



**Port Hamble Marina
Southampton
SO31 4QD**

Flood Risk Assessment

December 2023



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CONTENTS

1.	INTRODUCTION	1
2.	PLANNING POLICY.....	2
3.	ASSESSMENTS.....	3
4.	RECOMMENDATIONS.....	9

References

APPENDIX A – DRAWINGS

APPENDIX B – DATA RECEIVED FROM THE EA

APPENDIX C – EMERGENCY FLOOD PLAN TEMPLATE

1. INTRODUCTION

- 1.1 This document has been prepared in support of a planning application for the erection of a single-storey commercial building for office accommodation and storage at Port Hamble Marina, Satchell Lane, Hamble, SO31 4QD . The location of the site is shown by the red line boundary in Figure 1.

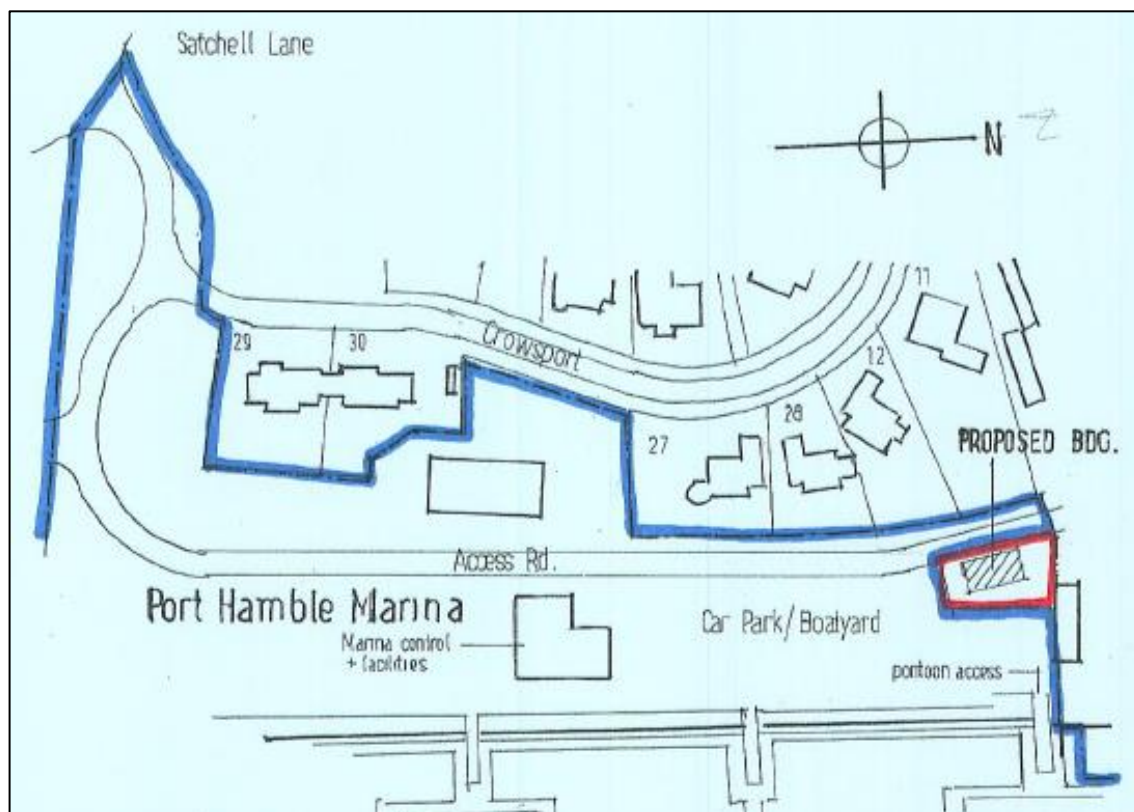


Figure 1. Location Plan

- 1.2 Drawings of the proposed development are included in Appendix A. Key site levels are as follows:
- Proposed finished floor level (FFL) – Storage 3.16mAOD
 - Proposed finished floor level – Office 3.40mAOD
- 1.3 This report is based on information received from the Environment Agency (EA) (included in Appendix B) and the Partnership for Urban South Hampshire's Strategic Flood Risk Assessment (ref: 1-1). This information shows the site to be in Flood Zone 3 i.e. at risk of flooding more frequently than once every 200years, in the absence of flood defences.

2. PLANNING POLICY

- 2.1 Section 161 of the National Planning Policy Framework (ref: 2-1) requires a sequential approach to be adopted for the location of new development. The aim of the approach is to direct development away from areas at highest risk of flooding.
- 2.2 The sequential approach has been considered by locating the building away from the foreshore and on the higher ground to the west of the site.
- 2.3 Table 2 of the NPPF Technical Guidance (ref: 2-2) describes the vulnerability to flooding of different types of development. Development for marinas is classed as water compatible. Table 3 of the Guidance confirms that water compatible development is appropriate in flood zone 3.

3. ASSESSMENTS

3.1 The EA's FRA Guidance Note 3 (ref: 3-1) sets out a number of assessments that should be undertaken when considering flood risk. The following sections address each assessment.

3.2 *Consideration of whether the site falls within the functional flood plain* – the NPPF notes the following:

“The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. But land which would flood with an annual probability of 1 in 20 (5%) or greater in any year, or is designed to flood in an extreme (0.1%) flood, should provide a starting point for consideration and discussions to identify the functional floodplain.

From Figure 2 below, it can be seen that the site is protected by flood defences. Therefore, it is reasonable to conclude that the site does not lie within the functional floodplain.

3.3 *Flood alleviation measures already in place.* The plan below shows the location of defences in the vicinity of the site. From the information included in Appendix B it can be seen that the defences are in the form of walls with crest levels between 1.21mAD and 2.41mAD.



Figure 2 – Location of Flood Defences

3.4 *Information about all potential sources of flooding that may affect the site.* The following sub-sections consider sources of flooding.

3.4.1 *Rivers and streams* – the tidal River Hamble lies immediately to the east of the site. Due to the close proximity of the site to the mouth of the estuary, the risk of flooding from this source is included under the risk of flooding from the sea.

3.4.2 *The Sea* – as noted above the site is in close proximity to the tidal River Hamble. From the information received from the EA in Appendix B it can be seen that the predicted flood levels from the 2014 Southampton Water model are 3.09mAOD for the 1 in 200yr flood and 3.22mAOD for the 1 in 1000yr flood event. The following table shows the climate change allowances that need to be added to the modelled levels to estimate the design flood level at the end of the asset's life. The table indicates the static water level is predicted to be approximately 3.78mAOD.

Period	Annual increase (mm/yr)	Increase during period (mm)	200yr Sea Level at end of Period (mAOD)
2000-2035	6.9	83	3.173
2036-2065	11.3	339	3.512
2066-2083	15.8	269	3.781
TOTAL		691	

Table 3.1 – Recommended Sea Level Rise Allowances in 2023

3.4.3 *Surface water runoff* – Figure 3 below is an extract from the surface water flood risk map. It shows that the site is at low risk of flooding from surface water runoff.

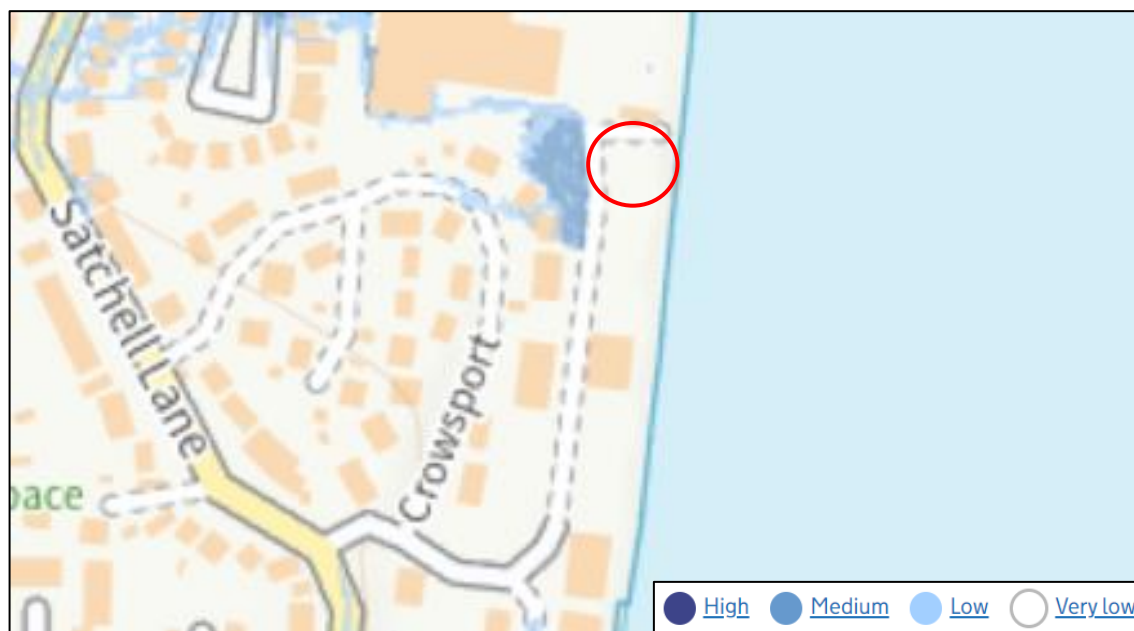


Figure 3 – Extent of Flooding from Surface Water (www.gov.uk)

3.4.4 *Sewers* – there are no known incidents of sewer flooding at the site.

3.4.5 *Groundwater* – the topography of the site, its urban setting and its proximity to existing drainage systems and the adjacent river is such that it is not at risk of groundwater flooding.

3.4.6 *Artificial Water Bodies* - Figure 4 below is an extract from the flooding from reservoirs risk map. It shows that the site is not at risk of flooding from this source.



Figure 4 – Extent of Flooding from Surface Water (www.gov.uk)

3.5 *The impact of flooding* – from the above it can be seen that flooding from the sea is the primary source of flood risk.

3.5.1 *The speed of flooding* – the flood hazard mapping tool for the area (PfSH WebMaps) shows the site lies on the boundary of the low risk and moderate risk flood hazard areas. Since flood hazard is a combination of the speed and depth of flood water, if the depth of flooding is known the speed of flood water can be deduced. From 3.4.2 above it can be seen that the design flood level in 2083 is 3.78mAOD, this equates to a flood depth of approximately 1m at the site. Assuming that the low/moderate hazard equates to the Class 1 category of hazard ('danger for some') described in Flood Risks to People (ref: 3-2) it can be seen from Figure 2.1 of the same document that the speed of flood water would be in the range of 0.5-1.0m/s.

3.5.2 *The order in which the location might flood* – the first area of the site to flood will be the area immediately to the east between the proposed building and the river. The storage area would be the next to flood, followed by the office accommodation.

3.5.3 *The likely duration of flood events* – given the elevation of the site and its proximity to the tidal River Hamble flooding is likely to be limited to the peak of the tidal cycle i.e. 2-3hours.

