

Flood Risk Assessment

Replacement outbuilding

at Secundus Wargrave Road Remenham Berkshire RG9 3JD

Site location

OS grid ref: 477170E, 181950N approx. 31.30m AOD

Flood Risk - Sources

Principle cause by River (fluvial) flooding for others refer Appendices

Flood zone

The site is located within Flood Zone 3 (as designated by WBC Strategic Flood Risk Assessment)

Type of development

Minor development:-

Replacement of an existing outbuilding

Minor development means:

minor non-residential extensions (industrial/commercial/leisure etc): extensions with a floor-space not in excess of 250 square metres.

alterations: development that does not increase the size of buildings, e.g. alterations to external appearance.

householder development: for example, sheds, garages, games rooms etc. within the curtilage of the existing dwelling, in addition to physical extensions to the existing dwelling itself. This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling (e.g. subdivision of houses into flats) or any other development

(Guide to Flood risk & Coastal change para. 051 ref. ID 7-051-20220825)

There will be no increase in the current number of occupants.

Is the replacement outbuilding likely to raise flood risk issues?

Minor developments are unlikely to raise significant flood risk issues unless:

- they would have an adverse effect on a watercourse, floodplain or its flood defences;
- they would impede access to flood defence and management facilities; or
- where the cumulative impact of such developments would have a significant effect on local flood storage capacity or flood flows.

Even minor developments can affect flood risk within or beyond the property, particularly in areas susceptible to flooding. Applications for minor development involving extensions or additions should still meet the requirements to provide a site-specific flood risk assessment (as per footnote 55 of the National Planning Policy Framework). A pragmatic approach should be taken to the scope and level of detail of the assessment – a shorter,

simpler assessment is likely to be sufficient in most such cases. As a minimum, the assessment needs to show that the development will be safe for its users for the intended lifetime of the development, without increasing flood risk elsewhere, and be sufficiently flood resistant and resilient to the level and nature of the flood risk.

(Guide to Flood risk & Coastal change para: 051 Ref ID: 7-051-20220825)

Flood Risk Vulnerability Classification (Table 2)

(Para 05 Technical Guidance to NPPF)

This classification comprises:- Essential infrastructure; Highly vulnerable; More vulnerable; Less vulnerable & Water Compatible.

Dwellings are included under 'More vulnerable'.

The proposed development as 'Minor development' is not included in any class.

Flood risk vulnerability and flood zone 'compatibility' (Table 3)

(Para. 05 Technical Guidance to NPPF)

The table does not include 'Minor development'

Sequential Test

Given the above a Sequential Test is not required

Exception Test

Given the above an Exception Test is not required

Assessment of flood risk

1. There is a flood risk as defined by Environmental Agency data. Refer to 'Product 4' data as appended
2. Duration and extent of flooding is contained in Environmental Agency data (Product 4)
3. Stages of any flooding of site relate to land levels. refer to levels on relevant drawings as submitted as part of the planning application.

Resilience measures to flooding

1. Flooding of the outbuilding floor based on a 'normal' river level of 30.79m will occur if the river level rises to above the FFL 32.37m approx. (original FFL 32.05)
2. The replacement outbuilding will not impinge on current flood management to any extent beyond the original structure.
3. Given that there is no significant increase in foot-print there is no loss of land capable of absorbing flood waters.
4. Pedestrian access to the outbuilding during any flooding (to height 32.35 AOD) is not required, (unless in extreme emergency)

No increase in risk from flooding

1. The extent of replacement outbuilding does not increase risk due to its small size.
2. The extent of development does not increase risk due to actions of mitigation and via these actions of re-development reduce risk below currently existing

Flood plan

1. Access & egress
To A321 Wargrave Road via level walkway
Boat from river
2. Refuge provision
Not required
3. Emergency services
From A321 road (if not flooded)
From river
From air (helicopter)
4. Flood warnings
Received via electronic media
Received via EA officers e.g. lock keeper at Marsh Lock

Appendices

Product 4 (2024)

Planning and Regulatory Framework

Flood Risk Sources and Assessment

Product 4 (Detailed Flood Risk) for Wargrave Road, Wokingham, Berkshire, RG9 3JD

Our Ref: THM359322

Product 4 is designed for developers where Flood Risk Standing Advice FRA (Flood Risk Assessment) Guidance Note 3 Applies. This is:

- i) "all applications in Flood Zone 3, other than non-domestic extensions less than 250 sq metres; and all domestic extensions", and
- ii) "all applications with a site area greater than 1 ha" in Flood Zone 2.

Product 4 includes the following information:

Ordnance Survey 1:25k colour raster base mapping;
Flood Zone 2 and Flood Zone 3;
Relevant model node locations and unique identifiers (for cross referencing to the water levels, depths and flows table);
Model extents showing *defended* scenarios;
FRA site boundary (where a suitable GIS layer is supplied);
Flood defence locations (where available/relevant) and unique identifiers; (supplied separately)
Flood Map flood storage areas (where available/relevant);
Historic flood events outlines (where available/relevant, not the Historic Flood Map) and unique identifiers;

Statutory (Sealed) Main River (where available within map extents);

A table showing:

- i) Model node X/Y coordinate locations, unique identifiers, and levels and flows for *defended* scenarios.
- ii) Flood defence locations unique identifiers and attributes; (supplied separately)
- iii) Historic flood events outlines unique identifiers and attributes; and
- iv) Local flood history data (where available/relevant).

Please note:

If you will be carrying out computer modelling as part of your Flood Risk Assessment, please request our guidance which sets out the requirements and best practice for computer river modelling.

This information is based on that currently 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. 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.

