of the connectivity between the various sections of open watercourse local to the site, including connectivity to any highway drainage and other sources of inflow.

As you have identified, the watercourses along the southern site boundary and through the east of the site are riparian (privately owned / maintained). Unfortunately, this means our knowledge of the condition and connectivity of the system here is limited and we would recommend investigations are undertaken as part of the drainage design to ensure a suitable flow path away from the site. As both are within the Wisemans catchment the assumption would be that the riparian system drains south / east towards the IDB's maintained network. As per the above, we are aware of connections to the Board's watercourse known as B25 Old Exeter Drain to the east at the approximate locations X 527448, Y 323782 and X 527447, Y 323746.

The LCC Highways department may be able to offer further information into the connectivity of the watercourse further to the east of the site alongside the A16 / A151 and the system serving the Highways infrastructure. Any connections beneath the A151 / north of the site would direct water towards the Lords catchment.

With respect to surface water management, the discharge of surface water by infiltration will be investigated as part of a forthcoming ground investigation, but we expect that this will not be feasible. We therefore envisage that there will be a requirement to discharge surface water to one of the watercourses local to the site. We propose the discharge will limited to as close as reasonably practicable to the equivalent greenfield rate. Based on a Qbar rate of 1.4l/s/ha and the proposed impermeable area of the development (circa 1.0ha) the theoretical discharge limit would be circa 1.4l/s. However, it is unlikely to be practicable to restrict flow to such a low rate without an unacceptable risk of orifice blockage, therefore we would suggest a discharge limit of 2.5l/s to 5.0l/s would be more practicable. We would appreciate if you could confirm agreement in principle to the above strategy, the maximum acceptable discharge rate, and confirmation of any specific requirements which have not been addressed.

A proposed discharge of surface water to a watercourse within the Board's district will require Land Drainage Consent in line with the Board's Byelaw 3. We do not offer any agreements in principle prior to a formal application for consent, however we recommend that any discharge of surface water is in line with the Non-Statutory technical standards for sustainable drainage systems (SuDS) and would therefore request that the rate is restricted to the calculated greenfield runoff rate or as close to this rate as practicably possible. For additional information, please note that the water table in this locality is relatively high and we would advise taking this into account when incorporating any below ground storage features into the design.

We will review the details of the proposal further upon receipt of a consent application. Any consent to discharge surface water will likely be conditional on the one off payment of a Surface Water Development Contribution, calculated in line with our Charges and Fees Policy.

I have attached a copy of the application form (as both a PDF and Word Doc for your preference), along with a guidance document. An application can be made by completing the form and emailing planning@wlma.org.uk or by posting a copy to Water Management Alliance, 28 Horsley's Fields, King's Lynn, Norfolk, PE30 5DD. There is an application fee of £100 for a Byelaw 3 application which can be paid using one of the options given in Section 10 of the form.

As can be seen from the attached plan, the proposed building is coincident with an existing drainage channel. It is proposed that the drain will be diverted around the new building. We would value your advice on the acceptability of this proposal and any further comments on this aspect of the scheme.

The proposed drain diversion will also require prior Land Drainage Consent from the Board. This application would be under Section 23, Land Drainage Act 1991 and the Board's Byelaw 4 for the alteration of a watercourse. An application for consent can be made within the same form as detailed above. The fee for watercourse alteration applications is £50. The Board's officers will review applications in accordance with the policies set out within our [Planning and Byelaw Strategy](#) (see Policy 3 on page 14 for watercourse alterations). We would ask for supporting documents, including any environmental surveys, to be provided alongside an application.

Further information on the Board's regulation of development can be found on our website here: <https://www.wlma.org.uk/south-holland-idb/development/>

If you have any questions on any of the above, please let me know.

Kind Regards,



Will Chandler BSc (Hons), MCIWEM

Sustainable Development Officer

Water Management Alliance

m: 07826 940760 | dd: 01553 819630 | william.chandler@wlma.org.uk

Registered office: Pierpoint House, 28 Horsley's Fields, Kings Lynn, Norfolk, [PE30 5DD](#)

t: 01553 819600 | e: info@wlma.org.uk | www.wlma.org.uk

What3Words: [caring.employ.visit](#)

WMA members: [Broads Drainage Board](#), [East Suffolk Water Management Board](#), [King's Lynn Drainage Board](#), [Norfolk Rivers Drainage Board](#), [Pevensey and Cuckmere Water Level Management Board](#), [South Holland Drainage Board](#) and [Waveney, Lower Yare and Lothingland Drainage Board](#)

