



Level 2 Flood Risk Assessment

10 Bayford Road, Littlehampton BN17 5HL
Whaleback Planning and Design

May 2022

Project Information

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Table of Contents

Project Information	i
1. Executive Summary	1
2. Introduction	2
2.1 Overview	2
2.2 Site Location and Details	2
2.3 Proposed Development and Vulnerability Classification	2
3. Relevant Standards and Policies	3
3.1 The National Planning Policy Framework (NPPF)	3
3.2 Flood and Water Management Act 2010	3
3.3 Arun District Council 2018 Adopted Local Plan	3
3.4 Arun District Council Level 1 Strategic Flood Risk Assessment	4
4. Description of Study Area	5
5. Assessment Of Flood Risk	11
5.1 River/Sea Flood Risk	11
5.2 Surface Water Flood Risk	13
5.3 Flooding from Other Sources	13
5.4 Historical and Anecdotal Flooding Information	13
5.5 Sequential Test	13
6. Management of Flood Risk	14
6.1 Residual Risk	14
6.2 Exception Test	14
7. Flood Mitigation/Management Measures and Evacuation Plan	15
8. Climate Change	16
8.1 Small and Urban Catchment Climate Change Growth	16
8.2 Impact of Climate Change on Sea Levels	17
8.3 Flood Defence in Littlehampton	18
9. Surface Water Management	19
9.1 Proposed Surface Water Discharge Rates	19
9.2 Methods of Surface Water Management	19
10. SuDS Appraisal and Proposed SuDS for Development	21
10.1 SuDS- General	21
10.2 SuDS Appraisal	21

10.3	<i>Types of SuDS with Respect to Proposed Development</i>	22
11.	Summary	23
	Appendices	24

1. Executive Summary

Aval Consulting Group Limited has been commissioned Whaleback Planning and Design ('the client') to provide a Flood Risk Assessment in relation to a planning application at 10 Bayford Road, Littlehampton BN17 5HL.

The proposal is for the change of use of the ground floor café to a one-bedroom flat, with no changes to the first and second floors.

The site is within a Flood Zone 3a and hence, a full Level 2 Flood Risk Assessment has been carried out. Both the Sequential and Exception Tests will be carried out as per the local authority's Strategic Flood Risk Assessment (SFRA) and the NPPF guidance. An evacuation plan has also been discussed.

The proposed development will also include information on surface water management and SuDS for the proposed development in order to reduce surface water discharge.

2. Introduction

2.1 Overview

AVAL Consulting Group Limited (ACL) has been commissioned by the client to produce a Flood Risk Assessment at 10 Bayford Road, Littlehampton BN17 5HL. This is to accompany the planning application to the Local Authority for consent to undertake the proposed work.

This report will state the Flood Zone the development is located in and demonstrate the proposed development would be suitable under both the Sequential and Exception Tests. An evacuation plan will also be discussed.

The site drawings are presented in Appendix A.

2.2 Site Location and Details

Figure 2.1 shows the proposed site location. The surroundings of the proposed development are a mix of residential and commercial. The site is bounded by residential developments to the north and south, Evans Gardens to the east and Bayford Road to the west.



Figure 2.1: Proposed site location (Source: Google Maps)

2.3 Proposed Development and Vulnerability Classification

The proposal is for the change of use of the ground floor café to a one-bedroom flat, with no changes to the first and second floors.

As per the National Planning Policy Framework, the proposed residential flat will be under the **'More Vulnerable'** classification.

3. Relevant Standards and Policies

This section summarises all legislation, policy, statutory and non-statutory guidelines relevant to the proposed development. That also includes all the latest regional and local planning policy guidance specifically applicable to the proposed development.

3.1 The National Planning Policy Framework (NPPF)

The latest National Planning Policy framework (NPPF) was published on 20th July 2021. The NPPF is supported by technical guidance set out within the Planning Practice Guidance for Flood Risk and Drainage, including the classification of the site vulnerability and the requirement to do an Exception Test in relation to the Flood Zone and Vulnerability Classification.

One of the key aims of the NPPF is to ensure that flood risk is taken into account at all stages of the planning process to avoid inappropriate development in areas at risk of flooding and to direct development away from areas of highest risk.

It advises that where new development is necessary in areas of higher risk, flood mitigation resilience and resistance measures should be incorporated which can include but not limited to a higher finished floor level, installing flood boards and moving electrical points above. The developments upstream of the proposed development should also be taken into the consideration of flood risk.

The NPPF's flood risk advice is all set out in Chapter 14 of the Framework document, meeting the challenge of climate change, flooding and coastal change.

3.2 Flood and Water Management Act 2010

The Flood and Water Management Act 2010 received Royal Assent on 8th April 2010. This Act provides duties on the Environment Agency, Local Authorities, Developers and other bodies to manage flood risks. The Act has significant planning and design implications for Developers.

It should be noted that these standards and procedures are being reviewed by the respective regulatory bodies and third parties against the requirements imposed by the Flood and Water Management Act 2010. The advice and recommendations provided may change when associated regulations have been issued in order to implement the full scope of the Act.

3.3 Arun District Council 2018 Adopted Local Plan

Arun District Council has a policy regarding Flood Risk within their July 2018 Adopted Local Plan. Policy W DM2: Flood Risk states:

“Development in areas at risk from flooding, identified on the latest Environment Agency flood risk maps and the Council's Strategic Flood Risk Assessment (SFRA) , will only be permitted where all of the following criteria have been satisfied:

- a. The sequential test in accordance with the National Planning Policy Guidance has been met.*

- b. A site specific Flood Risk Assessment demonstrates that the development will be safe, including access and egress, without increasing flood risk elsewhere and reduce flood risk overall.*
- c. The sustainability benefits to the wider community are clearly identified.*
- d. The scheme identifies adaptation and mitigation measures.*
- e. Appropriate flood warning and evacuation plans are in place; and*
- f. New site drainage systems are designed to take account of events which exceed the normal design standard i.e. consideration of flood flow routing and utilising temporary storage areas.*

The reports prepared as part of the criteria above must take into account contingency allowances, taking climate change into account as set out in Flood Risk Assessments: climate change allowances section of the NPPG.

In locations where strategic flood defence or resilient and resistant construction measures are necessary within the site itself, proposals will be required to demonstrate how measures have been incorporated as an intrinsic part of the scheme in a manner which is compatible with the latest Strategic Flood Risk Assessment.

All development proposals must take account of relevant Surface Water Management Plans, Catchment Flood Management Plans and related Flood Defence Plans and strategies such as the Lower Tidal River Arun Strategy. The council may require financial contributions from development on sites where measures to address flood risk or to improve the environmental quality of watercourses have been identified by these Plans and Strategies.”

3.4 Arun District Council Level 1 Strategic Flood Risk Assessment

The Level 1 Strategic Flood Risk Assessment provides maps of flood zones, highlights the requirement and procedure for the Sequential and Exception tests, as well as states any historic flooding which can help in the analysis of a proposed development. This will be used in order to progress through this report.

4. Description of Study Area

The proposed development is located within a Flood Zone 3 area as per the Environmental Agency's Flood Zone Map. Figure 4.1 shows the proposed development in terms of Flood Zone 2 and 3 using ArcGIS layers from the Environmental Agency.



Figure 4.1: Flood Zone Area (Source: ArcGIS Layer from the EA)

In terms of the risk of flooding from Surface Water and the River/Seas, part of the proposed development is at a low risk of river/sea and at a high risk of surface water flooding as shown in Figures 4.2 and 4.3.



Figure 4.2: Extent of Flooding from River or the Seas (Source: ArcGIS Layer from the EA)



Figure 4.3: Extent of Flooding from Surface Water (Source: ArcGIS Layer from the EA)

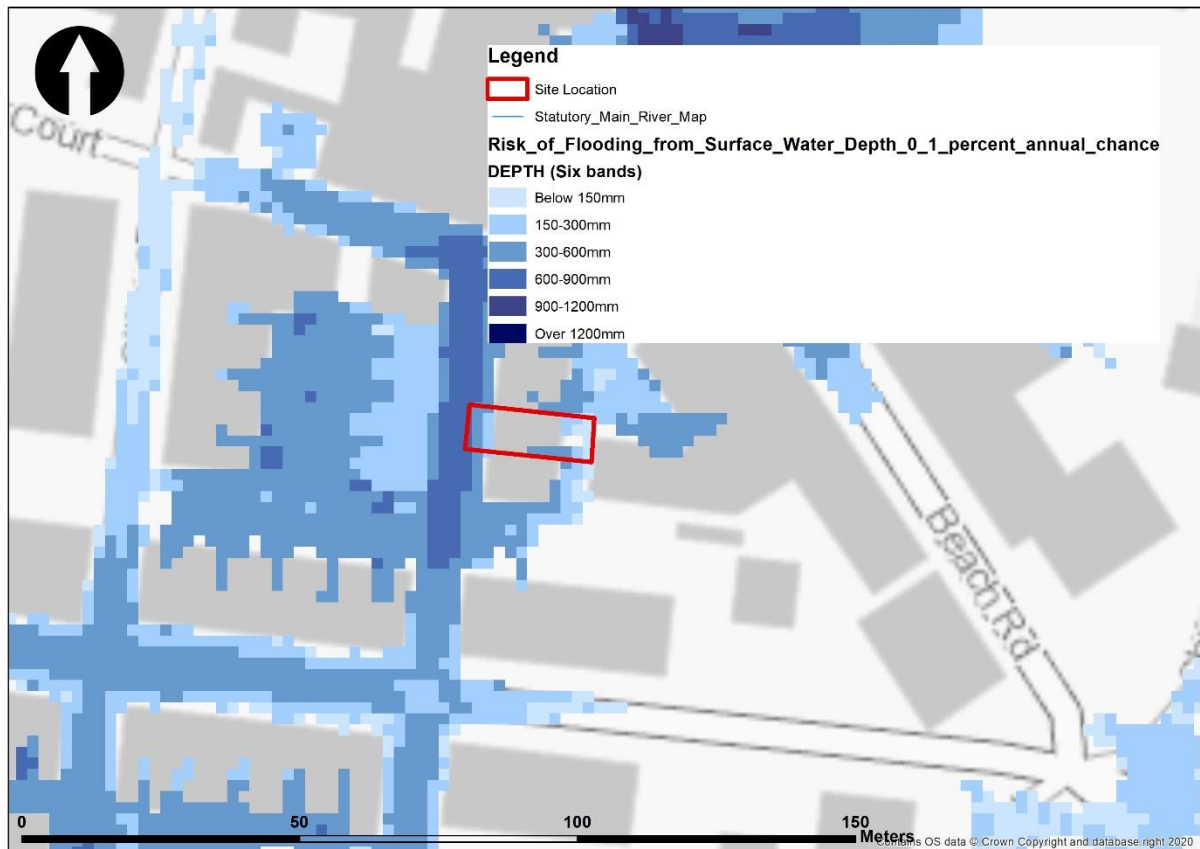


Figure 4.4: Depth of Surface Water – Low Flooding Risk (Source: ArcGIS Layer from the EA)

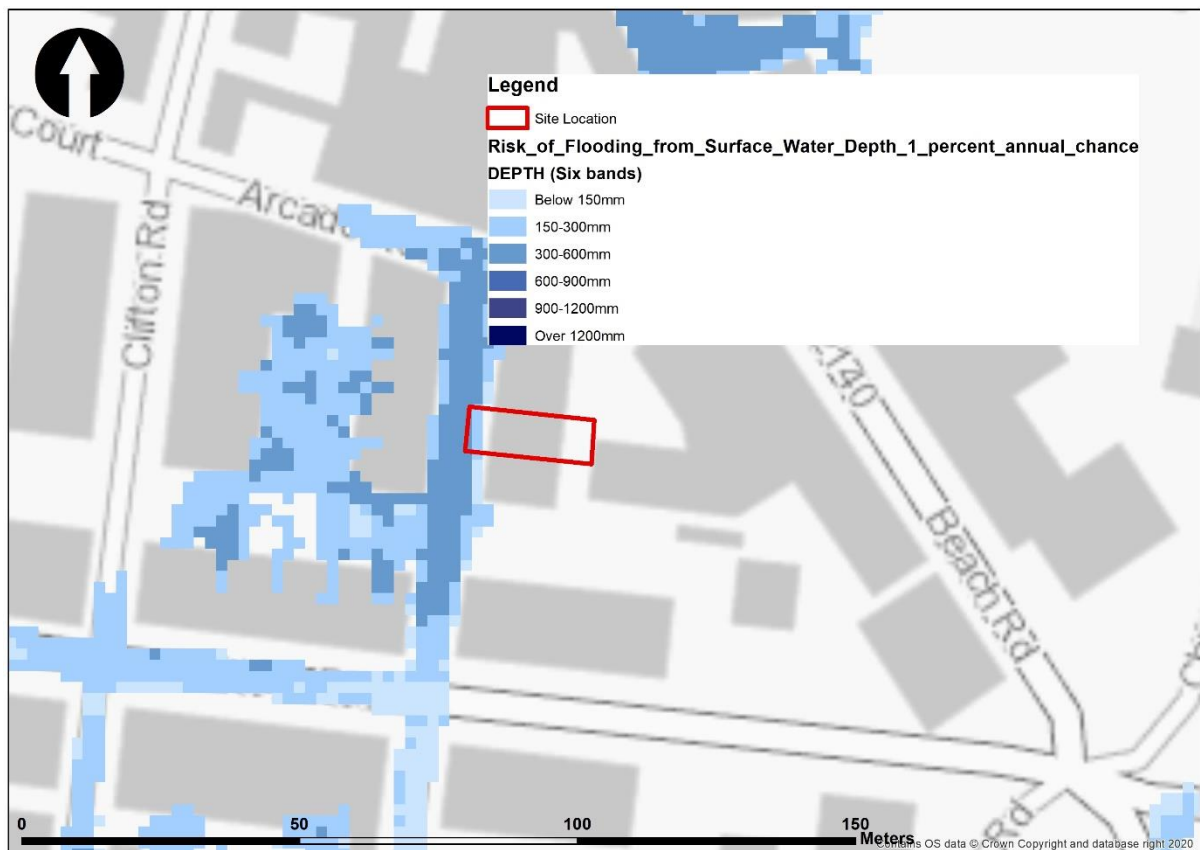


Figure 4.5: Depth of Surface Water – Medium Flooding Risk (Source: ArcGIS Layer from the EA)

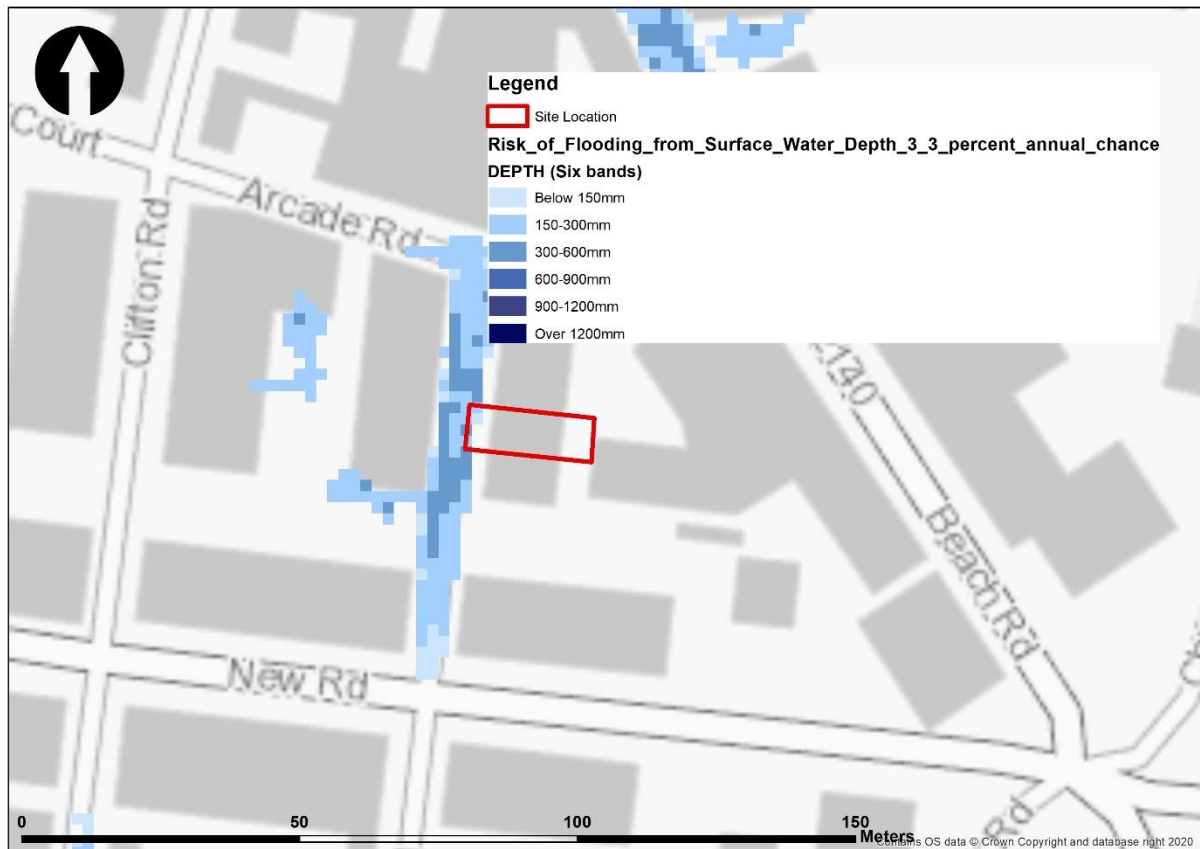


Figure 4.6: Depth of Surface Water – High Flooding Risk (Source: ArcGIS Layer from the EA)

The nearest watercourse is the River Arun which is located approximately 300m south-west from the proposed development.