This letter is not a Flood Risk Assessment. The information supplied can be used to form part of your Flood Risk Assessment. Further advice and guidance regarding Flood Risk Assessments can be found on our website at:

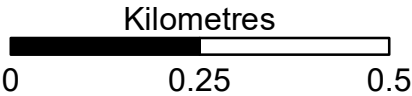
<https://www.gov.uk/guidance/flood-risk-assessment-local-planning-authorities>

If you would like advice from us regarding your development proposals you can complete our pre application enquiry form which can be found at:

<https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion>

Flood map for planning centred on Wargrave Road, Wokingham, RG9 3JD

Created on 28/05/2024 REF:THM359322



Legend

- Statutory Main Rivers
- Site location
- Flood Map - Flood defences
- Flood Map - Flood Storage Areas
- Flooding from rivers or sea (FZ3)
- Extent of extreme flood (FZ2)

Flooding from rivers or sea without defences (Flood Zone 3) shows the area that could be affected by flooding:

- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

The Extent of an extreme flood (Flood Zone 2) shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.

Defence information

Defence Location: No defences on Main River

Description: This location is not currently protected by any formal defences and we do not currently have any flood alleviation works planned for the area. However we continue to maintain certain watercourses and the schedule of these can be found on our internet pages.

Model information

THM359322

Model: **Thames (Sonning to Hurley) 2019**

Description: The information provided is taken from the Thames Mapledurham to Hurley Modelling Study – Final Report, undertaken by JBA in March 2019. The study was carried out using 1D-2D modelling software (Flood Modeller Pro-TUFLOW). Prior to May 2022, this model was known as Thames (Mapledurham to Hurley) 2019 - in May 2022 this model was re-named to Thames (Sonning to Hurley) to replicate the shortened extent of this modelling due to the model being partially superseded by a new model upstream. If you require modelled data upstream of Sonning, please use the Thames (Pangbourne to Sonning) 2019 model.

Model design runs:

1 in 2 / 50% AEP; 1 in 5 / 20% AEP; 1 in 10 / 10% AEP; 1 in 20 / 5% AEP; 1 in 30 / 3.3% AEP; 1 in 50 / 2% AEP; 1 in 75 / 1.33% AEP; 1 in 100 / 1% AEP; 1 in 100+25% / 1% AEP with 25% climate change; 1 in 100+35% / 1% AEP with 35% climate change; 1 in 100+70% / 1% AEP with 70% climate change; 1 in 200 / 0.5% AEP; 1 in 200 / 0.5% AEP; 1 in 200+25% / 0.5% AEP with 25% climate change; 1 in 200+35% / 0.5% AEP with 35% climate change; and 1 in 1000 / 0.1% AEP.

Mapped outputs:

1 in 2 / 50% AEP; 1 in 5 / 20% AEP; 1 in 10 / 10% AEP; 1 in 20 / 5% AEP; 1 in 30 / 3.3% AEP; 1 in 50 / 2% AEP; 1 in 75 / 1.33% AEP; 1 in 100 / 1% AEP; 1 in 100+25% / 1% AEP with 25% climate change; 1 in 100+35% / 1% AEP with 35% climate change; 1 in 100+70% / 1% AEP with 70% climate change; 1 in 200 / 0.5% AEP; 1 in 200 / 0.5% AEP; 1 in 200+25% / 0.5% AEP with 25% climate change; 1 in 200+35% / 0.5% AEP with 35% climate change; and 1 in 1000 / 0.1% AEP.

Modelled in-channel flood flows and levels

THM359322

The modelled flood levels and flows for the closest most appropriate model node points for your site that are within the river channel are provided below:

Node label	Model	Easting	Northing	Flood Levels (mAOD)							
				20% AEP	5% AEP	3.3% AEP	1% AEP	1% AEP (+25% increase in flows)	1% AEP (+35% increase in flows)	1% AEP (+70% increase in flows)	0.1% AEP
061_00_2019_32.098	Thames (Sonning to Hurley) 2019	476968	182036	32.12	32.48	32.62	32.95	33.38	33.51	34.04	33.64
061_00_2019_32.101	Thames (Sonning to Hurley) 2019	477107	181941	32.15	32.51	32.66	32.99	33.42	33.58	34.10	33.70
061_00_2019_32.103	Thames (Sonning to Hurley) 2019	477204	181862	32.19	32.57	32.71	33.05	33.48	33.64	34.15	33.76
061_00_2019_33b.001A	Thames (Sonning to Hurley) 2019	477329	181815	32.78	33.09	33.19	33.46	33.79	33.84	33.84	33.84
061_00_2019_32.202E	Thames (Sonning to Hurley) 2019	477269	181738	32.23	32.61	32.75	33.09	33.52	33.64	34.13	33.76
061_00_2019_2	Thames (Sonning to Hurley) 2019	477372	181656	32.77	33.10	33.20	33.47	33.79	33.84	33.84	33.84
061_00_2019_9	Thames (Sonning to Hurley) 2019	477480	181546	32.92	33.23	33.32	33.58	33.94	34.20	34.93	34.38

Node label	Model	Easting	Northing	Flood Flows (m3/s)							
				20% AEP	5% AEP	3.3% AEP	1% AEP	1% AEP (+25% increase in flows)	1% AEP (+35% increase in flows)	1% AEP (+70% increase in flows)	0.1% AEP
061_00_2019_32.098	Thames (Sonning to Hurley) 2019	476968	182036	266.54	330.75	345.21	395.01	444.81	452.41	452.64	452.59
061_00_2019_32.101	Thames (Sonning to Hurley) 2019	477107	181941	256.04	304.38	314.24	348.18	376.57	379.58	389.35	379.73
061_00_2019_32.103	Thames (Sonning to Hurley) 2019	477204	181862	244.79	279.20	285.88	314.00	324.23	324.47	351.40	324.45
061_00_2019_33b.001A	Thames (Sonning to Hurley) 2019	477329	181815	8.81	8.84	8.88	9.14	10.28	10.31	10.32	10.31
061_00_2019_32.202E	Thames (Sonning to Hurley) 2019	477269	181738	15.92	25.75	29.12	40.89	59.10	295.72	329.11	303.34
061_00_2019_2	Thames (Sonning to Hurley) 2019	477372	181656	244.70	264.81	267.12	290.03	346.23	1059.63	1307.05	1122.77
061_00_2019_9	Thames (Sonning to Hurley) 2019	477480	181546	245.48	286.61	299.51	343.00	383.41	724.08	728.57	728.46

Note:

Due to changes in guidance on the allowances for climate change, the percentage increase in river flows above should no longer to be used for development design purposes. The data included in this Product can be used for interpolation of levels as part of an intermediate level assessment.

For further advice on the new allowances please visit

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

Modelled floodplain flood levels

The modelled flood levels for the closest most appropriate model grid cells for your site are provided below:

2D grid cell reference	Model	Easting	Northing	flood levels (mAOD)							
				20% AEP	5% AEP	3.3 AEP	1% AEP	1% AEP (+25% increase in flows)	1% AEP (+35% increase in flows)	1% AEP (+70% increase in flows)	0.1% AEP
Flood Point 1	Thames (Sonning to Hurley) 2019	477102	182033	31.99	32.51	32.65	32.98	33.41	33.56	34.08	33.68
Flood Point 2	Thames (Sonning to Hurley) 2019	477136	181980	32.15	32.52	32.66	32.99	33.42	33.58	34.10	33.70
Flood Point 3	Thames (Sonning to Hurley) 2019	477205	181951	32.18	32.56	32.67	33.02	33.45	33.61	34.12	33.73

This flood model has represented the floodplain as a grid.
The flood water levels have been calculated for each grid cell.

Note:

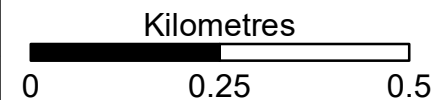
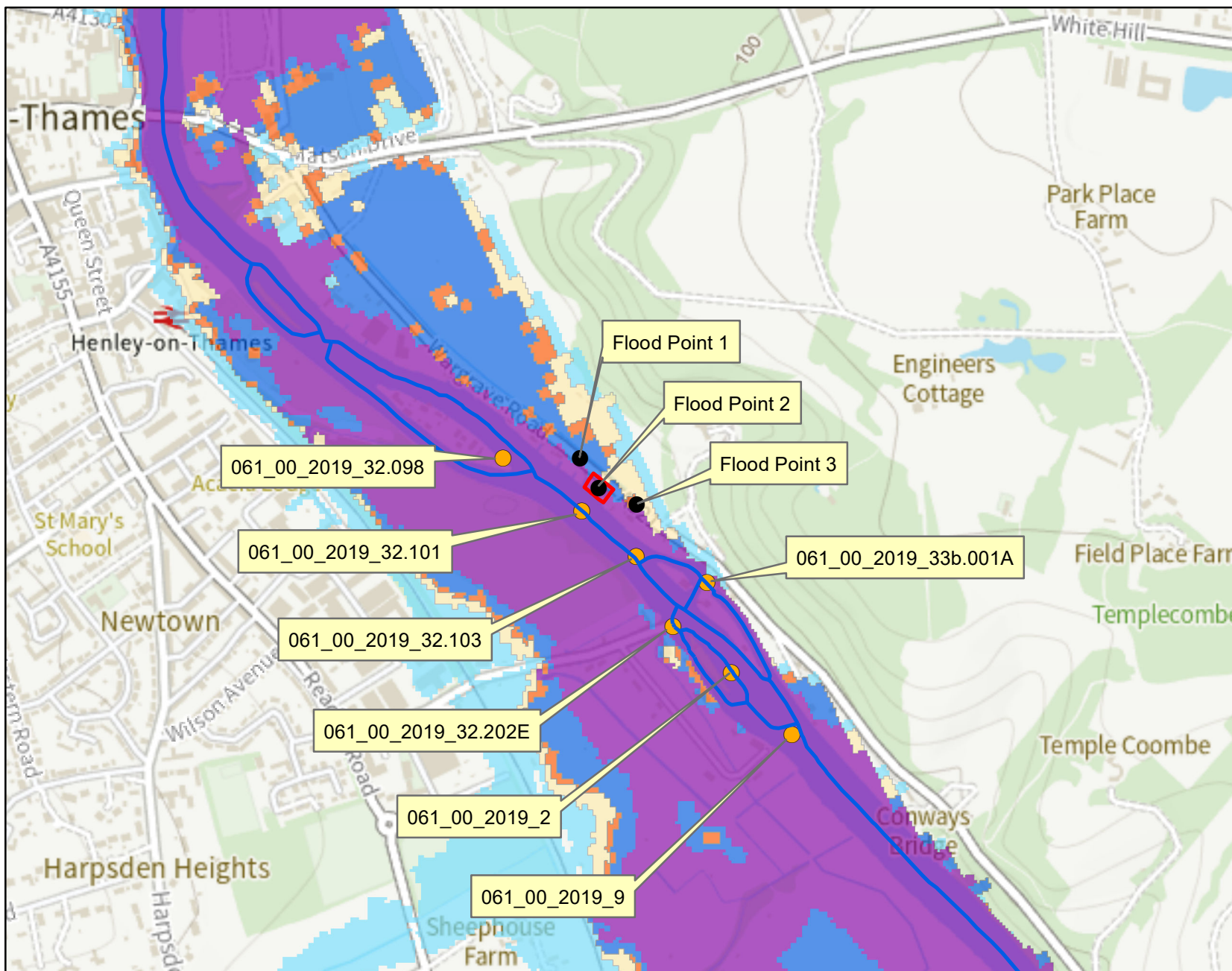
Due to changes in guidance on the allowances for climate change, the percentage increase in river flows above should no longer be used for development design purposes. The data included in this Product can be used for interpolation of levels as part of an intermediate level assessment.

