FLOOD RISK ASSESSMENT – 95 GRINSTEAD LANE LANCING BN159DT

Proposal for Change of use for Outbuilding to Rear Garden (Commercial to Residential)

1.Introduction

1.1 This is a flood risk assessment to support the application by the occupants of 95 Grinstead Lane (Andy Scott) to change existing permission from commercial to residential

1.2 Plans showing the Outbuilding are attached to this report

2. Site Description

2.1 The site and Outbuilding is located on the edge of Flood Zone 2 and 3 (as represented on the red rectangle below on the Environment Agency Flood Assessment Map see below.) The site currently compromises of a residential dwelling, garage, garden and an outbuilding with commercial permissions.

2.2 The Outbuilding is constructed on 'screw pile' foundations which places the finished floor level at approximately 330mm above the ground level with a nominal 100mm ventilation gap under the floor gap. There is an air gap under the Outbuilding and therefore no air bricks are required

2.3 Electrical Sockets are positioned 750mm above Floor Level

2.4 The Outbuilding is constructed of 140mm Structural Insulated Panels.

2.5 Surface Water discharges into a Soak-away.

2.6 Average ground level under the Outbuilding is 4m AOD.

3. Flood Zone, Flood Defences and Flood History

3.1 The Environment Agency's product 4 data obtained in August 2022 shows the site and the Outbuilding is within Tidal Flood Zones 3 and 2.

3.2 The tidal flood level data used in this flood risk assessment was created on 24/08/2022 by the Environment Agency, using the tidal flood level data supplied by the Environment Agency based on data from 2012 (Arun to Adur Costal Tuflow Model created by JBA), with updated Adur Tidal Wall Scheme Modelling (2018) for the defended scenarios.

3.3 Reference has been made to the Environment Agency's latest predicted sea level rise data at https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances in order to establish the present day and future year tidal flood levels using the updated climate change predictions. These are

presented by the Environment Agency as a higher central allowance (70th percentile exceeded by 30% of the projections in the range) and an upper end allowance (95th percentile exceeded by 5% of the projections in the range).

3.4 The undefended 1:200 year tidal flood level supplied by the Environment Agency based on the data model from 2012 is 4.26m AOD. The predicted undefended levels based on the updated climate change predictions are as follows: 2012 1:200 year flood level 4.26m AOD (Currently predicted increase: 2000 to 2035 5.7mm to 6.9mm per annum 2036 to 2065 8.7mm to 11.3mm per annum 2066 to 2095 13.1mm to 18.2mm per annum 2096 to 2125 13.1mm to 18.2mm per annum), 2021 1:200 year flood level 4.31m to 4.32m AOD. 2125 1:200 year flood level 5.39m to 5.78m AOD. Copies of the flood maps are attached at the rear of this report.

3.5 Flood Defences - Flood Defences offering protection to the area have recently been upgraded as a part of the Shoreham Adur Tidal Walls Scheme. The new defences are formed of embankments, sheet pile walls, rock revetments, flood glass, and property level protection, and are designed to last for 100 years, with the option of being raised further to add even greater protection into the future. The Scheme will provide protection for extreme events with 0.33% probability (1 in 300 year) of occurring in 1 year, allowing for 50 years of sea-level-rises. These in their These are in the form of an embankment with estimated protection of 1 in 300 years.

3.6 Flood History - Grinstead Lane experienced flooding in 1974 as a result of drainage (Flood Id 2052) Environment Agency records do not show this event directly impacting on the site. There have been no floods in recent memory at the site.

3.7 copies of the flood maps are attached to this report

4. Assessment of Risk and Flooding Potential

4.1 The existing flood defences on the banks of the River Adur have a crest level of at least 5m AOD. Based on the updated climate change predictions for sea level rise these defences should provide protection until at least the year 2080 and potentially up to 2095 in their current form. It is worth noting that the finished floor level of the existing structure is at 330mm above the ground level (4m AOD) with a nominal 100mm ventilation gap under the floor gap. Given the location of the site at the outer edge of the potential flood zone wave action will not be evident in the event of a defence breach. In its present form 95 Grinstead Lane will be unaffected during a breach until at least 2070 and potentially up to 2081

