

Project:
**Suffolk & Waveney
SFRA**

Title:
**Southwold Hazard Map
Existing Conditions
1 in 200yr + Climate Change (2107)**

Description:
Shows hazard levels
resulting from the 1 in 200yr
+ climate change event
with existing defence heights

High Hazard Medium Hazard
Low Hazard

FIGURE A50

Scale: 1:22000 @ A3

Drw: AA

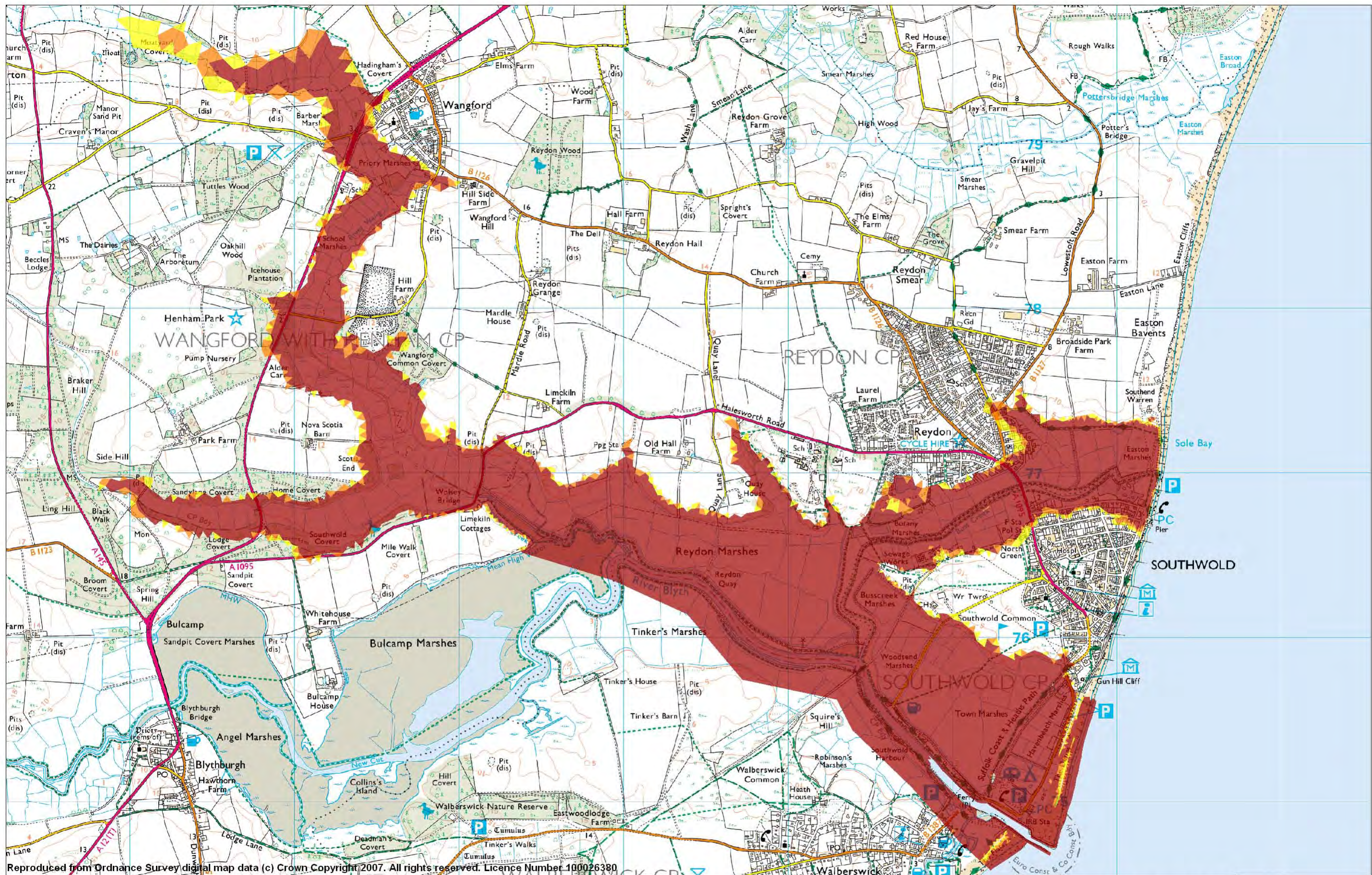
App: JR

Chk: LW

Date: 07/02/08



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<div>Project:</div> <div>Suffolk & Waveney SFRA</div>	<div>Title:</div> <div>Southwold Hazard Map Existing Conditions 1 in 1000yr + Climate Change (2107)</div>	<div>Description:</div> <div>Shows hazard levels resulting from the 1 in 1000yr + climate change event with existing defence heights</div>	<div><div><div></div>High Hazard</div><div><div></div>Medium Hazard</div><div><div></div>Low Hazard</div></div>	<div><div>FIGURE A51</div><div>Scale: 1:22000 @ A3</div><div><div>Drw: AA</div><div>App: JR</div><div>Chk: LW</div><div>Date: 07/02/08</div></div></div>	<div><div><div>Scott Wilson</div></div><div>www.scottwilson.com</div></div>
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Southwold (B0 Scenario)

Figure A52

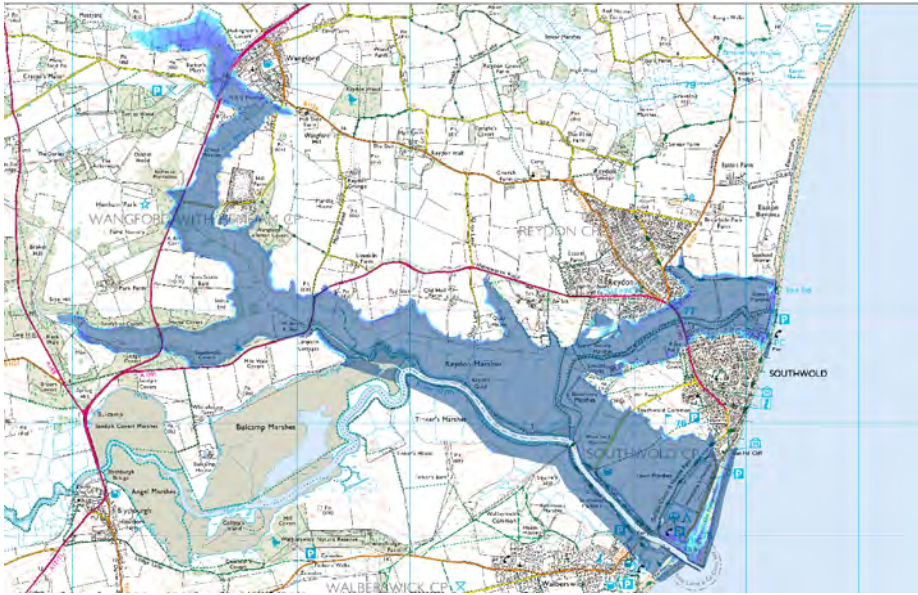
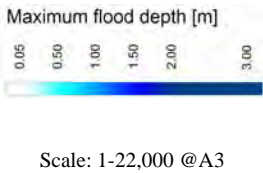


Figure: A48



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RESULTS

Location of Main Flood Depth

1 in 200 years + 100 years of climate change scenario

As a result of the overtopping of existing flood defences a large area to the south of Southwold is flooded. This area of inundation covers several marshland areas including Town Marshes and Reydon Marshes and reaches maximum depths in drainage ditches of approximately 4.4m and 5.2m respectively. The inundation propagates upstream to a tributary of the River Blyth, the River Wang, towards Wangford to the north and extends to the A145 in the west. There are a number of roads that are inundated including the A1095 (flood depth of 2.3m between Southwold and Reydon and the A12).

To the north of Southwold there is an area of floodwater inundation that propagates from the North Sea around Sole Bay along Buss Creek to the main area of floodwater in the River Blyth flood plain. This area of floodwater is situated between Southwold and Reydon and inundates the A1095 to a depth of 2.3m. Peripheral areas of both Southwold and Reydon are affected by floodwater. To the south west of Reydon, south of Halesworth Road flood waters reach 3.6m and along the B1127, where Covert Road joins this road, flood depths reach 2.6m. To the north of Southwold, along north road, flood depths reach 2m. The majority of the flood water is however confined to the marsh and flood plain areas of The River Blyth, The River Wang and Buss Creek.

Modelled scenarios

The defences around Southwold along the River Blyth are below standard, with their crest heights below the 1 in 200, 1000 and 200 plus climate change water levels. Therefore this scenario demonstrates the ‘actual’ risk to existing and proposed development during extreme water level events. The coastal defences north of are to a higher standard and much of the floodwater inundation is from pathways from overtopping of the earth embankments along the River Blyth.

Hazard Zone Results

1 in 200 + Climate Change – Figure A48 & 50
In this simulation the extent of the floodwater expands to cross the A12 in the west in three places. The area between the North Sea and the A1095 to the north of Southwold is classified as high hazard in this scenario. High hazard regions encroach on the southern limits of Reydon and the northern limits of Southwold.

1 in 1000 + Climate Change – Figure A49 & 51
The flood characteristics in this simulation are similar to the 1 in 200 climate change scenario although the flood extent is increased west of Wangford and expanded throughout the rest of the area. The extent of the floodwater expands to cross the A12 in the west in three places. The area between the North Sea and the A1095 to the north of Southwold is classified as high hazard. High hazard regions encroach on the southern limits of Reydon and the northern limits of Southwold.

Flood Cell Description

This flood cell is dominated by the water ways of Buss Creek, situated between Southwold in the south and Reydon in the north and a tributary of the River Blyth and the River Blyth to the west and south respectively. There are a number of marsh areas included in the flood cell, namely Havenbeach Marshes, Town Marshes and Reydon Marshes. The flood cell follows the northern tributary of the River Blyth to a northern extent just to the south of Stoven. The cell includes the town of Southwold and a portion of the town of Reydon, as well as some smaller settlements. A number of roads are situated within the flood cell, including A 1095, and A12. The land uses present in this flood cell are marshes, developed areas, agricultural land and forested areas. The topography of the cell is generally low lying, below 20m AOD and very low (around sea level) in marsh areas.

Relevance to Development

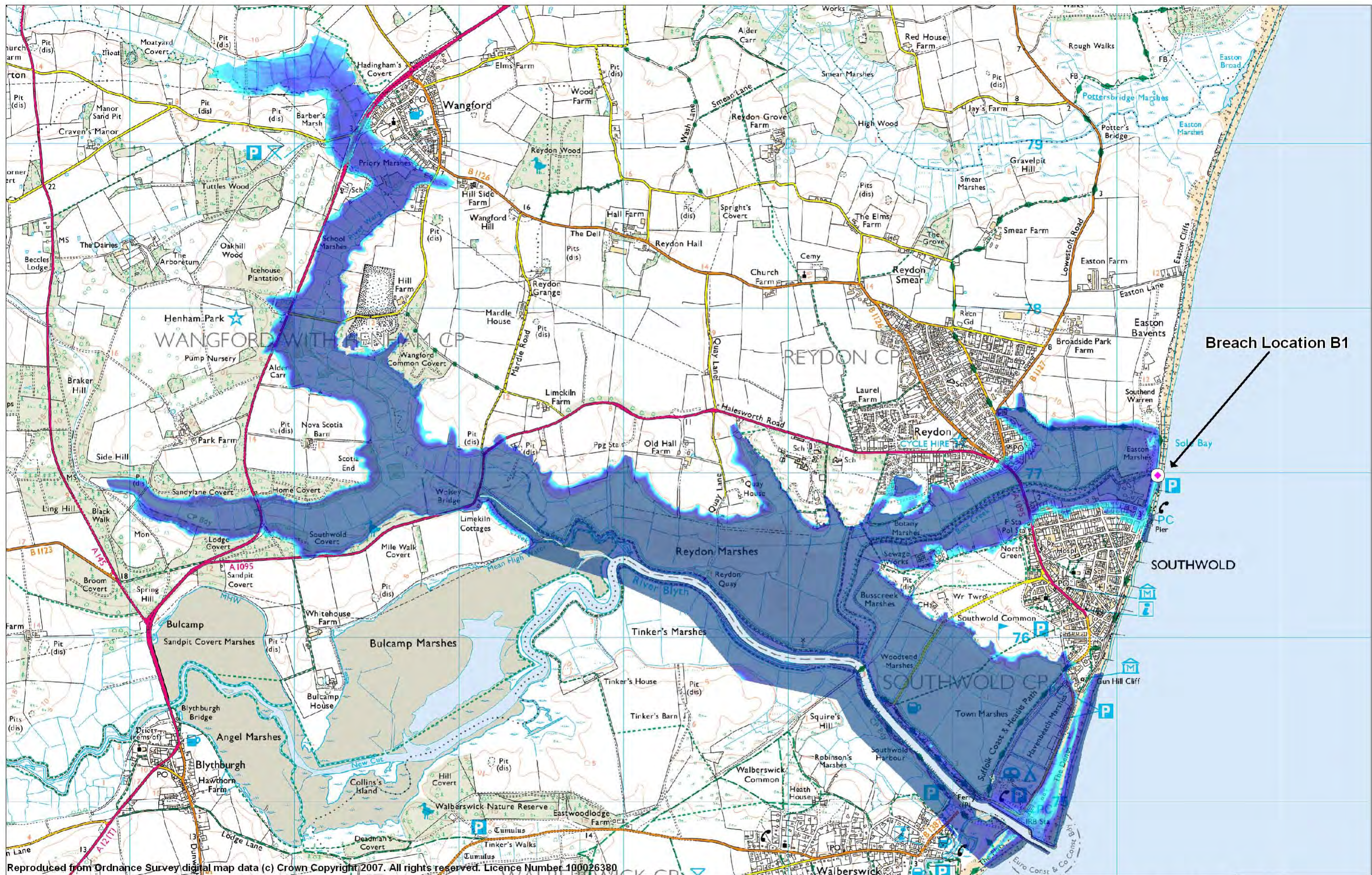
Considerations for particular Development areas
The floodwater inundates the area between Southwold and Reydon. There is potential to locate development to the north of Reydon and to the west of Southwold in areas that would not become inundated in a flooding event.