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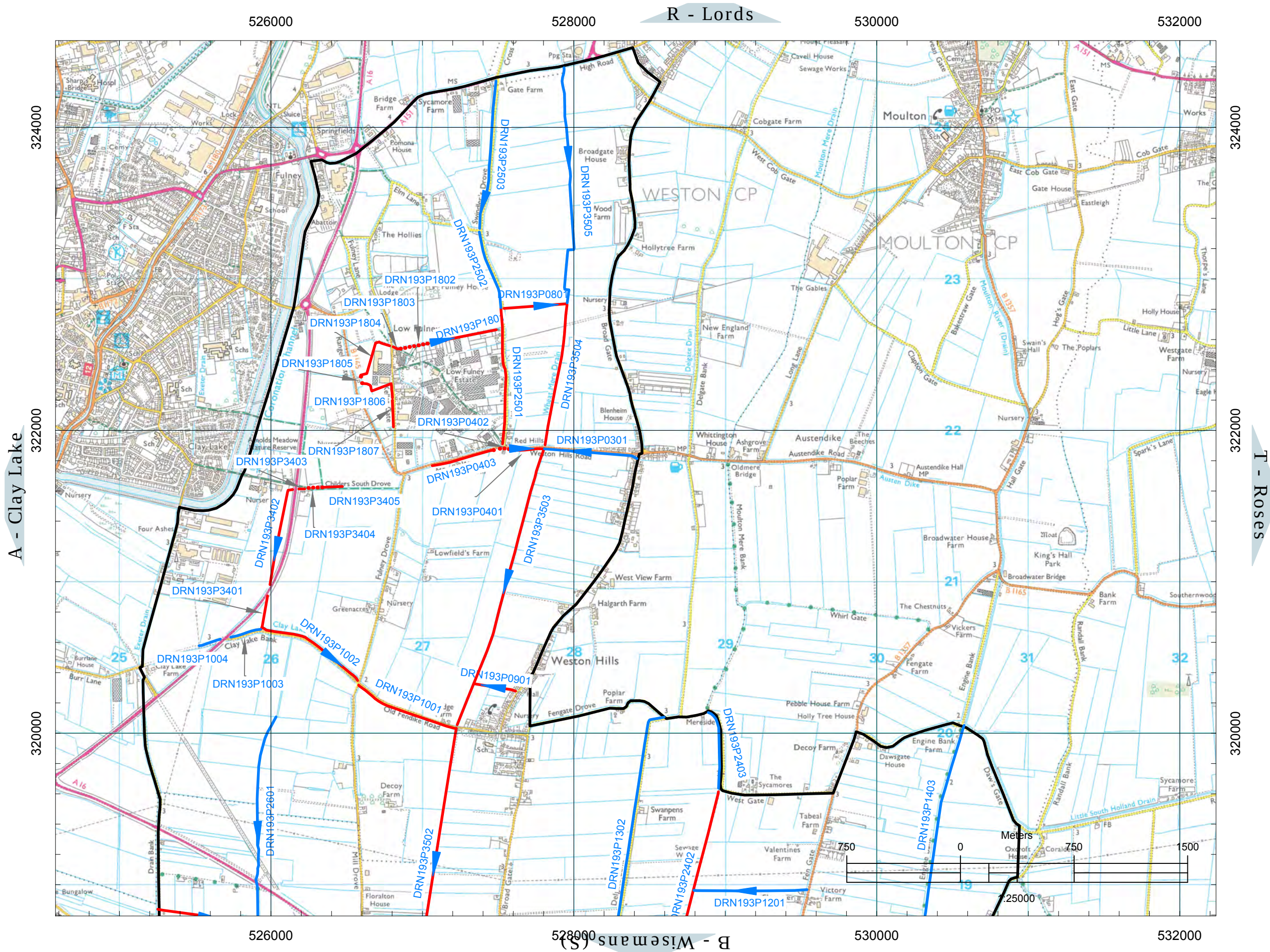
Defenders of the Lowland Environment

From: Planning Department

Sent: Tuesday, May 7, 2024 4:37 PM

To: Matthew Wilson <MatthewWilson@arnorthwest.co.uk>

Subject: RE: 1506-54 Flood risk and surface water management - Site at Spalding, Lincolnshire



Wisemans (N)

South Holland
Drainage Board

LEGEND

- Catchment Boundary
- High Priority Watercourse
- IDB Ordinary Watercourse
- High Priority Pipeline
- Ordinary Pipeline
- ⊕ Water Control Structure
- ⊗ Pumping Station
- ⊗ Inland Sluice
- ⊗ Tidal Sluice

