

Flood risk assessment data

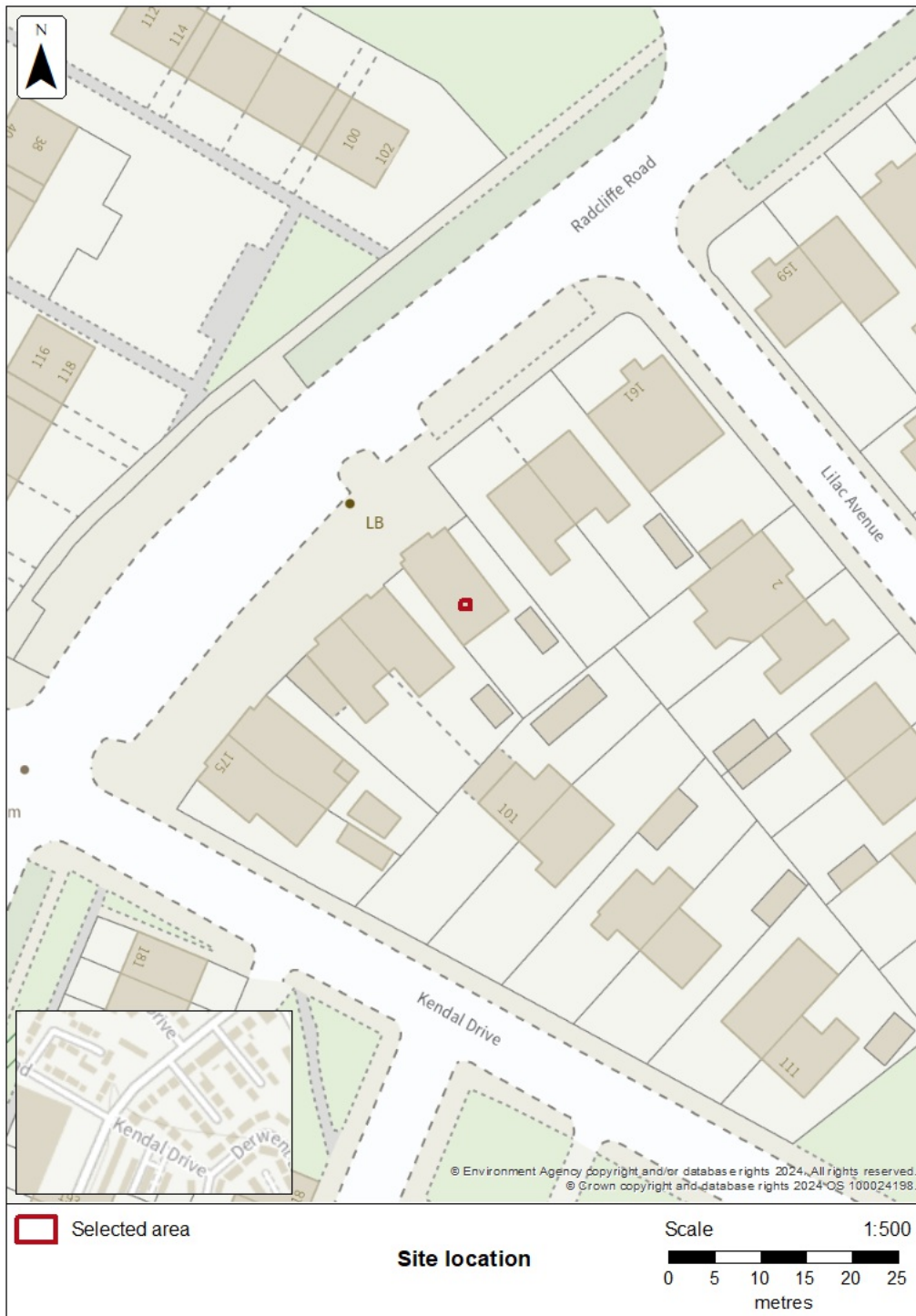
Location of site: 379811 / 409204 (shown as easting and northing coordinates)

Document created on: 19 August 2024

This information was previously known as a product 4.

Customer reference number: CREGYE5VRCHM

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)
- historic flooding
- 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.

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

About the models used

Model name: Radcliffe and Redvales 2016

Scenario(s): Defended fluvial, defences removed fluvial

Date: 29 April 2019

These models contain 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

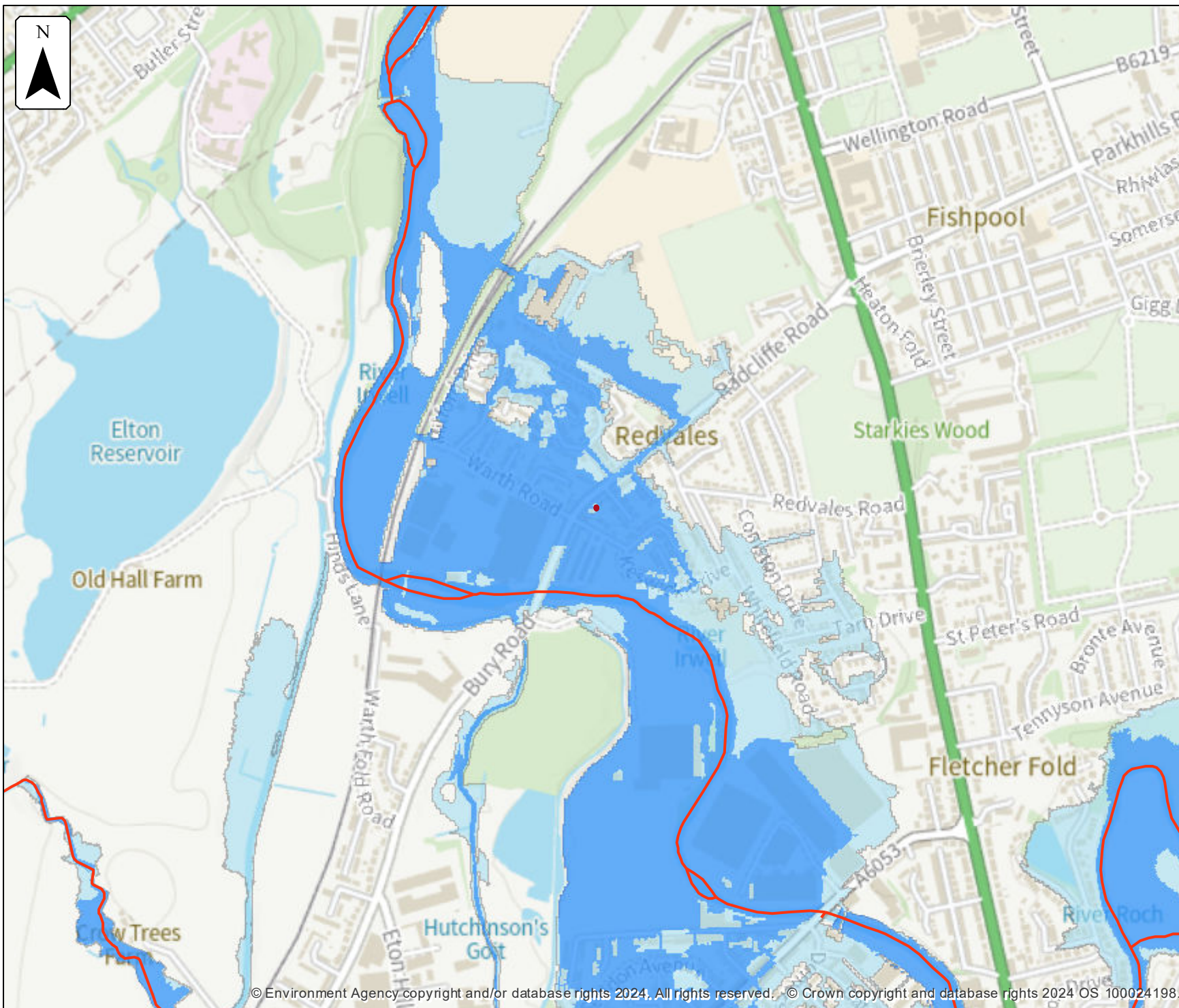
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- 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.



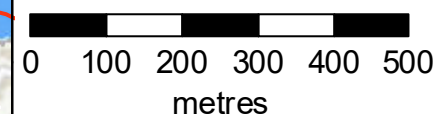
Flood map for planning

Location (easting/northing)
379811/409204

Scale
1:10,000

Created
19 Aug 2024

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



Historic flooding

This map is an indicative outline of areas that have previously flooded. Remember that:

- our records are incomplete, so the information here is based on the best available data
- it is possible not all properties within this area will have flooded
- other flooding may have occurred that we do not have records for
- flooding can come from a range of different sources - we can only supply flood risk data relating to flooding from rivers or the sea

You can also contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

[Download recorded flood outlines in GIS format](#)



Historic flood map

Location (easting/northing)
379811/409204

Scale
1:10,000

Created
19 Aug 2024

-  Selected area
-  Main river
- Date of flood event
 -  February, 2020
 -  December, 2015



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Historic flood event data

Start date	End date	Source of flood	Cause of flood	Affects location
9 February 2020	9 February 2020	main river	channel capacity exceeded (no raised defences)	No
26 December 2015	26 December 2015	main river	channel capacity exceeded (no raised defences)	No

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



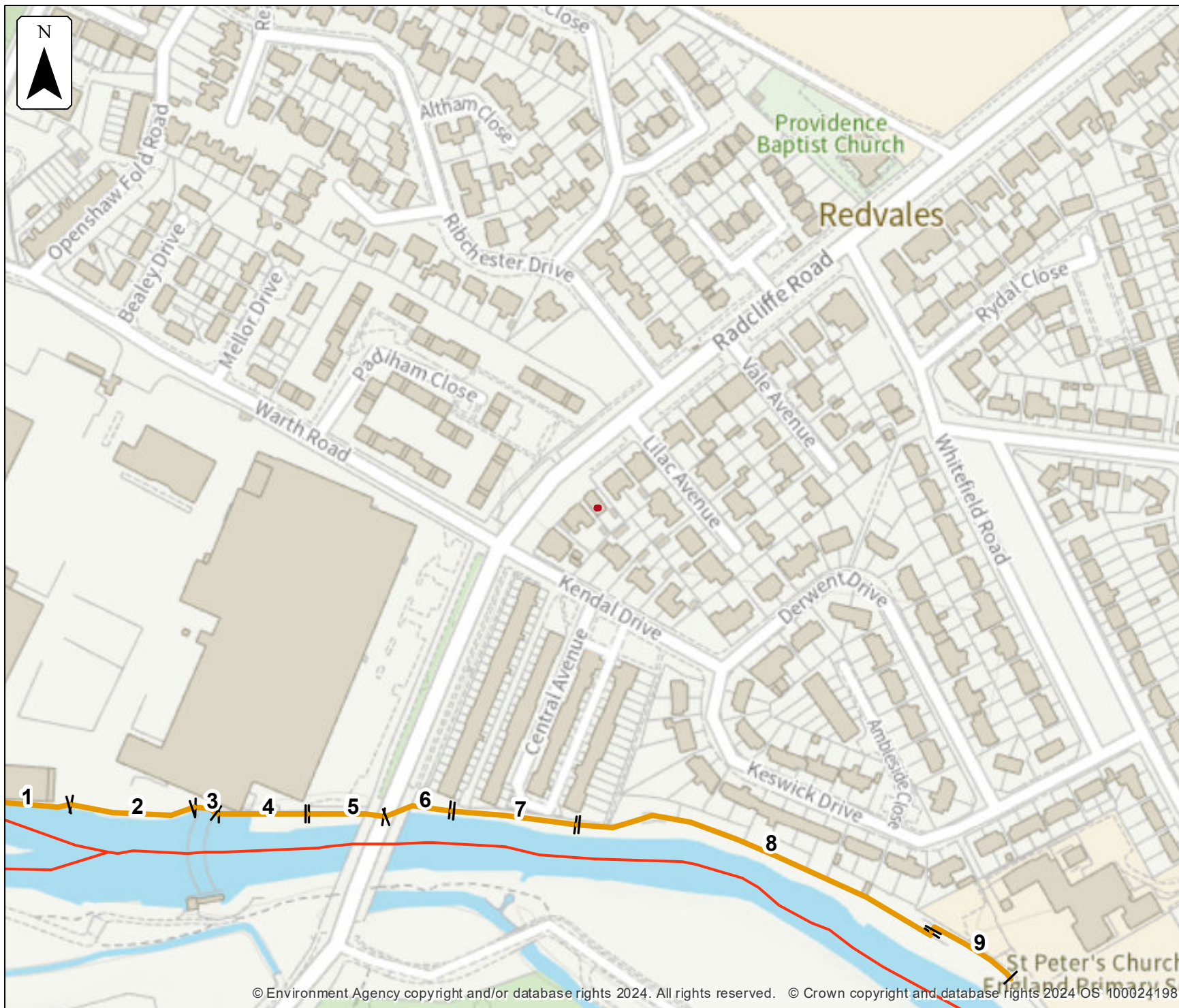
Flood defences

Location (easting/northing)
379811/409204

Scale
1:2,500

Created
19 Aug 2024

-  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	758782	Wall	100		72.82	72.82	72.82
2	758781	Wall	100		72.62		72.62
3	758778	Wall	100		72.35	72.62	
4	758777	Wall	100		72.06	72.06	72.06
5	758776	Wall	100		71.95	71.95	71.95
6	758993	Wall	100		70.97	70.97	70.97
7	758996	Wall	100		70.90	70.90	70.90
8	759127	Wall	100		70.80	70.80	70.80
9	759128	Wall	100		70.80	70.80	70.80

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

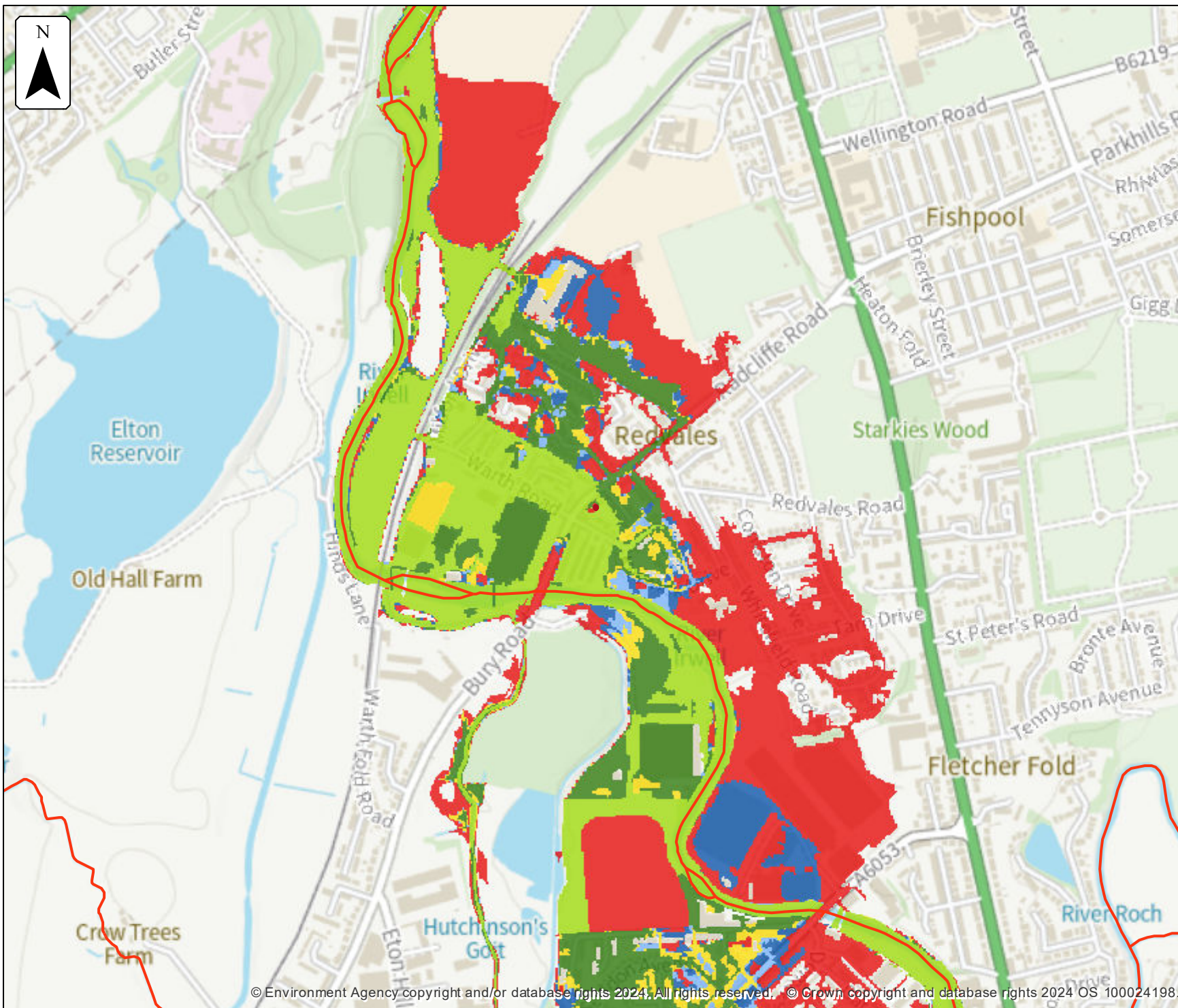
The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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
- No defences exist modelled fluvial: risk of flooding from rivers where there are no flood defences
- 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
- No defences exist climate change modelled fluvial: risk of flooding from rivers where there are no flood defences, including estimated impact of climate change



Defended modelled fluvial extent

Location (easting/northing)
379811/409204

Scale Created
1:10,000 19 Aug 2024

Model name
**Radcliffe and
Redvales 2016**

Selected area

Main river

Modelled flood extent

5% AEP

2% AEP

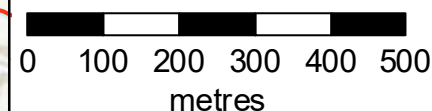
1.33% AEP

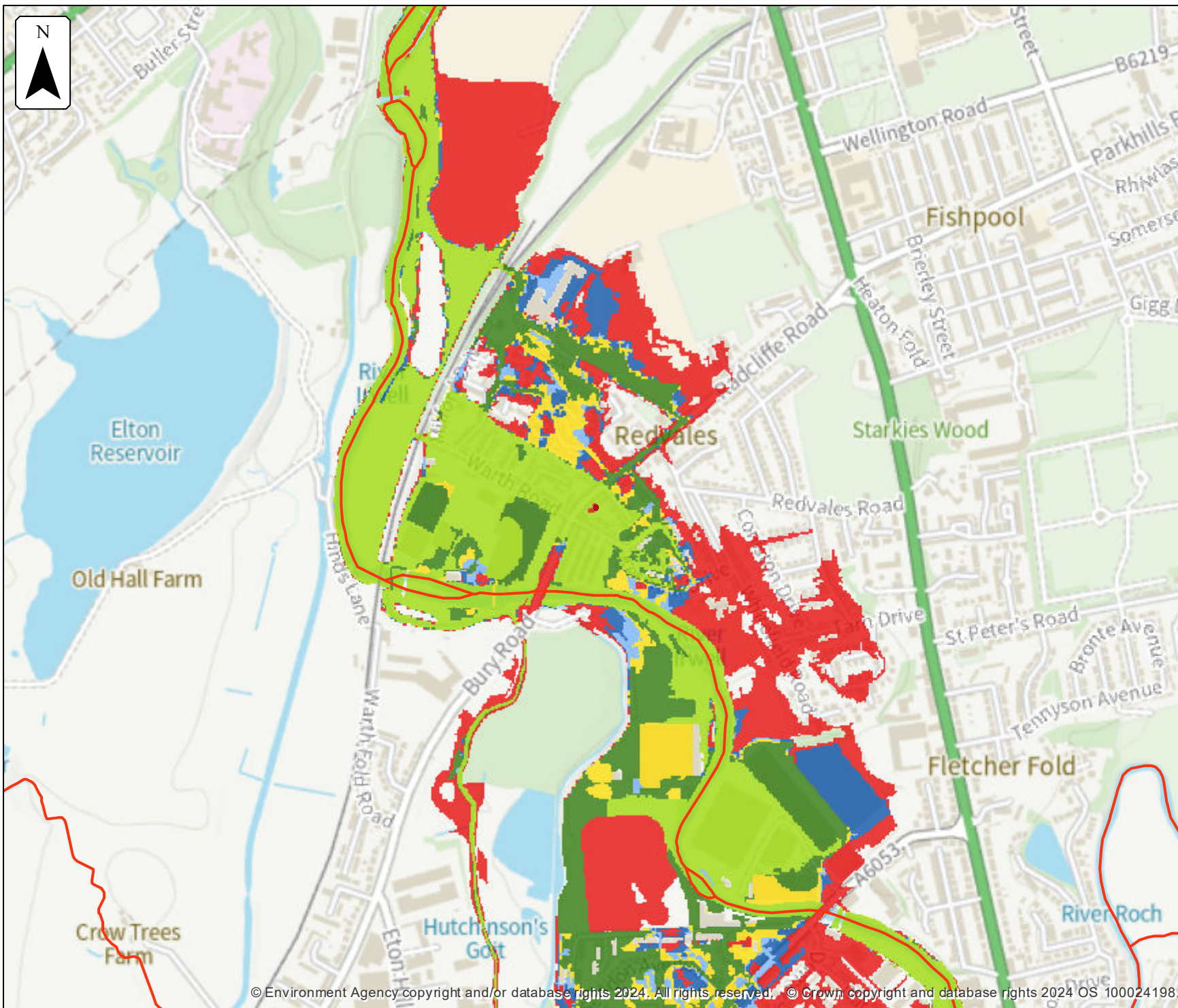
1% AEP

0.5% AEP

0.1% AEP

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





Defences removed modelled fluvial extent

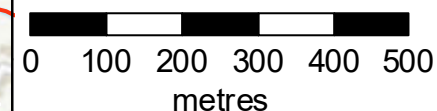
Location (easting/northing)
379811/409204

Scale Created
1:10,000 19 Aug 2024

Model name
**Radcliffe and
Redvales 2016**

- 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





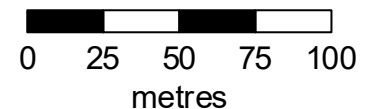
Defended modelled fluvial node locations

Location (easting/northing)
379811/409204

Scale Created
1:2,500 19 Aug 2024

Model name
**Radcliffe and
Redvales 2016**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defended

Label	Modelled location ID	Easting	Northing	5% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level
1	977195	379589	409031	71.50	71.64	71.69	71.73	71.81	72.09
2	977222	379609	409032	71.52	71.68	71.74	71.78	71.87	72.19
3	977130	379631	409033	69.26	69.68	69.86	70.0	70.34	71.59
4	977125	379650	409036	69.15	69.57	69.74	69.89	70.23	71.50
5	977201	379689	409034	69.0	69.43	69.60	69.74	70.09	71.40
6	977199	379711	409035	68.88	69.26	69.40	69.53	69.82	70.78
7	977121	379787	409039	68.65	69.01	69.14	69.26	69.54	70.47
8	977145	379850	409023	68.56	68.91	69.03	69.14	69.40	70.33
9	977144	379927	409007	68.49	68.85	68.97	69.08	69.36	70.32
10	977139	379982	408968	68.38	68.72	68.81	68.88	69.01	69.23

Data in this table comes from the Radcliffe and Redvales 2016 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	5% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow
1	977195	379589	409031	175.10	199.22	209.47	216.87	233.81	292.52
2	977222	379609	409032	175.09	199.18	209.26	216.39	232.19	285.40
3	977130	379631	409033	175.09	199.18	209.26	216.39	232.19	285.40
4	977125	379650	409036	194.67	223.85	236.60	245.69	264.85	321.84
5	977201	379689	409034	202.53	234.27	248.22	258.18	281.29	346.49
6	977199	379711	409035	202.53	234.27	248.22	258.18	281.29	346.49
7	977121	379787	409039	205.21	240.33	256.52	269.22	298.54	390.51
8	977145	379850	409023	207.39	245.81	264.98	281.55	317.27	421.83
9	977144	379927	409007	207.07	242.80	260.11	274.27	307.92	403.96
10	977139	379982	408968	206.56	249.0	272.36	293.79	353.60	561.87

Data in this table comes from the Radcliffe and Redvales 2016 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.



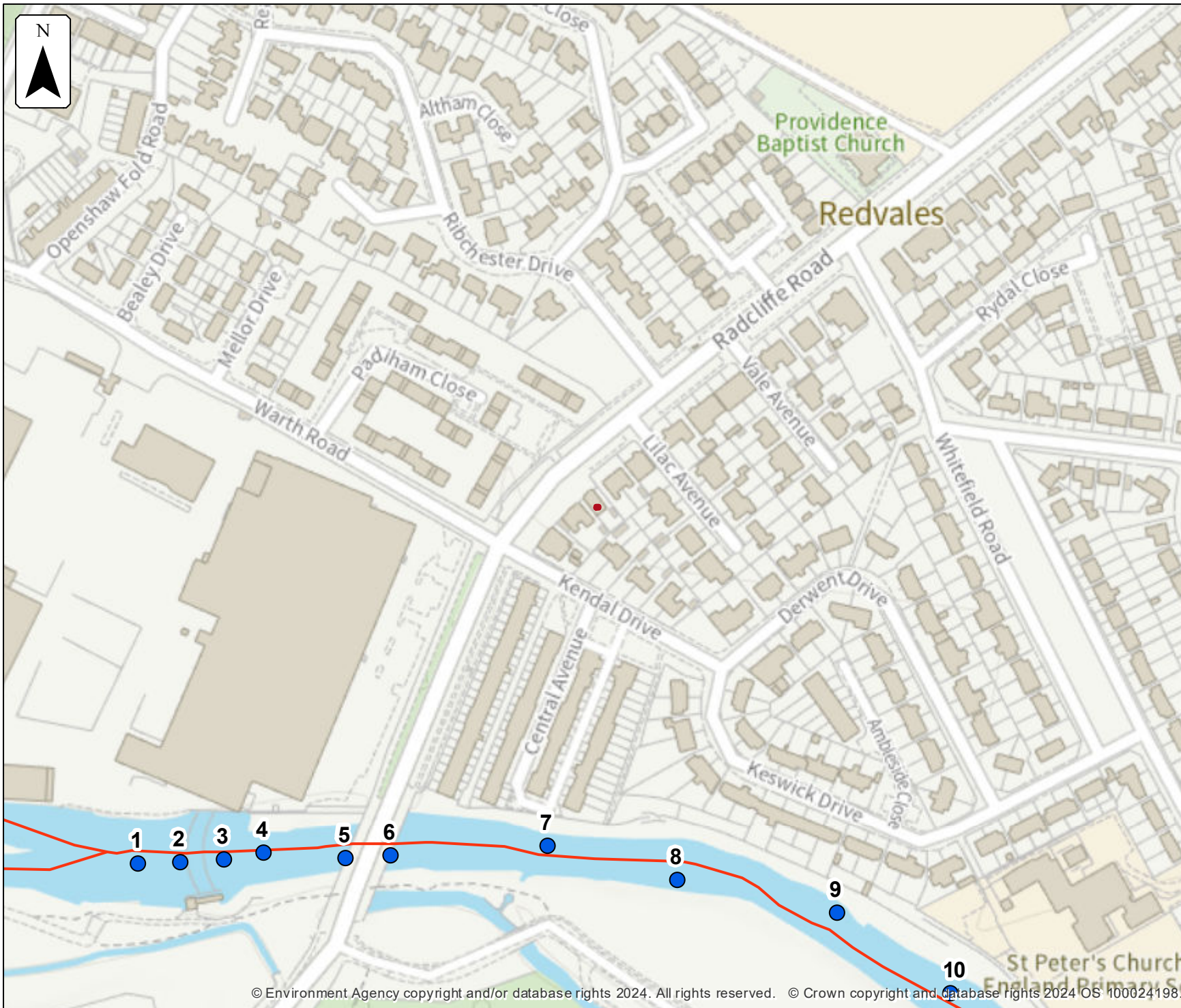
Defences removed modelled fluvial node locations

Location (easting/northing)
379811/409204

Scale Created
1:2,500 19 Aug 2024

Model name
**Radcliffe and
Redvales 2016**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level
1	977195	379589	409031	71.42	71.57	71.62	71.66	71.76	72.04
2	977222	379609	409032	71.47	71.63	71.69	71.74	71.85	72.17
3	977130	379631	409033	69.19	69.63	69.81	69.94	70.24	71.52
4	977125	379650	409036	69.09	69.52	69.70	69.82	70.13	71.42
5	977201	379689	409034	68.94	69.37	69.55	69.67	69.97	71.30
6	977199	379711	409035	68.82	69.21	69.37	69.47	69.72	70.66
7	977121	379787	409039	68.58	68.96	69.10	69.19	69.42	70.31
8	977145	379850	409023	68.47	68.84	68.97	69.05	69.24	70.14
9	977144	379927	409007	68.39	68.77	68.90	68.98	69.19	70.13
10	977139	379982	408968	68.27	68.65	68.76	68.82	68.94	69.30

Data in this table comes from the Radcliffe and Redvales 2016 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.

Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow
1	977195	379589	409031	171.39	197.97	209.16	217.19	236.72	297.05
2	977222	379609	409032	166.57	192.25	202.53	209.81	228.23	285.26
3	977130	379631	409033	166.57	192.25	202.53	209.81	228.23	285.26
4	977125	379650	409036	186.04	216.71	230.32	239.68	261.44	327.98
5	977201	379689	409034	195.79	228.93	243.20	253.61	278.97	357.61
6	977199	379711	409035	195.79	228.93	243.20	253.61	278.97	357.61
7	977121	379787	409039	201.34	237.32	253.95	265.88	296.51	400.87
8	977145	379850	409023	206.35	246.13	265.47	280.59	318.24	433.77
9	977144	379927	409007	206.28	244.0	261.79	275.49	307.77	415.40
10	977139	379982	408968	205.84	244.54	265.15	282.37	329.40	528.57

Data in this table comes from the Radcliffe and Redvales 2016 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 modelled fluvial extent and height

Location (easting/northing)
379811/409204

Scale Created
1:500 19 Aug 2024

Model name
**Radcliffe and
Redvales 2016**

 Selected area

 Main river

Modelled 2D grid
Water level in mAOD

	0 - 71.0
	71.0 - 71.125
	71.125 - 71.25
	71.25 - 71.375
	71.375 - 71.5
	71.5 - 71.625
	71.625 - 71.75
	71.75 - 71.875
	71.875 - 72.0

This map shows the
0.1% AEP height data


0 5 10 15 20
metres

Defended

Label	Easting	Northing	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Height	Height	Height	Height
1	379808	409195	69.98	70.08	70.31	71.13
2	379811	409195	69.97	70.08	70.31	71.13
3	379814	409195	69.97	70.08	70.31	71.13
4	379805	409198	70.06	70.12	70.35	71.17
5	379808	409198	70.00	70.09	70.33	71.16
6	379811	409198	69.98	70.08	70.32	71.14
7	379814	409198	69.97	70.08	70.31	71.13
8	379817	409198	69.97	70.08	70.30	71.13
9	379802	409201	70.13	70.19	70.42	71.22
10	379805	409201	70.09	70.15	70.38	71.20
11	379808	409201	70.03	70.10	70.35	71.18
12	379811	409201	70.01	70.10	70.34	71.16
13	379814	409201	69.98	70.09	70.32	71.14
14	379817	409201	69.97	70.09	70.31	71.13
15	379820	409201	69.97	70.08	70.30	71.12
16	379802	409204	70.21	70.28	70.50	71.29
17	379805	409204	70.17	70.24	70.47	71.27
18	379808	409204	70.10	70.17	70.42	71.23

Label	Easting	Northing	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Height	Height	Height	Height
19	379811	409204	70.08	70.17	70.40	71.21
20	379814	409204	70.02	70.13	70.36	71.18
21	379817	409204	70.00	70.11	70.34	71.16
22	379820	409204	69.97	70.09	70.31	71.12
23	379802	409207	70.25	70.33	70.53	71.32
24	379805	409207	70.21	70.29	70.51	71.30
25	379808	409207	70.14	70.23	70.46	71.26
26	379811	409207	70.12	70.21	70.44	71.24
27	379814	409207	70.06	70.16	70.39	71.20
28	379817	409207	70.03	70.14	70.37	71.18
29	379820	409207	69.99	70.10	70.32	71.13
30	379805	409210	70.28	70.37	70.56	71.33
31	379808	409210	70.23	70.32	70.52	71.31
32	379811	409210	70.20	70.29	70.50	71.29
33	379814	409210	70.14	70.25	70.45	71.25
34	379817	409210	70.11	70.22	70.42	71.22
35	379808	409213	70.26	70.35	70.54	71.32
36	379811	409213	70.24	70.32	70.52	71.31
37	379814	409213	70.18	70.29	70.48	71.27

Label	Easting	Northing	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Height	Height	Height	Height
Max value in selected area:			70.08	70.17	70.40	71.21

Data in this table comes from the Radcliffe and Redvales 2016 model.

Height values are shown in mAOD, and depth values are shown in metres.

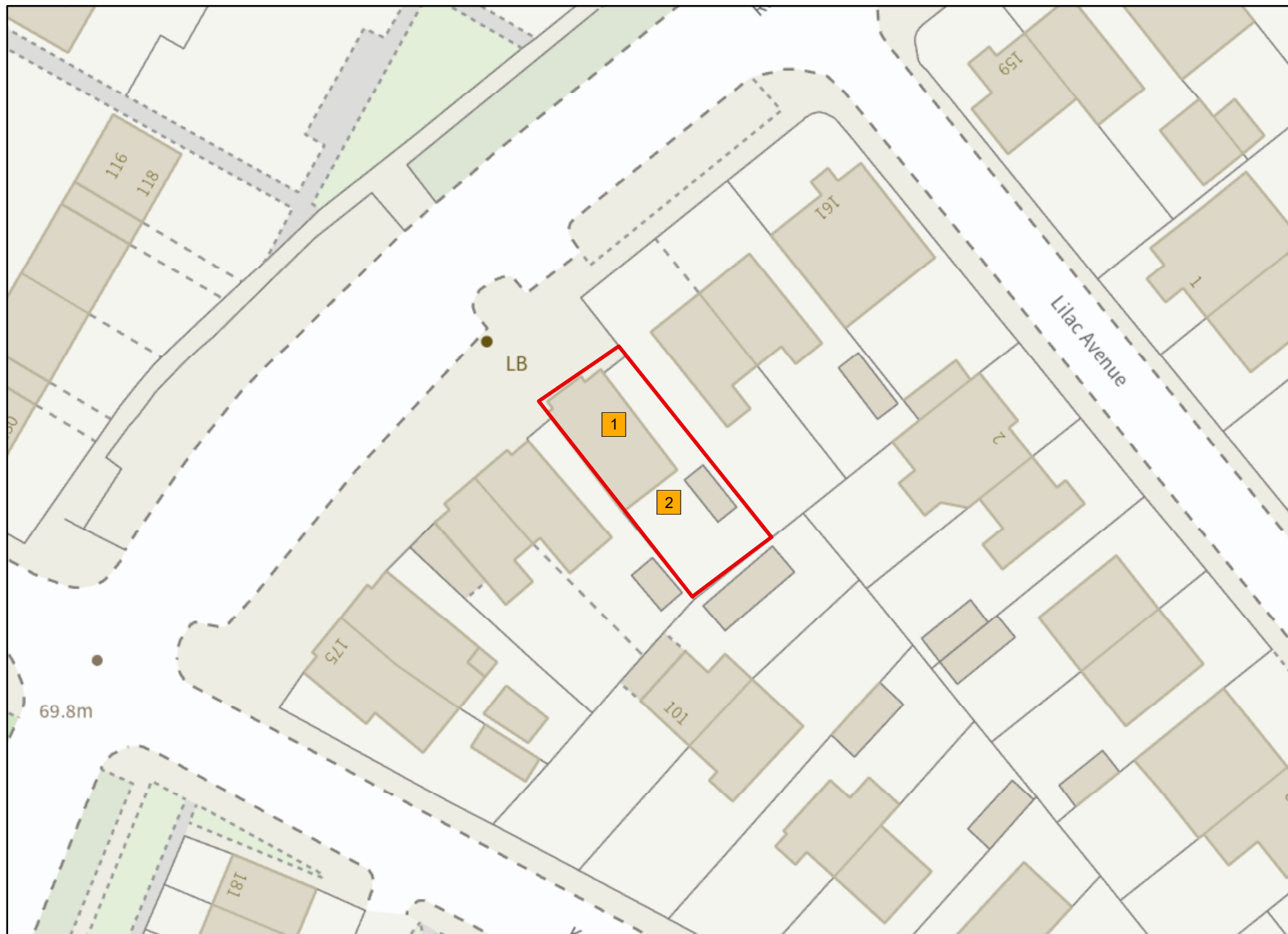
Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

If no height or depth data is available for a scenario, no table will be shown.

'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

**Undefended 2D Level Map Centred on Radcliffe Road, Bury, BL9 9LN.
Created 20/08/2024 [GMMC372763SW]**



1:500



Legend

-  Site Location
-  Main River
-  2D Levels

					Undefended					
Map Reference	Model Node Reference	Easting	Northing	Data	50 % AEP (1 in 2 year)	10 % AEP (1 in 10 year)	4 % AEP (1 in 25 year)	1.33 % AEP (1 in 75 year)	1 % AEP (1 in 100 year)	0.5 % AEP (1 in 200 year)
1	2D Levels	379810	409208	Modelled Water Level (m aodN)		70.12	70.29	70.41	70.49	70.59
2		379815	409201	Modelled Water Level (m aodN)	69.67	69.98	70.14	70.29	70.33	70.47

Model data taken from Radcliffe and Redvales 2016

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

cumecs - cubic metres per second

Notes: Climate Change Scenario - We do not hold climate change measurements at this location.
For further guidance on climate change please see <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

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

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