Flood risk assessment data

Location of site: 297391 / 517463 (shown as easting and northing coordinates)
Document created on: 28 July 2023
This information was previously known as a product 4.
Customer reference number: 9EH9MUDUUWK4

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

Not included in this document

This document does not include a Flood Defence Breach Hazard Map.

If your location has a reduced flood risk from rivers and sea because of defences, you need to request a Flood Defence Breach Hazard Map and information about the level of flood protection offered at your location from the Cumbria and Lancashire Environment Agency team at inforequests.cmblnc@environment-agency.gov.uk. This information will only be available if modelling has been carried out for breach scenarios.

Include a site location map in your request.

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

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

About the models used

Model name: Pow Beck 2012
Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial, defences removed climate change fluvial
Date: 5 March 2013

Model name: Whitehaven_Tidal 2012
Scenario(s): Defended tidal, defences removed tidal, defended climate change tidal, defences removed climate change tidal
Date: 1 July 2013

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 occuring 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 3.

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

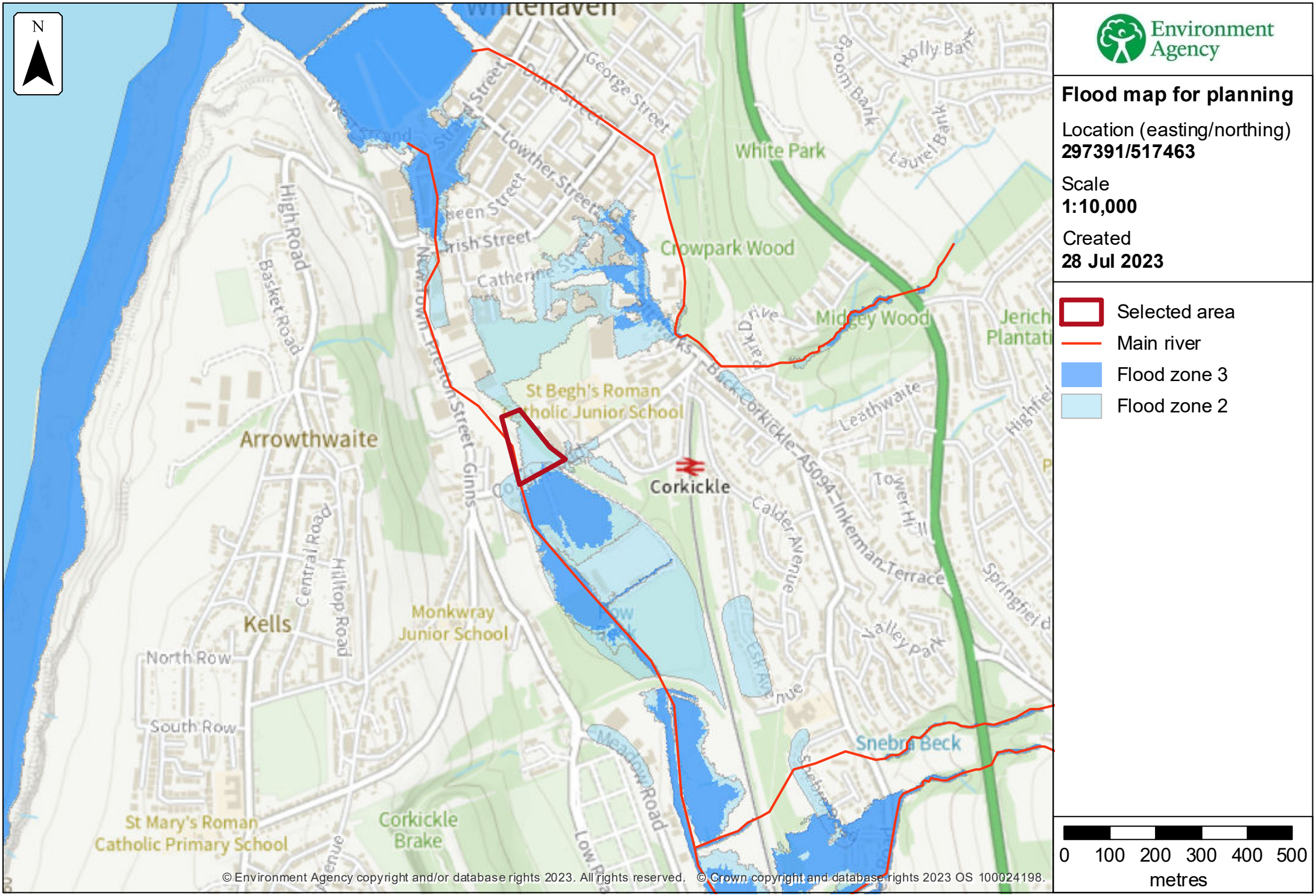
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- 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

This data is updated on a quarterly basis as better data becomes available.


N
Environment Agency
Flood map for planning
Location (easting/northing)
297391/517463
Scale
1:10,000
Created
28 Jul 2023
Selected area
Main river
Flood zone 3
Flood zone 2
0 100 200 300 400 500
metres
Whitehaven
George Street
Lowther Street
White Park
Holly Bank
Broom Bank
Laurel Bank
Crowpark Wood
Midgey Wood
High Road
Basket Road
Irish Street
St Begh's Roman Catholic Junior School
Arrowthwaite
Corkickle
Back Corkickle
A5094
Inkerman Terrace
Leathwaite
Tower Hill
Calder Avenue
Springfield
Valley Park
Kells
Central Road
Hilltop Road
North Row
South Row
Monkwray Junior School
Snebrin Beck
Meadow Road
Low Road
St Mary's Roman Catholic Primary School
Corkickle Brake
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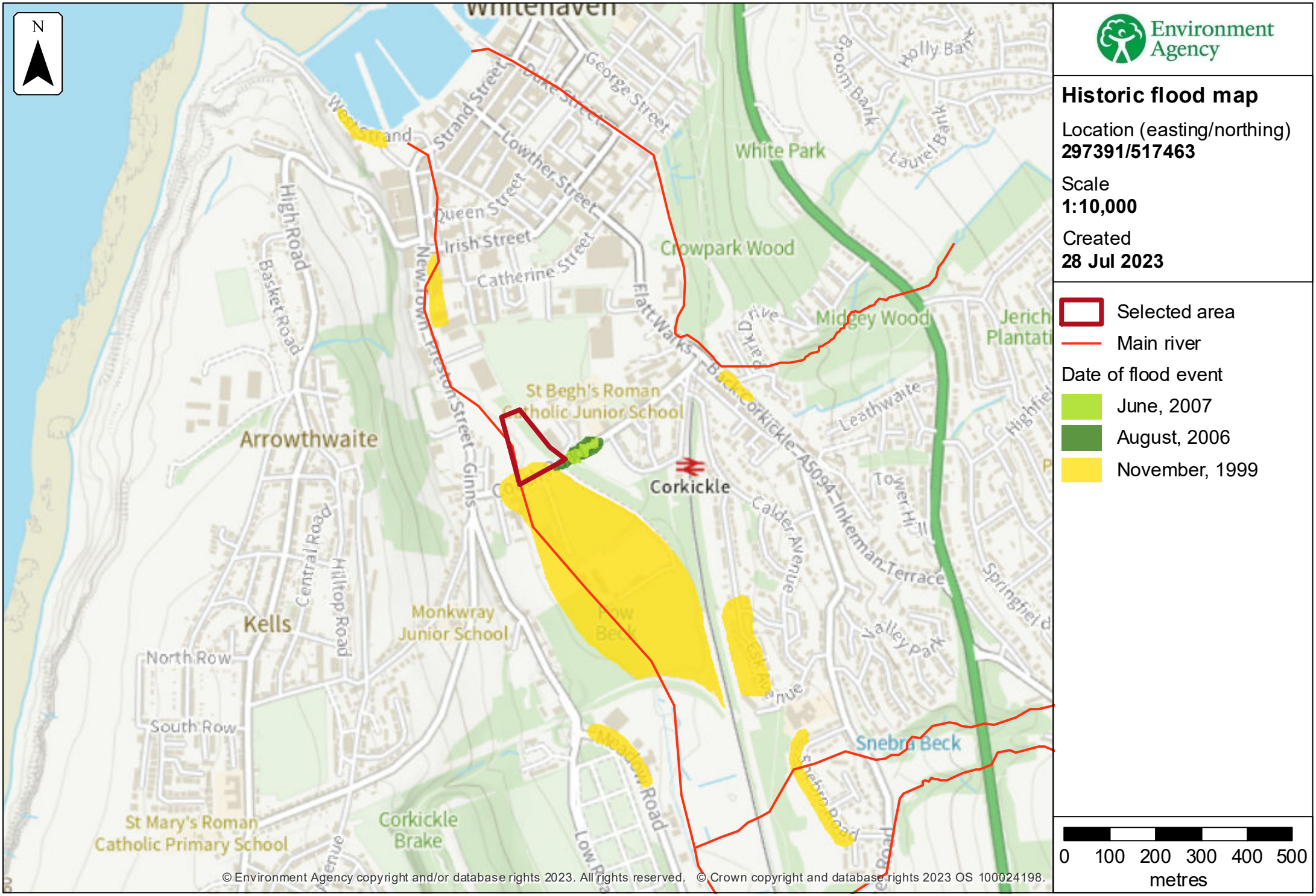
Historic flooding

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



Environment Agency

Historic flood map

Location (easting/northing)
297391/517463

Scale
1:10,000

Created
28 Jul 2023

Selected area

Main river

Date of flood event

June, 2007

August, 2006

November, 1999

0 100 200 300 400 500
metres

Historic flood event data

Start date	End date	Source of flood	Cause of flood	Affects location
12 June 2007	12 June 2007	drainage	local drainage/surface water	Yes
11 August 2006	11 August 2006	main river	unknown	Yes
5 November 1999	5 November 1999	main river	channel capacity exceeded (no raised defences)	Yes

Flood defences and attributes

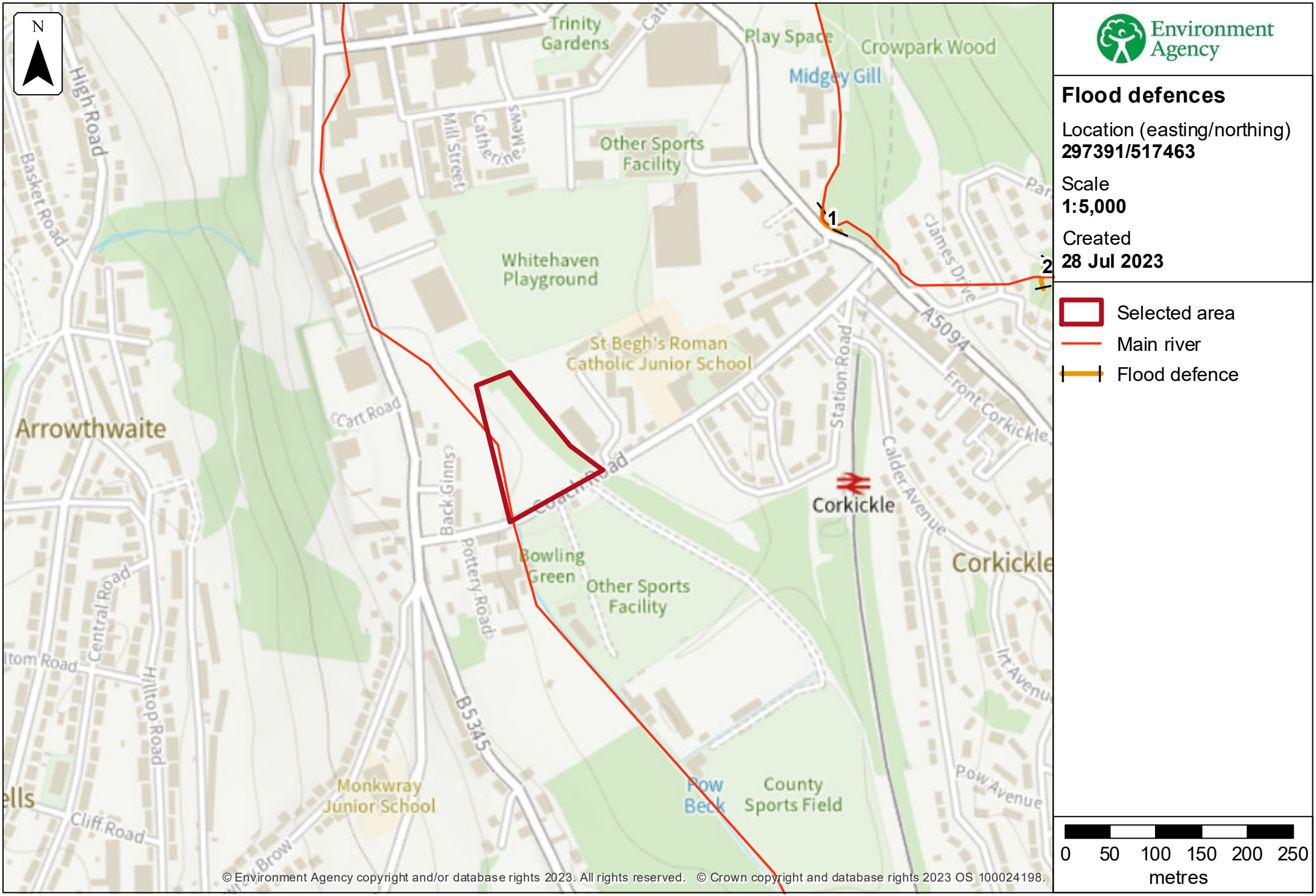
The flood defences map shows the location of the flood defences present.

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



Environment Agency

Flood defences

Location (easting/northing)
297391/517463

Scale
1:5,000

Created
28 Jul 2023

- Selected area
- Main river
- Flood defence

0 50 100 150 200 250
metres

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	94578	Wall	20	Fair	17.58	18.54	17.58
2	179305	Embankment	20	Fair	38.77	38.24	38.24

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

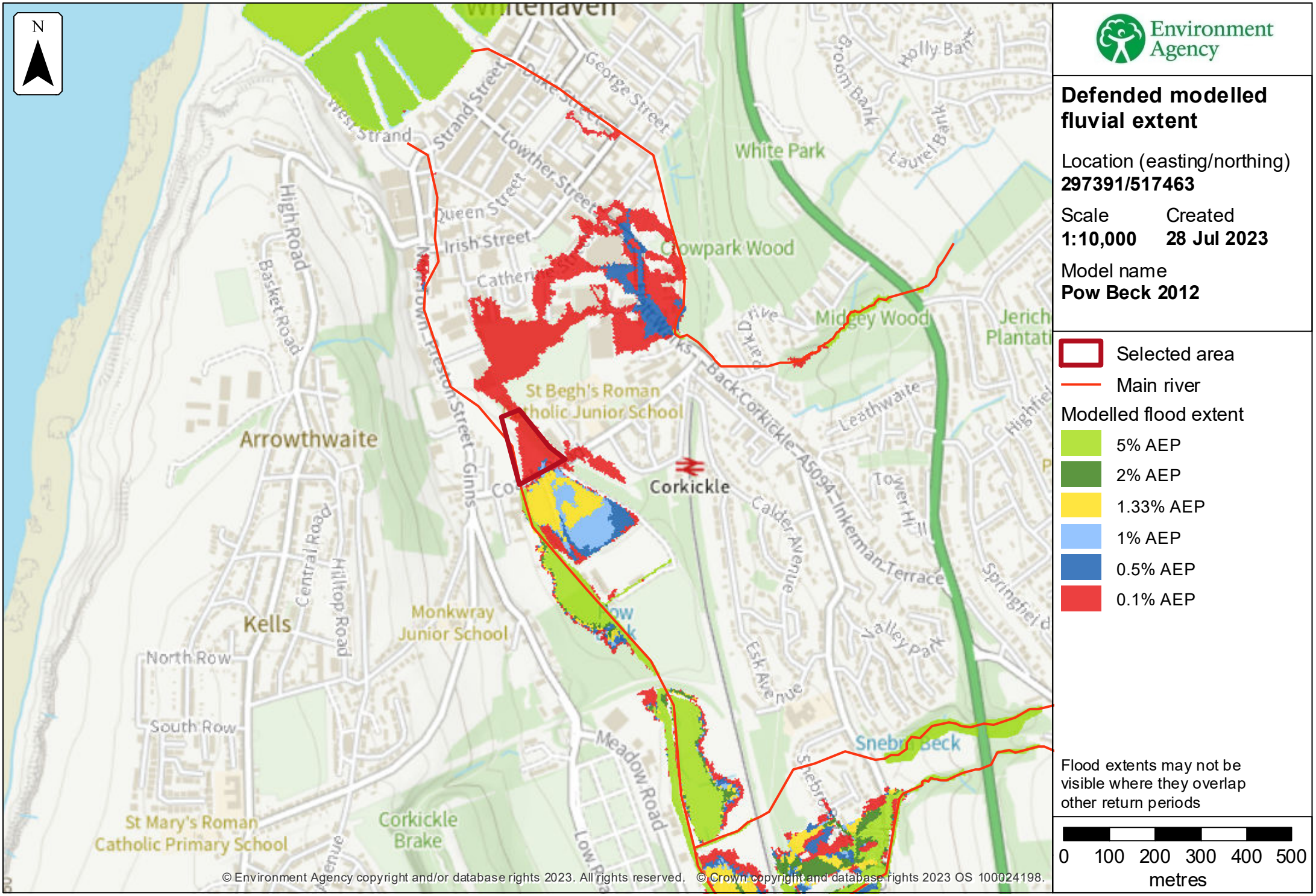
The climate change data included in the models may not include the latest flood risk assessment climate change allowances. Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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 modelled tidal: risk of flooding from the sea where there are flood defences
- Defences removed modelled tidal: risk of flooding from the sea 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 climate change modelled tidal: risk of flooding from the sea where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled tidal: risk of flooding from the sea where flood defences have been removed, including estimated impact of climate change


N
Whitehaven
West Strand
Strand Street
George Street
Lowther Street
Queen Street
Irish Street
High Road
Basket Road
White Park
Broom Bank
Holly Bank
Laurel Bank
Crowpark Wood
Midgey Wood
Jerich
Plantati
Back Corkickle
A5094
Inkerman Terrace
Leathwaite
Tower Hill
Calder Avenue
Esk Avenue
Valley Park
Springfiel d
St Begh's Roman
holic Junior School
Arrowthwaite
Corkickle
Central Road
Hilltop Road
Monkwray
Junior School
Kells
North Row
South Row
Meadow Road
Snebr Beck
St Mary's Roman
Catholic Primary School
Corkickle
Brake
Environment Agency
Defended modelled fluvial extent
Location (easting/northing)
297391/517463
Scale
1:10,000
Created
28 Jul 2023
Model name
Pow Beck 2012
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
0 100 200 300 400 500
metres
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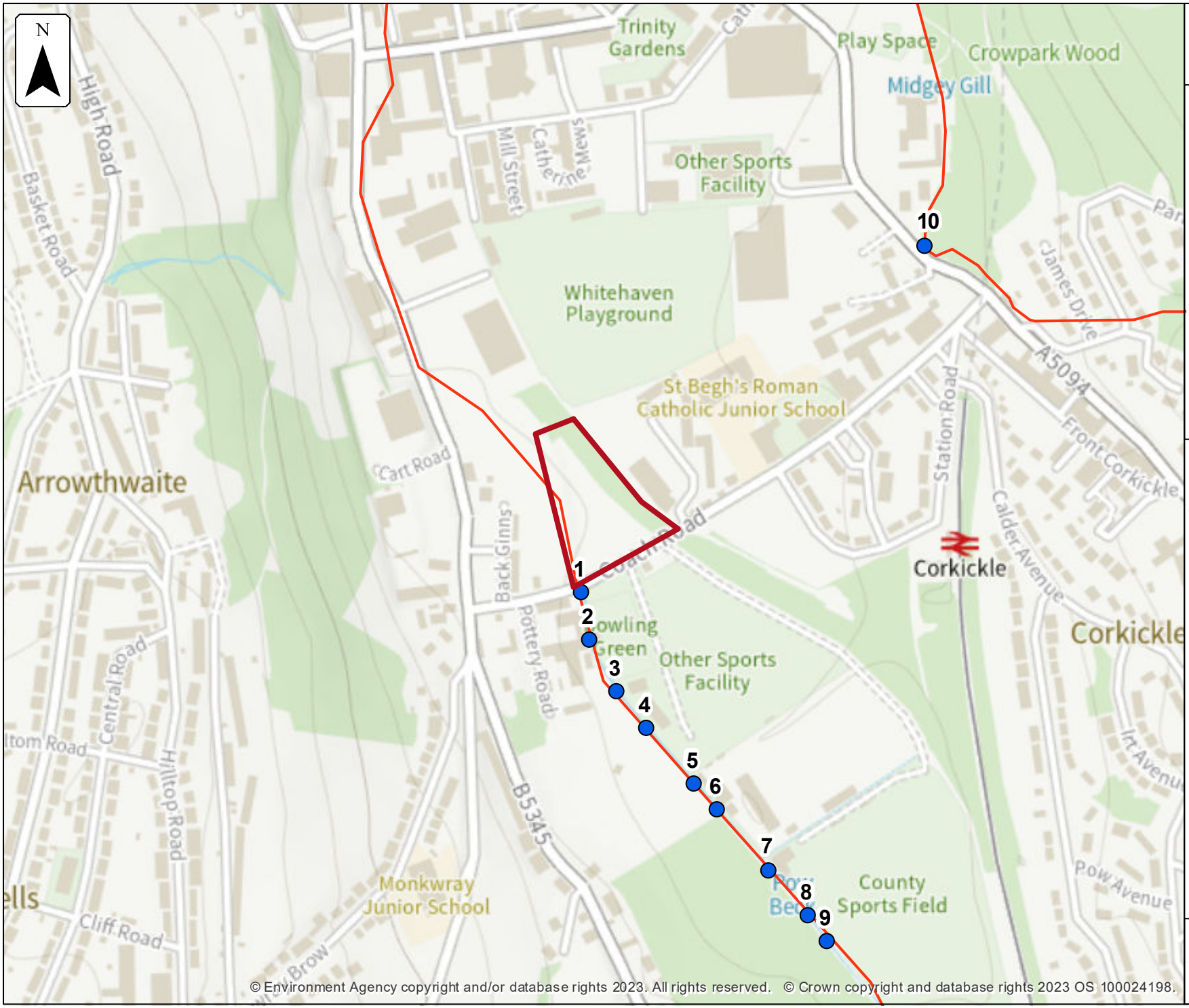


Environment Agency

Defended modelled fluvial node locations

Location (easting/northing)
297391/517463

Scale
1:5,000

Created
28 Jul 2023

Model name
Pow Beck 2012

- Selected area
- Modelled location
- Main river

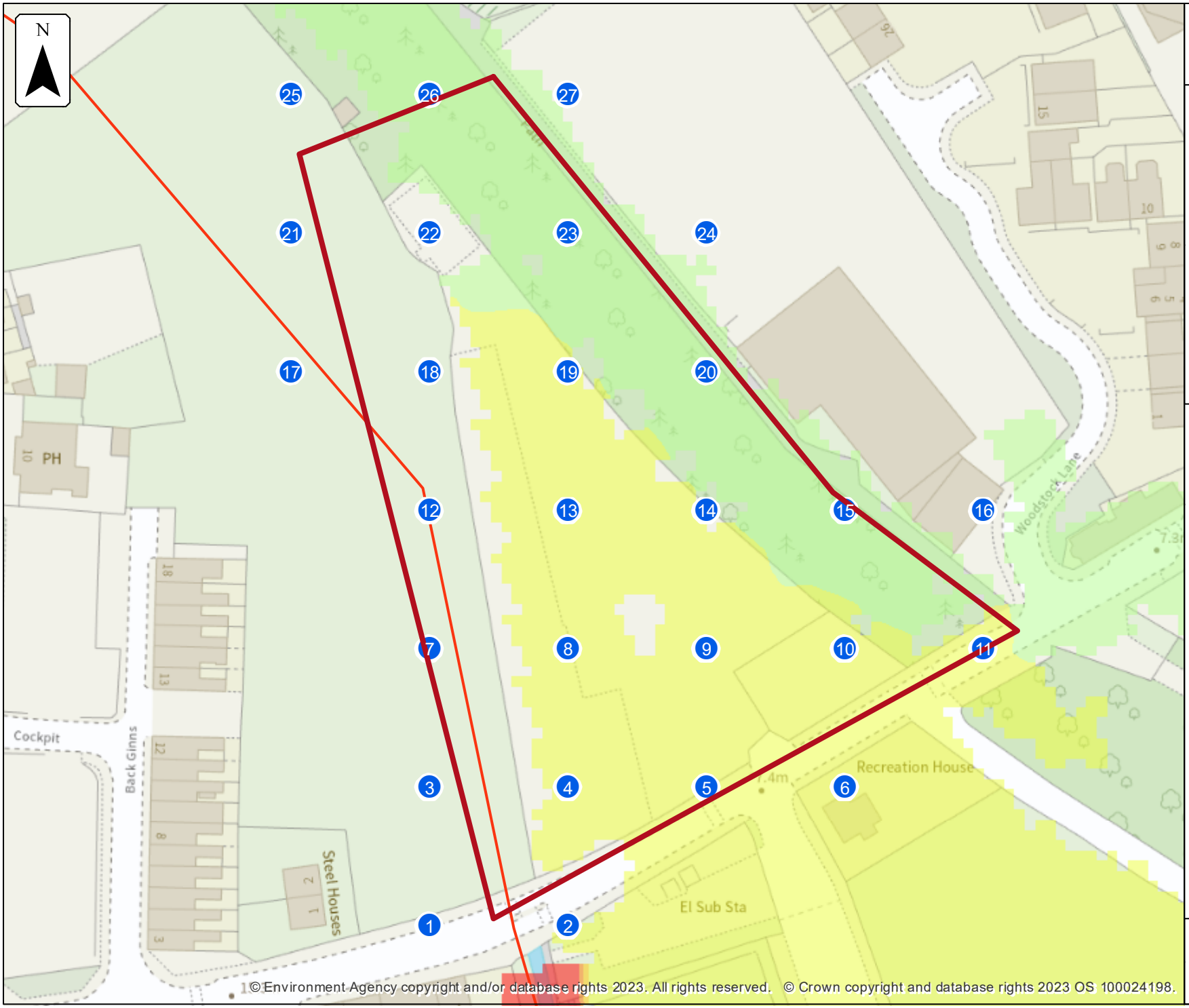
0 50 100 150 200 250
metres

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	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	83652	297380	517376	7.21	4.89	7.39	5.48	7.63	5.83	7.69	5.89	7.76	6.02	7.92	6.18
2	79441	297387	517331	7.41	4.89	7.56	5.47	7.74	5.81	7.78	5.87	7.83	6.0	7.92	6.18
3	150387	297414	517280	7.66	4.89	7.79	5.46	7.89	5.95	7.90	6.27	7.92	7.01	7.93	8.68
4	45652	297443	517244	7.80	4.88	7.93	5.27	8.03	5.48	8.05	5.71	8.09	6.14	8.21	6.96
5	297896	297489	517190	7.88	4.32	8.0	4.37	8.09	4.52	8.11	4.53	8.17	4.59	8.29	4.92
6	157061	297511	517165	7.97	3.90	8.05	4.04	8.12	4.15	8.15	4.09	8.19	4.78	8.31	5.10
7	336073	297562	517106	7.99	5.45	8.06	6.08	8.13	6.66	8.15	6.87	8.20	7.56	8.31	9.40
8	152670	297600	517062	8.04	4.27	8.10	4.69	8.16	5.06	8.17	5.18	8.22	5.53	8.33	6.0
9	189843	297619	517036	8.12	4.28	8.18	4.69	8.24	5.06	8.26	5.19	8.30	5.55	8.37	6.16
10	84365	297714	517715	17.16	0.88	17.32	1.08	17.40	1.19	17.45	1.28	17.57	1.48	17.63	1.67

Data in this table comes from the Pow Beck 2012 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.



Environment Agency

Defended modelled fluvial extent and height

Location (easting/northing)
297391/517463

Scale
1:1,000

Created
28 Jul 2023

Model name
Pow Beck 2012

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 7.0
- 7.0 - 7.125
- 7.125 - 7.25
- 7.25 - 7.375
- 7.375 - 7.5
- 7.5 - 7.625
- 7.625 - 7.75
- 7.75 - 7.875
- 7.875 - 8.0

This map shows the 0.1% AEP height data

0 10 20 30 40
metres

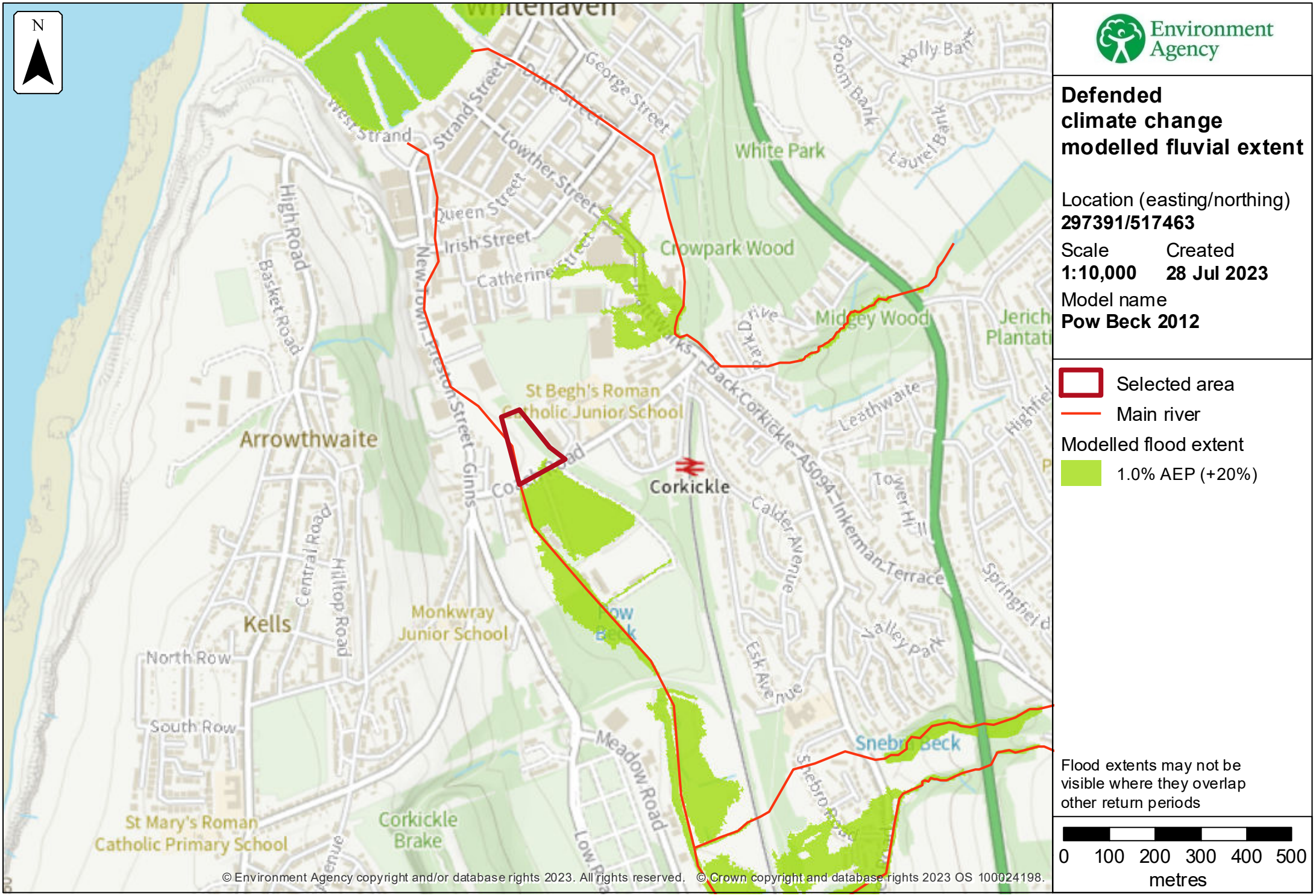
Sample point data

Defended

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	297359	517381	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
2	297386	517381	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	297359	517408	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	297386	517408	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.19	7.61
5	297413	517408	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.13	7.61
6	297440	517408	NoData	NoData	NoData	NoData	0.13	7.34	0.18	7.40	0.20	7.42	0.39	7.61
7	297359	517435	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	297386	517435	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.19	7.61
9	297413	517435	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.20	7.61
10	297440	517435	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.11	7.61
11	297467	517435	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.03	7.54
12	297359	517462	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	297386	517462	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.15	7.61
14	297413	517462	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	297440	517462	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.19	7.41
16	297467	517462	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	297332	517489	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	297359	517489	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
19	297386	517489	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.07	7.60
20	297413	517489	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.27	7.40
21	297332	517516	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	297359	517516	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	297386	517516	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.36	7.40
24	297413	517516	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
25	297332	517543	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
26	297359	517543	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.26	7.39
27	297386	517543	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Pow Beck 2012 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.



Environment Agency

Defended climate change modelled fluvial extent

Location (easting/northing)
297391/517463

Scale
1:10,000

Created
28 Jul 2023

Model name
Pow Beck 2012

Selected area

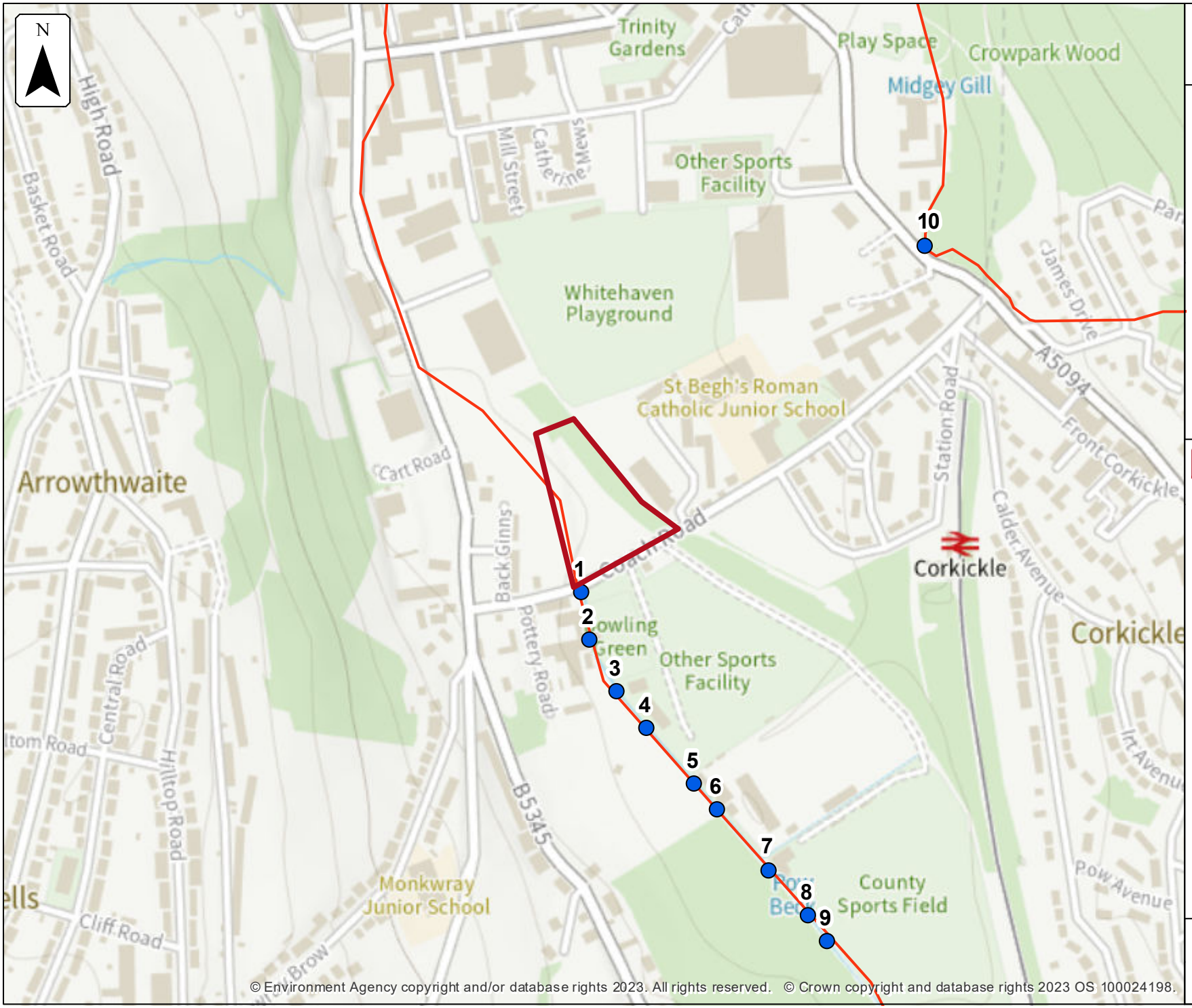
Main river

Modelled flood extent

1.0% AEP (+20%)

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

0 100 200 300 400 500
metres



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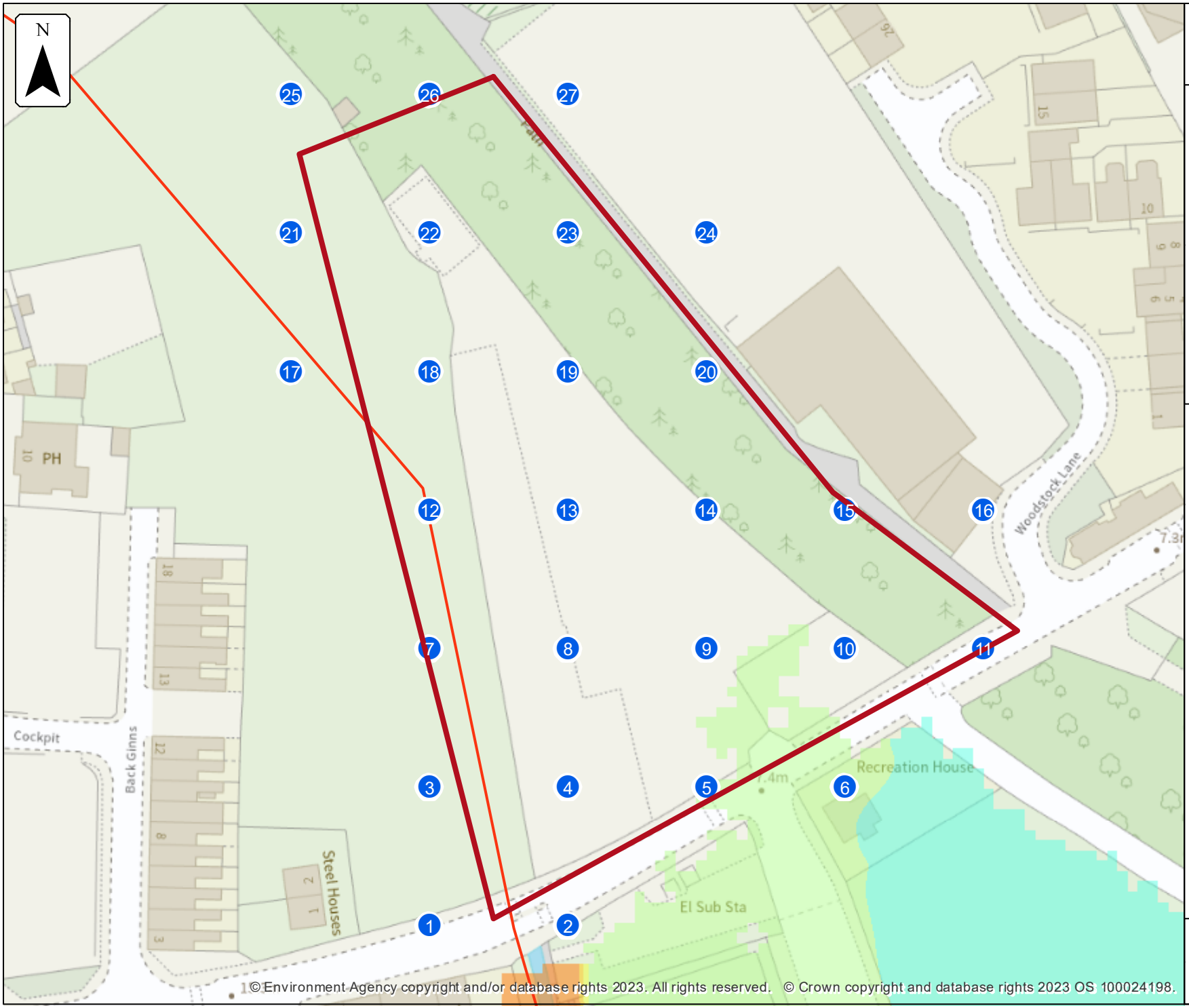
Modelled node locations data

Defended climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+20%)	
				Level	Flow
1	83652	297380	517376	7.79	6.07
2	79441	297387	517331	7.85	6.06
3	150387	297414	517280	7.92	7.38
4	45652	297443	517244	8.12	6.31
5	297896	297489	517190	8.19	4.75
6	157061	297511	517165	8.22	4.42
7	336073	297562	517106	8.22	7.84
8	152670	297600	517062	8.24	5.64
9	189843	297619	517036	8.31	5.69
10	84365	297714	517715	17.59	1.56

Data in this table comes from the Pow Beck 2012 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.



Environment Agency

Defended climate change modelled fluvial extent and height

Location (easting/northing)
297391/517463

Scale
1:1,000

Created
28 Jul 2023

Model name
Pow Beck 2012

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 7.0
- 7.0 - 7.125
- 7.125 - 7.25
- 7.25 - 7.375
- 7.375 - 7.5
- 7.5 - 7.625
- 7.625 - 7.75
- 7.75 - 7.875
- 7.875 - 8.0

This map shows the 1.0% AEP +20% height data

0 10 20 30 40
metres

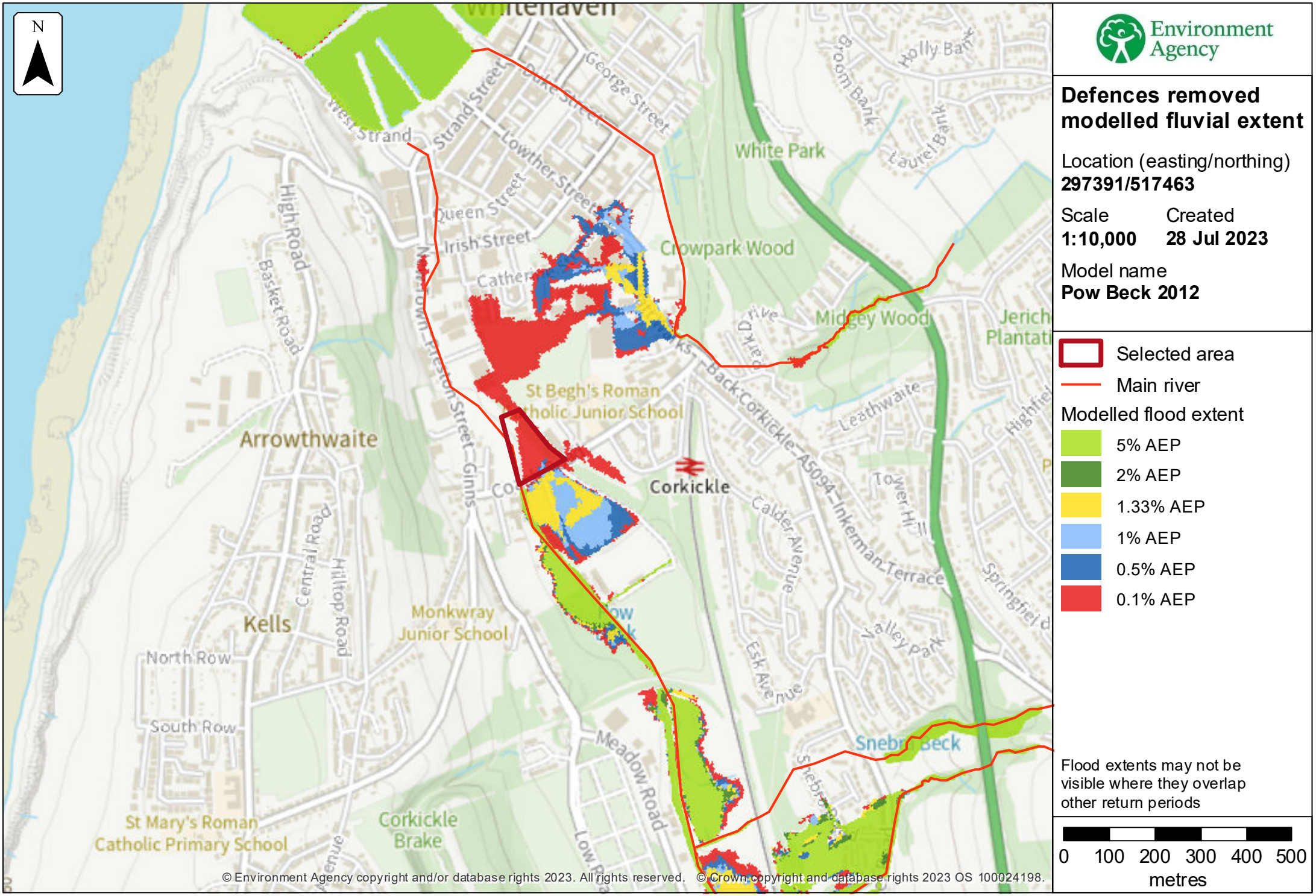
Sample point data

Defended climate change

Label	Easting	Northing	1% AEP (+20%)	
			Depth	Height
1	297359	517381	NoData	NoData
2	297386	517381	NoData	NoData
3	297359	517408	NoData	NoData
4	297386	517408	NoData	NoData
5	297413	517408	NoData	NoData
6	297440	517408	0.21	7.43
7	297359	517435	NoData	NoData
8	297386	517435	NoData	NoData
9	297413	517435	NoData	NoData
10	297440	517435	NoData	NoData
11	297467	517435	NoData	NoData
12	297359	517462	NoData	NoData
13	297386	517462	NoData	NoData
14	297413	517462	NoData	NoData
15	297440	517462	NoData	NoData
16	297467	517462	NoData	NoData

Label	Easting	Northing	1% AEP (+20%)	
			Depth	Height
17	297332	517489	NoData	NoData
18	297359	517489	NoData	NoData
19	297386	517489	NoData	NoData
20	297413	517489	NoData	NoData
21	297332	517516	NoData	NoData
22	297359	517516	NoData	NoData
23	297386	517516	NoData	NoData
24	297413	517516	NoData	NoData
25	297332	517543	NoData	NoData
26	297359	517543	NoData	NoData
27	297386	517543	NoData	NoData

Data in this table comes from the Pow Beck 2012 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.


N
Whitehaven
West Strand
Strand Street
George Street
Lowther Street
Queen Street
Irish Street
High Road
Basket Road
White Park
Broom Bank
Holly Bank
Laurel Bank
Crowpark Wood
Midgey Wood
Jerich
Plantati
St Begh's Roman
holic Junior School
Arrowthwaite
Corkickle
Back Corkickle
A5094
Inkerman Terrace
Leathwaite
Tower Hill
Calder Avenue
Esk Avenue
Valley Park
Springfield
Central Road
Hilltop Road
Kells
Monkwray
Junior School
North Row
South Row
Meadow Road
Snebrin Beck
St Mary's Roman
Catholic Primary School
Corkickle
Brake
Environment Agency
Defences removed
modelled fluvial extent
Location (easting/northing)
297391/517463
Scale
1:10,000
Created
28 Jul 2023
Model name
Pow Beck 2012
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
0 100 200 300 400 500
metres
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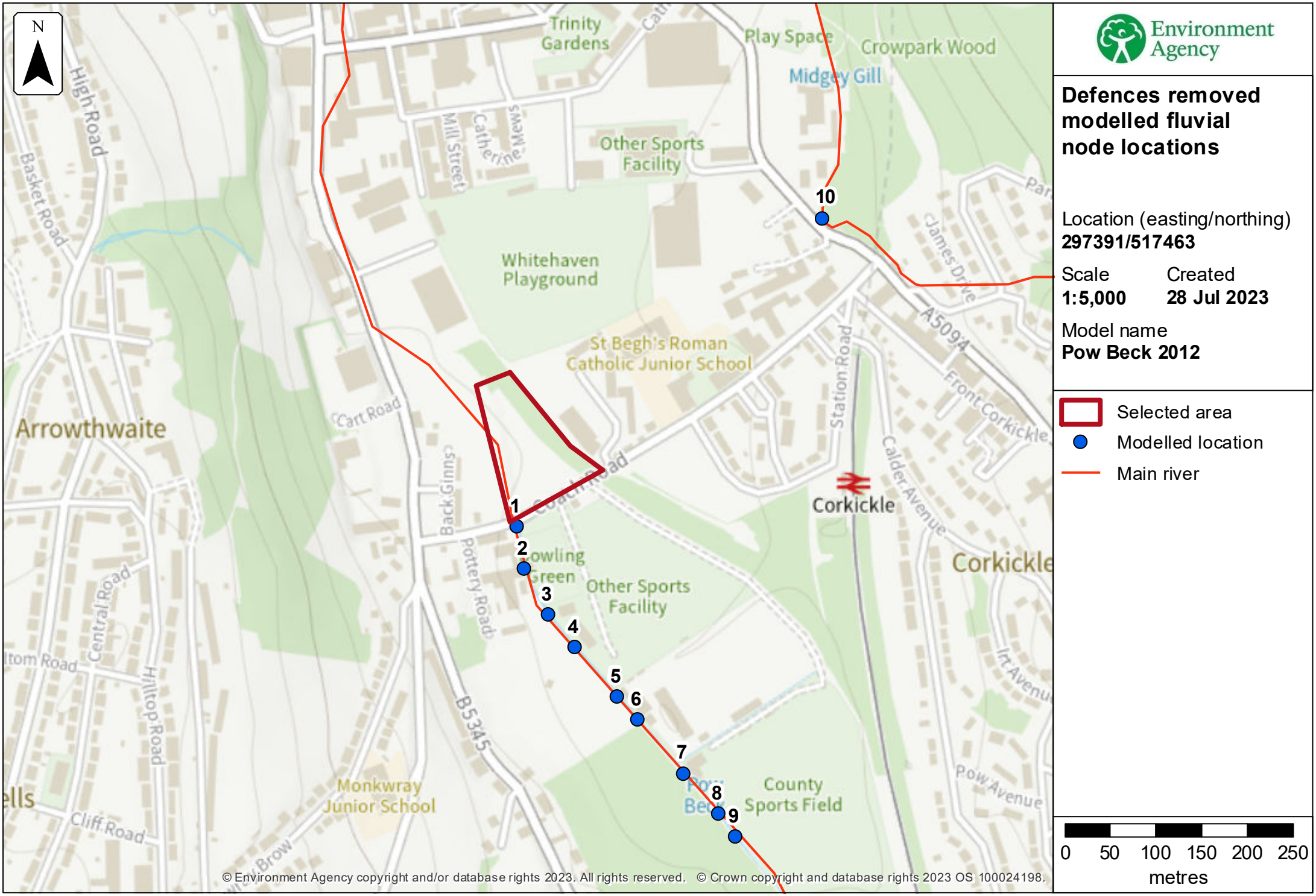


Environment Agency

Defences removed modelled fluvial node locations

Location (easting/northing)
297391/517463

Scale
1:5,000

Created
28 Jul 2023

Model name
Pow Beck 2012

Selected area
Modelled location
Main river

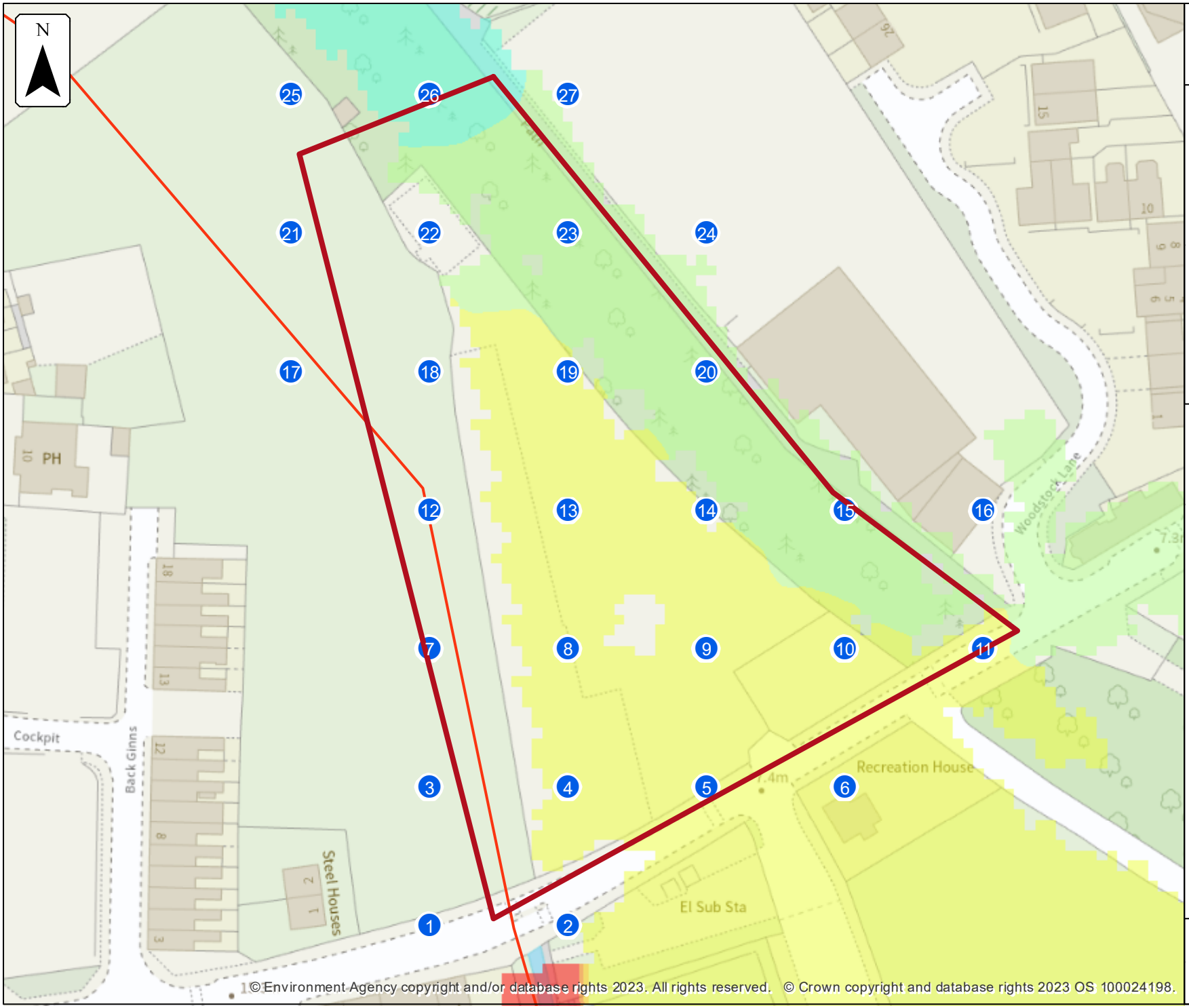
0 50 100 150 200 250
metres

Modelled node locations data

Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	83652	297380	517376	7.20	4.85	7.37	5.41	7.63	5.81	7.69	5.87	7.76	5.99	7.91	6.18
2	79441	297387	517331	7.40	4.85	7.54	5.41	7.74	5.78	7.78	5.84	7.83	5.98	7.93	6.18
3	150387	297414	517280	7.65	4.84	7.78	5.41	7.89	5.89	7.90	6.23	7.91	6.96	7.93	8.67
4	45652	297443	517244	7.79	4.84	7.91	5.23	8.02	5.44	8.04	5.66	8.09	6.12	8.21	6.88
5	297896	297489	517190	7.87	4.32	7.99	4.37	8.09	4.52	8.11	4.53	8.16	4.59	8.28	5.0
6	157061	297511	517165	7.96	3.90	8.04	4.04	8.12	4.15	8.14	4.09	8.19	4.78	8.30	5.11
7	336073	297562	517106	7.98	5.43	8.05	6.04	8.13	6.64	8.15	6.85	8.20	7.54	8.31	9.39
8	152670	297600	517062	8.04	4.20	8.09	4.58	8.15	5.0	8.17	5.14	8.21	5.42	8.33	5.99
9	189843	297619	517036	8.12	4.20	8.17	4.58	8.23	5.0	8.25	5.14	8.29	5.45	8.37	6.12
10	84365	297714	517715	17.16	0.88	17.32	1.08	17.39	1.18	17.42	1.20	17.47	1.21	17.54	1.22

Data in this table comes from the Pow Beck 2012 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.



Environment Agency

Defences removed modelled fluvial extent and height

Location (easting/northing)
297391/517463

Scale
1:1,000

Created
28 Jul 2023

Model name
Pow Beck 2012

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 7.0
- 7.0 - 7.125
- 7.125 - 7.25
- 7.25 - 7.375
- 7.375 - 7.5
- 7.5 - 7.625
- 7.625 - 7.75
- 7.75 - 7.875
- 7.875 - 8.0

This map shows the 0.1% AEP height data

0 10 20 30 40
metres

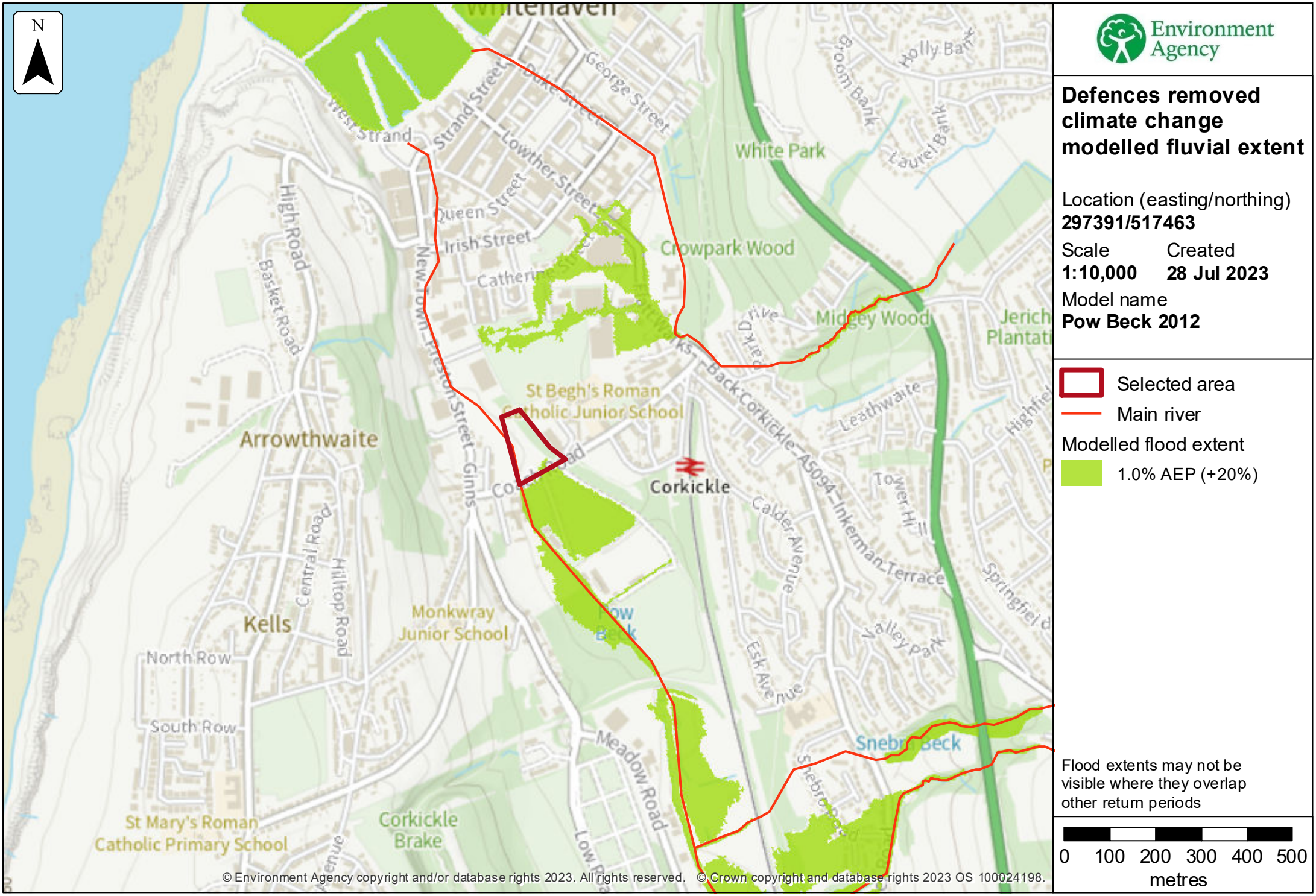
Sample point data

Defences removed

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	297359	517381	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
2	297386	517381	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	297359	517408	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	297386	517408	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.19	7.60
5	297413	517408	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.12	7.61
6	297440	517408	NoData	NoData	NoData	NoData	0.09	7.30	0.18	7.40	0.20	7.42	0.39	7.61
7	297359	517435	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	297386	517435	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.19	7.60
9	297413	517435	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.20	7.60
10	297440	517435	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.10	7.60
11	297467	517435	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.03	7.54
12	297359	517462	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	297386	517462	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.14	7.60
14	297413	517462	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	297440	517462	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.18	7.39
16	297467	517462	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	297332	517489	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	297359	517489	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
19	297386	517489	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.06	7.60
20	297413	517489	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.25	7.38
21	297332	517516	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	297359	517516	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	297386	517516	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.34	7.38
24	297413	517516	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
25	297332	517543	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
26	297359	517543	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.25	7.37
27	297386	517543	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Pow Beck 2012 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.


N
Whitehaven
West Strand
Strand Street
Duke Street
George Street
Lowther Street
Queen Street
Irish Street
High Road
Basket Road
New Town
Preston Street
Ginns
White Park
Broom Bank
Holly Bank
Laurel Bank
Crowpark Wood
Midgey Wood
Jerich
Plantati
Back Corkickle
A5094
Inkerman Terrace
Leathwaite
Tower Hill
Springfield
Calder Avenue
Esk Avenue
Valley Park
St Begh's Roman
Catholic Junior School
Arrowthwaite
Corkickle
Monkwray
Junior School
Kells
Central Road
Hilltop Road
North Row
South Row
Meadow Road
Low Road
Snebrin Beck
St Mary's Roman
Catholic Primary School
Corkickle
Brake
Environment Agency
Defences removed climate change modelled fluvial extent
Location (easting/northing)
297391/517463
Scale
1:10,000
Created
28 Jul 2023
Model name
Pow Beck 2012
Selected area
Main river
Modelled flood extent
1.0% AEP (+20%)
Flood extents may not be visible where they overlap other return periods
0 100 200 300 400 500
metres
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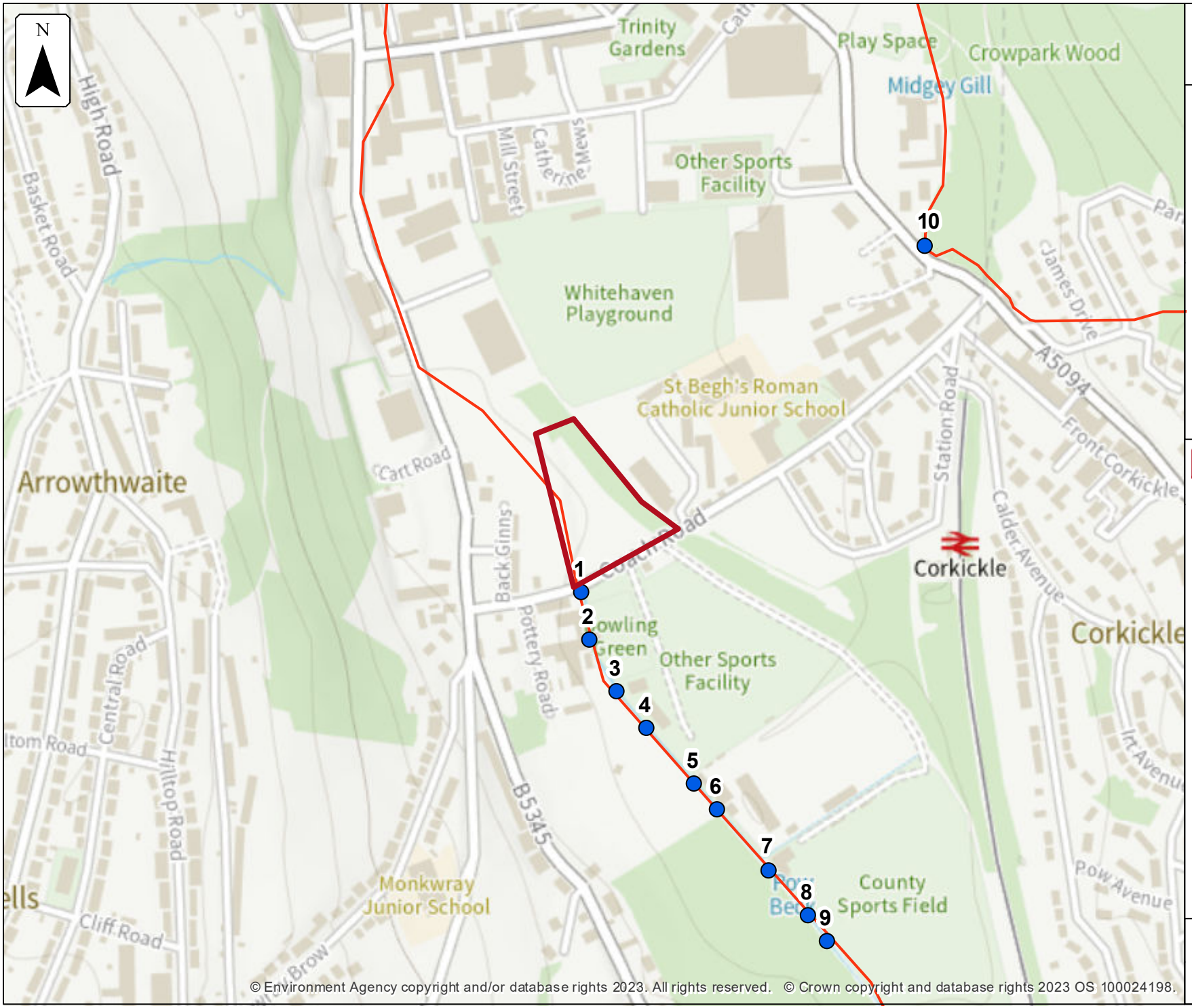


Environment Agency

Defences removed climate change modelled fluvial node locations

Location (easting/northing)
297391/517463

Scale
1:5,000

Created
28 Jul 2023

Model name
Pow Beck 2012

Selected area
Modelled location
Main river

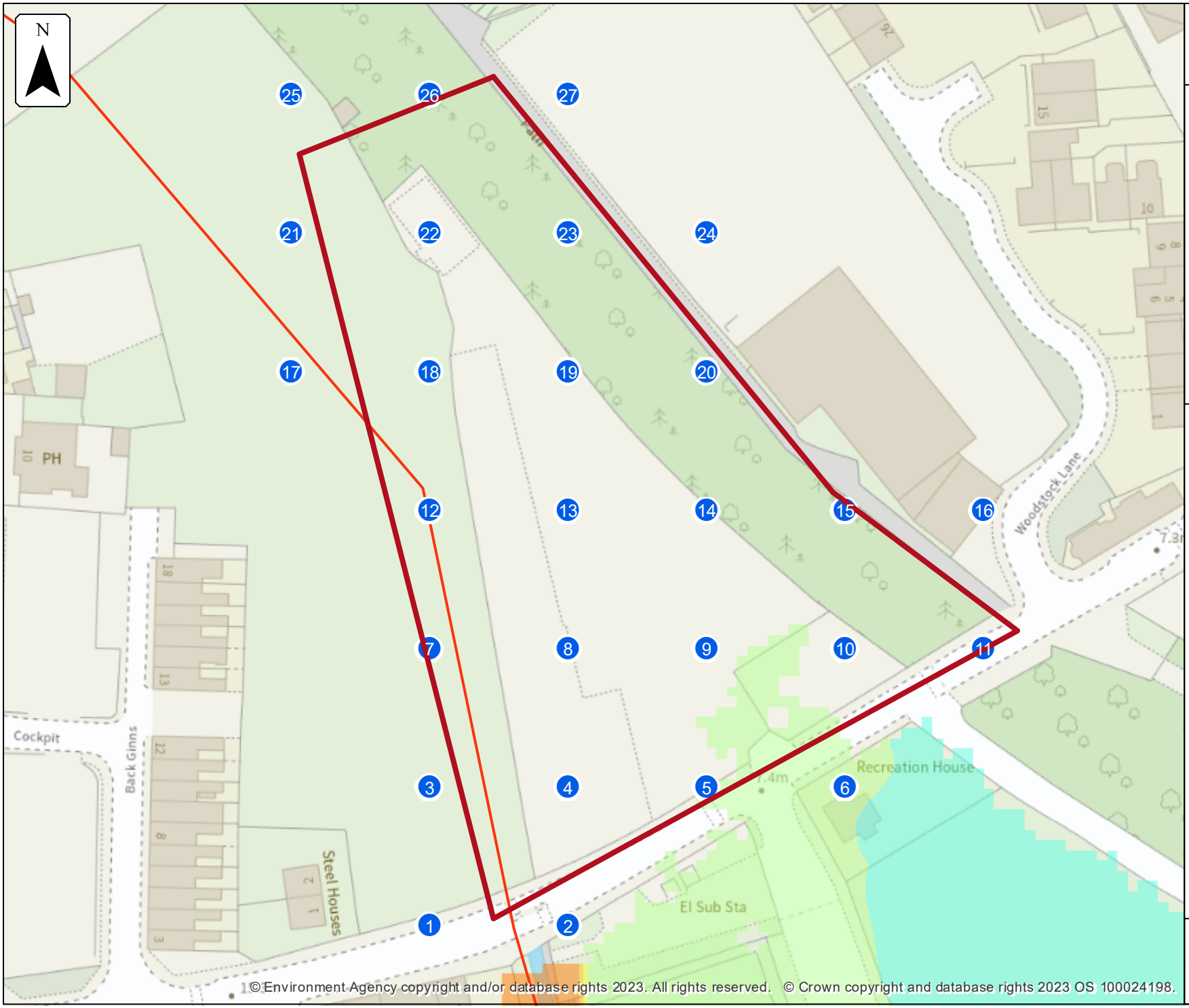
0 50 100 150 200 250
metres

Modelled node locations data

Defences removed climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+20%)	
				Level	Flow
1	83652	297380	517376	7.79	6.05
2	79441	297387	517331	7.85	6.04
3	150387	297414	517280	7.92	7.37
4	45652	297443	517244	8.12	6.30
5	297896	297489	517190	8.19	4.74
6	157061	297511	517165	8.22	4.42
7	336073	297562	517106	8.22	7.83
8	152670	297600	517062	8.24	5.61
9	189843	297619	517036	8.32	5.69
10	84365	297714	517715	17.49	1.21

Data in this table comes from the Pow Beck 2012 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.



Environment Agency

Defences removed climate change modelled fluvial extent and height

Location (easting/northing)
297391/517463

Scale
1:1,000

Created
28 Jul 2023

Model name
Pow Beck 2012

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 7.0
- 7.0 - 7.125
- 7.125 - 7.25
- 7.25 - 7.375
- 7.375 - 7.5
- 7.5 - 7.625
- 7.625 - 7.75
- 7.75 - 7.875
- 7.875 - 8.0

This map shows the 1.0% AEP +20% height data

0 10 20 30 40
metres

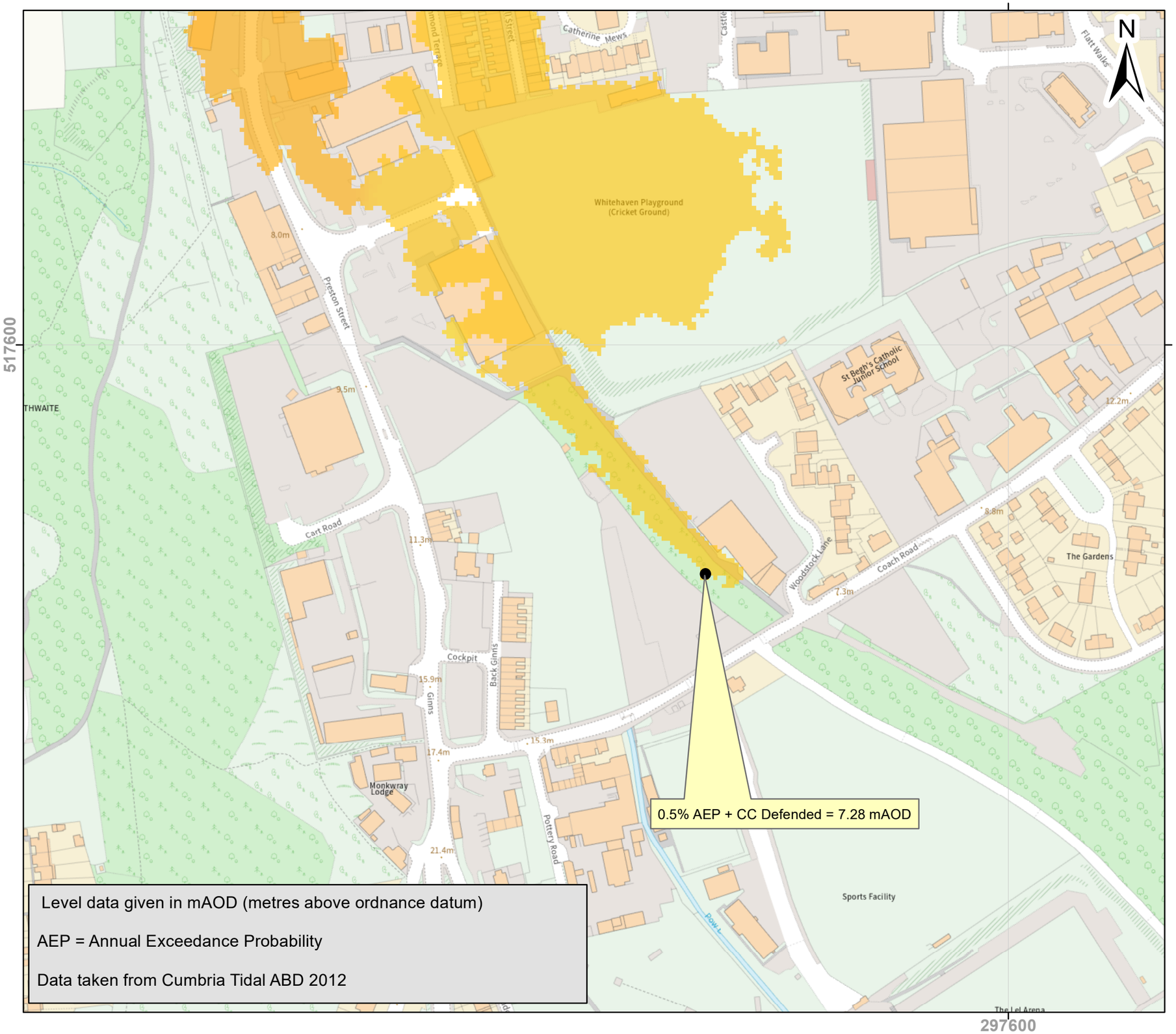
Sample point data

Defences removed climate change

Label	Easting	Northing	1% AEP (+20%)	
			Depth	Height
1	297359	517381	NoData	NoData
2	297386	517381	NoData	NoData
3	297359	517408	NoData	NoData
4	297386	517408	NoData	NoData
5	297413	517408	NoData	NoData
6	297440	517408	0.21	7.43
7	297359	517435	NoData	NoData
8	297386	517435	NoData	NoData
9	297413	517435	NoData	NoData
10	297440	517435	NoData	NoData
11	297467	517435	NoData	NoData
12	297359	517462	NoData	NoData
13	297386	517462	NoData	NoData
14	297413	517462	NoData	NoData
15	297440	517462	NoData	NoData
16	297467	517462	NoData	NoData

Label	Easting	Northing	1% AEP (+20%)	
			Depth	Height
17	297332	517489	NoData	NoData
18	297359	517489	NoData	NoData
19	297386	517489	NoData	NoData
20	297413	517489	NoData	NoData
21	297332	517516	NoData	NoData
22	297359	517516	NoData	NoData
23	297386	517516	NoData	NoData
24	297413	517516	NoData	NoData
25	297332	517543	NoData	NoData
26	297359	517543	NoData	NoData
27	297386	517543	NoData	NoData

Data in this table comes from the Pow Beck 2012 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.



Environment Agency

Modelled 2d Data Map:
Coach Road, Whitehaven, CA28 9BX
Produced: 31/7/2023
Our Ref:CL319289
NGR: 297391,517463

Key

0.5% AEP + Climate Change (600mm SLR) Defended

mAOD

High : 8

Low : 5

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Contact Us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506 (Mon-Fri 8-6). Email: enquiries@environment-agency.gov.uk

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 Cumbria and Lancashire Environment Agency team at inforequests.cmblnc@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