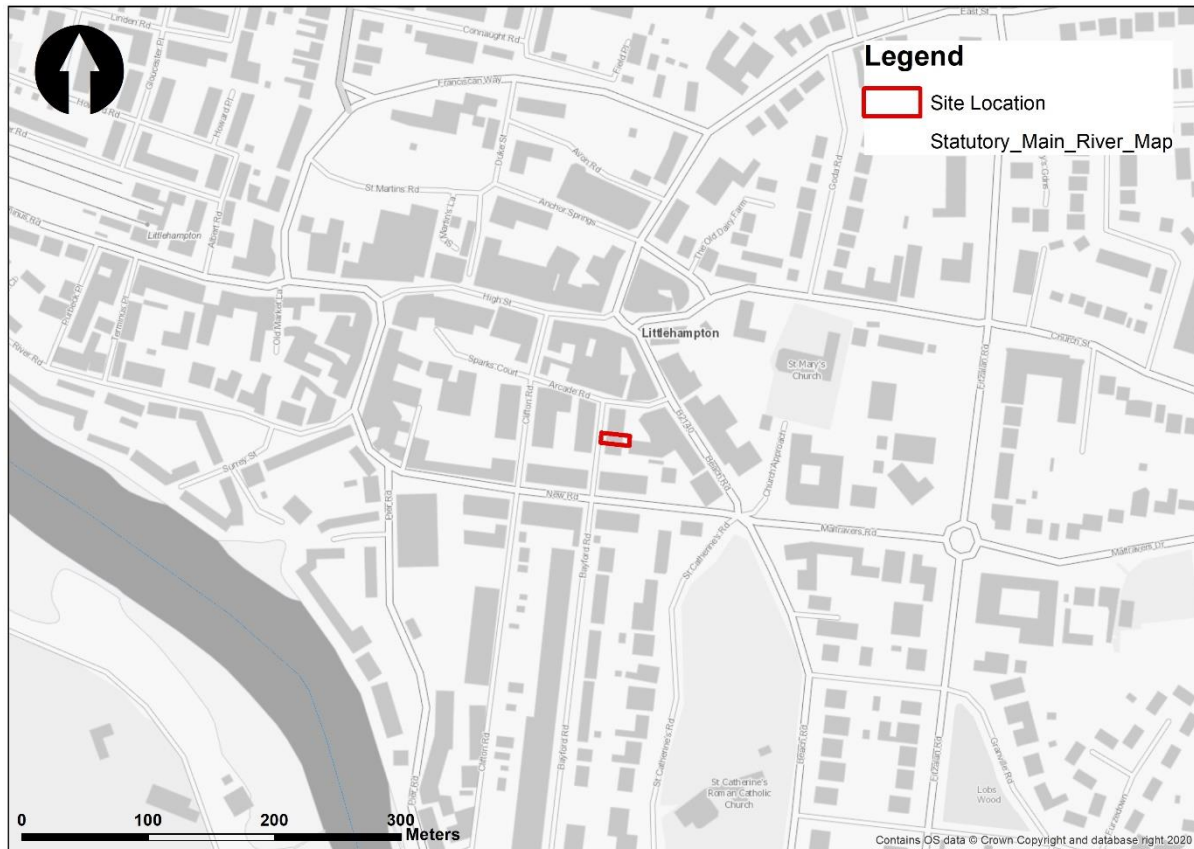


Figure 4.7: EA Watercourses (Source: ArcGIS Layer from the EA)

The proposed development is approximately 3m AOD, with the BGS geology maps indicating bedrock geology of Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (undifferentiated) – Chalk with superficial deposits of Raised Beach Deposits, 1 - Sand and Gravel.

As per the local authority's SFRA, the immediate vicinity of the site has experienced previous flooding. There have been surface water, tidal and an unknown source of flooding.

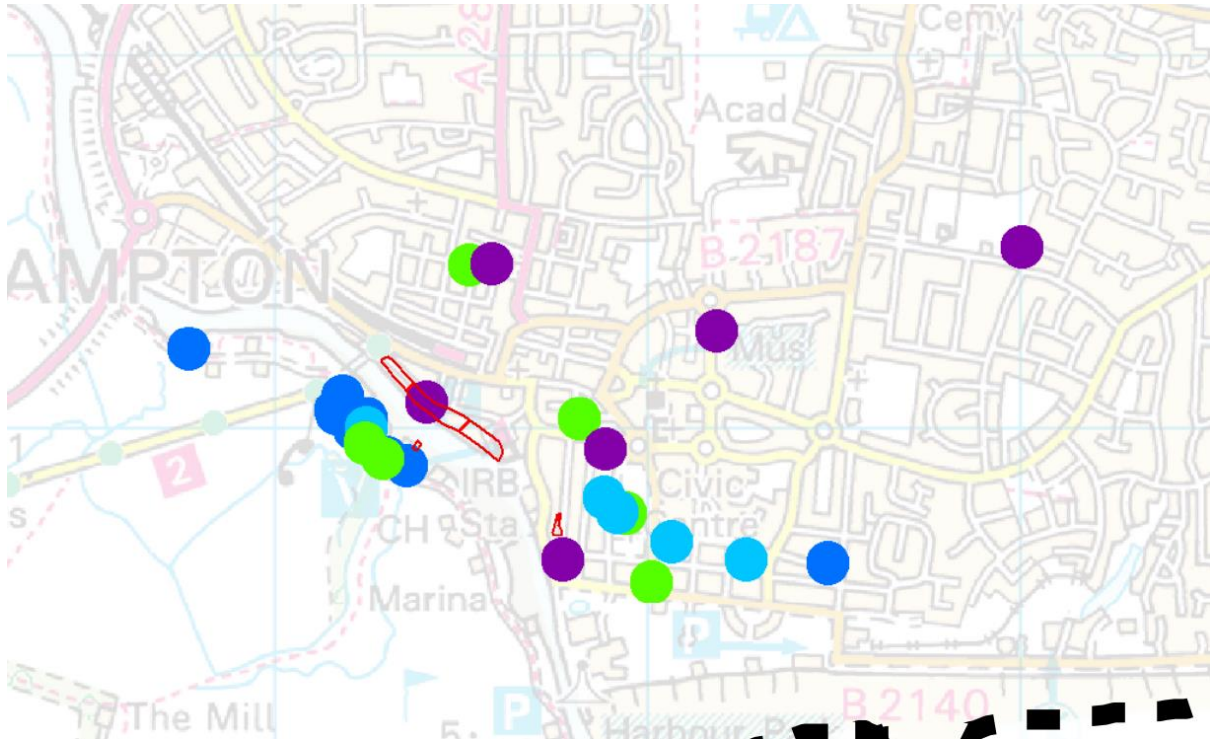


Figure 4.5: Historic Flooding (Source: Arun District Council Strategic Flood Risk Assessment Appendix H)

5. Assessment Of Flood Risk

5.1 River/Sea Flood Risk

Information relating to flood risk at the site has been obtained via the Environmental Agency's online flood mapping tool and GIS layer. Figure 4.2 in Section 4 shows the extent of flooding from the river or the seas.

It can be seen that the extent of flooding from the river or the seas is low risk.

It is to be noted that tidal levels of the nearest river (River Arun) are measured from mean sea level rather (mAOD) than from the riverbed.

As the river is directly connected to the sea just south of the proposed development, the flooding station beside Pier Road gives an indication on the tidal levels.

Data over the past 5 days (28th April 2022, 1:45pm to 3rd May 2022, 1:45pm) shows the tidal levels to about 2.45m Above Ordnance Datum. The site datum is -2.4m AOD.

Moreover, the river includes spatial flood defences which suggests the proposed site area is protected from river/sea flooding. This is confirmed when looking at Google Earth imagery of the defences in place.

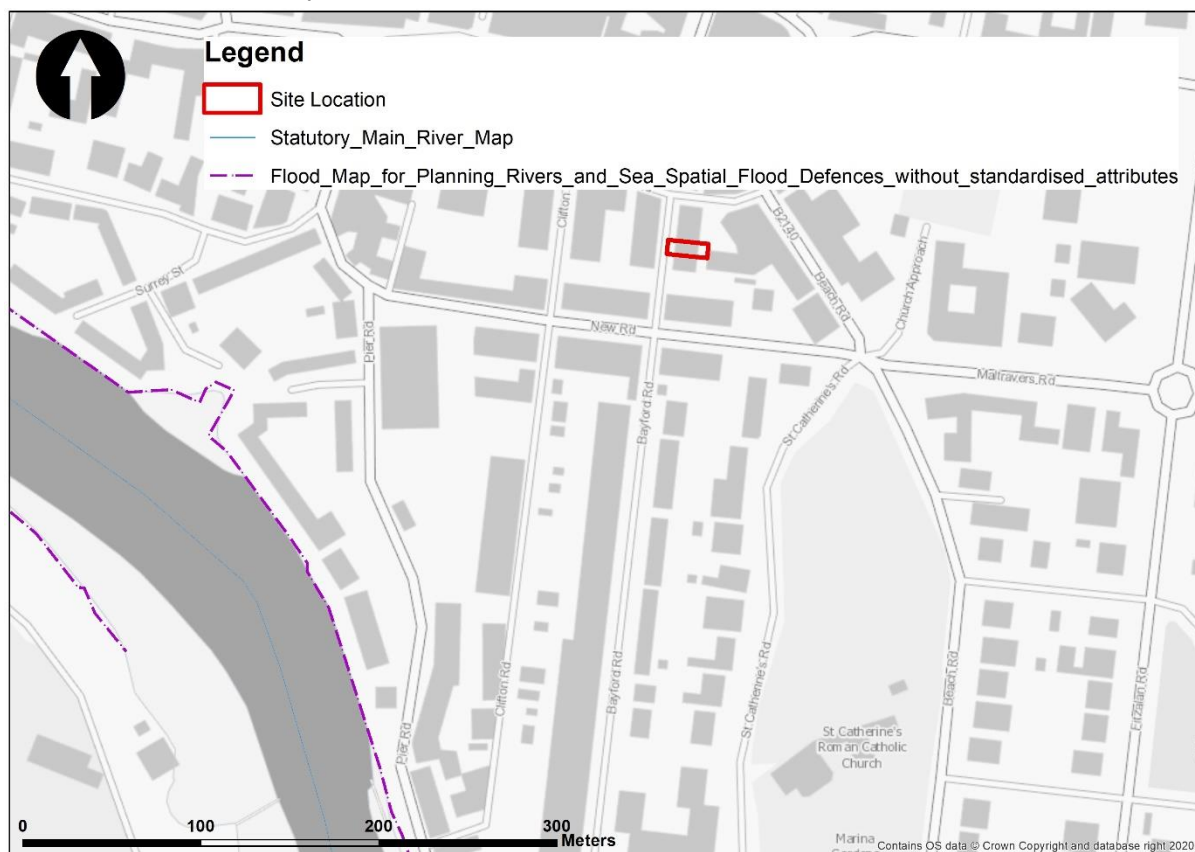


Figure 5.1: River and Sea Spatial Flood Defences (Source: ArcGIS Layer from the EA)

Sea level at Littlehampton

Height

2.24m

at 1:45pm today

[View map](#) [Upstream](#) [Nearby levels](#)

Height over the last 5 days

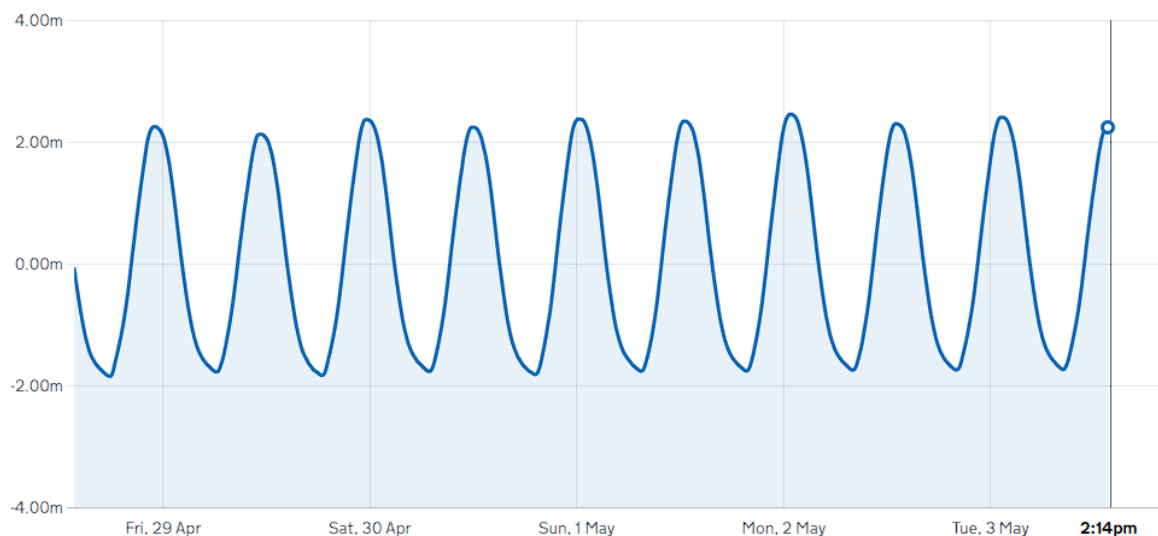


Figure 5.2: Sea Levels at Littlehampton (Source: gov.uk Flooding Service)



Figure 5.3: Flood Defences at Littlehampton (Source: Google Maps)

Considering the proposed development is protected by the nearby river defences, it is unlikely that tidal flooding will cause major damage to the proposed development. Moreover, the proposed development will include flood mitigation/management measures to further protect the development and the residents of the proposed development. Section 7 explains in more detail.

5.2 Surface Water Flood Risk

Surface water flooding is defined as flooding resulting from rainfall-generated overland flow before runoff enters any watercourse or sewer.

It is usually associated with high-intensity rainfall events but can also occur with low-intensity rainfall or melting snow where the ground is saturated, frozen, developed or otherwise has low permeability resulting in overland flow and ponding in depressions in the topography. Large catchment areas are particularly prone to this type of flooding.

The Environmental Agency Flood Maps show the site has a high risk of surface water flooding.

The proposed new development is recommended to be served by a new surface water drainage network and has been designed to accommodate surface water flows within the site for up to and including the 100 year plus 40% climate change storm event.

Figures 4.4 to 4.6 shows the depth of surface water under the low, medium and high risk of surface water flooding. It can be seen that the surface water only extends to the road and pedestrian walkway but does not enter the physical building. However, attenuation storage will also be provided for long term storage of surface water.

5.3 Flooding from Other Sources

Non-natural or artificial sources of flooding can include reservoirs, lakes and canals etc.

At least 75% or more of the area analysed, which contained the proposed site location, is susceptible to groundwater flooding.

5.4 Historical and Anecdotal Flooding Information

As stated in Section 4, the immediate vicinity of the site has experienced a previously recorded flooding and can be seen in Figure 4.5.

5.5 Sequential Test

As the principle of a dwelling in the location is granted by permitted development rights via the GDPO, which only requires a consideration of flooding risks in relation to the building, a Sequential Test is therefore not required.

6. Management of Flood Risk

This section will explain how the proposed development will reduce the flood risk within the site and within the surrounding areas of the site.

6.1 Residual Risk

The primary residual risk that would remain at the site would be the drainage of surface water. Flood Mitigation and Management details will be given in Section 6.3. However, other residual risks remain such as a breach of a raised flood defence, blockage of a surface water conveyance system, overtopping of an upstream storage area, or failure of a pumped drainage system; failure of a reservoir; or a severe flood event that exceeds a flood management design standard, such as a flood that overtops a raised flood defence, or an intense rainfall event which the drainage system cannot cope with.

In order to further reduce the risk of surface water flooding within the proposed development, Sustainable Urban Drainage Systems would need to be installed to either safely discharge the surface water or to temporarily store the surface water for future use or discharge. This can be in the form but are not limited to, permeable paving, green roofs or rainwater harvesting.

6.2 Exception Test

The National Planning Policy Framework sets out the different conditions in terms of the vulnerability of the development and the flood zone and accordingly sets out the requirements to do an Exception Test. The table below describes the conditions required for an Exception Test.

Table 6.1: Table Classification for Exception Test (Source: Google Maps)

Flood risk vulnerability classification (see table 2)		Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood zone (see table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test required	✓	✓
	Zone 3a	Exception Test required	✓	✗	Exception Test required	✓
	Zone 3b functional floodplain	Exception Test required	✓	✗	✗	✗

Key: ✓ Development is appropriate.
✗ Development should not be permitted.

As stated in Section 5.5, principle of a dwelling in the location is granted by permitted development rights via the GDPO, which only requires a consideration of flooding risks in relation to the building, an Exception Test is therefore not required

7. Flood Mitigation/Management Measures and Evacuation Plan

Existing finished floor levels at the site are 255mm at the front of the site and 120mm at the rear. The proposed development will include a 350mm Raised Finished Floor Levels across the entire ground floor. Flood boards and doors will be installed within the floor to prevent floodwater from entering the rooms.

As per the depths of surface water flooding, the surface water is expected to not enter the physical building and will stand just outside of the building perimeter. However, it is still recommended to install Flood Boards/Doors to prevent any flooding from entering the development.

As per the depths of the tidal levels near the site, it is expected that the defence system would work and protect the proposed development. However, in the unlikely event that the site does experience tidal flooding, the Raised Finished Floor Level of 300mm above ground will protect the occupants of the proposed development.

Electrical connection and socket points can also be placed above the floor on the walls to prevent any damage to the development or to the residents.

As stated in Section 6.1, SuDS can help in reducing the effect of flooding within the site and also upstream of the development site. Storage of surface water for future use or a controlled discharge of surface water can help in the reduction of flooding upstream of the proposed development.

The proposed development site is within the Environmental Agency's Flood Warning System. Staff and users of the proposed development would be able to sign up to the Warning System and be alerted to any potential flooding ahead of the event.

The evacuation plan would consist of the residents evacuating the proposed development site once the Environmental Agency alert has been received. All residents would need to be aware of the EA's Flood Warning System and sign up for the alerts upon initially using the proposed development. If the most severe warning appears, residents would have to call 999 if in immediate danger.