3.5.4 *The economic, social and environmental consequences of flooding on occupancy of the site* – the consequences of flooding would be as follows:

- economic – cost of clean-up and refurbishment of the building. Costs of repair/replacement of stored materials. Cost of temporary office accommodation during refurbishment.
- social – negligible.
- environmental – possible contamination arising from flooding of vehicles and stored materials.

3.5.5 *Information on extent and depth of previous flood event or on flood predictions* – the historic flood map shown below indicates that the site does not have a known history of flooding.

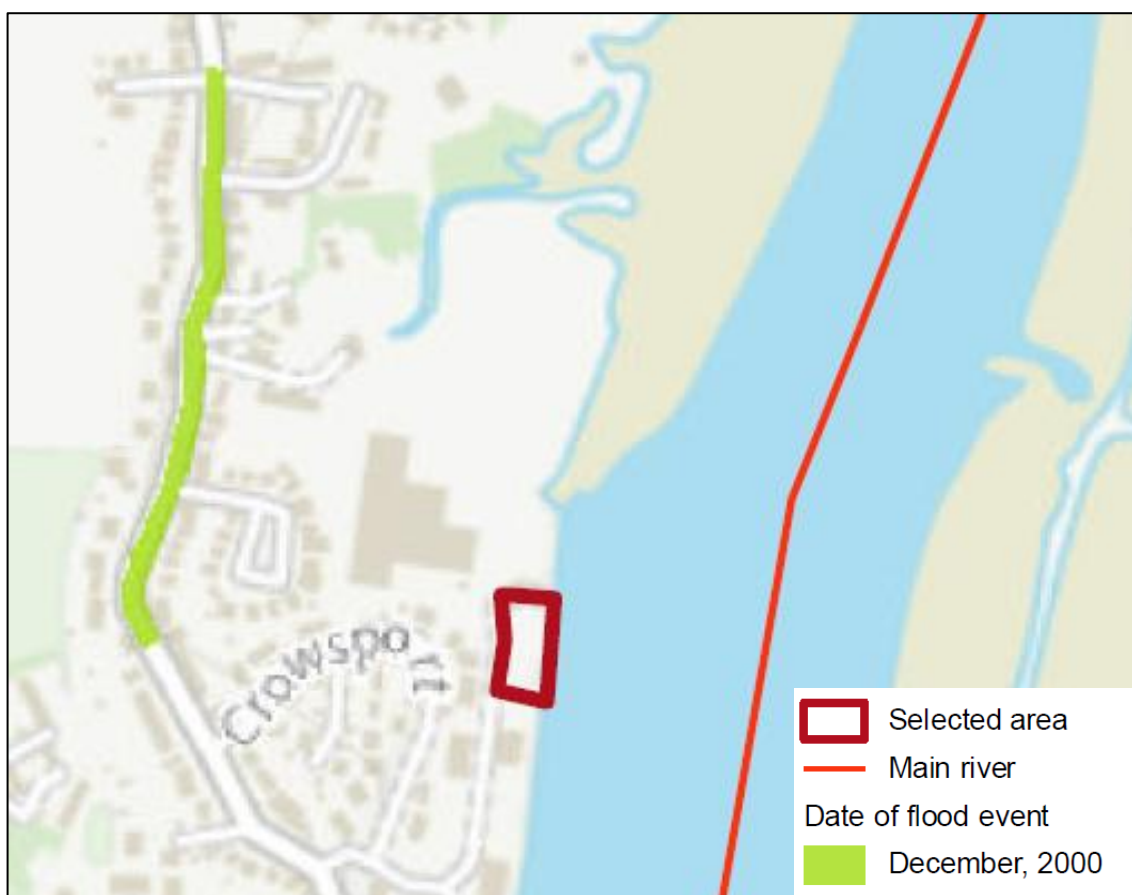


Figure 5 – Extent of Historic Flooding (www.gov.uk)

3.5.6 *An assessment of how users of the development can avoid exposure to hazardous flooding in and around the development, including whether safe access and exit can be provided for routine and emergency access under both frequent and extreme flood conditions* – since the nature of the risk is forecastable users of the building will be able to avoid exposure to hazardous flooding by signing up to the EA's flood warning service and evacuating the building in advance.

Given the residual flood risk it is recommended that the occupier of the site develop an emergency flood plan, a template for which is included as Appendix C of this report.

Inspection of the surface water flood map (see Figure 6 below) indicates that flooding from this source will not prevent vehicular access to/from the site. However, as noted

in 3.5.1 above flooding from the sea could result in flood depths of up to 1.0m at the site. This depth, when combined with the impact of wave action could result in the access road being unsafe for vehicles for a period of 2-3hours during an extreme flood.



Figure 6 – Extent of Flooding from Surface Water – Wider Area (www.gov.uk)

- 3.5.7 *An assessment of how the layout and form of development can be used to reduce or minimise flood risk* – it is recommended that the finished floor level of the office accommodation be set no lower than the present day 1 in 200year flood level for the site, i.e. 3.16mAD. To protect the accommodation from water ingress due to wave action it is recommended that there be no openings (other than the main access) below the level of (4.68mAD i.e. the present day flood level + climate change +900mm freeboard for wave action). Electrical sockets should also be set above the level of 4.68mAD.

Further, it is recommended that a 900mm high demountable flood defence be provided to the entrance to the office accommodation.

The design of the storage area should consider the practicality of including high level storage (i.e. above 4.68mAD) for water-sensitive plant, equipment and materials.

Internal finishes should be constructed of flood resilient materials.

- 3.5.8 *Estimates of how climate change could affect the probability and intensity of flood events* – the potential impact of climate change is included in the assessment of flood levels used in this report.
- 3.5.9 *Consideration of the proposal relative to any existing SFRA* – in preparing this report the author has reviewed the Partnership for Urban South Hampshire Level 1 Strategic Flood Risk Assessment.
- 3.5.10 *Volume of surface water runoff likely to be generated* – the proposed development will not result in any changes to the impermeable area of the site. Therefore, there will be no increase in the volume of surface water runoff.
- 3.5.11 *Proposals for surface water management* – it is proposed to discharge runoff from the site to the existing drainage system.
- 3.5.12 *Capacity of any drains or sewers* – there will be no impact on the capacity of drains and sewers.
- 3.5.13 *Impact of any displaced water* – due to the tidal nature of the flooding there will be no loss of flood storage arising from the proposed development.
- 3.5.14 *Potential impact on form or structure of rivers or coastal areas* – there will be no impact on the form or structure of rivers as a result of the proposed works.
- 3.5.15 *Residual risks to the site after the construction of any necessary defences* – it is not proposed to construct any defences.

3. RECOMMENDATIONS

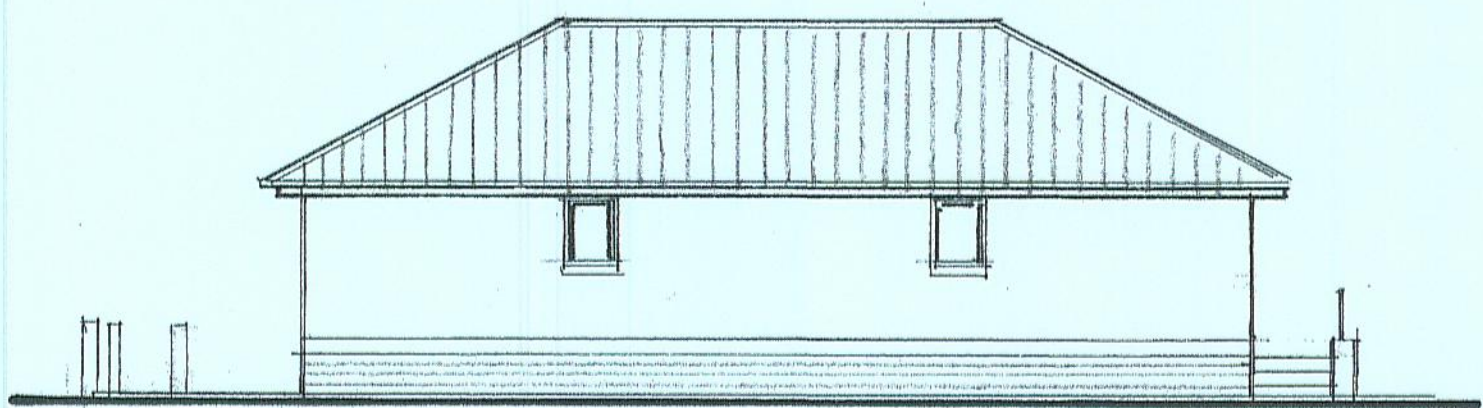
- 3.1 The occupants of the building should sign up to the EA's flood warning service.
- 3.2 The occupants of the building should prepare an emergency flood management plan in accordance with the guidance included in Appendix C of this report.
- 3.3 The design of the building should incorporate the following recommendations:
- The finished floor level of the office accommodation should be set no lower than the 1 in 200year flood level for the site, i.e. 3.16mAD.
 - There should be no openings (other than the main access) below the level of (4.68mAD). Electrical sockets should also be set above the level of 4.68mAD.
 - A 900mm high demountable flood defence should be provided to the entrance to the office accommodation.
 - The design of the storage area should consider the practicality of including high-level storage (i.e. above the of 4.68mAD) for water sensitive plant, equipment and materials.
 - The building should be designed and constructed in accordance with the recommendations and details in the DEFRA publication Improving the Flood Performance of New Buildings – Flood Resilient Construction (ref: 3-3).

References:

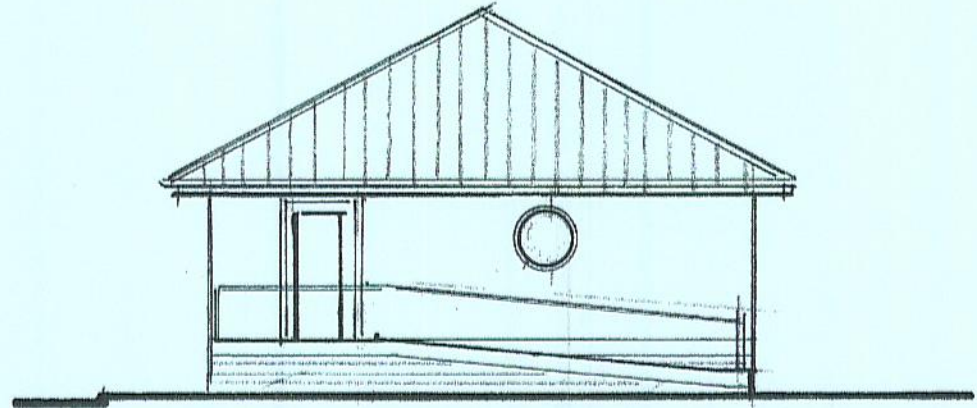
- 1-1 Partnership for Urban South Hampshire Level 1 Strategic Flood Risk Assessment 2016 Update (February 2016).
- 2-1 National Planning Policy Framework (Ministry of Housing, Communities and Local Government – September 2023)
- 2-2 Technical Guidance to the National Planning Policy Framework (Department of Communities and Local Government – March 2012)
- 3-1 EA FRA Guidance Note 3 http://www.environment-agency.gov.uk/static/documents/Utility/FRAGuidanceNote3_v3.1.pdf
- 3-2 Flood Risks to People, Phase 2, FD2321/TR2, Guidance Document (DEFRA/EA, March 2006)
- 3-3 Improving the Flood Performance of New Buildings – Flood Resilient Construction, (DEFRA, May 2007)

APPENDIX A
DRAWINGS

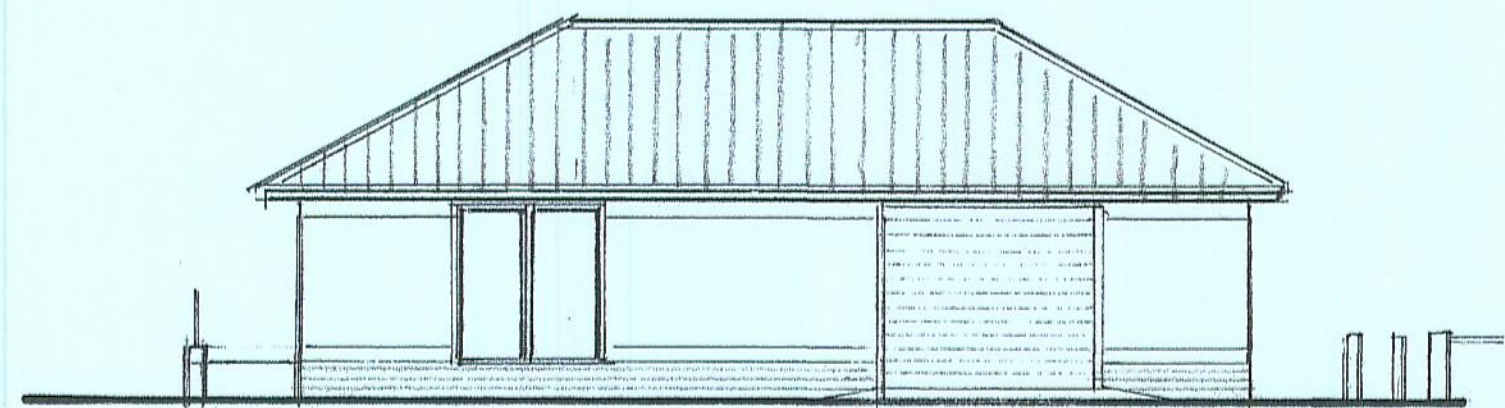
- 1. Scheme Design**
- 2. DR-001 – Site Levels**



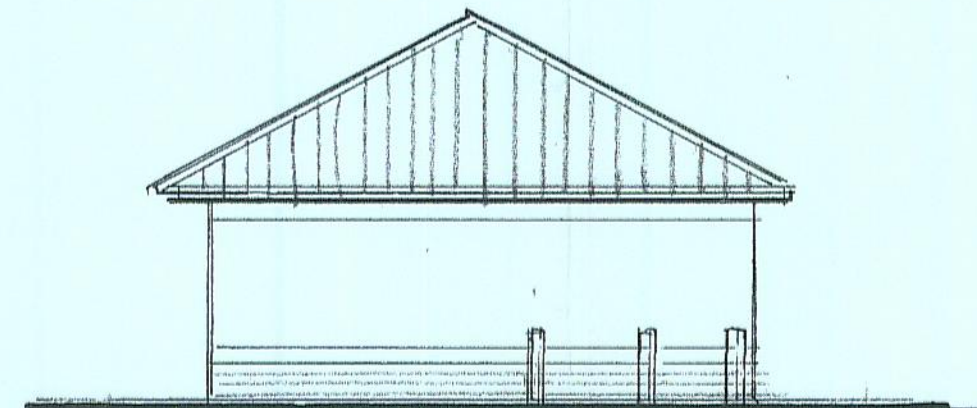
WEST (ROAD) ELEVATION
1:100



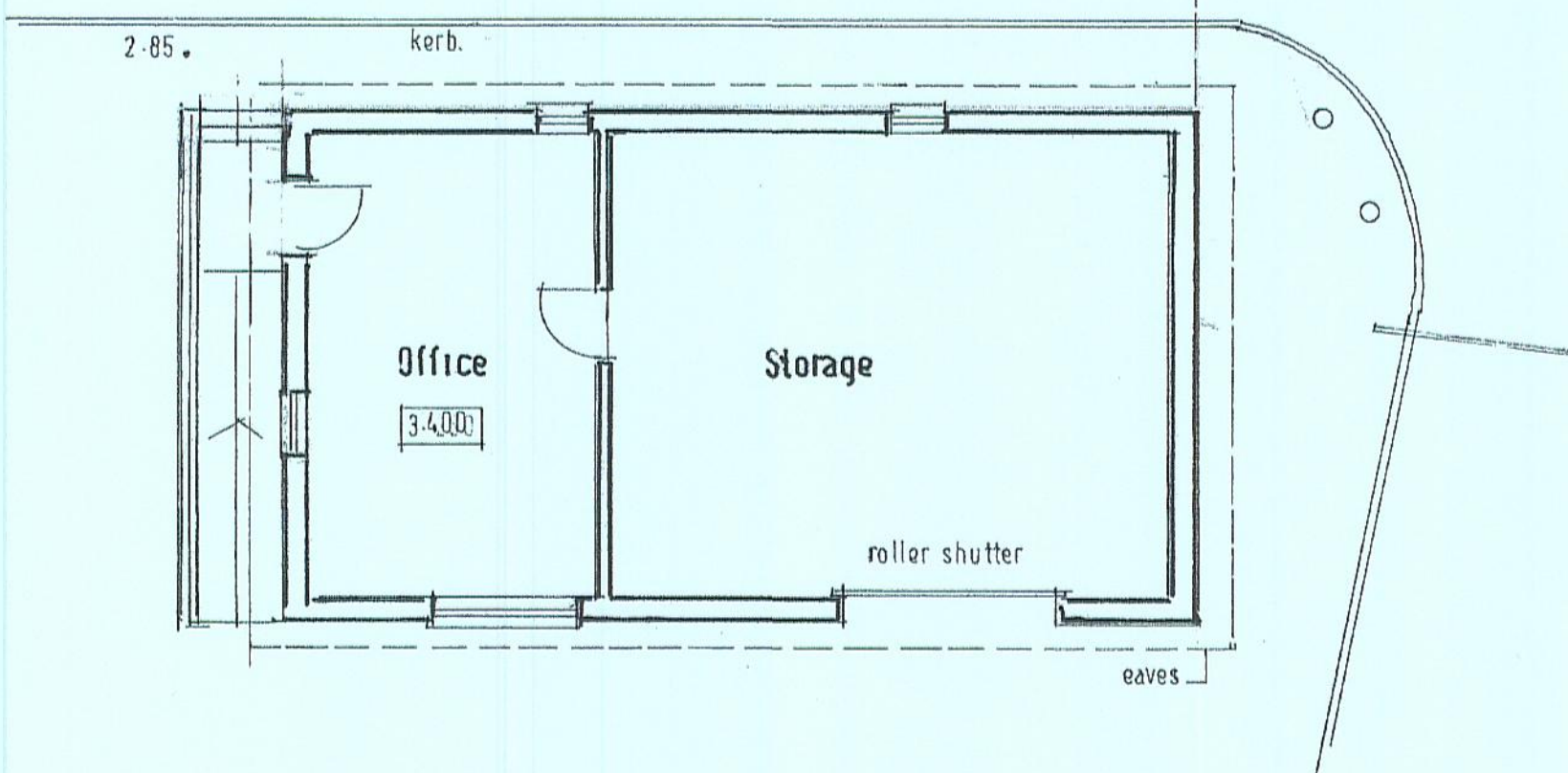
SOUTH ELEVATION
1:100



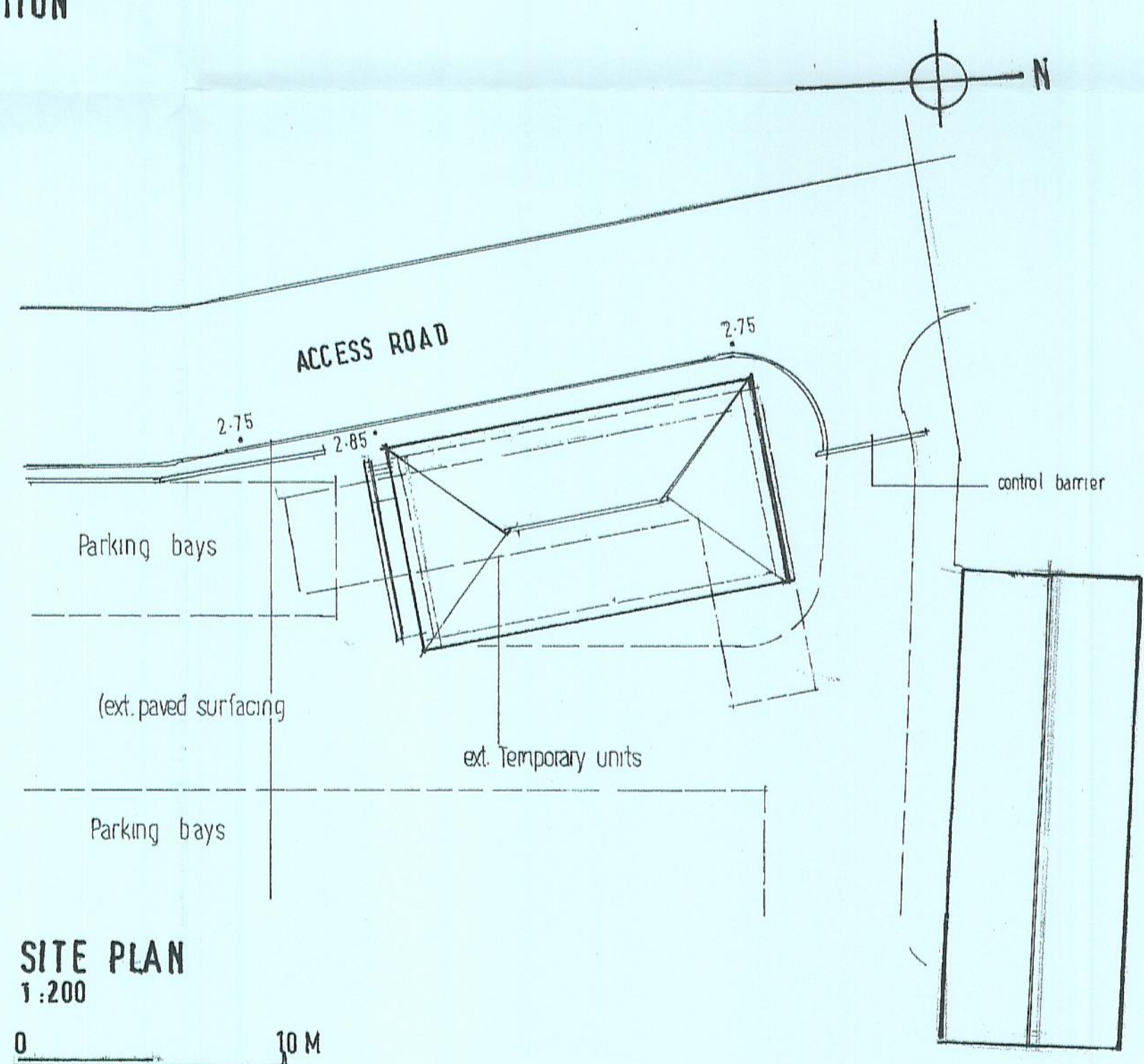
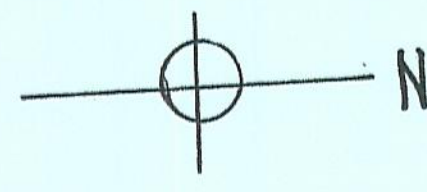
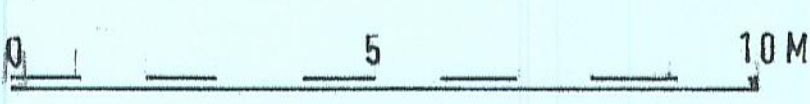
EAST (YARD) ELEVATION
1:100