The area between Southwold and Reydon is classified a high hazard and as such, according to PPS25, development should be considered in other locations.

If development is located in the Buss Creek floodplain runoff levels should mimic that of the green field site and loss of floodplain capacity must be taken into account.

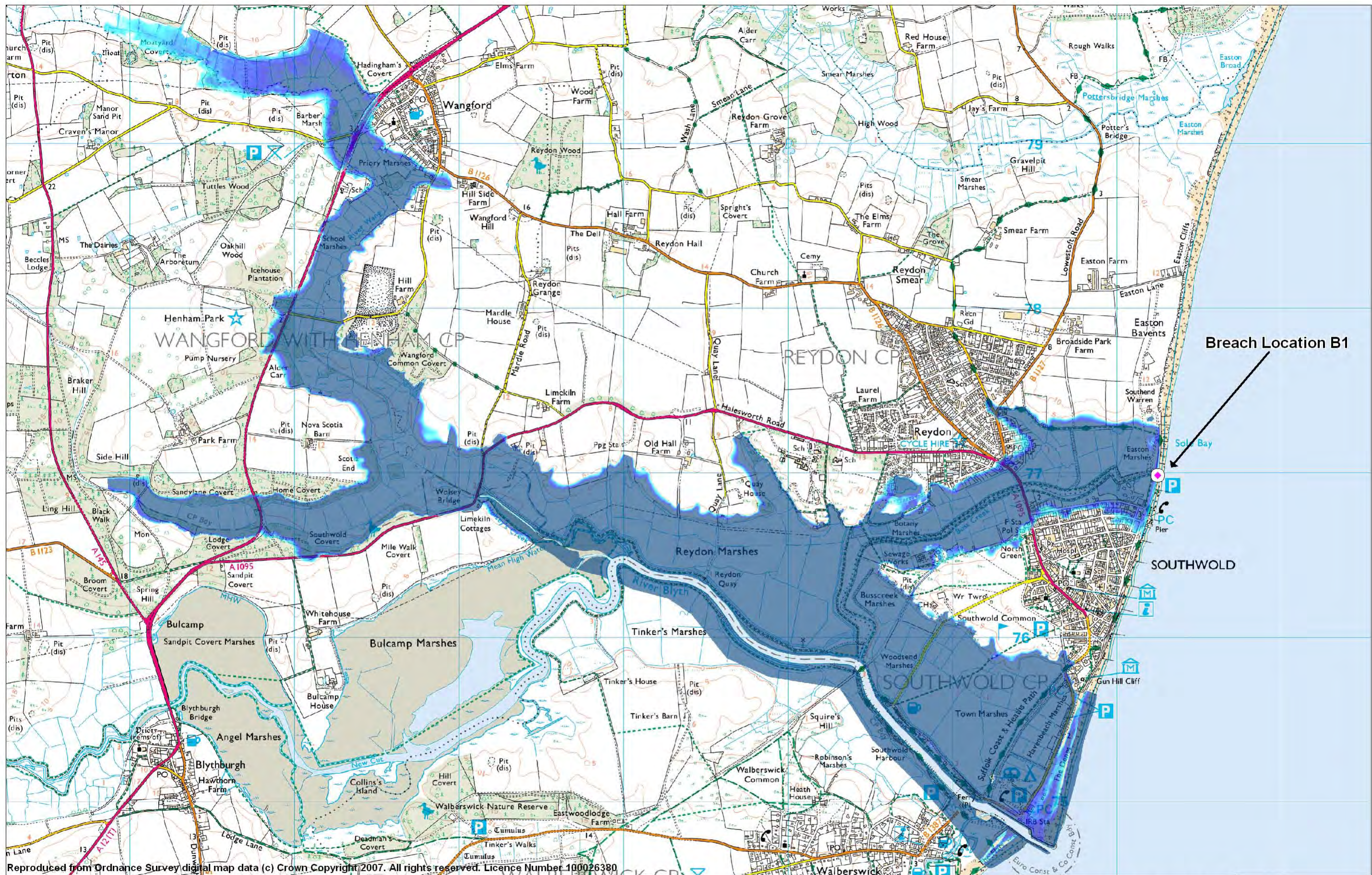
According to PPS25 where possible development should not be positioned within the flood plains. The areas of land at ‘actual’ risk of flooding as a result of the low standard of defence, should, in accordance with PPS25, only be developed once the Sequential and Exception Tests have been performed. Evidence will need to be provided to the EA proving the Sequential Test has been passed. Following this, developments may proceed if the developer is able to ensure the safety of the development for the lifetime of the development under part c) of the Exception Test, in addition to parts a) and b) of the Exception Test, to demonstrate that the development will provide wider sustainability benefits to the community that outweigh flood risk and that the development is located on previously developed land or, where this is not available, there are no reasonable alternative sites on previously developed land. More information can be found in PPS25.

General Considerations
An evacuation plan should be enforced if development is situated within an area inundated in a flooding event. This should be circulated to all residents to ensure safe access and egress in times of flood.