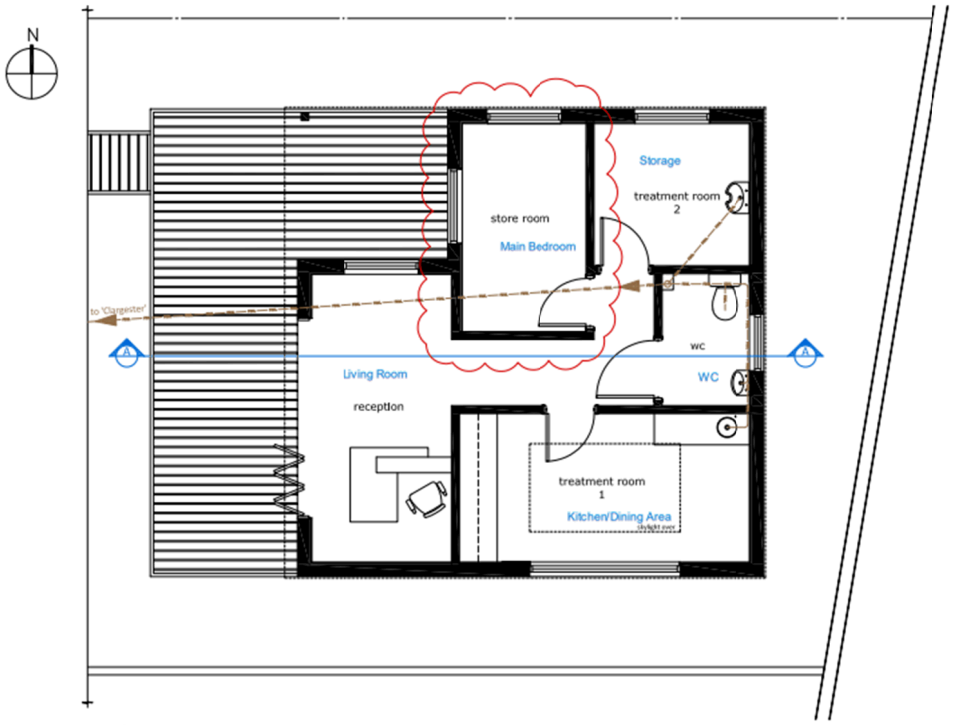
4.2 The finished floor level is currently 4.33m AOD and is proportional to the risk at the out edge of the potential flood zone.

4.3 In the un-likely event of a flood occurring, the structure can be easily dried given that air can circulate externally under the floor deck. Internally all windows can be opened including large bi-fold door to front elevation. All electrical sockets are 750mm above FFL (1000mm above GL). The area under building is covered with a permeable membrane thereby allowing water to be absorbed into the ground. Rainwater to be discharged into soakaway.

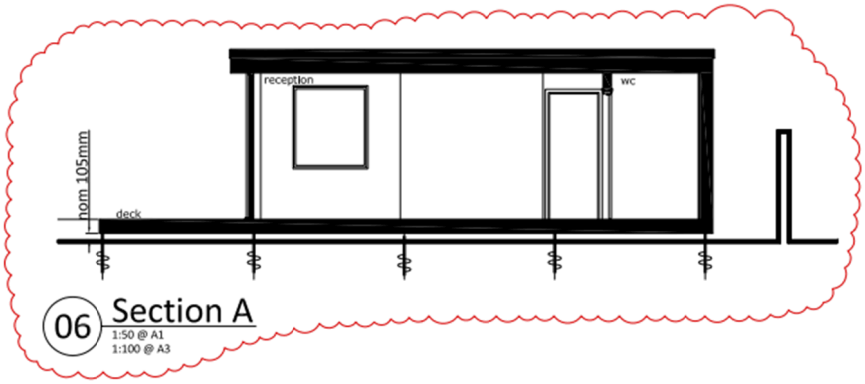
Building is supported on ‘screw piles’ which allow below ground water to flow naturally across the site, given that there are no traditional concrete foundations to act as an underground barrier.

5. Safeguarding Flood Risk Plan

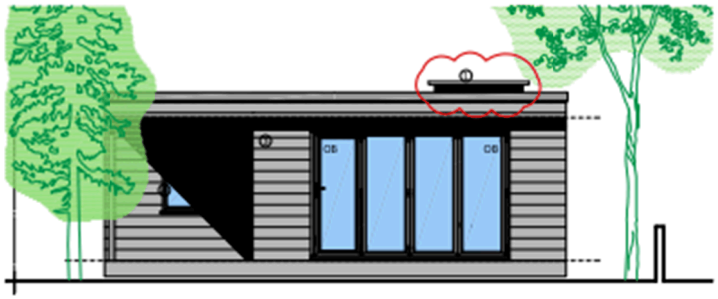
1) The construction has been built in a way which allows water to pass easily underneath preventing water from gathering like a traditional concrete construction.
2) Electrical Sockets are 1000mm above ground level
3) Water can easily be absorbed into the ground through the membrane (something which isn’t possible with concreate foundations)
4) The occupants of 95 Grinstead Lane are currently on the Environment Agencies Flood Warning Notification System, meaning that advanced warnings are given if flooding is likely. This gives the occupants early warnings, so that steps could be taken to protect the construction, and flood defence products could be activated.
5) In the event of a flood warning the occupant would seek evacuation in the main house at the site 95 Grinstead Lane – the occupant of the structure is likely to be a family member or friend.
6) The occupants are wiling to engage with the Local Authority over any measures they feel should be installed to make the application successful



