

Appendix 4

Flood Maps and Correspondence

Flood risk assessment data



Location of site: 489188 / 99549 (shown as easting and northing coordinates)

Document created on: 26 September 2025

This information was previously known as a product 4.

Customer reference number: JVNB3AD39VEF/ EIR2025/32077

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)
- modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Information that's unavailable

This document **does not** contain:

- past floods
- flood defences and attributes

We do not have past flooding data for this location.

Please note that:

- 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 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.

We aren't able to display flood defence locations and attributes as there are no formal flood defences in the area of interest.

Surface water and other sources of flooding

When using the surface water map on the [check your long term flood risk service](#) the following considerations apply:

- surface water extents are suitable for use in planning
- surface water climate change scenarios may help to inform risk assessments, but the available data fall short of what is required to assess planned development
- surface water depth information should not be used for planning purposes

To find out about other factors that might affect the flood risk of this location, you should also check:

- [reservoir flood risk](#)
- groundwater flood risk - you could use the [British Geological Survey groundwater flooding data](#), [groundwater: current status and flood risk](#) and the guide on [mining and groundwater constraints for development](#) - further information may be available from the lead local flood authority (LLFA)
- your local planning authority's SFRA, which includes future flood risk

Your Lead Local Flood Authority is West Sussex County.

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

About the models used

Model name: River Arun to East Head (2016) Scenario(s): Defended tidal, defences removed tidal, defended climate change tidal, defences removed climate change tidal

Date: 9 April 2016

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:

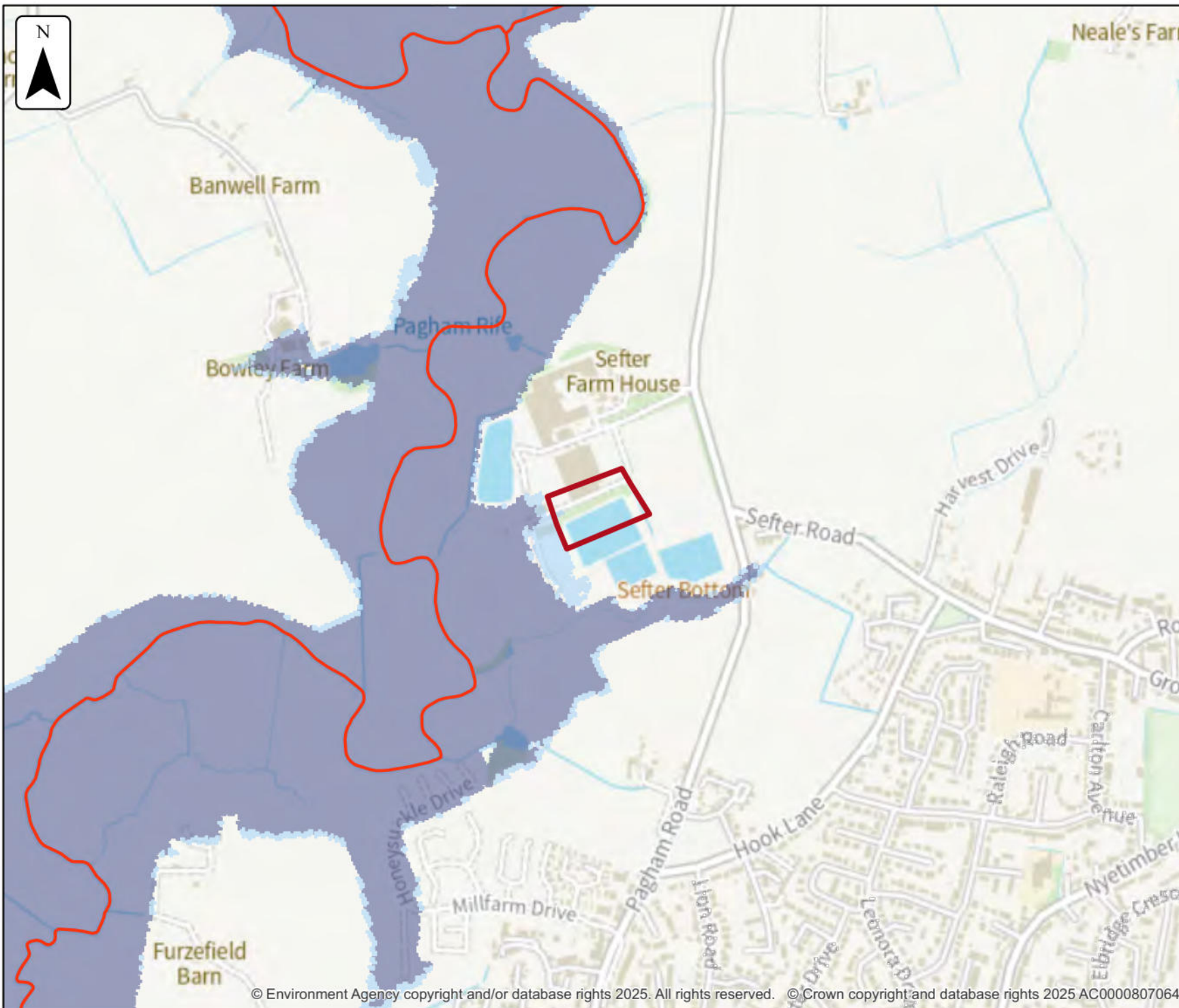
- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

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



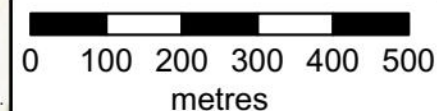
Flood map for planning

Location (easting/northing)
489188/99549

Scale
1:10,000

Created
26 Sep 2025

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



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
- 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 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 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

Modelled Flood Outlines Fluvial (Undefended). Centred on PO21 3PX. Created 13/10/2025.



