

Rachel Graham

Our ref: CCN/2018/86946

Date: 29 May 2018

Dear Rachel Graham

Provision of Flood Risk Information for Cedar Falls, Spalding TF 23723 21302

Thank you for your request to use our flood risk information in the development of the Flood Risk Assessment (FRA) for the above site. The information is set out below and attached. It is important you read any contextual notes on the maps provided.

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.

Flood Map

The attached map includes the current Flood Map for your area. The Flood Map indicates the area at risk of flooding, **assuming no flood defences exist**, for a flood with a 0.5% chance of occurring in any year for flooding from the sea, or a 1% chance of occurring for fluvial (river) flooding. It also shows the extent of the Extreme Flood Outline which represents the extent of a flood with a 0.1% chance of occurring in any year, 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 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 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.

Historic Flood Extent Map

A copy of the Historic Flood Extent Map showing the extent of previous recorded flooding in your area is attached. This only covers information we hold and it is possible other flooding may have occurred which other organisations, such as the Local Authority or Internal Drainage Boards, may have records.

Fluvial Flood Risk Information

Fluvial Defence Information

The fluvial defences reducing the risk of flooding to this site consist of flood embankments and flood storage reservoirs. They are in fair condition and reduce the risk of flooding to a

1% (1 in 100) chance of occurring in any year. We inspect these defences routinely to ensure potential defects are identified.

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.

Modelled 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 along the full coastal / tidal floodplain, except the tidal Witham Haven in Boston (upstream of Hobhole) where only breaching and not overtopping has been modelled and the tidal River Welland upstream of Fosdyke Bridge where neither breaching nor overtopping are available. Hazard mapping is also available for fluvial flood risk in Northampton, Lincoln, Brigg, Wainfleet and some isolated rural locations.

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

Please refer to the South Holland Strategic Flood Risk Assessment for the detailed Hazard Maps. This can be found via the following link: <http://www.southeastlincslocalplan.org/2016-updateof-south-holland-strategic-flood-risk-assessment/>

Development Planning

If you have requested this information to help inform a development proposal, then you should note the information on GOV.UK on the use of our information for Flood Risk Assessments. We recommend that you undertake a formal pre-application enquiry using the form available from the website.

<https://www.gov.uk/planning-applications-assessing-flood-risk>

<https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion>

Climate change will increase flood risk due to overtopping of defences. Please note 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 February 2016. 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.

Supporting Information

Please see the Standard Notice or licence for details of permitted use. The Standard Notice can be found at the link below.

<http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

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).

Further information on flood risk can be found on the GOV.UK website at:

<https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather>

Other Flood Risk Management Authorities

The information provided with this letter relates to flood risk from main river or the sea. Additional information may be available from your Lead Local Flood Authority (ie county council or unitary authority) or, where they exist, the Internal Drainage Board.

Further Contact

I hope we have correctly interpreted your request. If you are not satisfied with our response to your request for information, you can contact us within two calendar months to ask for our decision to be reviewed.

If you have any queries or would like to discuss the content of this letter further please contact Rachael Storey using the details below.

Yours sincerely,



FOR Alastair Windler
Partnerships and Strategic Overview Team Leader - Welland and Nene