KEY MAP

N

SCALE	SHEET NUMBER
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05/01/2016	
FILE NAME	
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Q - Wragg Marsh

528000

531000

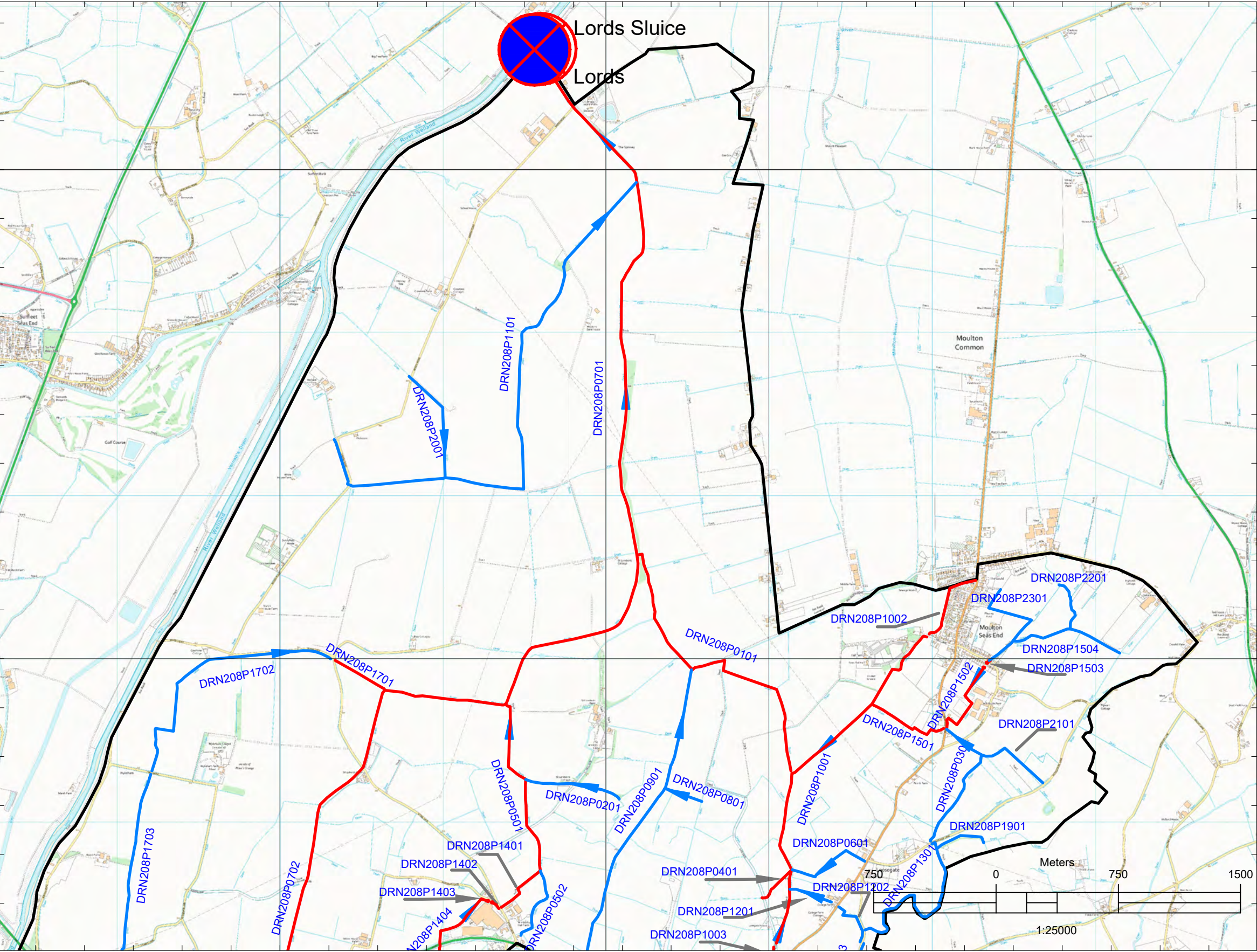
330000

327000

528000

531000

R - Lords (S)



330000

327000

N - Lawyers

Lords (N)



