



## **Flood Risk Assessment**

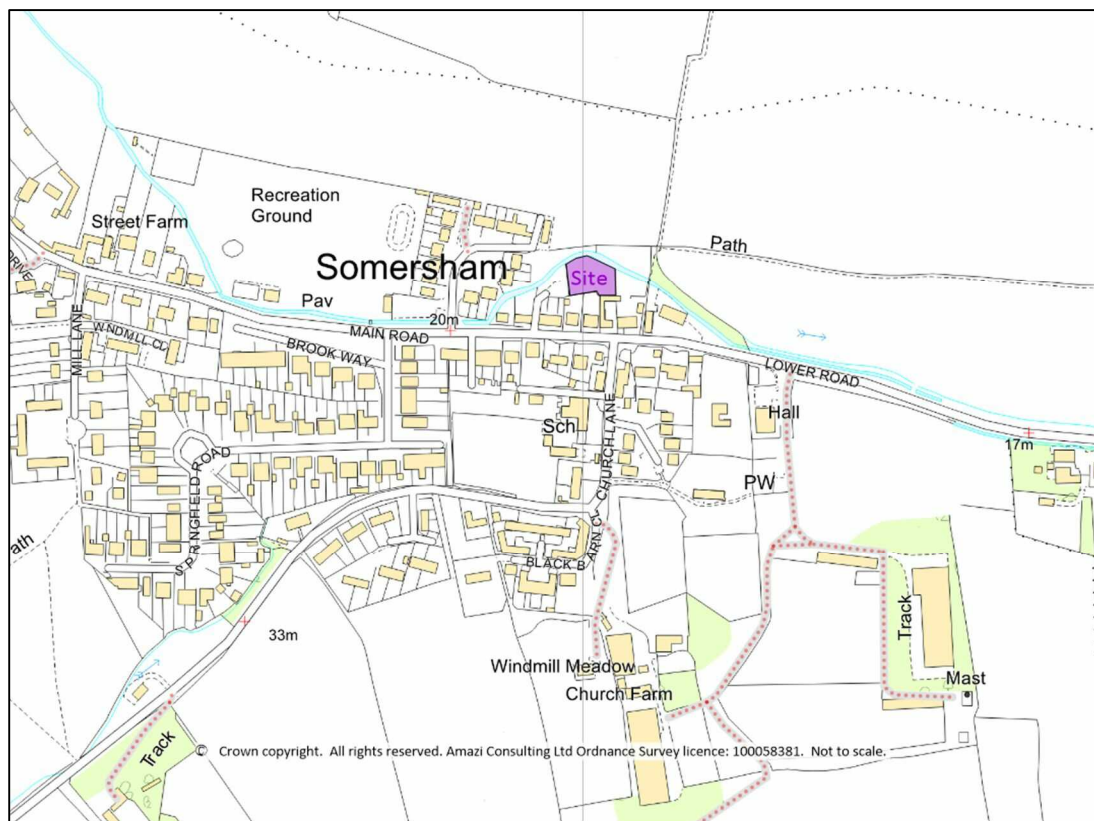
### **Proposed Dwelling**

#### **The Old Griffin, Lower Somersham, Suffolk**

- 1.1 Amazi Consulting Ltd has been instructed to prepare this Flood Risk Assessment (FRA) associated with the proposed dwelling at The Old Griffin, Somersham, Suffolk IP8 4PH.
- 1.2 This report has been prepared for the sole use of Mr Toby Simmons and focuses upon flood risks to the site to accompany the planning application. Its contents cannot be copied or relied upon by others except the planning and drainage authorities, without the written authority of Amazi Consulting Ltd.
- 1.3 This FRA focuses upon flood risks to the site. It has been prepared in accordance with National Planning Policy Framework (NPPF), July 2021, and its accompanying gov.uk Planning Practice Guidance (PPG): *Flood Risk and Coastal Change* (2022). It is expected that this report will be reviewed by the relevant authorities as part of the documentation submitted for full planning permission, and the reader will have some understanding of the technical issues relating to development and flood risk.
- 1.4 This report has been undertaken as a desk study and relies upon data produced by others. The flood data used is currently the best available for assessing flood risks at the site. This report does not attempt to comment upon insurance, or for flood events other than as stipulated by planning policy. There is always the risk, however small, that flooding could be different to that assessed.

## 2 The site

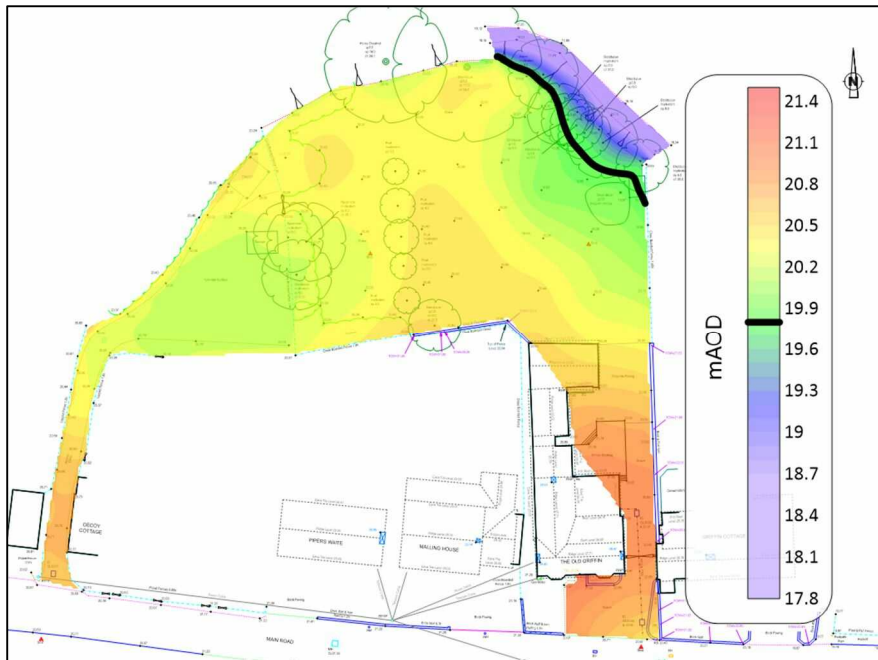
- 2.1 The site comprises the garden of the existing property 'The Old Griffin' is centred at approximate Ordnance Survey (OS) national grid reference 609010 mE, 248630 mN, as shown on Figure 2.1.



**Figure 2.1 - Site Location**

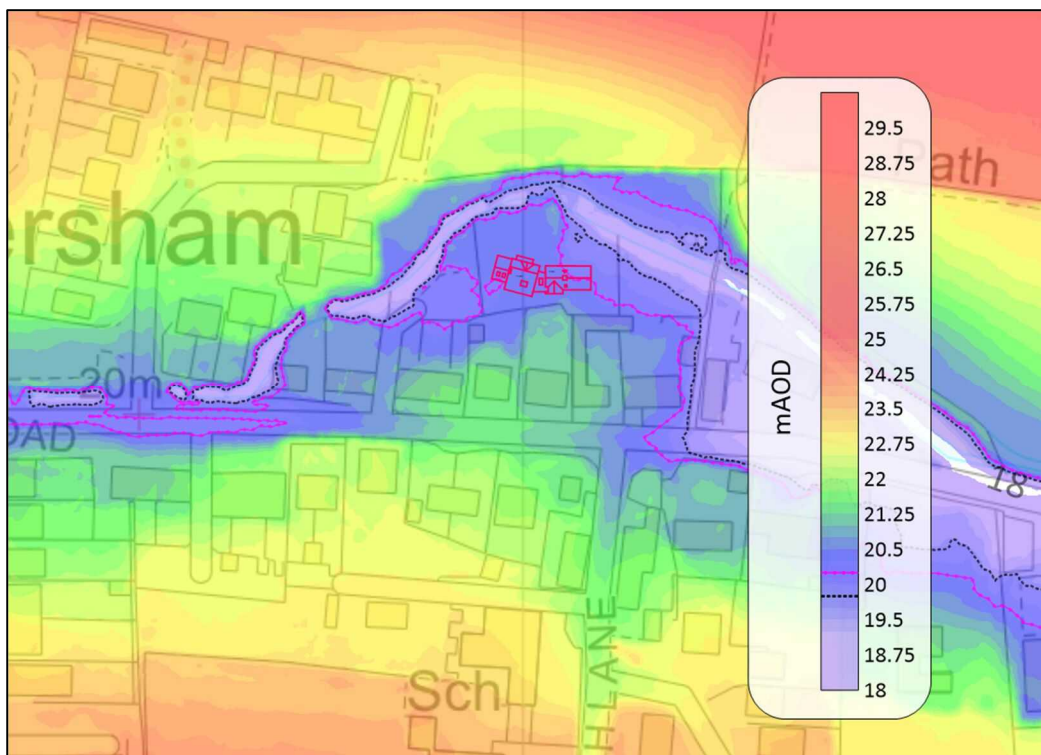
- 2.2 The Somersham Stream flows eastwards past the north of the site.
- 2.3 The proposed development comprises the construction of a new dwelling, as shown on attached drawing.
- 2.4 The proposed dwelling is classified as *more vulnerable* in accordance with National Planning Policy Framework (NPPF, 2021) Annex 3.
- 2.5 The attached drawing LS6404 is a topographical survey that confirms:
- Ground levels within the development area vary from 20.55 mAOD to 19.4 mAOD at stream bank at the north east of the site.
  - The DPCV level of the exiting dwelling is 201.26 mAOD.
  - The threshold level at the southern door of the existing dwelling is 21.34 mAOD.
  - Main Road to the south of the site varies in level from 21 to 20.5 mAOD.
  - Where available the bed level of the Stream north of the site is c 18 mAOD.
  - Existing ground levels across the footprint of the proposed dwelling vary from 20.3 mAOD to 20.5 mAOD.
  - Contours from the survey are shown on Figure 2.2.

2.6 The topography of surrounding areas is shown on Figures 2.3 and 2.4. Ground generally falls southwards and the site is near a high area in local topography.



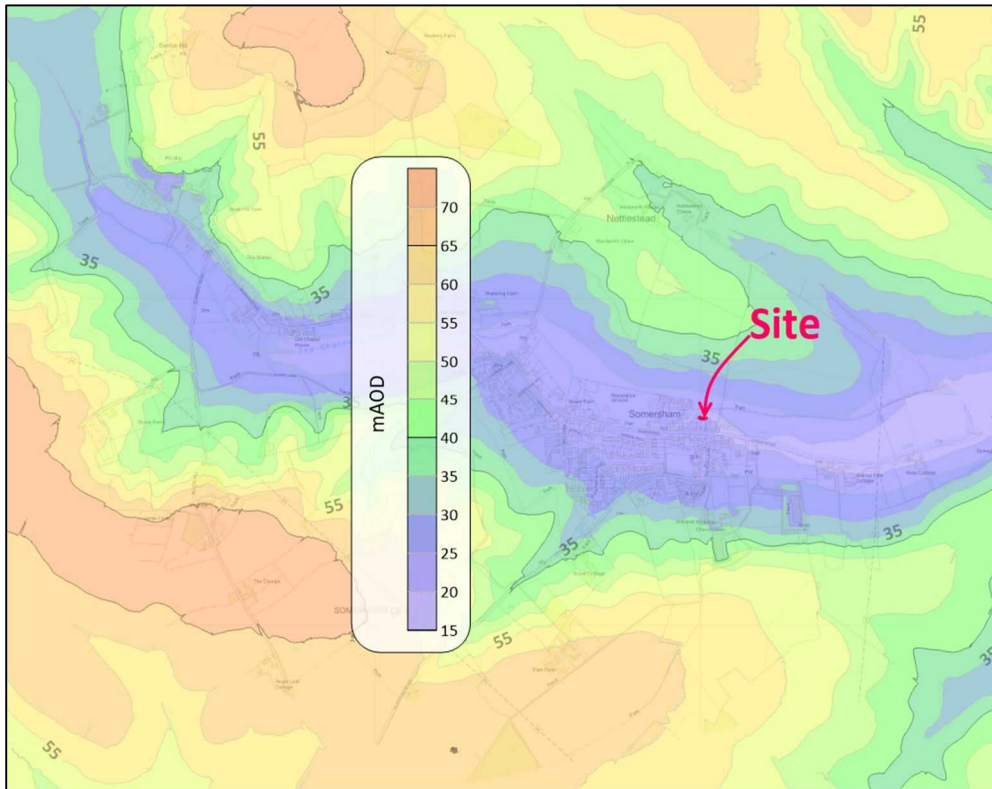
**Figure 2.2 - Survey contours**

(Source: 640620\_3D.dwg)



