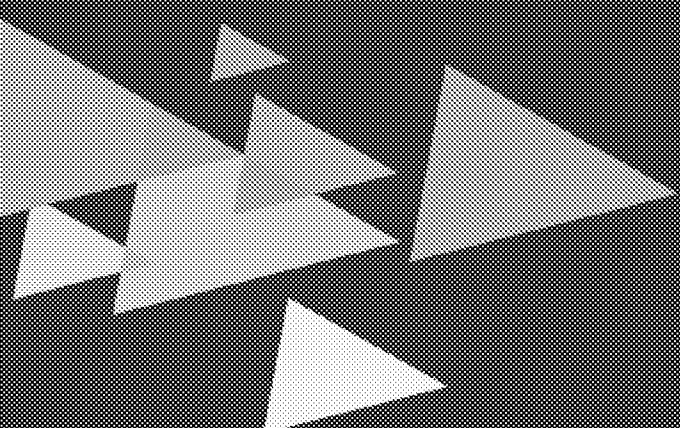




Old Barn Public House
42 Felpham Road, Bognor Regis, PO22 7DF

Flood Risk Assessment

For

Mr and Mrs Hall

Document Control Sheet

Flood Risk Assessment

Old Barn Public House,

42 Felpham Road, Bognor Regis, PO22 7DF

Mr and Mrs Hall

This document has been issued and amended as follows:

Date	Issue	Prepared by	Approved by
07/10/2020	1 st Draft	SM	NJ
08/10/2020	FINAL	SM	NJ
09/10/2020	FINAL A	SM	NJ

Motion
84 North Street
Guildford
GU1 4AU

Contents

1.0	Introduction.....	1
2.0	Existing Site Conditions.....	2
3.0	Legislative and Policy Framework	3
4.0	Flood Risk.....	5
5.0	Flooding from Rivers and the Sea	7
6.0	Summary	10

Appendices

A	Site Location Plan
B	Topographical Survey
C	Southern Water Asset Mapping
D	EA Flood Map
E	Surface Water Flood Map
F	EA Product 4

1.0 Introduction

- 1.1 This Flood Risk Assessment (FRA) and Drainage Strategy has been prepared on behalf of Mr and Mrs Hall to accompany a planning application for the change of use of the existing public house to 4 flats, with 2 located on the ground floor and 2 on the first floor.
- 1.2 The application site is currently occupied by a public house and associated car park and is located in Bognor Regis.
- 1.3 The proposed development site is located in Bognor Regis which is part of West Sussex County Council. The nearest grid reference is E 494888 N 099618. A site location plan is shown in Figure 1.1 and can be found in full in **Appendix A**.
- 1.4 The nearest watercourse to the site is the Aldingbourne Rife located approximately 175m to the west of the site.
- 1.5 The site is located approximately 350m north of the coast and the English Channel.

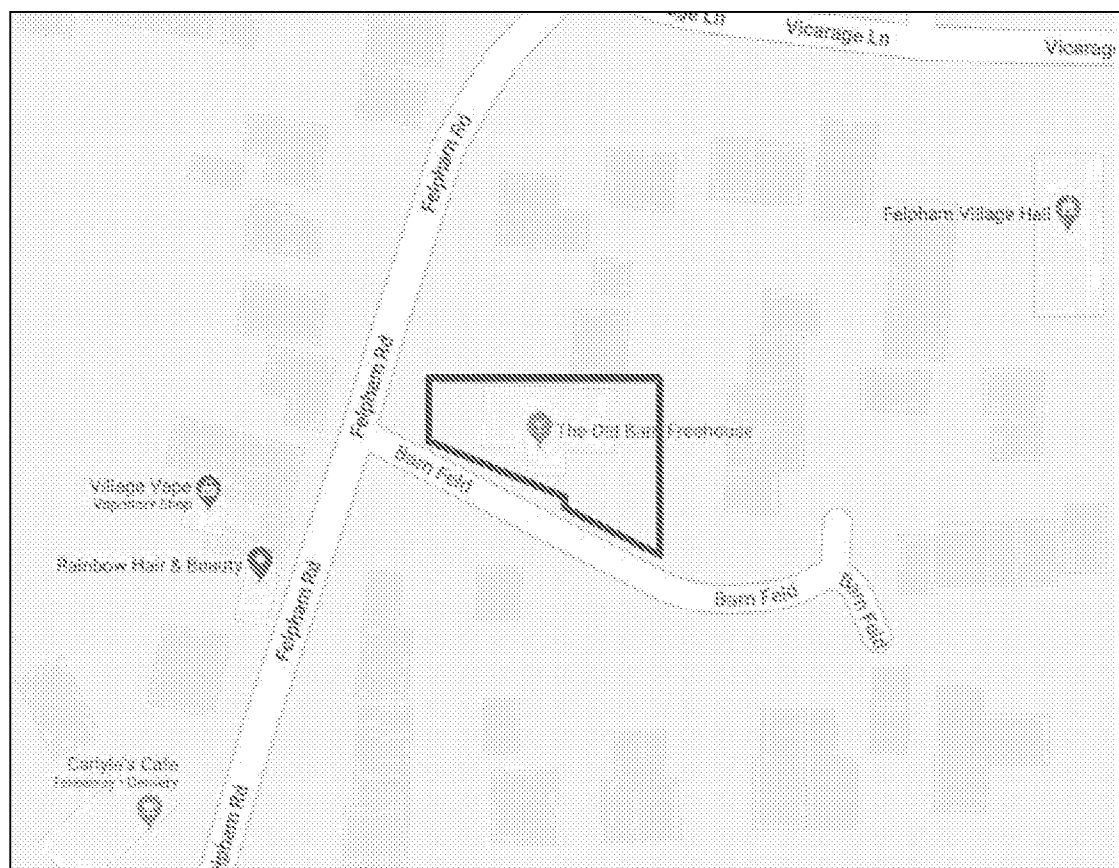


Figure 1.1 Site Location Plan

2.0 Existing Site Conditions

Current Site

- 2.1 The site is currently occupied by a public house on the ground floor and a flat on the first floor, with associated car park.

Topography

- 2.2 A topographical survey of the existing site is provided in **Appendix B** of this report. The site generally falls from east to west with ground levels ranging from approximately 3.592m AOD to 3.211m AOD.

Geology and Groundwater

- 2.3 The British Geological Survey (BGS) online Geoindex Mapping indicates that the site is underlain by Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (undifferentiated) - Chalk with superficial deposits of River Terrace Deposits (undifferentiated) - Sand, Silt and Clay.
- 2.4 There are no boreholes in close vicinity of site.

Existing Surface Water Drainage Regime

- 2.5 Sewer records were requested from Southern Water (SW) to determine the available existing sewer network to the existing site. Figure 2.1 shows an extract of the SW sewer records which can be found in full in **Appendix C**. The plans show an existing public surface water sewer, running along Felpham Road. The nearest surface water manhole is MH8654 with 3.18m AOD cover level and 1.76m AOD invert level.

Existing Foul Water Drainage Regime

- 2.6 Figure 2.1 shows an extract of the SW sewer records which can be found in full in **Appendix C**. The plans show existing public foul water sewers in Felpham Road and in Barn Field. The nearest foul water manhole is MH8605 with 3.24m OAD cover level and 2.33m AOD invert level.

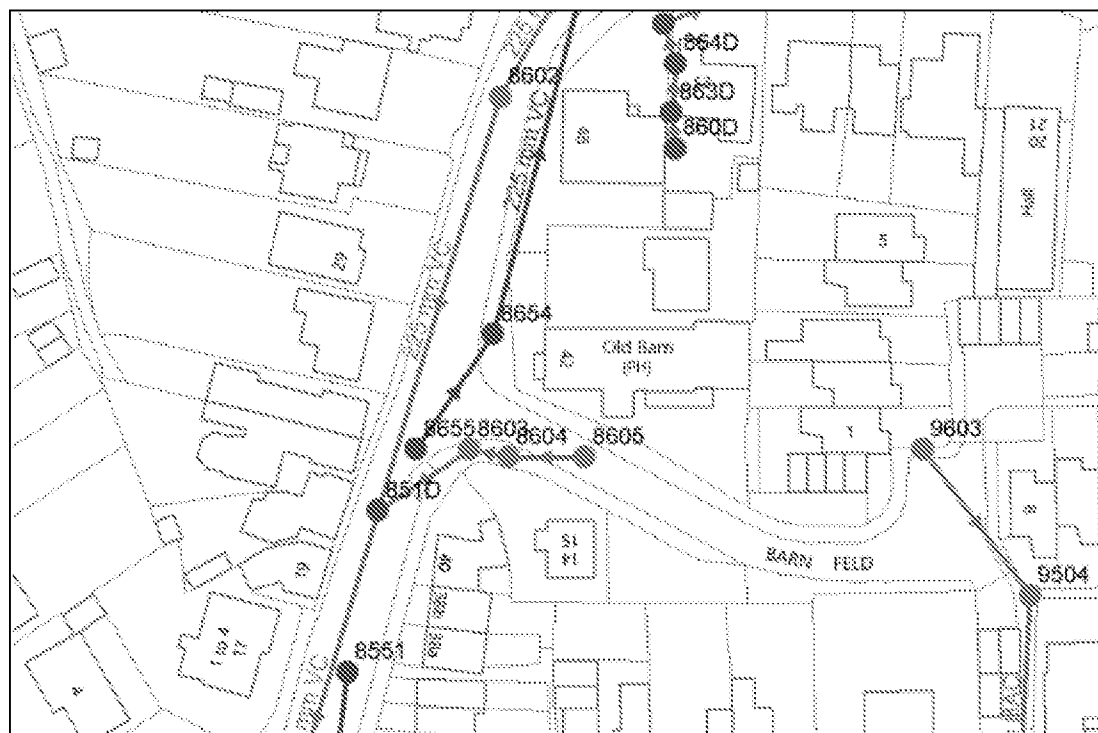


Figure 2.1 Southern Water Asset mapping

3.0 Legislative and Policy Framework

Flood and Water Management Act

- 3.1 The Flood and Water Management Act 2010 (FWMA) received Royal Assent on 8th April 2010. The Act was introduced to enforce some of the key proposals set out within UK Government flood and water strategies along with UK Government's response to the Sir Michael Pitt's Review of the summer 2007 floods.
- 3.2 LLFA's, including West Sussex County Council (WSCC), have a responsibility under the FWMA to develop, maintain, apply and monitor the application of a strategy for local flood risk in their area. Local flood risk is defined as flood risk arising from surface run-off, groundwater and ordinary watercourses (i.e. non main rivers). The EA plays a role in managing the watercourses designated as 'main rivers'.
- 3.3 Relevant to the site, the FWMA will encourage the uptake of Sustainable Drainage Systems (SuDS) by removing the automatic right to connect to sewers and providing for LLFA to adopt SuDS for new developments.

National Planning Policy Framework

- 3.4 The NPPF and the online 'planning practice guidance' set out the Government's planning policies for England and how these are expected to be applied. This includes ensuring that flood risk is taken into account at all stages of the planning process, avoiding inappropriate development in areas at risk of flooding and directing development away from those areas where risks are highest.
- 3.5 A site-specific FRA is required for proposals of 1ha or greater in Flood Zone 1, all proposals for development in Flood Zones 2 and 3, or in an area within Flood Zone 1 which has critical drainage problems (as notified to the local planning authority by the EA). The FRA should identify and assess the risks of all forms of flooding to and from the development and demonstrate how these flood risks will be managed so that the development remains safe throughout its lifetime, taking climate change into account.

The Sequential and Exception Tests

- 3.6 The NPPF Sequential Test classifies proposed development into one of four Flood Zones, detailed in Table 3.1

Flood Zone	Annual Probability of Flooding (%)	Corresponding Annual Chance of Flooding (1 in x)
✓ Low Probability	Fluvial <0.1% Tidal <0.1%	>1,000 >1,000
✓ Medium Probability	Fluvial 0.1 – 1.0% Tidal 0.1 – 0.5%	1,000 – 100 1,000 – 200
✓ a) High Probability	Fluvial >1.0% Tidal >0.5%	<100 <200
✓ b) The Functional Floodplain	Fluvial >5.0%* Tidal >5.0%* *Starting point for consideration. LPAs should identify Functional Floodplain, which should not be defined solely by rigid probability parameters.	<20 <20

Table 3.1 Flood Zones

- 3.7 The NPPF specifies that the suitability of all new development in relation to flood risk should be assessed by applying the Sequential Test to demonstrate that there are no reasonably available sites in areas with a lower probability of flooding that would be appropriate to the type of development proposed. The NPPF provides a summary of the different land use classifications, in the PPG table 2, and also provides guidance on the compatibility of each land use classification in relation to each of the Flood Zones as summarised in Table 3.2 below.

Flood Zone	Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	✓	Exception test required	✓	✓
Zone 3a	Exception test required	✓	*	Exception test required	✓
Zone 3b	Exception test required	✓	*	*	*
Key:					
✓ Development is appropriate					
* Development should not be permitted					

Table 3.2 Flood Risk Vulnerability Classification

West Sussex County Council Strategic Flood Risk Assessment

- 3.8 A Strategic Flood Risk Assessment (SFRA) was completed in 2010 for West Sussex County Council. The primary objective of the SFRA is to help local authorities identify the areas that are at risk from all forms of flooding and to allocate development away from vulnerable flood risk areas. The SFRA recognises development on land outside Flood Zones 2 and 3 should be pursued first.

Lead Local Flood Authority

- 3.9 As of April 2015, the LLFA became a statutory consultee on all major planning applications. The LLFA is required to assess planning applications in respect of surface water drainage and sustainable drainage.

Environment Agency Flood Map

- 3.10 The Environment Agency's flood maps show that the majority of the site falls within flood zone 1, with a small portion of the site within flood zone 2. The flood map can be found in full in **Appendix D**.
- 3.11 In accordance with the NPPF, buildings used for dwelling houses are classed as a 'More Vulnerable' land use and as such the proposed is considered appropriate and won't need to satisfy the requirements of the Sequential and Exception Tests for the development to be permitted.

4.0 Flood Risk

- 4.1 In this section several potential sources of flooding have been considered and the probability of any likely impacts assessed.

Flooding from Rivers and the Sea

- 4.2 The EA Flood Map shows that the majority of the site is located within Flood Zone 1 (land having a less than 1 in 1,000 annual probability of river or sea flooding) and a small portion of the site within Flood Zone 2 (land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding).

- 4.3 **The site is therefore considered to be at very low to low risk of flooding from rivers and the sea based on the online EA Flood Maps. However, the online maps do not take account of flood defences or the effects of climate change, this is discussed further in Chapter 5 of this report.**

Groundwater Flooding

- 4.4 Groundwater flooding occurs when water originating in aquifers reaches the surface, typically as a result of high groundwater levels caused by prolonged rainfall. It has been identified using public data provided by the BGS the site is Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (undifferentiated) - Chalk with superficial deposits of River Terrace Deposits (undifferentiated) - Sand, Silt and Clay.

- 4.5 Groundwater Flood Risk Study from WSCC states that a number of potential groundwater flooding incidents have been identified in the past within the council. However, there are no records of the site being affected by Groundwater flooding.

- 4.6 **The site is therefore considered to be at low risk of flooding from groundwater.**

Surface Water Flooding

- 4.7 Flooding from overland flow occurs when intense rainfall is unable to infiltrate into the ground or enter drainage systems resulting in localised flooding in low spots that provide no means of outfall.

- 4.8 The surface water flood map is found in full in **Appendix E**. The Surface Water flood map provides information concerning the risk of surface water flooding to the site. The Surface Water Flood Map shows that the site is at very low risk of surface water flooding.

- 4.9 EA has been contacted to provide flooding information about this site they advised there are not any records of flooding within the site area.

- 4.10 **The risk of surface water flooding to individuals on the site is therefore considered to be at very low.**

Flooding from Infrastructure Failure

- 4.11 Underground surface water sewers or combined sewers (foul and surface water) are often utilised in urban areas to control and convey surface water runoff from impermeable surfaces. Pipes, culverts etc. have a finite capacity and therefore pose a risk of flooding due to the risk of siltation, blockage or collapse.

- 4.12 SW has been contacted to ascertain any historical sewer flood data within the area. At the time of preparing this report SW has not been able to provide any evidence to suggest that the site is susceptible to flooding or has any historic flooding caused by failure of local infrastructure. There are no local reservoirs located near to the site.

- 4.13 **The site is therefore considered to be at very low risk of flooding from infrastructure failure.**

Flooding from Artificial sources

- 4.14 The EA provides a map showing the maximum potential flood extent, if all reservoirs with a capacity of greater than 25,000 cubic metres were to fail and release the water they hold. The map shows that the site would not experience flooding in this scenario. There are no other significant artificial waterbodies in proximity of the site. It is therefore concluded that the site is not at risk of flooding from artificial sources.
- 4.15 **The site is therefore considered to be at very low risk of flooding from artificial sources.**

5.0 Flooding from Rivers and the Sea

Environment Agency Flood Map

- 5.1 The EA Flood Map found in **Appendix D** shows that the majority of the site is located within Flood Zone 1 (land having a less than 1 in 1,000 annual probability of river or sea flooding) and a small portion of the site within Flood Zone 2 (land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding).
- 5.2 It is understood that flooding in the vicinity of the site is as result of tidal flooding from the sea.

Historic Flood Events

- 5.3 The WSCC SFRA has no records of historic events of flooding on site or in the surrounding area.

Flood Defences

- 5.4 The EA product 4 can be found in Appendix F and illustrates that the site is protected flood defences which defend the site for events up to 1 in 200 year event (0.5% AEP), but this does not take account of climate change
- 5.5 The Arun and Western Streams Catchment Flood Management Plan (CFMP) indicates that the site and surrounding area is covered by Policy 4. Policy 4 is defined as 'Areas of low, moderate or high flood risk where we are already managing the flood risk effectively but where we may need to take further actions to keep pace with climate change'.
- 5.6 Therefore, it is understood that the EA will continue to raise the flood defences to protect Bognor Regis and the surrounding area. Therefore, it is anticipated that the site will continue to be protected by flood defences in the future taking into account sea level rise.

Emsworth to Littlehampton West Bank Coastal Model, JBA, 2016

- 5.7 As part of the EA Flood Product 4 Data request the EA provided the Emsworth to Littlehampton West Bank Coastal Model. Predicted floodwater levels for the model nodes to the site are outlined in table 5.1 (undefended) and 5.2 (defended).



Figure 5.1 EA model node location

- 5.8 The results of the hydraulic modelling in relation to the development site are summarised in Table 5.1. The EA confirmed that these levels do not take account of the new climate change allowances

Node Label (defended/undefended)	Predicted Flood Levels (mOAD)			
	0.5%AEP (1 in 200 year)	0.5%AEP (2070) (1 in 200 year)	0.5%AEP (2115) (1 in 200 year)	0.1%AEP (1 in 1000 year)
1 (undefended)	-	3.73	4.39	3.38
1 (defended)	-	-	3.33	-

Table 5.1 – Predicted Flood Levels (Undefended & Defended)

- 5.9 In line with the new climate change allowances for flood risk assessments, there is now a range of sea level allowances for each river basin district and epoch for sea level rise. For the site, the South East Higher Central and Upper End allowances should be considered. The sea level allowances by river basin are listed on table 5.2.

Area of England	Allowance	2000 to 2035 (mm)	2036 to 2065 (mm)	2066 to 2095 (mm)	2096 to 2125 (mm)	Cumulative rise 2000 to 2125 (m)
South East	Higher central	5.7 (200)	8.7 (261)	11.6 (348)	13.1 (393)	1.20
South East	Upper end	6.9 (242)	11.3 (339)	15.8 (474)	18.2 (546)	1.60

Table 5.2 – Sea level allowances by river basin district for each epoch in mm per year (based on a 1981 to 2000 baseline) – the total sea level rise for each epoch is in brackets

- 5.10 Based on table 5.1, the site doesn't flood for the 0.5%AEP (1 in 200 year event) and therefore the EA has provided us with a level of 3.11m AOD based on their flood model for the undefended 0.5% AEP flood level. Adding 1.60m to this level (based on cumulative column from the above table), the undefended water level in 2125 will be 4.71m AOD. The predicted sea levels rise set out in Table 5.2 do not take account flood defences.
- 5.11 The existing floor level of the building varies between 3.199m AOD and 3.548m AOD, therefore it is not practical to raise the floor level of the existing building to 4.71m AOD.
- 5.12 The difference in level between the maximum climate change in the current hydraulic modelling and the revised level, as set in 5.10 above, is 320mm. If we consider that this growth is linear for the defended flood levels as well, then it could be predicted that the defended flood levels for the 1 in 200 year event is 3.33m AOD + 320mm = 3.65m AOD, if the current the defences are not increased in height to take account of climate change.
- 5.13 The undefended scenario it is unlikely to happen as the EA has provided defended flood levels and it can be assumed that the site is protected by flood defences. Therefore, it can be assumed the maximum flood level will be 3.65m AOD, if the flood defences are not increased in height.
- 5.14 As this is an existing building and the planning application will be for change of use the architect has confirmed that the maximum finished floor level of the ground floor is 3.50m AOD. Thus, the flood level, as set out in 5.11 above will be 150mm above the proposed finished floor level for the defended scenario. Therefore, in accordance with the EA standing advice for vulnerable developments, where floor levels cannot be raised above the estimated flood level extra flood resistance and resilience measures will be provided.

Flood Resilience and mitigation measures

- 5.15 The EA standing advice recommends that where water depths are between 300mm to 600mm the design of the building keep water out (unless there are structural concerns) by:
- Using materials with low permeability to at least 300mm;
 - Using flood resilient materials (for example lime plaster) and raised plug sockets

- › Making sure there is access to all spaces to enable drying and cleaning;

5.16 It is recommended that some flood resilience and mitigation measures are incorporated into the building, where possible, which will include:

- Doors: buy purpose-built flood boards that can be installed when flooding is imminent.
- Walls and floors: raise damp-proof brick courses. Sealing floors ('tanking') can prevent water rising through the ground
- Air bricks: buy specially designed covers that are easy to place over ventilation bricks
- Drains and pipes: fit non-return valves to drains and water inlet and outlet pipes
- Raised plug sockets above the flood level, plus 300mm.

Flood Warning and Evacuation

5.17 It is recommended that a Flood Warning and Evacuation Plan is prepared covering the lifetime of the development. Key to the plan should be a link into the Environment Agency's advanced flood warning service. This would mean that when the EA issues a flood alert or warning, the service would send an automated warning message to the residents of the residential units.

5.18 In the event of flood, the residents should evacuate the building and follow a route to higher ground above 3.65m AOD on Admiralty Road. Figure 5.2 below shows the route that should be followed.

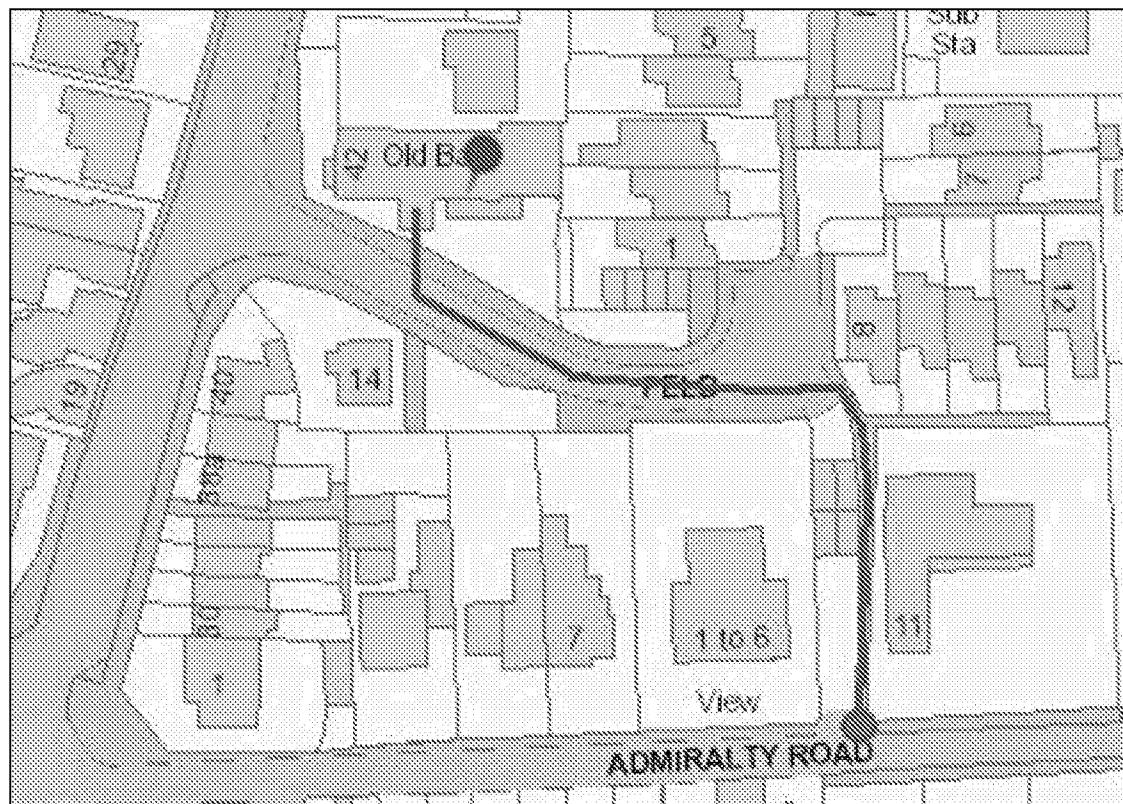


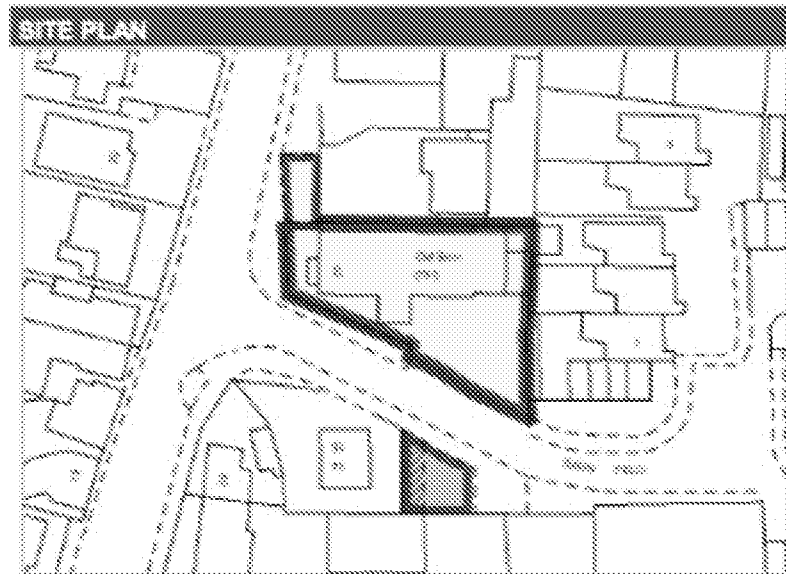
Figure 5.2 Flood Evacuation Route

5.19 The point located within Admiralty Road is the location with the highest point nearby, with ground levels above 5.0m AOD (which is above undefended flood level of 4.71m AOD).

6.0 Summary

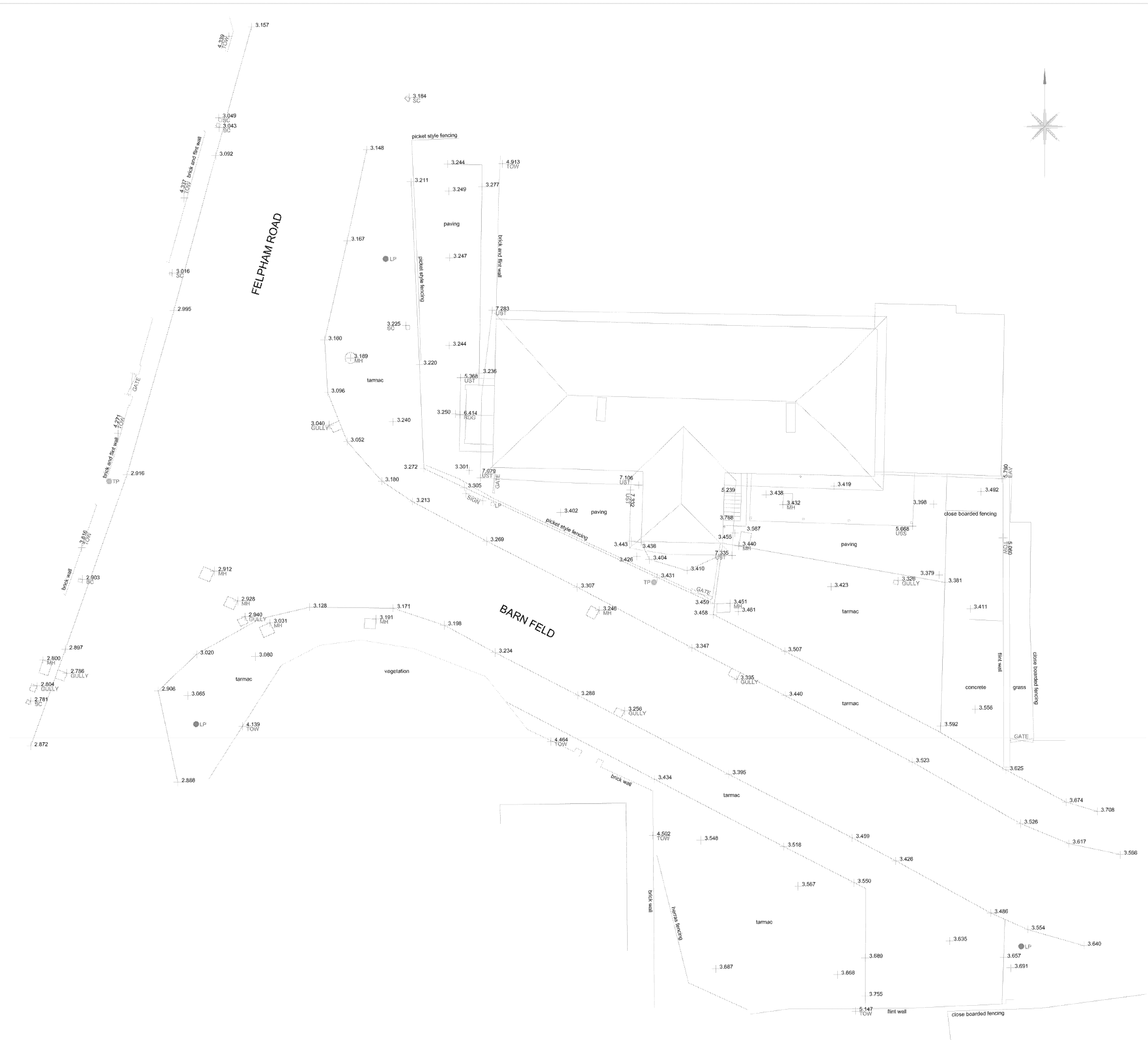
- 6.1 This Flood Risk Assessment (FRA) and Drainage Strategy has been prepared on behalf of Mr and Mrs Hall to accompany a planning application for the change of use of the existing public house to 4 flats, with 2 located on the ground floor and 2 on the first floor.
- 6.2 The proposed development site is approximately 0.16 hectare (ha) and is currently occupied by a public house on the ground floor and a flat on the first floor, with associated car park.
- 6.3 The site is located in Bognor Regis which is part of West Sussex County Council. The nearest grid reference is E 475757 N 262540. The nearest main river to the site is the Aldingbourne Rife approximately 175m west of the site. The site is also located approximately 350m north of the sea and the English Channel.
- 6.4 The British Geological Survey (BGS) online Geoindex Mapping indicates that the site is underlain by Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (undifferentiated) - Chalk with superficial deposits of River Terrace Deposits (undifferentiated) - Sand, Silt and Clay.
- 6.5 The Environment Agency's flood maps show that the site falls within flood zone 1 and 2. This is land assessed as having a 1 in 100 or greater annual probability of flooding from rivers and 1 in 200 or greater annual probability of flooding from the sea.
- 6.6 In accordance with the NPPF, buildings used for dwelling houses are classed as a 'More Vulnerable' land use and as such the proposed is considered appropriate and does not need to satisfy the requirements of the Sequential and Exception Tests for the development to be considered appropriate.
- 6.7 The proposed development site is considered to be at very low to low risk of flooding from rivers and sea and at very low risk of flooding from surface water, artificial sources and sewers and infrastructure failure. It is also considered to be at low risk of flooding from groundwater.
- 6.8 The WSCC SFRA has no records of historic events of flooding on site or in the surrounding area. Also, the Environment Agency did not provide any evidence that the site and surrounding areas has been historically affected for any flooding event.
- 6.9 This report confirms that the flood risk for the proposed development can be managed on site without increasing the flood risk to any neighbouring developments and downstream areas. Also, the site is considered to be at low risk of flooding from the sea due to the presence of flood defences. Therefore, the site fulfils the requirements of the PPG and NPPF.

Appendix A
Site Location Plan



Ordnance Survey © Crown Copyright (2018) All rights reserved.
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Appendix B
Topographical Survey



NOTES

Survey accurate at time of site attendance. Do not scale from printed drawings except for planning purposes.

Grid is based on ordnance survey national grid fixed by GPS satellite active network. Levels are related to the ordnance survey GPS active network and transformed using the OSDN15 & OSN15 model.

Drainage pipe sizes (where shown) have been gauged from the surface for safety reasons and should be regarded as approximate only.

Tree species (where shown) should be treated with caution and expert identification is advised.

Although this is a digital survey the accuracy and amount of detail shown is only commensurate with the graphical scale of mapping as specified. Care should be exercised when working to larger scales.

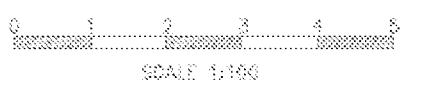
Visible features in the vicinity of the boundaries as shown above, may not represent the extent of legally conveyed ownership.

Whilst every effort has been made to achieve accuracy on this plan, CRUCIAL clearance dimensions, levels and invert levels should be checked prior to design and construction.

Areas of dense undergrowth cannot be surveyed in detail, these areas will be shown in outline only and marked as 'dense undergrowth' on the plan.

Kerb levels have been taken on the top of the channel.

ABBREVIATIONS (where applicable)			
AV	Air Valve	MH	Manhole Cover
BK	Brick	MK	Marker
BL	Bollard	MS	Milestone
BS	Bus Stop	MT	Meter
BT	British Telecom	MY	Mercury
CB	Control Box	OH	Overhead
C/B	Close Boarded	PAV	Paving
CL	Cover Level	PB	Post Box
CLK	Channlink	PE	Pipe
CO	Column	PM	Parking Meter
Conc.	Concrete	P/R	Post and Rail
CP	Catch Pit	PT	Post
CPS	Concrete Paving Slabs	PW	Post and Wire
CATV	Cable Television	RE	Rodding Eye
DC	Drainage Channel	RET	Retaining
DP	Drain Pipe	RS	Road Sign
EC	Electricity Cover	RSJ	Roller Steel Joist
ER	Earthing Rod	SK	Soakaway
FB	Flower Bed	SP	Signpost
FE	Fence	ST	Silt Trap
FH	Fire Hydrant	SV	Stop Valve
FL	Floor Level	SVG	Security Video Camera
FP	Flag Pole	TCB	Telephone Call Box
GP	Gate Post	TK	Tank
GV	Gas Valve	TL	Traffic Light
GULLY/G	Gully	TP	Telegraph Pole
HT	Height	UG	Underground
IC	Inspection Cover	UTF	Unable To Trace Further
IL	Invert Level	UTL	Unable To Lift
IN	Interceptor	VP	Vent Pipe
IR	Iron Railings	WL	Water Level
KO	Kerb Outlet	WM	Water Meter
LB	Litter Bin	WO	Wash Out
LP	Lamp Post		



medlams

surveys ll

www.medlams-surveys.co.uk

becky@medlams-surveys.co.uk

07717 205 388

project: The Old Barn Freehouse

client: Mr & Mrs Hall

title: Topographic survey

date: 16.06.2020

job ref: S1266

scale: 1:100 @A1

dwg no: EX02

rev:

Appendix C

Southern Water Asset Mapping

Appendix D

EA Flood Map

Flood map for planning

Your reference
1habog

Location (easting/northing)
494894/99617

Created
29 Jul 2020 10:06

Your selected location is in flood zone 1, an area with a low probability of flooding.

This means:

- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

The Open Government Licence sets out the terms and conditions for using government data.
<https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>



Flood map for planning

Your reference

1habog

Location (easting/northing)

494894/99617

Scale

1:2500

Created

29 Jul 2020 10:06

-  Selected point
-  Flood zone 3
-  Flood zone 3: areas benefitting from flood defences
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Flood storage area



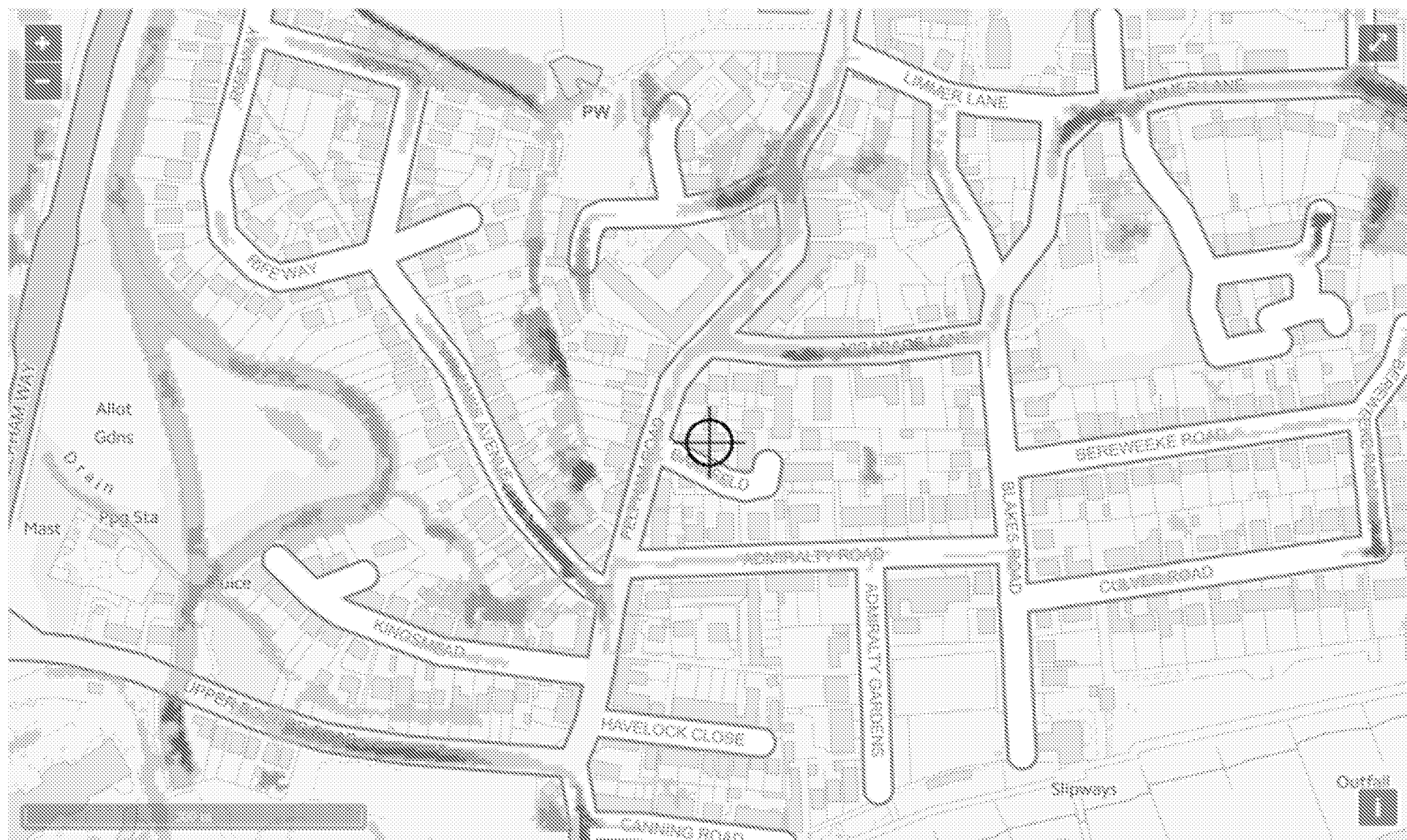
 0 20 40 60m

Appendix E

Surface Water Flood Map

Location

Enter a place or postcode



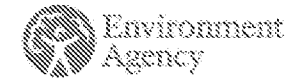
Extent of flooding from surface water

ARUN DISTRICT COUNCIL FP/209/20/PL

Appendix E

EA Product 4

Flood Map for Planning (Rivers and Sea)



1: 10,000

0 Metres 250



Flood Map for Planning (Rivers & Sea)

- Statutory Main Rivers
- - - Defences
- [] Flood Storage Areas
- [] Areas benefiting from flood defences
- [] Flood Zone 3
- [] Flood Zone 2

Flood Map Areas (assuming no 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

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.





Environment
Agency



N

Legend

-  Node point
-  Polygon_1

Scale: 1:600



00.01250.025

Kilometers

Product 4 Flood Risk Data Requested by: Motion
Site: 42 Felpham Road, Bognor Regis, PO22 7DF
Table 1: Water Levels: Tidal Undefended

Node Ref	NGR		Modelled Flood Levels in Metres AOD			
	Eastings	Northings	Undefended Annual Exceedance Probability			
			0.5%	0.5% (2070)**	0.5% (2115)**	0.1%
1	494879	99618	-	3.73	4.39	3.38

Table 2: Water Levels: Tidal Defended

Node Ref	NGR		Modelled Flood Levels in Metres AOD			
	Eastings	Northings	Defended Annual Exceedance Probability			
			0.5%	0.5% (2070)**	0.5% (2115)**	0.1%
1	494879	99618	-	-	3.33	-

Table 3: Water Depths: Tidal Undefended

Node Ref	NGR		Modelled Flood Depths in Metres			
	Eastings	Northings	Undefended Annual Exceedance Probability			
			0.5%	0.5% (2070)**	0.5% (2115)**	0.1%
1	494879	99618	-	0.36	1.02	0.03

Table 4: Water Depths: Tidal Defended

Node Ref	NGR		Modelled Flood Depths in Metres			
	Eastings	Northings	Defended Annual Exceedance Probability			
			0.5%	0.5% (2070)**	0.5% (2115)**	0.1%
1	494879	99618	-	-	0.004	-

All levels taken from: Emsworth to Littlehampton West Bank Coastal Model, JBA, 2016

Produced on: 24/06/2020

Office Address: Guildbourne House, Chatsworth Road, Worthing BN11 1LD.
Customer services

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

You should refer to 'Flood risk assessments: climate change allowances' for the most up to date allowances. You will need to undertake further assessment of future flood risk using different allowances to ensure your assessment of future flood risk is based on best available evidence.

There is no additional information or health warnings for these levels/depths or the model from which they have been produced.



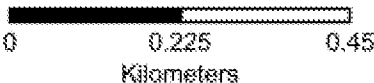
Environment
Agency

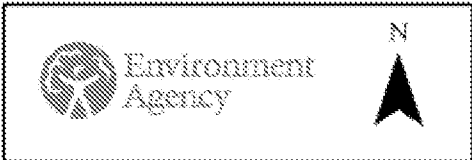


Legend

- Boundary
- 0.5% AEP (Defended Tidal)
- 0.1% AEP (Defended Tidal)
- 0.5% AEP (2070) NPPF (Defended Tidal)
- 0.5% AEP (2115) NPPF (Defended Tidal)

Scale: 1:10,000





- Legend**
- Boundary
 - 0.5% AEP (Undefended Tidal)
 - 0.1% AEP (Undefended Tidal)
 - 0.5% AEP (2070) NPPF (Undefended Tidal)
 - 0.5% AEP (2115) NPPF (Undefended Tidal)