Legend

 Site Boundary

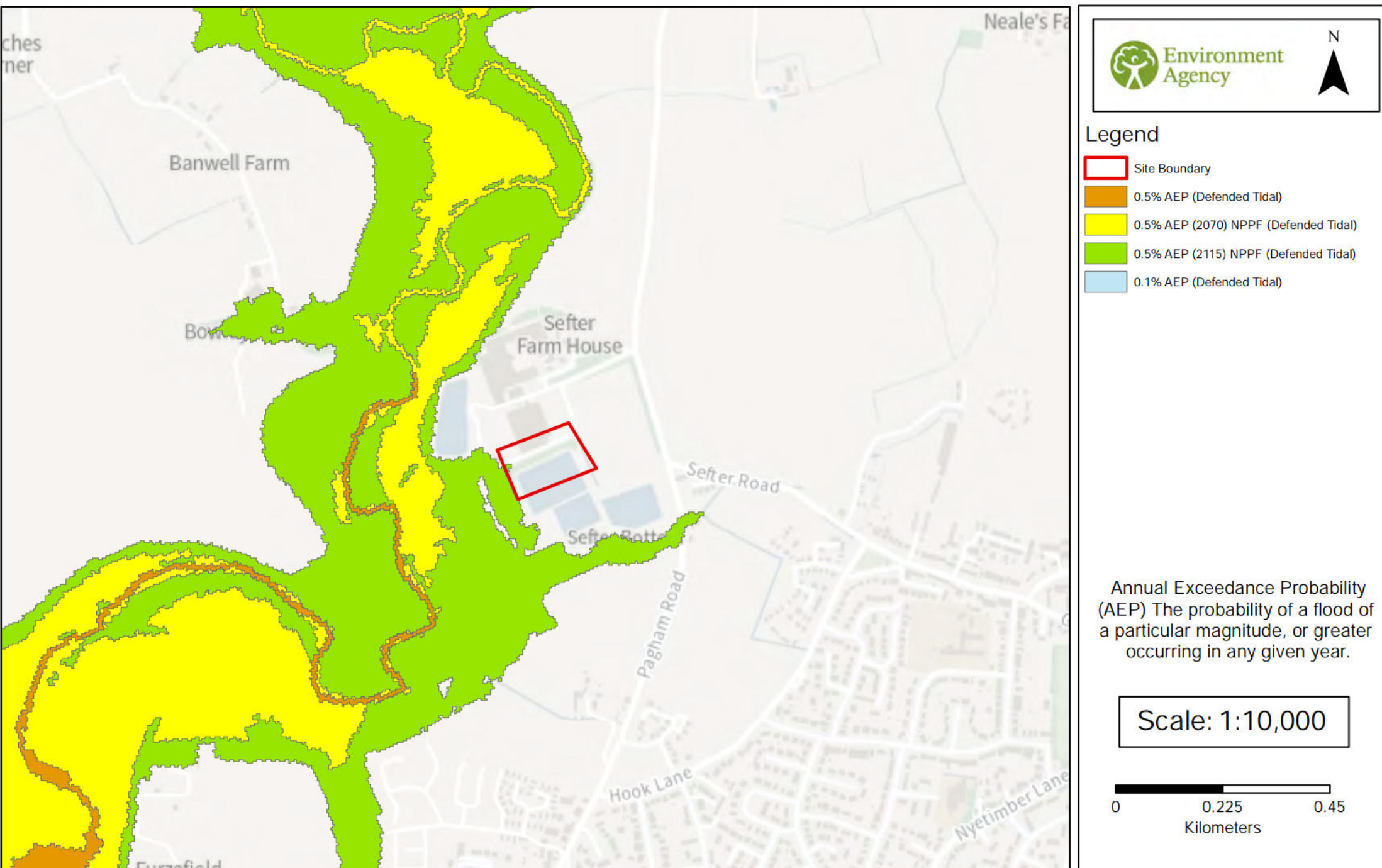
 0.1% AEP (Undefended Fluvial)

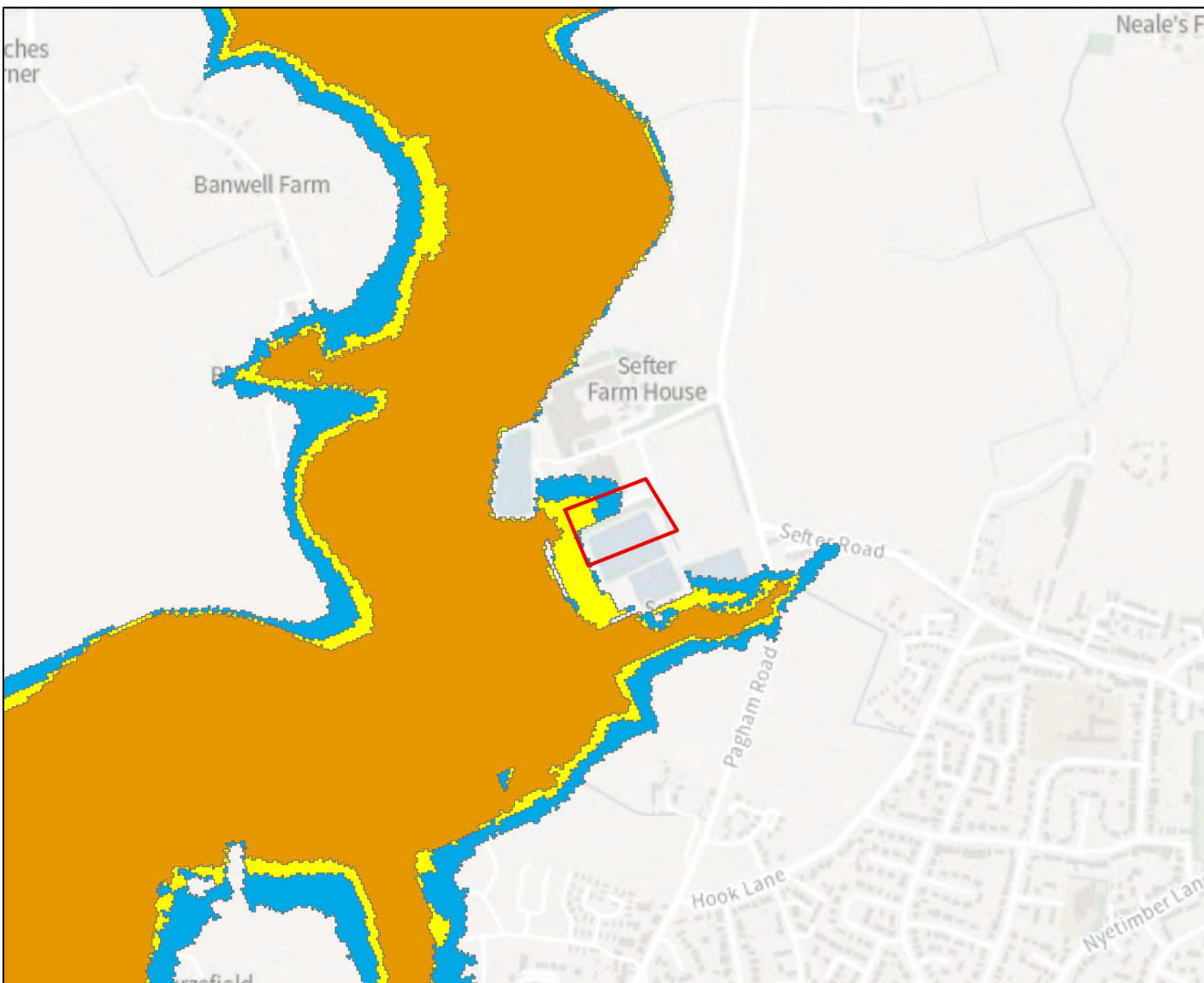
Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Scale: 1:10,000



Modelled Flood Outlines (Defended Tidal). Centred on PO21 3PX. Created 13/10/2025.