South Holland
Drainage Board

LEGEND

 - Catchment Boundary

 - High Priority Watercourse

 - IDB Ordinary Watercourse

 - High Priority Pipeline

 - Ordinary Pipeline

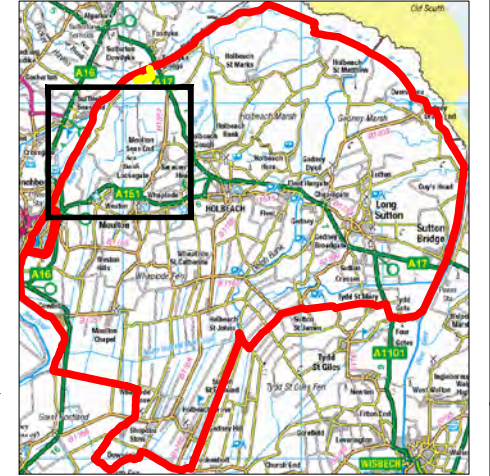
 - Water Control Structure

 - Pumping Station

 - Inland Sluice

 - Tidal Sluice

KEY MAP





SCALE	SHEET NUMBER
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03/11/2021	
FILE NAME	
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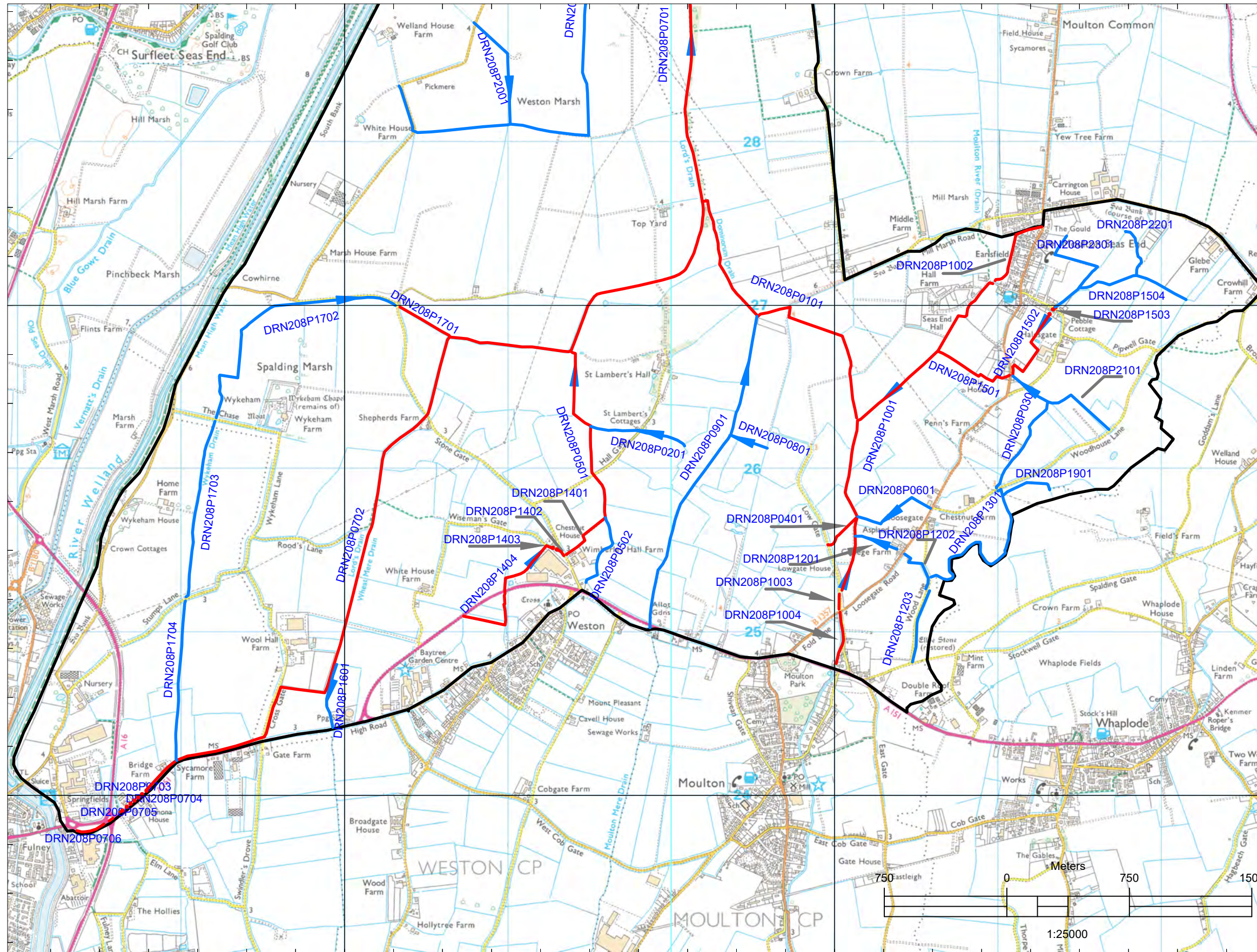
R - Lords (N)