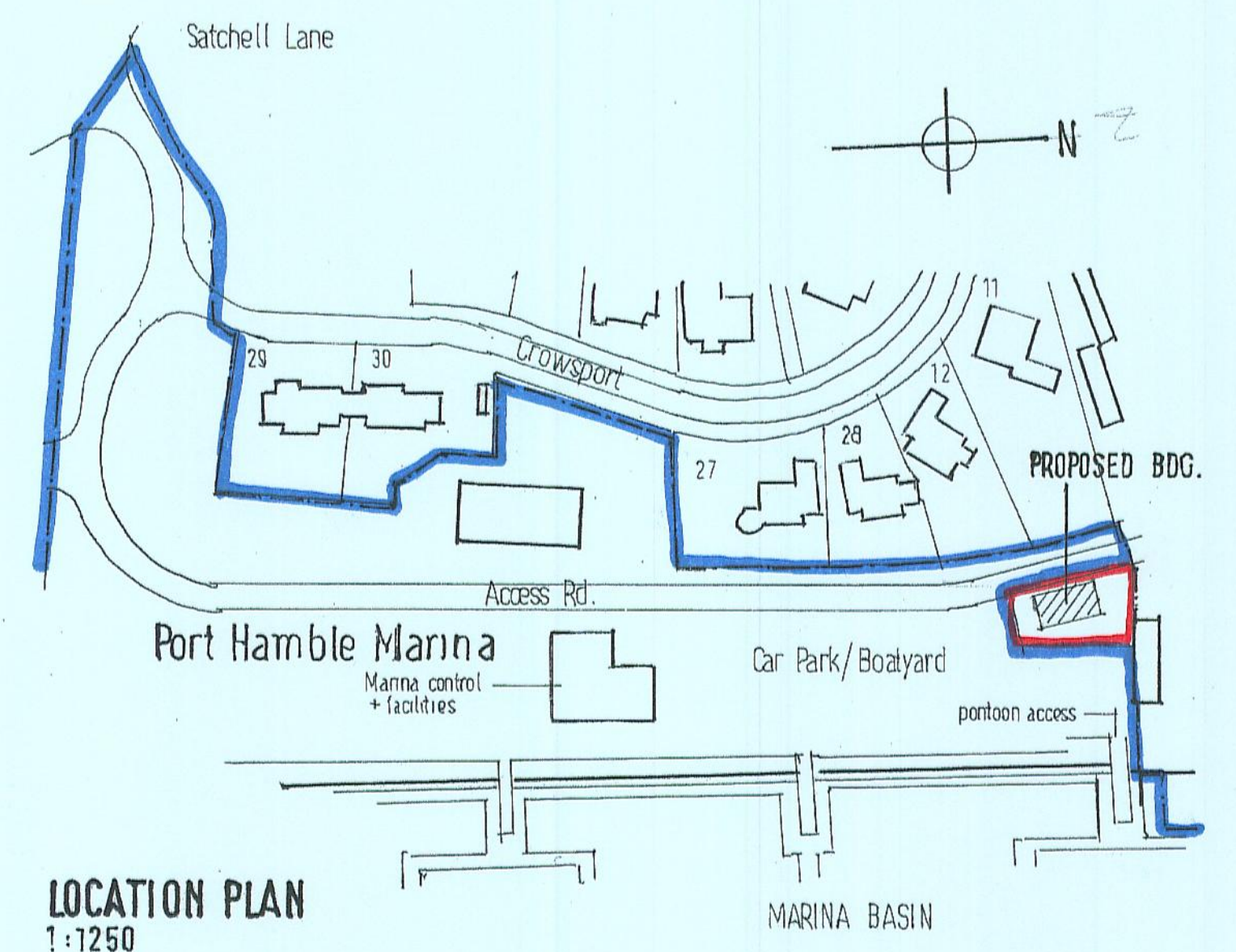
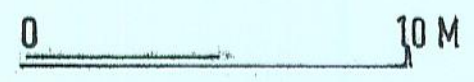
NORTH ELEVATION
1:100



FLOOR PLAN
1:100



SITE PLAN
1:200



LOCATION PLAN
1:1250

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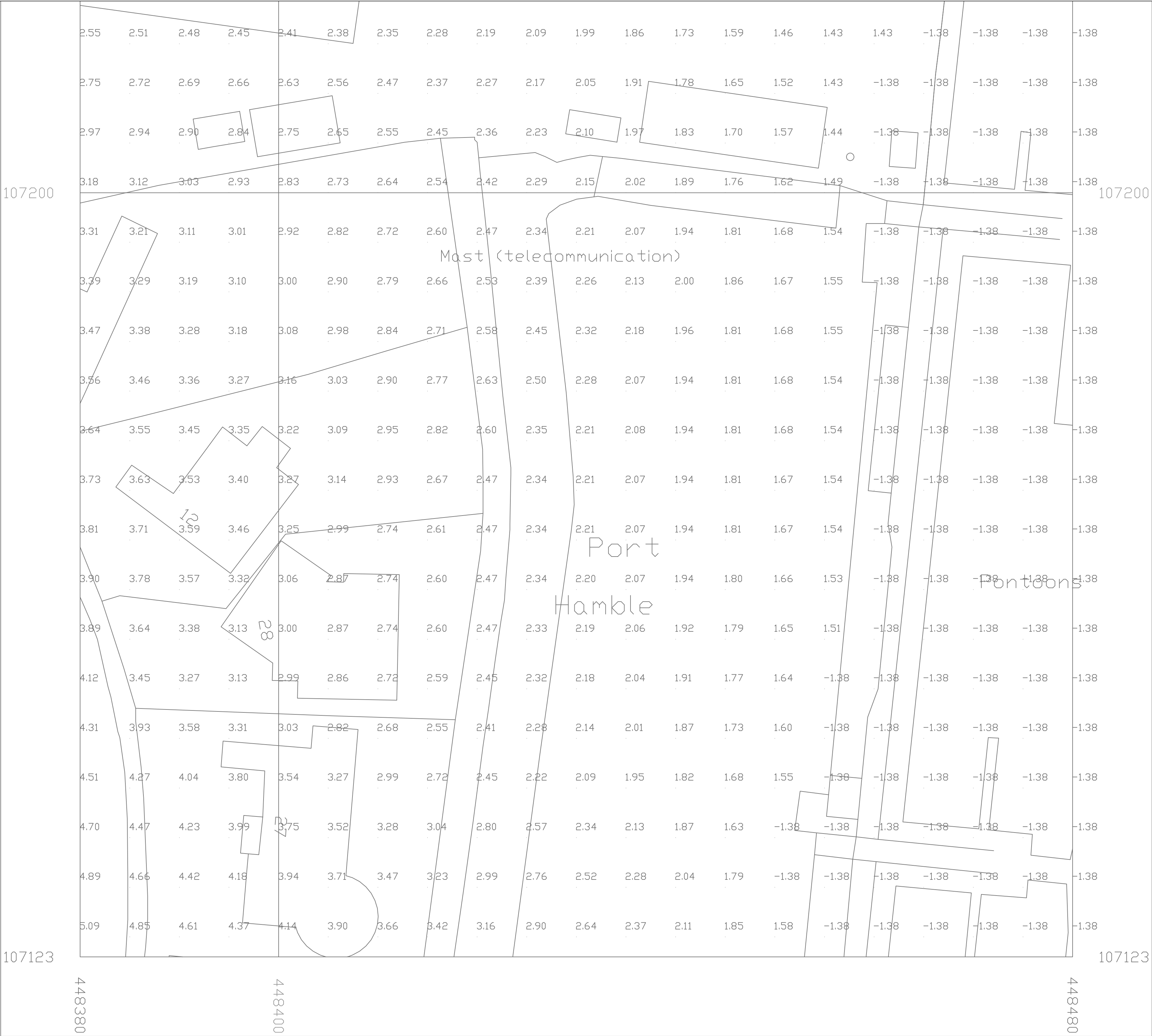
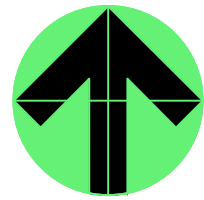
MARINA DEVELOPMENTS

project
Proposed Commercial Accommodation
PORT HAMBLE MARINA

title
SCHEME DESIGN

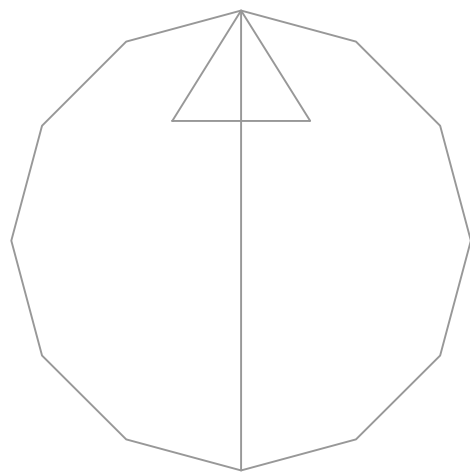
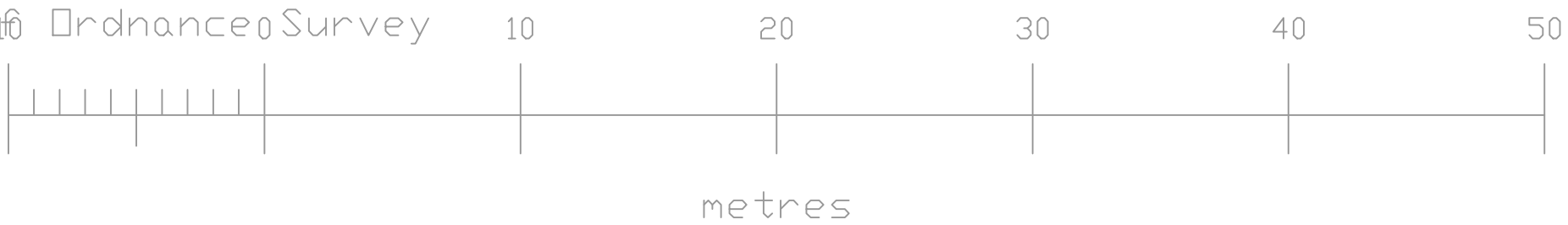
CANFORD CLIFFS ARCHITECTS
28 Haven Road Canford Cliffs
Poole Dorset BH 13 7LP
TELEPHONE 01202 708192
FACSIMILE 01202 700976

scale		date	
project no	drg no	rev	
2617	2		



Serial number: 271756

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PROJECT: PORT HAMBLE MARINA, SO31 4QD		
TITLE: SITE LEVELS		
REV: A	PROJECT No: 0696	DRAWING No: DR-001
SCALE @ A1: 1:250		



APPENDIX B
DATA RECEIVED FROM THE EA

Flood risk assessment data

Location of site: 448444 / 107163 (shown as easting and northing coordinates)

Document created on: 31 August 2023

This information was previously known as a product 4.