Direct dial 02030253535

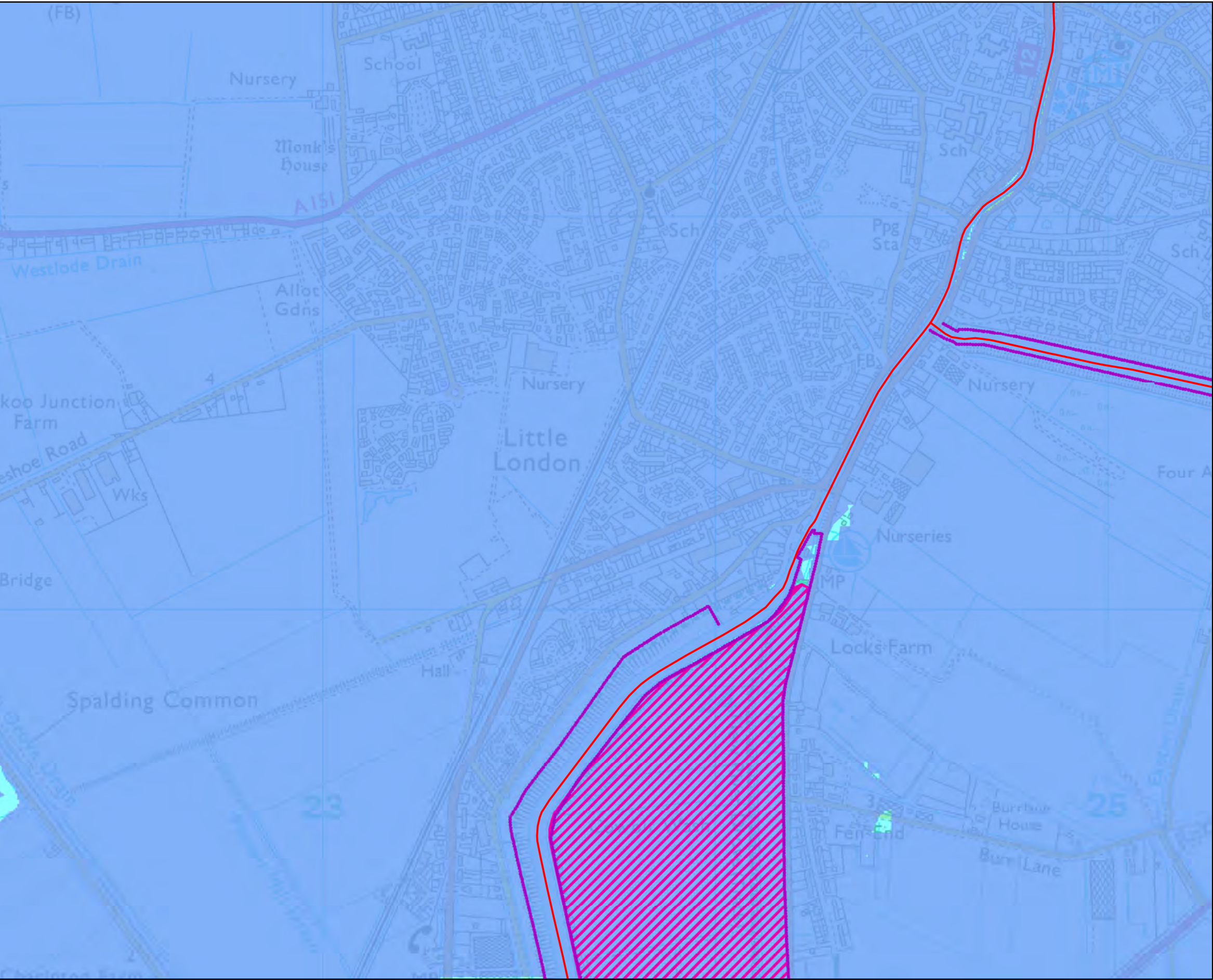
Direct e-mail PSOWN@environment-agency.gov.uk

Enc.
Flood Map
Historic Flood Extent Map
Modelled Node Map
Modelled Fluvial Levels and Flows Data Sheet



Awarded to Lincolnshire & Northamptonshire Area

Flood Map centred on TF 23723 21302- created May 2018 [Ref: CCN-2018-86946]



Scale 1:10,000



Legend

- Main River
- Raised Defences
- Flood Storage Areas
- Area at Risk of Flooding from Rivers or The Sea
- Extreme Flood Outline

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:

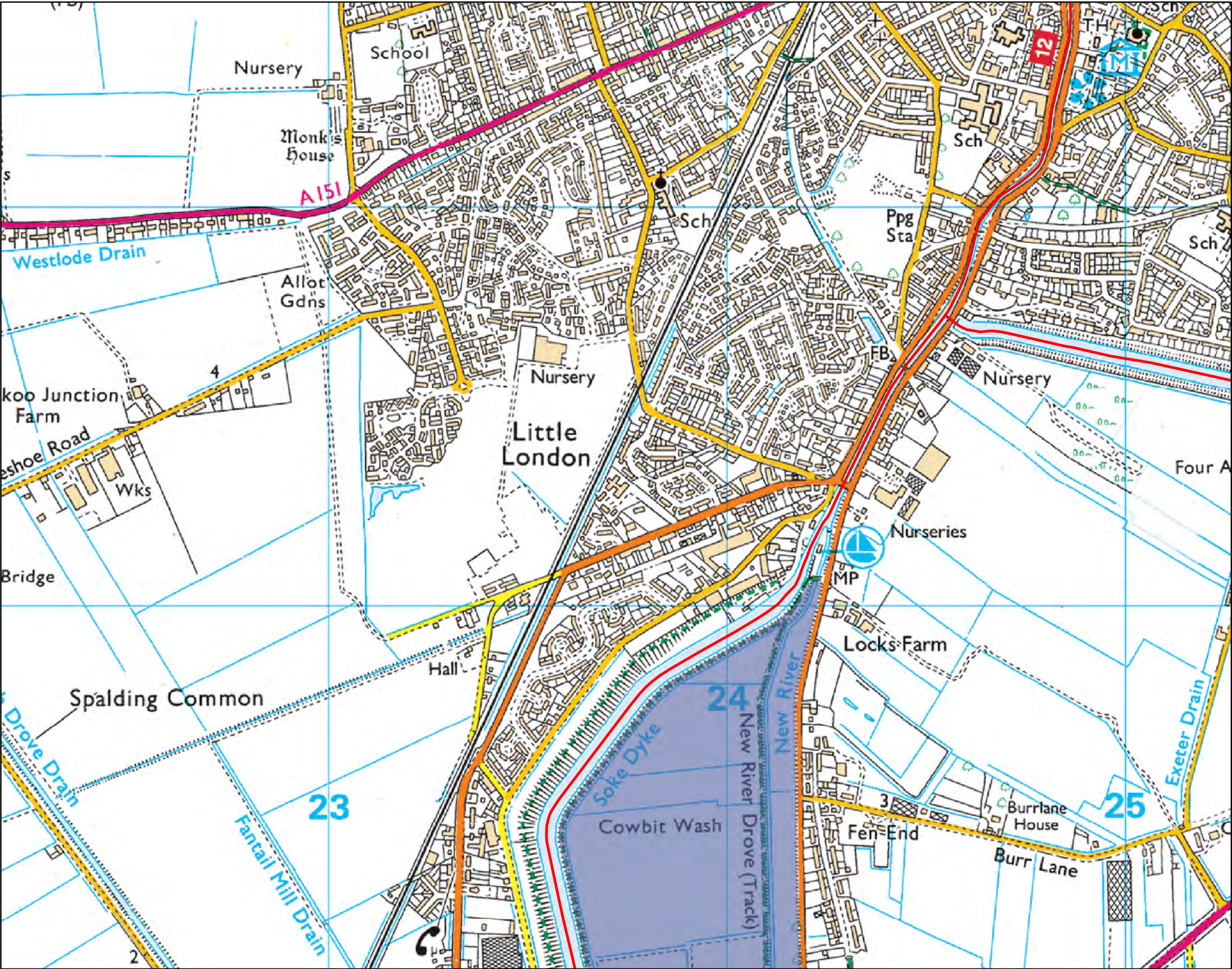
- from the sea by a flood that has a 0.5% (1 in 200) or greater chance of happening each year.
- or from a river by a flood that has a 1% (1 in 100) or greater chance of happening each year.

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

Historic Flood Map centred on TF 23723 21302 - created May 2018 [Ref: CCN-2018-86946]