01 Floor Plan
1:50 @ A1
1:100 @ A3

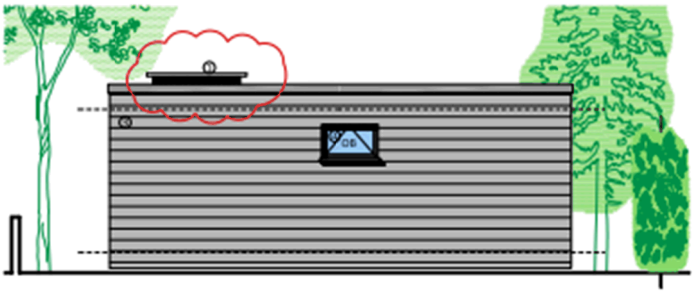


06 Section A
1:50 @ A1
1:100 @ A3



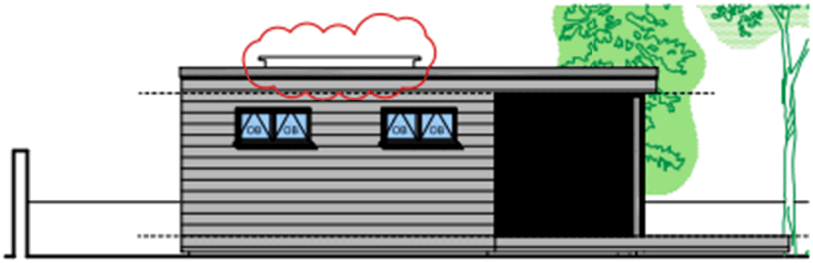
03 Front Elevation

1:50 @ A1
1:100 @ A3



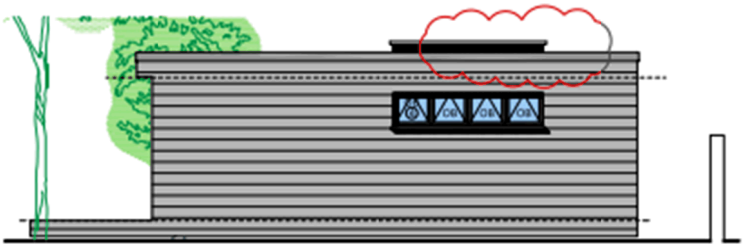
04 Rear Elevation

1:50 @ A1
1:100 @ A3



05 Side Elevation

1:50 @ A1
1:100 @ A3



02 Side Elevation

1:50 @ A1
1:100 @ A3

DRAWING ISSUE NOTE:

- For the purpose of submission to Local Authority for the approval of Planning Consent
- This drawing is to be read in conjunction with all other relevant drawings & details in this package
- Do not scale, except for Planning purposes
- Dimensions are in millimetres unless otherwise stated
- Do not use for construction
- Should any third party use these drawings for the purpose of construction, it shall be entirely at their own risk.

KEY:

1. Sky-light finished in charcoal grey powder coat with obscured glass.
2. Aluminium fascia finished in charcoal grey powdercoat.
3. Re-cyled uPVC light grey, cedar effect weather boarding.
4. Aluminium framed, double glazed window, finished in charcoal grey powdercoat.
5. Aluminium framed, double glazed bi-fold door, finished in charcoal grey powdercoat.

OB Obscured Glass

CONSTRUCTION:

1. Sky-light finished in charcoal grey powder coat with obscured glass.
2. Aluminium fascia finished in charcoal grey powdercoat.
3. Re-cyled uPVC light grey, cedar effect weather boarding.
4. Aluminium framed, double glazed window, finished in charcoal grey powdercoat.
5. Aluminium framed, double glazed bi-fold door, finished in charcoal grey powdercoat.

SUSTAINABILITY:

1. Building is constructed from 'SIP's' panels comprising of recycled timber linings with internal foam cores.
2. Building is fully de-mountable allowing it to be dis-assembled & re-built on a new site.
3. Roof covering is made from re-cycled tyres.
4. Rain-screen cladding manufactured from recycled plastic.
5. Screw-piles support the building. No concrete is used anywhere in the building.
6. Entire building can be de-mounted & re-used in a new location.

A 11.09.19 Landscaping shown, roof lantern amended, treatment room changed to clinic room, section added, obscured glass shown. Drainage, material key, construction & sustainability notes added. NB

Revision

Project
Cosmetic Clinic

Site Address
95 Grinstead Lane
Lancing
West Sussex
BN15 9DT

Drawing
PROPOSED DRAWINGS:
Floor Plan + Elevations

Client
Project Associates (South East) Ltd.