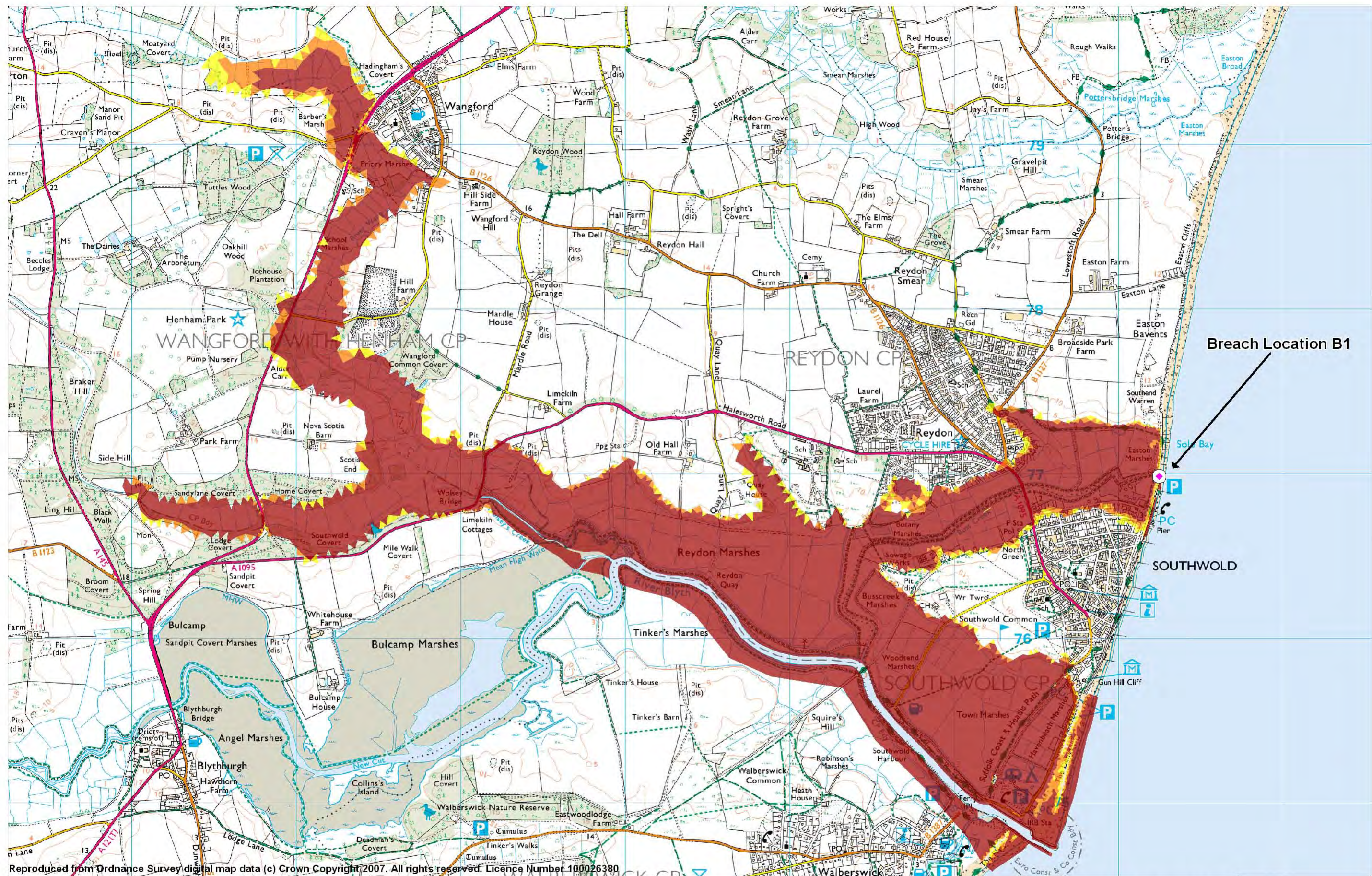
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<p>Project:</p> <p>Suffolk & Waveney SFRA</p>	<p>Title:</p> <p>Southwold Flood Depth Map Breach of Defences at B1 1 in 200yr + Climate Change (2107)</p>	<p>Description:</p> <p>Shows the maximum depth at any point of the tidal cycle assuming a breach of the defences at B1</p>	<p>Maximum flood depth [m]</p> <div> <div>0.05</div> <div>0.50</div> <div>1.00</div> <div>1.50</div> <div>2.00</div> <div>3.00</div> </div>	<p>FIGURE A53</p> <p>Scale: 1:22000 @ A3</p> <p>Drw: AA App: JR</p> <p>Chk: LW Date: 07/02/08</p>	<p>www.scottwilson.com</p>
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Breach Location B1

<p>Project:</p> <p>Suffolk & Waveney SFRA</p>	<p>Title:</p> <p>Southwold Flood Depth Map Breach of Defences at B1 1 in 1000yr + Climate Change (2107)</p>	<p>Description:</p> <p>Shows the maximum depth at any point of the tidal cycle assuming a breach of the defences at B1</p>	<p>Maximum flood depth [m]</p> <p>0.05 0.50 1.00 1.50 2.00 3.00</p>	<p>FIGURE A54</p> <p>Scale: 1:22000 @ A3</p> <p>Drw: AA App: JR</p> <p>Chk: LW Date: 07/02/08</p>	<p>Scott Wilson</p> <p>www.scottwilson.com</p>
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Breach Location B1

Project:
**Suffolk & Waveney
SFRA**

Title:
**Southwold Hazard Map
Breach of Defences at B1
1 in 200yr + Climate Change (2107)**

Description:
Shows the hazard levels
assuming a breach of
the defences at B1

High Hazard Medium Hazard
Low Hazard

FIGURE A55

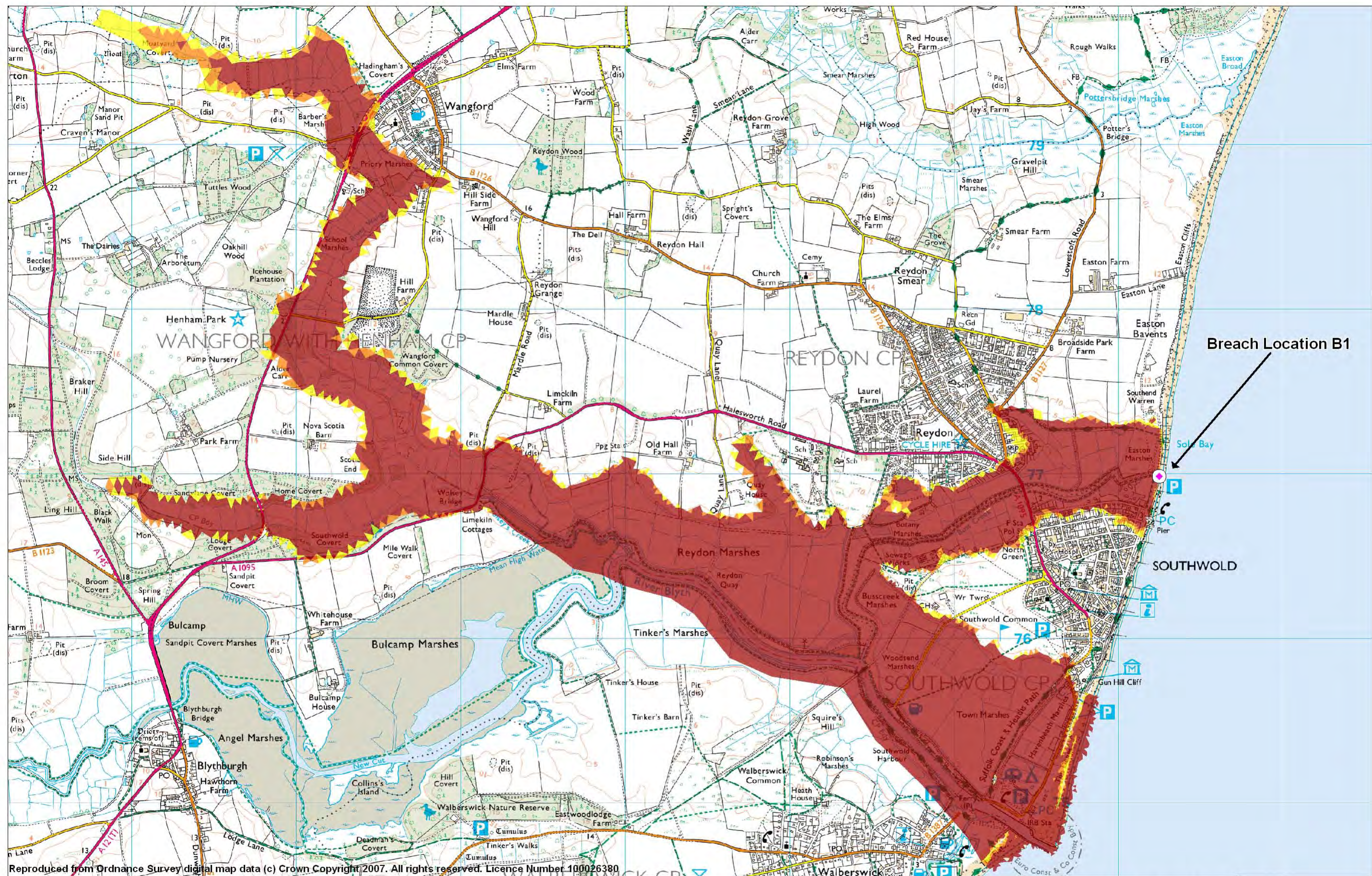
Scale: 1:22000 @ A3

Drw: AA App: JR

Chk: LW Date: 07/02/08

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Breach Location B1

Project:
**Suffolk & Waveney
SFRA**

Title:
**Southwold Hazard Map
Breach of Defences at B1
1 in 1000yr + Climate Change (2107)**

Description:
Shows the hazard levels
assuming a breach of
the defences at B1

High Hazard Medium Hazard
Low Hazard

FIGURE A56

Scale: 1:22000 @ A3

Drw: AA App: JR

Chk: LW Date: 07/02/08

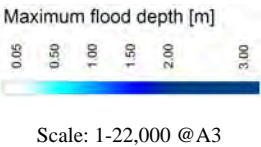
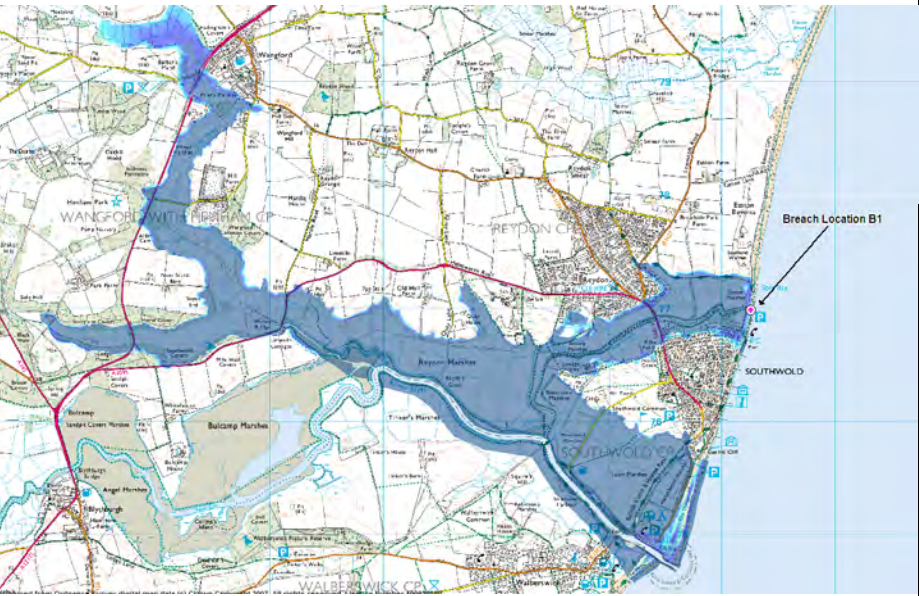
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Southwold (B1 Scenario)

Figure A57

Figure: A53



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RESULTS

Location of Main Flood Depth

1 in 200 years + 100 years of climate change scenario

As a result of the breach at position B1 the area to the north of Southwold is flooded, around the breach location. This flooding extends to the area between Reydon and Southwold along Buss Creek, inundating the A1095 to a depth of 2.25m, and towards the River Blyth. This area of inundation covers several marshland areas including Town Marshes and Reydon Marshes and reaches maximum depths of approximately 4.6m and 5.25m in drainage ditches respectively. The floodwater then extends to inundate a large area around the River Blyth.

This floodwater travels west to inundate the River Wang floodplain and associated tributaries and crosses the A12 in three places before reaching a westerly extent to the south west of Park Farm. The inundation propagates upstream to a tributary of the River Blyth, the River Wang, towards Wangford to the north and extends to the A145 in the west. There are a number of roads that are inundated including the A1095 and the A12.

Peripheral areas of both Southwold and Reydon are affected by floodwater. Maximum flood depths are 2.25m in northern areas of Southwold and 2.75m to the south east of the junction between the B1127 and Covert Road and 2.5m on the B1127 at this location. The majority of the floodwater is however confined to the marsh and flood plain areas of The River Blyth, The River Wang and Buss Creek.

Modelled scenarios

The defences around Southwold along the River Blyth are below standard, with their crest heights below the 1 in 200, 1000 and 200 plus climate change water levels. Therefore this scenario demonstrates the ‘actual’ risk to existing and proposed development during extreme water level events. The coastal defences north of are to a higher standard and for this scenario have assumed a breach location at B1 to show the potential flood consequences combined with the existing overtopping of the earth embankments along the River Blyth.

Hazard Zone Results

1 in 200 + Climate Change – Figure A53 & 55

In addition to the flooded and hazard zones mentioned for the previous scenarios, the area to the west of Wangford is classified as high hazard as is the area to the south of Park farm. The majority of the flooded area is classified as high hazard with peripheral regions classified as medium and low hazard. The majority of the high hazard areas are floodplain locations and agricultural land.

1 in 1000 + Climate Change – Figure A54 & 56

The flood characteristics in this simulation are similar to the 1 in 200 climate change scenario although the flood extent is increased west of Wangford and expanded throughout the rest of the area. The majority of the flooded area is classified as high hazard with peripheral regions classified as medium and low hazard. The majority of the high hazard areas are floodplain locations and agricultural land.

Flood Cell Description

This flood cell is dominated by the water ways of Buss Creek, situated between Southwold in the south and Reydon in the north and a tributary of the River Blyth and the River Blyth to the west and south respectively. There are a number of marsh areas included in the flood cell, namely Havenbeach Marshes, Town Marshes and Reydon Marshes. The flood cell follows the northern tributary of the River Blyth to a northern extent just to the south of Stoven. The cell includes the town of Southwold and a portion of the town of Reydon, as well as some smaller settlements. A number of roads are situated within the flood cell, including A 1095, and A12. The land uses present in this flood cell are marshes, developed areas, agricultural land and forested areas. The topography of the cell is generally low lying, below 20m AOD and very low (around sea level) in marsh areas.

