

Hammonds Mill Farm Estate Hassocks West Sussex BN6 9NB

Class Q Barn Conversions Prior Approval Application (transitional provisions)

Flood Risk Assessment and Drainage Strategy **RESPONSE to MSDC Flood Risk and Drainage Team Comments on FRA (UPDATED)**

19 June 2025

David Hutchison B Arch PG Dip TP

DJH Architectural and Planning Consultants

3 The Old Brewery 21b Warwick Road Worthing BN11 3ET

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SUMMARY

1. MSDC Flood Risk and Drainage Team issued a planning application consultation response on 30 May 2025 to the submitted Flood Risk Assessment (UPDATED) with a recommendation to object, subject to a review of the applicant's consultant's response to the comments made in the MSDC FRDT response of 30 May 2025.

The applicant's consultant's response to the specific comments is summarised below:

Proposed floor levels for the dwellings conversions in Barns 3 and 4 have been clarified against the EA Product 4 data sets, using 'worst case' (1 in 100 + plus 105% CC) AEDs and accurate site/barn levels from the 2025 Topographical Survey and as a result have been raised by 250mm to comfortably meet the EA Standing Advice which sets out specific finished floor level requirements (although that is based on the lower, 45 % CC allowance).

It is permissible within Class Q Prior Approval rules for conversion of agricultural buildings to dwellings to form new, higher floor levels for dwellings to meet current Building Regulation thermal standards.

Proposed floor levels in Barns 1 and 2 have been clarified against EA (Jan 2025 released) RoFSW 'extent' mapping and LLFA (West Sussex) guidance on establishing surface water design levels and have been confirmed to meet EA Standing Advice for finished floor levels.

Further assessment of risk of surface water flooding on the access road/driveway and at access to and from new dwelling conversions has shown, by reference to accurate Topographical Survey levels at the barns, barn surroundings and banks to the mill race, which run parallel and close to the access road/driveway, and by reference to surface water design flood levels, that occupants will have safe access to and from dwellings and along the full length of the access road/driveway in line with the PPG, during either a 'design flood' or an 'extreme flood'.

Section drawings 1 to 5, at various locations, which show accurate site levels, proposed dwelling floor levels, EA fluvial flood levels and EA/LLFA surface water design flood levels are included in the Appendix together with the EA Product 4 Flood Risk data set.

Barn 3 (Dwelling 3) Fluvial Flood Risk

2. In response to the comment that *'the south east corner of Barn 3 (Dwelling 3) abuts Flood Zone 3 and is at high fluvial flood risk'....* the EA Product 4 data set, worst case, (1 in 100 + 105% CC) AED is 26.86. The existing barn floor level is 27.30 but it is uninsulated and needs a new sub base/insulation/floor slab to meet current Building Regulation standards for dwellings. A new floor is a permissible alteration under Class Q rules for conversion of agricultural buildings.
3. The proposed floor level for the conversion with a new floor is 27.55. This is 690 mm above the 1 in 100 + 105 % CC AED.
4. The retained eaves level of Barn 3 (Dwelling 3) is 30.40, which gives comfortably more than a typical 2.4m high internal ceiling height with the proposed floor level.

5. The access point to Dwelling 3 is on the north elevation, via the farmyard where the approach level is 27.40, 540mm above the 1 in 100 + 105% CC AED which results in a B Regs standard, permanent short access ramp to be provided for level access from the farmyard to the new floor level.
6. At the southern end of the east elevation the (the corner that abuts Flood Zone 3 levels) the concrete hardstanding level is 27.35. At the southern elevation existing ground levels vary between 27.12 and 26.96. Locally positioned steps and ramp are proposed to access the dwellings outside amenity area.

Barns 1 and 2 (Dwellings 1 and 2) Surface Water Flood Risk

7. In response to the comment that '*Barns 1 and 2 are at medium risk of surface water flooding in the climate change range 2040-2060*', the proposed finished floor levels of Dwellings 1 and 2, at 29.80, gives a 650mm freeboard above the design flood level (1 in a 100 + CC) which meets the EA Standing Advice that MSDC also applies to residential proposals.
8. The existing barn floor levels vary between 29.30 and 28.95 but are uninsulated and need a new sub base/insulation/floor slab to meet current Building Regulation standards for dwellings. A new floor is allowable alteration under Class Q rules for conversion of agricultural buildings. External ground levels at the north and east elevations vary between 29.40 and 29.10.
9. The retained eaves level of Barns 1 and 2 (Dwellings 1 and 2) is 32.57, which gives very comfortably more than a typical 2.4m high internal ceiling height with the proposed floor levels.

10. The access points to Dwellings 1 and 2 are from the south elevation, via the farmyard where the approach level is 29.65, 500mm above the (1 in 100 +CC) design flood level which will allow standard, permanent short access ramps to be provided for level access from the farmyard to the new floor level. This is the high point point of the farmyard which falls to and naturally drains to the south away from the barns.
11. At the west, east and north elevations the rooms have under cover, external 'terraces' within the footprint of the barns, with bases set at around barn floor levels with 'staged', draining, decking to the terraces set just below FFLs. External, ramped accesses from the terraces will give access to external amenity areas.
12. The proposed finished floor levels bring the conversion of the barns in line with LLFA (West Sussex) guidance when establishing the surface water design flood level, including climate change allowance and EA standing advice on setting finished floor levels.

Access road/driveway to Barns (Surface Water flood Risk)

13. In response to the comment that *'the access road/driveway is at high risk from surface water flooding during present day and in the climate change range of 2040-2060'....* levels of banks to the mill race (source of surface water risk including greenfield run off from the north) from the topographical survey undertaken by Offington Land Surveyors in March 2025, show that there are only two local points along the length of the access road/driveway where the parallel southern bank to the mill race is at or below the surface water design flood level.
14. It should be noted that the RoFSW mapping released by the EA in early 2025 is based on 2m square grids, which cover somewhat more than the plan width of the banks to the mill race, which accounts for the flood risk extent to appear to cover further parts of the

access road/driveway, than is revealed by the 1m square levels from the topographical survey.

15. On the southern side of the access road/driveway, which has a cross fall towards that side and no road kerbs or raised edgings, the grass 'verges' and banks fall at good gradient towards the lake (the western end) and towards the Herrings Stream (the eastern end). The 1 in 100 + 105% CC AED for the lake and the Herrings Stream is between 1.72m and 1.92m below the levels of the top of the southern bank of the mill race which is typically 300mm above the access road/driveway level.
16. During an exceedance event any surface water flooding from the mill race over the access road/driveway is likely only to occur at two locations and will drain quickly over the road and down the grass banks to the lake or the Herrings Stream, where even in a 1 in 100 + 105% CC flood event there is a substantially comfortable capacity for the lake and Herrings Stream to absorb any surface water run off from the mill race, over the road, without increasing flood risk elsewhere on the Hammonds Mill estate.
17. Notwithstanding the above assessment, the Barns, Hammonds Mill Farmhouse and Old Dairy Cottage also have a farm track route directly northwards through the estate to Jane Murray Way. Hammonds Mill Farm Estate will retain ownership and responsibility for the access road/driveway, mill race, farmyard, farm tracks, private bridge over the Herrings Stream as well as the remaining 90 acres.

Surface Water Drainage Strategy

18. In response to the comment that '*a detailed drainage system should consider the impact a flooded outfall could have on the proposed drainage system*'.... this is accepted and will be included in the detailed drainage system submitted to discharge a 'drainage condition' associated with a 'Prior Approval Given' consent.

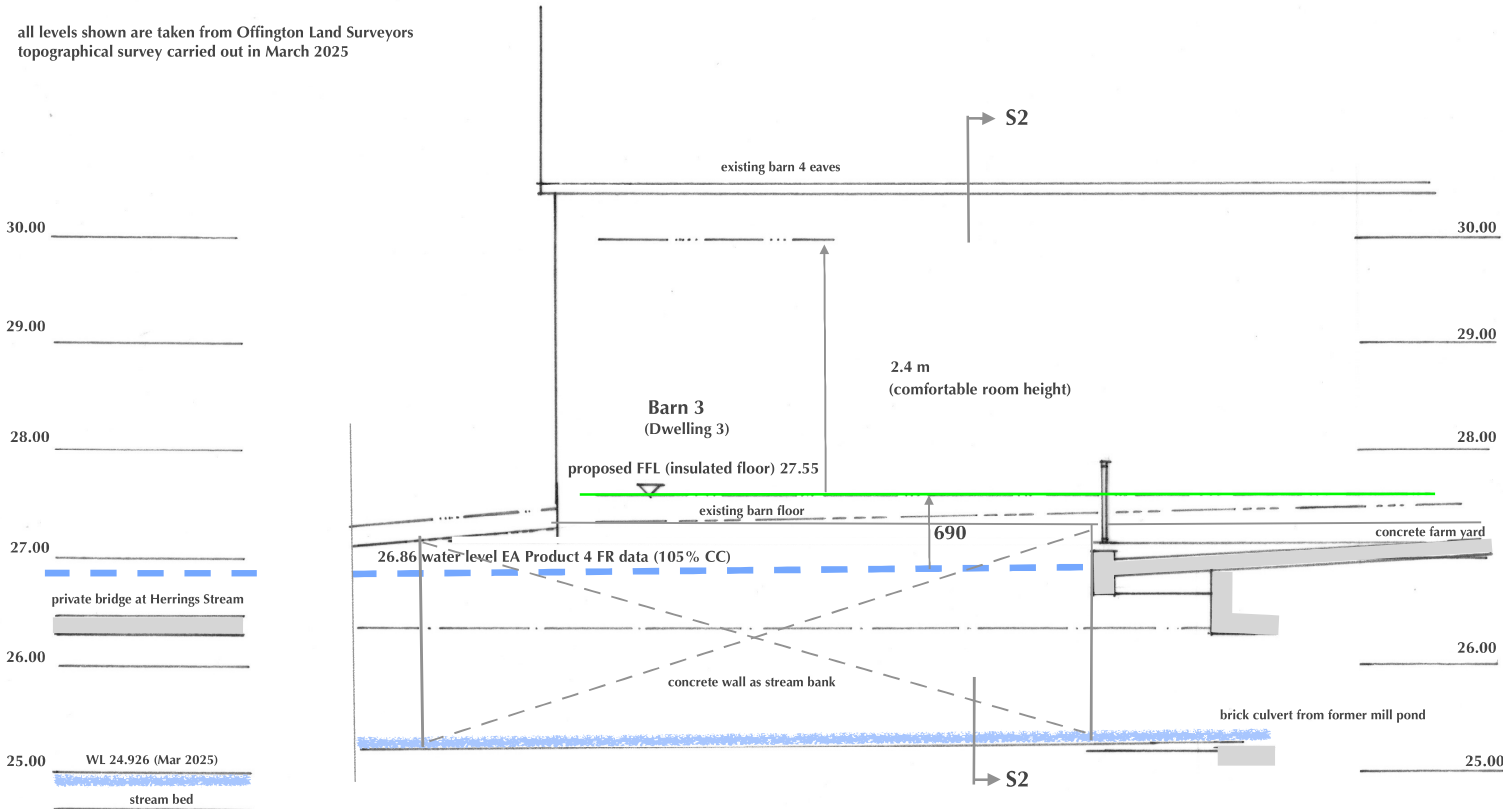
19. CCTV inspection of existing surface water drains is currently underway, while the topographical survey includes levels on weirs on the mill race source to the lake and the outflow stream from the lake, invert levels and pipe diameters for underground pipework below the infilled mill pond, sluice pipe outlet levels and diameter, culvert levels and diameter, overflow stream and Herrings Stream bed levels. Together with the EA (1 in 100 + 105% CC) AEDs this will allow a comprehensive surface water design, based on existing surface water drainage systems and former mill water infrastructure to be submitted for discharge of the drainage condition.
20. As a potential backstop, if required, there is substantial capacity for the lake and lake surrounds to be further utilised as a further 'holding basin' if an alternative outlet for existing surface water drainage from the Barns 1 and 2 and surface water run off at the north and east of the barns, should found to be needed, if the existing outfall is assessed to be likely to be flooded in an extreme event.

Foul Water Drainage

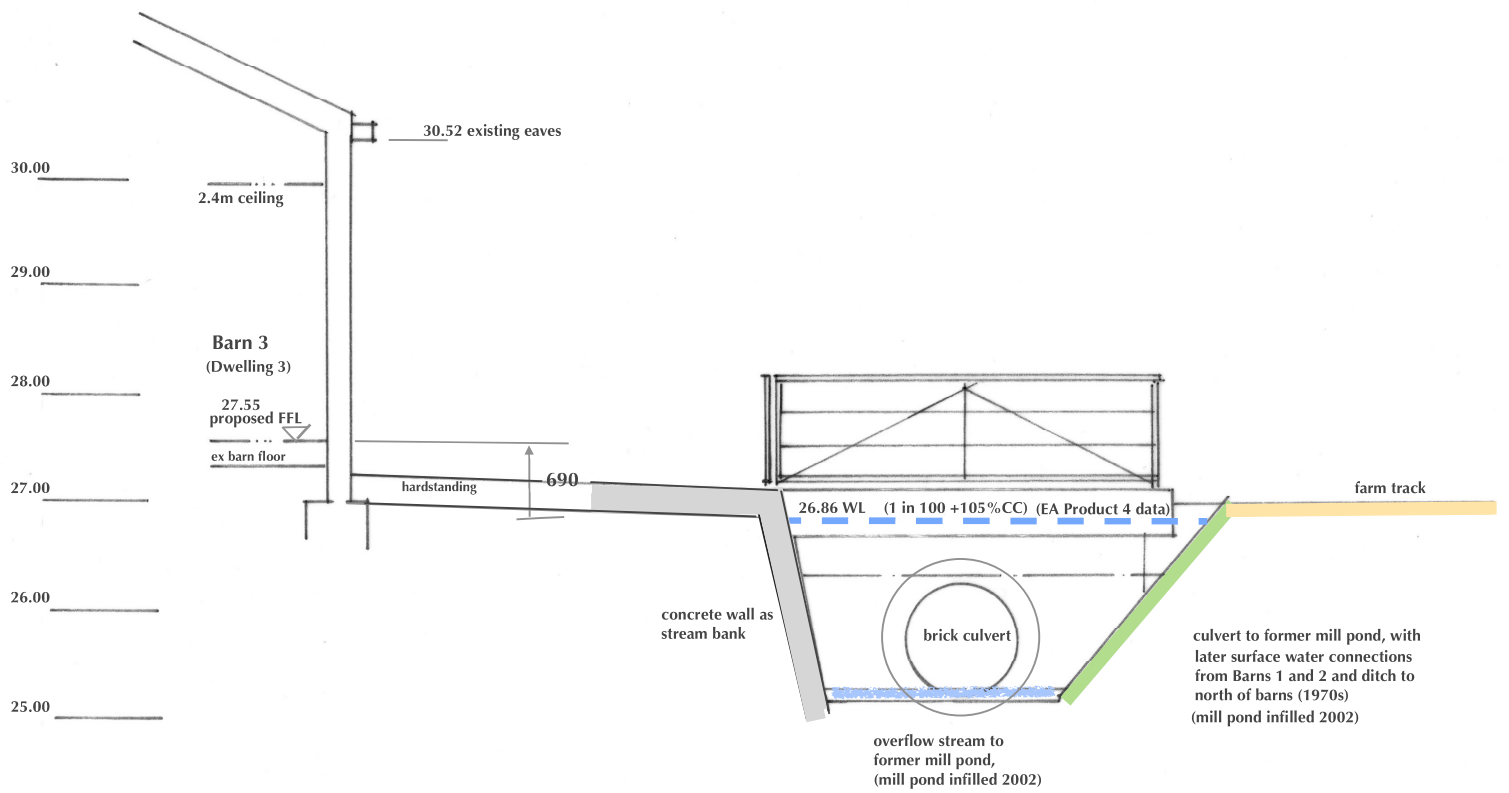
21. A shared package treatment plant will be provided outside the 'application site' which for Class Q Prior Approval purposes has been agreed with MSDC planners to include only the barn footprints, part of the farm yard and the access road/driveway.
22. All the land outside the 'application site' is to retained under the ownership, management and control of Hammonds Mill Farm Estate who will give permission for location of and connection to the plant, obtain permits and arrange for regular maintenance, charged to individual dwelling owners by way of a service charge.

APPENDICES

all levels shown are taken from Offington Land Surveyors
topographical survey carried out in March 2025



section at bridge

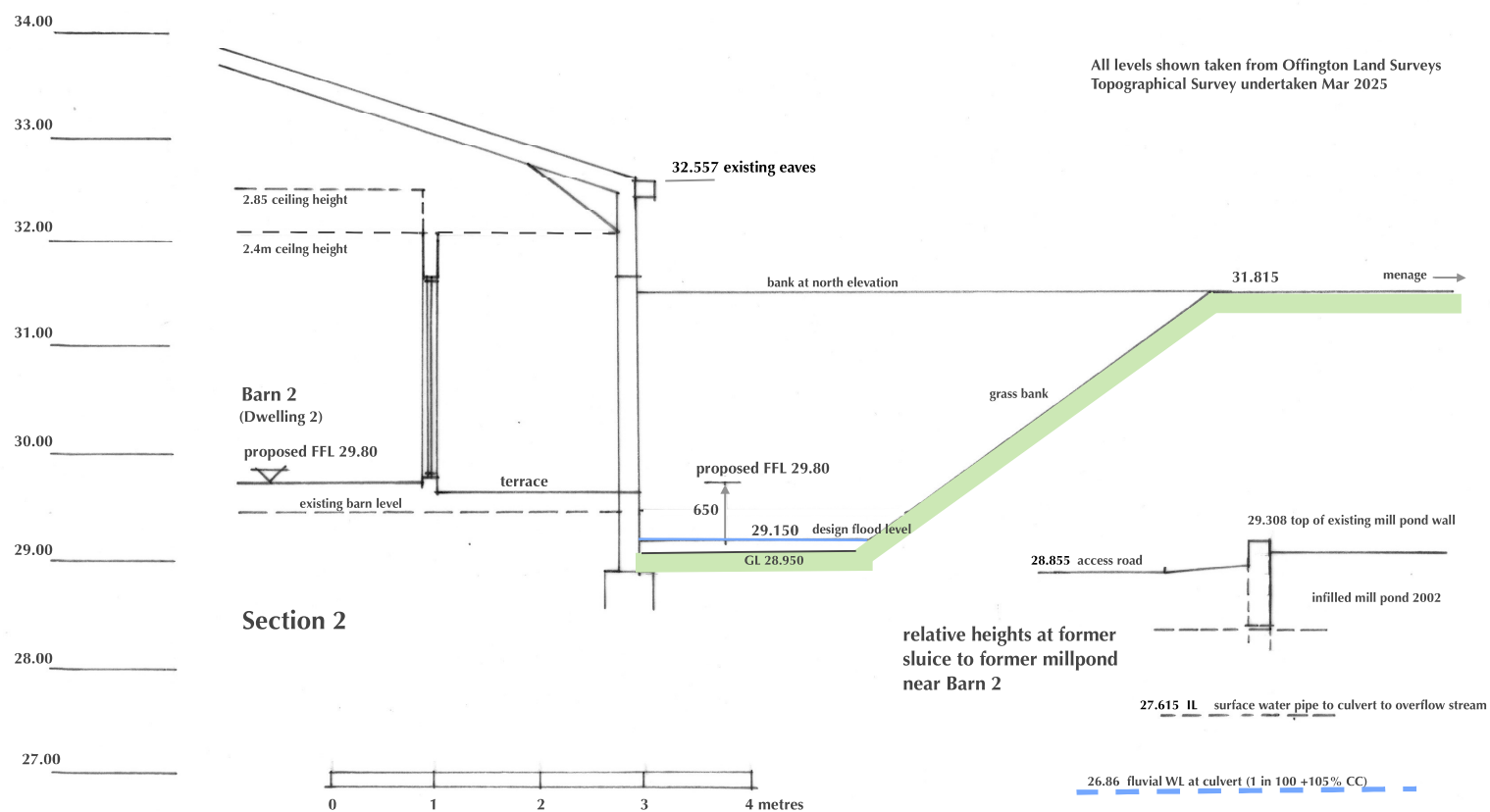


Hammonds Mill
1.5 at A4

Class Q Barn Conversions

Flood Risk Assessment (river)

Section 2 at overflow stream at culvert
0264/FRA S2

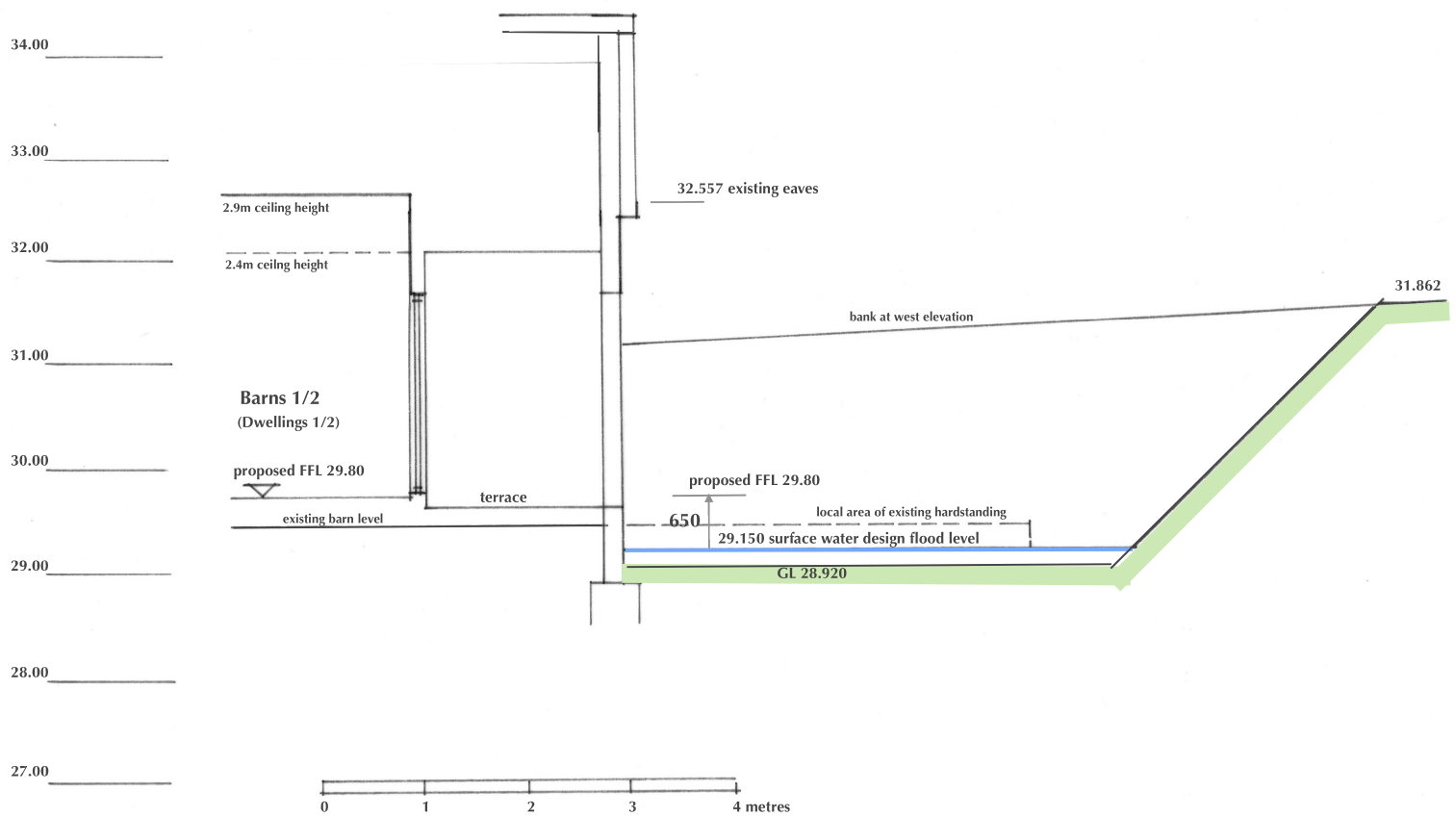


Hammonds Mill
1.5 at A4

Class Q Barn Conversions

Flood Risk Assessment (surface water)

Section at Barn 2_bank
0264/FRA S3

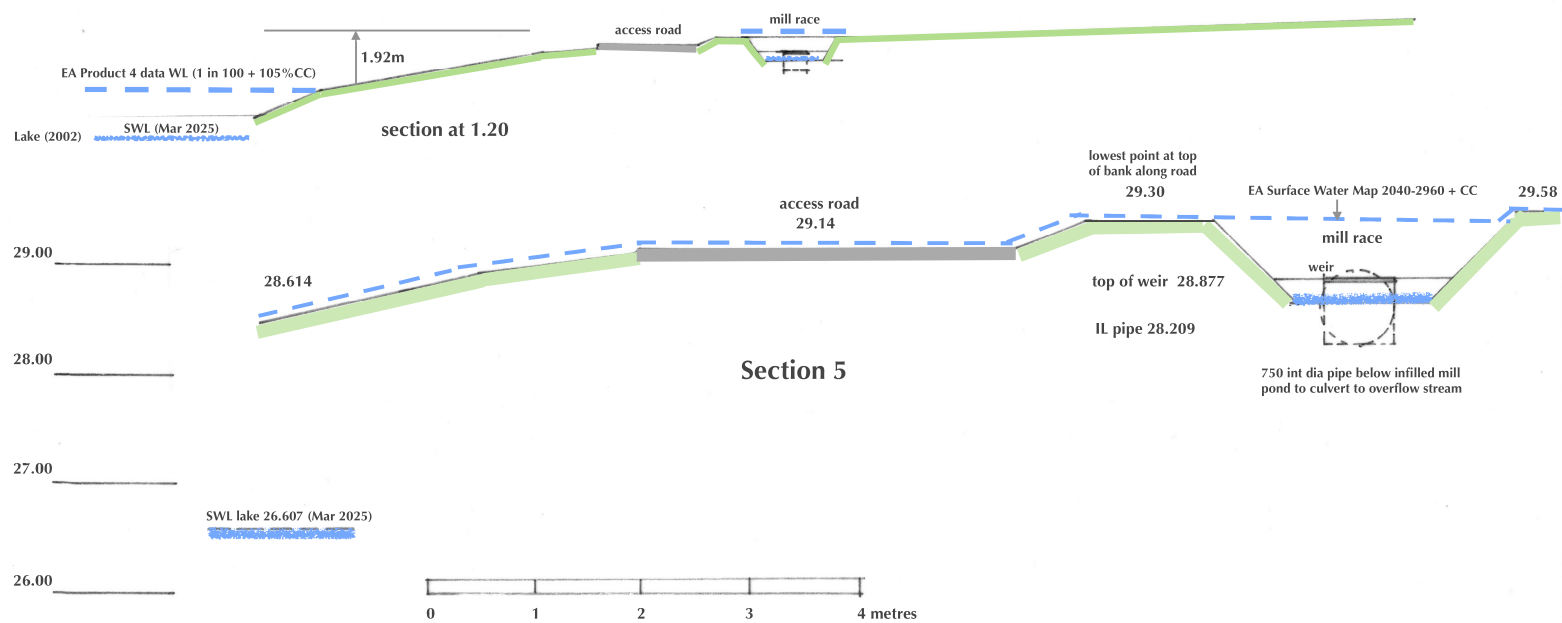


Hammonds Mill
1.5 at A4

Class Q Barn Conversions

Flood Risk assessment (surface water)

Section 4 at Barns 1_2 at north bank
0264/FRA S4



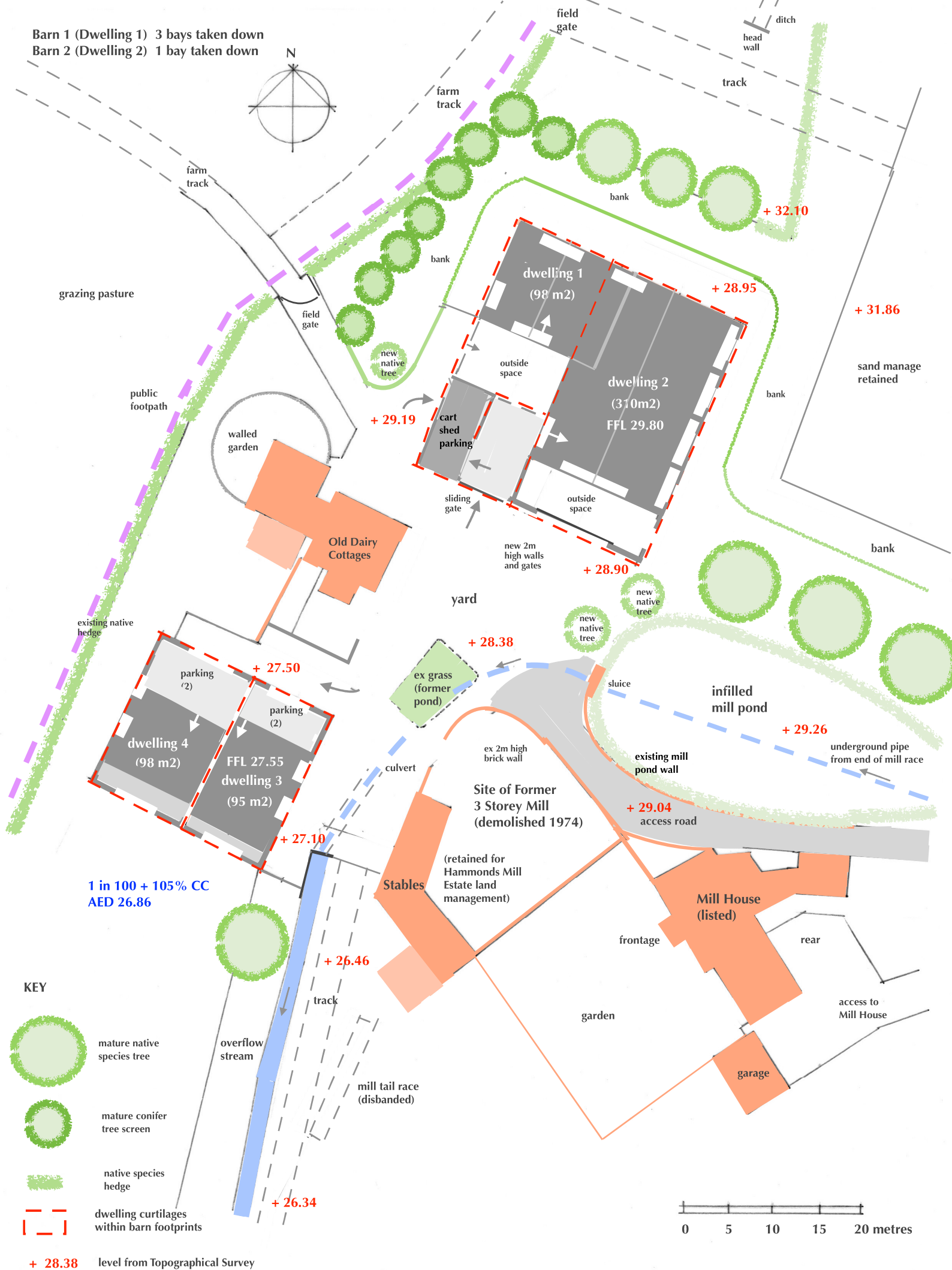
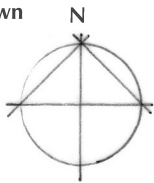
Hammonds Mill
1.5 at A4

Class Q barn Conversions

Flood Risk Assessment (surface water)

Section 5 at access road_mill race
0264/FRA S5

Barn 1 (Dwelling 1) 3 bays taken down
 Barn 2 (Dwelling 2) 1 bay taken down



KEY



mature native species tree



mature conifer tree screen

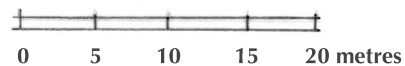


native species hedge



dwelling curtilages within barn footprints

+ 28.38 level from Topographical Survey



levels added

Flood risk assessment data



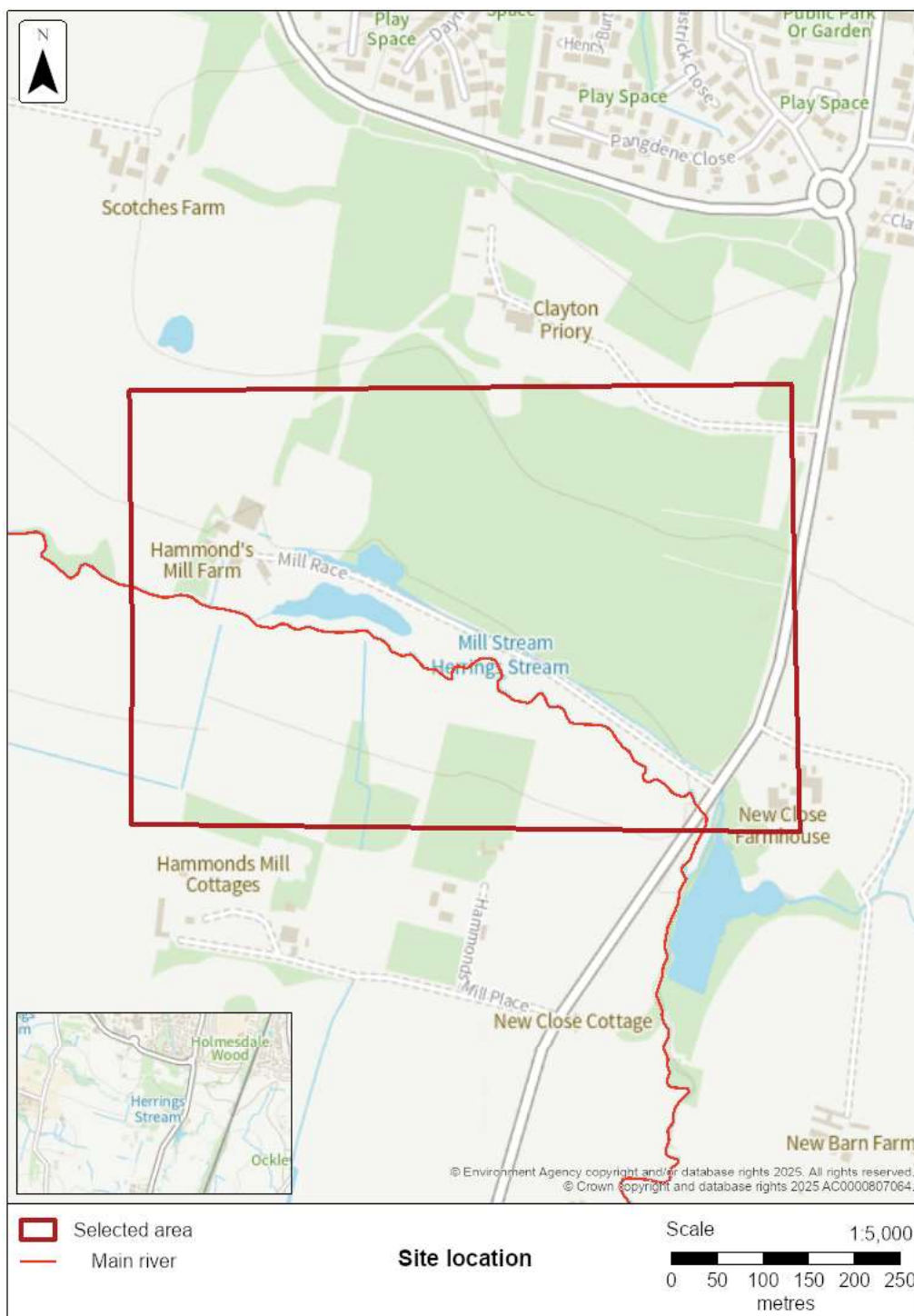
Location of site: 530282 / 117586 (shown as easting and northing coordinates)

Document created on: 2 June 2025

This information was previously known as a product 4.

Customer reference number: 2984RXKF7A61/ EIR2025/11748

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: Adur Eastern Branch Update, 2011

Scenario(s): No defences exist fluvial, no defences exist climate change fluvial

Date: 4 July 2011

Model name: Adur Climate Change Runs 2016

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

Date: 2016

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 3.

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

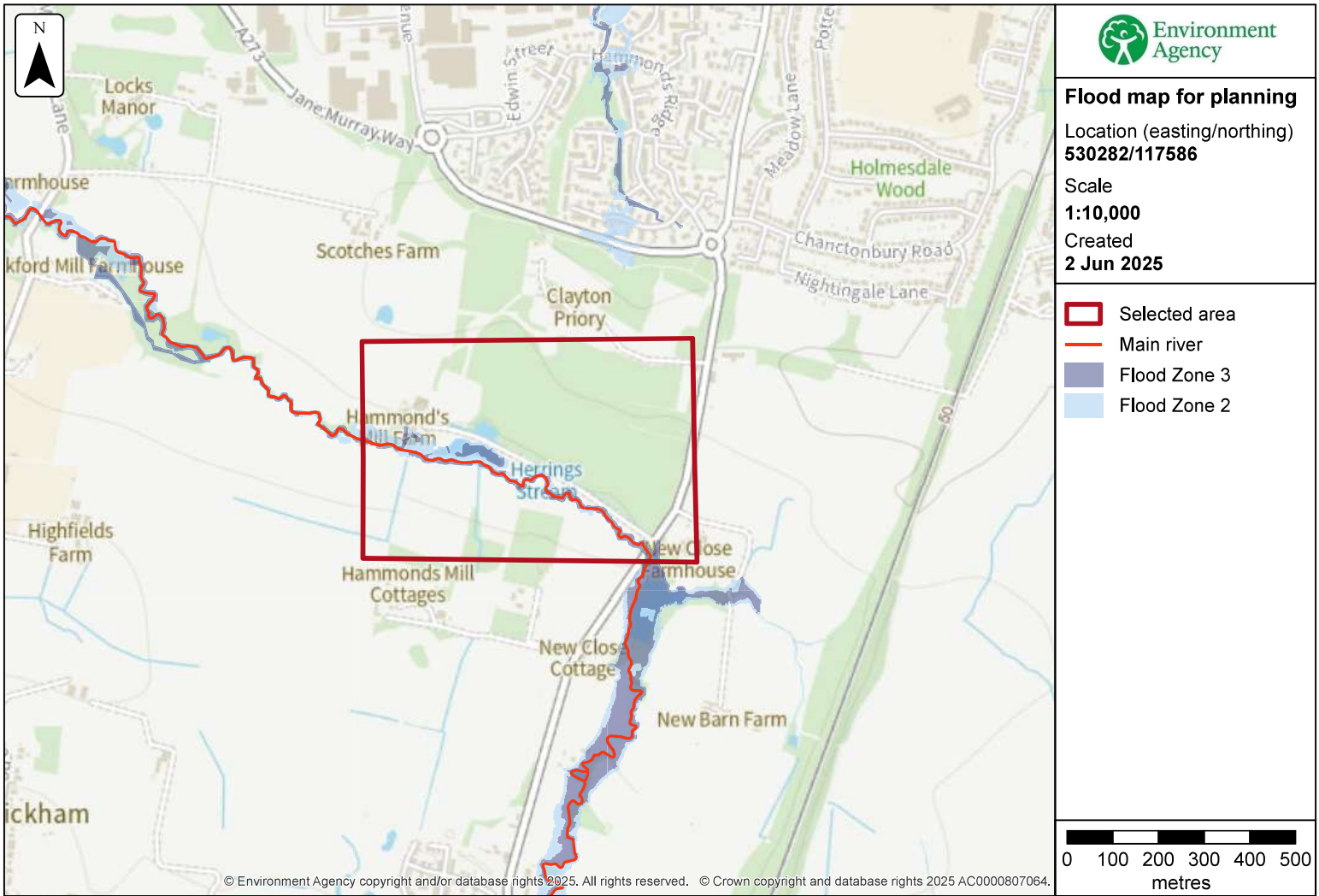
- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

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



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.

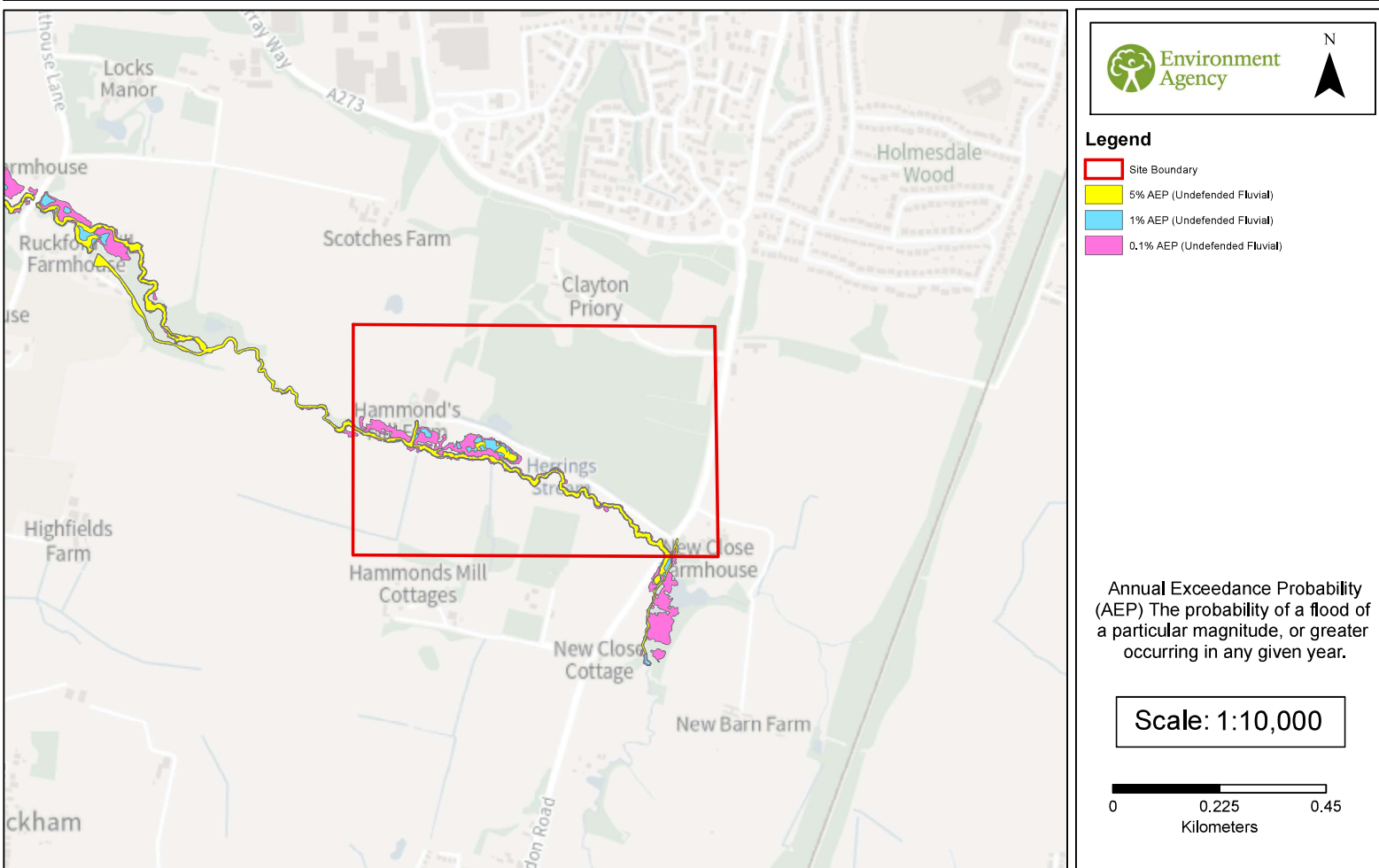
The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

Modelled scenarios

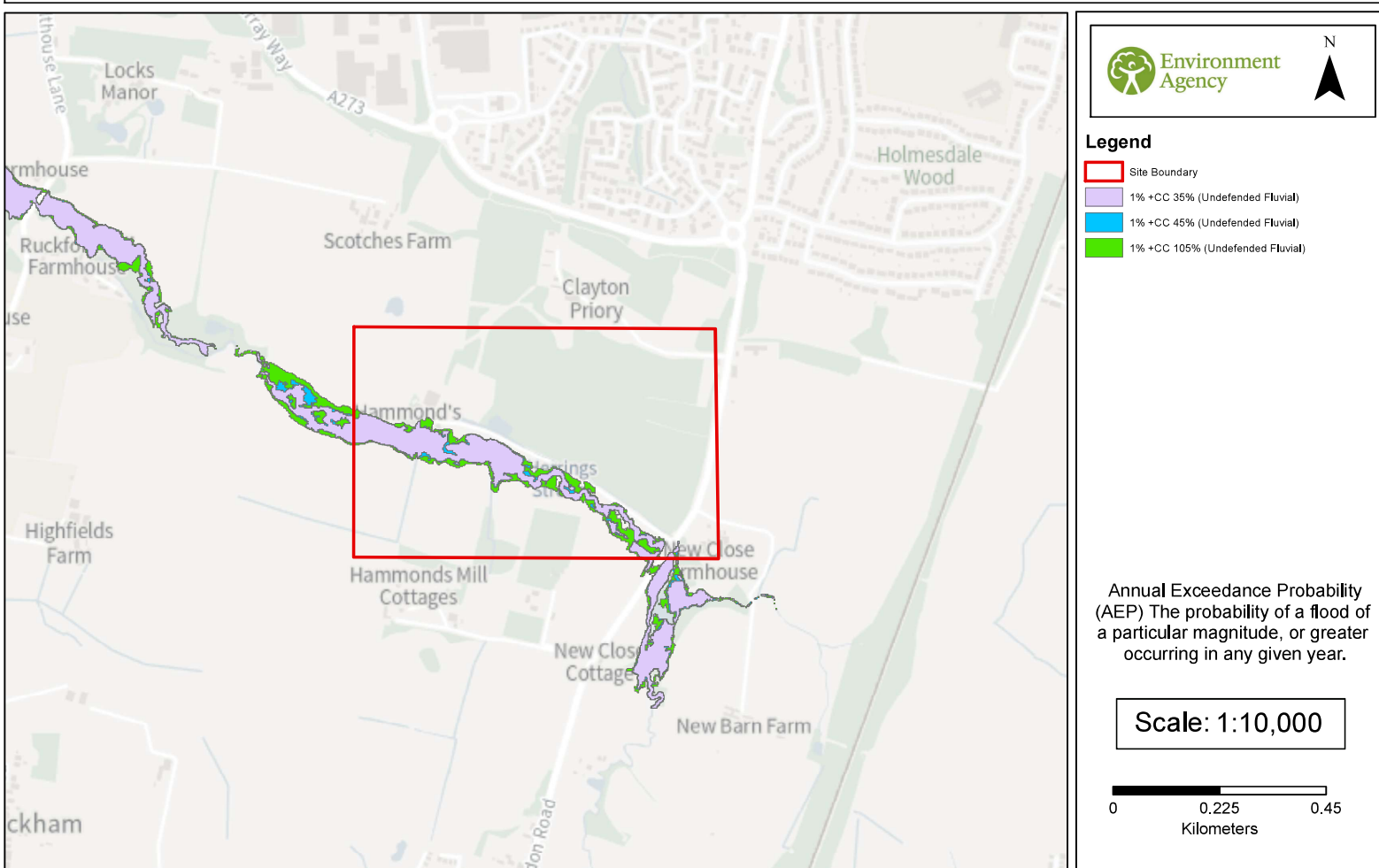
The following scenarios are included:

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

Modelled Flood Outlines (Undefended Fluvial). Centred on BN6 9NB. Created 17/06/2025.