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531000

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324000



528000

531000

B - Wisemans

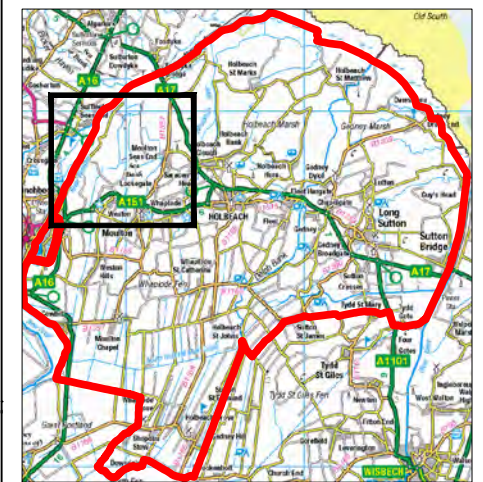
Lords (S)



LEGEND

- - Catchment Boundary
- - High Priority Watercourse
- - IDB Ordinary Watercourse
- - High Priority Pipeline
- - Ordinary Pipeline
- - Water Control Structure
- ⊗ - Pumping Station
- ⊗ - Inland Sluice
- ⊗ - Tidal Sluice

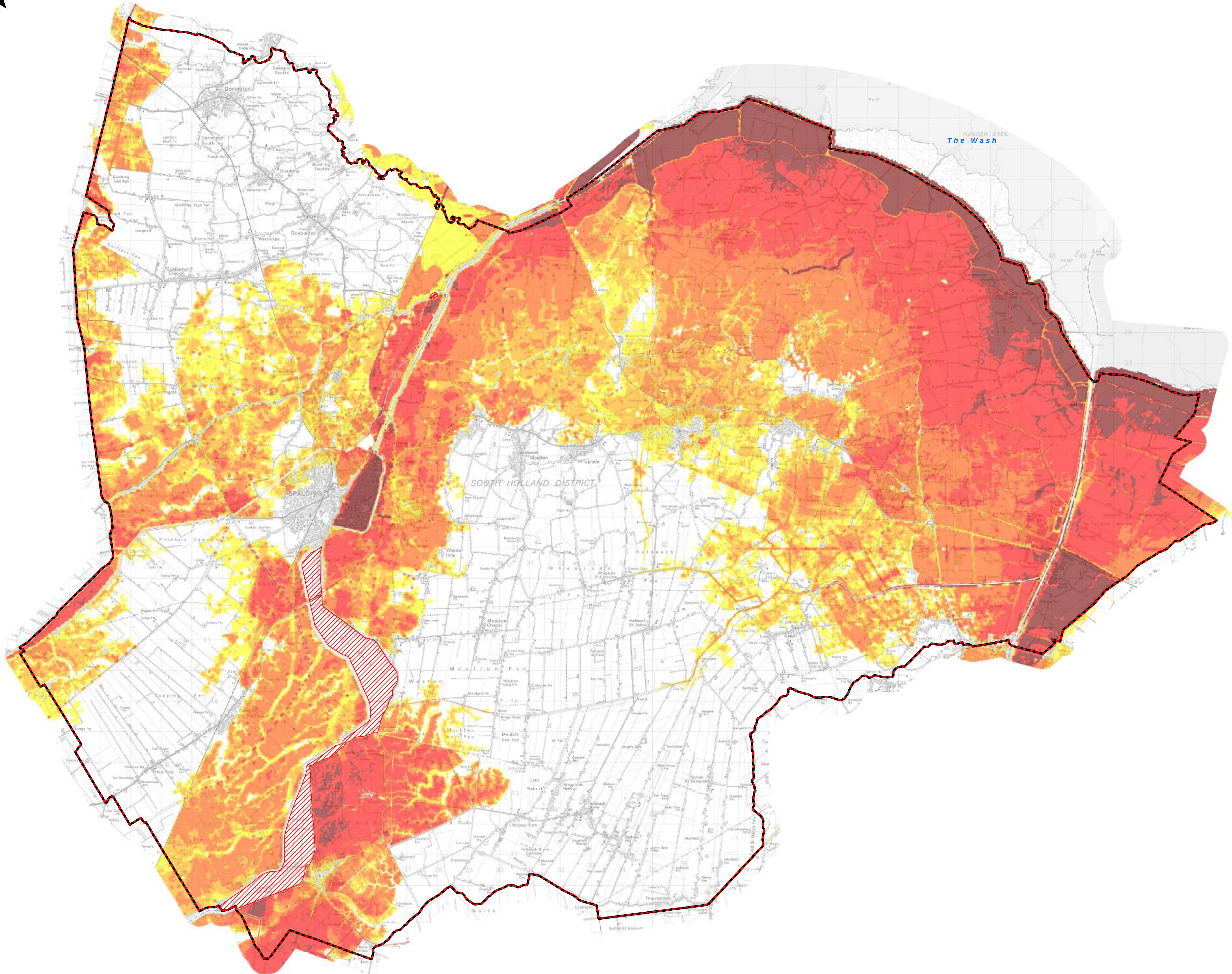
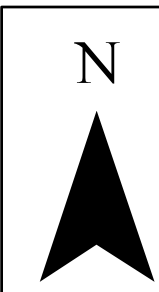
KEY MAP