Relevance to Development

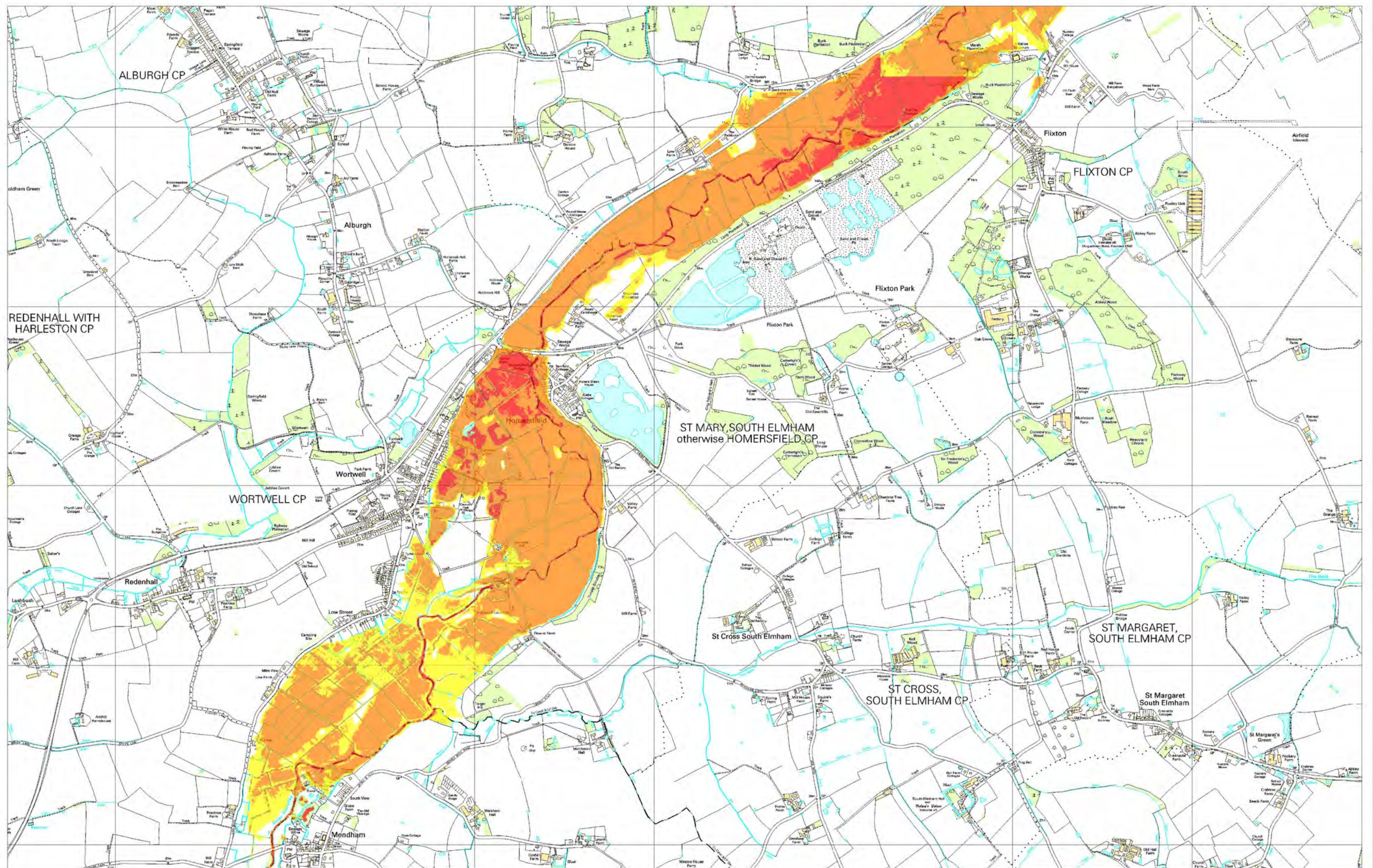
Considerations for particular Development areas

The floodwater inundates the area between Southwold and Reydon. There is potential to locate development to the north of Reydon and to the west of Southwold in areas that would not become inundated in a flooding event. The area between Southwold and Reydon is classified a high hazard and as such, according to PPS25, development should be considered in other locations. If development is located in the Buss Creek floodplain runoff levels will have to mimic that of the green field site and loss of floodplain capacity must be taken into account.

According to PPS25 where possible development should not be positioned within the flood plains. The areas of land at ‘actual’ risk of flooding as a result of the low standard of defence, should, in accordance with PPS25, only be developed once the Sequential and Exception Tests have been performed. Evidence will need to be provided to the EA proving the Sequential Test has been passed. Following this, developments may proceed if the developer is able to ensure the safety of the development for the lifetime of the development under part c) of the Exception Test, in addition to parts a) and b) of the Exception Test, to demonstrate that the development will provide wider sustainability benefits to the community that outweigh flood risk and that the development is located on previously developed land or, where this is not available, there are no reasonable alternative sites on previously developed land. More information can be found in PPS25.

General Considerations

An evacuation plan should be enforced if development is situated within an area inundated in a flooding event. This should be circulated to all residents to ensure safe access and egress in times of flood. As access to the breach location is in the form of a small road it may take some time to reach and repair in the event of a breach.



Project:
Suffolk Coastal & Waveney
Strategic Flood Risk Assessment

Title:
Homersfield
1 in 100 Year - 2107
Flood Hazard (Fluvial)