Scale
1:50 @ A1

Date: Mar. '19 | Drawn By: NB | Checked By:

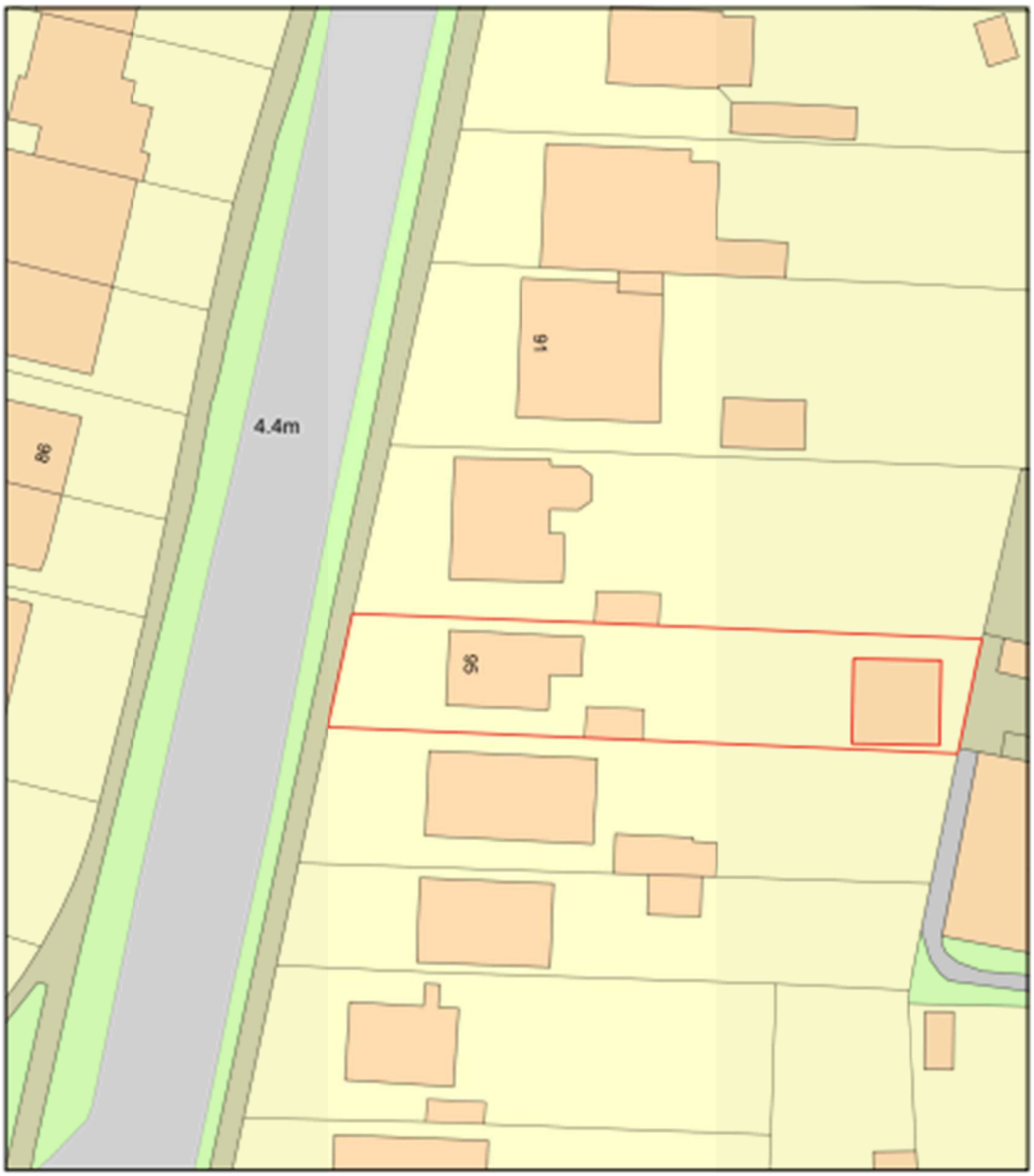
Drawing Status
PLANNING

Drawing No: 1064.19.30 | Revision: A

crowther overton-hart
20 Chanctonfold, Horsham Road
Steyning, West Sussex. BN44 3AA
t 01903 816290
reception@cohsurveyors.co.uk

© COPYRIGHT 2019 Crowther Overton-Hart. All rights reserved.