SCALE	SHEET NUMBER
Best fit	CMT208P
PLOT DATE	
08/02/2023	
FILE NAME	SHIDB_webmap2020.dwg

APPENDIX F

LOCAL PLANNING AUTHORITY INFORMATION



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
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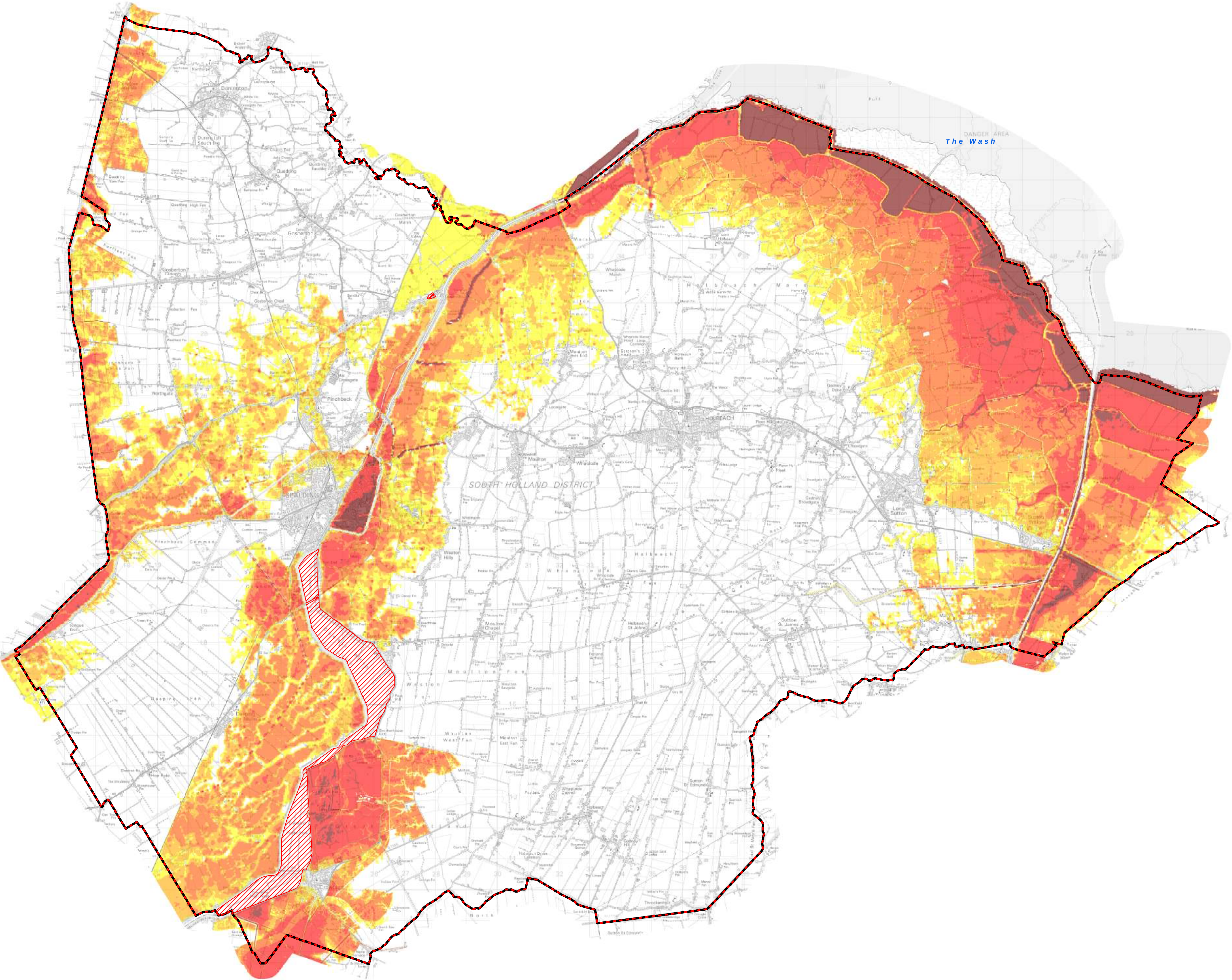


