

**PATRICK
PARSONS**

CREATING PLACES  FOR FUTURE GENERATIONS TO THRIVE

Flood Risk Technical Note Addendum

**Land South of Saltmarsh Lane
Hayling Island, PO11 0JT**

for

Hayling Island Builders Ltd
A21079

March 2023

Flood Risk Technical Note Addendum

Land South of Saltmarsh Lane

for

Hayling Island Builders Ltd

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1.0 Introduction

- 1.1 Patrick Parsons has been commissioned to provide further detailed flood modelling and levels design for the proposed development at land south of Saltmarsh Lane, Hayling Island.
- 1.2 A Flood Risk Assessment for the development was produced by Patrick Parsons which was submitted to Havant Borough Council.
- 1.3 This Addendum to the Flood Risk Assessment seeks to address the consultation response from the Coastal Partners of Havant Borough Council published 20th December 2022 as part of planning application APP/21/01351 and demonstrate that the development will be safe from coastal flood risk over the duration of its lifetime.

1.4 Coastal Partners Response:

*"Thank you for your re-consultation on the above application, I can confirm Coastal Partners wish to **maintain our holding objection**, on the grounds that there is still insufficient information to adequately assess whether the development will be safe from coastal flood risk over the duration of its lifetime.*

Since our previous response, a data request was submitted to the EA, who have provided updated still water levels for the 1:200 and 1:1000 year extreme tidal flood events, obtained from the 2018 East Solent Coastal model produced by JBA Consulting. However, the revised FRA only refers to levels for 2015, 2065 and 2115, when 2022 levels should be used as a baseline and levels for 2122 used for the design flood level, assuming a 100-year lifetime as set out by the NPPF. The 2018 East Solent Coastal Model also does not incorporate the latest UKCP18 climate change allowances, therefore the applicant would still need to provide updated levels incorporating these."

2.0 Flood Risk Assessment

- 2.1 Patrick Parsons have reviewed the consultation response from the Coastal Partners and understand that updated levels need to be provided which incorporate the latest UKCP18 climate change allowances. Table 1 from the Guidance for Flood Risk Assessments: Climate Change Allowances provides the sea level allowances by river basin district for each epoch in millimetres for each year. The proposed development site is located in the South East area with a life-span of 100 years and a higher central allowance has been used. An extract of Table 1 is shown below as Figure 1 and highlights the sea level rises used.

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

Figure 1 – Extract from Table 1 of Guidance for Flood Risk Assessments: Climate Change Allowances

- 2.2 Using the sea level rises for each epoch, a pro-rata linear approach has been taken to obtain the rise in sea level from 2022 to 2035 and from 2096 to 2122. Using the linear projection, for the epoch 2022 to 2035 the predicted sea rise will be 75mm. Use the linear projection, for the epoch 2096 to 2122 the predicted sea rise will be 352mm.
- 2.3 Using the above approach, the predicted sea level rise will be 1.036m. The baseline flood level for 2022 has been interpolated from the EA's Product 4 data and calculated as 3.366m AOD. Therefore, when applying the predicted sea level rise to this, the flood level will be 4.400m AOD.
- 2.4 Having established the flood level including allowances for climate change, a proposed levels strategy has been produced for the development. The new houses will allow for a 300mm freeboard above the flood level therefore a minimum finished floor level (FFL) for the buildings will be 4.700m AOD. The levels strategy included in **Appendix A** as drawing A21079-0400-P1 shows an indicative levels design for the new roads and associated houses. It is proposed to raise the external levels of the site as per option 2 of the FRA to ensure the development is free from flood waters from a 0.5% (1 in 200 year annual exceedance probability) plus the latest UKCP18 climate change allowances. The strategy will also incorporate a 1.3m high retaining wall along parts of the northern boundary and will also help prevent flood waters entering the site.