High Hazard Medium Hazard
Low Hazard

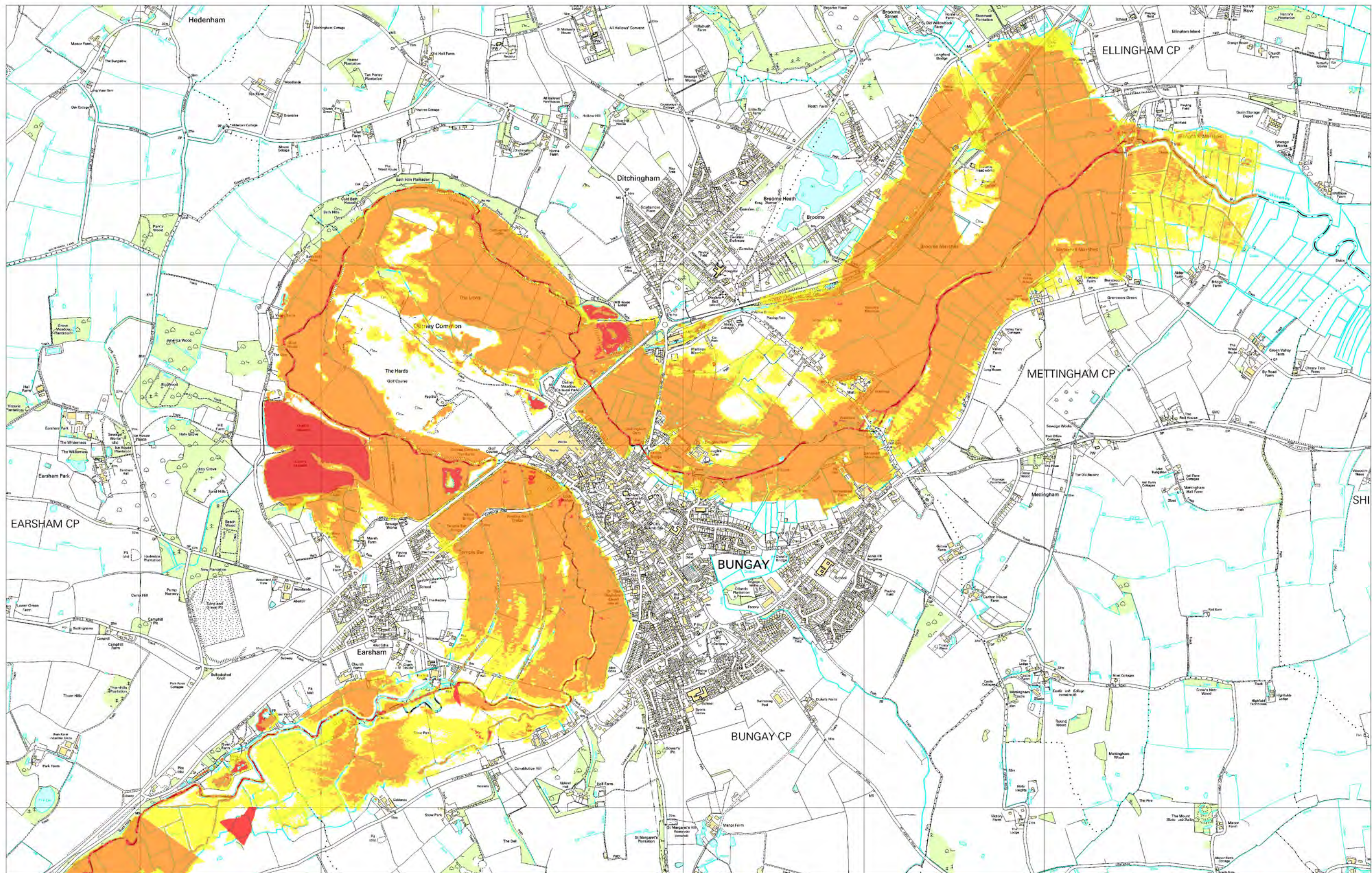
FIGURE A58

Scale: 1:20000 @ A3

Drw NM Date 14/01/08 Rev 2

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Project:
**Suffolk Coastal & Waveney
 Strategic Flood Risk Assessment**

Title:
**Bungay
 1 in 100 Year - 2107
 Flood Hazard (Fluvial)**

High Hazard
 Medium Hazard
 Low Hazard

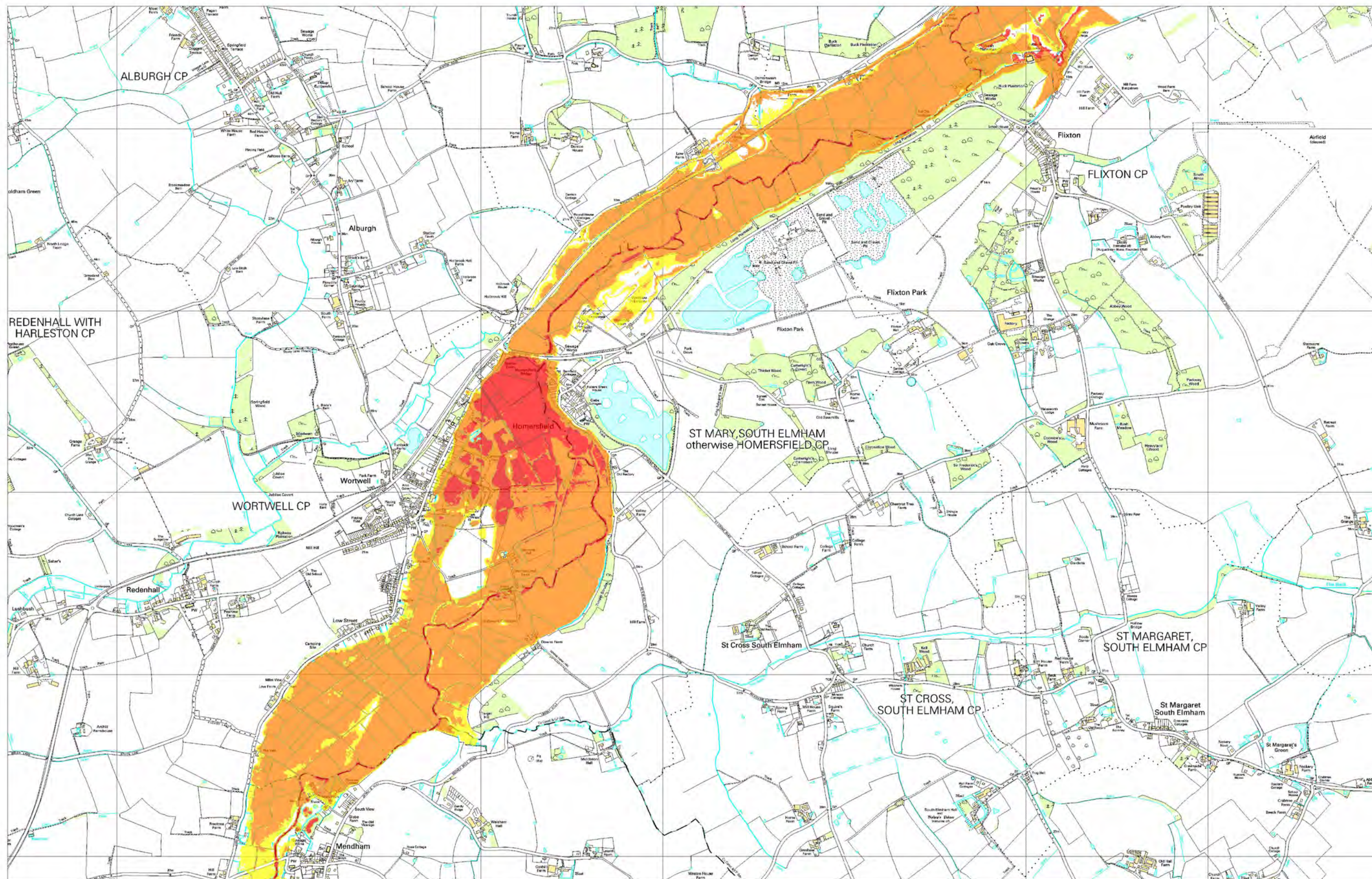
FIGURE A59

Scale: 1:20000 @ A3

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Project:
Suffolk Coastal & Waveney
Strategic Flood Risk Assessment

Title:
Homersfield
1 in 1000 Year - 2107
Flood Hazard (Fluvial)

