

Flood risk assessment data

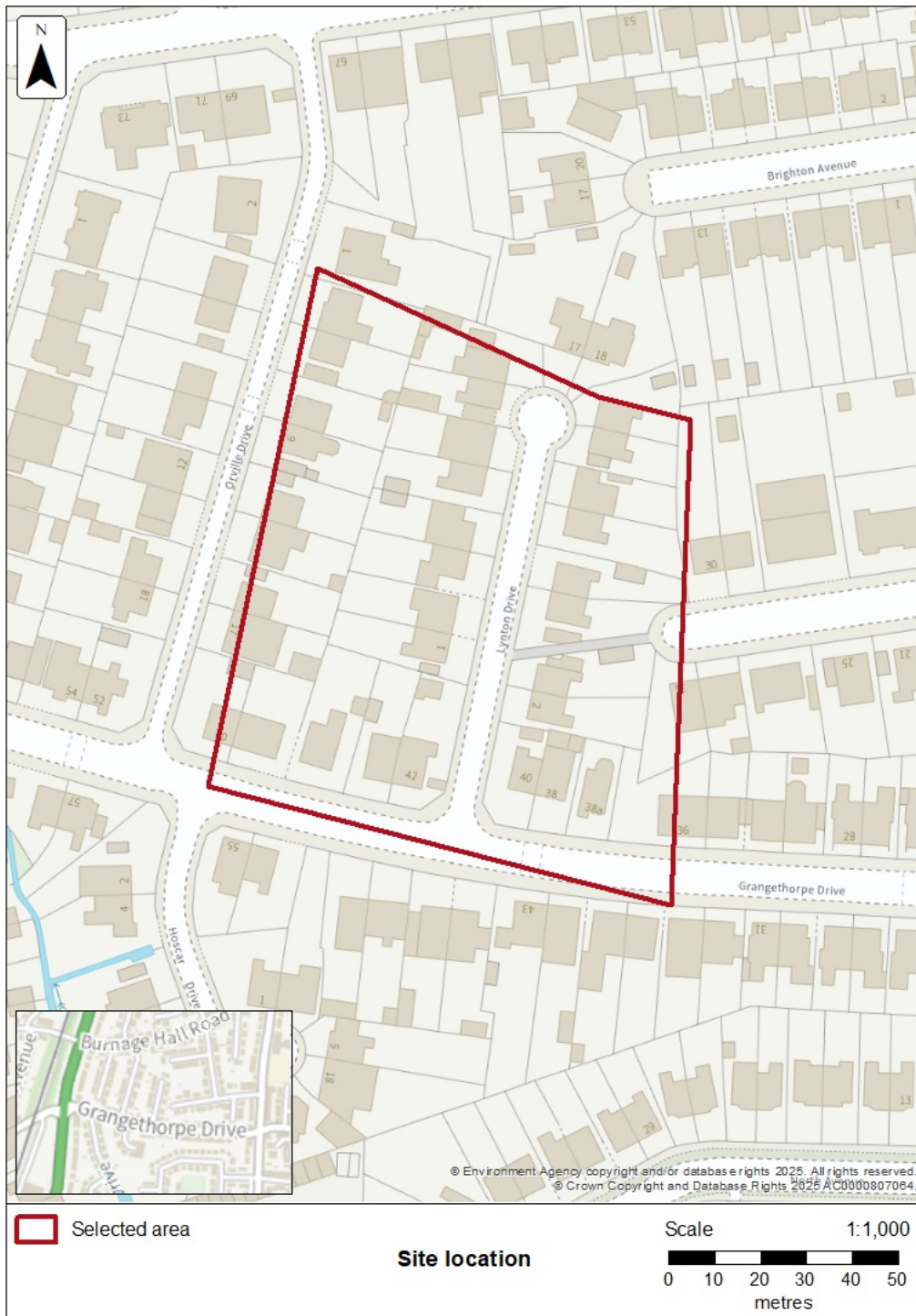
Location of site: 386568 / 393338 (shown as easting and northing coordinates)

Document created on: 20 February 2025

This information was previously known as a product 4.

Customer reference number: CXTDYV4C8FXC

Map showing the location that flood risk assessment data has been requested for.



How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- past floods
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

Or you can contact your Lead Local Flood Authority for further information.

Your Lead Local Flood Authority is Manchester District.

For information about sewer flooding, contact the relevant water company for the area.

About the models used

Model name: Cringle Black Brook 2017

Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial, defences removed climate change fluvial

Date: 1 April 2018

This model contains the most relevant data for your area of interest.

Terminology used

Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 2.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change

The flood zones are not currently being updated. The last update was in November 2023. Some of the flood zones may have changed, however all source data is included in the models below.