SOUTH HOLLAND DISTRICT COUNCIL
COUNCIL OFFICES
PRIORY ROAD
SPALDING
LINCOLNSHIRE
PE11 2XE

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.
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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

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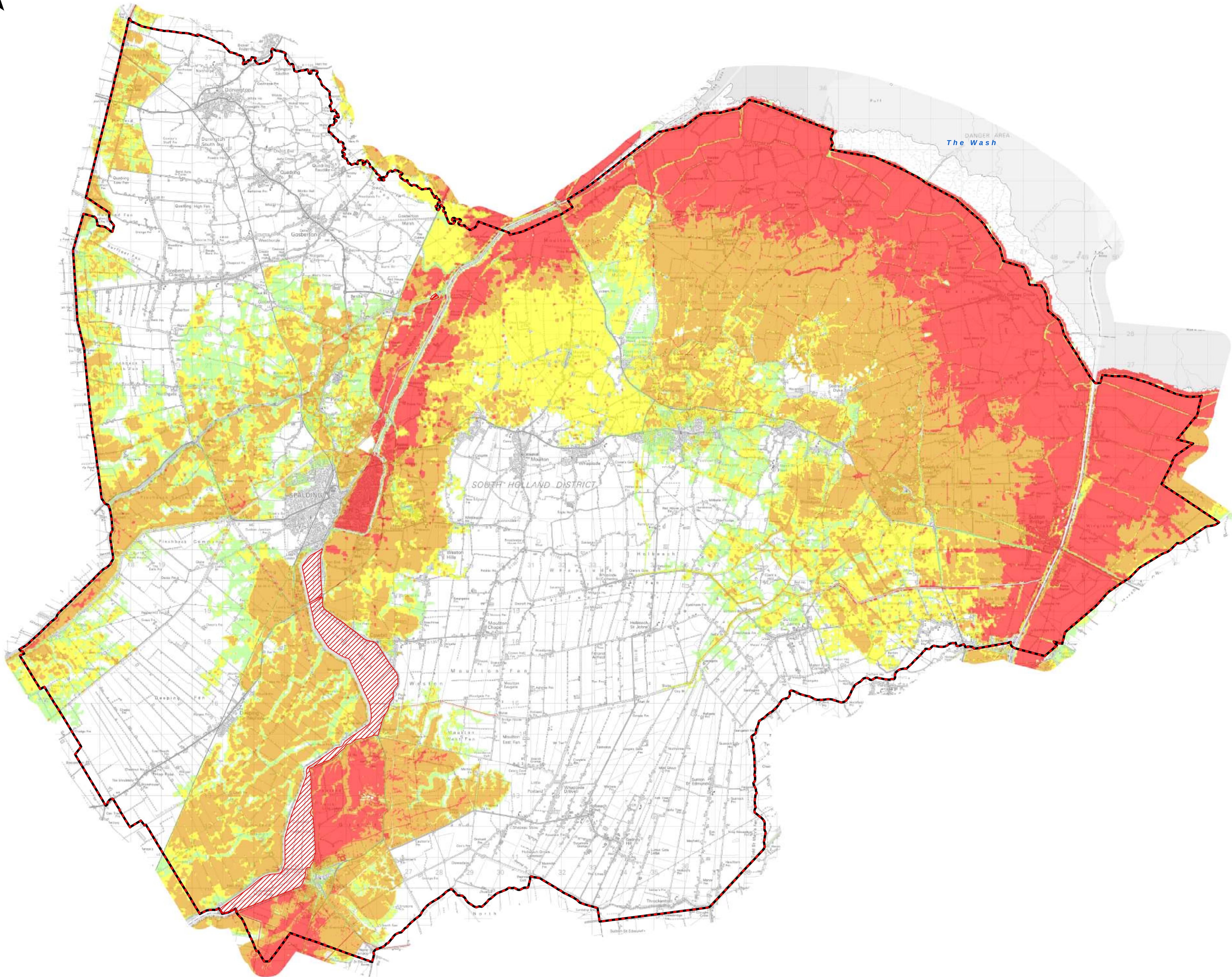