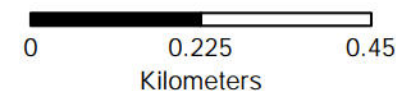


Legend

-  Site Boundary
-  0.5% AEP (Undefended Tidal)
-  0.5% AEP (2070) NPPF (Undefended Tidal)
-  0.5% AEP (2115) NPF (Undefended Tidal)
-  0.1% AEP (Undefended Tidal)

Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Scale: 1:10,000



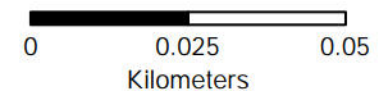


Legend

-  Site Boundary
-  Site Nodes

Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Scale: 1:1,200



Product 4 Flood Risk Data Requested by: Stuart Magowan

Site: 489187,99553

Table 1: Water Levels: Tidal Undefended

Node Ref	NGR		Modelled Flood Levels in Metres AOD			
	Eastings	Northings	Undefended Annual Exceedance Probability			
			0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	489107	99561	-	3.92	4.57	-
2	489139	99575	-	3.92	4.57	-
3	489174	99588	-	-	4.57	-
4	489114	99543	-	3.92	4.57	3.60
5	489150	99556	-	-	4.57	-
6	489183	99569	-	-	4.57	-
7	489116	99515	-	-	4.57	-
8	489132	99474	-	-	4.57	-

Table 2: Water Levels: Tidal Defended

Node Ref	NGR		Modelled Flood Levels in Metres AOD			
	Eastings	Northings	Defended Annual Exceedance Probability			
			0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	489107	99561	-	-	-	-
2	489139	99575	-	-	-	-
3	489174	99588	-	-	-	-
4	489114	99543	-	-	3.56	-
5	489150	99556	-	-	-	-
6	489183	99569	-	-	-	-
7	489116	99515	-	-	-	-
8	489132	99474	-	-	-	-

Table 3: Water Depths: Tidal Undefended

Node Ref	NGR		Modelled Flood Depths in Metres			
	Eastings	Northings	Undefended Annual Exceedance Probability			
			0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	489107	99561	-	0.41	1.06	-
2	489139	99575	-	0.09	0.74	-
3	489174	99588	-	-	0.30	-
4	489114	99543	-	0.32	0.98	0.02
5	489150	99556	-	-	0.54	-
6	489183	99569	-	-	0.11	-
7	489116	99515	-	-	0.30	-
8	489132	99474	-	-	0.55	-

Table 4: Water Depths: Tidal Defended

Node Ref	NGR		Modelled Flood Depths in Metres			
	Eastings	Northings	Defended Annual Exceedance Probability			
			0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	489107	99561	-	-	-	-
2	489139	99575	-	-	-	-
3	489174	99588	-	-	-	-
4	489114	99543	-	-	0.01	-
5	489150	99556	-	-	-	-
6	489183	99569	-	-	-	-
7	489116	99515	-	-	-	-
8	489132	99474	-	-	-	-

All levels taken from:

Tidal: River Arun to East Head Coastal Modelling (2016), by JBA Consulting.

This site is unaffected by fluvial modelling.

Produced on: 13/10/2025

*** The flood risk data provided is based on existing EA hydraulic models with an allowance for climate change. Please note the climate change allowances provided are not up to date. These were updated on 27 July 2021.**

You should refer to ['Flood risk assessments: climate change allowances'](#) for the most up to date allowances. You will need to undertake further assessment of future flood risk using different allowances to ensure your assessment of future flood risk is based on best available evidence.

There is no additional information or health warnings for these levels/depths or the model from which they have been produced.

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 West Sussex County.

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

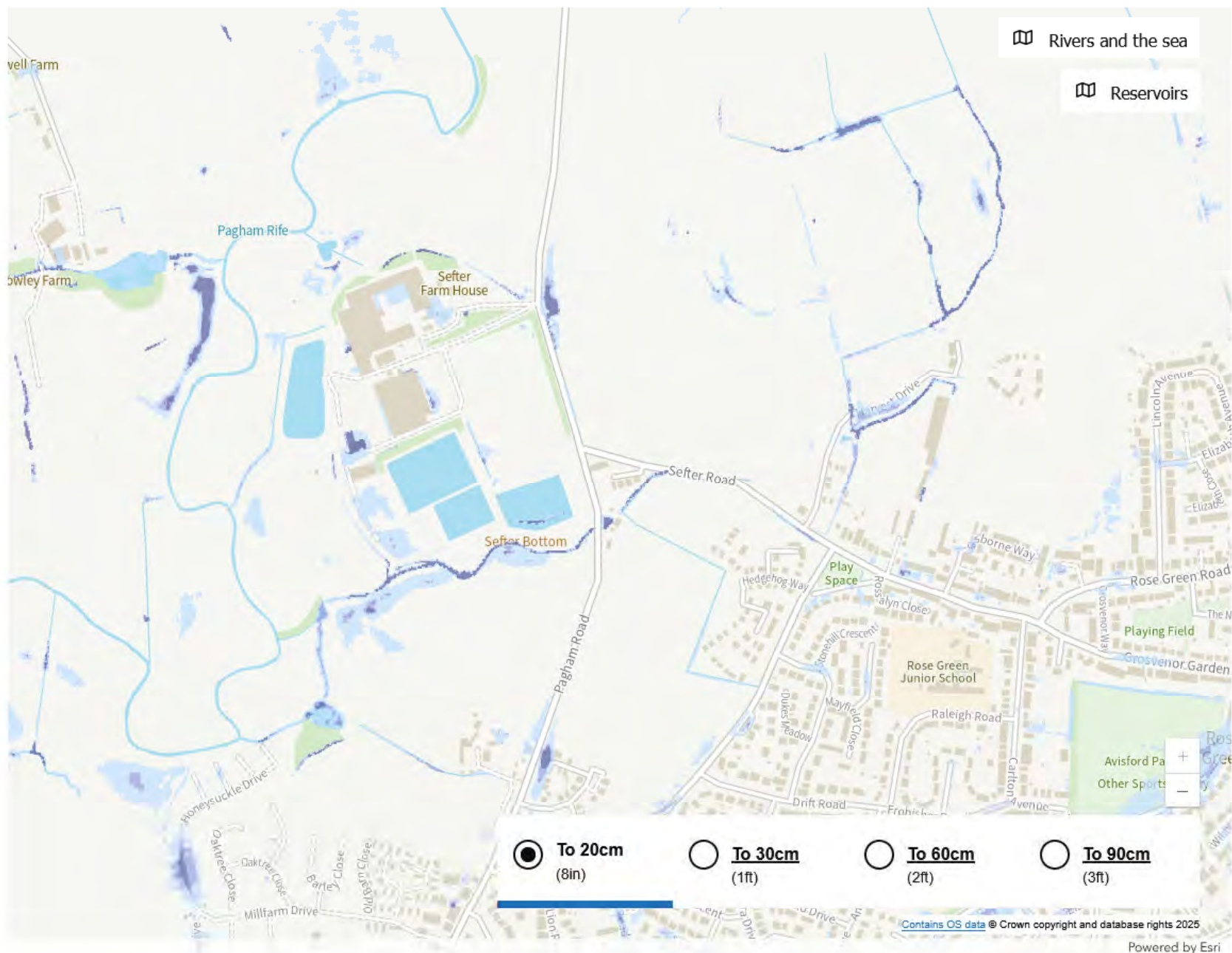
Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence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