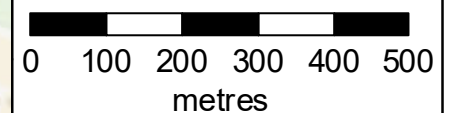
Flood map for planning

Location (easting/northing)
386568/393338

Scale
1:10,000

Created
20 Feb 2025

-  Selected area
-  Main river
-  Flood defence
-  Flood zone 3
-  Flood zone 2



Flood defences and attributes

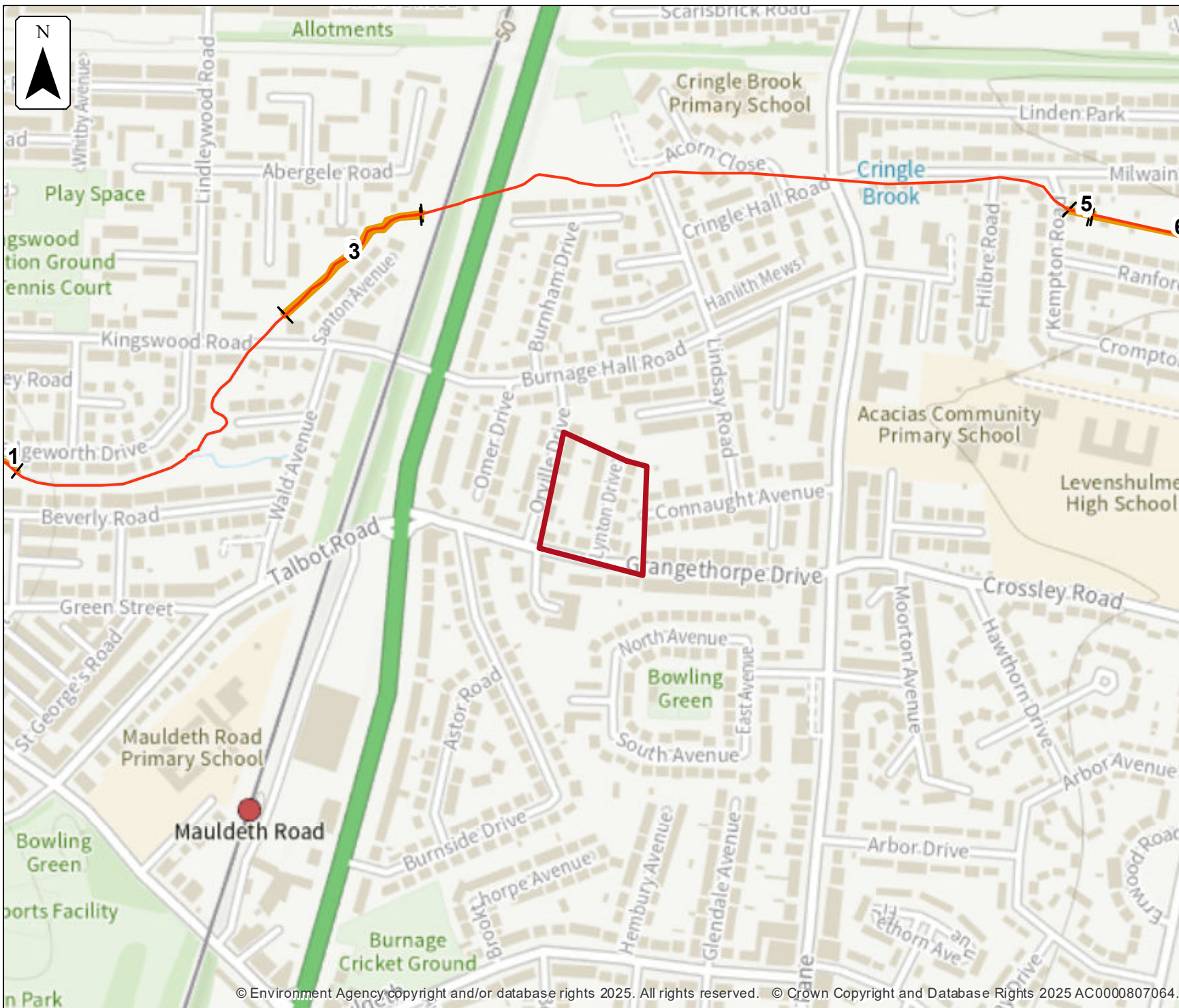
The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk



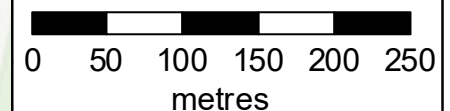
Flood defences

Location (easting/northing)
386568/393338

Scale
1:5,000

Created
20 Feb 2025

-  Selected area
-  Main river
-  Flood defence



Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	9557	Engineered High Ground	100		39.86	39.89	
2	7427	Engineered High Ground	100		40.24	44.26	
3	9636	Engineered High Ground	100		43.83	41.26	
4	71686	Engineered High Ground	100		47.89	48.71	
5	58923	Engineered High Ground	100		47.70	48.55	
6	7430	Engineered High Ground	100		50.40	47.83	

Any blank cells show where a particular value has not been recorded for an asset.

Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- modelled node point map(s) showing the points used to get the data to model the scenarios and table(s) providing details of the flood risk for different return periods
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

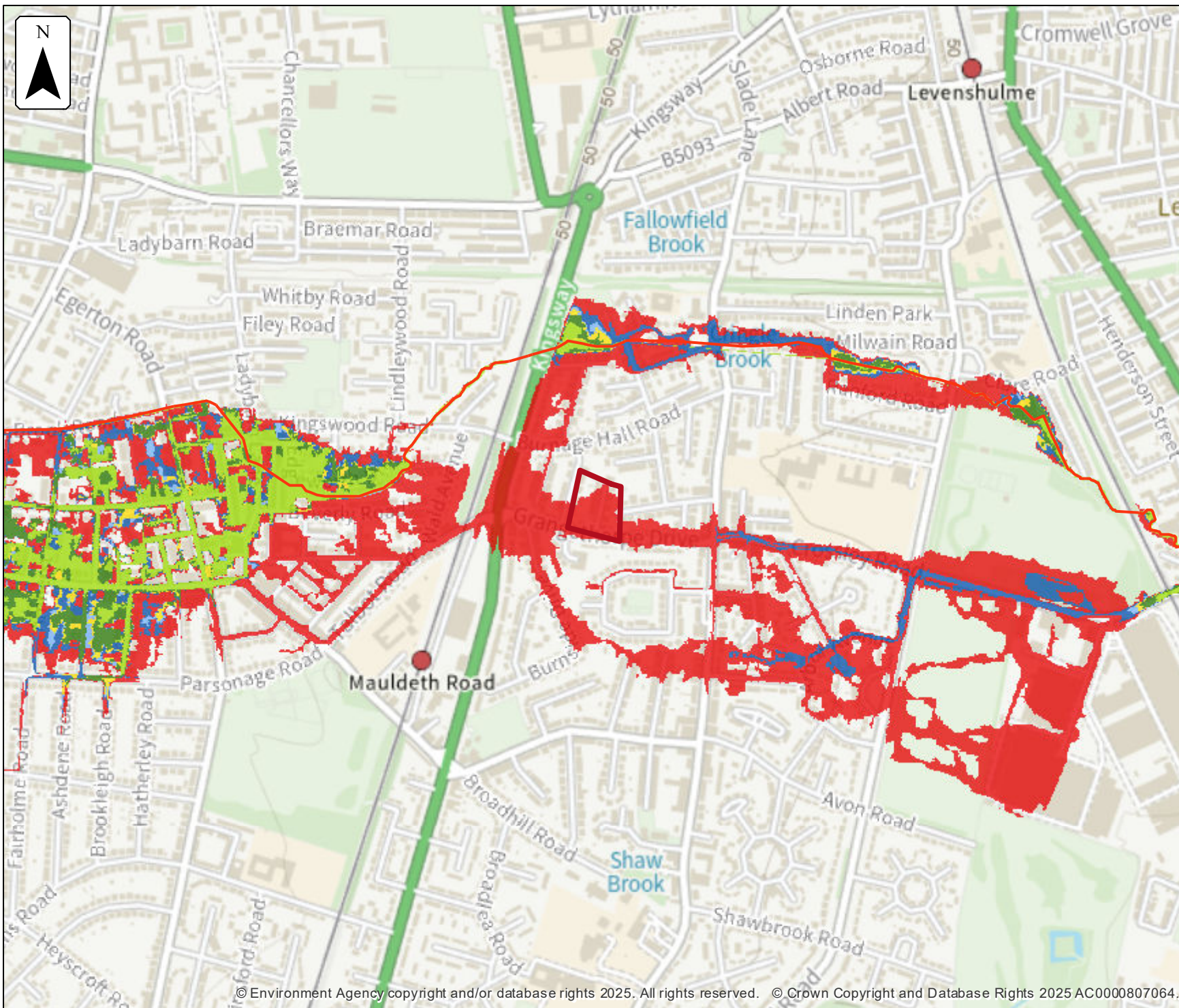
The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

Modelled scenarios

The following scenarios are included:

- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- Defended climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled fluvial: risk of flooding from rivers where flood defences have been removed, including estimated impact of climate change



Defended modelled fluvial extent

Location (easting/northing)
386568/393338

Scale Created
1:10,000 20 Feb 2025

Model name
Cringle Black Brook 2017

 Selected area

 Main river

Modelled flood extent

 5% AEP

 2% AEP

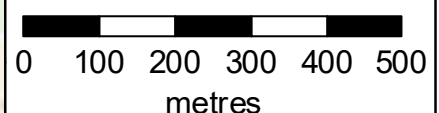
 1.33% AEP

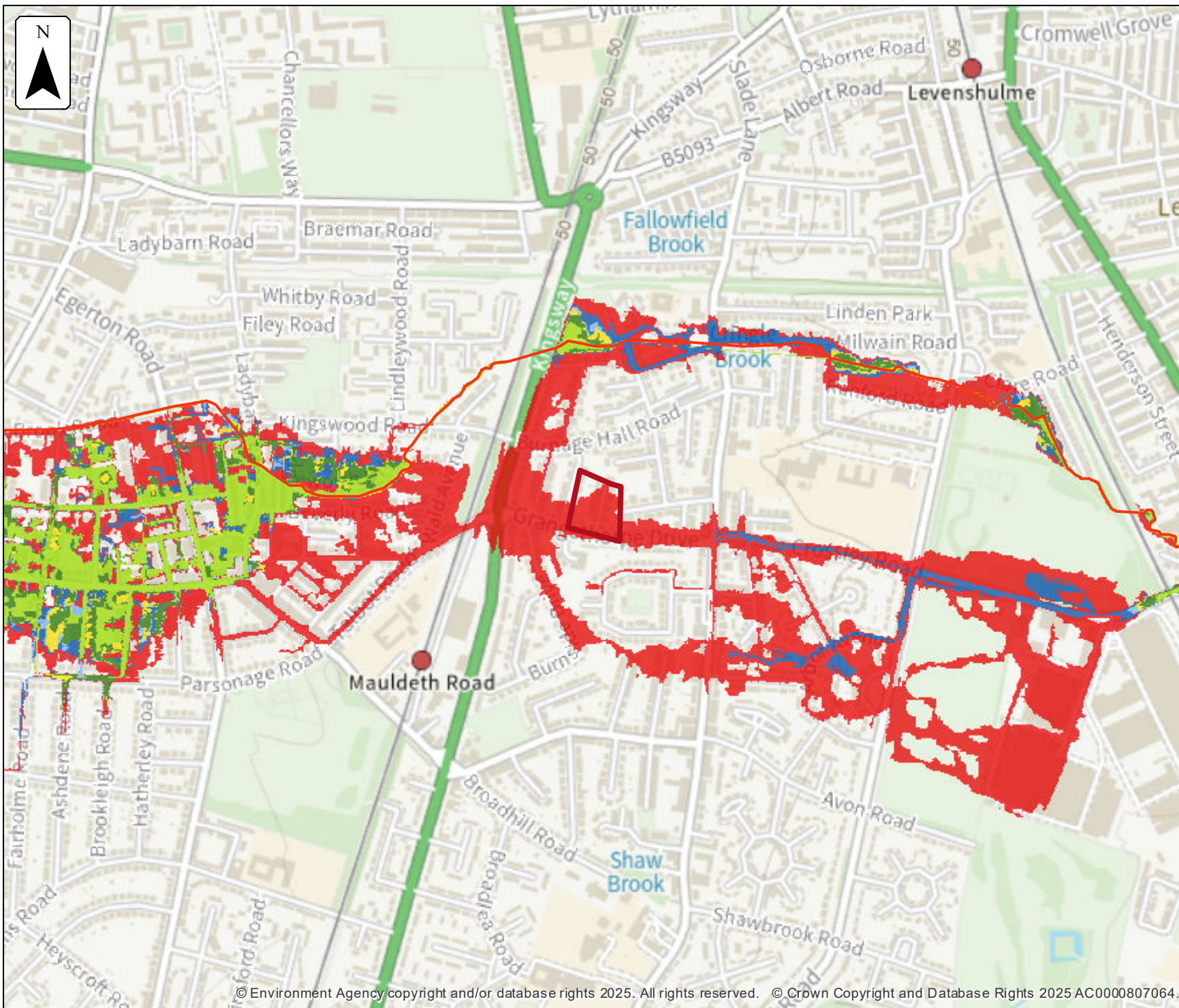
 1% AEP

 0.5% AEP

 0.1% AEP

Flood extents may not be visible where they overlap other return periods





Defences removed modelled fluvial extent

Location (easting/northing)
386568/393338

Scale Created
1:10,000 20 Feb 2025

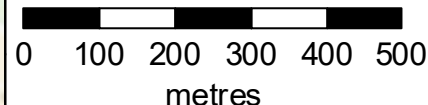
Model name
**Cringle Black Brook
2017**

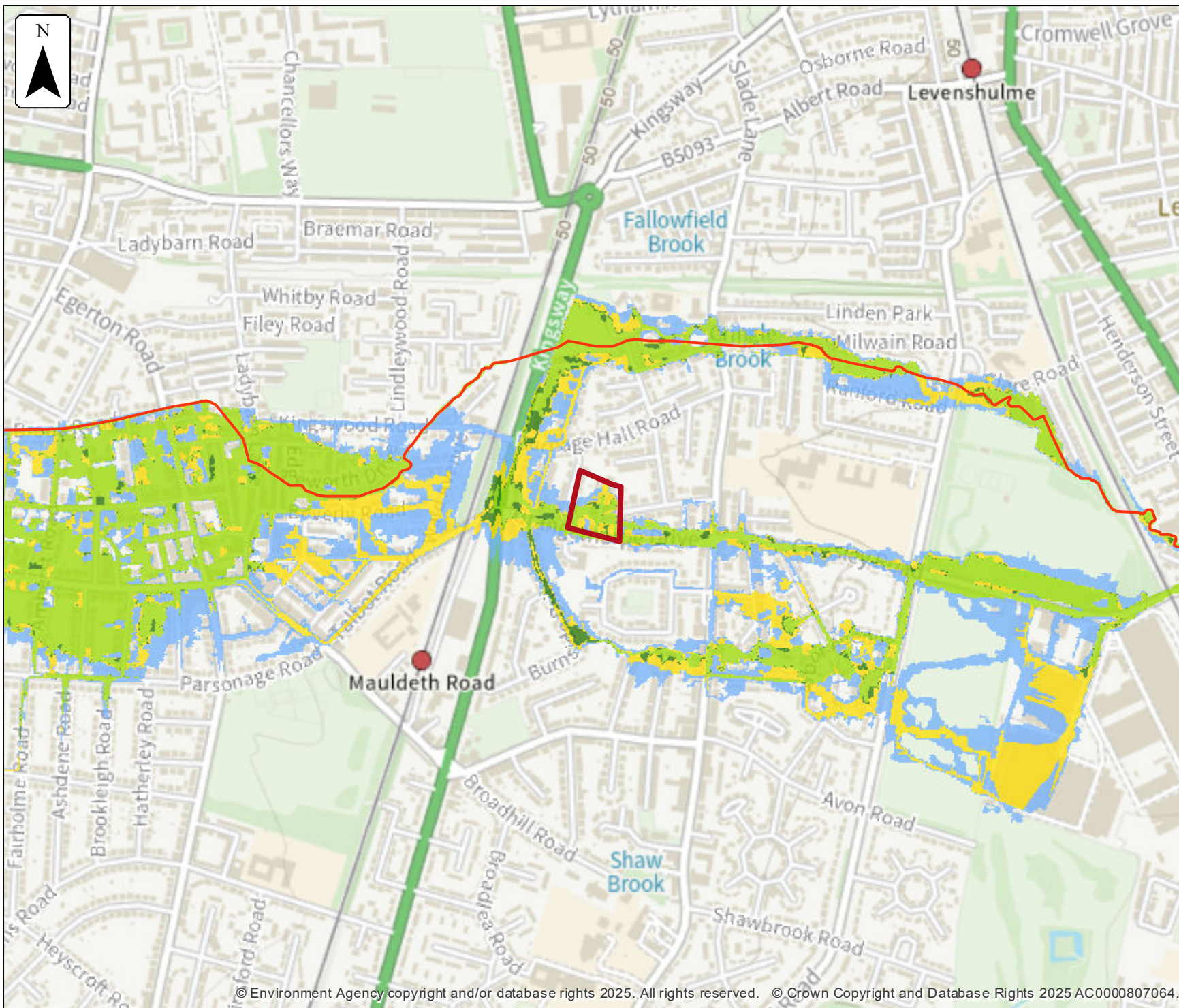
-  Selected area
-  Main river

Modelled flood extent

-  5% AEP
-  2% AEP
-  1.33% AEP
-  1% AEP
-  0.5% AEP
-  0.1% AEP

Flood extents may not be
visible where they overlap
other return periods





Defended climate change modelled fluvial extent

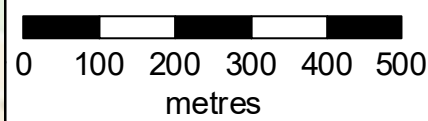
Location (easting/northing)
386568/393338

Scale Created
1:10,000 20 Feb 2025

Model name
Cringle Black Brook 2017

- Selected area
- Main river
- Modelled flood extent
 - 1% AEP (+30%)
 - 1% AEP (+35%)
 - 1% AEP (+70%)
 - 0.1% AEP (+30%)

Flood extents may not be visible where they overlap other return periods





Defences removed climate change modelled fluvial extent

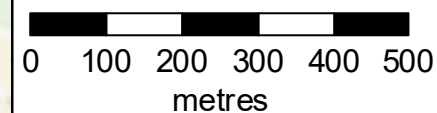
Location (easting/northing)
386568/393338

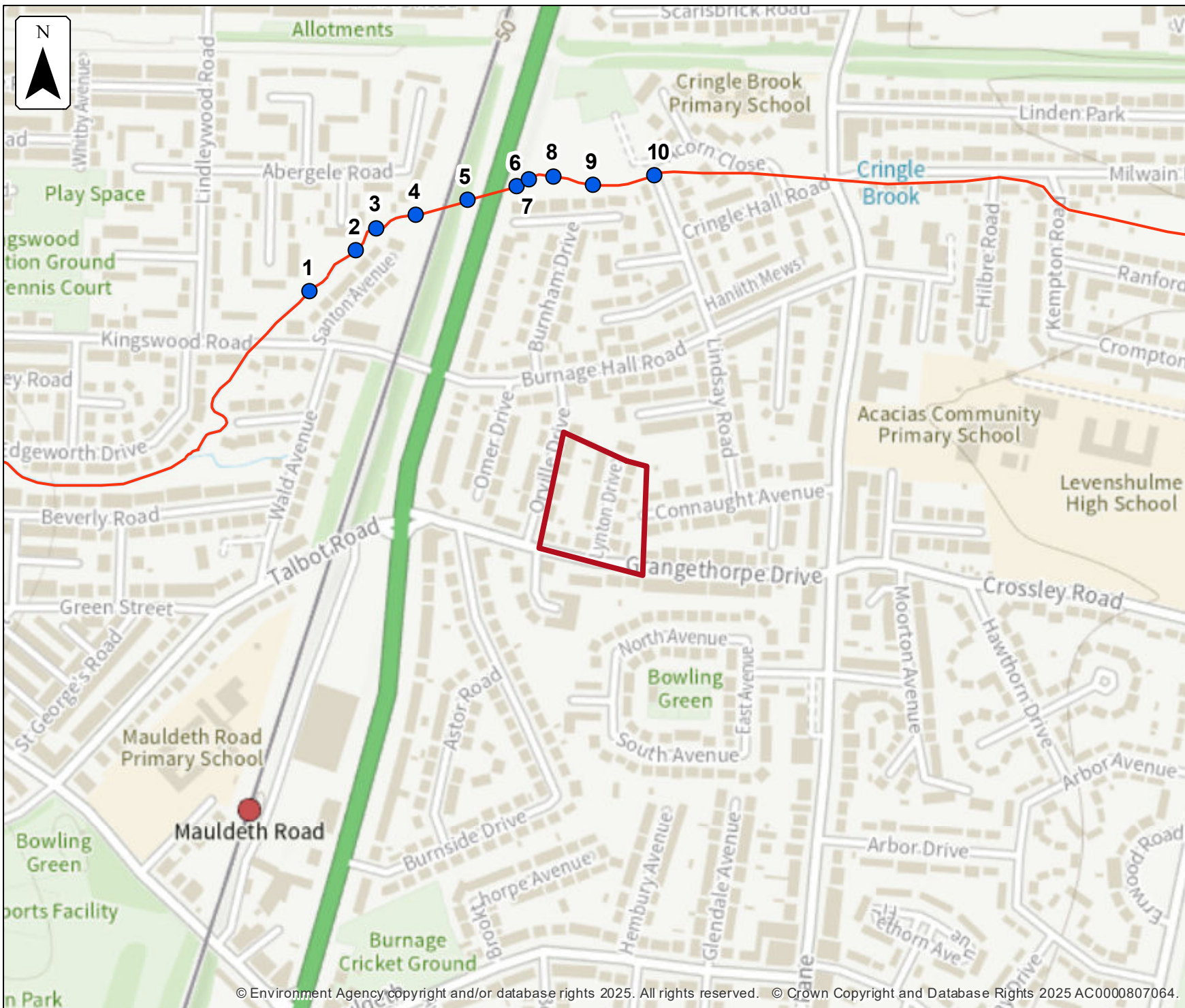
Scale Created
1:10,000 20 Feb 2025

Model name
**Cringle Black Brook
2017**

-  Selected area
-  Main river
- Modelled flood extent
-  1% AEP (+30%)
 -  1% AEP (+35%)
 -  1% AEP (+70%)
 -  0.1% AEP (+30%)

Flood extents may not be
visible where they overlap
other return periods





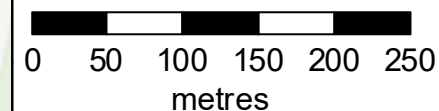
Defended modelled fluvial node locations

Location (easting/northing)
386568/393338

Scale Created
1:5,000 20 Feb 2025

Model name
Cringle Black Brook 2017

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defended

Label	Modelled location ID	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
1	1440042	386289	393548	40.87	40.97	41.07	41.12	41.13	41.14	41.16	41.19	41.20	41.22	41.37
2	1440146	386335	393587	41.28	41.40	41.52	41.57	41.59	41.60	41.63	41.66	41.67	41.70	41.77
3	1440095	386354	393609	41.47	41.57	41.68	41.73	41.74	41.76	41.79	41.81	41.82	41.85	41.91
4	1440111	386394	393622	41.88	41.98	42.09	42.13	42.14	42.15	42.17	42.20	42.21	42.23	42.28
5	1440048	386443	393636	42.20	42.33	42.54	42.65	42.67	42.70	42.80	42.87	42.91	43.02	43.25
6	1440039	386491	393650	42.48	42.75	43.27	43.53	43.60	43.67	43.89	44.06	44.16	44.40	44.99
7	1440044	386502	393656	42.53	42.78	43.29	43.56	43.63	43.70	43.92	44.08	44.18	44.41	44.98
8	1440102	386527	393659	42.62	42.85	43.32	43.56	43.63	43.70	43.91	44.08	44.18	44.41	44.99
9	1440091	386565	393650	42.77	42.97	43.38	43.60	43.66	43.72	43.93	44.09	44.18	44.42	44.99
10	1440117	386624	393660	43.05	43.17	43.44	43.64	43.69	43.75	43.94	44.09	44.18	44.41	45.0

Data in this table comes from the Cringle Black Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.

If no level or flow data is available for a scenario, no table will be shown.

Defended

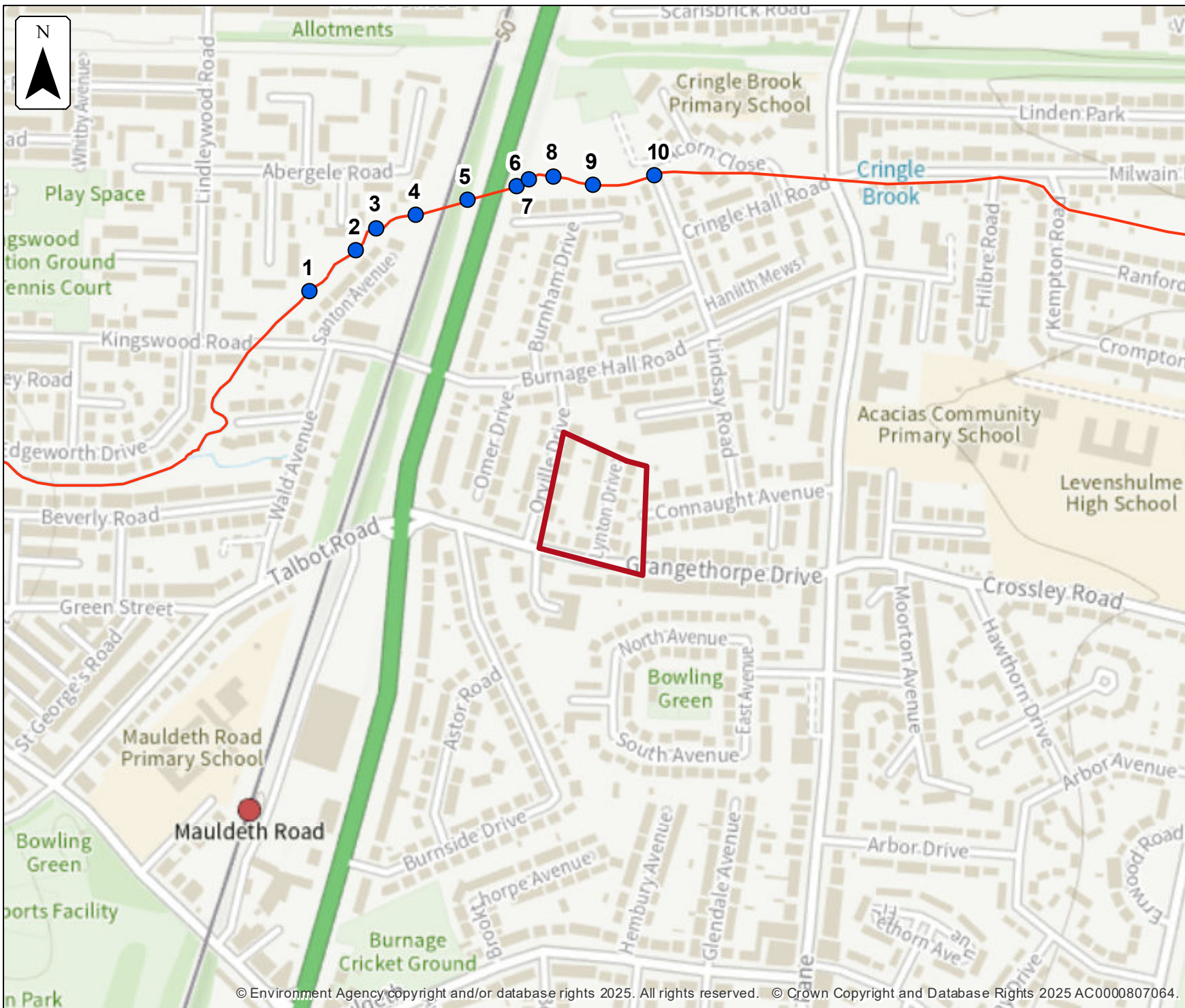
Label	Modelled location ID	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
1	1440042	386289	393548	2.01	2.56	3.23	3.54	3.62	3.69	3.91	4.07	4.16	4.37	4.87
2	1440146	386335	393587	2.01	2.56	3.23	3.54	3.62	3.69	3.91	4.07	4.16	4.37	4.87
3	1440095	386354	393609	2.01	2.56	3.23	3.54	3.62	3.70	3.91	4.07	4.16	4.37	4.87
4	1440111	386394	393622	2.01	2.56	3.23	3.54	3.62	3.69	3.91	4.08	4.16	4.37	4.87
5	1440048	386443	393636	2.01	2.56	3.23	3.54	3.62	3.70	3.91	4.08	4.16	4.37	4.87
6	1440039	386491	393650	2.01	2.56	3.23	3.54	3.62	3.70	3.91	4.08	4.16	4.37	4.87
7	1440044	386502	393656	2.01	2.56	3.17	3.20	3.20	3.18	3.21	3.20	3.19	3.74	5.56
8	1440102	386527	393659	2.01	2.56	3.25	3.62	3.69	3.72	3.81	3.80	3.98	4.27	5.73
9	1440091	386565	393650	1.87	2.41	2.99	3.39	3.47	3.57	3.78	3.94	4.04	4.40	6.28
10	1440117	386624	393660	1.87	2.41	3.01	3.40	3.49	3.60	3.91	4.18	4.34	4.68	5.12

Data in this table comes from the Cringle Black Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

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Defences removed modelled fluvial node locations

Location (easting/northing)
386568/393338

Scale Created
1:5,000 20 Feb 2025

Model name
**Cringle Black Brook
2017**

- Selected area
- Modelled location
- Main river

0 50 100 150 200 250
metres

Modelled node locations data

Defences removed

Label	Modelled location ID	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
1	1440042	386289	393548	40.87	40.97	41.07	41.12	41.13	41.14	41.16	41.19	41.20	41.22	41.37
2	1440146	386335	393587	41.28	41.40	41.52	41.57	41.59	41.60	41.63	41.66	41.67	41.70	41.77
3	1440095	386354	393609	41.47	41.57	41.68	41.73	41.74	41.76	41.79	41.81	41.82	41.85	41.91
4	1440111	386394	393622	41.88	41.98	42.09	42.13	42.14	42.15	42.17	42.20	42.21	42.23	42.28
5	1440048	386443	393636	42.20	42.33	42.54	42.65	42.67	42.70	42.80	42.87	42.91	43.02	43.25
6	1440039	386491	393650	42.48	42.75	43.27	43.53	43.60	43.67	43.89	44.06	44.16	44.40	44.99
7	1440044	386502	393656	42.53	42.78	43.29	43.56	43.63	43.70	43.92	44.08	44.18	44.41	44.98
8	1440102	386527	393659	42.62	42.85	43.32	43.56	43.63	43.70	43.91	44.08	44.18	44.41	44.99
9	1440091	386565	393650	42.77	42.97	43.38	43.60	43.66	43.72	43.93	44.09	44.18	44.42	44.99
10	1440117	386624	393660	43.05	43.17	43.44	43.64	43.69	43.75	43.94	44.09	44.18	44.41	45.0

Data in this table comes from the Cringle Black Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

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Defences removed

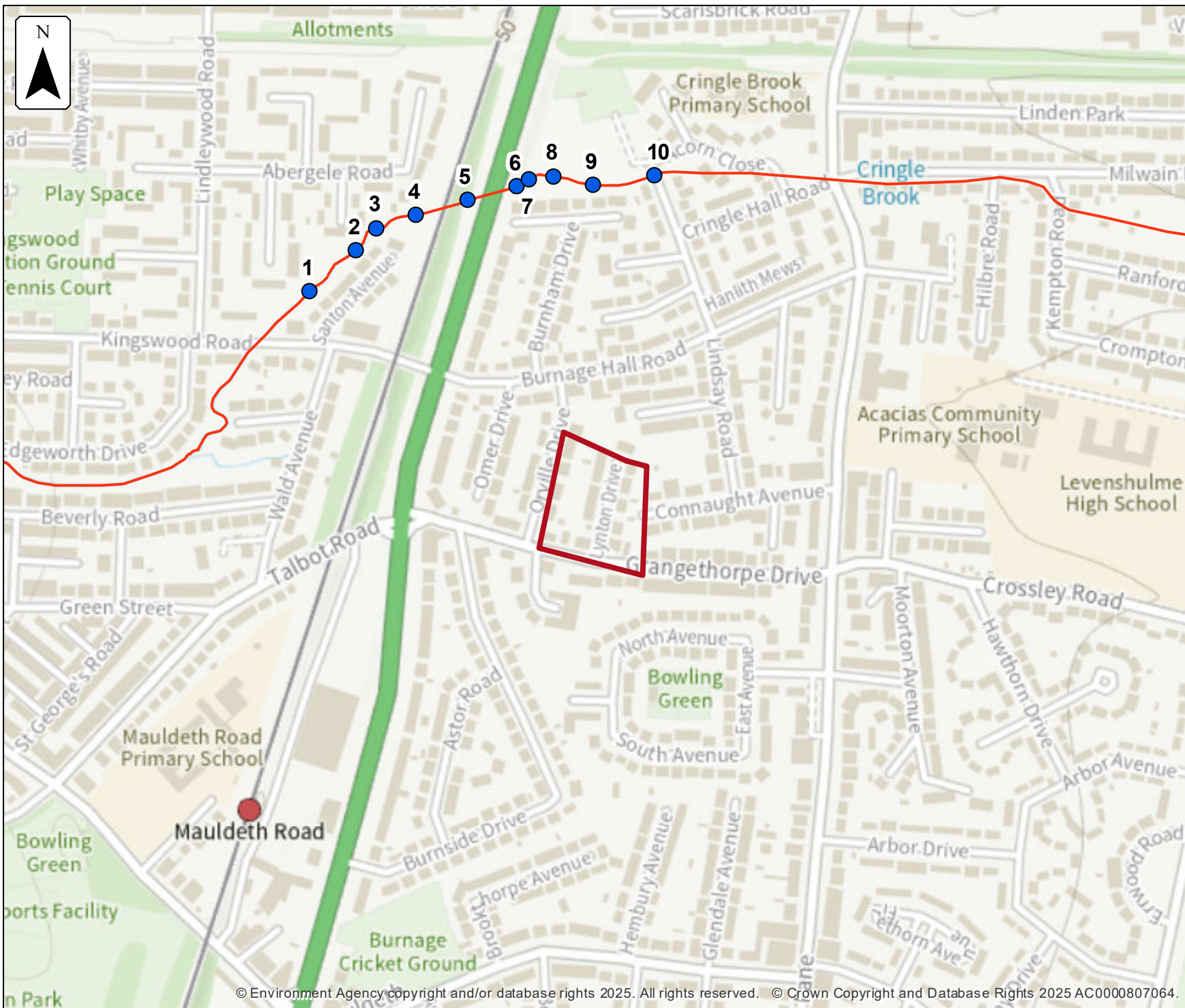
Label	Modelled location ID	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
1	1440042	386289	393548	2.01	2.56	3.23	3.54	3.62	3.69	3.91	4.07	4.16	4.37	4.87
2	1440146	386335	393587	2.01	2.56	3.23	3.54	3.62	3.69	3.91	4.07	4.16	4.37	4.87
3	1440095	386354	393609	2.01	2.56	3.23	3.54	3.62	3.70	3.91	4.07	4.16	4.37	4.87
4	1440111	386394	393622	2.01	2.56	3.23	3.54	3.62	3.69	3.91	4.08	4.16	4.37	4.87
5	1440048	386443	393636	2.01	2.56	3.23	3.54	3.62	3.70	3.91	4.08	4.16	4.37	4.87
6	1440039	386491	393650	2.01	2.56	3.23	3.54	3.62	3.70	3.91	4.08	4.16	4.37	4.87
7	1440044	386502	393656	2.01	2.56	3.17	3.20	3.20	3.18	3.21	3.20	3.19	3.74	5.56
8	1440102	386527	393659	2.01	2.56	3.25	3.62	3.69	3.72	3.81	3.80	3.98	4.27	5.73
9	1440091	386565	393650	1.87	2.41	2.99	3.39	3.47	3.57	3.78	3.94	4.04	4.40	6.28
10	1440117	386624	393660	1.87	2.41	3.01	3.40	3.49	3.60	3.91	4.18	4.34	4.68	5.12

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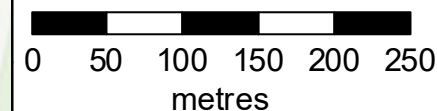
Defended climate change modelled fluvial node locations

Location (easting/northing)
386568/393338

Scale Created
1:5,000 20 Feb 2025

Model name
**Cringle Black Brook
2017**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defended climate change

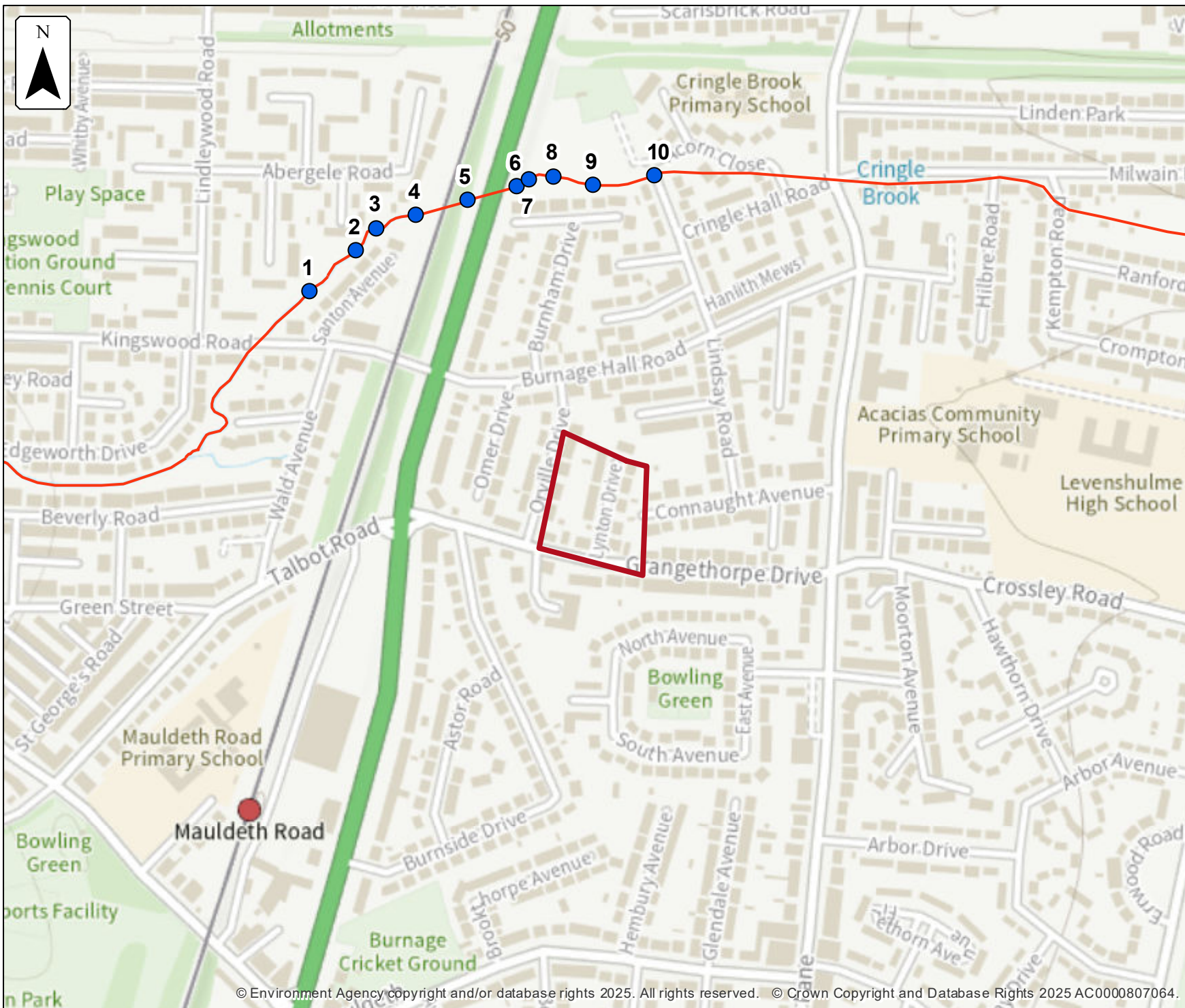
Label	Modelled location ID	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
				Level	Level	Level	Level	Flow	Flow	Flow	Flow
1	1440042	386289	393548	41.24	41.25	41.29	41.42	4.53	4.58	4.77	4.96
2	1440146	386335	393587	41.72	41.73	41.76	41.79	4.53	4.58	4.77	4.96
3	1440095	386354	393609	41.87	41.87	41.90	41.92	4.53	4.58	4.77	4.96
4	1440111	386394	393622	42.25	42.25	42.27	42.29	4.53	4.58	4.77	4.96
5	1440048	386443	393636	43.09	43.11	43.20	43.30	4.53	4.58	4.77	4.96
6	1440039	386491	393650	44.58	44.64	44.86	45.10	4.53	4.58	4.77	4.96
7	1440044	386502	393656	44.59	44.64	44.86	45.10	3.86	3.95	4.73	6.55
8	1440102	386527	393659	44.59	44.65	44.87	45.10	4.34	4.42	5.06	6.54
9	1440091	386565	393650	44.59	44.65	44.87	45.10	4.69	4.85	5.70	7.05
10	1440117	386624	393660	44.59	44.65	44.87	45.13	4.81	4.85	5.03	5.16

Data in this table comes from the Cringle Black Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

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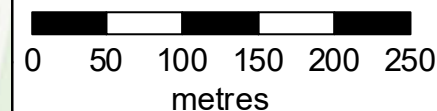
Defences removed climate change modelled fluvial node locations

Location (easting/northing)
386568/393338

Scale Created
1:5,000 20 Feb 2025

Model name
**Cringle Black Brook
2017**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defences removed climate change

Label	Modelled location ID	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
				Level	Level	Level	Level	Flow	Flow	Flow	Flow
1	1440042	386289	393548	41.24	41.25	41.29	41.42	4.53	4.58	4.77	4.96
2	1440146	386335	393587	41.72	41.73	41.76	41.79	4.53	4.58	4.77	4.96
3	1440095	386354	393609	41.87	41.87	41.90	41.92	4.53	4.58	4.77	4.96
4	1440111	386394	393622	42.25	42.25	42.27	42.29	4.53	4.58	4.77	4.96
5	1440048	386443	393636	43.09	43.11	43.20	43.30	4.53	4.58	4.77	4.96
6	1440039	386491	393650	44.58	44.64	44.86	45.10	4.53	4.58	4.77	4.96
7	1440044	386502	393656	44.59	44.64	44.86	45.10	3.86	3.95	4.73	6.55
8	1440102	386527	393659	44.59	44.65	44.87	45.10	4.34	4.42	5.06	6.54
9	1440091	386565	393650	44.59	44.65	44.87	45.10	4.69	4.85	5.70	7.05
10	1440117	386624	393660	44.59	44.65	44.87	45.13	4.81	4.85	5.03	5.16

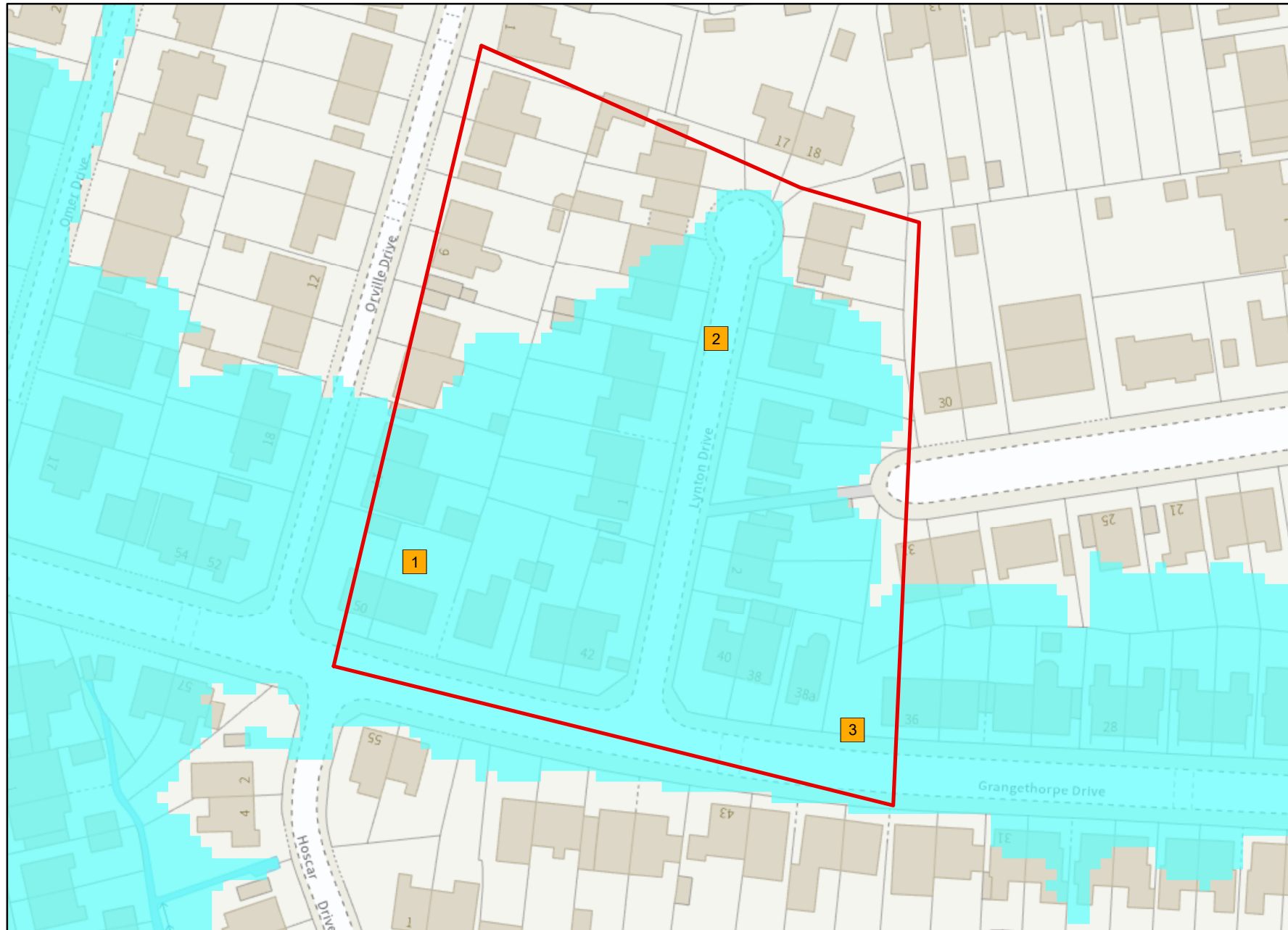
Data in this table comes from the Cringle Black Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.

If no level or flow data is available for a scenario, no table will be shown.

2D Flood Level Node Map Centred on Linton Drive, Manchester, M19 2LQ. Created 27/02/2025 [GMMC399133SW]



1:1,001



Legend

-  Site Location
-  2D Levels
-  Main River
-  Flood Zone 3
-  Flood Zone 2

Map Reference	Model Node Reference	Easting	Northing	Data	Undefended					Defended				
					1 % AEP (1 in 100 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 35% increase in flow	1 % AEP (1 in 100 year) + 70% increase in flow	0.1 % AEP (1 in 1000 year)	0.1 % AEP (1 in 1000 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 35% increase in flow	1 % AEP (1 in 100 year) + 70% increase in flow	0.1 % AEP (1 in 1000 year)	0.1 % AEP (1 in 1000 year) + 30% increase in flow
1	2D Levels	386524	93318	Modelled Water Level (m aodN)	43.31	43.32	43.39	43.56	43.60	43.60	43.32	43.39	43.56	43.61
2		386579	93359	Modelled Water Level (m aodN)	43.81	43.82	43.88	44.05	44.10	43.81	43.82	43.88	44.05	44.10
3		386604	393287	Modelled Water Level (m aodN)	44.32	44.32	44.35	44.37	44.44	44.47	44.32	44.34	44.43	44.47

Model data taken from Cringle Black Brook 2017

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

cumecs - cubic metres per second

Notes:

*Climate Change Scenario - 30%, 35% and 70% increases in flow calculated for the 2080's (2070 - 2115).

Please see <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances> for more information regarding the new climate change guidance.

The location of the site and the type (vulnerability) of development determine the climate change allowances to consider in any flood risk assessment.

Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

Your Lead Local Flood Authority is Manchester District.

About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

[Find out more about flood risk activity permits](#)

Help and advice

Contact the Greater Manchester Merseyside and Cheshire Environment Agency team at inforequests.gmmc@environment-agency.gov.uk for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for