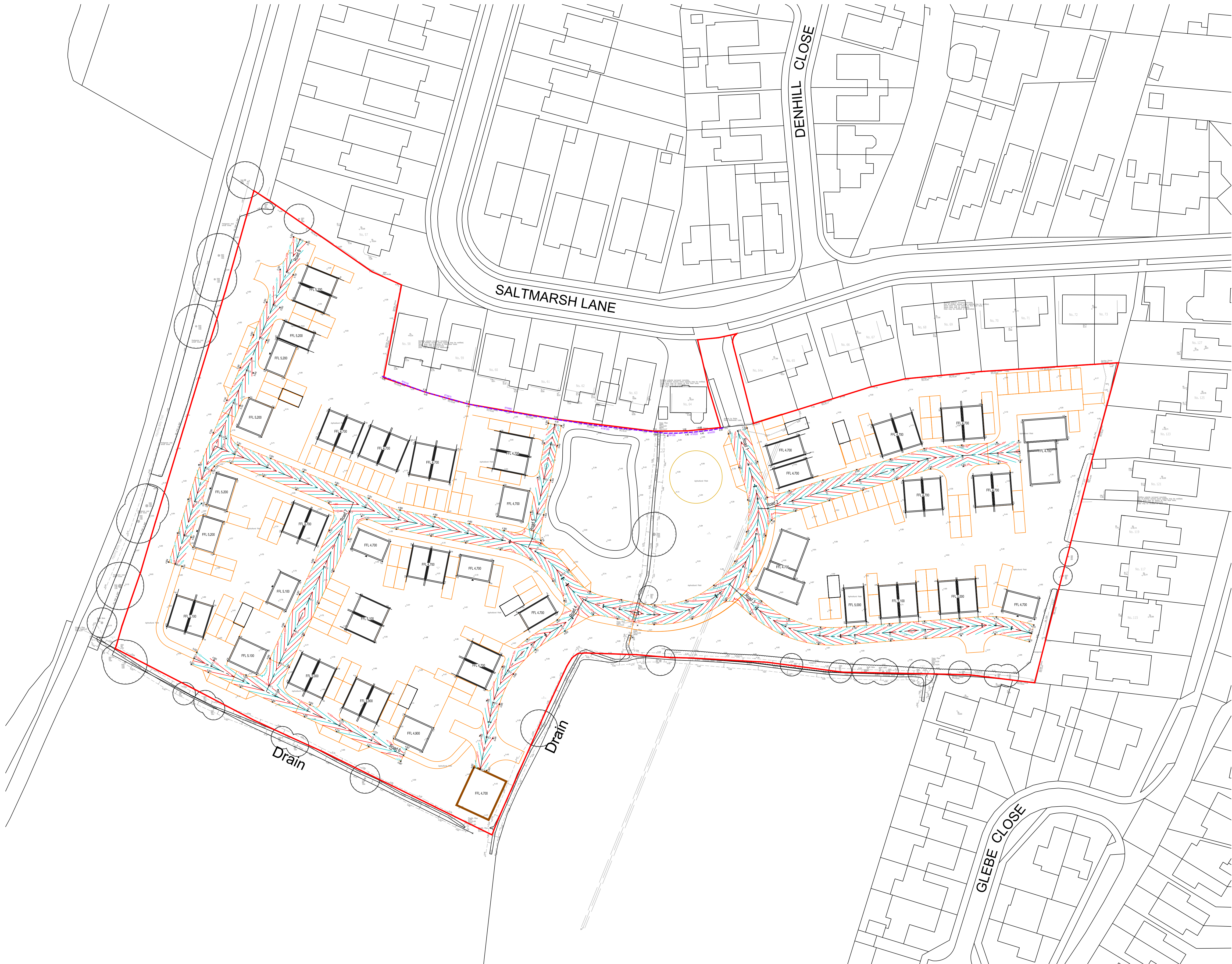
- 2.5 In addition to the proposals of raising ground levels, passive mitigation measures such as flood boards may also be utilised as per option 3 in the Flood Risk Assessment for future proofing.
- 2.6 Following the completion of a levels strategy, the flood contours for each return period have been updated to suit the proposed levels. Drawing A21079-0300-P2 in **Appendix B** outlines the extents of flooding and shows that all houses will be free from flood waters for a 0.5% AEP + climate change with only small areas of the roads being affected. The retaining wall structure will also help stop additional flood waters from entering the site and generally the raised ground levels will ensure minimal or no flooding will affect the development.
- 2.7 The access road into the site will be susceptible to approximately 200mm of flood waters for the 2115 0.1% AEP. It is considered that safe access and egress can be provided from the site and emergency vehicles will not have to pass through deep flood waters. The majority of the development site will not be affected by flood water and it is considered that the residual risk is low.

3.0 Conclusion

- 3.1 This report has been written as an addendum to the revised Flood Risk Assessment produced by Parsons Parsons dated June 2022 for the development south of Saltmarsh Lane, Hayling Island.
- 3.2 This report addresses the consultation response from the Coastal Partners of Havant Borough Council by providing updated levels to incorporate the latest UKCP18 climate change allowances. The proposals will include raising ground levels around the site above the design flood level and applying a 300mm freeboard for the future houses.
- 3.3 Patrick Parsons trust that the correct approach has been used to incorporate the latest climate change allowances and the proposed levels strategy will ensure the development will be safe from coastal flood risk over the duration of its lifetime.

Appendix A

Drawing A21079-0400-P1 – Proposed Levels Strategy



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P1

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Client

Hayling Island Builders

Project

Land South of Saltmarsh Lane

Drawing

Proposed Level Strategy

Scales

1:500

At original size

A1

Drawn

MK

Date

FEB 2023

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Status

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Drawing No.