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

Help and advice

Contact the Solent and South Downs Environment Agency team at  [k](#) for:

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



Surface water map

Yearly chance of flooding

☐ Extent

☐ Depth

Yearly chance of flooding between 2040 and 2060

☐ Extent

☒ Depth

☒ High chance

More than 3.3% chance each year

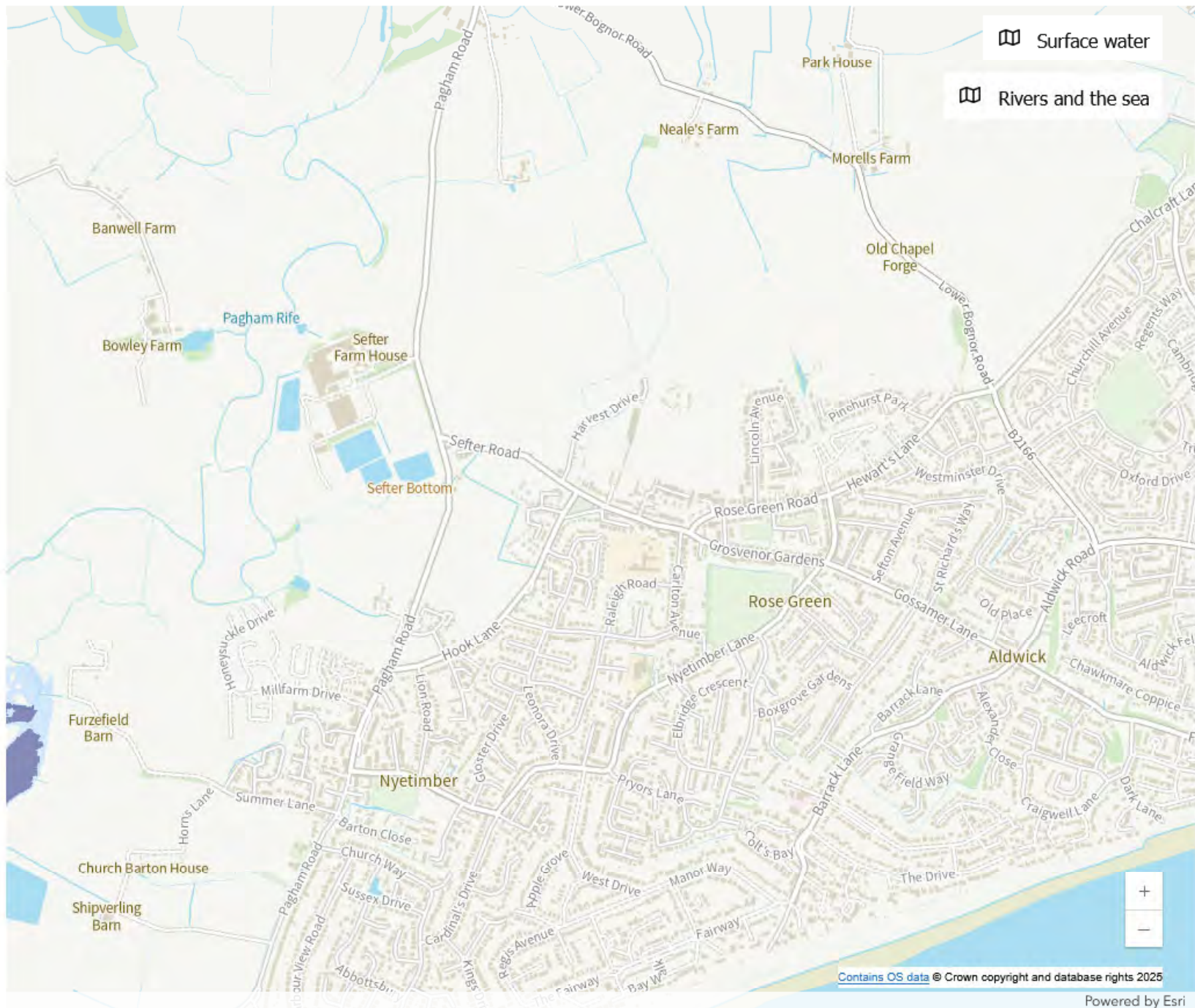
☐ Medium chance

Between 1% and 3.3% chance each year

☐ Low chance

Between 0.1% and 1% chance each year

Map details



Reservoirs map

☒ Extent

☒ When river levels are normal

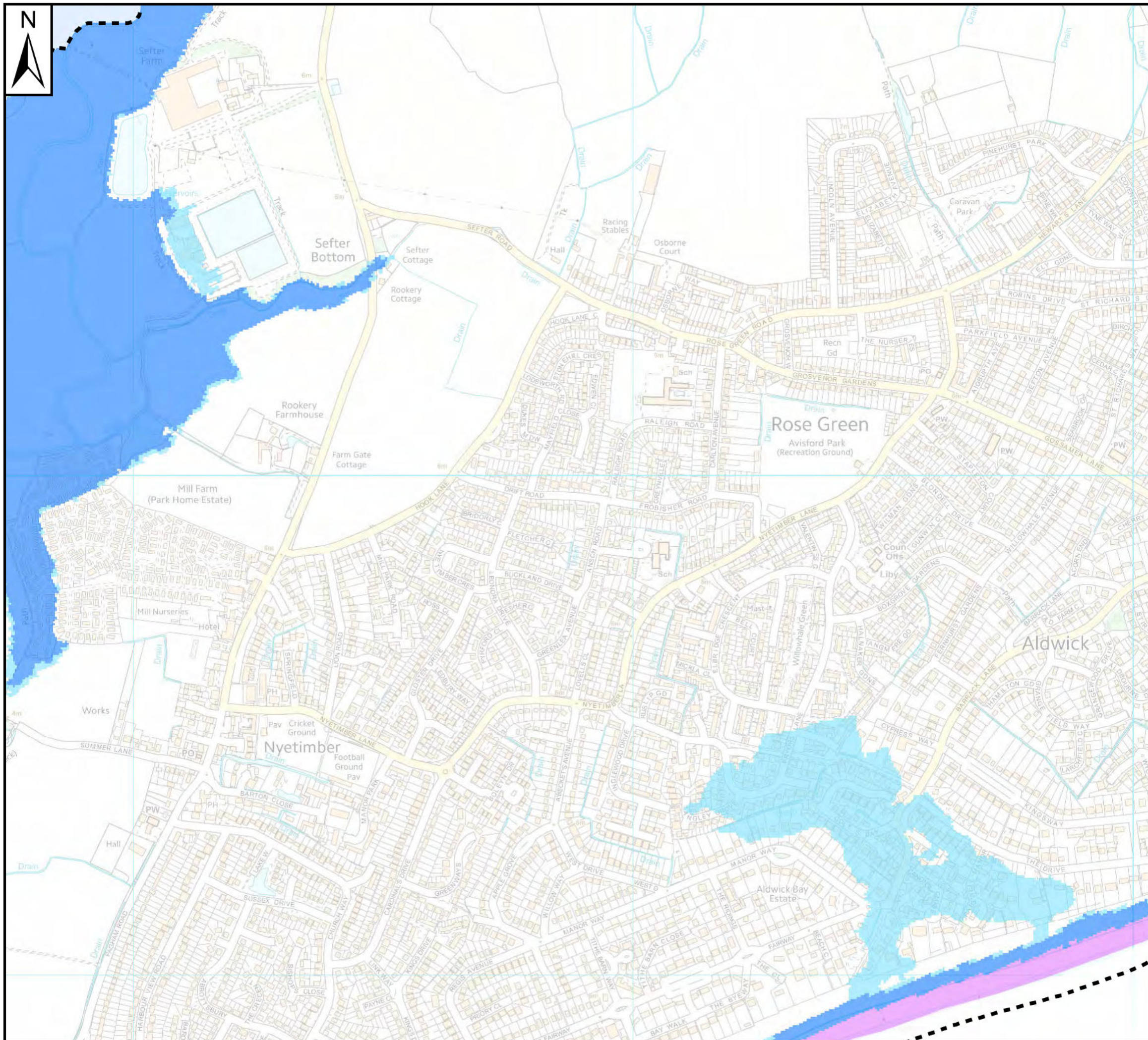
☐ When there is also flooding from rivers

