



Flood Risk Assessment

Land at the rear of 42 Sinah Lane, Hayling Island
13th April 2016

Flood Risk Assessment

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Flood Risk Assessment

1.0 Introduction

This Flood Risk Assessment is submitted to support a planning application for a new dwelling at the rear of 42 Sinah Lane, Hayling Island, Hampshire PO11 0HH.

This report has been produced to show how the proposal responds to issues raised in the pre-application response letter (GEN/15/01227) relating to potential flood risk as a result of future climate change.

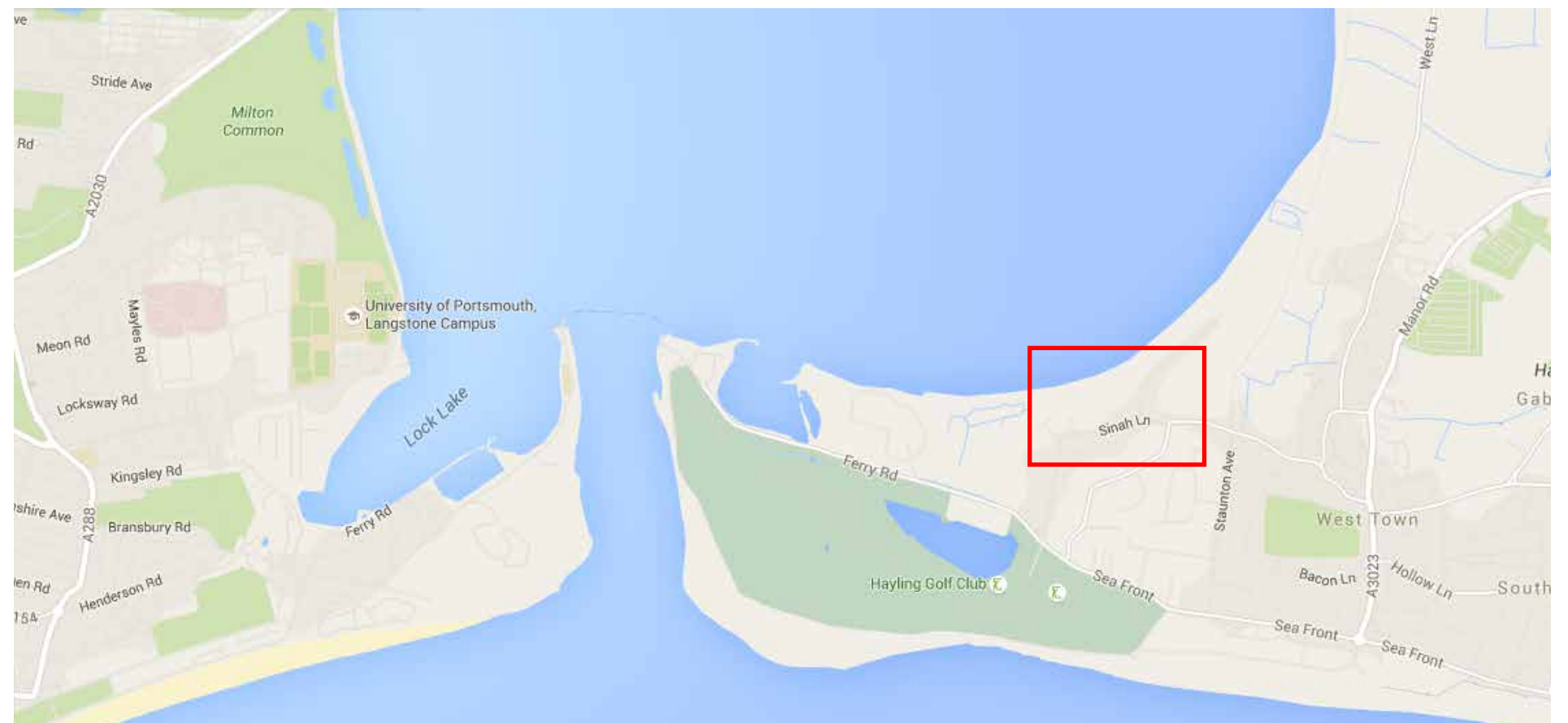
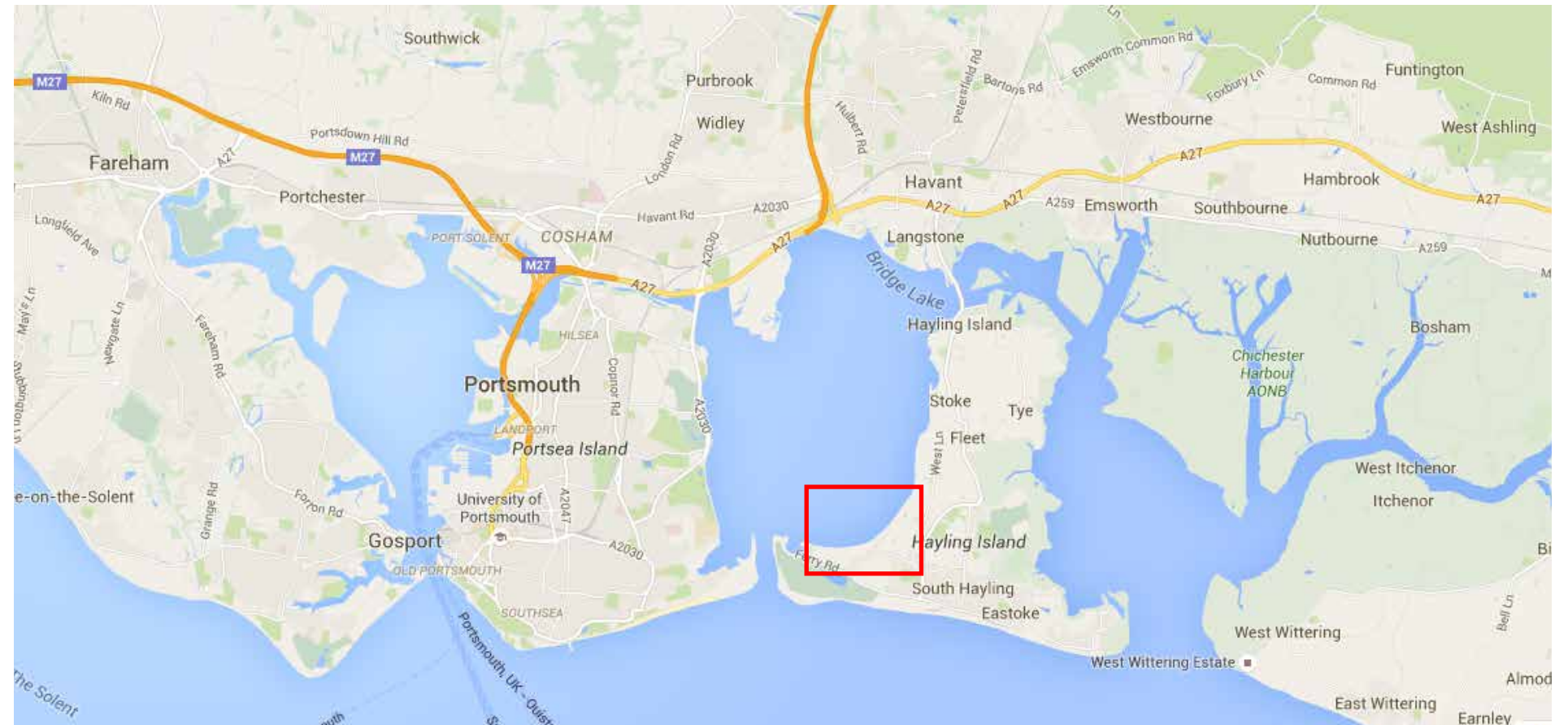
2.0 Consultation