Customer reference number: SSD/316632

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)
- historic flooding
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- 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 Solent and South Downs Environment Agency team at ssdenquiries@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.

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: Gosport 2018 - East Solent Model

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

Date: 1 July 2018

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.



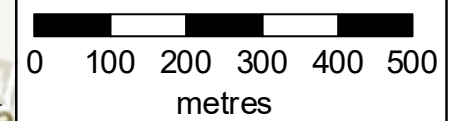
Flood map for planning

Location (easting/northing)
448444/107163

Scale
1:10,000

Created
31 Aug 2023

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



Historic flooding

This map is an indicative outline of areas that have previously flooded. Remember that:

- our records are incomplete, so the information here is based on the best available data
- it is possible not all properties within this area will have flooded
- other 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 also 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.

[Download recorded flood outlines in GIS format](#)



Historic flood map

Location (easting/northing)
448444/107163

Scale
1:10,000

Created
31 Aug 2023

-  Selected area
-  Main river
- Date of flood event
-  December, 2000



Historic flood event data

Start date	End date	Source of flood	Cause of flood	Affects location
1 December 2000	1 December 2000	unknown	unknown	No

Flood defences and attributes

The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk



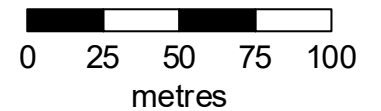
Flood defences

Location (easting/northing)
448444/107163

Scale
1:2,500

Created
31 Aug 2023

-  Selected area
-  Main river
-  Flood defence



Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	47522	Wall	100		2.24	1.21	
2	48068	Wall	100		2.41	2.24	
3	47523	Embankment	100		0.56	1.68	

Any blank cells show where a particular value has not been recorded for an asset.

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
- flood levels map and table

Climate change

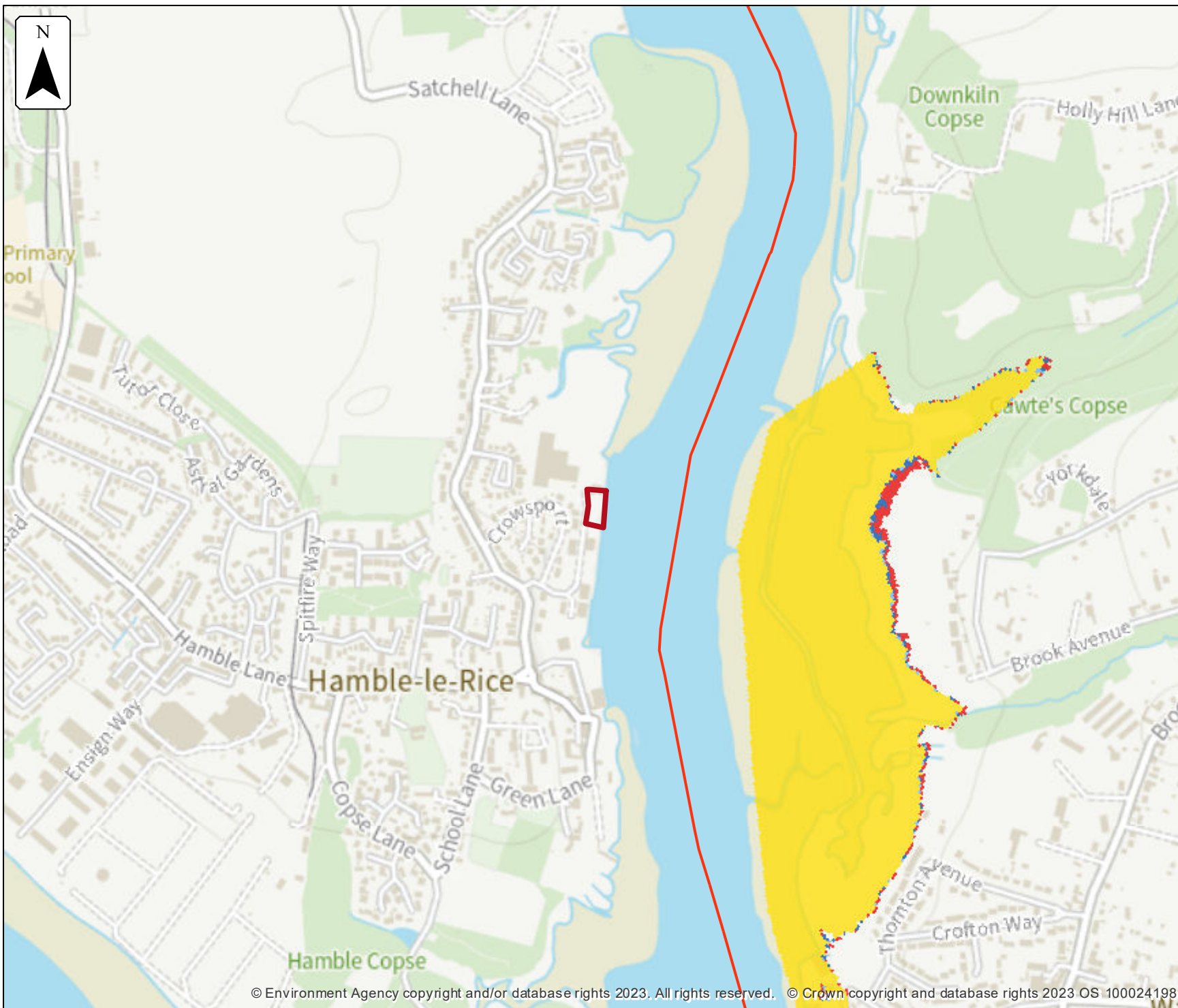
The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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

Modelled scenarios

The following scenarios are included:

- Defended modelled tidal: risk of flooding from the sea where there are flood defences
- Defences removed modelled tidal: risk of flooding from the sea where flood defences have been removed
- Defended climate change modelled tidal: risk of flooding from the sea where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled tidal: risk of flooding from the sea where flood defences have been removed, including estimated impact of climate change