Map details

☒ Show flooding

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Notes

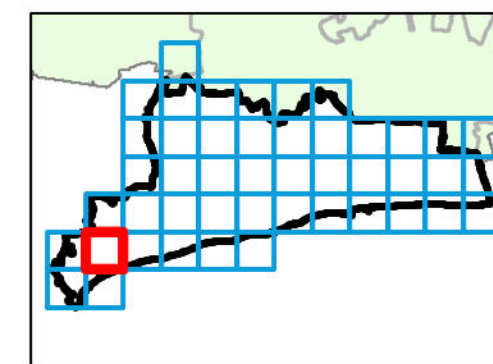
Zone 1: Comprised of land having a less than 1 in 1,000 annual probability of river or sea flooding in any year.

Zone 2: Comprised of land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding or 1 in 200 and 1 in 1,000 annual probability of sea flooding in any year.

Zone 3a: This zone comprises land assessed as having a greater than 1 in 100 annual probability of river flooding or a greater than 1 in 200 annual probability of flooding from sea in any year.

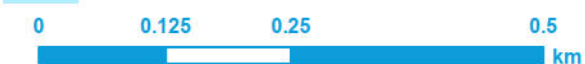
Zone 3b: This zone comprises land where water has to flow or be stored in times of flood (the functional floodplain). The SFRA identified this Flood Zone as land which would flood with an annual probability of 1 in 20 years, where detailed modelling exists. In the absence of detailed hydraulic model information, a precautionary approach has been adopted with the assumption that the extent of Flood Zone 3b would be equal to Flood Zone 3a. If development is shown to be in Flood Zone 3a, further work should be undertaken as part of a detailed site specific

Key Plan



Legend

- Arun District SFRA boundary
- Flood Zone 3b
- Flood Zone 3a
- Flood Zone 2



REF	Date	Comments
A	June 2016	-
B		
C		

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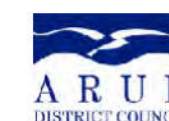
ARUN DISTRICT COUNCIL

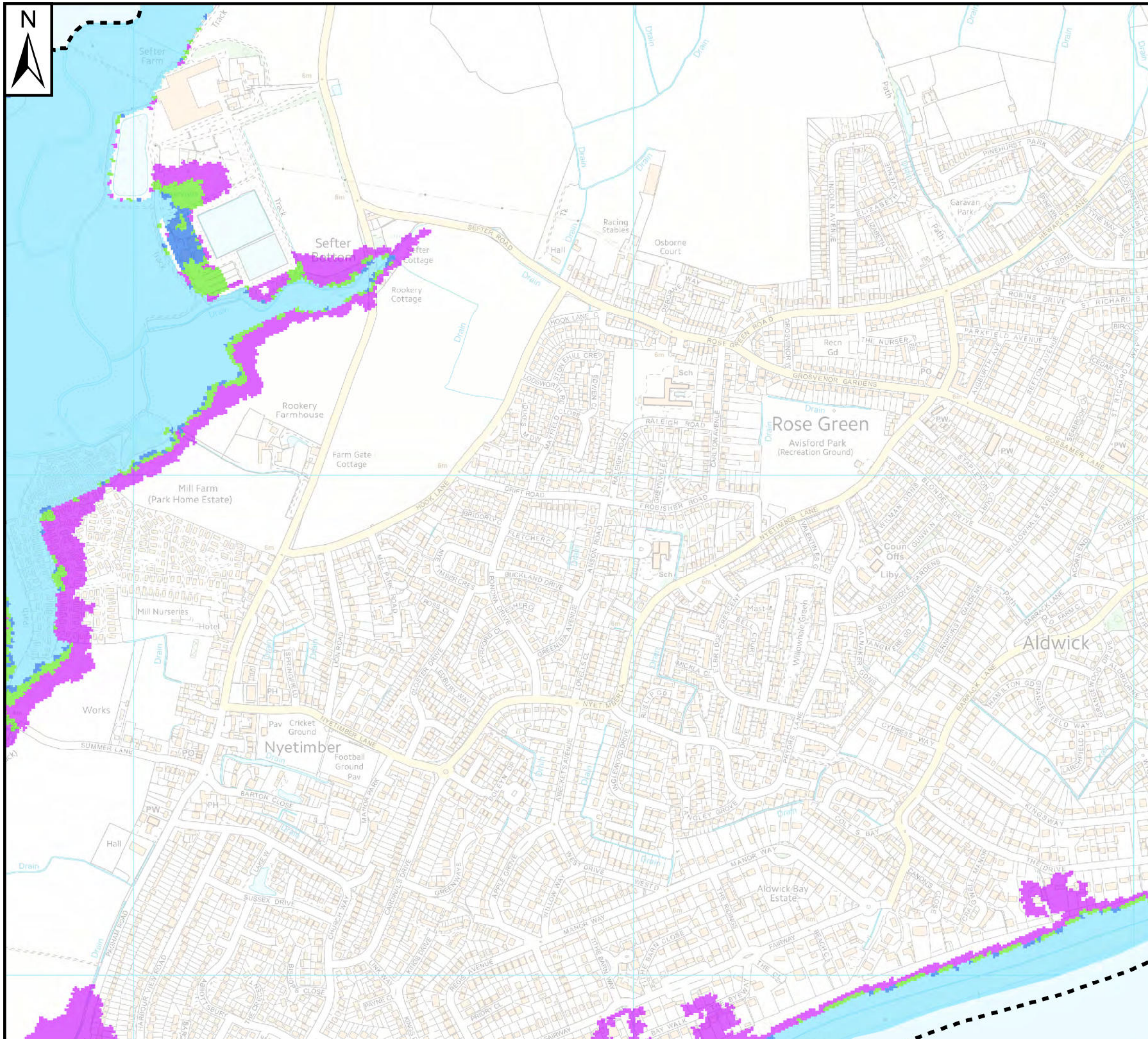
LEVEL 1 SFRA: APPENDIX C FLOOD ZONES

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Index Number: ADC_04

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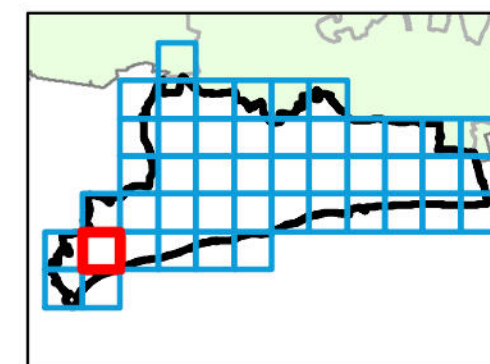
Notes

Hydraulic modelling has been undertaken as part of this SFRA to provide updated climate change flood mapping in the Arun District for Flood Zone 3a. This modelling followed the latest guidance for climate change in FRAs/SFRAs released by the Environment Agency in February 2016 (and updated in April 2016). Climate change for fluvial events has been based on the Higher Central estimates for the years 2031, 2061 and 2111. Present day flood risk information is available for comparison. Arun District is within the South East River Basin District and therefore allowance are:

- 2031 = +15% flows
- 2061 = +30% flows
- 2111 = +45% flows

For tidal/coastal models, undefended case still water level and defended case still water level with wave overtopping simulations have been completed to inform future flood risk within the Arun District. Again, climate change allowance predictions are for the years 2031, 2061 and 2111, with present day outputs for comparison.

Key Plan



Legend

- Arund District SFRA boundary
- Present Flood Zone 3a
- Future Flood Zone 3a (2031)
- Future Flood Zone 3a (2061)
- Future Flood Zone 3a (2111)



REF	Date	Comments
A	August 2016	
B		
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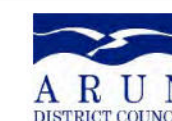
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LEVEL 1 SFRA: APPENDIX D CLIMATE CHANGE MAPPING

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Index Number: ADC_04

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Notes

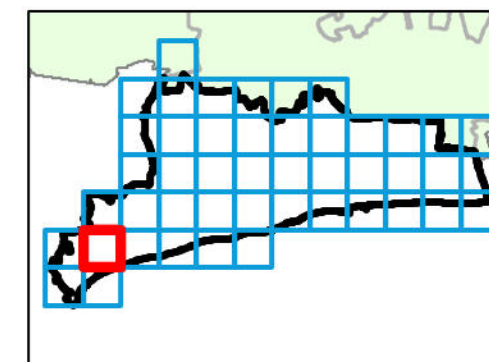
The updated Flood Map for Surface Water (uFMfSW) shows the flooding that takes place from the 'surface runoff' generated by rainwater (including snow and other precipitation) which:

- (a) is on the surface of the ground (whether or not it is moving), and
- (b) has not yet entered a watercourse, drainage system or public sewer.

The uFMfSW will pick out natural drainage channels, rivers, low areas in the floodplain and flow paths between buildings but it will only indicate flooding caused by local rainfall.

Note: The uFMfSW shows predictions of flooded areas but does not show whether individual properties will be affected by surface water flooding or have been affected in the past. The uFMfSW should not be used to predict if individual properties will flood.

Key Plan



Legend

- Arun District SFRA boundary
- uFMfSW 30-year extent
- uFMfSW 100-year extent
- uFMfSW 1,000-year extent



REF	Date	Comments
A	June 2016	-
B		
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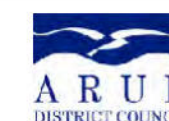
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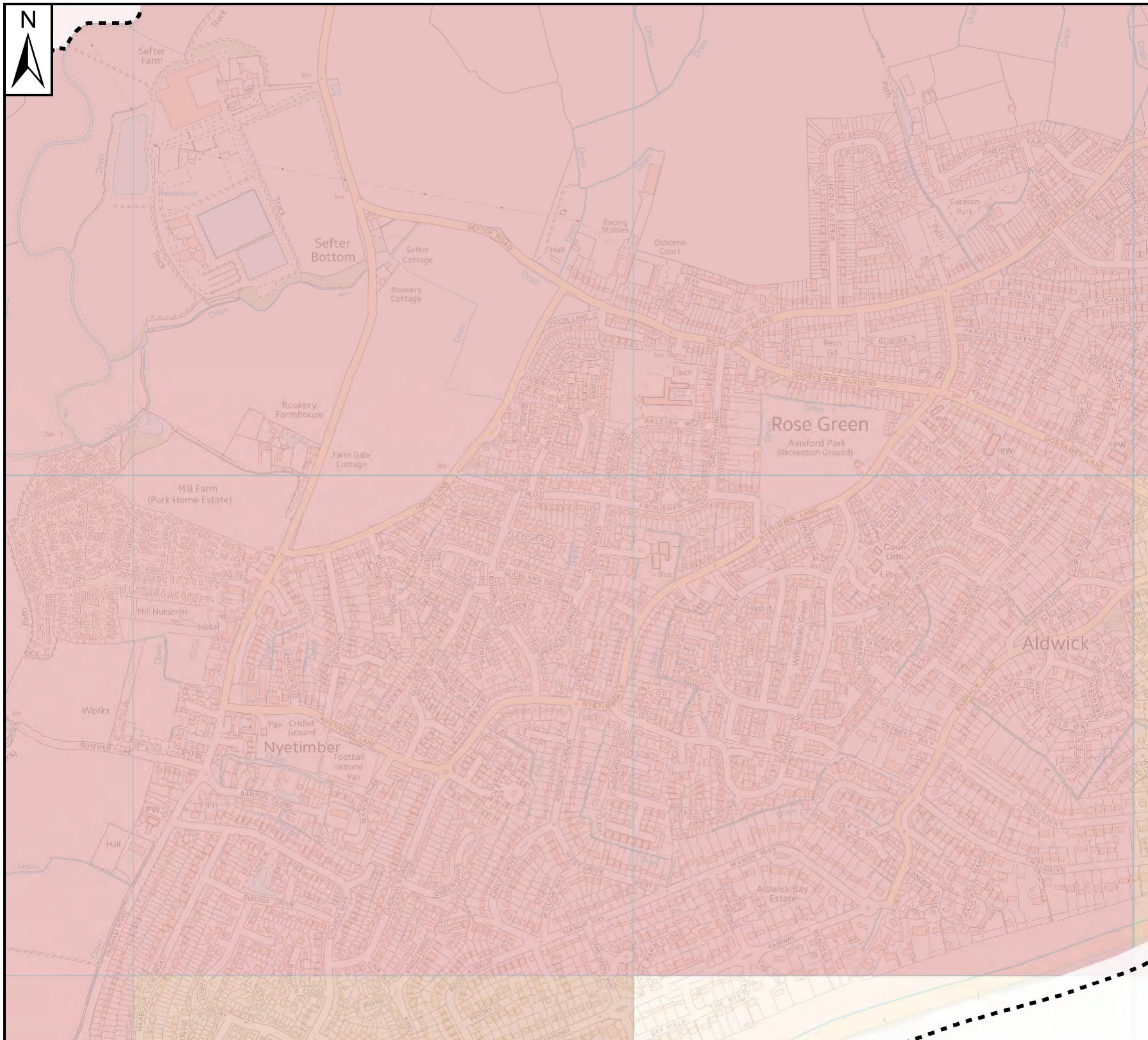
LEVEL 1 SFRA: APPENDIX E SURFACE WATER FLOOD RISK