For further advice on the new allowances please visit

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

Detailed FRA map centred on Wargrave Road, Wokingham, RG9 3JD

Created on 28/05/2024 REF:THM359322



Legend

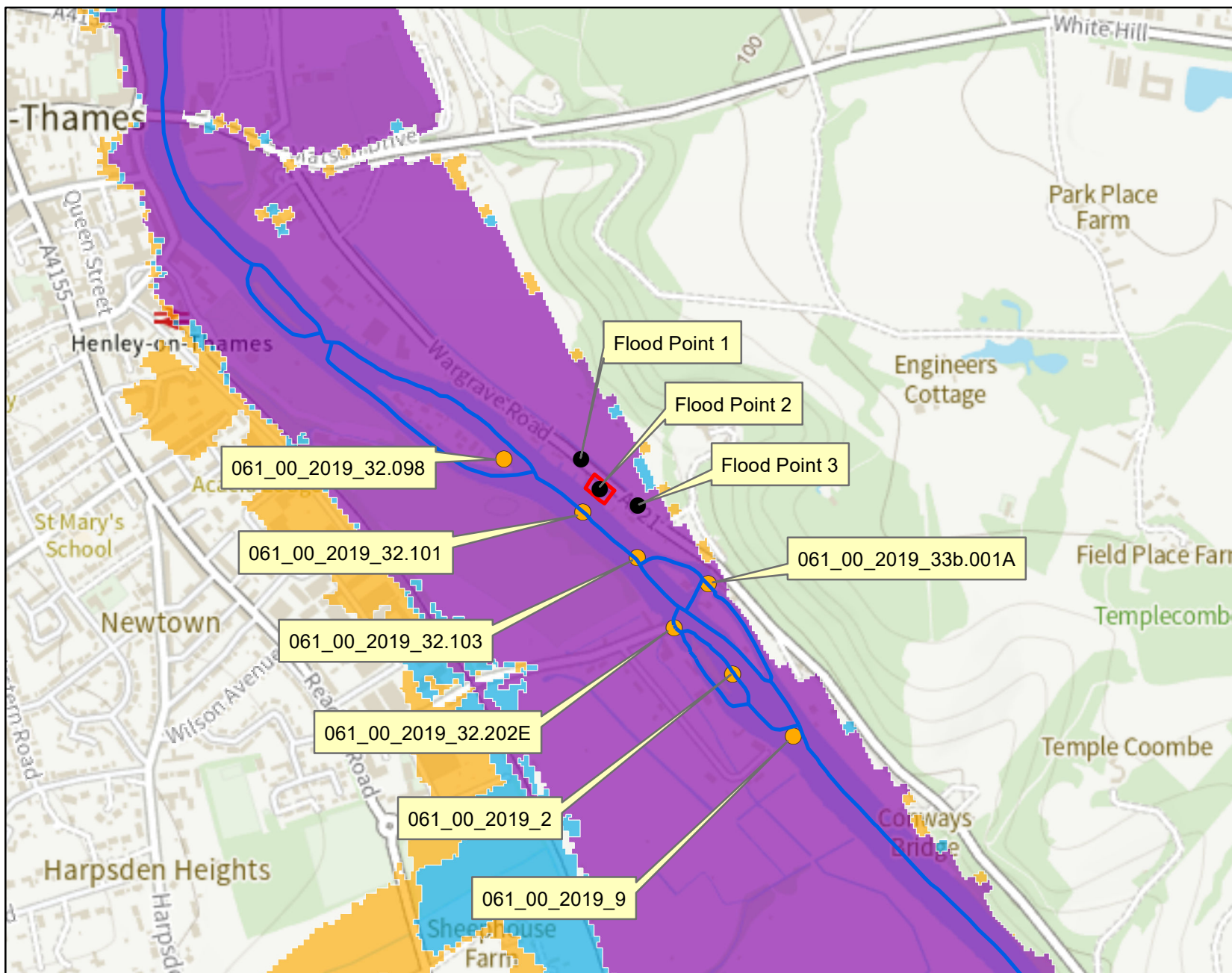
- Statutory Main Rivers
- Site location
- Model nodes
- 20% AEP Flood Outline
- 5% AEP Flood Outline
- 3.3% AEP Flood Outline
- 1% AEP Flood Outline
- 0.1% AEP Flood Outline

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

Where available climate change extents have been calculated with an additional flow added to an AEP event. An example of how this is written is 1%+20% AEP.

Detailed FRA map 2 centred on Wargrave Road, Wokingham, RG9 3JD

Created on 28/05/2024 REF:THM359322



Legend

- Statutory Main Rivers
- Site location
- Model nodes
- 1%+25% CC AEP Flood Outline
- 1%+35% CC AEP Flood Outline
- 1%+70% CC AEP Flood Outline

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

Where available climate change extents have been calculated with an additional flow added to an AEP event. An example of how this is written is 1%+20% AEP.

Historic flood data

THM359322

Our records show that the area of your site has been affected by flooding.
Information on the floods that have affected your site is provided in the table below:

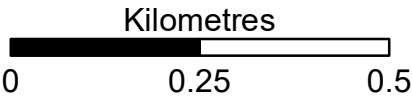
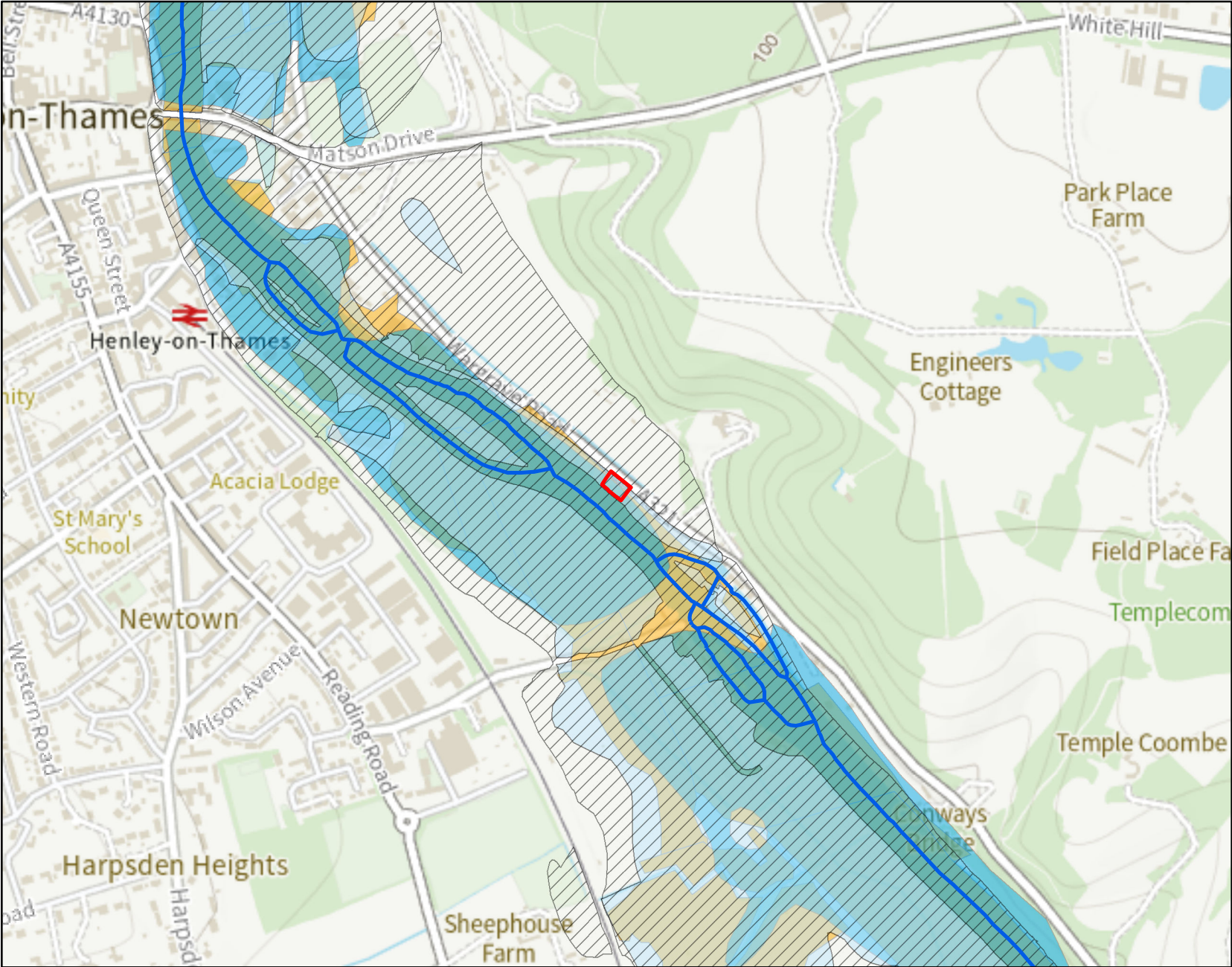
Flood Event Code	Flood Event Name	Start Date	End Date	Source of Flooding	Cause of Flooding
EA0619470300119	06MarchSpring1947	01/01/1947	12/12/1947	main river	channel capacity exceeded (no raised defences)
EA0619741100520	06NovemberAutumn1974	01/01/1974	12/12/1974	main river	channel capacity exceeded (no raised defences)
EA0619900200239	06FebruaryWinter1990	01/01/1990	12/12/1990	main river	channel capacity exceeded (no raised defences)
EA0620001200528	06DecemberWinter2000	01/01/2000	12/12/2000	main river	channel capacity exceeded (no raised defences)
EA0620030101899	06JanuaryNewYear2003	23/12/2002	12/01/2003	main river	channel capacity exceeded (no raised defences)
ea061231490	Shiplake CP Fluvial Wate	19/07/2007	29/07/2007	main river	channel capacity exceeded (no raised defences)
ea061000004	Henley Fluvial	09/02/2009	20/02/2009	main river	channel capacity exceeded (no raised defences)
EA0120144097369	Winter 2013/2014	23/11/2013	28/02/2014	main river	channel capacity exceeded (no raised defences)

Please note the Environment Agency maps flooding to land not individual properties. Floodplain extents are an indication of the geographical extent of a historic flood. They do not provide information regarding levels of individual properties, nor do they imply that a property has flooded internally.

Start and End Dates shown above may represent a wider range where the exact dates are not available.