Defended modelled tidal extent

Location (easting/northing)
448444/107163

Scale Created
1:10,000 31 Aug 2023

Model name
Gosport 2018 - East Solent Model

 Selected area

 Main river

Modelled flood extent

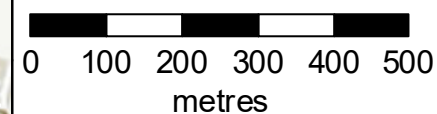
 1.33% AEP

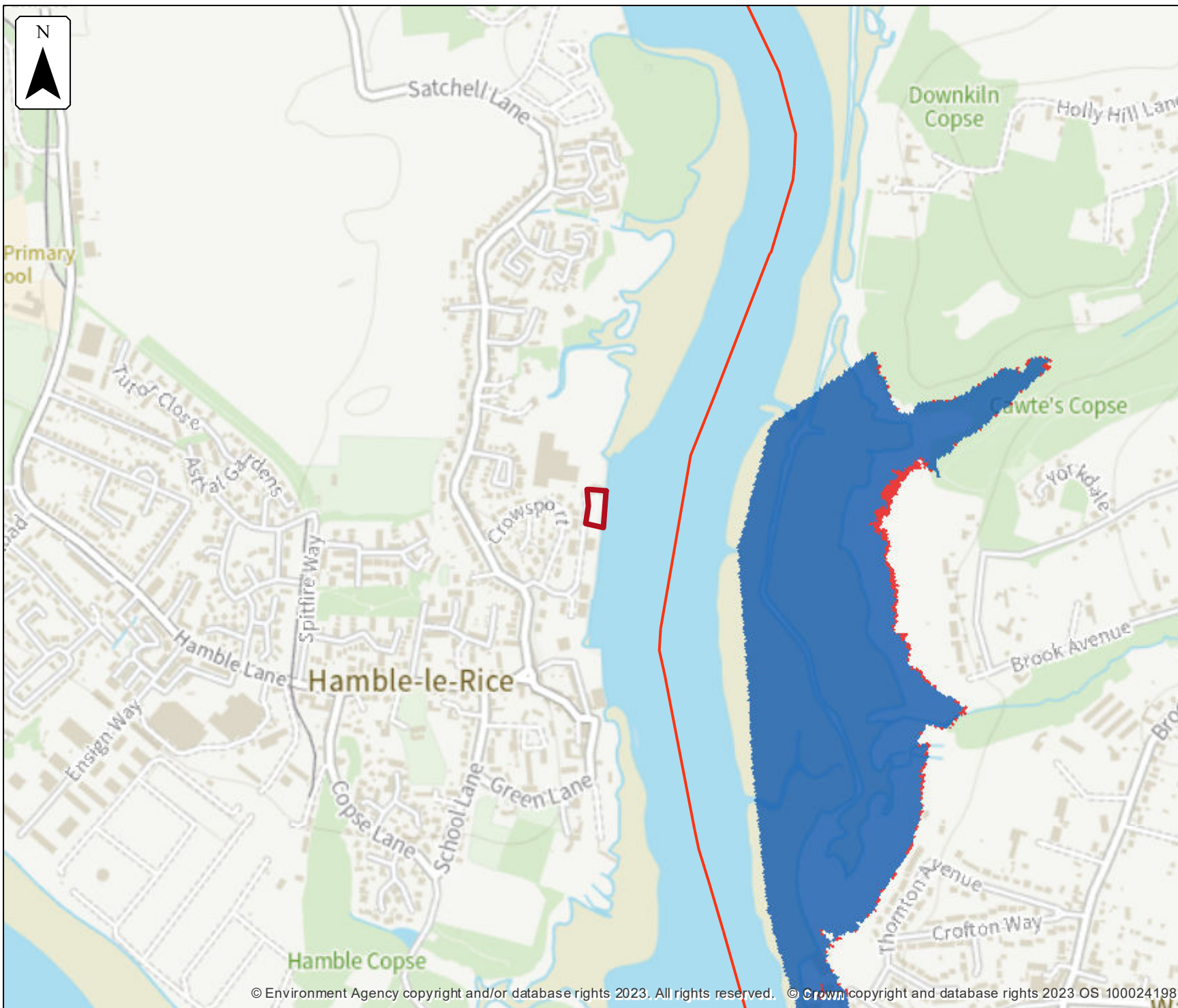
 1% AEP

 0.5% AEP

 0.1% AEP

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





Defences removed modelled tidal extent

Location (easting/northing)
448444/107163

Scale Created
1:10,000 31 Aug 2023

Model name
**Gosport 2018 - East
Solent Model**

 Selected area

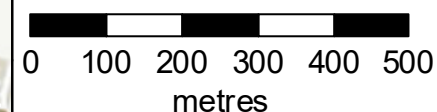
 Main river

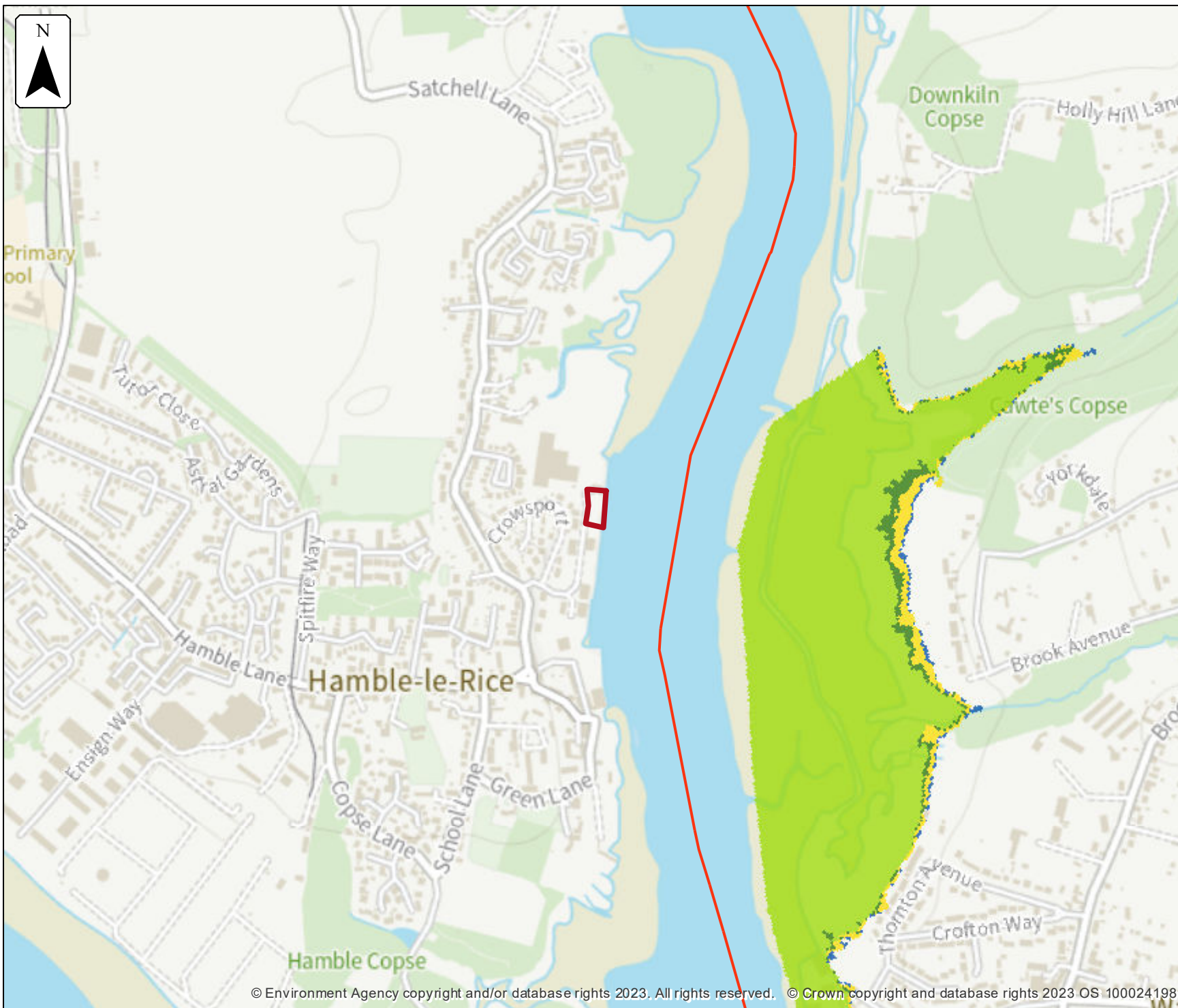
Modelled flood extent

 0.5% AEP

 0.1% AEP

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





Defended climate change modelled tidal extent

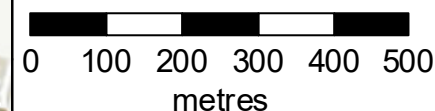
Location (easting/northing)
448444/107163

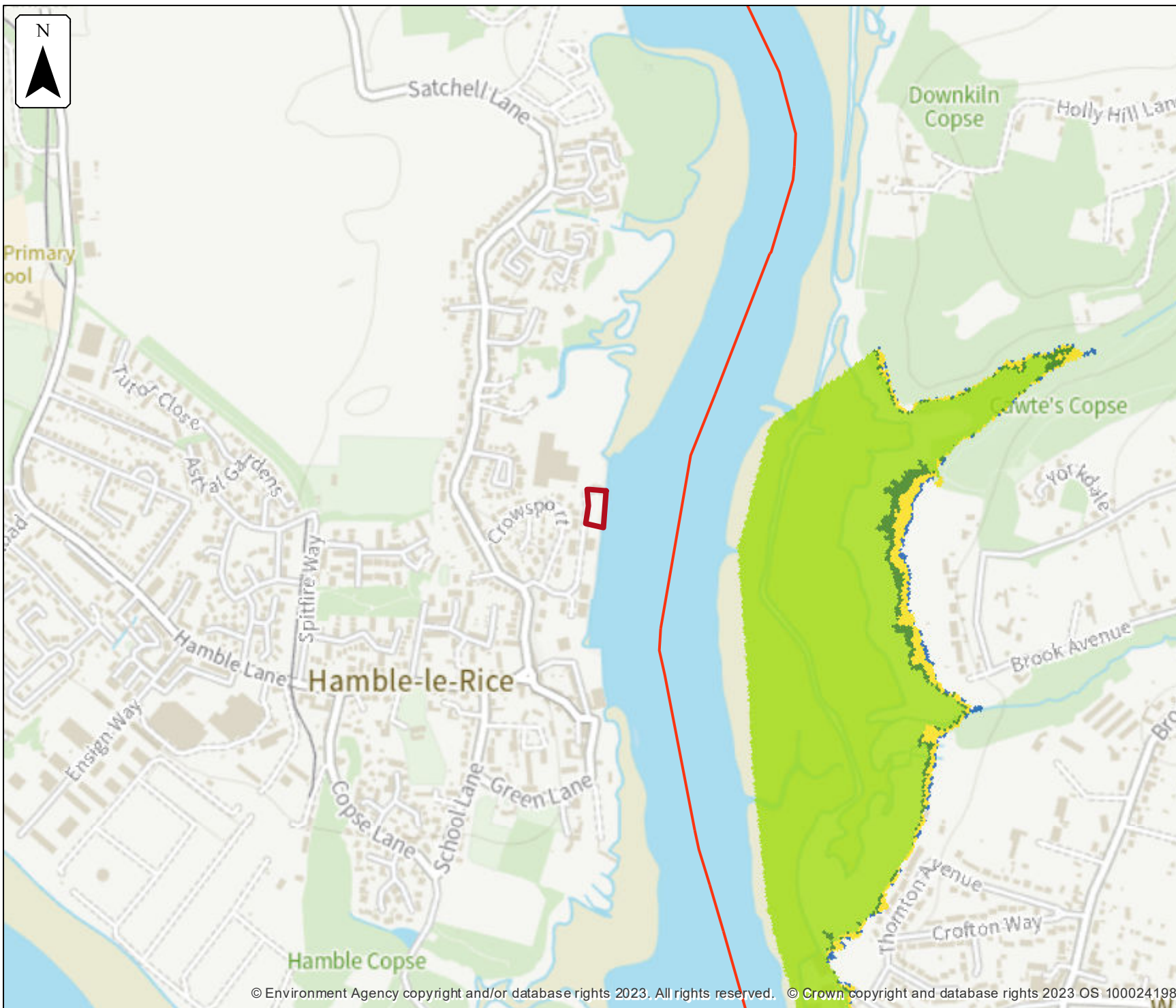
Scale Created
1:10,000 31 Aug 2023

Model name
**Gosport 2018 - East
Solent Model**

- Selected area
- Main river
- Modelled flood extent
 - 0.5% AEP (+90mm)
 - 0.5% AEP (+320mm)
 - 0.5% AEP (+744mm)
 - 0.1% AEP (+320mm)
 - 0.1% AEP (+744mm)

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



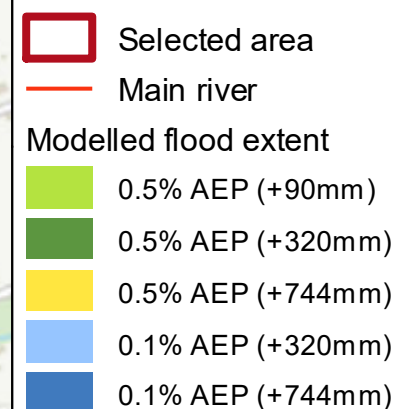


Defences removed climate change modelled tidal extent

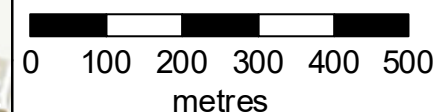
Location (easting/northing)
448444/107163

Scale Created
1:10,000 31 Aug 2023

Model name
**Gosport 2018 - East
Solent Model**



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



2014 Southampton Waters model - Flood Levels Centred on Grid Ref: SU4844307188



Flood Levels Map

Location (easting/northing)
448436/107188

Scale
1:1,141

Created
31 August 2023

Legend

+ New Location Points

 flood_zone_3

 flood_zone_2

 Meters
0 5 10 20 30 40

Water Depths & Levels for SU4844307188

Point	Water Depth (Metres)		Water Surface Level (mAOD*)	
	0.5% Annual Probability/1 in 200 Year Present Day (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)	0.5% Annual Probability/1 in 200 Year Present Day (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year Present Day (Flood Zone 2)
1	0.46	0.59	3.09	3.22
2	0.56	0.68	3.09	3.22
3	0.63	0.76	3.09	3.22
4	0.49	0.62	3.09	3.22
5	0.57	0.70	3.09	3.22
6	0.66	0.79	3.09	3.22
7	0.44	0.57	3.09	3.22
8	0.57	0.69	3.09	3.22
9	0.15	0.18	3.09	3.22
10	0.46	0.58	3.09	3.22
11	0.60	0.72	3.09	3.22
12	0.34	0.44	3.09	3.22