All Flood Doors need to be fully closed to prevent any water from entering into the development.

Residents would have to then travel north along East Street where flooding is less likely to occur and is uphill from the proposed development. Alternatively, residents can temporarily stay on the highest point of the proposed development (roof) until rescue services arrive.

Appendix B includes the warning codes used by the Environmental Agency with further information on required actions. A personal flood plan is also provided for staff members to fill in and act upon under any potential flooding events.

8. Climate Change

There are indications that the climate in the UK is changing significantly and it is widely believed that the nature of climate change will vary greatly by region. Current expert opinion indicates the likelihood that future climate change would produce more frequent short duration and high intensity rainfall events with the addition of more frequent periods of long duration rainfall.

The Environment Agency has highlighted the climate change allowance for all proposed developments as described in Section 7.2

8.1 Small and Urban Catchment Climate Change Growth

Table 8.1 highlights the potential peak rainfall intensity allowances expected in the future.

Table 8.1: Peak Rainfall Intensity Allowances (Source: Flood risk assessments: climate change allowances guidance)

Applies across all of England	Total potential change anticipated for the '2020s' (2015 to 2039)	Total potential change anticipated for the '2050s' (2040 to 2069)	Total potential change anticipated for the '2080s' (2070 to 2115)
Upper end	10%	20%	40%
Central	5%	10%	20%

As this development is for residential use, **a climate change growth factor of 40% is proposed** to be used for the surface water runoff/storage calculations. More information is provided in Section 9.

Table 8.2 highlights the sea level allowances expected to 2115:

Table 8.2: Sea Level Allowances (Source: Flood risk assessments: climate change allowances guidance)

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 (metres)
Anglian	Higher central	5.8 (203)	8.7 (261)	11.6 (348)	13 (390)	1.20
Anglian	Upper end	7 (245)	11.3 (339)	15.8 (474)	18.1 (543)	1.60
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
South west	Higher central	5.8 (203)	8.8 (264)	11.7 (351)	13.1 (393)	1.21
South west	Upper end	7 (245)	11.4 (342)	16 (480)	18.4 (552)	1.62
Northumbria	Higher central	4.6 (161)	7.5 (225)	10.1 (303)	11.2 (336)	1.03
Northumbria	Upper end	5.8 (203)	10 (300)	14.3 (429)	16.5 (495)	1.43
Humber	Higher central	5.5 (193)	8.4 (252)	11.1 (333)	12.4 (372)	1.15
Humber	Upper end	6.7 (235)	11 (330)	15.3 (459)	17.6 (528)	1.55
North west	Higher central	4.5 (158)	7.3 (219)	10 (300)	11.2 (336)	1.01
North west	Upper end	5.7 (200)	9.9 (297)	14.2 (426)	16.3 (489)	1.41

8.2 Impact of Climate Change on Sea Levels

Climate Change is expected to increase sea and water levels. As the site is approximately 300m from the nearest watercourse and with the future increase of sea levels, the site could experience tidal flooding in the future.

As per the river basin district map, the site is within the South East area. As per the sea allowances within the table above, the total rise of sea level from 2022 to 2125 is 1.45m.

As a comparison, the H++ allowance for the total sea rise to 2100 is 1.9m.

8.3 Flood Defence in Littlehampton

As per Google Earth, the height of the flood defence is approximately 4.0m above ground. If the sea allowances are used, the future sea level will be 3.9m, which is just below the height of the flood defence at Littlehampton.

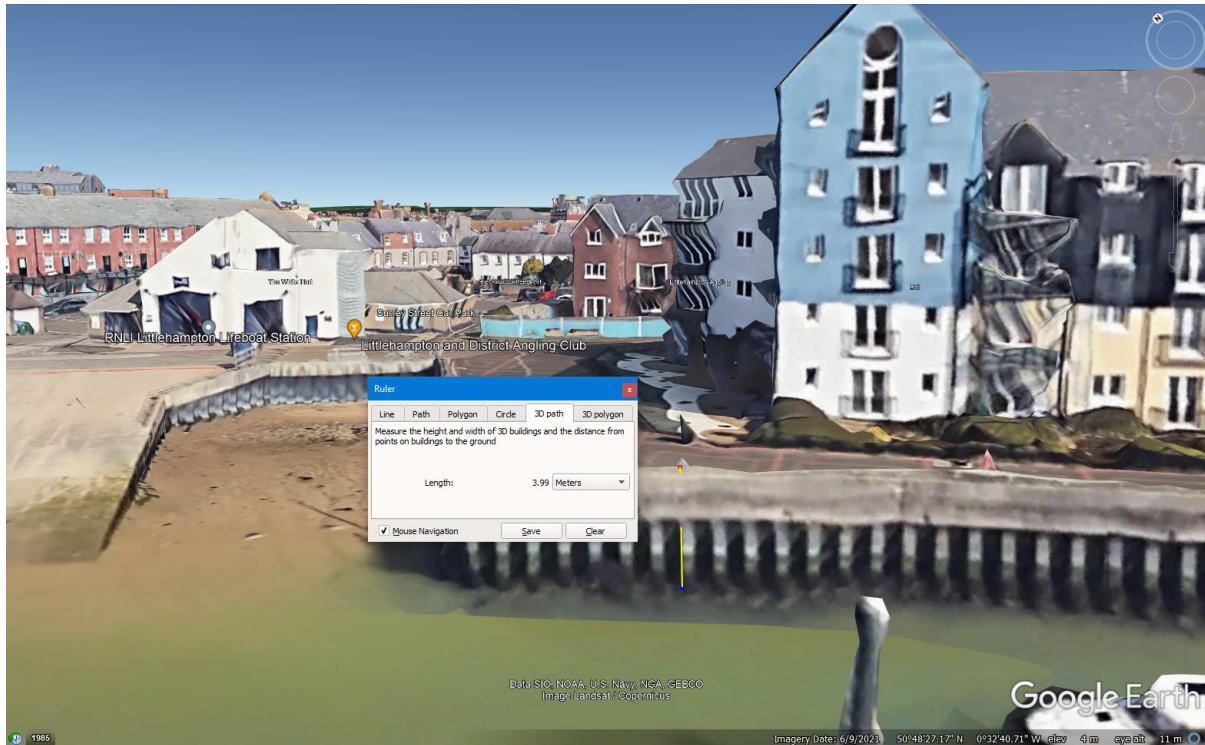


Figure 8.3: Flood Defence Height at Littlehampton (Source: Google Earth)

This shows the flood defence is made with the future sea allowances in mind. If the H++ allowances is used, the future sea level would be 4.35m, which is a 0.35m difference. This is covered by the Raised Finished Floor of the proposed development and therefore should not cause flooding at the site.

9. Surface Water Management

9.1 Proposed Surface Water Discharge Rates

As the site is very likely to have its own drainage system, it is recommended to restrict the proposed surface water discharge rate to a maximum of half of the existing discharge rate with an agreement to Southern Water.

Flow control devices such as Hydrobrakes or Orifice plates can be used to limit the rate of discharge.

9.2 Methods of Surface Water Management

As set out within the NPPF 2021, there are four methods that have been reviewed for the management and discharge of surface water for the site which are detailed below; these may be applied individually or collectively to form a complete strategy. They should be applied in the order of priority as listed:

- Discharge via infiltration;
- Discharge via watercourse;
- Discharge via a dedicated public surface water system; and
- Discharged via a combined sewer.

Discharge via Infiltration

The first consideration for the disposal of surface water is infiltration. There is no easement of 5m available from both the proposed development and the neighbouring developments. The Flood Zone and the high risk of surface water flooding also does not allow for an infiltration discharge to take place.

Therefore, a discharge via infiltration is not possible.

Discharge to a Watercourse

Where infiltration techniques are not considered or not feasible, suitable a connection to a watercourse is the preferred option. The nearest watercourse is not in close proximity and the flooding risk is too high and therefore discharge into the watercourse is not a viable option.

Discharge to a Dedicated Surface Water Sewer

The next method is to discharge through the existing drainage network towards a surface water sewer. There are no dedicated surface water sewers within close vicinity of the proposed development as per the Southern Water maps. Therefore, a discharge via a dedicated surface water public sewer is not possible.

Discharge to a Combined Sewer

The only possible method is to discharge the surface water is via the combined sewer. This is likely the current method of discharging surface water from the existing site and as the physical structure is not being changed as part of the proposed development, it is likely this will stay the same.

A CCTV survey is recommended to confirm that the surface water from the existing development does discharge into the combined sewer.

10. SuDS Appraisal and Proposed SuDS for Development

10.1 SuDS- General

Whilst the temporary storage volumes will be provided within an oversized pipework, the means by which the surface water is both stored and conveyed to the attenuation system should also incorporate various forms of Sustainable Drainage Systems (SuDS) where possible in accordance with the Environmental Agency's general guidance and the National Planning Policy Framework.

Appropriately designed, constructed and maintained, SuDS are more sustainable than conventional drainage systems. Their benefits in general terms are summarised below.

SuDS can:

- Reduce run-off surface water flow-rates and/or volumes and hence reduce the risk of flooding;
- Encourage natural groundwater re-charge;
- Reduce pollutant concentrations in storm water;
- Provide habitats for wildlife.

10.2 SuDS Appraisal

There are many site-specific factors which will influence the choice of any single or combination of SuDS device used within a development. The primary factors are:

- Whether the development is domestic, commercial or industrial;
- Whether the underlying ground is contaminated. If so, infiltration systems (soakaways) will most probably not be permitted;
- Whether the underlying ground is permeable enough for infiltration systems (soakaways) to be considered;
- Whether the groundwater levels are deep enough for infiltration systems (soakaways) to be considered;
- Whether the site is steeply sloping and its general topography;
- The availability of space inside the development for each potential SuDS facility;

Health and Safety aspects should the development be likely to be inhabited or used by children.

10.3 Types of SuDS with Respect to Proposed Development

As part of the design for this development, SuDS have been incorporated wherever practicably feasible. Based on local and regional policy, where there is a net increase in impermeable area, at least one 'at source' SuDS measure is to be provided to assist with reducing the volume of run-off.

Considering the volume of surface water discharging from the site will be higher than the existing situation, given the increase in impermeable area, a primary SuDS measure is proposed.

The primary SuDS elements proposed for this development are outlined below:

10.3.1 Oversized Pipes/Gutters

Slightly oversized pipes can also help in the temporary storage of surface water but can also help in the discharge of surface water from the roof without any major blockages. Gutters can also help take more surface water from the roof into the oversized pipes, thus reducing the pressure on the attenuation storage crates which can then be made smaller.

10.3.2 Permeable Paving

It is proposed to install permeable paving on the sides of the building in order to drain the surface water from the ground. The surface water from the permeable paving will directly be discharged to the surface water system within the building or the public surface water sewer.

10.3.3 Water Butts

Standard residential water butts are proposed to be used to temporarily store surface water. It is recommended to install a 200L water butt which can then be emptied by the occupants of the proposed development.

It is not practical to install blue/green roofs due to the building being within a Conservation Area and underground attenuation storage due to a lack of space to construct and install the tanks.

Therefore, the above SuDS are the most suitable for the proposed development.

11. Summary

The proposed development site is located within Flood Zone 3a, with a low risk of river/sea flooding and a high risk of surface water flooding.

As the principle of a dwelling in the location is granted by permitted development rights via the GDPO, which only requires a consideration of flooding risks in relation to the building, both the Sequential and Exception Tests were not required to be carried out.

An evacuation plan was explained, with residents encouraged to sign up to the Environment Agency's Flood Warning Services which can then help plan any evacuations with prior notice of any potential flooding.

Flood Mitigation measures such as a 300mm higher Finished Floor Level, installation of Flood Boards and a higher positioning of electrical sockets on the walls will be implemented as part of the proposed development.

The proposed development would include SuDS such as water butts, permeable pavings and oversized pipes/gutters to limit the flooding both within and upstream of the development. The surface water would be discharged via the ideal method identified in Section 7.4.

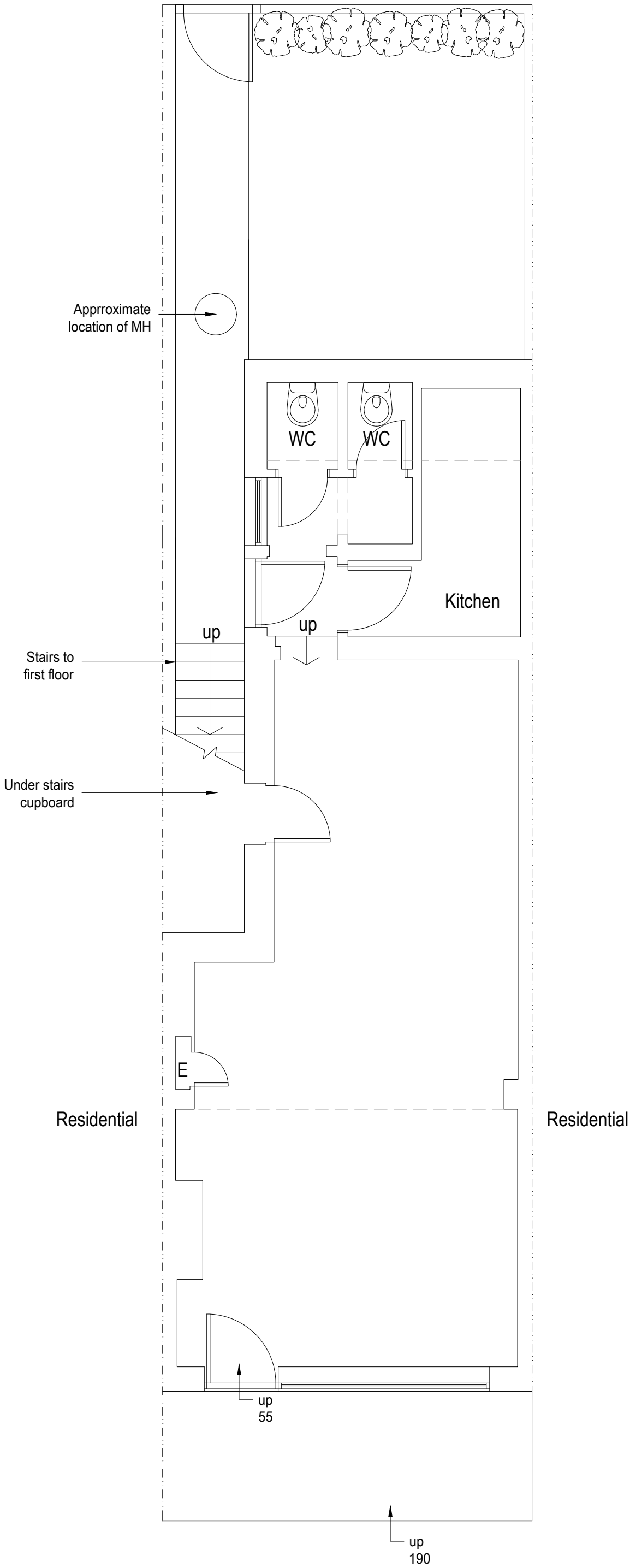
The development is accessible for emergency access and egress during times of extreme flooding as no potential flooding is evident on any of the access routes.

It can therefore be concluded that the proposed development meets the local and national policy.

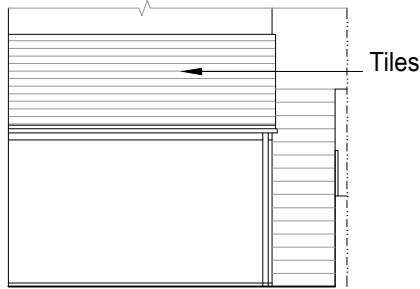
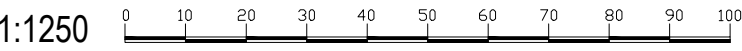
Appendices

- Appendix A: Existing and Proposed Site Plan
- Appendix B: Warning Codes and Personal Flood Plan
- Appendix C: Southern Water Asset Map

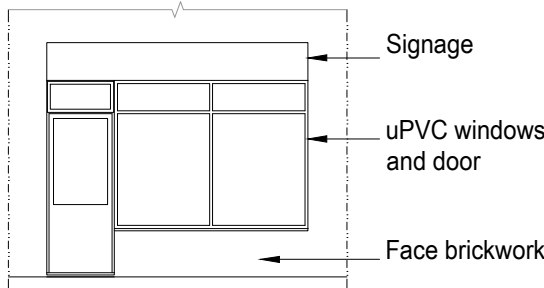
Appendix A: Existing and Proposed Site Plan



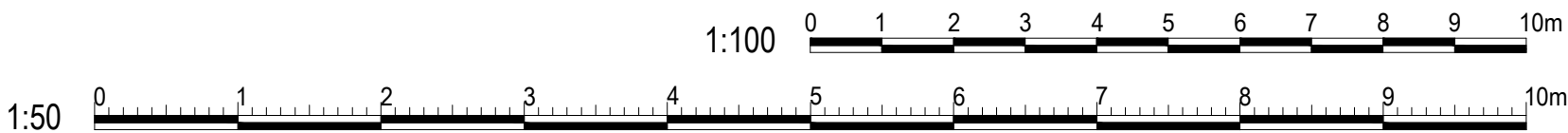
Location plan 1:1250



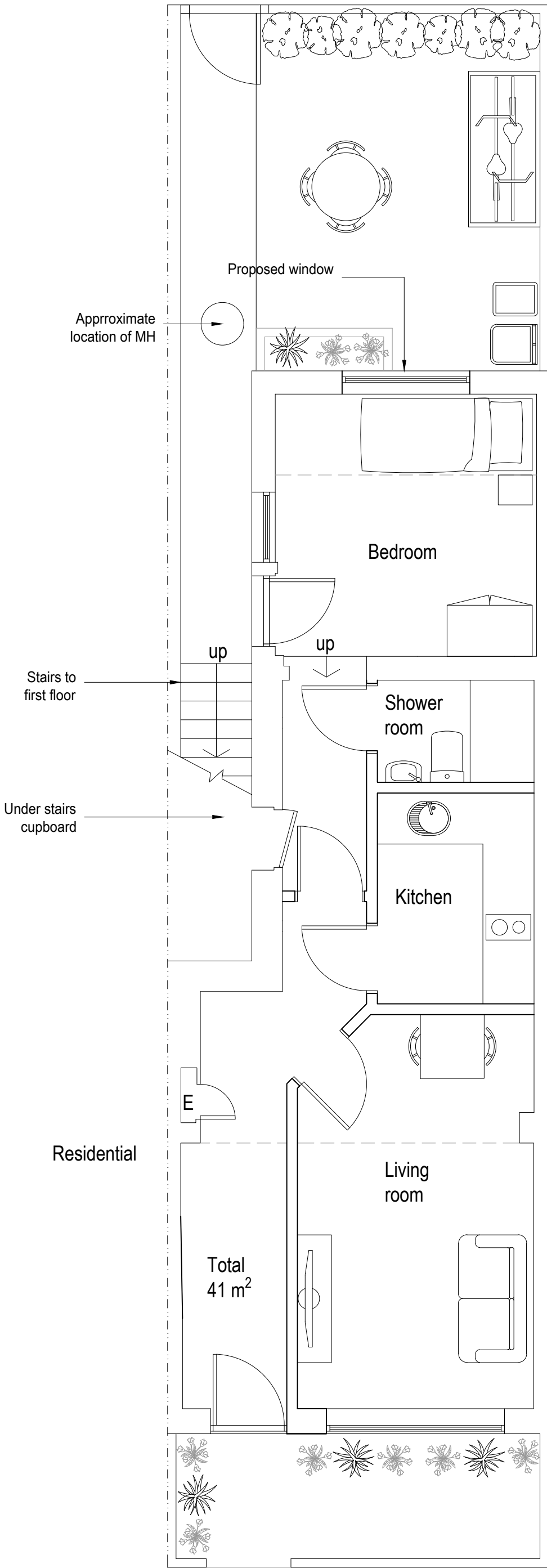
Existing Rear Elevation 1:100



Existing Front Elevation 1:100



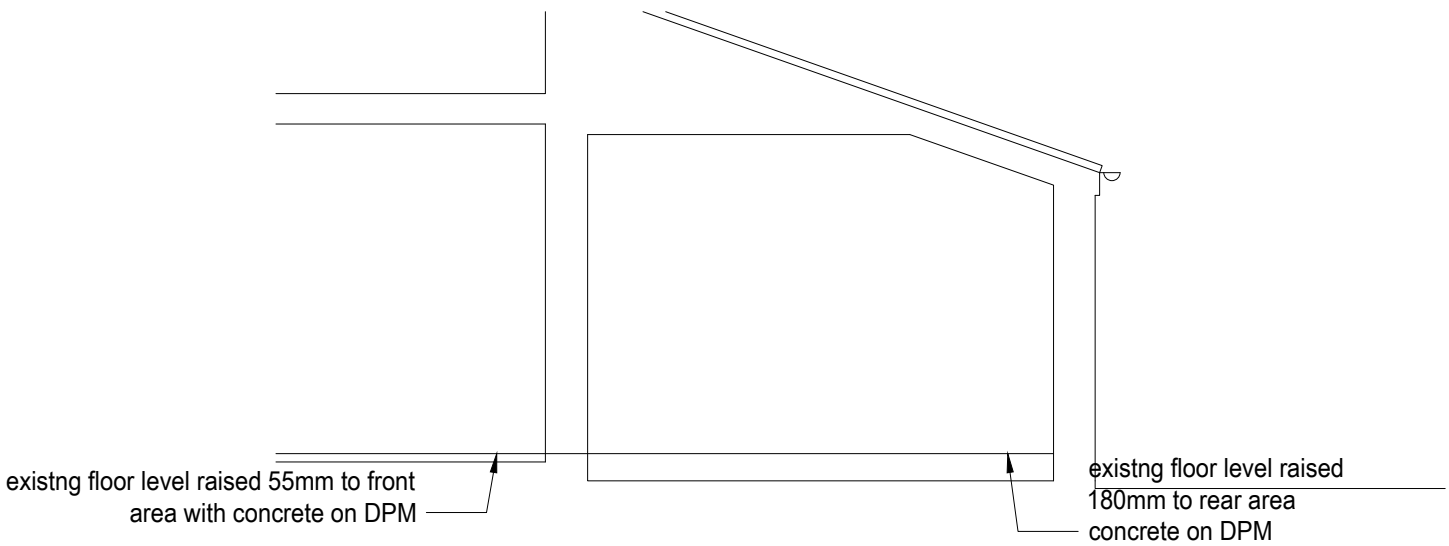
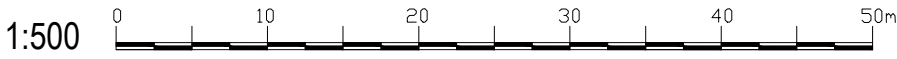
Rev A 06.01.21 Heights added amendments	
bpm	Architectural Services Ltd.
client	Babbayan Investment Holding
project	10 Bayford Road Littlehampton BN17 5HL
project ref:	2588
Drawing No.	01A
drawing title	Existing plans and elevations
drawn by	L.F.
date	Oct 21
scale	1:50/100@ A2
www.bpmnet.co.uk info@bpmnet.co.uk	
Do not scale off drawing, check all goods materials workmanship to all dimensions on site before all work is commenced conform with current building regs BSS and COP's	



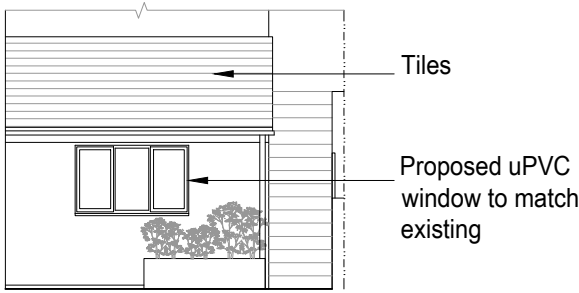
Proposed Ground Floor Plan 1:50



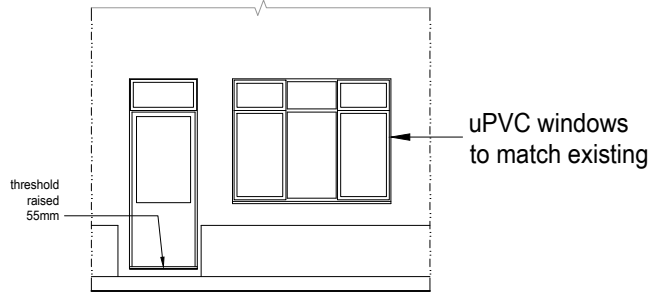
Block plan 1:500



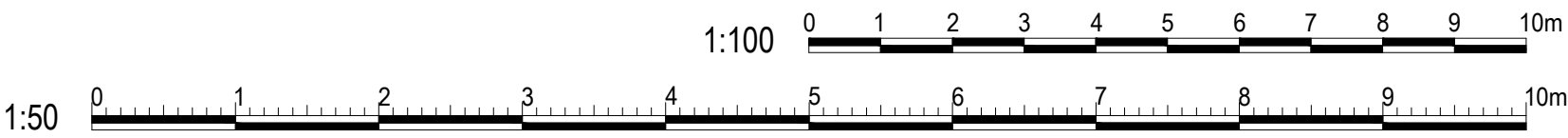
Proposed cross section through rear 1:50



Proposed Rear Elevation 1:100



Proposed Front Elevation 1:100



Rev A 06.01.21 Heights added and floor raised amendments

bpm Architectural Services Ltd.

client	Babbayan Investment Holding		
project	10 Bayford Road Littlehampton BN17 5HL		
project ref:	2588	Drawing No.	02A
drawing title	Proposed Plans and Elevations		
drawn by	L.F.		
date	Oct 21	scale	1:50/100@ A2
www.bpmnet.co.uk info@bpmnet.co.uk			

Do not scale off drawing, check all dimensions on site before all work is commenced. All goods materials workmanship to conform with current building regs BSS and COP's

Appendix B: Warning Codes and Personal Flood Plan

Flood Alert



Key Message: Flooding is possible. Be prepared

Timing: 2 hours to 2 days in advance of flooding

Actions: Be prepared for flooding
Prepare a flood kit of essential items
Monitor local water levels and flood forecasts

Flood Alerts are to warn people of the possibility of flooding and encourage them to be alert, stay vigilant and to make early preparations for flooding.

Flood Warning



Key Message: Flooding is expected. Immediate Action Required

Timing: Half an hour to 1 day in advance of flooding

Actions: Act now to protect your property
Block doors with flood boards or sandbags and cover airbricks and other ventilation holes
Move family, pets and valuables to a safe place
Turn off gas, electricity and water supplies if safe to do so
Keep a flood kit ready
Move cars, pets, food, valuables and important documents to safety

Flood Warnings are to warn people flooding is expected and encourage them to take immediate action to protect themselves and their property.