**Figure 2.3 - Local contours - near site**

(Source: TM04ne\_DTM\_1m.tif, downloaded 23 February 2023)



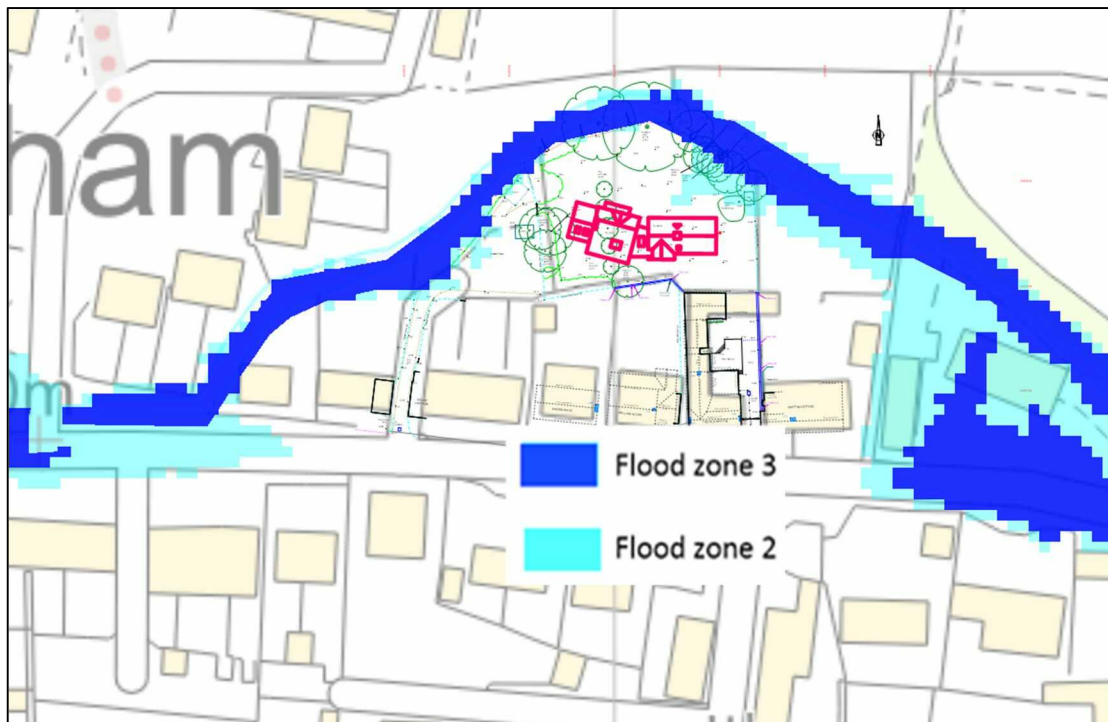
**Figure 2.4 - Local contours – wider area**

(Source: TM04ne\_DTM\_1m.tif, downloaded 23 February 2023)

### 3 Fluvial Flooding

#### 3.1 Flood Zones

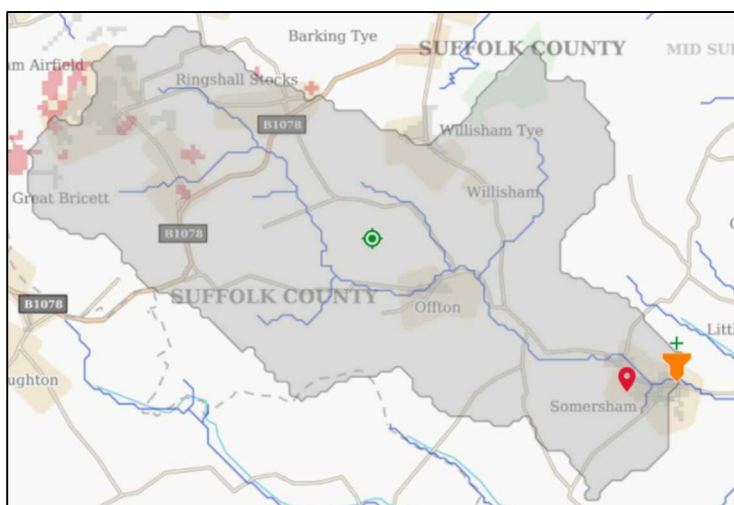
3.1.1 Flood zones 2 and 3 are shown on Figure 3.1 along the route of the Somersham Stream. The proposed dwelling is shown within flood zone 1, the area at low risk of flooding from significant watercourses.



**Figure 3.1 - Flood Zones**

(Source: Flood\_Map\_for\_Planning\_Rivers\_and\_Sea\_Flood\_Zone\_3.shp & Flood\_Map\_for\_Planning\_Rivers\_and\_Sea\_Flood\_Zone\_3.shp, downloaded 09 May 2023)

3.1.2 The Somersham Stream has a catchment of 16.8 km<sup>2</sup> at the site (see Figure 3.2) and continues to join with the River Gipping over 4 km downstream. Photographs of the watercourse as it passes the site are attached.



**Figure 3.2 - Somersham Stream - FEH catchment**

(Source: <https://fehweb.ceh.ac.uk/Map>, 09 May 2023)



### 3.2 Flood Levels

3.2.1 The Environment Agency has supplied the attached P4 flood data and the accompanying P6 flood model results files and the P7 flood model files. The P4 data shows the development area within flood zone 1 and includes flood level data at discrete nodes. The Environment Agency hydraulic model of the Somersham Stream is a 1-dimensional model only. The results files do not, therefore include 2-dimensional gridded data of floodplain flood levels/depths etc. In order to better understand the available flood data we have interrogated the flood model in some detail and extracted further data in order to provide a little more context. This is particularly important because, contradictory data showing the site at risk of flooding is as presented in section 4.

3.2.2 The P4 data does not include results directly at the site. Location 5 is a short distance downstream, and locations 3 and 4 that are upstream of a road culvert. We have therefore needed extracted data downstream of the road culvert (at SOMS\_4291d) to use to linearly interpolate between SOMS\_4291d & location 5/node SOMS\_4110 to establish the predicted flood levels at the site. The resulting design peak flood levels at site:

- 1:100 + climate change (CC\*) = 19.794 mAOD
- 1:1,000 year = 20.004 mAOD

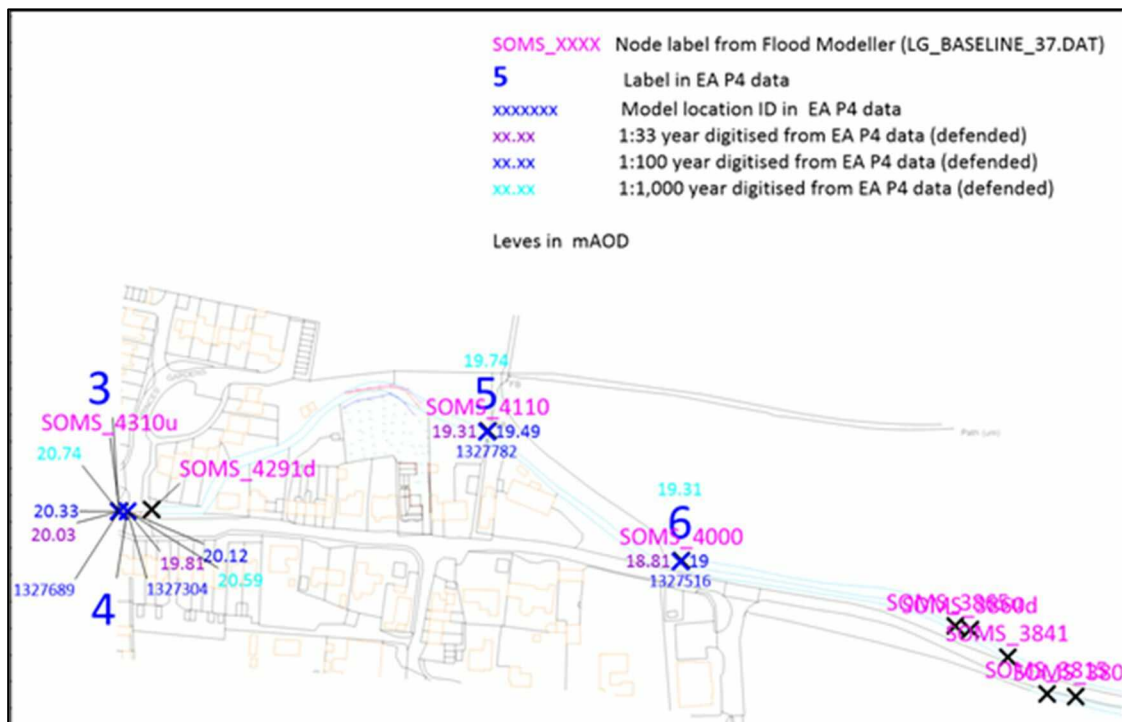
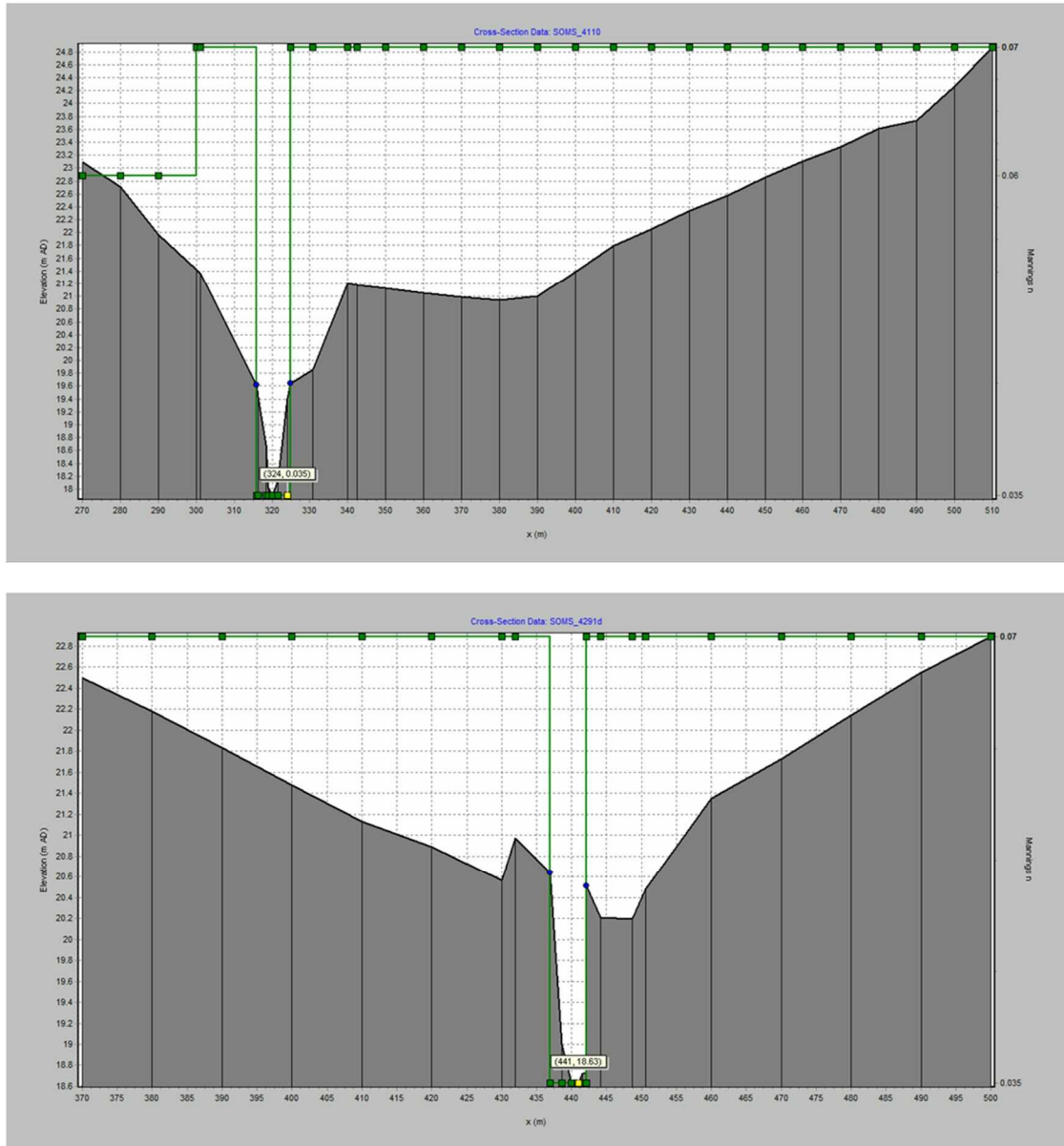


Figure 3.3 – Environment Agency model nodes

\* CC = climate change. The climate change allowances in the GOV.UK Guidance flood risk assessments: climate change allowances, May 2022, is 19%. The Environment Agency model includes for 25% CC, which is more precautionary approach since it results in greater stream flows. General industry practice is to use a design life of 100 years for residential development.