* Levels in metres above Ordnance Datum Newlyn

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

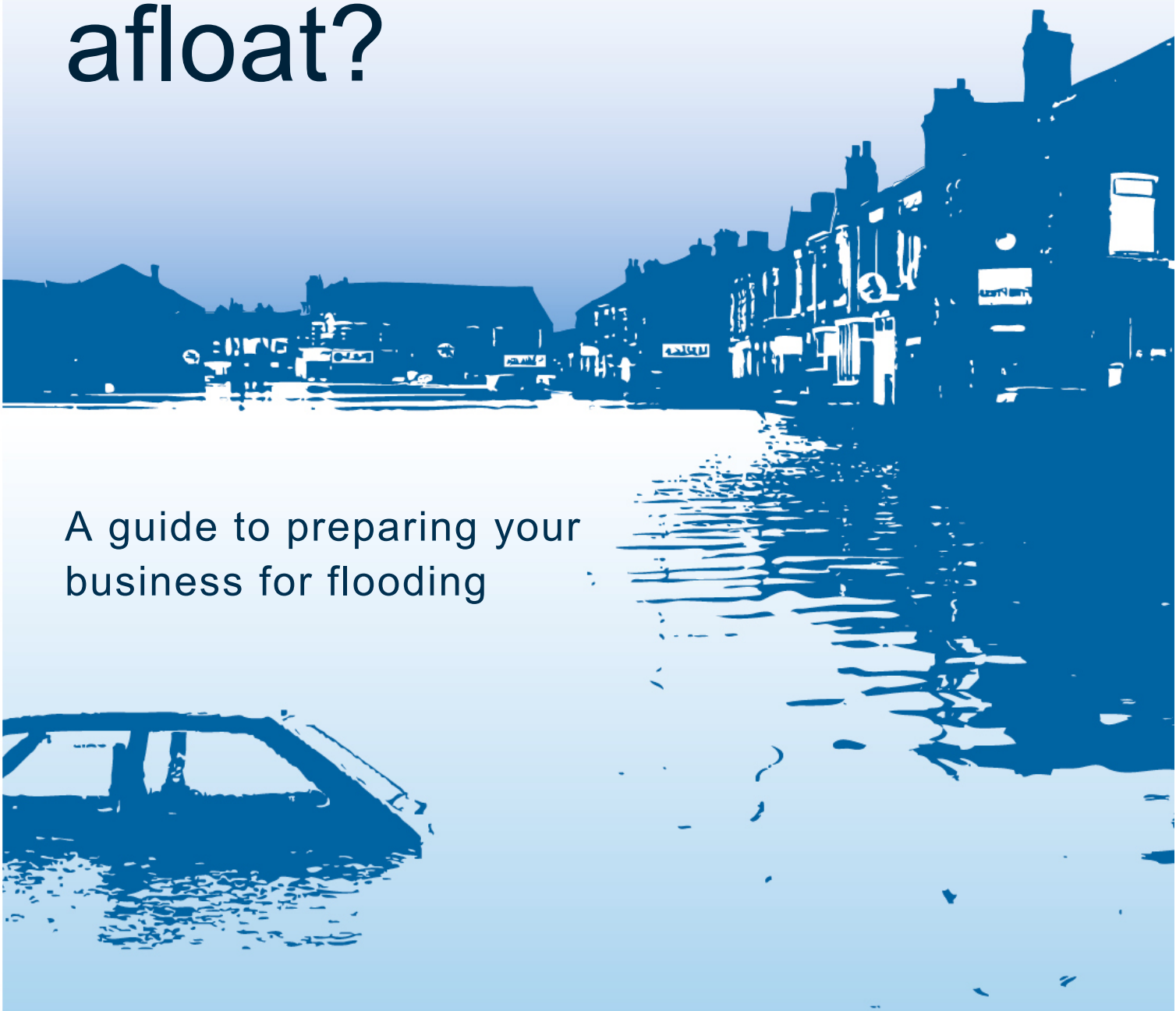
Contact the Solent and South Downs Environment Agency team at ssdenquiries@environment-agency.gov.uk for:

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

APPENDIX C
EMERGENCY FLOOD PLAN TEMPLATE

would your business stay afloat?

A guide to preparing your
business for flooding



Flooding is the most common and widespread natural disaster in the UK. Since 1998 there has been at least one serious flood every year. Businesses like yours are more likely to be flooded than destroyed by fire. As our climate changes we can expect to see more extreme weather – and more floods.

We aim to reduce the likelihood of flooding by managing land, rivers, coastal systems and flood defences. While we do everything we can to reduce the chance of flooding, it is a natural process and can never be completely eliminated.

By taking action to prepare in advance for flooding, most businesses can save between 20 and 90 per cent on the cost of lost stock and movable equipment, as well as some of the trouble and stress that goes with such an event.

This is a simple guide to some of the easy actions that you can take to make sure that your business is as well prepared as possible.

It tells you about how to find out if your business is at risk, our flood warning service and what our flood warning codes mean. It also has a simple template to use to design a flood plan for your company.

For more information about flooding, visit our website at **www.gov.uk/flood** or call Floodline on **0345 988 1188**.

Make sure that your business is prepared for flooding.

How do I find out if my business is at risk from flooding?

There are two quick and easy ways for you to find out if you're at risk.

call us on
0345 988 1188

Our Floodline service is open 24 hours, calls are charged at local rate. By taking your postcode, our operators will check and see if your business is in a flood risk area.

Look at our website

www.gov.uk/flood

You need to be aware of flooding and keep an eye on the water levels and weather situation at all times. You can do this by checking the flood forecasts and the river and sea levels on our website.

Our online flood map uses the latest technology and data gathered over many years to give the most accurate view of flooding in your area.

By entering your postcode you can find out if your business is at risk. Areas at risk from flooding are shown in dark blue and areas at risk from extreme flooding in light blue.

My business is at risk from flooding. What should I do now?

Start preparing now. If the weather conditions are right, flooding can happen at any time.

Remember, floods can happen at any time and any day – make sure you provide a number that can be contacted at all times – even out of working hours.

Sign up for flood warnings.

The first thing you should do is find out if you can receive flood warnings. In areas of high flood risk, we offer a service called Floodline Warnings Direct. This is a free, 24 hour service that sends automated flood warnings by telephone, SMS text, email, fax or pager.

To find out if you can receive this service, call Floodline on 0345 988 1188.

If your business isn't in an area covered by our warnings you can still check the latest flood warnings in force on our website.

When the situation is serious, flood warnings will also be broadcast on local television and radio news.

What practical steps can I take to protect my business?

Now that you've checked your risk and found out about flood warnings, it's time to start thinking about preparing a flood plan specifically for your business.

Taking simple steps can go a long way to protecting your business from flooding. Preparing a flood plan could:

- Significantly reduce financial losses, damage to property and business interruption;
- Help compliance with regulatory requirements (for example, Occupier's Liability Act 1984);
- Reduce exposure to civil or criminal liability;
- Enhance your company's image and credibility with employees, customers, suppliers and the community;
- Help fulfil your moral responsibility to protect employees, the community and the environment;
- Help you to obtain insurance cover.

What is a flood plan?

Just as many businesses have health and safety policies and contingency plans for an emergency, they should also have flood plans.

A flood plan is a written document that outlines how your business will respond to a flood.

This might include a list of steps you will take in case of a flood and the order you will take them in. It could also include the purchase of flood products and insurance.

A written plan can make information **easy** to access during a flood, **easy** to communicate to staff, and **easy** to remember.

Small businesses should make sure there is a plan of action in case of flooding. As the business owner, this may be your responsibility.

If your business is **medium sized**, flood preparation might be the responsibility of a team of people from different areas of the business.

If your business decides to have a flood planning team, this could be led by the business owner or Managing Director.

The leader of the flood planning team will need to let staff know about the plan once it is finished.

All members of the team should also keep a copy of important flood contacts at home for easy access.

Key areas to consider in your flood plan are:

- human resources;
- maintenance/facilities;
- finance and purchasing.

Once you have completed your plan don't forget about it. Look at it regularly and make sure it is up to date and in the event of a flood **use it**.



business flood plan



A written flood plan is recommended for businesses.

It should include:

- A list of important contacts, including Floodline, building services, suppliers and evacuation contacts for staff;
- A description or map showing locations of key property, protective materials and service shut-off points;
- Basic strategies for protecting property, preventing business disruption and assisting recovery;
- Checklists of procedures that can be quickly accessed by staff during a flood.

If a flood is imminent, your main priority is to make sure that your staff are safe. However there may be other actions that you can take to prepare your building and it's contents to minimise damage and post-flood repair and restoration costs.

Business flood plan

Flood plan for _____ dated _____
Registered address _____

Postcode _____

Staff contact list

Name	Address	Telephone/mobile	Emergency contact	Emergency telephone and address

Note staff who may require assistance in the event of a flood.

Name	Office location

Key locations

Service cut-off	Description of location
Electricity	
Gas	
Water	

Answer the following if applicable

	Description of location	How to protect from a flood (for example, move, cover, tie down)
First Aid Kit		
Oil based products (gasoline, oil, cooking oil etc.)		
Chemicals (including cleaning products)		

Protective actions

Identify stock, equipment and possessions that may need special protective measures, and describe the actions you will take to prevent damage in the event of a flood. We have suggested items and ways to protect them, but make sure you follow through on your plans.

think about:

- Computers;
- Tables / heavy furniture;
- Vehicles;
- Paper files;
- Electrical items;
- Chairs / stools;
- Databases;
- Soft furnishings;
- Computer files;
- Staff files.

ways to protect items

- Make a copy of important documentation and store in safe location;
- Raise items above ground level;
- Buy flood protection products;
- Buy new flood-resistant items;
- Move items to a safer location if possible – to an upper level of the building or off site.

Valuable item	Protective action	New location (if applicable)	Done
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐
			☐

Suggested basic building materials to help protect your property

If materials are not needed, leave the relevant section blank

Materials	Used for	Items to protect / where to use	Storage location	Done
Sand and sand bags (unfilled), shovel	Creating flood barriers (used with plastic sheeting)			☐
Tools – hammer, nails, saw	Boarding up doors, windows and openings, creating shelves			☐
Wood – plywood, blocks of wood	Boarding up doors, windows and openings, creating shelves			☐
Sturdy plastic sheeting	Sandbag barriers, pulling up around furniture and appliances			☐
Strong plastic bags	Putting around legs of tables and chairs			☐
Pallets	Raising stored stock above flood level			☐
Emergency power generator	Maintaining function of air conditioning units (can help dry out a building), running fridges and freezers, medical equipment if appropriate			☐

Identify people who can help you before, during and after a flood, and what they can do.

We have suggested ways they might be able to help, but you'll need to discuss this with them.

[illegible]

Ways people can help

- assistance with installing flood products;
- assistance with transporting stock/materials to new location if possible;
- provision of emergency storage;
- provision of emergency supplies or medical support if required.

discussion guide

This discussion guide sums up the key areas of flood planning. Some of this information can be found in this pack to help get you started.



Research

- Look at your existing business policies, and think about whether they are appropriate in the event of a flood.

Staff

- Make a list of **employees' contact details in the event of an evacuation**. This might include mobile telephone numbers, or numbers for their home or the home of a friend or relative;
- Think about staff who **may need special assistance** in the event of a flood (for example, elderly, deaf, blind etc.)

Security procedures

- **Locking windows, doors and setting the alarm**. You might need more than one person to help do this;
- Insurance policies – **Are you insured for flood damage**, business interruption and lost revenue?
- Employee manuals – You might **add flood safety to staff information packs**, or adapt job descriptions to include flood warden duties;
- Hazardous materials plan – You must ensure that **chemicals, oils and other substances in your possession are kept safe** and do not contaminate flood water;
- Health and safety assessment – Plan to **check the functioning of flood products and flood warning systems regularly**, just as you do for fire safety equipment.

Check codes and regulations that might apply to your business in the event of a flood. The following could provide guidance on the right actions to take:

- Occupational health and safety regulations;
- Environmental regulations.



Important contacts

Make a list of important telephone numbers, including contacts for gas, electricity, water and telephone providers.

Key locations

- **Know the location** of cut-off points for gas, electricity and water. Ideally, these should be marked on a map that is stored with your flood plan;
- Know the location of chemicals, oils or other materials that could be dangerous or contaminate flood water. These should be stored safe from floods and other damage.

Protective actions

- Note key stock, equipment and possessions that may need special protection from flood water;
- Consider things you may need during or after a flood (for example, sandbags, plastic sheeting, loudspeaker);
- See if it's **possible to move key operations**, such as shipping or customer services, to another building.

Suppliers and external links

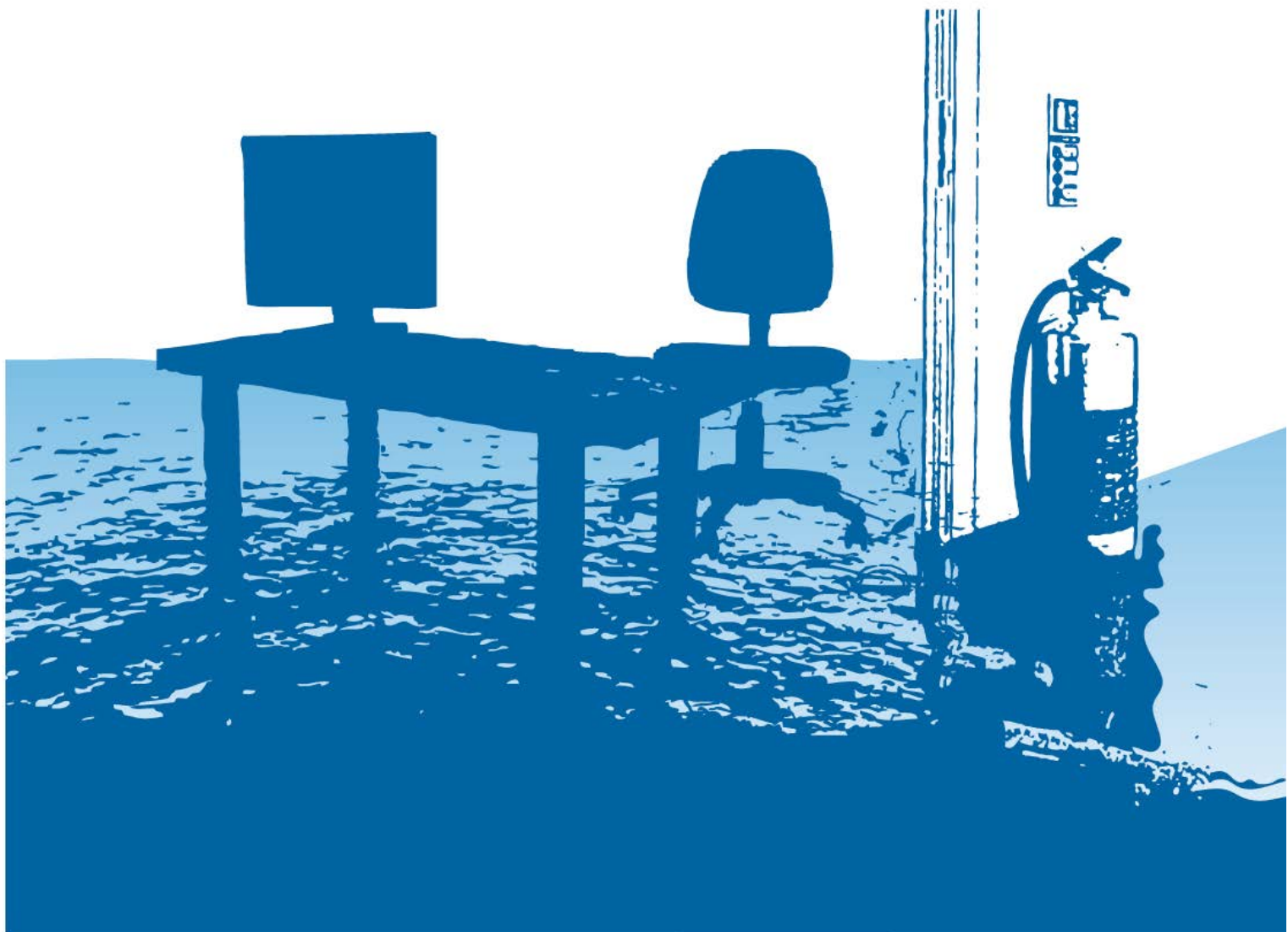
- Identify products and services you won't need in the event of a flood, or which suppliers may not be able to provide. **Make back-up plans** or arrangements for short-notice cancellation of deliveries;
- Consider contracting in advance with companies whose help you may need after a flood.

business checklist

Are you prepared for flooding?

If you answer no to any of the questions overleaf, there may be more you can do to protect your business.

The individual sections will give you valuable information on effective actions you can take to prepare for a flood.



If you can answer yes, please ☒, otherwise leave blank for no.

Know if you're at risk

- ☐ Do you know if you're at risk of flooding?
- ☐ Are flood warnings available in your area?
- ☐ Do you know how you can receive flood warnings?

Preparing a flood plan

- ☐ Do you know how your business will respond to a flood?
- ☐ Do you have a list of useful numbers including Floodline, local authority and insurance company?
- ☐ Do you know how to shut off your gas/electric/water supplies?
- ☐ Are your stock, fittings and valuable equipment stored above flood level?
- ☐ Have you developed flood contingency plans with suppliers and/or clients?
- ☐ Can you call someone to help you in the event of a flood?

Staff training and evacuation

- ☐ Are you aware of correct flood safety procedures for you and your staff?
- ☐ Have you trained your staff on flood safety procedures?
- ☐ Can your staff work quickly and efficiently to protect your business in the event of a flood?

Protecting your property

- ☐ Have you installed flood protection products?
- ☐ Do you have a stockpile of useful materials including plywood, plastic sheeting, sandbags (unfilled), sand, nails, hammer, shovel, blocks of wood and a saw?
- ☐ Have you installed non return valves in your toilets and drains?
- ☐ Do you and your staff have high ground where you can park your cars?
- ☐ Are your electrical sockets above flood level?
- ☐ Do you have computer equipment in the basement?

Flood insurance

- ☐ Do you have sufficient insurance cover in the event of a flood situation?
- ☐ Do you know what information your insurer will require to support a claim?

Evacuation

- ☐ Do you have an easy way to let your staff know about an evacuation?
- ☐ Do you know which roads will stay open in your area during a flood?
- ☐ Have you identified where staff can shelter in the event of a flood?
- ☐ Could you control staff panic during a flood?

understand your flood warning codes

Our warning service has three types of warnings - Flood Alert, Flood Warning and Severe Flood Warning - that will help you prepare for flooding and take necessary actions.

ONLINE FLOOD RISK FORECAST

What it means

Be aware.
Keep an eye on the weather situation.

When it's used

Forecasts of flooding on the Environment Agency website are updated at least once a day.

What to do

- Check weather conditions.
- Check for updated flood forecasts on our website.



FLOOD ALERT

What it means

Flooding is possible.
Be prepared.

When it's used

Two hours to two days in advance of flooding.

What to do

- Be prepared to act on your flood plan.
 - Prepare a flood kit of essential items.
 - Monitor local water levels and the flood forecast on our website.
-



FLOOD WARNING

What it means

Flooding is expected.
Immediate action required.

When it's used

Half an hour to one day
in advance of flooding.

What to do

- Move staff, stock and valuables to a safe place.
 - Turn off gas, electricity and water supplies if safe to do so.
 - Put flood protection equipment in place.
-



SEVERE FLOOD WARNING

What it means

Severe flooding.
Danger to life.

When it's used

When flooding poses a
significant risk to life.

What to do

- Stay in a safe place with means of escape.
 - Be ready should you need to evacuate.
 - Co-operate with the emergency services.
 - Call 999 if you are in immediate danger.
-

WARNING NO LONGER IN FORCE

What it means

No further flooding is
currently expected in
you area.

When it's used

When river or sea
conditions begin to
return to normal.

What to do

- Be careful. Flood water may still be around for several days.
 - If you've been flooded, ring your insurance company as soon as possible.
-

useful contacts

Fill in the contact details you may need if your business floods. Keep it in a safe place, where you can hold of it quickly.

	Company name	Telephone number/s
Environment Agency Floodline		0345 988 1188
Electricity supplier and meter number		
Gas supplier and meter number		
Water supplier and meter number		
Telephone provider		
Local authority emergency services		
Insurance company 24-hour number and policy number		
Insurance agent		
Local radio station for news alerts and weather updates		
Companies that may be able to help you after a flood		
Electrician		
Plumber		
Builder		
Equipment repair/suppliers		
Security services		
Water pumping services		
Emergency power suppliers		

**Would you like to find out more about us,
or about your environment?**

Then call us on

08708 506 506* (Mon-Fri 8-6)

email

enquiries@environment-agency.gov.uk

or visit our website

www.gov.uk/environment-agency

incident hotline 0800 80 70 60 (24hrs)

floodline 0345 988 1188 (24hrs)

*** Weekday Daytime calls cost 8p plus up to 6p/min from BT Weekend Unlimited. Mobile and other providers' charges may vary.**



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