Historic flood map 1 centred on Wargrave Road, Wokingham, RG9 3JD

Created on 28/05/2024 REF:THM359322



Legend

- Statutory Main Rivers
- Site location
- year**
- 1947
- 1974
- 1990
- 2000

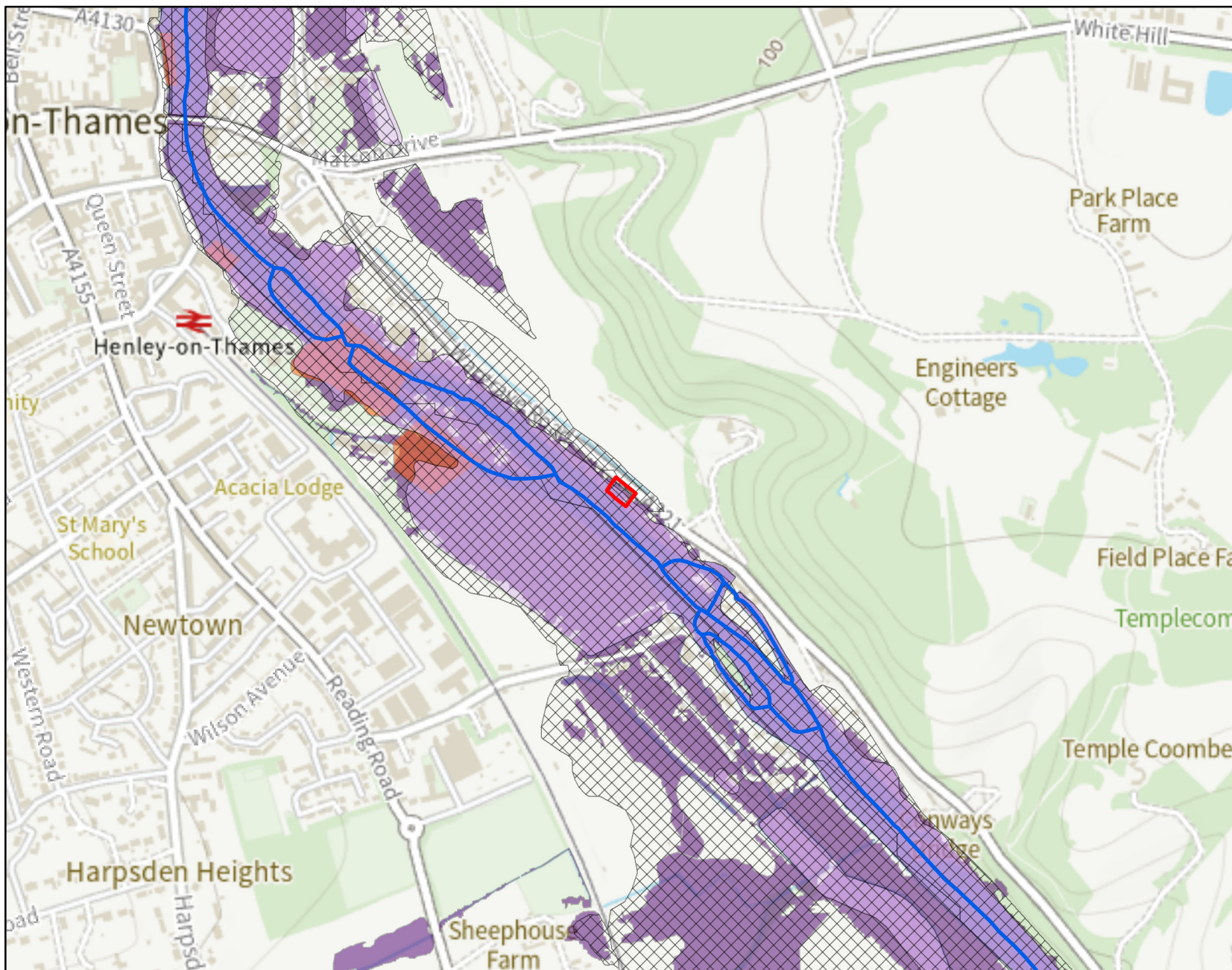
Flooding from rivers or sea without defences (Flood Zone 3) shows the area that could be affected by flooding:

- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

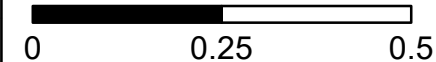
The Extent of an extreme flood (Flood Zone 2) shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.

Historic flood map 2 centred on Wargrave Road, Wokingham, RG9 3JD

Created on 28/05/2024 REF:THM359322



Kilometres



Legend

— Statutory Main Rivers

□ Site location

year

2002 / 2003

2007

2009

2014

Flooding from rivers or sea without defences (Flood Zone 3) shows the area that could be affected by flooding:

- from the sea with a 1 in 200 or greater chance of happening each year
- or from a river with a 1 in 100 or greater chance of happening each year.

The Extent of an extreme flood (Flood Zone 2) shows the extent of an extreme flood from rivers or the sea with up to a 1 in 1000 chance of occurring each year.

Hazard Mapping

Hazard Mapping methodology:

To calculate flood hazard with the debris factor we have used the supplementary note to Flood Risk to People Methodology (see below).

The following calculation is used:

$$HR = d \times (v+0.5) + DF$$

Where HR = flood hazard rating

d = depth of flooding (m)

v = velocity of floodwaters (m/sec)

DF = debris factor calculated (0, 0.5, 1 depending on probability that debris will lead to a hazard)

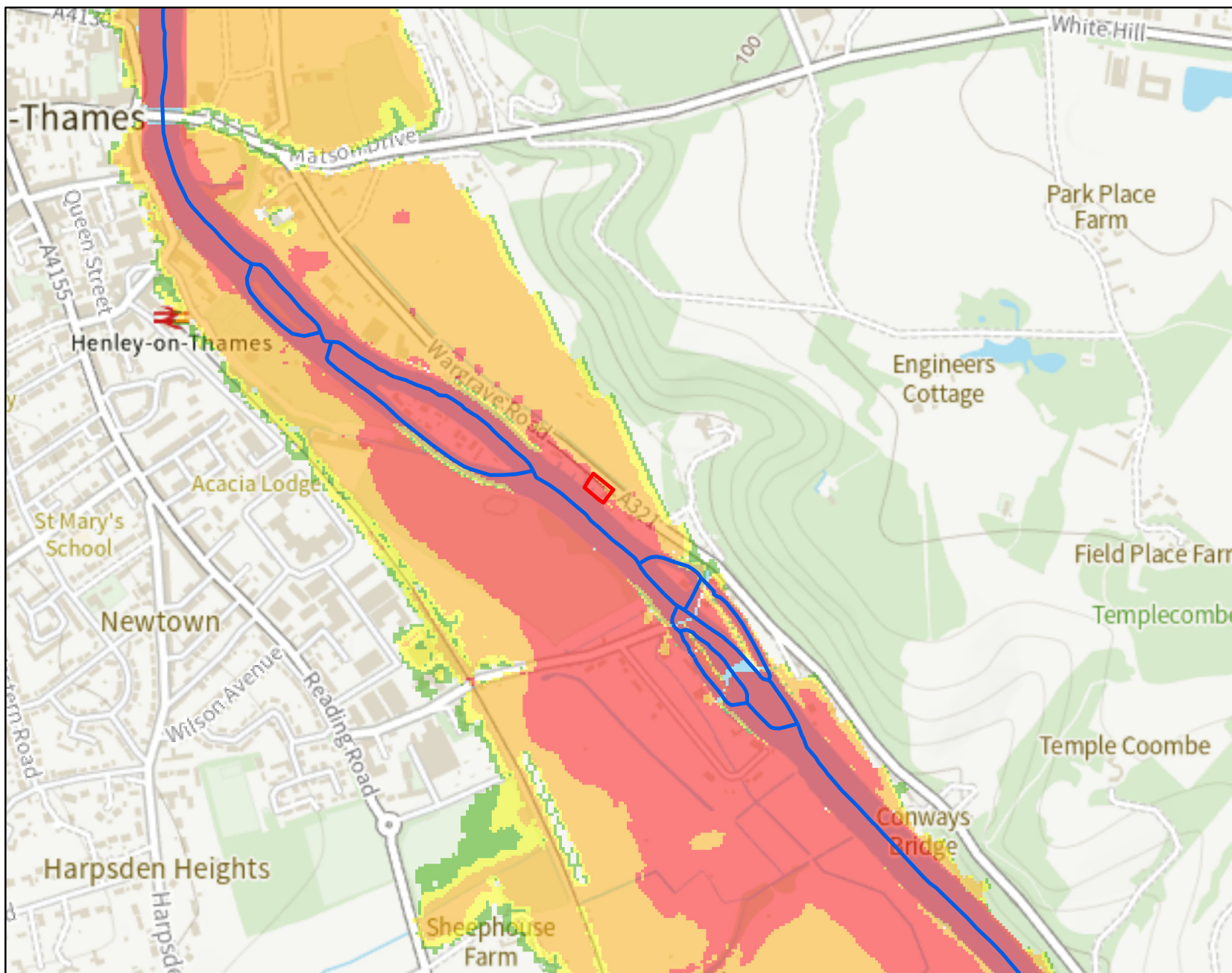
The resultant hazard rating is then classified according to:

Flood Hazard	Colour	Hazard to People Classification
Less than 0.75	Green	Very low hazard - Caution
0.75 to 1.25	Yellow	Danger for some - includes children, the elderly and the infirm
1.25 to 2.0	Orange	Danger for most - includes the general public
More than 2.0	Red	Danger for all - includes the emergency services

REF: HR Wallingford and Environment Agency (May 2008) Supplementary note of flood hazard ratings and thresholds for development planning and control purpose – Clarification of the Table 113.1 of FD2320/TR2 and Figure 3.2 of FD2321/TR1

Hazard map (1%+35% climate change scenario) centred on Wargrave Road, Wokingham, RG9 3JD

Created on 28/05/2024 REF:THM359322



Legend

- Statutory Main Rivers
- Site location
- Low hazard
- Hazard to some
- Hazard for most
- Hazard to all

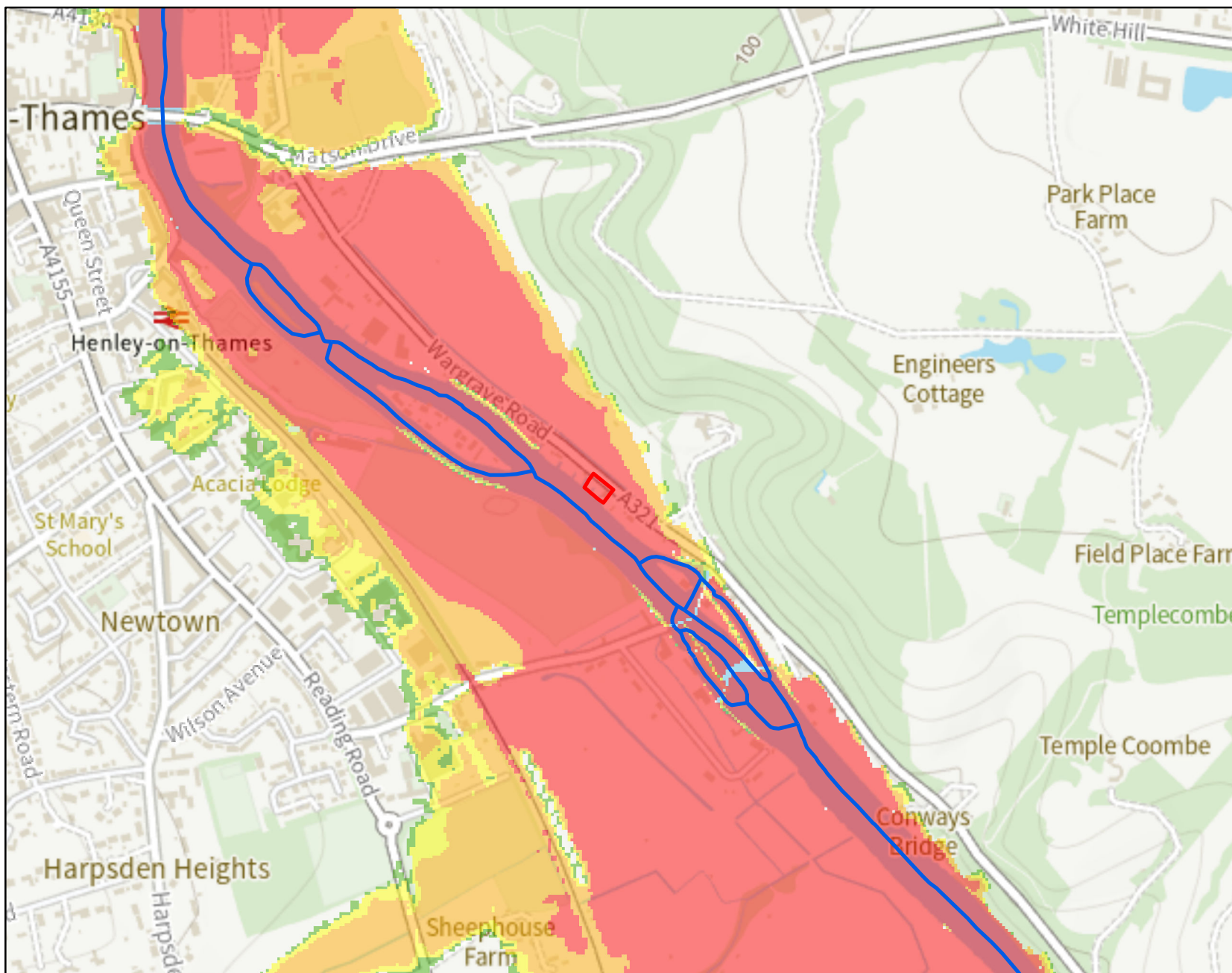
For hazard and debris factor we used HR Wallingford and Environment Agency (May 2008) supplementary note on flood hazard ratings and thresholds for development planning and control purpose. The following calculation is used:

$$HR = d \times (v + 0.5) + DF$$

HR = flood hazard rating
 d = depth of flooding (m)
 v = velocity of floodwaters (m/sec)
 DF = debris factor calculated (0, 0.5, 1 depending on probability that debris will lead to a hazard)