3.2.3 We note that the Environment Agency model includes fairly limited node locations as the channel passes the site. We have therefore reviewed how the model cross sections (Figure 3.3) compare to the stream cross section at the site (attached). As shown on the photos and the attached surveyed cross sections, there is a vertical wall forming the bank of the channel near the site. They are not identical but the model does seem to reflect the significantly sized channel.

Note that the attached photographs taken by the developer in show the stream dry.



**Figure 3.2 – Environment Agency model cross sections**

(Source: LG\_BASELINE\_37.dat)

3.2.4 The proposed dwelling is situated on land with a minimum ground level of 20.3 mAOD, which is above the aforementioned 1:100 year plus climate change modelled flood level. The proposed minimum finished floor level is 20.6 mAOD is 0.8 m above the predicted peak 1:100 + climate change flood level and almost 600 mm above the predicted peak 1:1,000 year flood level.

- 3.2.5 The building access from Main Road is to the south west of the site and ground levels along this route fall to 20.2 mAOD over a distance of about 15 m. This is above the aforementioned flood levels, although is slightly further upstream, so the predicted peak 1:100 year plus climate change flood level would be 19.89 mAOD.
- 3.2.6 Ground levels within the site / garden, or along the stream bank should not be raised to ensure no effect upon flood risk elsewhere.

### 3.3 Flood Resilience

- 3.3.1 Although the dwelling is above the modelled flood levels, a precautionary approach will be taken to include flood resilient measures. These include:
- A. Flood resilient construction
  - B. Flood management/planning
- 3.3.2 As a precaution, the sub-structure should be constructed to be flood resilient. Where possible flood resilience measures will be included as outlined in CLG, *Improving the Flood Performance of New Buildings* (2007) and CIRIA *Code of practice for property flood resilience (C790)*, *Flood Resilient Building BS85500:2015*, Flood resistant and resilient construction and CIRIA improving flood resilience advice Sheets 1-8. Flood resilience measures extend the duration over which the building can withstand an exposure to water. A water tight structure is not proposed and flooding may not ever reach the building. Recommended measures include:
- All **doors and glazing** shall have frame to brickwork joints fully sealed
  - **Electrical services** to run above floor level and drop down to service points.
  - Low absorbency **brickwork** where applicable, i.e. clay engineering or DPC brick with less than 7% moisture content by absorption.
  - **Closed cell type insulation** that is well fixed.
  - Use of good quality **mortar**, ideally cement:lime:sand (1:1:5-6) plus air entrained where practicable to better accommodate shrinkage cracking, or sand:cement (1:3).
  - Consider access to underfloor area for drying, and/or covers for air vents below floor level.
- 3.3.3 The site owners/occupiers should be aware of the possible flood risks, in particular the lower lying garden areas and some locations in the village beyond the site boundary are at higher risk of flooding. They should be aware of what actions to take in advance of flooding and when flooding nearby is imminent. Further advice on suitable preparation measures is given at: <https://www.gov.uk/government/publications/personal-flood-plan>.
- 3.3.4 Other advice and information on preparing for flooding is available from the following websites:  
Environment Agency Floodline: 0345 988 1188 and  
<https://www.gov.uk/prepare-for-a-flood>



National Flood Forum booklet:

<https://nationalfloodforum.org.uk/about-flooding/preparing/checklist-action-plan/>

Suffolk Resilience Forum: <https://suffolkprepared.co.uk/>

- 3.3.5 It is not safe to enter floodwater (walk, swim, cycle or drive etc.). It may be fast flowing, contain debris, be contaminated, cold or hide unseen dangers.

## 4 Surface Water Flood Risk

4.1 Figure 4.1 shows the risk of flooding from surface water near the site. This shows that the proposed building and its access driveway is partially at high risk of flooding. This is in contradiction to the more detailed hydraulic modelling presented within section 3.

4.2 The following quotations confirm that the risk of flooding from surface water mapping:

*'should not be taken as definitive mapping of flood risk from these as the conveyance effect of ordinary watercourses or drainage channels is not explicitly modelled. Also, structures (such as bridges, culverts and weirs) and flood risk management infrastructure (such as defences) are not represented.'*

*'The nationally produced surface water flood mapping only indicates where surface water flooding could occur as a result of local rainfall. It does not fully represent flooding that occurs from:*

- *ordinary watercourses*
- *drainage systems or public sewers caused by catchment-wide rainfall events*
- *rivers*
- *groundwater.'*

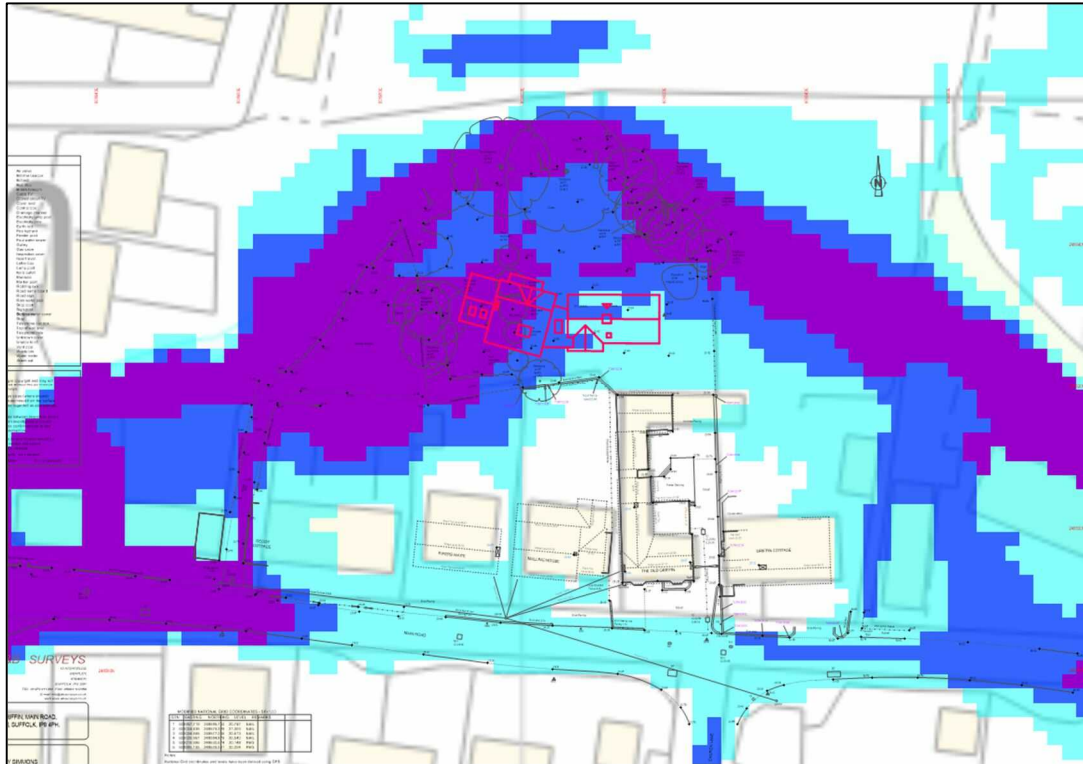
*'Due to the modelling techniques used, the mapping picks out depressions in the ground surface and simulates some flow along natural drainage channels, rivers, low areas in floodplains, and flow paths between buildings. Although the maps appear to show flooding from ordinary watercourses, they should not be taken as definitive mapping of flood risk from these as **the conveyance effect of ordinary watercourses or drainage channels is not explicitly modelled**. Also, structures (such as bridges, culverts and weirs) and flood risk management infrastructure (such as defences) are not represented.'* (Environment Agency, *What is the Risk of Flooding from Surface Water map?* Report version 2.0, April 2019).

So the exact beneficial conveyance effects of the local surface water drainage systems are not accounted for in the modelling. The mapping also does not take into account the complexities of the landscape, e.g. kerbs, walls and other features that will act to affect the flow routes, or future climate change.

4.3 However the flood depth mapping in Figure 4.2 is indicating a water depth of >1.2 along the route of the stream channel, so there is clearly some inclusion of the watercourse in the modelling – most likely from the lidar data.

4.4 So although there is a difference between the two flood maps, the fluvial modelling is clearly a more detailed hydraulic model that has been undertaken by the Environment Agency as part of its recent River Gipping modelling. So we conclude that it is likely to be the most suitable for assessing flood risks at the site.

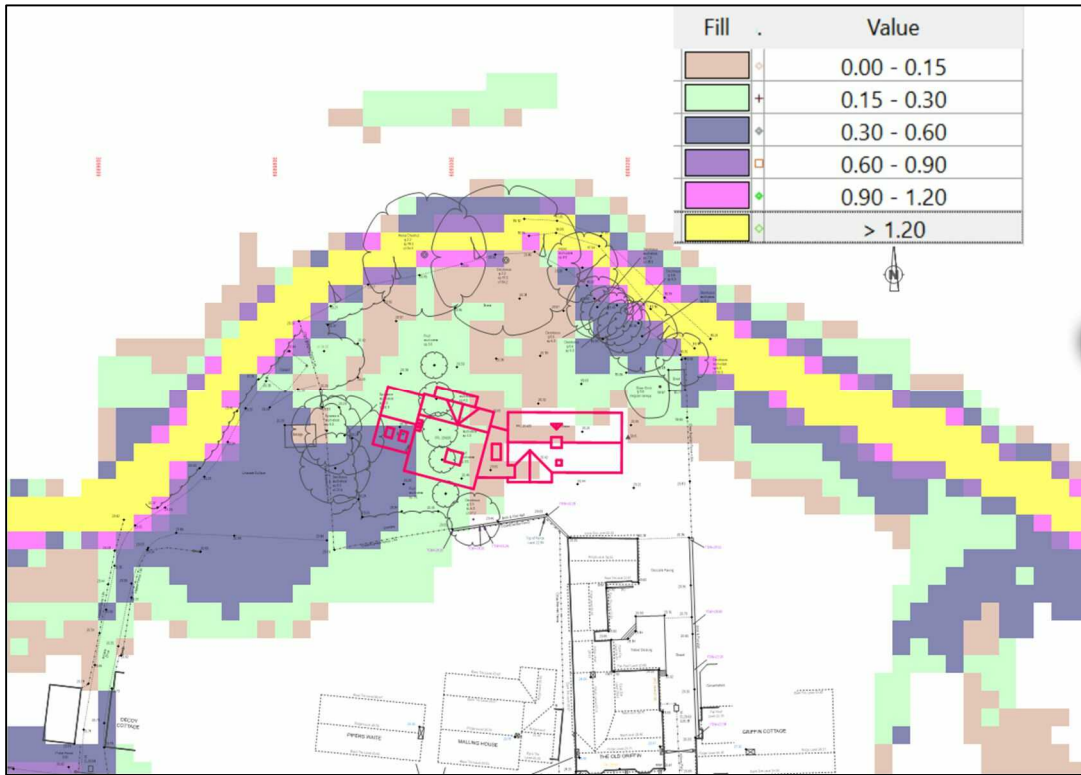
- 4.5 However even if the most precautionary approach were taken, and we added the average flood depth from Figure 4.2 to the ground level, the resulting flood water level would be 20.6 mAOD, no higher than the proposed floor level.
- 4.6 The local topographical catchment mapping in Figure 4.3 indicates that there is not a large area uphill, to the south, drainage towards the site. The main local flow path is the stream itself.



**Figure 4.1 - Risk of Flooding from Surface Water**

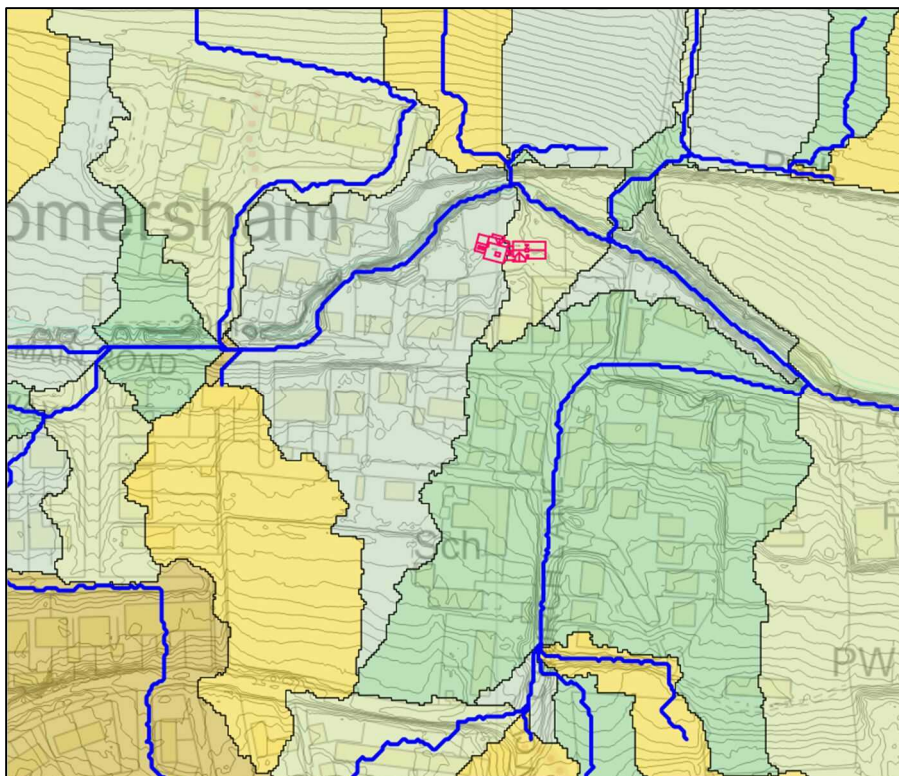
- High** ⇒ 1:30 year return period  
**Medium** ⇒ 1:100 year return period  
**Low** ⇒ 1:1,000 year return period

(Source: RoFSW\_TM04ne\_Extent\_1in1000.shp, RoFSW\_TM04ne\_Extent\_1in100.shp, RoFSW\_TM04ne\_Extent\_1in30.shp, downloaded 31 March 2023)



**Figure 4.2 - Risk of Flooding from Surface Water – 1:100 year peak depth (m)**

(Source: RoFSW\_TM04ne\_Depth\_1in100.shp, downloaded 31 March 2023)



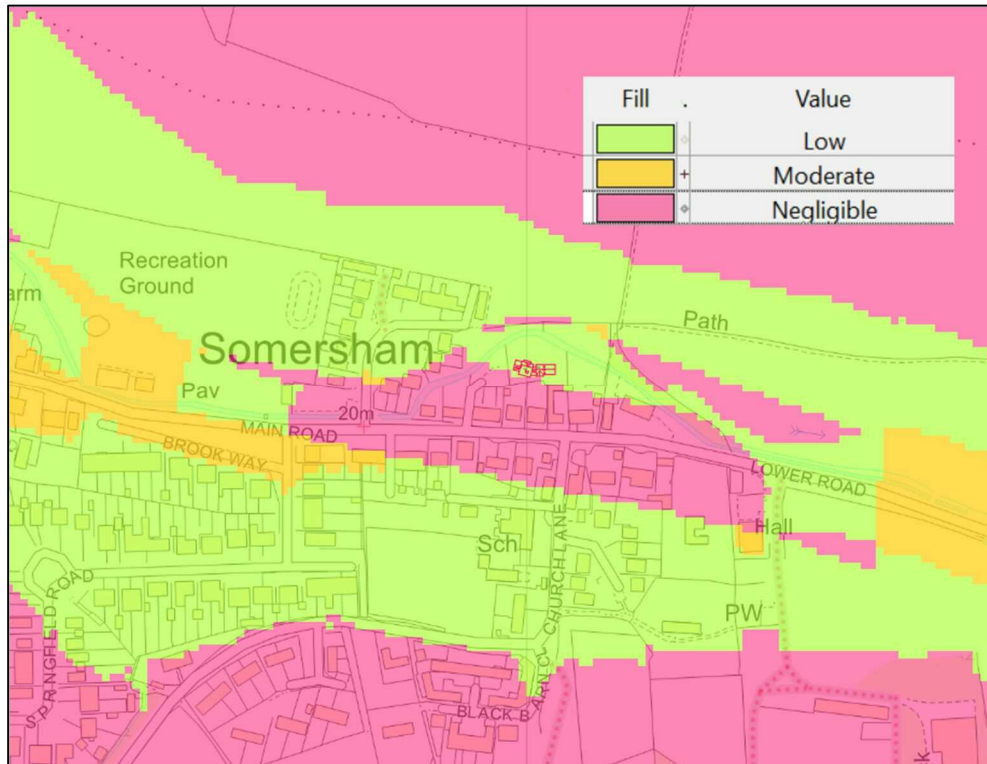
**Figure 4.3 - Watersheds\***

(Source: TM04ne\_DTM\_1m.tif, downloaded 31 March 2023)

\* Shows the approximate outline of topographical sub-catchments (outlined in black) and theoretical flow paths (blue lines). These are theoretical only and do not include the effects of drainage systems or localised topographical features (kerbs, buildings, pipes, ponds, small watercourses etc.), and localised valleys have been filled. The width/location of the flow paths will vary.

## 5 Groundwater Flood Risk

- 5.1 Figure 5.1 shows the Geosmart GW5 (v2.1) groundwater flood risk mapping which confirms that the building is situated at LOW, CLASS 3: LOW RISK: There is a low risk of groundwater flooding in this area with a chance of greater than 1% annual probability of occurrence. The flood resilience measures proposed for fluvial flooding will be adequate in mitigating any possible groundwater flood risk.



**Figure 5.1 – Groundwater flood risk – GW5 v2.1**

(May 2023)

Prepared by Leigh Parratt  
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### Attachments

- LS6406/1 Topographical Survey
- Proposed development sketch
- Environment Agency P4 data (EAN/2023/300223)
- Site sections
- Photographs



LEGEND	
AV	Air valve
BB	Belisha beacon
BL	Billiard
BS	Bus stop
BT	British telecom
CAIV	Cable TV
CCTV	Closed circuit TV
CL	Cover level
CB	Control box
DC	Drainage channel
ELP	Electricity lamp post
EP	Electricity pole
ER	Earth rod
FH	Fire hydrant
FP	Feeder post
FWS	Foul water sewer
G	Gully
GV	Gas valve
IC	Inspection cover
IL	Invert level
LB	Letter box
LP	Lamp post
KO	Kerb outlet
MH	Manhole
MP	Marker post
RE	Rodding eye
RNB	Road name board
RS	Road sign
RWP	Rain water pipe
SC	Stop cock
SP	Sign post
SWS	Stormwater sewer
SY	Stay
TCB	Telephone call box
TOW	Top of wall level
TP	Telephone pole
U/C	Unknown cover
UTL	Unable to lift
VP	Vent pipe
WB	Waste bin
WM	Water meter
WO	Wash out

**NOTES:**  
 This drawing is copyright and may not be reproduced without the permission of A & B Surveys.  
 Drainage pipe sizes (where shown) have been determined from the surface and should be regarded as approximate only.  
 Drainage runs between inspection covers have not been investigated or proven and should be confirmed prior to any design or construction.  
 Tree species (where shown) should be treated with caution and expert identification is advised.  
 g = girth sp = spread  
 m/s = multistem c/l = crown level



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**JOB**  
 THE OLD GRIFFIN, MAIN ROAD,  
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**CLIENT**  
 TOBY SIMMONS

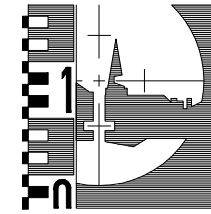
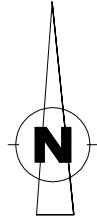
**DRAWING**  
 TOPOGRAPHICAL SURVEY

**DRG. No.** LS6406/1 **SCALE** 1:200@A1 **DATE** MAY 2023

MODIFIED NATIONAL GRID COORDINATES - SF=1.00

STN	EASTING	NORTHING	LEVEL	REMARKS
1	608957.719	248565.760	20.747	NAIL
2	609004.435	248579.329	21.393	NAIL
3	609034.555	248577.266	20.513	NAIL
4	609025.967	248584.879	20.540	NAIL
5	609019.996	248530.674	20.148	PEC
6	608995.155	248629.591	20.294	PEC

**Notes:**  
 National Grid coordinates and levels have been derived using GPS techniques and transformed on to the OSGB36 Coordinate System using the GeoNet correction service.  
 Stn2 has been held fixed at its true OS position and the traverse computed on a plane grid.



# A&B SURVEYS

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JOB

THE OLD GRIFFIN, MAIN ROAD,  
SOMERSHAM, SUFFOLK, IP8 4PH.

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DRAWING

TOPOGRAPHICAL SURVEY

DRG. No.

LS6406/2

SCALE

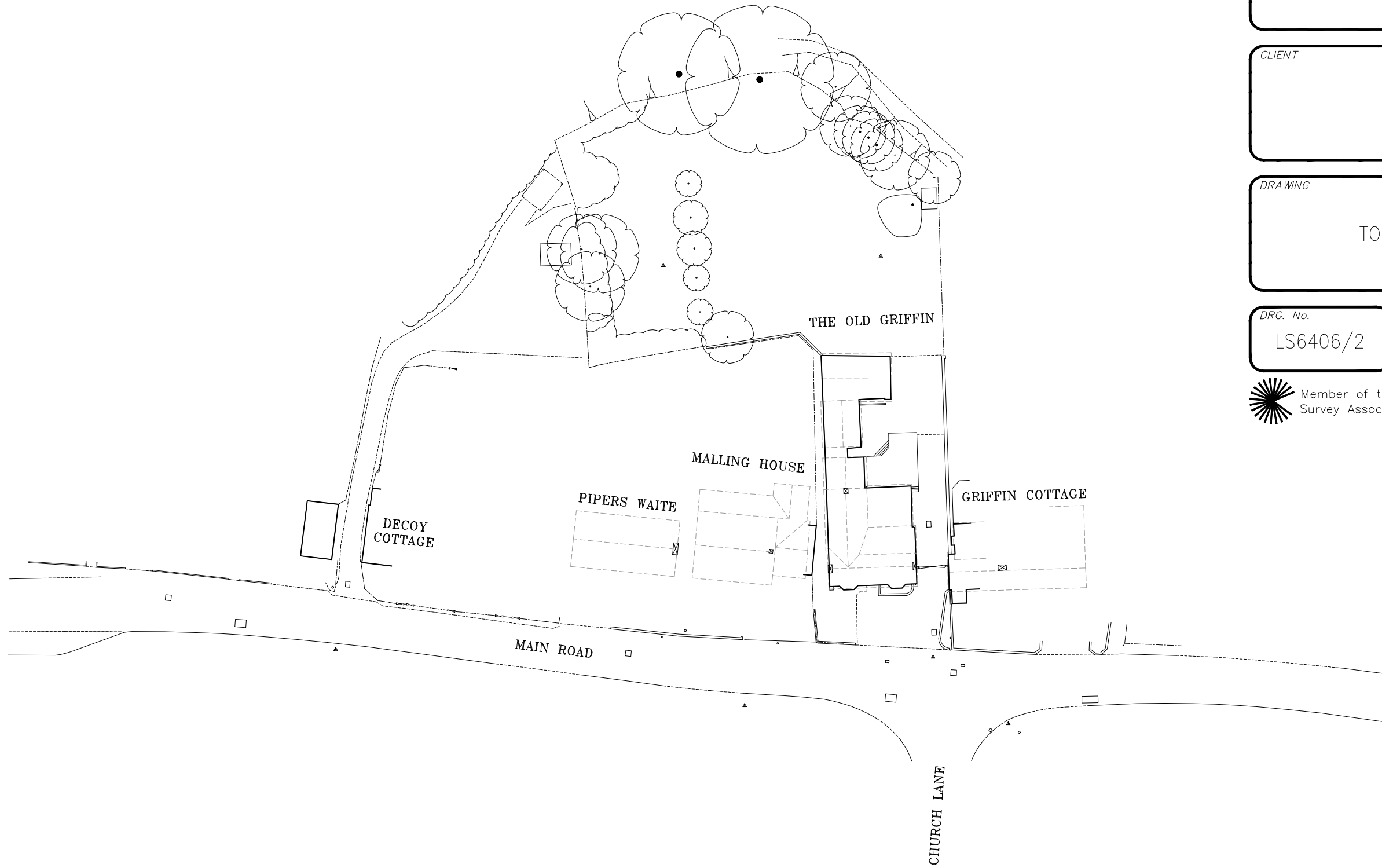
1:500@A3

DATE

MAY 2023



Member of the UK Land & Hydrographic  
Survey Association Limited







RES. AMENITY

STREAM

VIS. SP. VIS. SP.

PARKING TURNING AREA

PROPOSAL

SHARED ACCESS AND TURNING

2000 C/B FENCE EXTG

CONIFERS (L)

C/B FENCE

GARAGE (O/G) SP / ST

STORE

8000

8000

WALL

(F)

(N)

SP O/G

SP

SP

C/L

(N)

SP O/G SP O/G

(A)

(B)

(C)

(P)

(A)

(M)

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(F)

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(V)

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# Flood risk assessment data



**Location of site:** 608999 / 248636 (shown as easting and northing coordinates)

**Document created on:** 28 February 2023

**This information was previously known as a product 4.**

**Customer reference number:** EDR7CAEJKEYD

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
- 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 East Anglia Environment Agency team at [enquiries\\_eastanglia@environment-agency.gov.uk](mailto:enquiries_eastanglia@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.

## Information that's unavailable

This document **does not** contain:

- historic flooding
- flood defences and attributes

We do not have historic 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

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: Gipping\_2020 Mott MacDonald

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

Date: 1 October 2020

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 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.







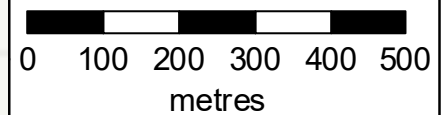
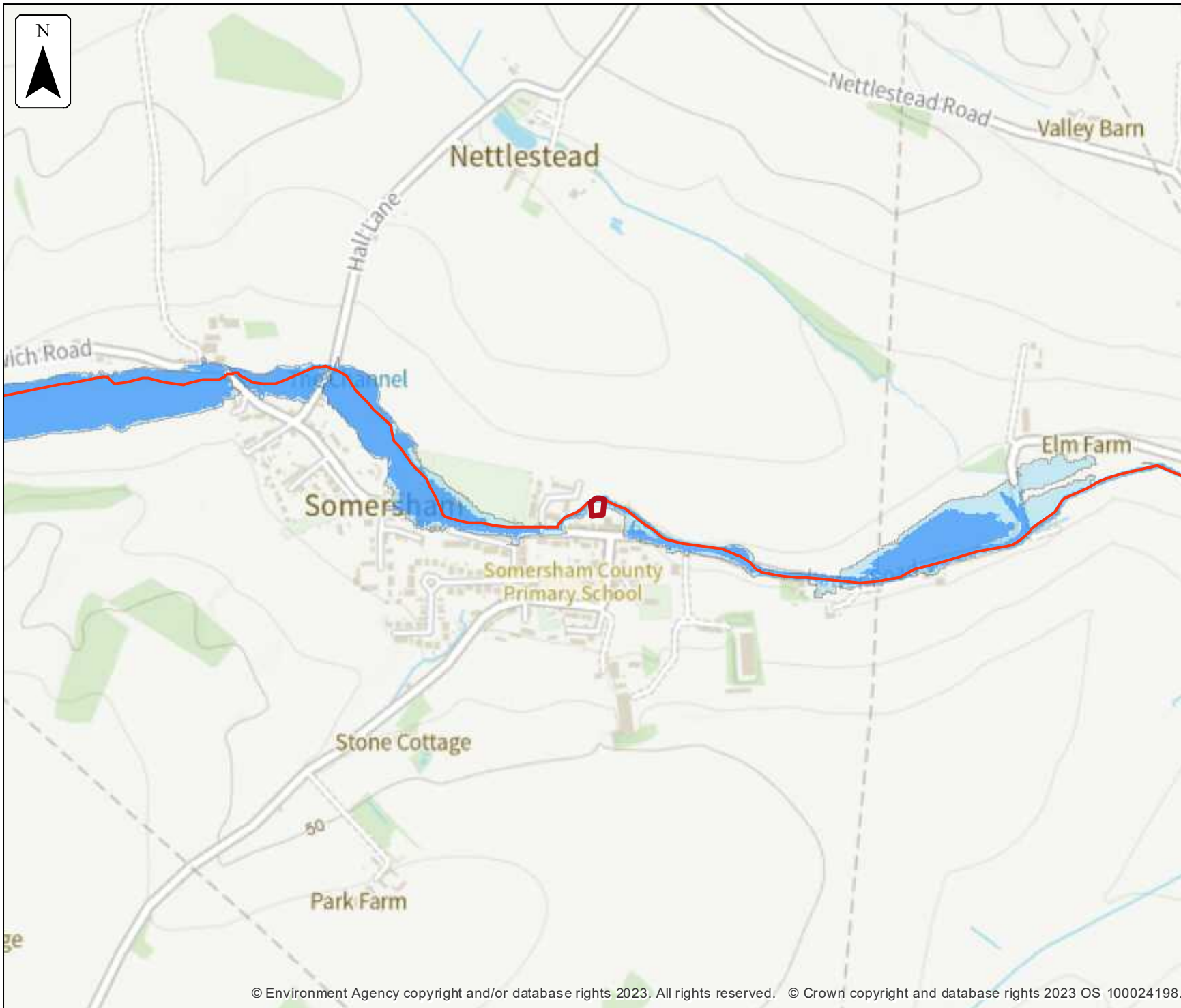
### Flood map for planning

Location (easting/northing)  
**608999/248636**

Scale  
**1:10,000**

Created  
**28 Feb 2023**

-  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
- 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

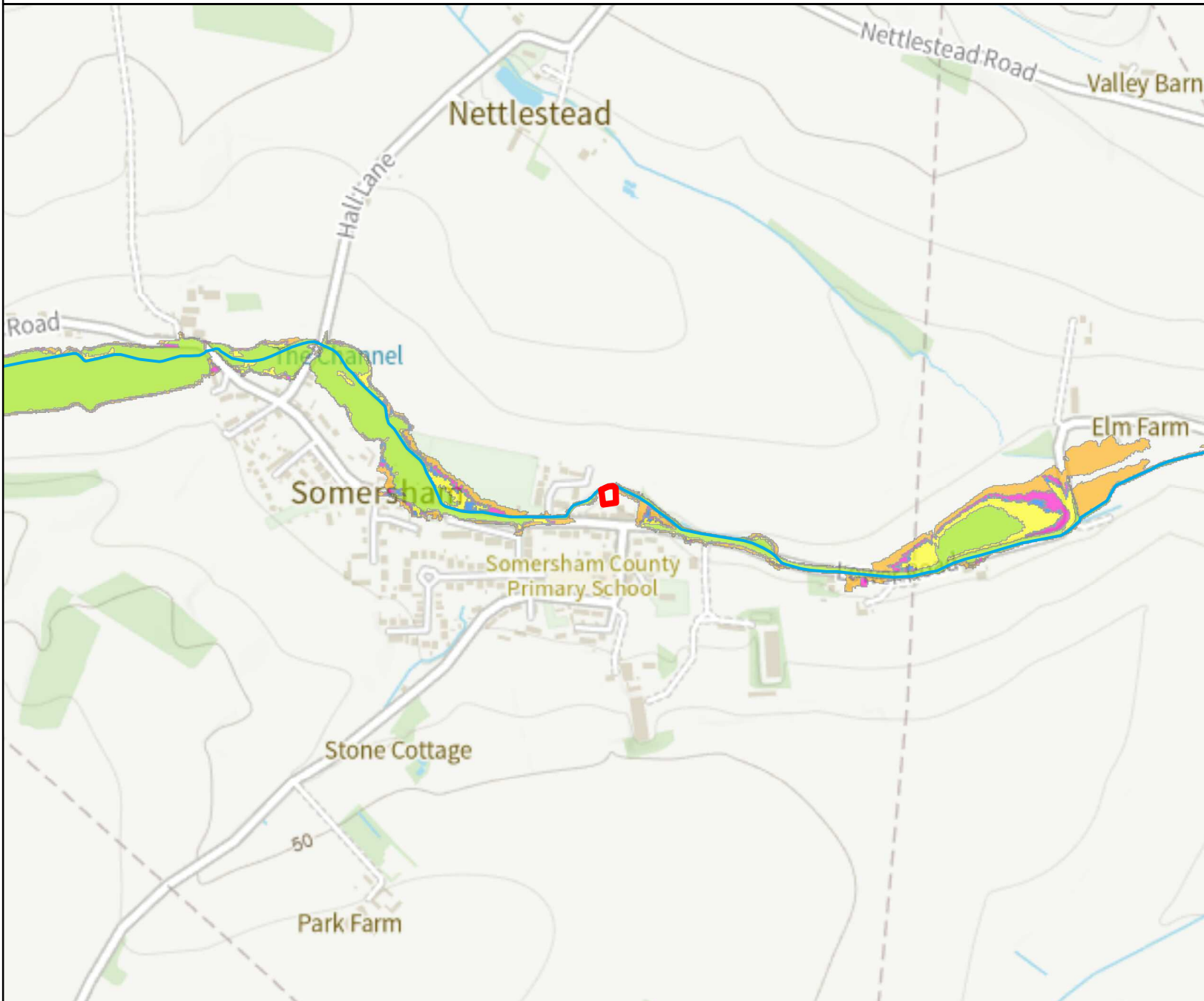
The following scenarios are included:

- 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 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

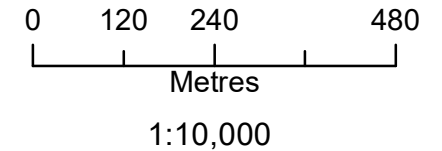


# Defended modelled fluvial extent




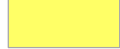



At: 608999/248636 Created: 06/03/2023 Ref: EAN/2023/300223



Environment Agency  
Iceni House  
Cobham Road  
Ipswich  
Suffolk  
IP3 9JD

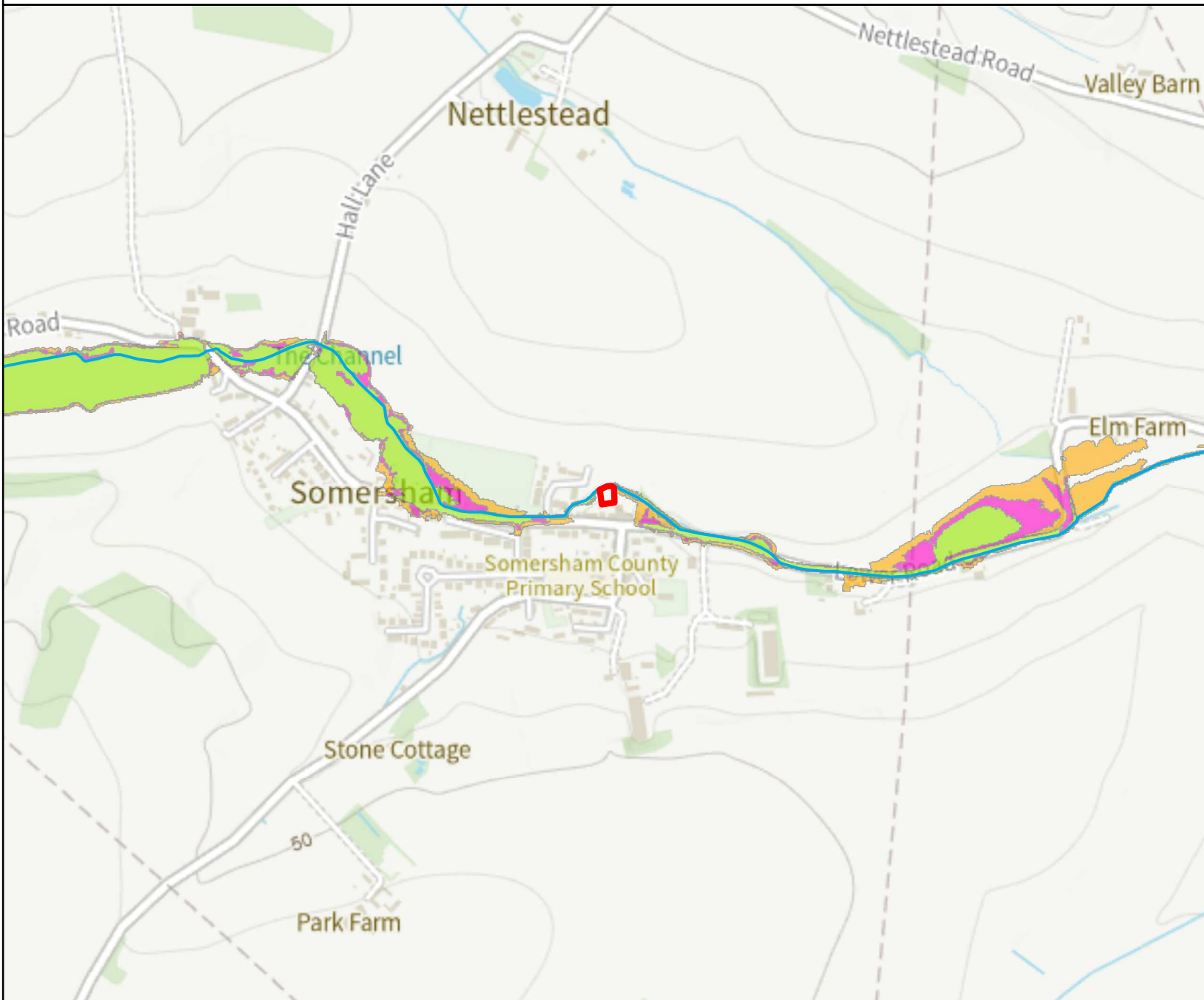


## Legend

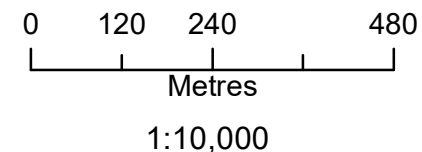
-  Site Location
-  Main Rivers
-  1 in 20 (5%)
-  1 in 75 (1.33%)
-  1 in 100 (1%)
-  1 in 200 (0.5%)
-  1 in 1000 (0.1%)

This model has been designed for catchment wide flood risk mapping. It should be noted that it was not created to produce flood levels for specific development sites within the catchment. Modelled outlines take into account catchment wide defences if present.






**Defences removed modelled fluvial extent**  
**At: 608999/248636 Created: 06/03/2023 Ref: EAN/2023/300223**



Environment Agency  
 Icen House  
 Cobham Road  
 Ipswich  
 Suffolk  
 IP3 9JD



**Legend**

-  Site Location
-  Main Rivers
-  1 in 5 (20%)
-  1 in 100 (1%)
-  1 in 1000 (0.1%)

This model has been designed for catchment wide flood risk mapping. It should be noted that it was not created to produce flood levels for specific development sites within the catchment. Modelled outlines take into account catchment wide defences if present.









## Defended climate change modelled fluvial extent

Location (easting/northing)  
**608999/248636**

Scale Created  
**1:10,000 28 Feb 2023**

Model name  
**Gipping 2020 Mott  
MacDonald**

-  Selected area
-  Main river
- Modelled flood extent**
-  1.0% AEP (+25%)
-  1.0% AEP (+35%)
-  1.0% AEP (+65%)
-  0.1% AEP (+25%)

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













### Defences removed climate change modelled fluvial extent

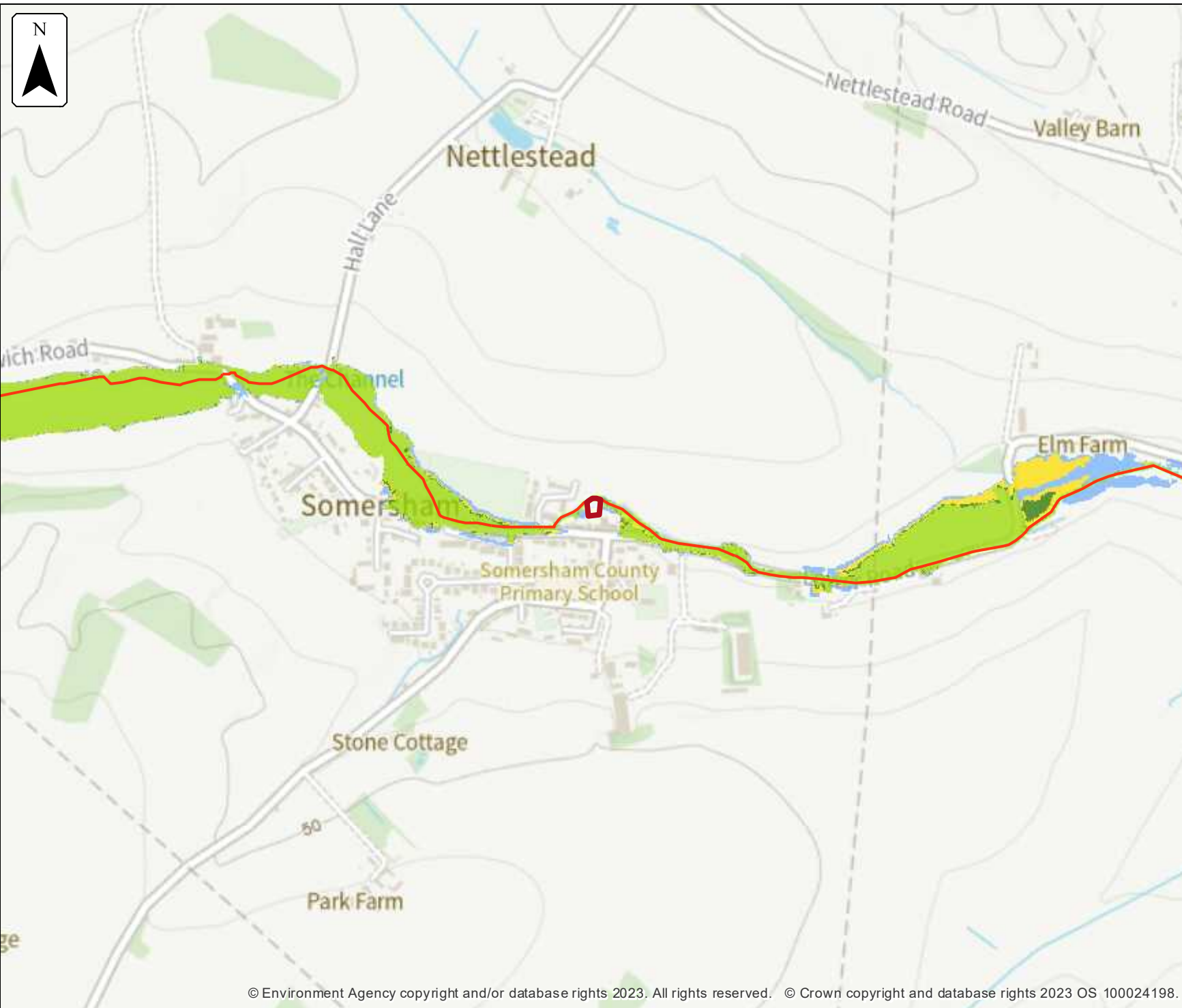
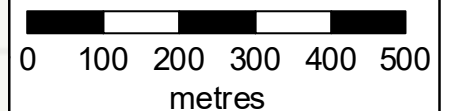
Location (easting/northing)  
**608999/248636**

Scale Created  
**1:10,000 28 Feb 2023**

Model name  
**Gipping 2020 Mott  
MacDonald**

-  Selected area
-  Main river
- Modelled flood extent**
-  1.0% AEP (+25%)
-  1.0% AEP (+35%)
-  1.0% AEP (+65%)
-  0.1% AEP (+25%)

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








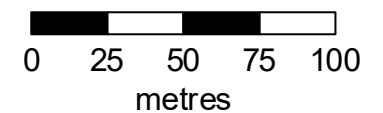
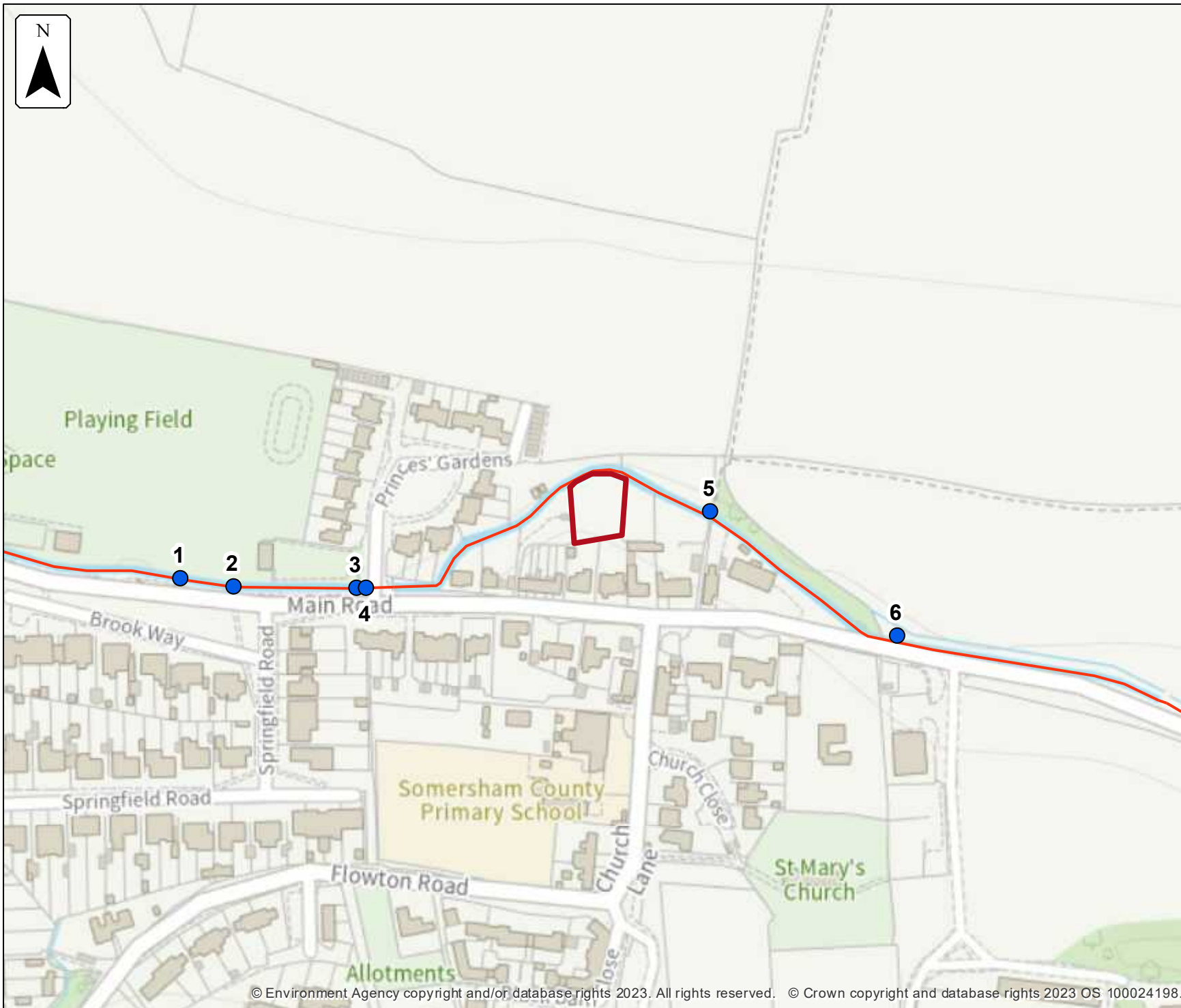
### Defended modelled fluvial node locations

Location (easting/northing)  
**608999/248636**

Scale      Created  
**1:2,500      28 Feb 2023**

Model name  
**Gipping 2020 Mott MacDonald**

-  Selected area
-  Modelled location
-  Main river



## 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	1327420	608797	248601	20.52	5.77			20.67	7.06	20.72	7.62	20.81	8.83	21.07	13.37
2	1328159	608823	248597	20.25	5.55			20.46	7.06	20.51	7.62	20.61	8.83	20.90	13.37
3	1327689	608883	248597	20.03	5.34			20.28	7.06	20.33	7.62	20.44	8.83	20.74	13.37
4	1327304	608887	248597	19.81	5.34			20.04	6.90	20.12	7.26	20.25	7.88	20.59	8.46
5	1327782	609054	248634	19.31	5.35			19.46	7.06	19.49	7.62	19.55	8.83	19.74	13.37
6	1327516	609144	248574	18.81	5.33			18.96	7.06	19.0	7.62	19.08	8.83	19.31	13.37

Data in this table comes from the Gipping 2020 Mott MacDonald 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.