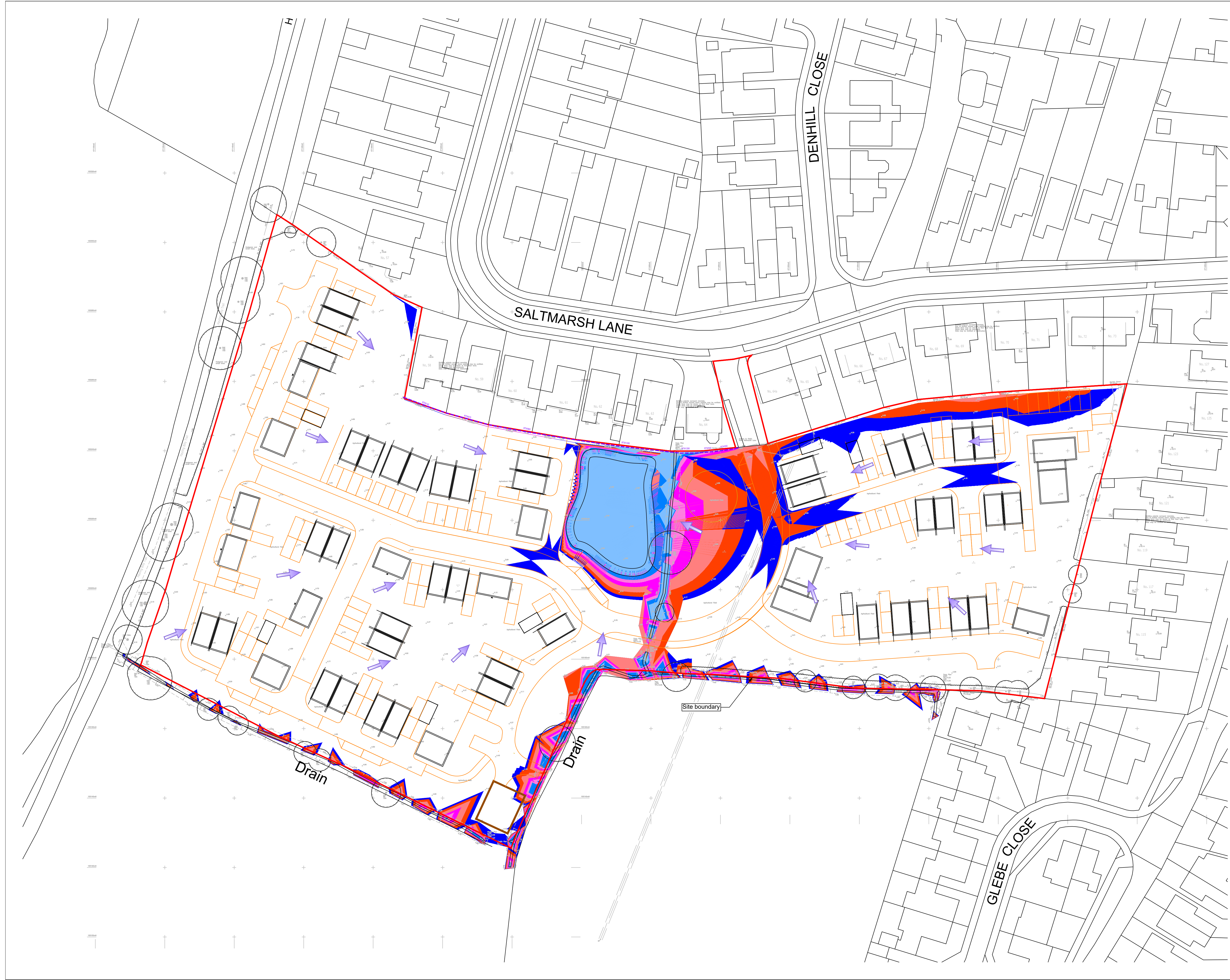
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P1

Appendix B

Drawing A21079-0300-P2 – Flood Contours



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Legend

2015 0.1% AEP (3.32m AOD)

2015 0.5%AEP (3.51m AOD)

2065 0.1% AEP (3.65m AOD)

2065 0.5% AEP (3.83m AOD)

2115 0.1% AEP (4.07m AOD)

2115 0.5% AEP (4.26m AOD)

2022 0.5% AEP +CC (4.40m AOD)

P2

FLOOD EXTENTS UPDATED

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Client

Hayling Island Builders

Project

Land South of Saltmarsh Lane

Drawing

Flood Contours

Scales

1:500

At original size

A1

Drawn

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UK Locations

Ash Vale
Birmingham
London
Wakefield