Hazard map (1%+70% climate change scenario) centred on Wargrave Road, Wokingham, RG9 3JD

Created on 28/05/2024 REF:THM359322



Legend

- Statutory Main Rivers
- Site location
- Low hazard
- Hazard to some
- Hazard to most
- Hazard to all

For hazard and debris factor we used HR Wallingford and Environment Agency (May 2008) supplementary note on flood hazard ratings and thresholds for development planning and control purpose. The following calculation is used:

$$HR = d \times (v + 0.5) + DF$$

HR = flood hazard rating
d = depth of flooding (m)
v = velocity of floodwaters (m/sec)
DF = debris factor calculated (0, 0.5, 1 depending on probability that debris will lead to a hazard)

Planning Policy and Regulatory Framework

1 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF, 2023) sets out the Government's planning policies for England. Chapter 14 of the NPPF addresses meeting the challenge of climate change, flooding, and coastal change. Paragraph 159 states that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk. Where development is necessary, it should be made safe without increasing flood risk elsewhere.

The NPPF requires local planning authorities and applicants to apply the Sequential Test and, if necessary, the Exception Test when considering development proposals in flood risk areas. Local planning authorities must also ensure that their Strategic Flood Risk Assessments (SFRAs) inform their Local Plans.

2 Planning Practice Guidance (PPG) – Flood Risk and Coastal Change

The PPG on Flood Risk and Coastal Change provides detailed guidance on how to apply the NPPF flood risk policies. It sets out the Flood Risk Vulnerability Classification for different land uses, the Flood Risk Vulnerability and Flood Zone Compatibility Matrix, and guidance on the Sequential and Exception Tests.

Under the PPG Flood Risk Vulnerability Classification, the proposed standalone ancillary residential workspace is considered 'More Vulnerable'. The compatibility matrix confirms that 'More Vulnerable' development is not appropriate in Flood Zone 3b but may be acceptable in Flood Zone 3a only if the Exception Test is passed.

3 Sequential and Exception Tests

Sequential Test: The Sequential Test requires that, before allowing development in areas at risk of flooding, the LPA should demonstrate that there are no reasonably available sites in areas with a lower risk of flooding. Given that this is a small ancillary structure ancillary to an existing residential use on the same curtilage, and the development need is site-specific, there are no reasonably available lower-risk alternative sites that would meet the functional requirements of the proposal.

Exception Test: Where the Sequential Test cannot exclude a site from a higher flood zone, the Exception Test must be passed. The Exception Test has two parts:

- Part 1: The development must provide wider sustainability benefits to the community that outweigh flood risk.
- Part 2: The development must be safe for its lifetime, taking account of the vulnerability of its users, without increasing flood risk elsewhere, and where possible reducing flood risk overall.

This FRA demonstrates that both parts of the Exception Test are satisfied. The proposed study/work space supports sustainable living patterns by enabling remote working, reducing the need to travel, and making efficient use of previously developed land. The proposed raised floor level, flood resilience measures, and evacuation procedures demonstrate the development will be safe for its lifetime.

4 Local Planning Policy – Wokingham Borough Council

Wokingham Borough Council's Local Plan (2010-2036) and its accompanying Strategic Flood Risk Assessment (SFRA) set out the local approach to managing flood risk. Policy CP12 (Flooding) requires development proposals in Flood Zones 2 and 3 to be supported by a site-specific FRA that meets the requirements of the NPPF and Environment Agency guidance. The Thames Valley SFRA (Level 1 and Level 2) provides the local flood risk context, including indicative 1 in 100-year flood outlines incorporating climate change.

Flood Risk Sources and Assessment

1 Fluvial Flooding

The site falls within Environment Agency Flood Zone 3a, indicating a greater than 1% (1 in 100) annual probability of fluvial flooding. The primary source of fluvial flood risk to the site is from the River Thames and its tributary network, including the River Loddon, which drains the broader Wokingham area. The EA Flood Map for Planning confirms the extent of Flood Zones 2 and 3 affecting the site.

Climate change is expected to increase flood frequencies and magnitudes across the Thames Valley. The UK Climate Change Projections (UKCP18) indicate potential increases in peak river flows of up to 40% by the end of the century for the Thames catchment (Higher Central estimate, RCP8.5). This FRA therefore applies a 40% uplift to the 1 in 100-year flood event in line with current EA guidance for residential developments with a lifetime of 60-75 years.

2 Surface Water (Pluvial) Flooding

The site has been reviewed against the EA Risk of Flooding from Surface Water (RoFSW) mapping. The mapping indicates that the site has a low to medium risk of surface water flooding, with ponding areas potentially associated with localised low-lying areas within and adjacent to the site. The proposed development should not increase surface water runoff, and sustainable drainage measures are proposed as part of the development.

3 Groundwater Flooding

The British Geological Survey (BGS) data indicates that the site is underlain by alluvial deposits and river terrace gravels, which are characteristic of the Thames floodplain. These permeable substrates can be associated with elevated groundwater levels, particularly following prolonged periods of rainfall. The raised floor level of the proposed structure will provide protection against shallow groundwater emergence.

4 Sewer Flooding

Thames Water is the sewerage undertaker for the area. The Sewer Flooding Risk mapping does not indicate any known records of sewer flooding at or in the immediate vicinity of the site. The proposed development will not generate significant additional foul water flows and will connect to the existing sewer system in accordance with Thames Water's requirements.

5 Artificial Sources (Reservoir / Canal Flooding)

The site is located within the area potentially affected by reservoir flooding from a number of reservoirs in the Upper Thames catchment. The EA Flood Map for Reservoirs indicates that the site may be inundated in the highly unlikely event of a reservoir breach or dam failure. This is considered a residual risk and does not require specific mitigation measures beyond standard resilience and evacuation planning.