Modelled Flood Outlines (Climate Change Undefended). Centred on BN6 9NB. Created 17/06/2025.



FRA Site Boundary and Node Points. Centred on BN6 9NB. Created 17/06/2025.

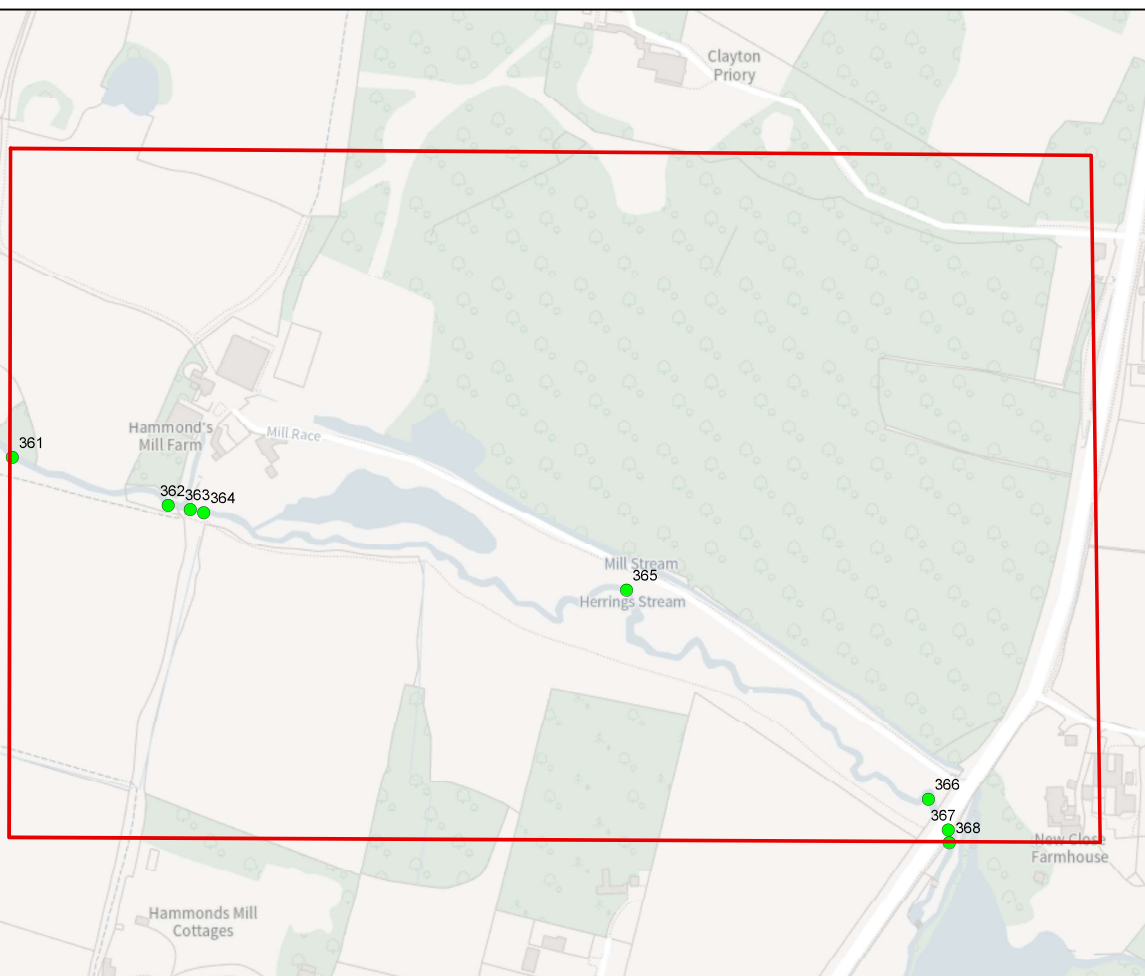
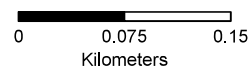


Legend

-  Site Boundary
-  Upper Adur Eastern Branch 2011

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

Scale: 1:3,778



Product 4 Flood Risk Data Requested by: David Hutchison

Site: 530280,117581

Table 1: Water Levels: Fluvial Undefended

Node Ref	NGR		Modelled Flood Levels in Metres AOD					
			Undefended Annual Exceedance Probability					
	Eastings	Northings	5%	1%	1% +CC (35%)	1% +CC (45%)	1% +CC (105%)	0.1%
361	529885	117624	25.83	26.10	26.32	26.32	26.47	26.32
362	529991	117590	26.18	26.40	26.55	26.58	26.74	26.60
363	530006	117585	26.30	26.50	26.63	26.67	26.86	26.72
364	530016	117585	26.29	26.48	26.65	26.69	26.89	26.70
365	530315	117529	27.48	27.67	27.86	27.91	28.13	27.92
366	530532	117380	28.82	29.01	29.20	29.23	29.39	29.24
367	530543	117360	28.99	29.49	-	-	-	29.88
368	530543	117352	29.02	29.53	29.75	29.80	29.98	29.96

Table 5: Water Depths: Fluvial Undefended

Node Ref	NGR		Modelled Flood Levels in Metres AOD					
			Undefended Annual Exceedance Probability					
	Eastings	Northings	5%	1%	1% +CC (35%)	1% +CC (45%)	1% +CC (105%)	0.1%
361	529885	117624	-	-	1.58	1.58	1.73	-
362	529991	117590	-	-	1.30	1.33	1.49	-
363	530006	117585	-	-	0.41	0.45	0.63	-
364	530016	117585	-	-	1.40	1.44	1.65	-
365	530315	117529	-	-	1.40	1.45	1.67	-
366	530532	117380	-	-	0.53	0.56	0.72	-
367	530543	117360	-	-	-	-	-	-
368	530543	117352	-	-	1.28	1.33	1.51	-

All levels taken from: Upper Adur (Eastern Branch) Update 2011 and Adur Climate Change Runs 2016

Produced on: 18/06/2025

*** Climate Change allowances for this model only show the superseded 20% increase in flows. The current allowances should be checked here:**

<https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>.

**** The flood risk data provided is based on existing EA hydraulic models for existing 0.5% annual probability events with an allowance for climate change. Please note the climate change allowances provided are not up to date. These were updated on 17 December 2019.**

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 ssdenquiries@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