Annexe 95 Grinstead Lane



0 20
Metres

N

ReQuestaPlan

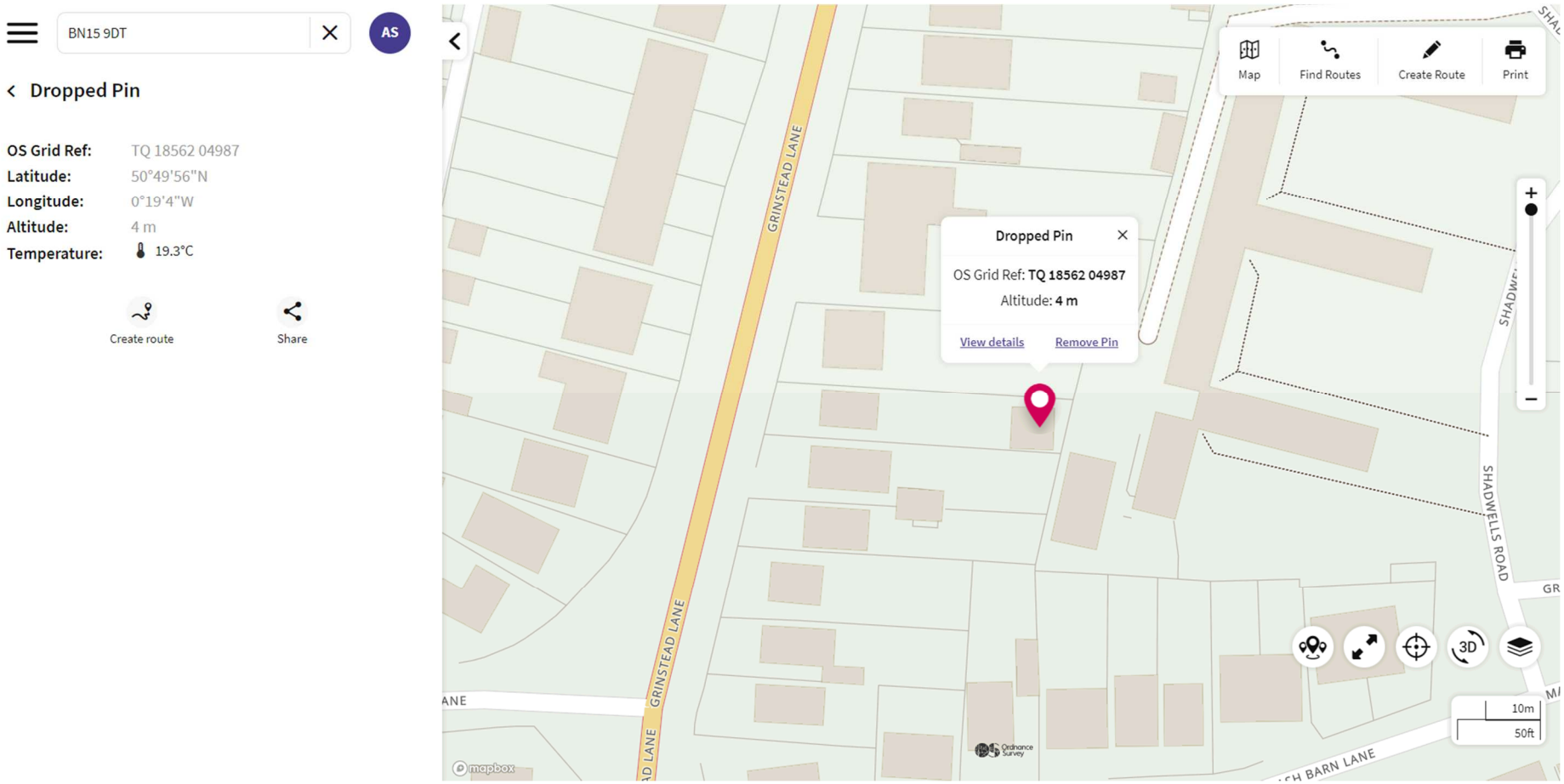
Plan Produced for: Local authority

Date Produced: 14 Apr 2022

Plan Reference Number: TQRQM22104112155886

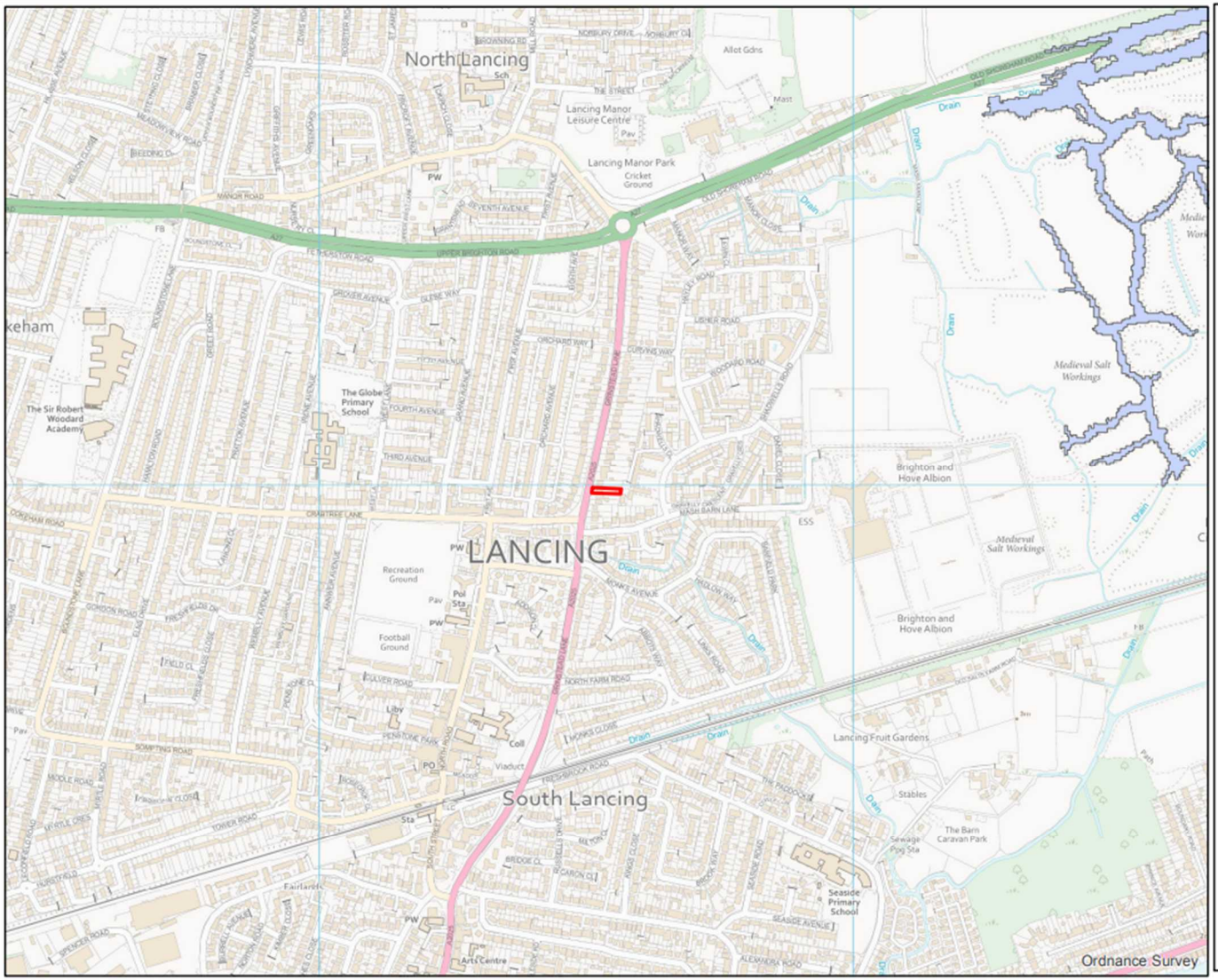
Scale: 1:500 @ A4

© Crown copyright and database rights 2021 OS 100042766



Source – Ordinance Survey - https://explore.osmaps.com/pin?lat=50.832343&lon=-0.318477&zoom=18.0000&overlays=&style=Standard&type=2d (this shows existing at AOD of 4m)

Modelled Flood Outlines (Defended Tidal). Centred BN15 9DT. Created 24/08/2022.



Environment Agency

N

Legend

- Site Boundary
- 0.5% AEP (2018) (Defended)
- 0.5% AEP (2067) (Defended)
- 0.5% AEP (2117) (Defended)

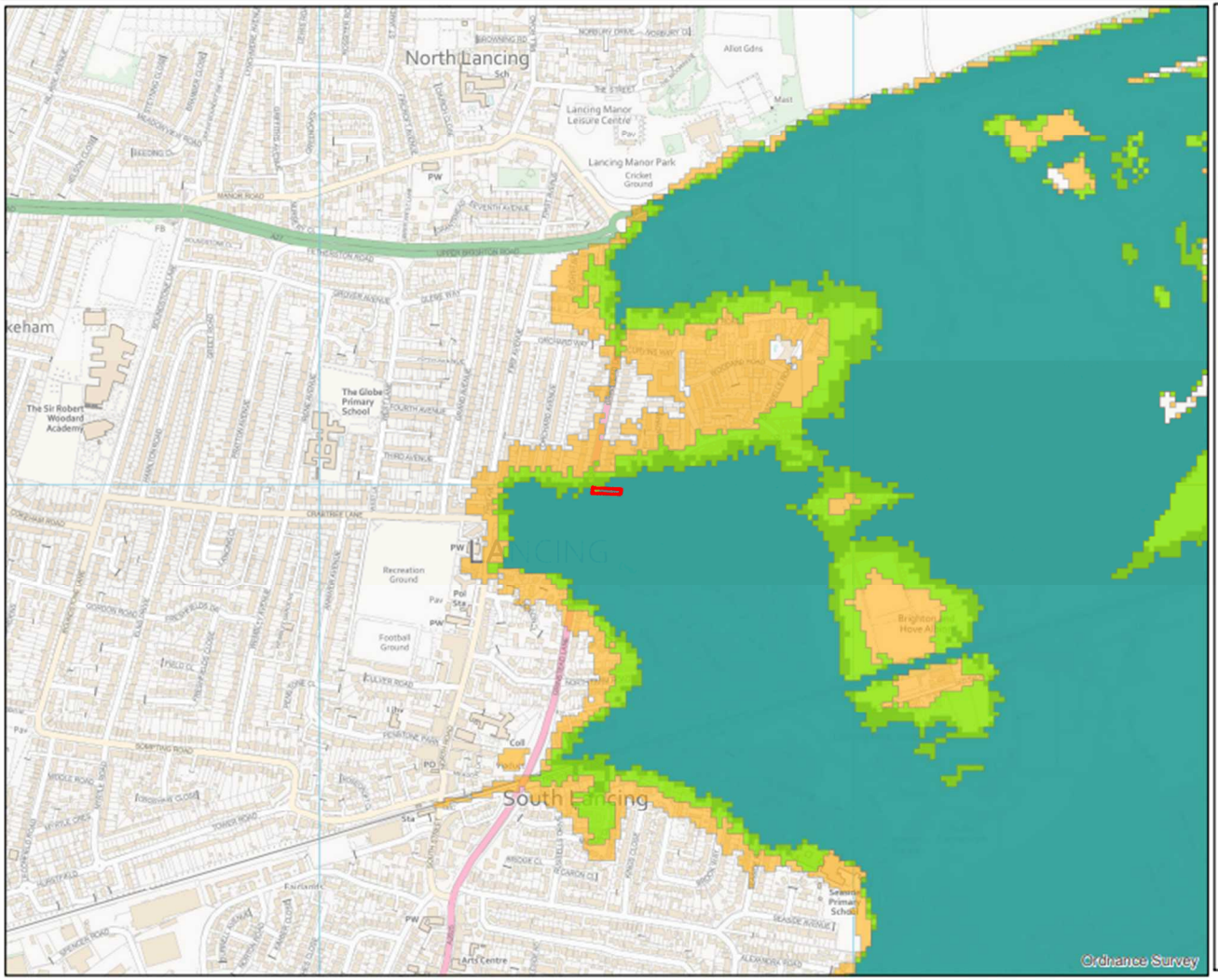
Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Scale: 1:10,000

0 0.225 0.45
Kilometers

© Environment Agency Copyright and/or database rights 2022. All rights reserved. © Crown copyright and database rights 2022. All rights reserved. Ordnance Survey licence number 100026380.
Contact us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506. Email:enquiries@environment-agency.gov.uk

Modelled Flood Outlines (Undefended Tidal). Centred BN15 9DT. Created 24/08/2022.



Environment Agency

N

Legend

- Site Boundary
- 0.5% AEP (2012) (Undefended)
- 0.5% AEP (2070) (Undefended)
- 0.5% AEP (2115) (Undefended)
- 0.1% AEP (2012) (Undefended)

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

Scale: 1:10,000

0 0.225 0.45
Kilometers

© Environment Agency Copyright and/or database rights 2022. All rights reserved. © Crown copyright and database rights 2022. All rights reserved. Ordnance Survey licence number 100026380.
Contact us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506. Email:enquiries@environment-agency.gov.uk

Flood Map for Planning (Rivers and Sea). Centred BN15 9DT. Created 24/08/2022.



Environment Agency

1: 10,000

0 Metres 250

N W E S

Flood Map for Planning (Rivers & Sea)

- Defences
- Flood Storage Areas
- Areas benefiting from flood defences
- Flood Zone 3
- Flood Zone 2

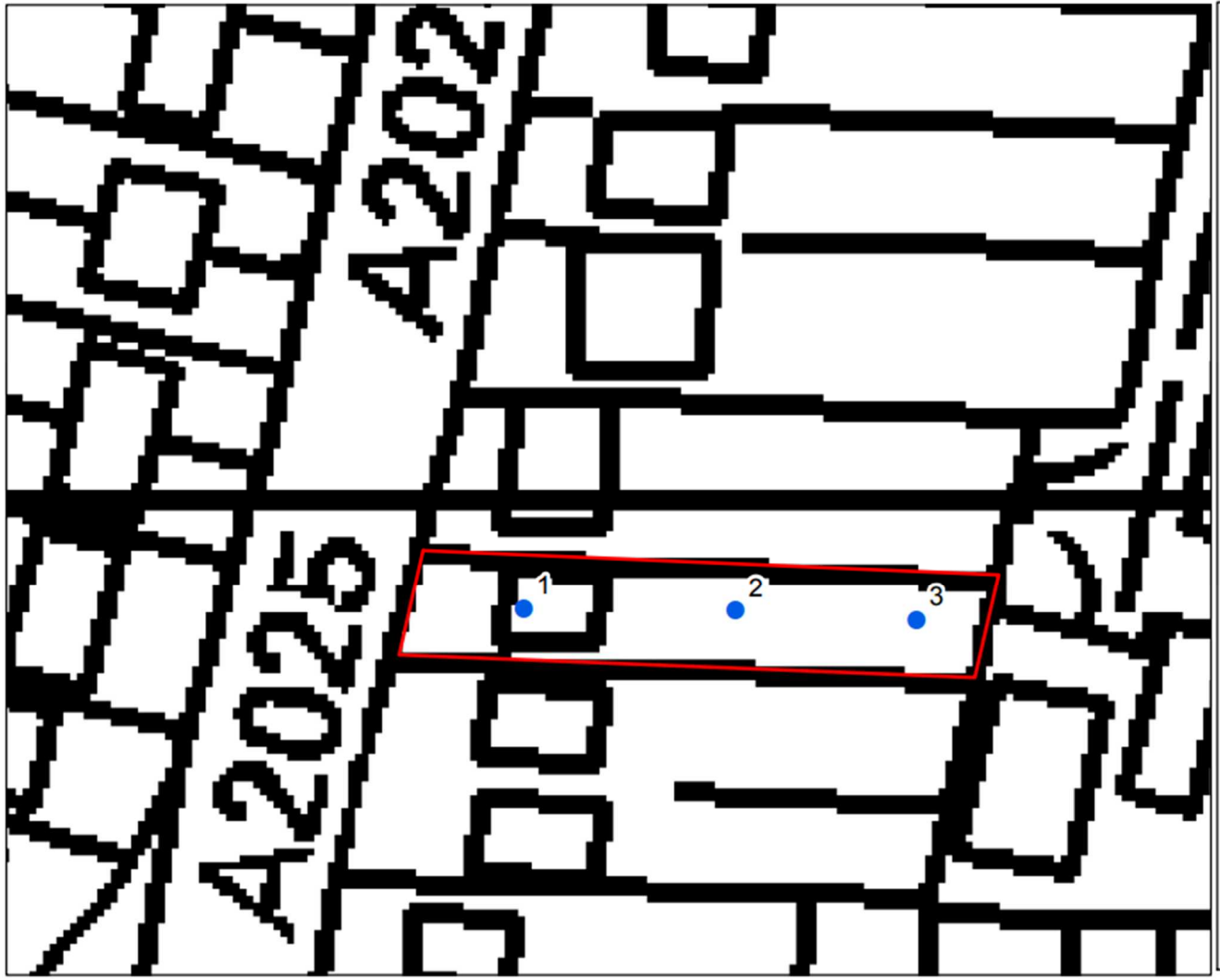
Flood Map Areas (assuming no defences)

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 occuring each year.

FRA Site Boundary & Node Points. Centred BN15 9DT. Created 24/08/2022.



Environment Agency

N

Legend

- Site Nodes
- Site Boundary

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

Scale: 1:500

0 0.01 0.02
Kilometers

© Environment Agency Copyright and/or database rights 2022. All rights reserved. © Crown copyright and database rights 2022. All rights reserved. Ordnance Survey licence number 100026380.
Contact us: National Customer Contact Centre, PO Box 544, Rotherham, S60 1BY. Tel: 03708 506 506. Email:enquiries@environment-agency.gov.uk

Product 4 Flood Risk Data Requested by: Andy Scott

Site: 95 Grinstead Lane, Lancing, BN15 9DT

Table 1: Water Levels: Tidal Undefended (2012 Model)

	NGR		Modelled Flood Levels in Metres AOD Undefended Annual Exceedance Probability			
Node Ref	Eastings	Northings	0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	518522	104990	-	4.79	5.41	4.48
2	518541	104989	4.26	4.79	5.40	4.48
3	518558	104988	4.26	4.79	5.41	4.48

Table 2: Water Levels: Tidal Defended (2018 Model)

	NGR		Modelled Flood Levels in Metres AOD Defended Annual Exceedance Probability		
Node Ref	Eastings	Northings	0.5%	0.5% (2067)*	0.5% (2117)*
1	518522	104990	-	-	-
2	518541	104989	-	-	-
3	518558	104988	-	-	-

Table 3: Water Depths: Tidal Undefended (2012 Model)

	NGR		Modelled Flood Depths in Metres Undefended Annual Exceedance Probability			
Node Ref	Eastings	Northings	0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	518522	104990	-	0.65	1.26	0.34
2	518541	104989	0.18	0.71	1.32	0.40
3	518558	104988	0.30	0.82	1.44	0.52

Table 4: Water Depths: Tidal Defended (2018 Model)

	NGR		Modelled Flood Depths in Metres Defended Annual Exceedance Probability		
Node Ref	Eastings	Northings	0.5%	0.5% (2067)*	0.5% (2117)*
1	518522	104990	-	-	-
2	518541	104989	-	-	-
3	518558	104988	-	-	-

Office Address: Guildbourne House, Chatsworth Road, Worthing BN11 1LD.
Customer services line: 03708 506 506. Email: enquiries@environment-agency.gov.uk
www.gov.uk/government/organisations/environment-agency

All levels taken from: Arun to Adur Coastal Tuflow Model (2012) with updated Adur Tidal Wall Scheme Modelling (2018) for the defended scenarios.

Produced on: 24/08/2022

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