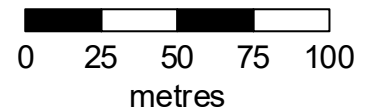
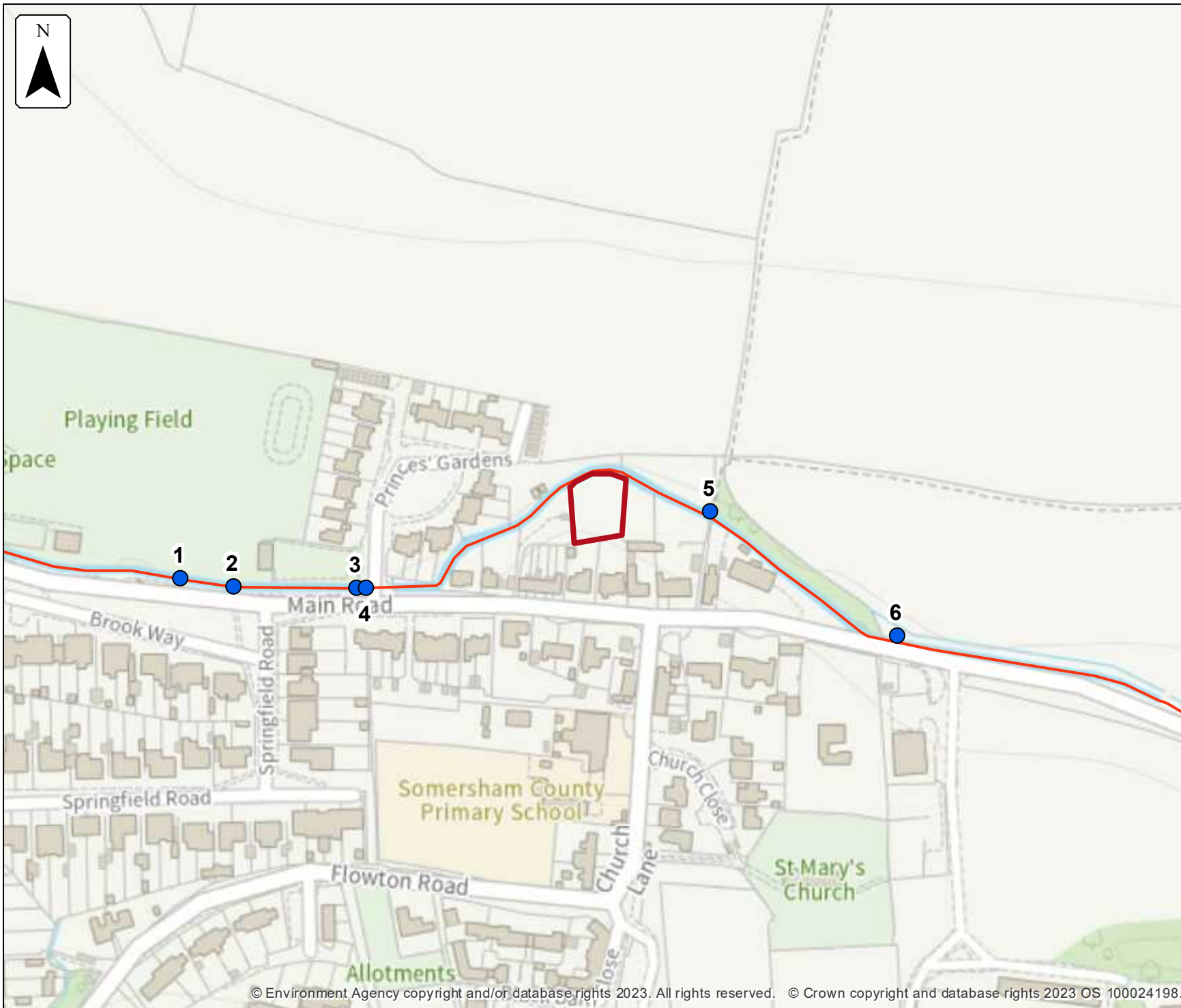
## Defences removed modelled fluvial node locations

Location (easting/northing)  
**608999/248636**

Scale      Created  
**1:2,500      28 Feb 2023**

Model name  
**Gipping 2020 Mott  
MacDonald**

-  Selected area
-  Modelled location
-  Main river



## 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	1327420	608797	248601	20.52	5.82					20.72	7.63			21.07	13.37
2	1328159	608823	248597	20.25	5.60					20.51	7.62			20.90	13.37
3	1327689	608883	248597	20.03	5.34					20.33	7.62			20.74	13.37
4	1327304	608887	248597	19.81	5.34					20.12	7.26			20.59	8.46
5	1327782	609054	248634	19.31	5.35					19.49	7.62			19.74	13.37
6	1327516	609144	248574	18.81	5.33					19.0	7.62			19.31	13.37

Data in this table comes from the Gipping 2020 Mott MacDonald 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.






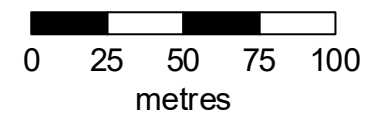
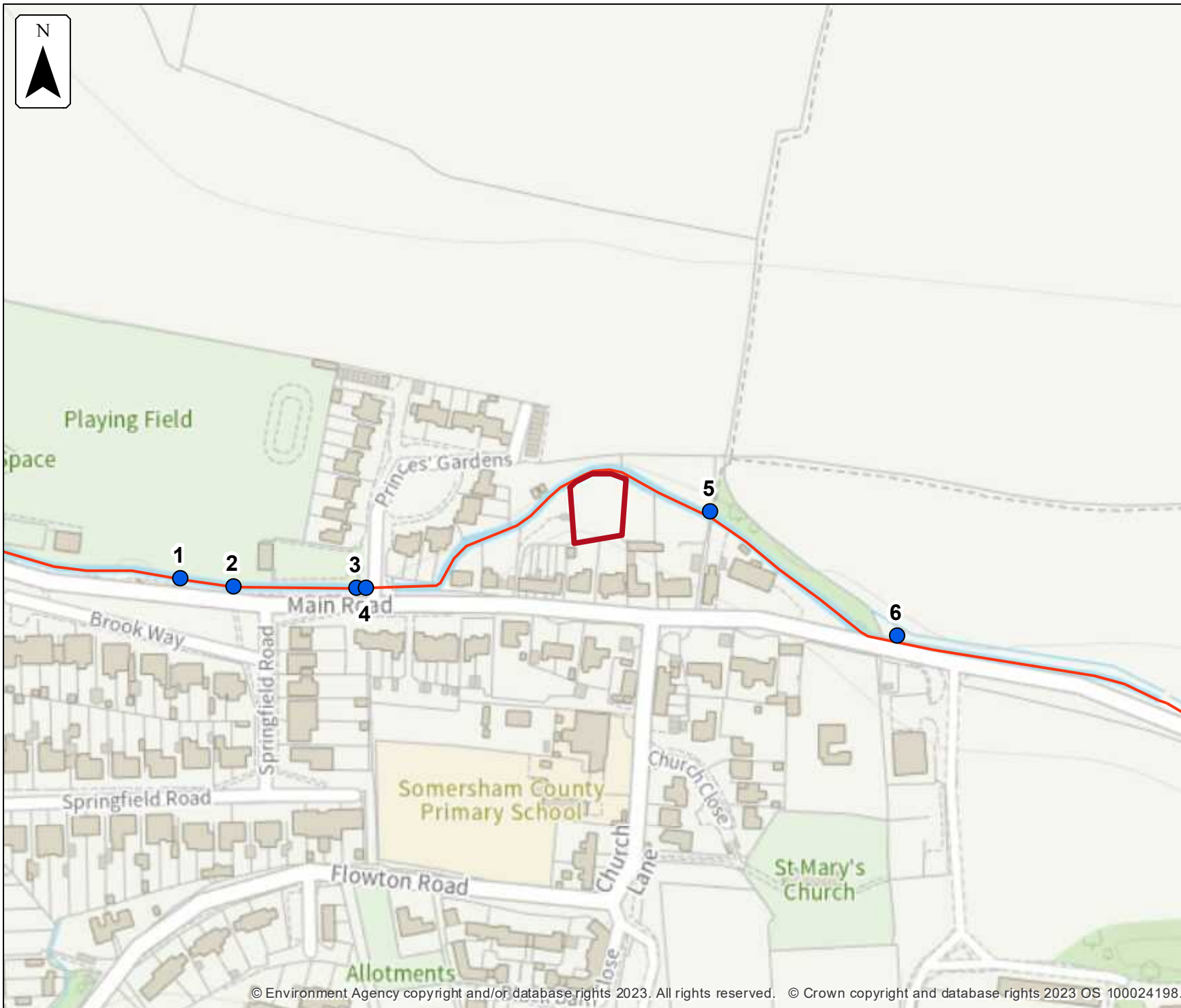
### Defended climate change modelled fluvial node locations

Location (easting/northing)  
**608999/248636**

Scale Created  
**1:2,500 28 Feb 2023**

Model name  
**Gipping 2020 Mott MacDonald**

-  Selected area
-  Modelled location
-  Main river



## Modelled node locations data

### Defended climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+25%)		1.0% AEP (+35%)		1.0% AEP (+65%)		0.1% AEP (+25%)	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	1327420	608797	248601	20.84	9.36	20.89	10.12	21.02	12.41	21.24	16.69
2	1328159	608823	248597	20.65	9.36	20.70	10.12	20.85	12.41	21.08	16.68
3	1327689	608883	248597	20.48	9.36	20.54	10.12	20.69	12.41	20.88	16.68
4	1327304	608887	248597	20.30	8.08	20.37	8.32	20.54	8.46	20.74	8.46
5	1327782	609054	248634	19.57	9.36	19.61	10.12	19.71	12.41	19.87	16.68
6	1327516	609144	248574	19.11	9.36	19.15	10.12	19.27	12.41	19.45	16.68

Data in this table comes from the Gipping 2020 Mott MacDonald 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.