SOUTH HOLLAND DISTRICT COUNCIL
COUNCIL OFFICES
PRIORY ROAD
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LINCOLNSHIRE
PE11 2XE

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

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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
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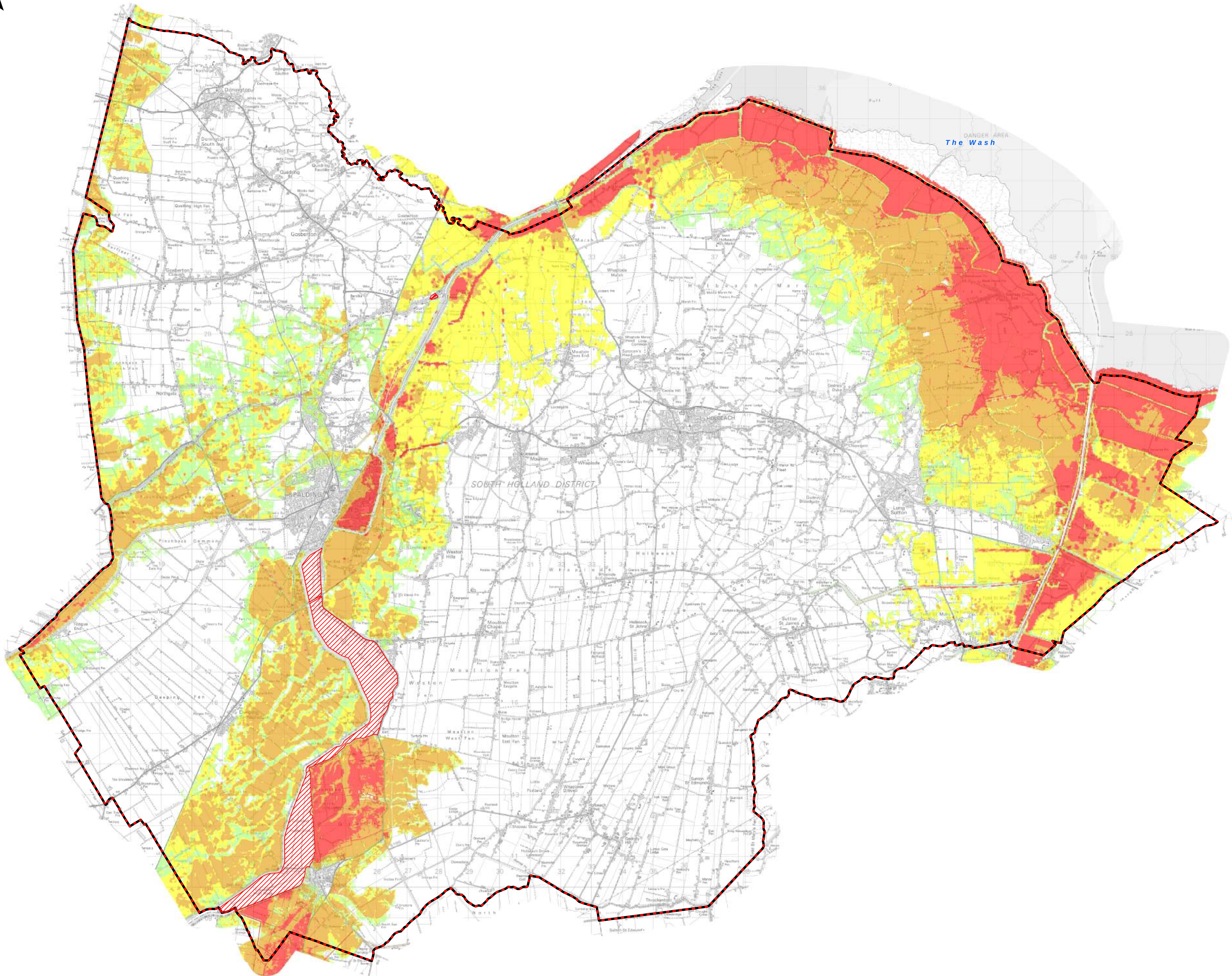


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LINCOLNSHIRE
PE11 2XE

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.
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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

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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: