Product 4 (Detailed Flood Risk) for: Sam Murray (Amey)
Site: Land at Kingsnorth
Reference: KSL151125 KR79
Date: 30th November 2015

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The information provided is based on the best data available as of the date of this letter.

You may feel it is appropriate to contact our office at regular intervals, to check whether any amendments/ improvements have been made to the data for this location. Should you re-contact us after a period of time, please quote the above reference in order to help us deal with your query.

This information is provided subject to the enclosed notice which you should read.

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Flood Map Confirmation

The Flood Map:

Our Flood Map shows the natural floodplain for areas at risk from river and tidal flooding. The floodplain is specifically mapped ignoring the presence and effect of defences. Although flood defences reduce the risk of flooding they cannot completely remove that risk as they may be over topped or breached during a flood event.

The Flood Map indicates areas with a 1% (0.5% in tidal areas), Annual Exceedance Probability (AEP) - the probability of a flood of a particular magnitude, or greater, occurring in any given year, and a 0.1% AEP of flooding from rivers and/or the sea in any given year. The map also shows the location of some flood defences and the areas that benefit from them.

The Flood Map is intended to act as a guide to indicate the potential risk of flooding. When producing it we use the best data available to us at the time, taking into account historic flooding and local knowledge. The Flood Map is updated on a quarterly basis to account for any amendments required. These amendments are then displayed on the internet at www.gov.uk/prepare-for-a-flood..

At this Site:

The Flood Map shows that this site partly lies within the outline of the 1% and the 0.1% chance of flooding in any given year.

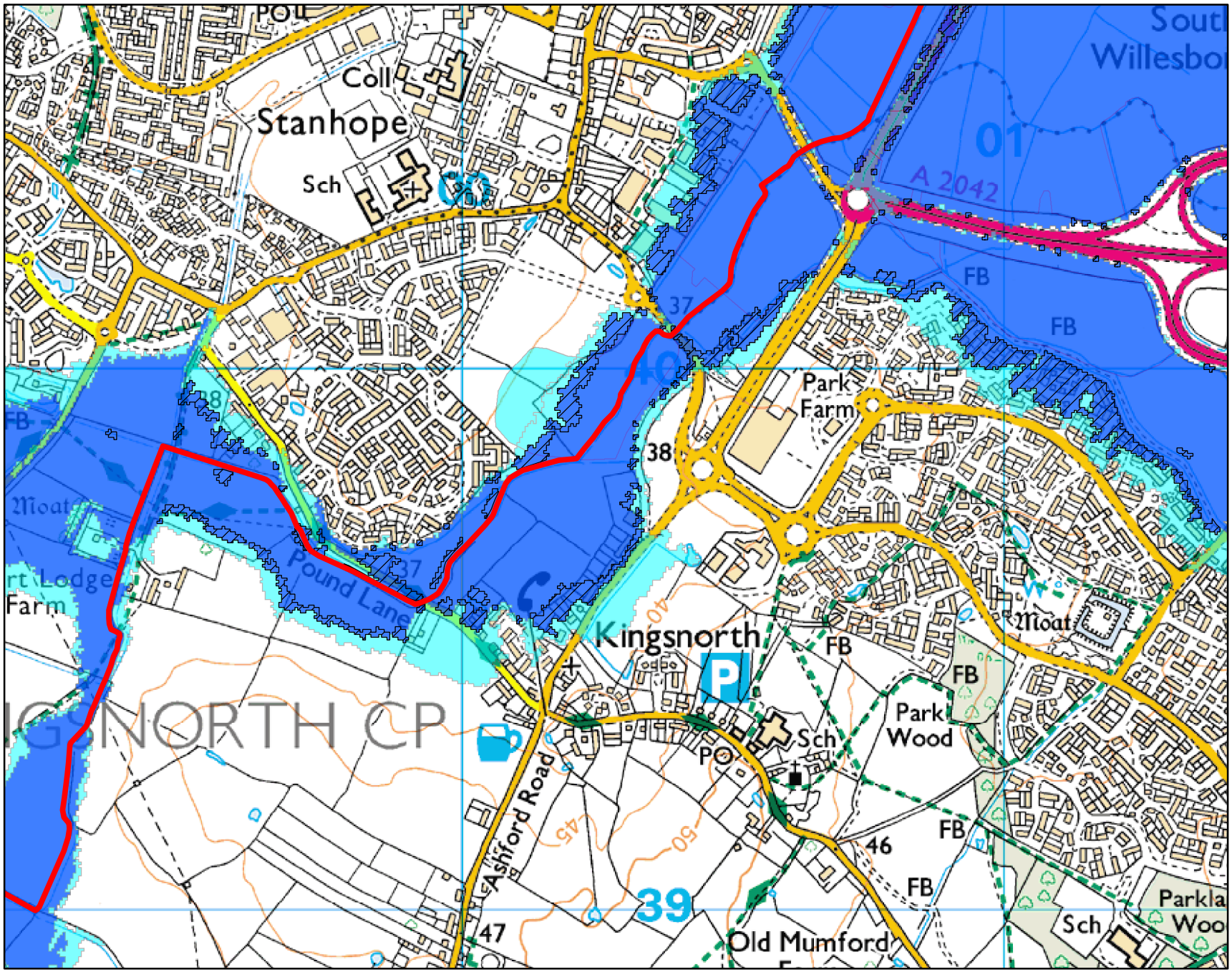
Enclosed is an extract of our Flood Map which shows this information for your area.

Method of production

The Flood Map at this location has been derived using detailed 2D modelling of Ashford ABD and Hazard 2012 update completed by JBA Consulting in 2012.

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Flood map centred on site by Kingsnorth
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Legend

- Main River
- Flood Defences
- Flood Storage Area
- Areas Benefiting From Flood Defence
- 1% AEP of Fluvial Flooding or 0.5% Tidal
- 0.1% AEP of Flooding

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

Scale 1:10,000

0 250 500

Meters

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Model Output Data

You have requested flood levels for various return periods at this location.

The modelled flood levels for the closest most appropriate model grid cells, any additional information you may need to know about the modelling from which they are derived and/or any specific use or health warning for their use are set out below.

Using a 2D TuFLOW model the floodplain has been represented as a grid. The flood water levels have been calculated for each grid cell.

A map showing the location of the points from which the data is taken is enclosed. Please note you should read the notice enclosed for your specific use rights.

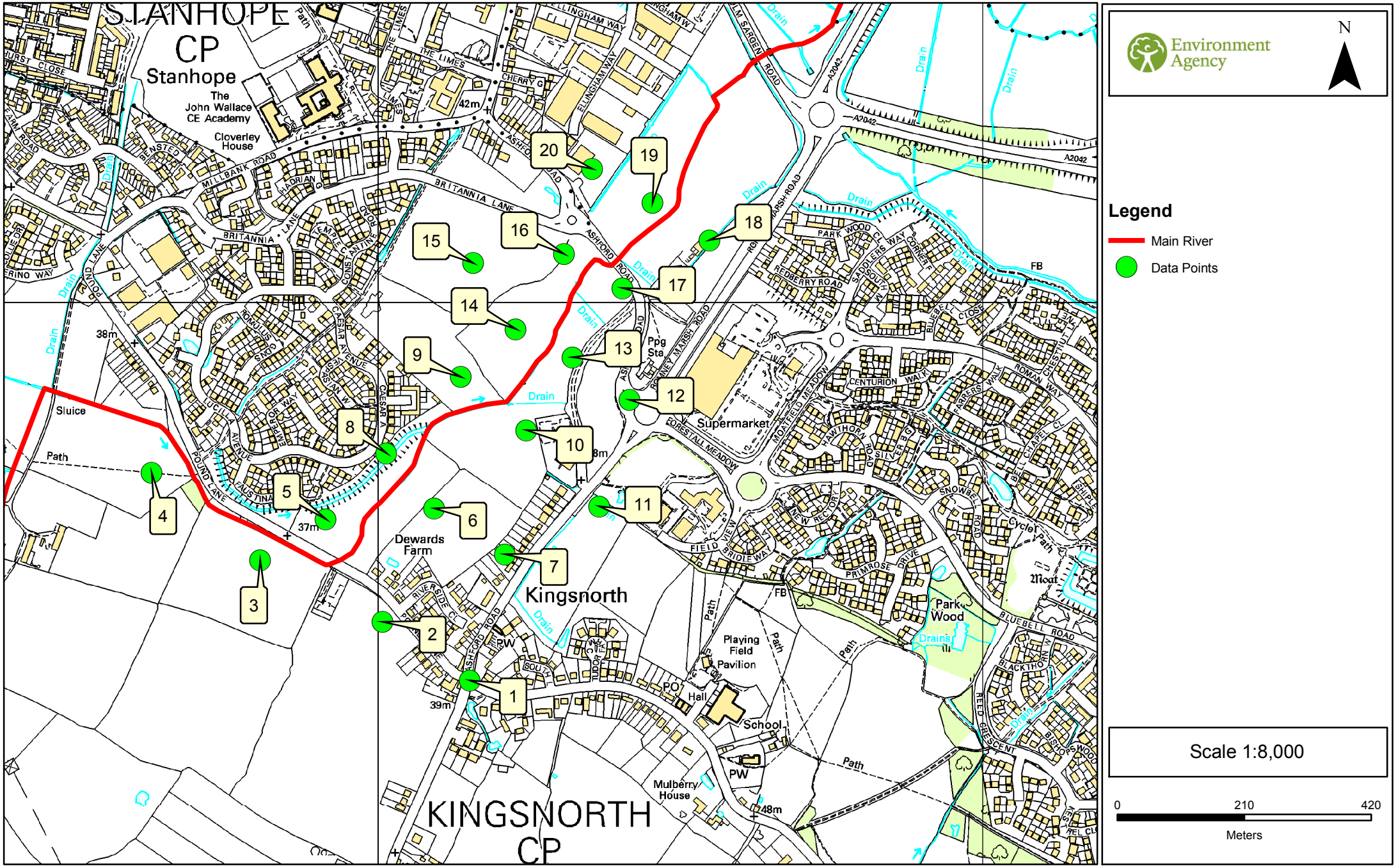
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Table 1: Modelled Flood Levels (metres AOD)

	National Grid Reference		Modelled Flood Levels For Scenario Shown, in Metres AOD								
			Undefended				Defended				
Node ID	Easting	Northing	5% AEP	1% AEP	1% +cc AEP	0.1% AEP	10% AEP	5% AEP	2% AEP	1% AEP	1% +cc AEP
1	600151	600151	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	600007	600007	0.00	0.00	37.53	37.91	0.00	0.00	0.00	0.00	0.00
3	599805	599805	37.04	37.34	37.53	37.92	36.88	36.95	37.02	37.11	37.22
4	599625	599625	37.05	37.34	37.53	37.92	0.00	37.00	37.07	37.14	37.25
5	599913	599913	37.03	37.33	37.53	37.92	0.00	0.00	36.94	37.01	37.15
6	600093	600093	37.03	37.33	37.53	37.92	36.66	36.75	36.85	37.00	37.15
7	600210	600210	0.00	37.33	37.53	37.92	0.00	0.00	0.00	0.00	37.15
8	600013	600013	37.03	37.33	37.53	37.91	0.00	0.00	36.86	37.00	37.15
9	600137	600137	0.00	0.00	0.00	37.89	0.00	0.00	0.00	0.00	0.00
10	600246	600246	37.03	37.34	37.53	37.93	36.66	36.75	36.85	36.99	37.15
11	600366	600366	0.00	0.00	37.53	37.89	0.00	0.00	0.00	0.00	0.00
12	600416	600416	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	600322	600322	37.03	37.33	37.53	37.90	0.00	0.00	0.00	36.99	37.15
14	600228	600228	37.03	37.34	37.53	37.90	0.00	0.00	36.84	36.99	37.15
15	600157	600157	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	600307	600307	0.00	0.00	37.53	37.88	0.00	0.00	0.00	0.00	0.00
17	600404	600404	37.03	37.33	37.53	37.88	0.00	36.73	36.84	36.99	37.15
18	600548	600548	37.02	37.32	37.52	37.87	0.00	0.00	0.00	36.95	37.13
19	600454	600454	37.02	37.32	37.53	37.87	36.59	36.70	36.82	36.95	37.13
20	600354	600354	0.00	37.32	37.52	37.87	0.00	0.00	0.00	0.00	37.13

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Data points map centred on site by Kingsnorth
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Table 2: Modelled depth levels (metres)

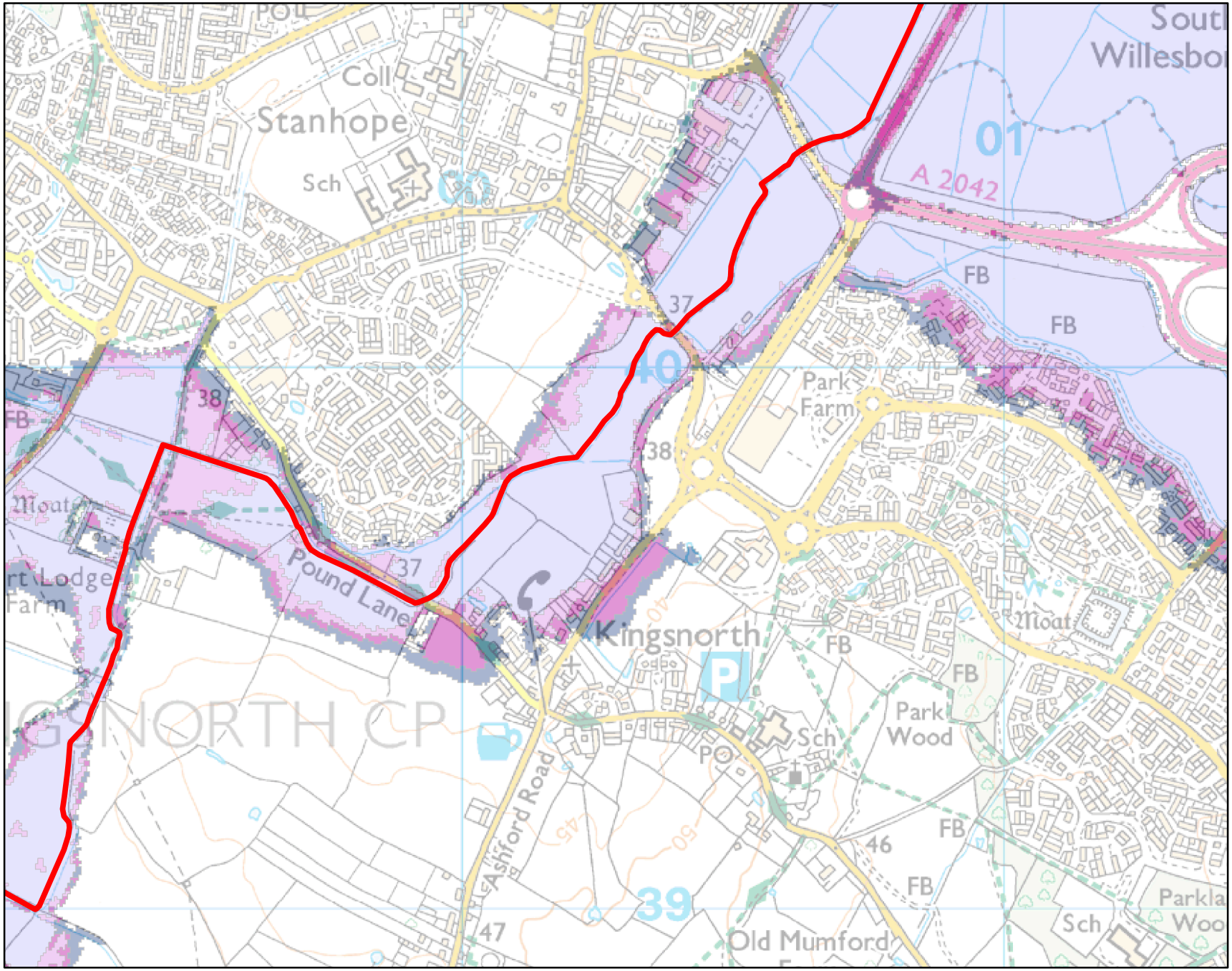
	National Grid Reference		Modelled Flood Levels For Scenario Shown, in Metres AOD								
			Undefended				Defended				
Node ID	Easting	Northing	5% AEP	1% AEP	1% +cc AEP	0.1% AEP	10% AEP	5% AEP	2% AEP	1% AEP	1% +cc AEP
1	600151	600151	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	600007	600007	0.00	0.00	0.26	0.64	0.00	0.00	0.00	0.00	0.00
3	599805	599805	0.23	0.52	0.72	1.11	0.07	0.14	0.21	0.30	0.40
4	599625	599625	0.09	0.39	0.58	0.97	0.00	0.05	0.12	0.19	0.30
5	599913	599913	0.15	0.45	0.65	1.04	0.00	0.00	0.06	0.13	0.27
6	600093	600093	0.38	0.68	0.88	1.26	0.02	0.10	0.20	0.34	0.50
7	600210	600210	0.00	0.16	0.35	0.74	0.00	0.00	0.00	0.00	0.02
8	600013	600013	0.36	0.49	0.67	1.05	0.00	0.00	0.31	0.36	0.40
9	600137	600137	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00
10	600246	600246	0.56	0.86	1.06	1.45	0.19	0.28	0.38	0.52	0.67
11	600366	600366	0.00	0.00	0.18	0.55	0.00	0.00	0.00	0.00	0.00
12	600416	600416	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	600322	600322	0.15	0.39	0.58	0.95	0.00	0.00	0.00	0.12	0.24
14	600228	600228	0.30	0.60	0.80	1.17	0.00	0.00	0.14	0.26	0.42
15	600157	600157	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	600307	600307	0.00	0.00	0.39	0.73	0.00	0.00	0.00	0.00	0.00
17	600404	600404	0.47	0.77	0.97	1.32	0.00	0.17	0.28	0.43	0.59
18	600548	600548	0.07	0.37	0.57	0.92	0.00	0.00	0.00	0.01	0.19
19	600454	600454	0.53	0.83	1.04	1.38	0.10	0.21	0.33	0.46	0.64
20	600354	600354	0.00	0.09	0.29	0.64	0.00	0.00	0.00	0.00	0.04

All levels are taken from Ashford ABD and Hazard 2012 update, JBA Consulting, 2012.

A 0.00 figure indicates that the data point is outside of the flood extent for a particular return period at that location.

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Undefended modelled outlines map centred on site by Kingsnorth
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N

Legend

- Main River
- 5% AEP Undefended Extent
- 1% AEP Undefended Extent
- 1% AEP + CC Undefended Extent
- 0.1% AEP Undefended Extent

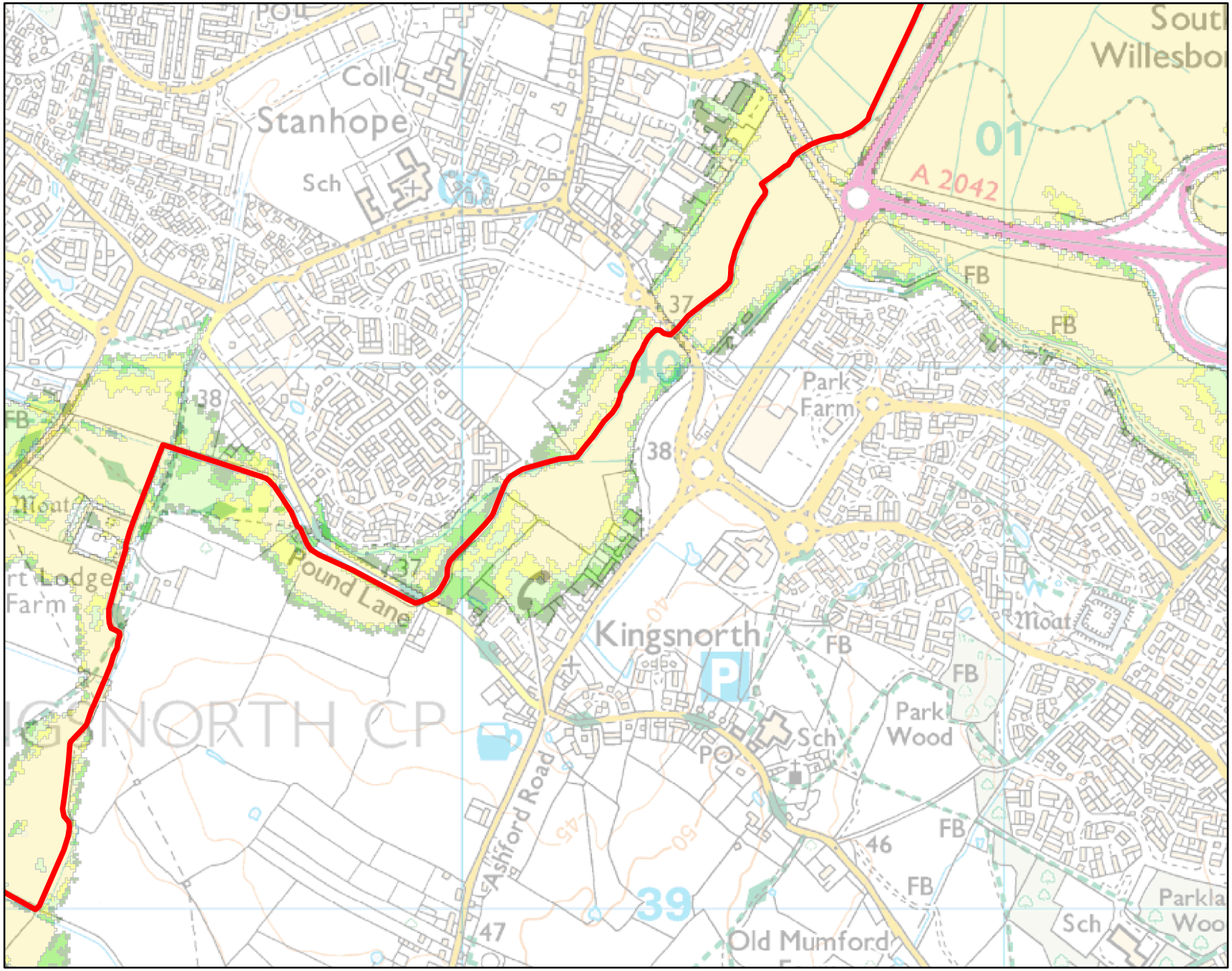
Scale 1:10,000

0 250 500

Meters

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Defended modelled outlines map centred on site by Kingsnorth
Created 30th November 2015 (Ref KSL151125 KR79)



Environment Agency

N

Legend

- Main River
- 10% AEP Defended Extent
- 5% AEP Defended Extent
- 2% AEP Defended Extent
- 1% AEP Defended Extent
- 1% AEP + CC Defended Extent

Climate Change (CC) extent based on an increase of 20% in river flows.

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

Scale 1:10,000

0 250 500

Meters

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Defence Details

There are currently no formal flood defences owned or maintained by the Environment Agency in the immediate area of this site.

Areas Benefiting from Flood Defences

This site is within an area benefiting from flood defences, as shown on the enclosed extract of our Flood Map. Areas benefiting from flood defences are defined as those areas which benefit from formal flood defences specifically in the event of flooding from rivers with a 1% (1 in 100) chance in any given year, or flooding from the sea with a 0.5% (1 in 200) chance in any given year.

If the defences were not there, these areas would be flooded. An area of land may benefit from the presence of a flood defence even if the defence has overtopped, if the presence of the defence means that the flood water does not extend as far as it would if the defence were not there.

The flood defences currently in place for Ashford store water in upstream reservoirs on the Great Stour (Hothfield flood storage reservoir) and East Stour (Aldington flood storage reservoir). These reservoirs store water upstream of the town during times of high flows and then release it downstream at a controlled rate.

This regulates the amount of flow in the Great Stour and East Stour, thus reducing the likelihood of flooding in the surrounding area. The reservoirs are maintained and managed by the Environment Agency and provide a combined 1 in 100 year standard of protection.

There are currently no immediate flood risk management improvements planned for Ashford.

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Historic Flood Data

Flood Event Data

We hold records of historic flood events from rivers and the sea. Information on the floods that may have affected the area local to your site are provided below and in the enclosed map (if relevant).

Dates of historic flood events in this area – September 1973, March 1974, November 2000 and February 2001.

Please note that our records are not comprehensive. We would therefore advise to make further enquiries locally with specific reference to flooding at this location. You should consider contacting the relevant Local Planning Authority and/or water/sewerage undertaker for the area.

We map flooding to land, not individual properties. Our historic flood event record outlines are an indication of the geographical extent of an observed flood event. Our historic flood event outlines do not give any indication of flood levels for individual properties. They also do not imply that any property within the outline has flooded internally.

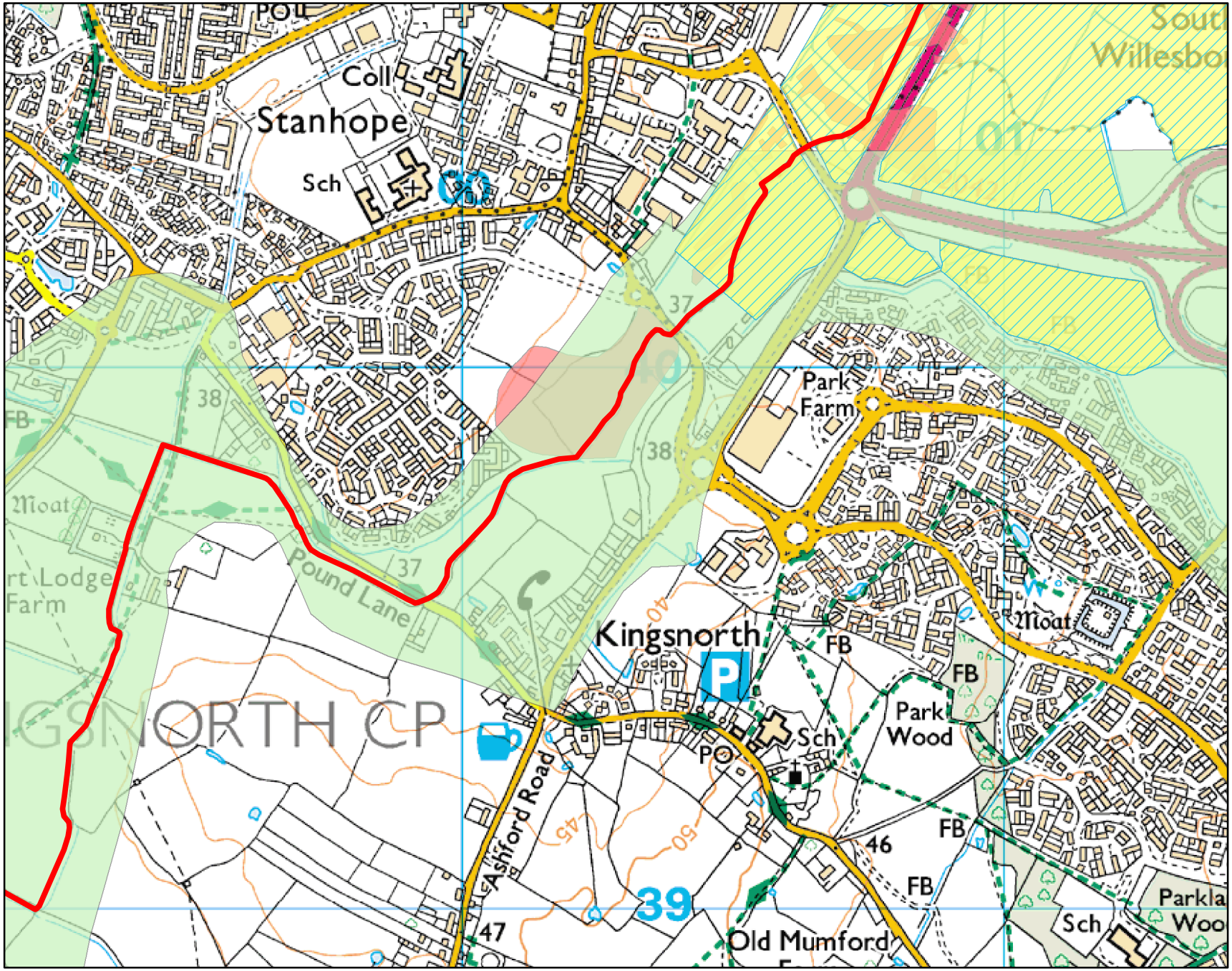
Please be aware that flooding can come from different sources. Examples of these are:

- from rivers or the sea;
- surface water (i.e. rainwater flowing over or accumulating on the ground before it is able to enter rivers or the drainage system);
- overflowing or backing up of sewer or drainage systems which have been overwhelmed,
- groundwater rising up from underground aquifers

Currently the Environment Agency can only supply flood risk data relating to the chance of flooding from rivers or the sea. However you should be aware that in recent years, there has been an increase in flood damage caused by surface water flooding or drainage systems that have been overwhelmed.

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Historic flood map centred on site by Kingsnorth
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Legend

- Main River
- Feb 2001
- Nov 2000
- Sept 1973
- Mar 1974

Scale 1:10,000

0 250 500

Meters

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Surface Water

We have provided two national Surface Water maps, under our Strategic Overview for flooding, to your Lead Local Flood Authority – Kent County Council, who are responsible for local flood risk (i.e. surface runoff, ground water and ordinary watercourse), which alongside their existing local information will help them in determining what best represents surface water flood risk in your area.

Kent County Council have reviewed these and determined what it believes best represents surface water flood risk. You should therefore contact this authority so they can provide you with the most up to date information about surface water flood risk in your area.

You may also wish to consider contacting the appropriate relevant Local Planning Authority and/or water/sewerage undertaker for the area. They may be able to provide some knowledge on the risk of flooding from other sources. We are working with these organisations to improve knowledge and understanding of surface water flooding.

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Additional Information

Use of Environment Agency Information for Flood Risk / Flood Consequence Assessments

Depending on the enquiry, we may also provide advice on other issues related to our responsibilities including flooding, waste, land contamination, water quality, biodiversity, navigation, pollution, water resources, foul drainage or Environmental Impact Assessment.

In **England**, you should refer to the Environment Agency's Flood Risk Standing Advice, the technical guidance to the National Planning Policy Framework and the existing PPS25 Practice Guide for information about what flood risk assessment is needed for new development in the different Flood Zones. These documents can be accessed via:

https://www.gov.uk/government/publications/flood-risk-standing-advice-for-local-planning-authorities-frsa
http://planningguidance.planningportal.gov.uk/

You should also consult the Strategic Flood Risk Assessment produced by your local planning authority.

You should note that:

1. Information supplied by the Environment Agency may be used to assist in producing a Flood Risk / Consequence Assessment (FRA / FCA) where one is required, but does not constitute such an assessment on its own.

2. This information covers flood risk from main rivers and the sea, and you will need to consider other potential sources of flooding, such as groundwater or overland runoff. The information produced by the local planning authority referred to above may assist here.

3. Where a planning application requires a FRA / FCA and this is not submitted or deficient, the Environment Agency may well raise an objection.

4. For more significant proposals in higher flood risk areas, we would be pleased to discuss details with you ahead of making any planning application, and you should also discuss the matter with your local planning authority.

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