Severe Flood Warning



Key Message: Severe flooding. Danger to life

Timing: When flooding poses a significant threat to life and different actions are required

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

Severe Flood Warnings are to warn people of a significant risk to life or significant disruption to communities caused by widespread or prolonged flooding, and encourage them to take immediate action to protect themselves and follow the advice of the emergency services.

Warnings no longer in force

(no icon)

Key Message: No further flooding is currently expected for your area

Timing: When river or sea conditions begin to return to normal

Actions: Be Careful. Flood water may still be around for several days and could be contaminated
If you've been flooded, ring your insurance company as soon as possible

Warnings are removed to inform people that the threat has now passed.

Personal flood plan

Name



Are you signed up to receive flood warnings?

If not call Floodline on 0345 988 1188 to see if your area receives free flood warnings.

☐

Let us know when you've completed your flood plan by calling Floodline on **0345 988 1188**. This will help us learn more about how people are preparing for flooding.

General contact list	Company name	Contact name	Telephone
Floodline	Environment Agency		0345 988 1188
Electricity provider			
Gas provider			
Water company			
Telephone provider			
Insurance company and policy number			
Local council			
Local radio station			
Travel/weather info			

Key locations

Service cut-off	Description of location
Electricity	
Gas	
Water	

Who can help/who can you help?

Relationship	Name	Contact details	How can they/you help?
Relative			
Friend or neighbour			

Be prepared for flooding. Act now

Personal flood plan

What can I do NOW?



Put important documents out of flood risk and protect in polythene

☐

Look at the best way of stopping floodwater entering your property

☐

Find out where you can get sandbags

☐

Identify what you would need to take with you if you had to leave your home

☐

Check your insurance covers you for flooding

☐

Make a flood plan and prepare a flood kit

☐

Identify who can help you/ who you can help

☐

Understand the flood warning codes

☐

What can you do if a flood is expected in your area?

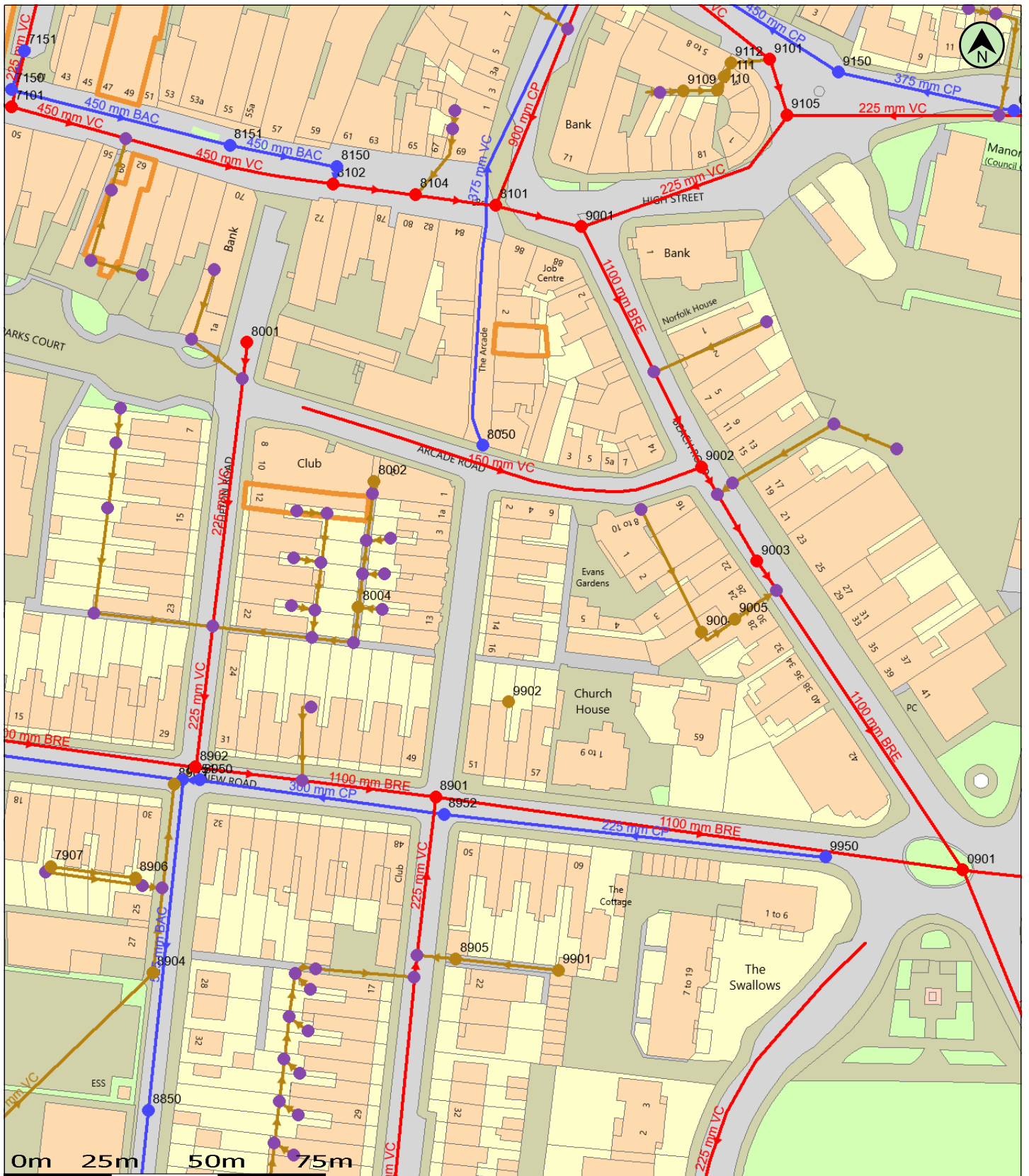
Actions	Location
Home	
• Move furniture and electrical items to safety	
• Put flood boards, polythene and sandbags in place	
• Make a list now of what you can move away from the risk	
• Turn off electricity, water and gas supplies	
• Roll up carpets and rugs	
• Unless you have time to remove them hang curtains over rods	
• Move sentimental items to safety	
• Put important documents in polythene bags and move to safety	
Garden and outside	
• Move your car out of the flood risk area	
• Move any large or loose items or weigh them down	
Business	
• Move important documents, computers and stock	
• Alert staff and request their help	
• Farmers move animals and livestock to safety	
Evacuation - Prepare a flood kit in advance	
• Inform your family or friends that you may need to leave your home	
• Get your flood kit together and include a torch, warm and waterproof clothing, water, food, medication, toys for children and pets, rubber gloves and wellingtons	

There are a range of flood protection products on the market to help you protect your property from flood damage. A directory of these is available from the

National Flood Forum at www.bluepages.org.uk

Be prepared for flooding. Act now

Appendix C: Southern Water Asset Map

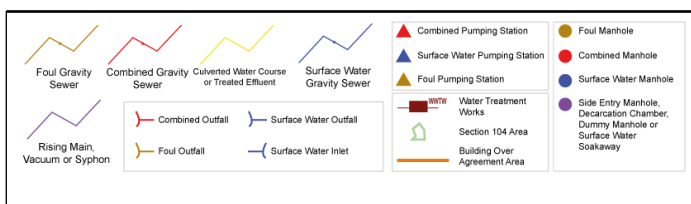


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Data updated: 20/10/21

Scale: 1:1250
Map Centre: 502901,102011

Date: 24/11/21
Our Ref: 711156 - 1

Wastewater Plan A4
Powered by digdat



pratheek.ramesh@aval-group.co.uk

91746 10 Bayford



The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2021 Ordnance Survey 100031673. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
0901	C	3.81	0.05	
7101	C	3.79	0.85	
8001	C	2.95	1.34	
8101	C	2.71	0.21	
8102	C	3.03	0.62	
8104	C	0.00	0.00	
8901	C	2.47	0.11	
8902	C	2.33	0.16	
9001	C	2.39	0.20	
9002	C	2.53	0.19	
9003	C	2.89	0.17	
9101	C	2.60	0.00	
9105	C	2.49	0.00	
7907	F	0.00	0.00	
8002	F	0.00	0.00	
8004	F	0.00	0.00	
8903	F	2.22	0.26	
8904	F	2.00	0.69	
8905	F	0.00	0.00	
8906	F	0.00	0.00	
9004	F	0.00	0.00	
9005	F	0.00	0.00	
9109	F	0.00	0.00	
9110	F	0.00	0.00	
9111	F	0.00	0.00	
9112	F	0.00	0.00	
9901	F	0.00	0.00	
9902	F	0.00	0.00	
0151	S	3.56	1.77	
7150	S	3.84	2.18	
7151	S	3.92	2.83	
8050	S	2.40	0.00	
8150	S	2.98	1.25	
8151	S	3.35	1.82	
8850	S	1.95	0.32	
8950	S	2.24	1.30	
8951	S	2.25	0.54	
8952	S	2.39	1.53	
9150	S	2.65	1.25	
9950	S	3.11	1.90	