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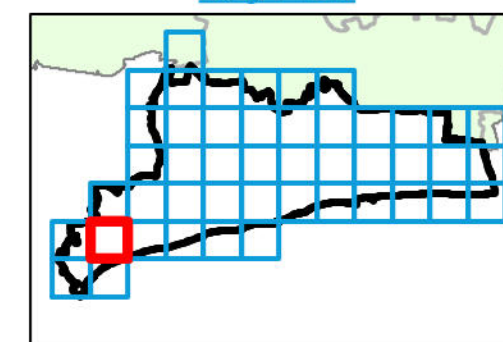
Notes

The Areas Susceptible to Groundwater Flooding (AS_tGWF) is a strategic scale map showing groundwater flood areas on a 1km square grid. The data was produced to annotate indicative Flood Risk Areas for Preliminary Flood Risk Assessment (PFRA) studies and allow the Lead Local Flood Authorities (LLFAs) to determine whether there may be a risk of flooding from groundwater.

This data shows the proportion of each 1km grid square where geological and hydrogeological condition show that groundwater might emerge. It does not show the likelihood of groundwater flooding occurring. It does not take account of the chance of flooding from groundwater rebound. This dataset covers a large area of land, and only isolated locations within the overall susceptible area are actually likely to suffer the consequences of groundwater flooding.

The AS_tGWF data should be used only in combination with other information, for example local data or historic data. It should not be used as sole evidence for any specific flood risk management, land use planning or other decisions at any scale. However, the data can help to identify areas for assessment at a local scale where finer resolution datasets exist.

Key Plan



Legend

Arun District SFRA boundary

- < 25%
- >= 25% < 50%
- >= 50% < 75%
- >= 75%

0 0.125 0.25 0.5 km

REF	Date	Comments
A	June 2016	-
B		
C		

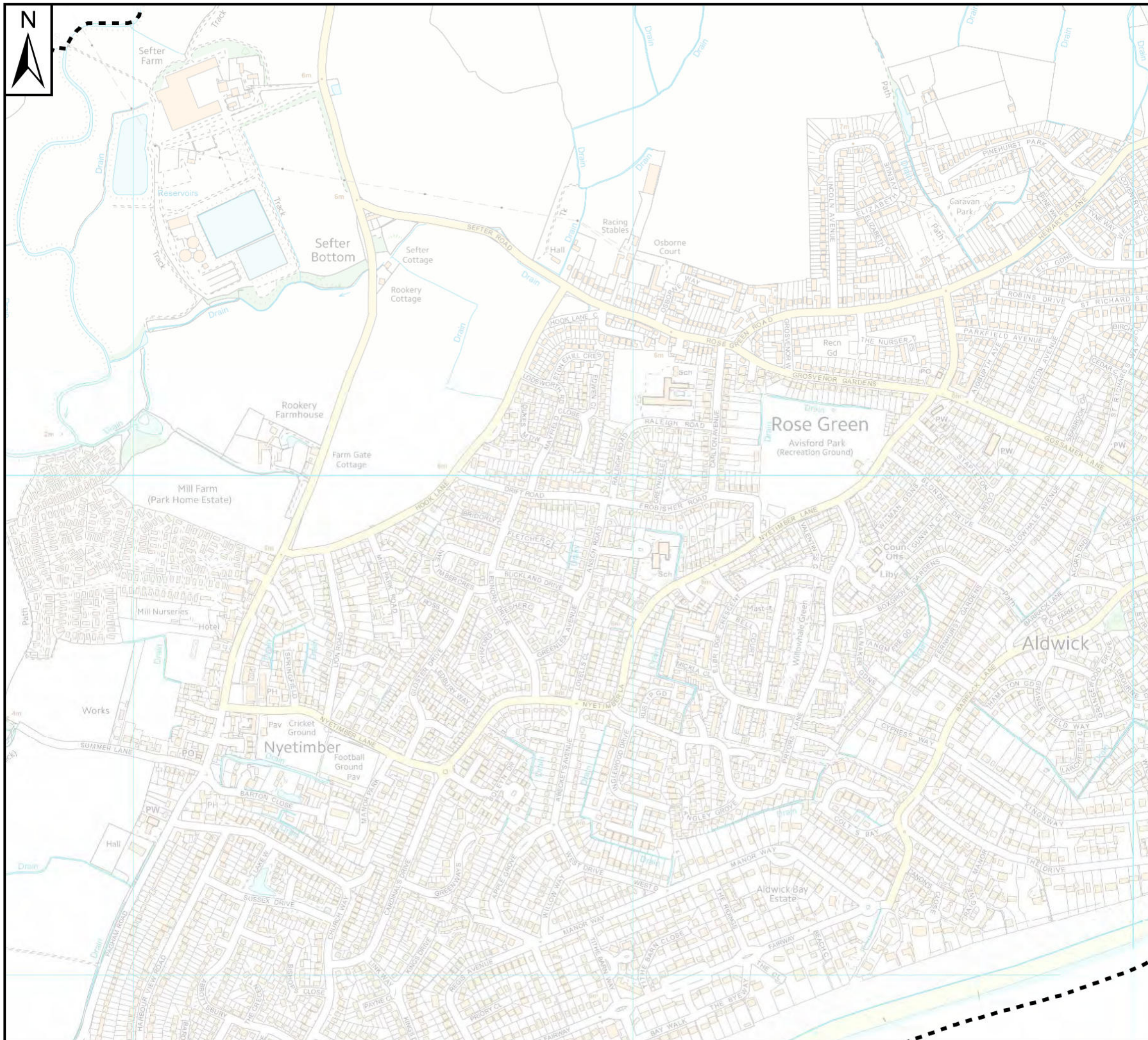
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ARUN DISTRICT COUNCIL LEVEL 1 SFRA: APPENDIX F AREAS SUSCEPTIBLE TO GROUNDWATER

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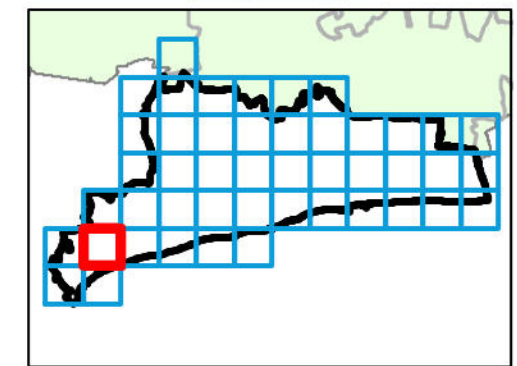
Notes

Flood Alerts are used to warn people of the possibility of flooding and encourage them to be alert, stay vigilant and make early preparations. It is issued earlier than a flood warning, to give customers advice notice of the possibility of flooding, but before we are fully confident that flooding in Flood Warning Areas is expected.

Flood Warnings warn people of expected flooding and encourage them to take action to protect themselves and their property.

Some areas may be covered by more than one flood warning area as they may be at risk of flooding from more than one

Key Plan



Legend

	Arun District SFRA boundary		065FWF5005
	065FWC2401		065FWC2601
	065FWF4903		065FWC2602
	065FWF4904		065FWC2501
	065FWF5301		065FWF5006
	065FWF5302		065FWF4901
	065FWF5007		065FWC2402
	065FWF5008		065FWC2402



REF	Date	Comments
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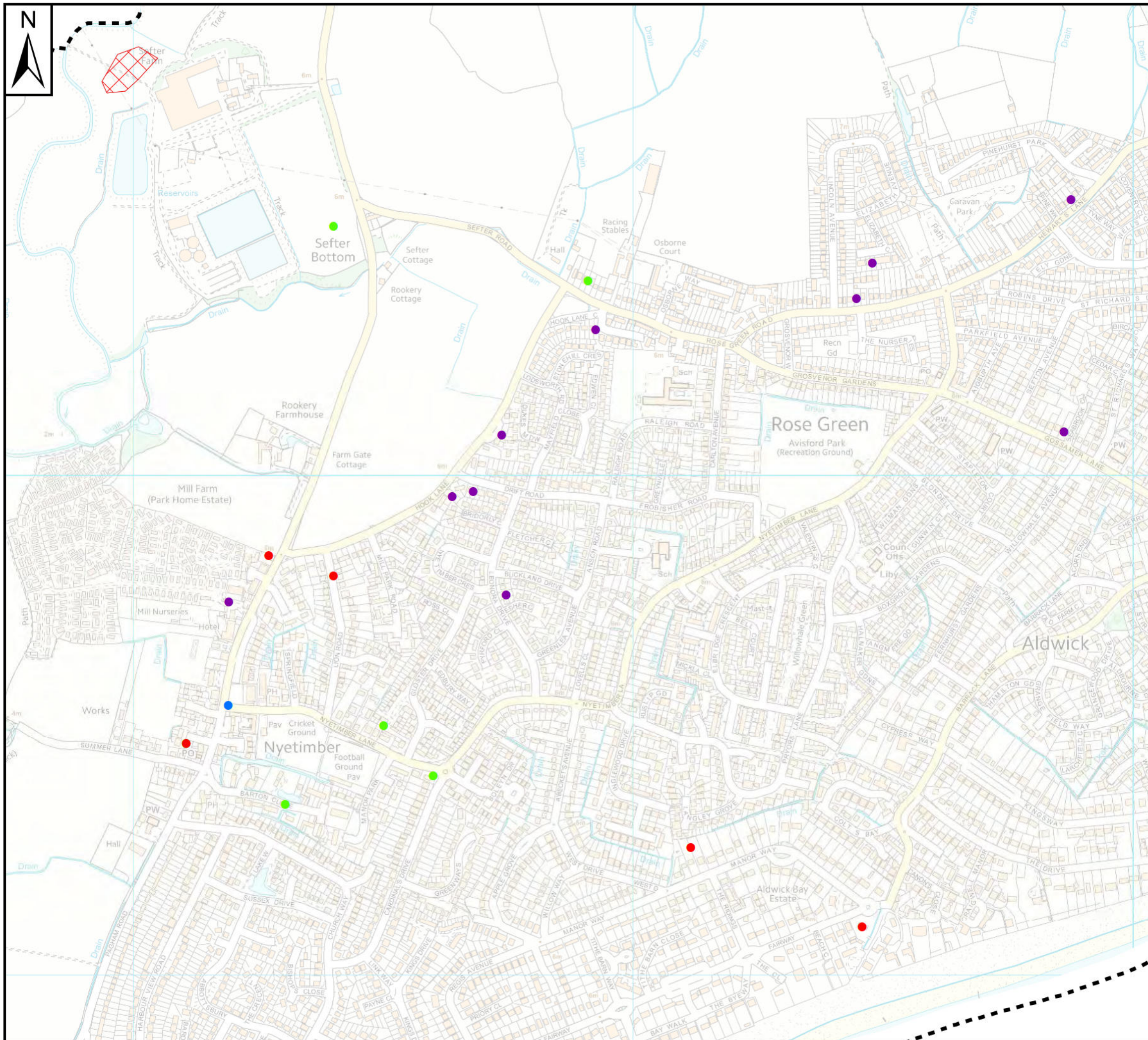
LEVEL 1 SFRA: APPENDIX G FLOOD WARNING AREAS

Sheet No: 4 of 46

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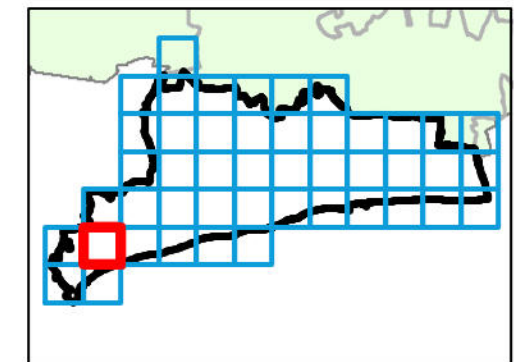
Notes

The Historic Flooding Map shows the recorded incidents and flood outlines provided by Arun District Council, West Sussex County Council, Southern Water and Environment Agency. Historical flood extent was obtained from the Environment Agency.

Flooding incidents provided have been categorised based upon the details provided in the records. Unknown flood points could not be determined from the information provided, and therefore could be from a number of sources.

Please note that not all historical records may be shown on this map, and that it is therefore advised you contact Arun District Council for updated information post 2015.

Key Plan



Legend

- Arun District SFRA boundary
- Historic flood outline
- Source of flooding**
- Fluvial
 - Coastal
 - Surface Water
 - Failure
 - Unknown
 - Tidal



REF	Date	Comments
A	June 2016	-
B		
C		

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ARUN DISTRICT COUNCIL LEVEL 1 SFRA: APPENDIX H HISTORIC FLOODING RECORDS

Sheet No: 4 of 46 Index Number: ADC_04

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