The preparation of this report has been undertaken in consultation with the following interested parties:

- Havant Borough Council
- Environment Agency (EA).

3.0 Development Location

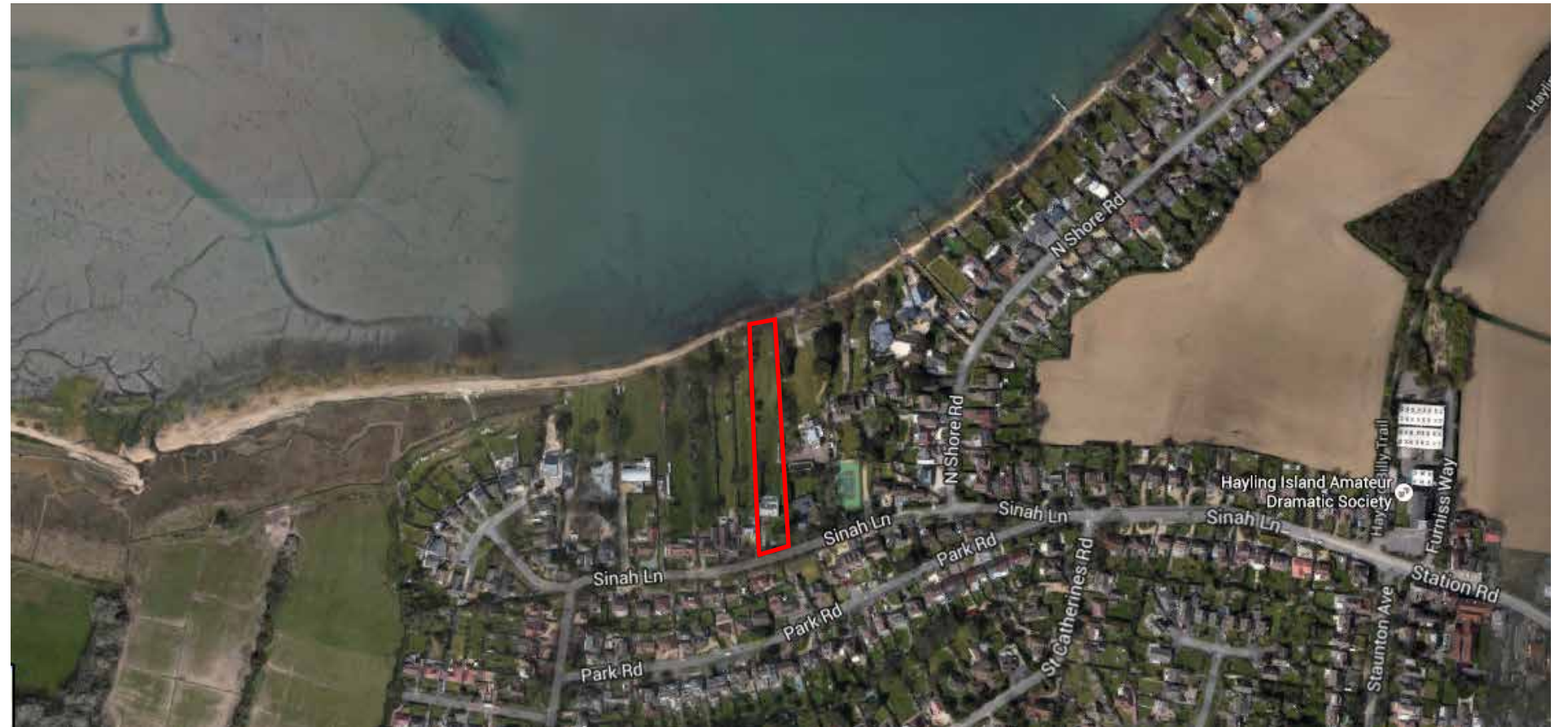
The proposed site is located in the south-west of Hayling Island, behind No.42 Sinah Lane. The Ordnance Survey National Grid Reference (OS NGR) for the site is 470455 (Easting), 99764 (Northing).



Location Maps

Flood Risk Assessment

The 180m long plot currently contains a three storey grade II listed house, known as 'Saltings', designed by modernist architect Amyas Connell of Connell, Ward & Lucas. This house is located close to Sinah Lane to the south, with a long rear garden extending north to Langstone Harbour. The new build house is proposed to be built within the rear garden.



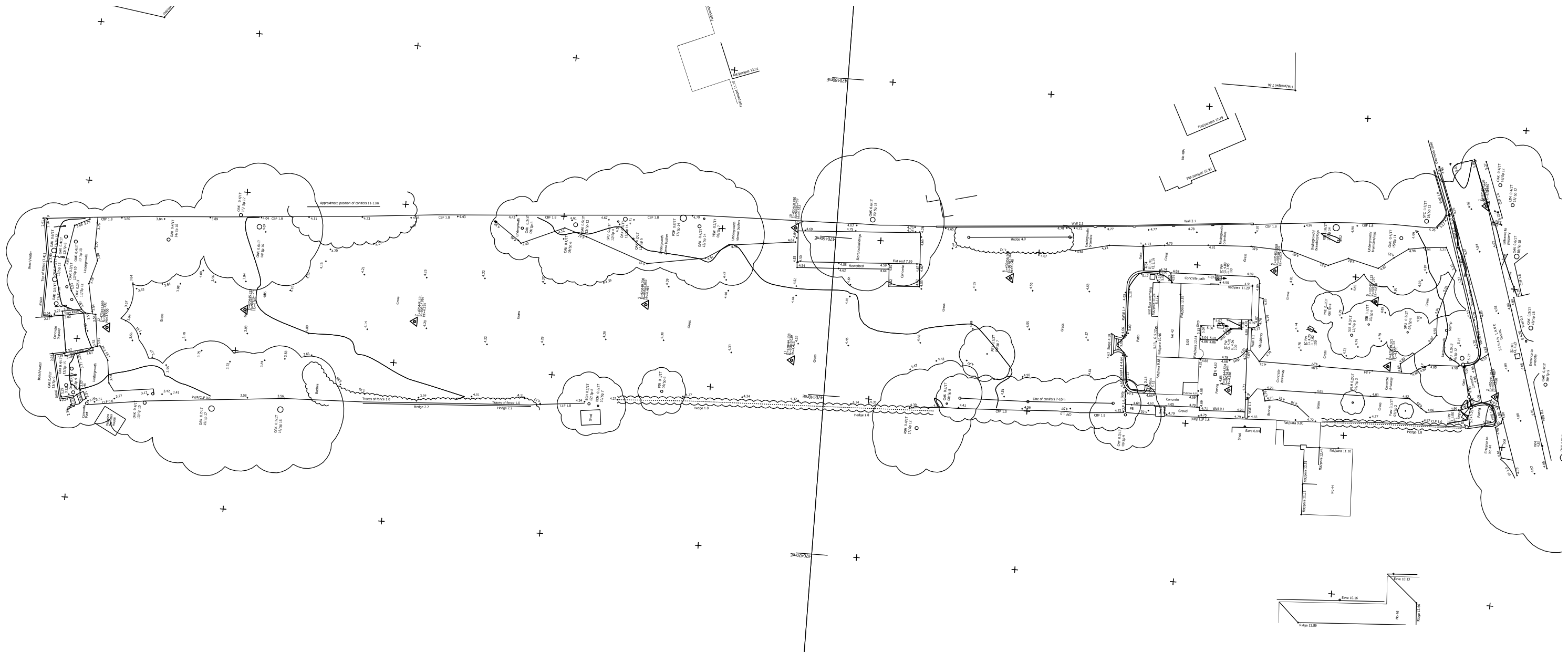
Aerial Map

Flood Risk Assessment

4.0 Topographical Survey

A topographical survey of the site has been made to ascertain accurate site levels as well as to check boundary coordinates.

The site is currently laid out with a single three storey dwelling on the southern part of the site accessed from Sinah Lane.



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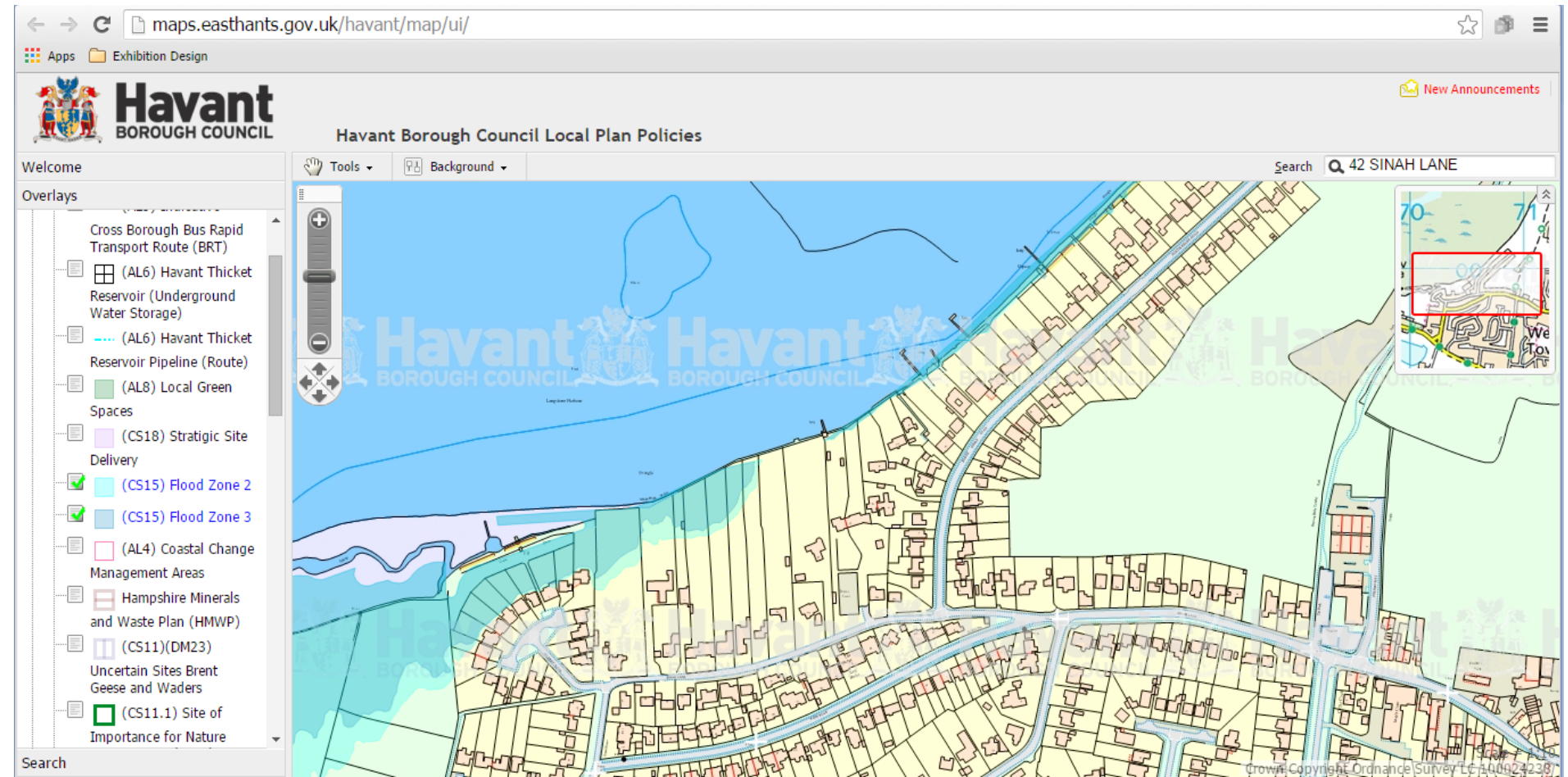
5.0 Flood Risk Classification

The site is located in flood zone 1 on the Environmental Agency's flood maps and has a low probability of flooding. Within this area there is currently less than 1 in 1000 annual probability of flooding of river or sea flooding.

The NPPF requires that flood risk assessments are required for planning applications for the following:

- Development proposals of one hectare or greater in Flood Zone 1, and,
- All proposals for new developments located in Flood Zones 2 and 3.

Although the site is currently within flood zone 1 and less than one hectare, this flood risk assessment has been prepared to demonstrate how the development will manage climate change over the next 100 years.



Langstone Harbour - Current Flood Map

Flood Risk Assessment

6.0 Climate Change

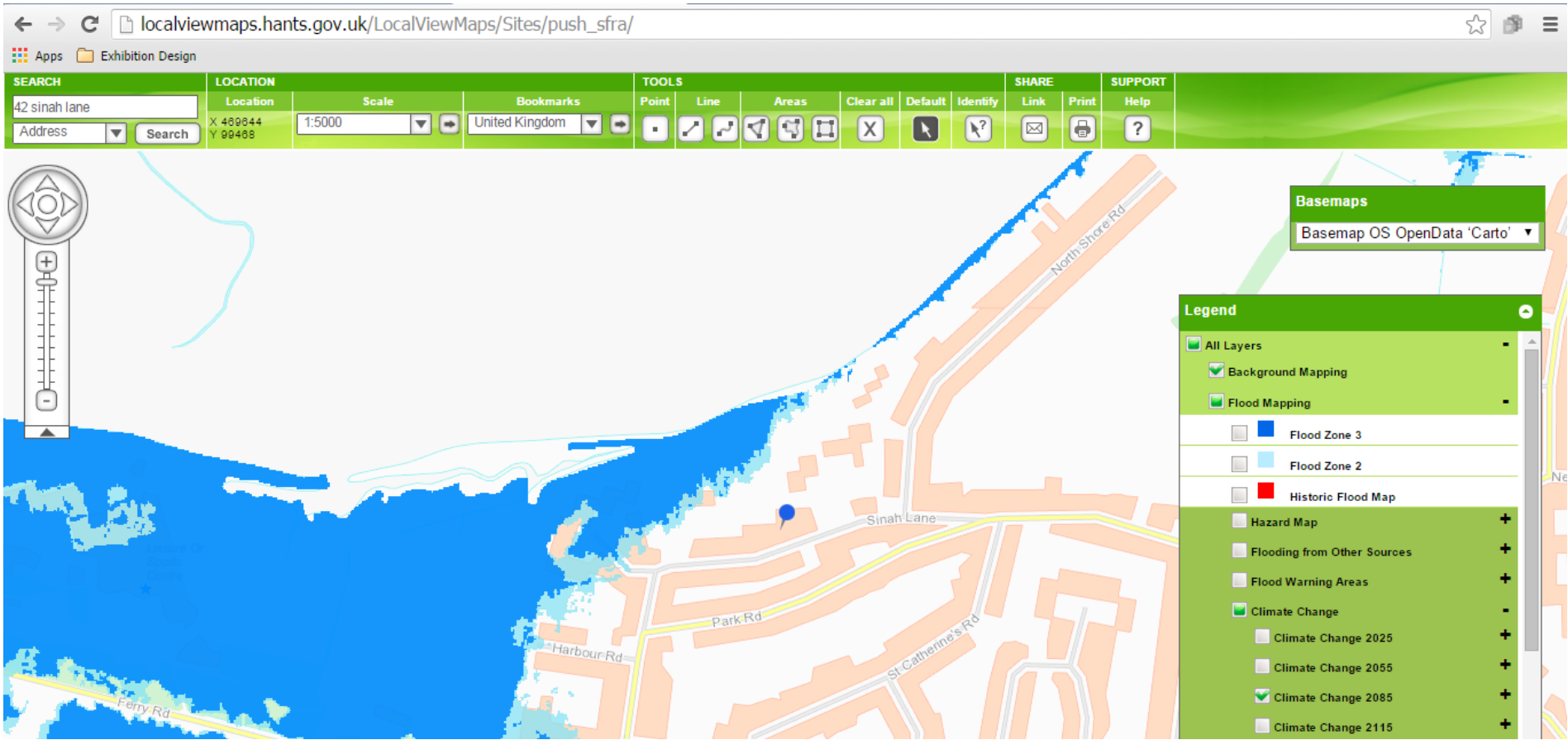
The Strategic Flood Risk Assessment (SFRA) for Havant assesses the risk from flooding from all sources, now and in the future, taking account of the impacts of climate change, and the impact that land use changes and development in the area will have on flood risk.

The adjacent maps have been taken from the SFRA and show the flood levels for the site in 2085 and 2115 overleaf.

From the tables below:

In 2085 - Flood Zone 3:

1 in 200 year tidal flood level = 4.0 AODN



Langstone Harbour - 2085 Flood Map

Note: Levels in mAOD to the nearest 0.1m	1990 (baseline)	2010 (1990 + 80mm)	2025 (1990 + 140mm)	2055 (2025 + 255mm)	2085 (2055 + 360mm)	2115 (2085 + 450mm)
Calshot	2.9	3.0	3.0	3.3	3.7	4.1
Southampton	3.0	3.1	3.1	3.4	3.8	4.2
Lee-on-the Solent	3.0	3.1	3.1	3.4	3.8	4.2
Portsmouth Harbour	3.1	3.2	3.2	3.5	3.9	4.3
Langstone Harbour	3.2	3.3	3.3	3.6	4.0	4.4
Chichester Harbour	3.3	3.4	3.4	3.7	4.1	4.5

Table 7: 1 in 200 year tidal levels

Note: Levels in mAOD to the nearest 0.1m	1990 (baseline)	2010 (1990 + 80mm)	2025 (1990 + 140mm)	2055 (2025 + 255mm)	2085 (2055 + 360mm)	2115 (2085 + 450mm)
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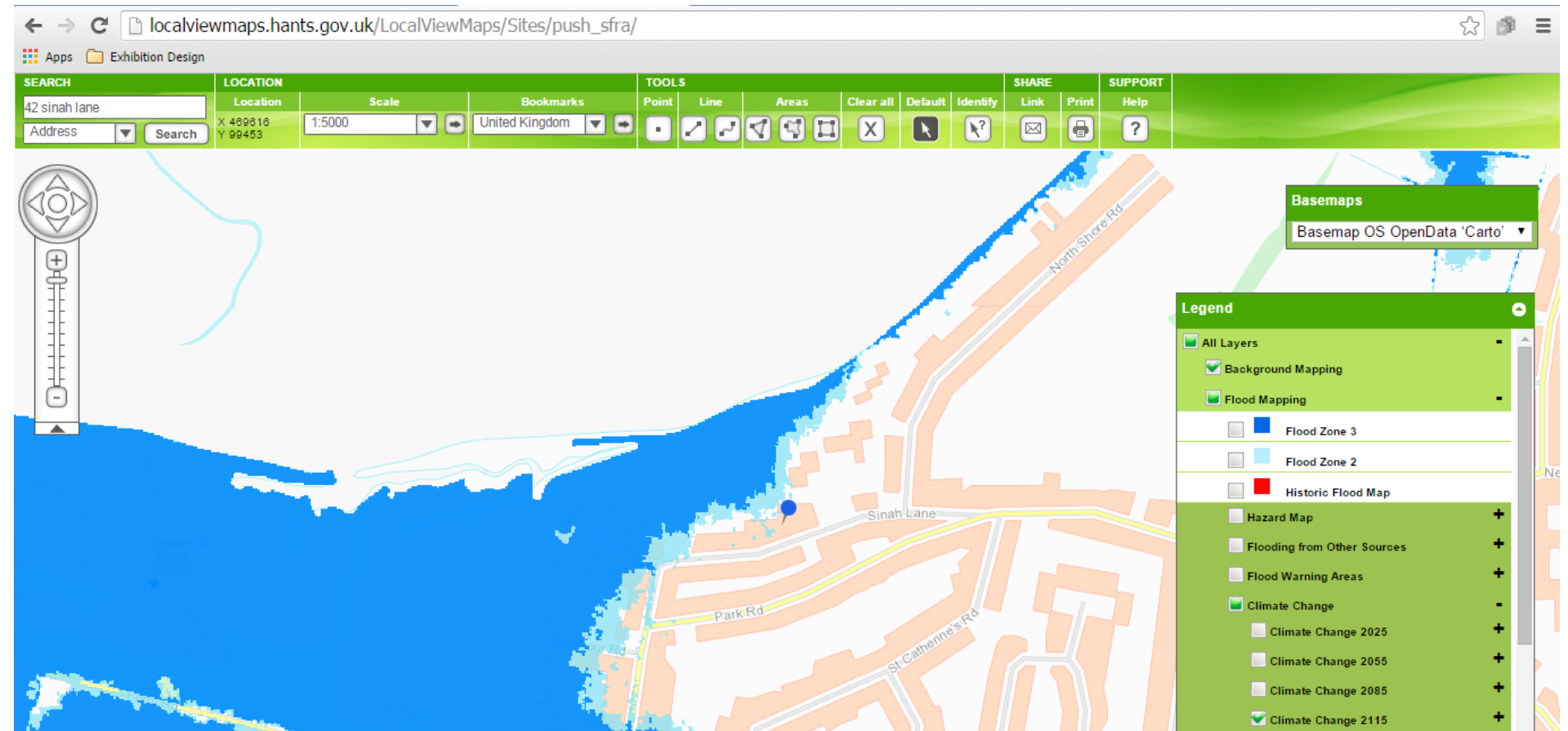
Table 8: 1 in 1000 year tidal levels

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In 2115 - Flood Zone 3:

1 in 200 year tidal flood level = 4.4 AODN

The present day 0.5% probability (1 in 200 year) extreme tide level for Langstone Harbour is 3.3m AODN and the 0.5% probability (1 in 200 year) extreme tide level in the year 2115 is 4.4m AODN.



Langstone Harbour - 2115 Flood Map

Note: Levels in mAOD to the nearest 0.1m	1990 (baseline)	2010 (1990 + 80mm)	2025 (1990 + 140mm)	2055 (2025 + 255mm)	2085 (2055 + 360mm)	2115 (2085 + 450mm)
Calshot	2.9	3.0	3.0	3.3	3.7	4.1
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Portsmouth Harbour	3.1	3.2	3.2	3.5	3.9	4.3
Langstone Harbour	3.2	3.3	3.3	3.6	4.0	4.4
Chichester Harbour	3.3	3.4	3.4	3.7	4.1	4.5

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Calshot	3.1	3.2	3.2	3.5	3.9	4.3
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Table 8: 1 in 1000 year tidal levels

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7.0 Development Proposals

The design proposal is for a new-build single storey dwelling located at the rear of no.42 Sinah Lane on Hayling Island.

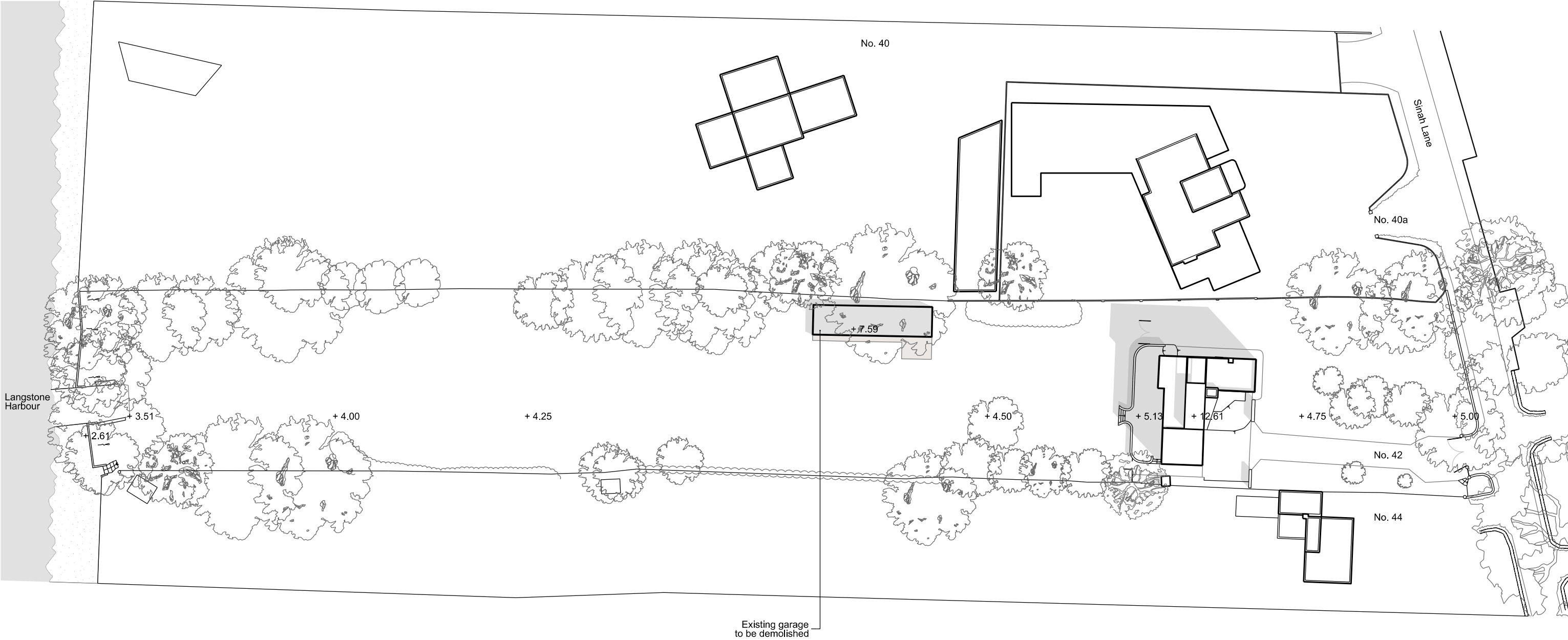
The site is approximately 180m long and is bounded by Sinah Lane to the south and Langstone Harbour to the north. Similar long, narrow plots extend to the east and west along Sinah Lane with many containing two or more dwellings. The plot is to be divided into 2 halves with a new drive access along the east boundary.

The new single storey dwelling is intended to be low-lying on the site, preserving views from the upper floors of the existing house to the harbour. It is located within a clearing in the rear garden and is arranged around an open courtyard.

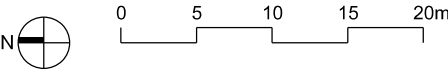


Location Plan 1:1250

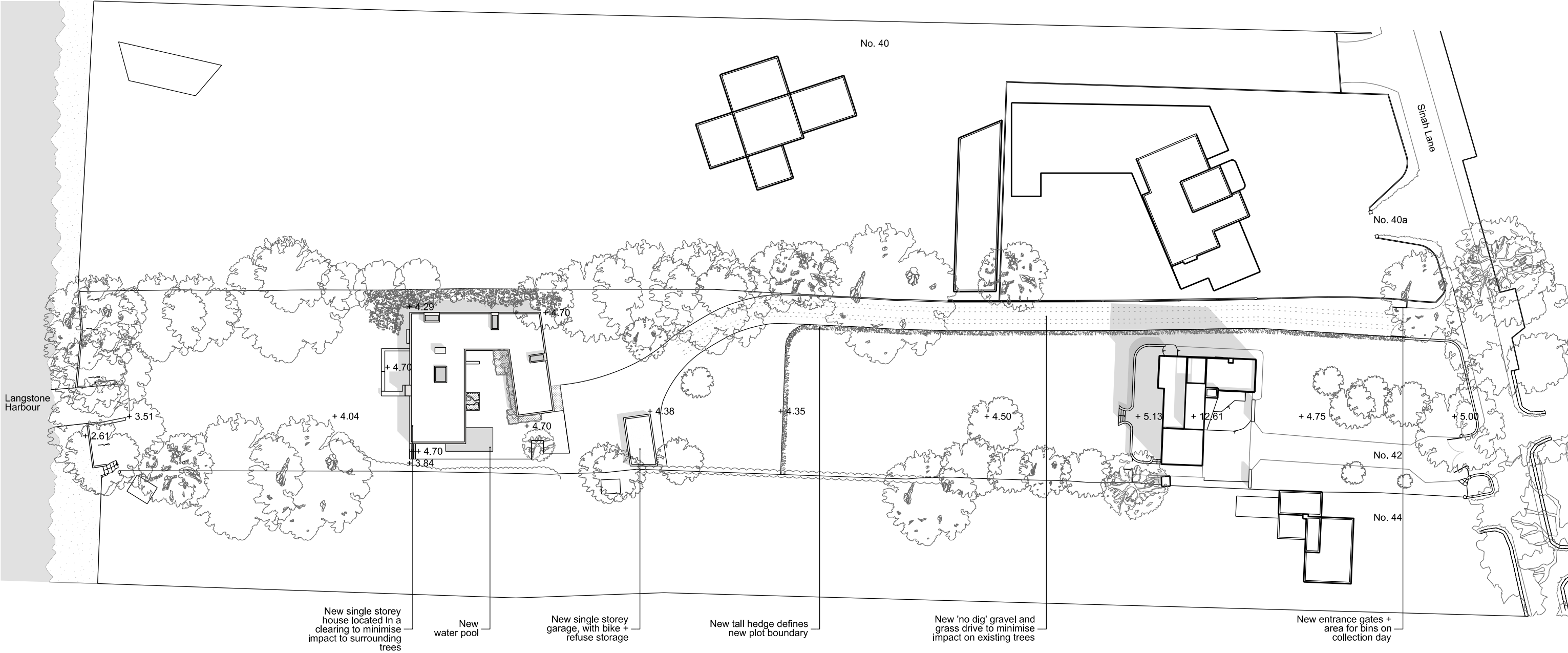
Flood Risk Assessment



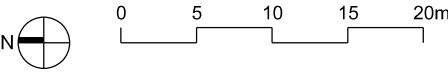
Existing Site Plan 1:500



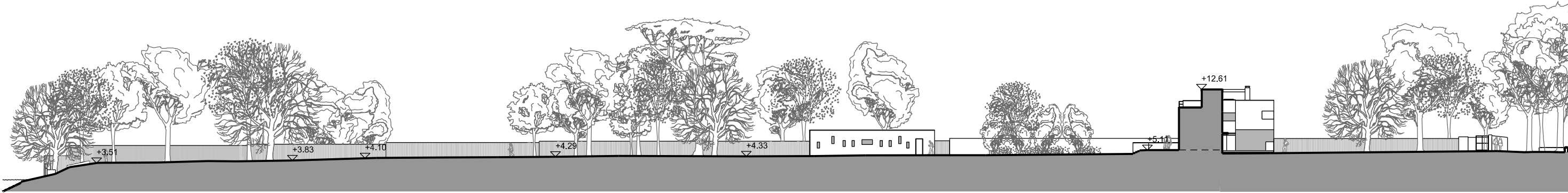
Flood Risk Assessment



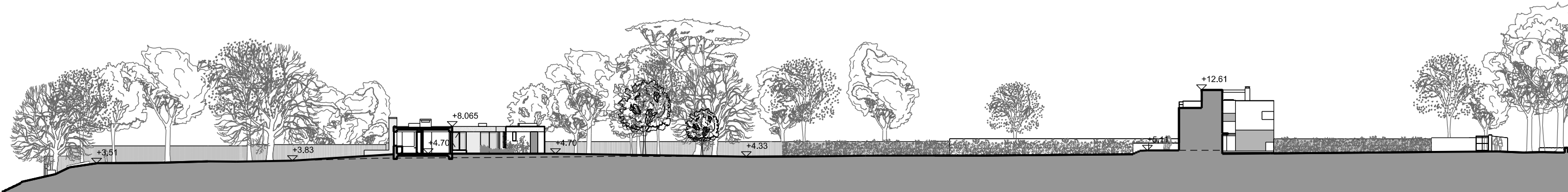
Proposed Site Plan 1:500



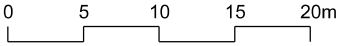
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Existing Site Section 1:500



Proposed Site Section 1:500



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8.0 Flood Risk Management Measures

The Havant Borough Council Coastal Department made the following recommendations for this site:

- to raise the property or ground in this location if necessary to reduce future flood risk.
- for consideration be given to the incorporation of flood resilience and resistance measures into the design and construction.
- occupants of the house should sign up to the Environment Agency flood warnings and have a flood evacuation plan in place in the event of an extreme flood.

In response to this, the internal finished floor level (FFL) has been raised to 4.7m AOD which is 300mm above the 1 in 200 year extreme flood level in 2115 (4.4m AOD). The external landscape will be gently contoured around the building to accommodate the level change as shown in the proposed section drawing.

As the detailed design develops it will take into consideration the incorporation of flood resilience and resistance measures into the design and construction with reference to the government publication 'Improving the Flood Performance of New Buildings: flood resilient construction'.

Although the property has been designed to remain flood free during the 100 year return period for the duration of its 100 year lifetime it is still highly recommended that the EA's Flood Warning Service is signed up to.

9.0 Emergency access / egress

The EA's flood warning system will provide advance notice of any impending flood to allow safe evacuation from Hayling Island to the mainland. Langstone Bridge via the A3023 is the primary means of access/egress from the island to Havant. No formal Evacuation Plan has been prepared as there is only the singular vehicular access to and from the island to Havant over Langstone Bridge with multiple routes between the dwelling and the Bridge. If evacuation is not possible then the property itself will allow safe refuge.

10. Conclusion

The site is currently in an area identified as having a 'low' probability of flooding. On the Environment Agency's flood mapping data the site is located within Flood Zone 1.

The NPPF only requires that planning applications for development proposals of 1 hectare or greater in Flood Zone 1 should be accompanied by a Flood Risk assessment.

However due to climate change the site will be in flood zone 3 in 2115 with a 1:200 year flood level of 4.4m AOD. To respond to this the finished floor level of the proposed house will be set 300mm above this level at 4.7m AOD.

In this way the development will be flood free beyond the next 100 years.