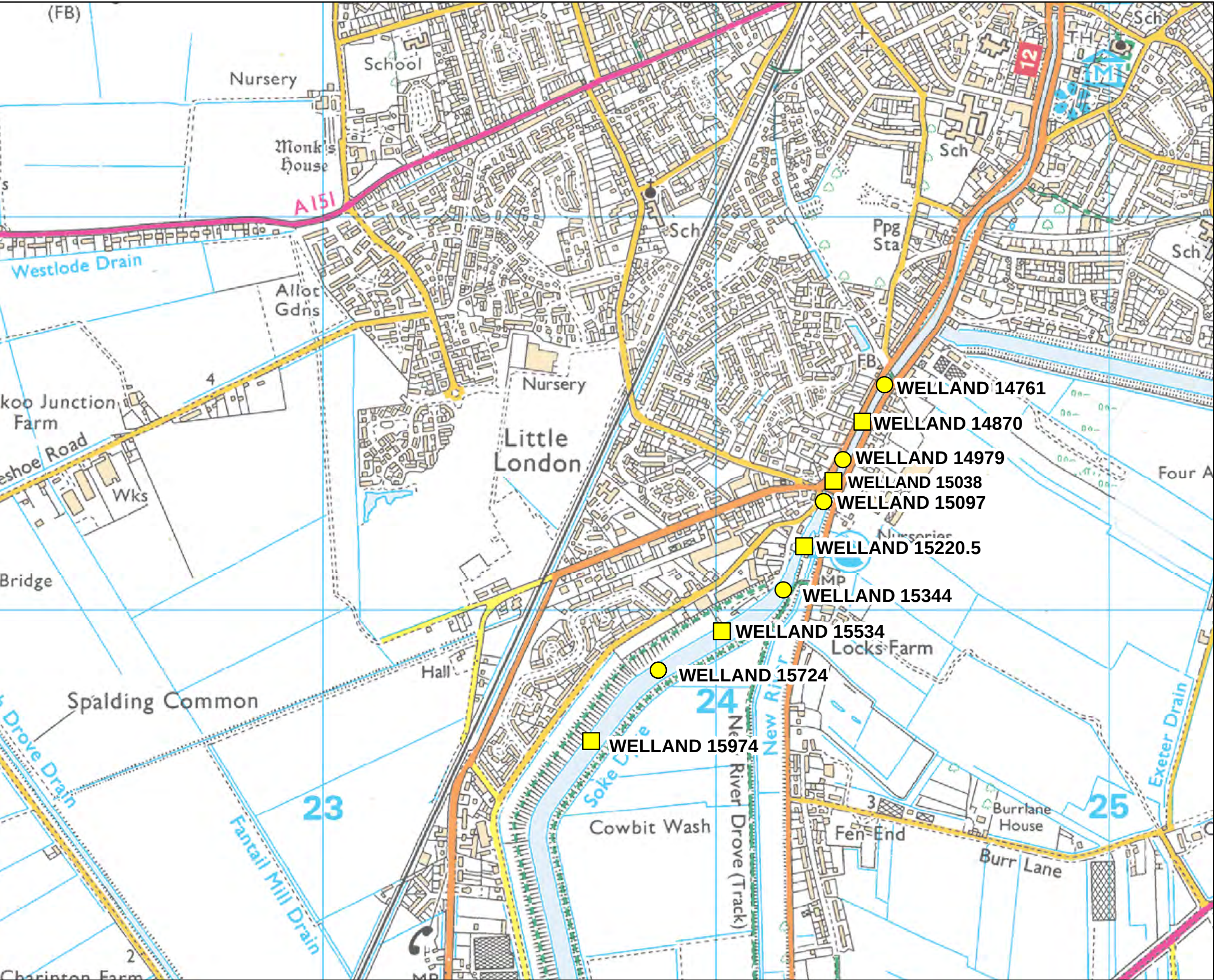
Scale 1:10,000



- Main River
- Historic Flood Event
- March 1947 on the River Welland near Cowbit

Created by the Partnership & Strategic Overview Team,
Kettering

Modelled Node Map centred on TF 23723 21302- created May 2018 [Ref: CCN-2018-86946]





Scale 1:10,000

N

Legend

- Model Levels
- Model Flows

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)	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 14761	524431	321571	3.67	3.96	4.15	4.41	4.47	4.48	4.49	4.67	4.51	4.52	4.67
WELLAND 14979	524326	321381	3.68	3.96	4.16	4.42	4.48	4.49	4.49	4.67	4.51	4.53	4.67
WELLAND 15097	524276	321274	3.68	3.96	4.17	4.42	4.49	4.50	4.50	4.67	4.51	4.53	4.67
WELLAND 15097	524276	321274	3.68	3.96	4.17	4.42	4.49	4.50	4.50	4.67	4.51	4.53	4.67
WELLAND 15344	524174	321050	3.68	3.96	4.17	4.43	4.51	4.51	4.51	4.66	4.52	4.54	4.67
WELLAND 15724	523856	320846	3.69	3.97	4.18	4.43	4.51	4.52	4.52	4.66	4.53	4.54	4.66
WELLAND 15724	523856	320846	3.69	3.97	4.18	4.43	4.51	4.52	4.52	4.66	4.53	4.54	4.66

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)	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 14870	524374	321479	63.55	79.07	90.05	103.27	111.98	113.19	114.53	113.78	114.14	113.74	113.64
WELLAND 15038	524300	321328	63.43	78.96	89.95	103.18	111.98	113.18	114.52	113.77	114.14	113.73	113.64
WELLAND 15220.5	524226	321161	61.82	77.48	88.54	101.91	111.89	113.08	114.43	113.70	114.22	113.66	113.64
WELLAND 15534	524017	320946	61.39	77.08	88.13	101.52	111.86	113.06	114.41	113.72	114.28	113.66	113.64
WELLAND 15974	523684	320667	60.79	76.55	87.52	100.95	111.83	113.03	114.37	113.76	114.38	113.65	113.63