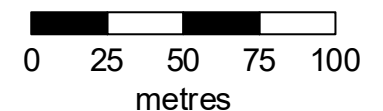
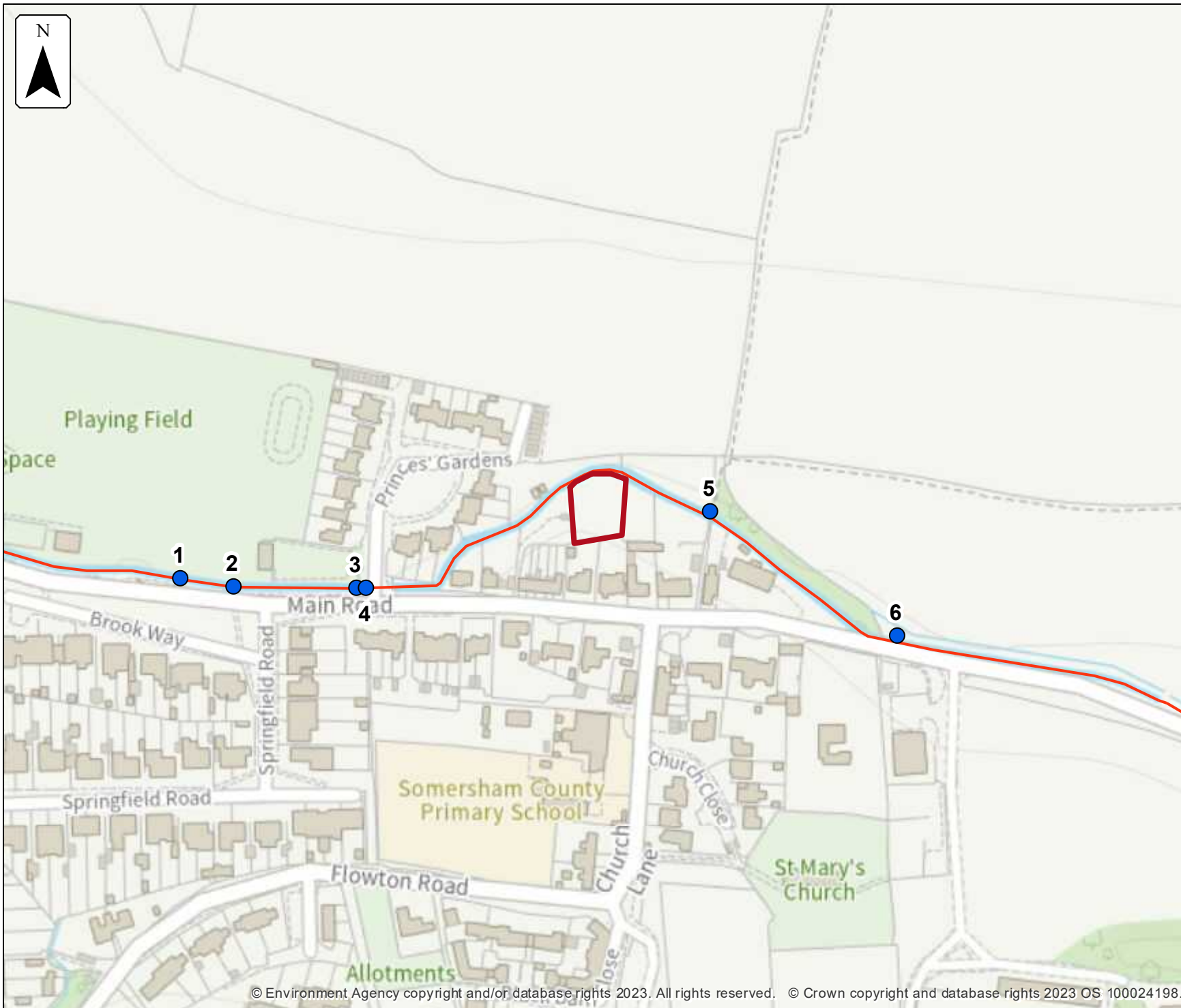
## Defences removed climate change modelled fluvial node locations

Location (easting/northing)  
**608999/248636**

Scale      Created  
**1:2,500      28 Feb 2023**

Model name  
**Gipping 2020 Mott  
MacDonald**

-  Selected area
-  Modelled location
-  Main river



## Modelled node locations data

### Defences removed climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+25%)		1.0% AEP (+35%)		1.0% AEP (+65%)		0.1% AEP (+25%)	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	1327420	608797	248601	20.85	9.39	20.89	10.14	21.02	12.43	21.24	16.71
2	1328159	608823	248597	20.65	9.39	20.71	10.14	20.85	12.43	21.08	16.71
3	1327689	608883	248597	20.48	9.39	20.54	10.14	20.69	12.43	20.89	16.71
4	1327304	608887	248597	20.31	8.09	20.37	8.33	20.54	8.45	20.75	8.46
5	1327782	609054	248634	19.58	9.39	19.61	10.14	19.71	12.43	19.87	16.71
6	1327516	609144	248574	19.11	9.39	19.15	10.14	19.27	12.43	19.45	16.71

Data in this table comes from the Gipping 2020 Mott MacDonald 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.



## 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

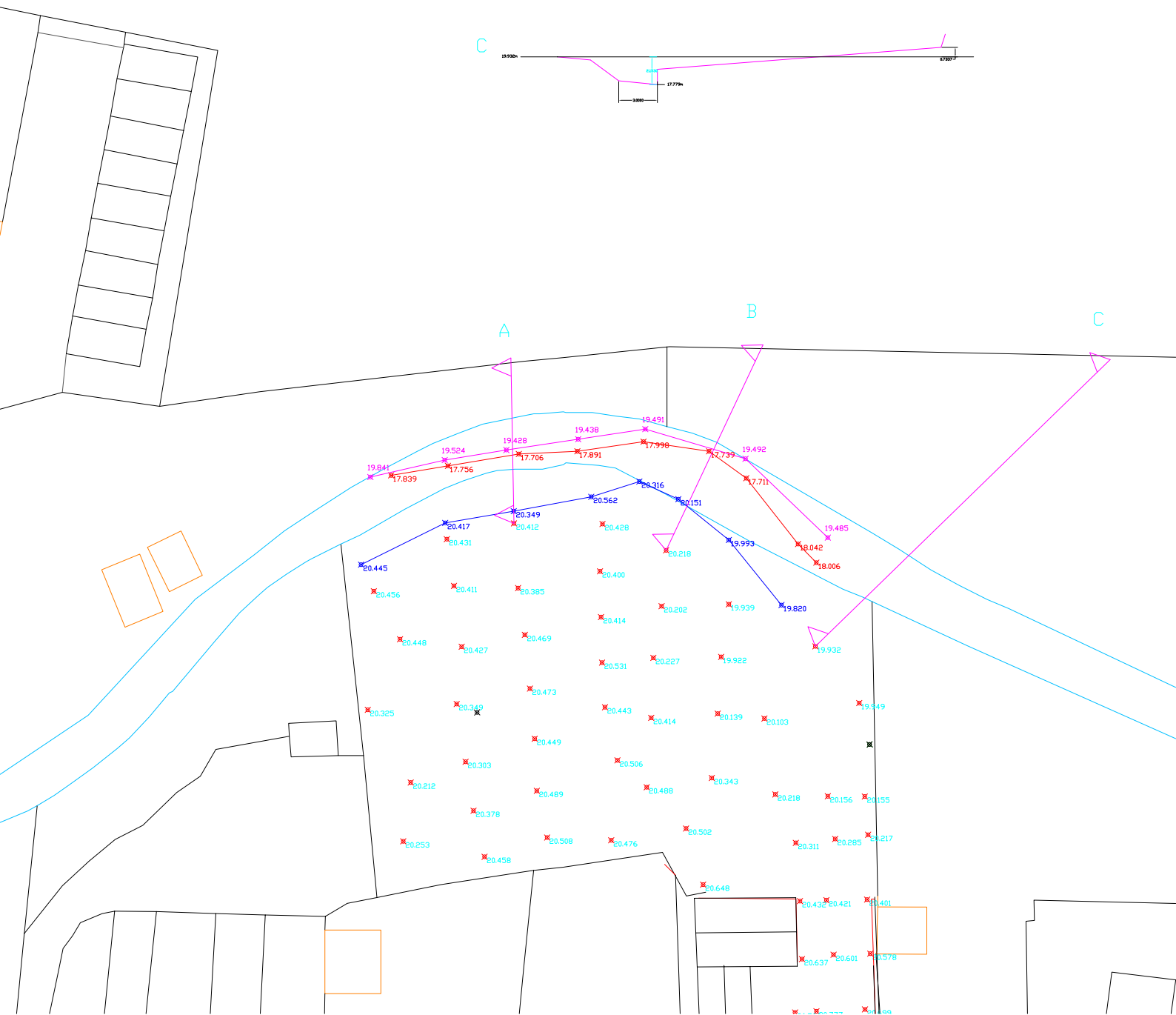
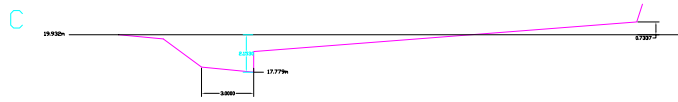
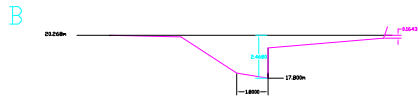
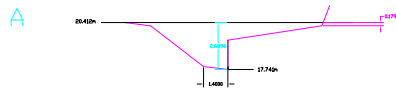
Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence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

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

## Help and advice

Contact the East Anglia Environment Agency team at [enquiries\\_eastanglia@environment-agency.gov.uk](mailto:enquiries_eastanglia@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



The datum of this survey relates to the Toby Simmons survey not the A&B survey.

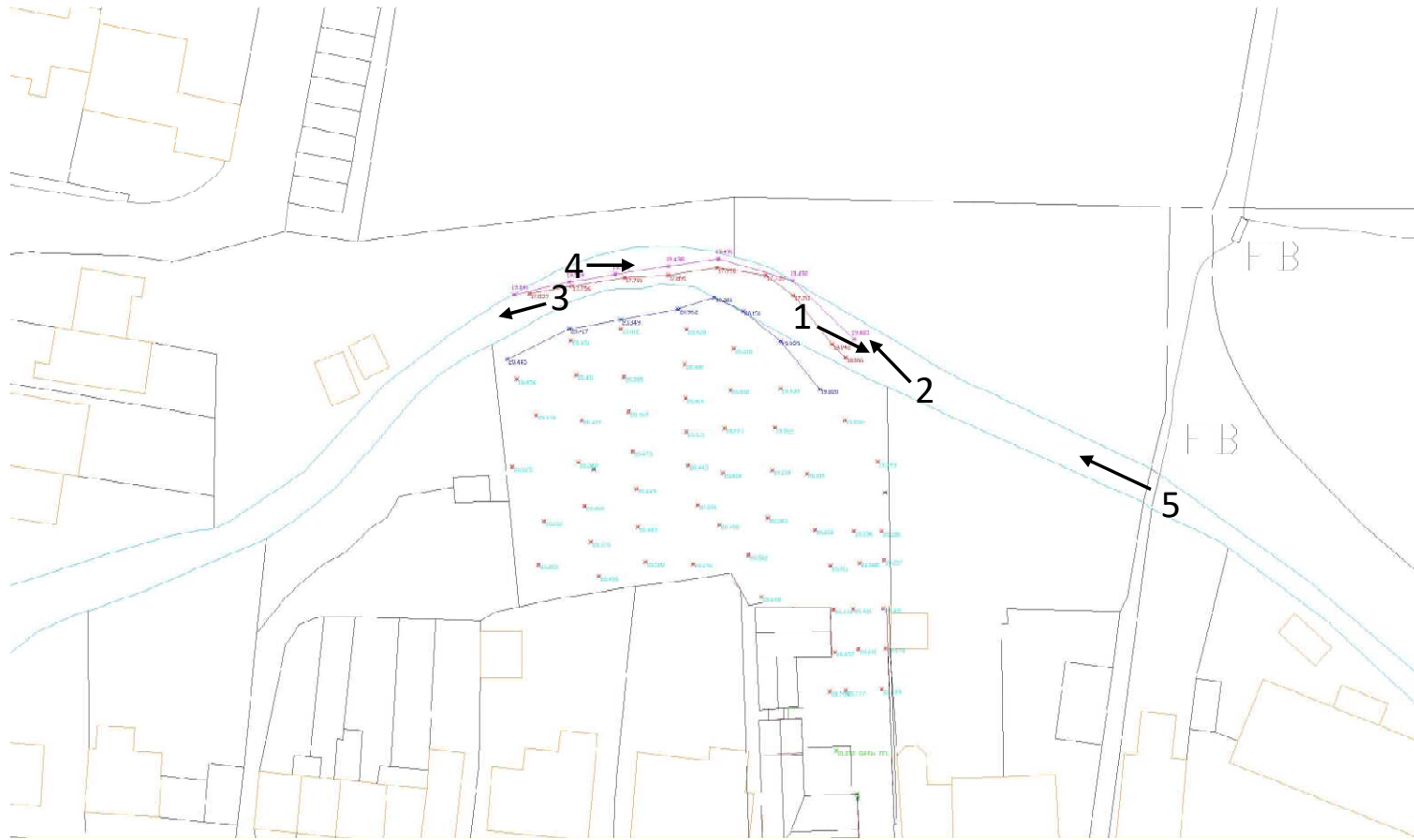




PHOTO 5





PHOTO 4



20.450m approx. Ground level of plot

19.524m pile

17.756m ditch



PHOTO 3





PHOTO 2





PHOTO 1





amazi

[www.amazi.co.uk](http://www.amazi.co.uk)

cover photography: Lindsey Wakelin