High Hazard Medium Hazard
Low Hazard

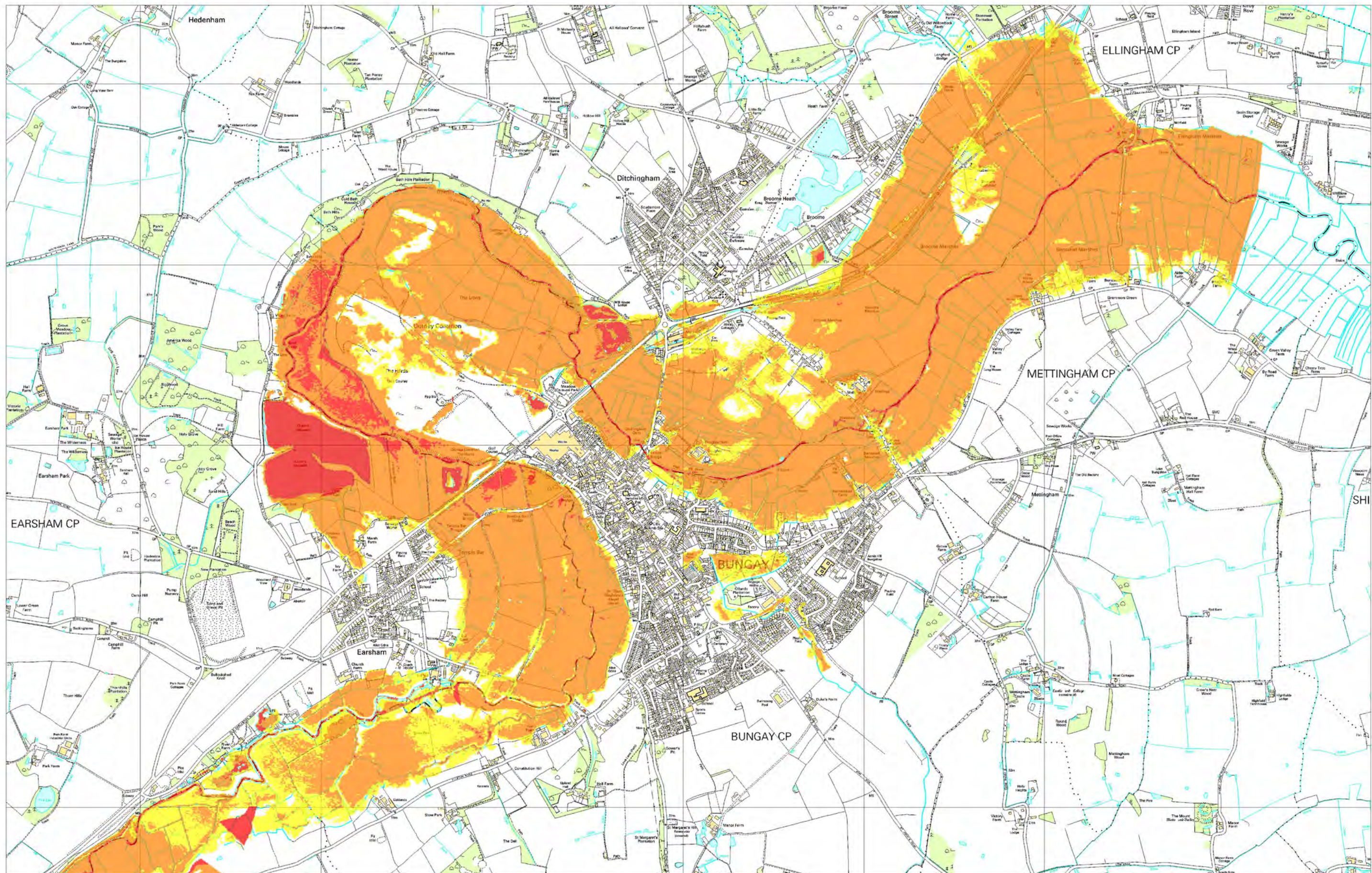
FIGURE A60

Scale: 1:20000 @ A3

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Project:
**Suffolk Coastal & Waveney
 Strategic Flood Risk Assessment**

Title:
**Bungay
 1 in 1000 Year - 2107
 Flood Hazard (Fluvial)**

High Hazard
 Medium Hazard
 Low Hazard

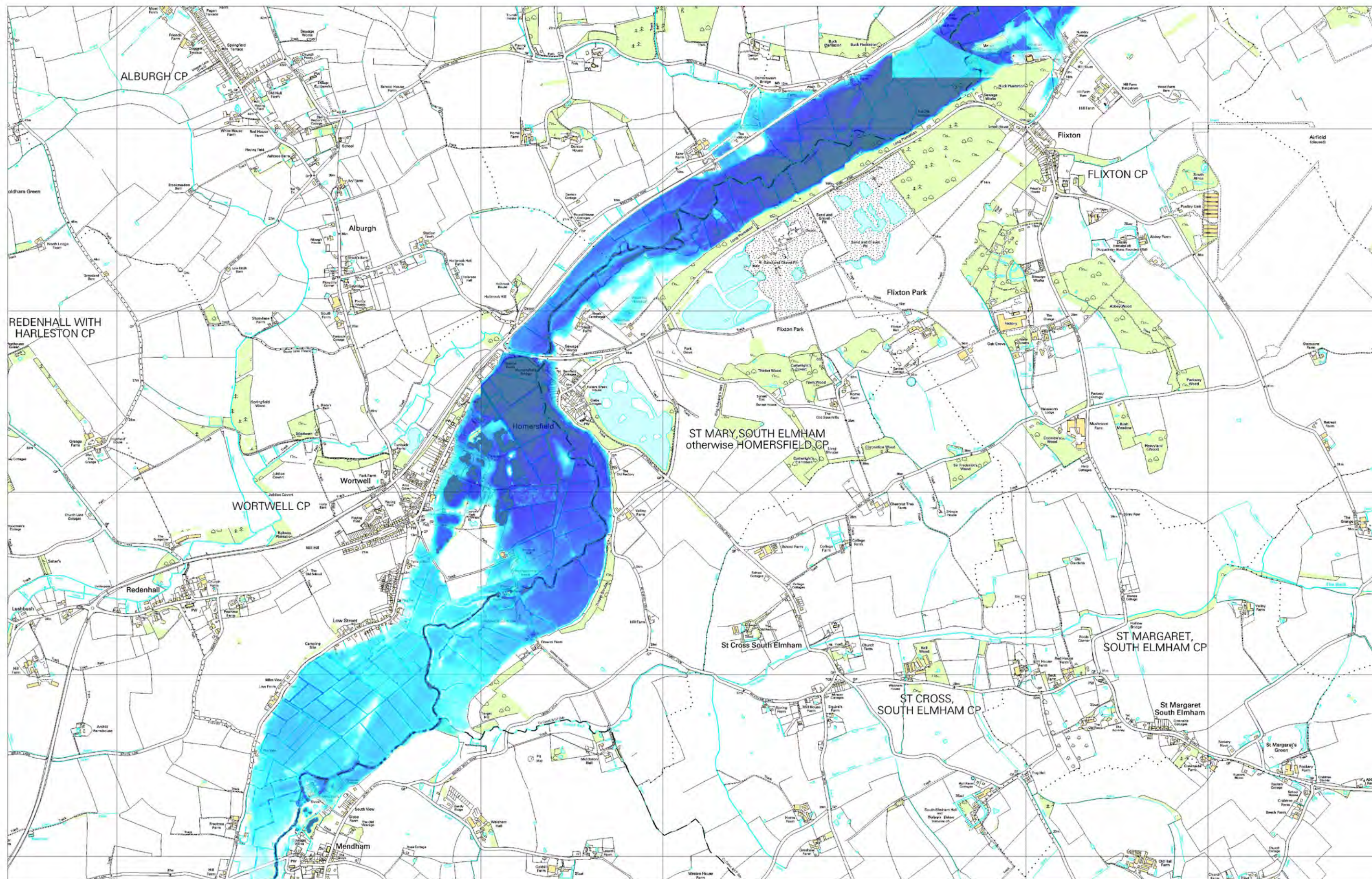
FIGURE A61

Scale: 1:20000 @ A3

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Project:
**Suffolk Coastal & Waveney
Strategic Flood Risk Assessment**

Title:
**Homersfield
1 in 100 Year - 2107
Flood Depth (Fluvial)**

Maximum Flood Depth [m]:

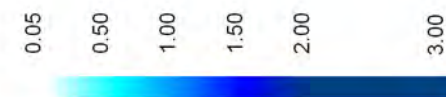


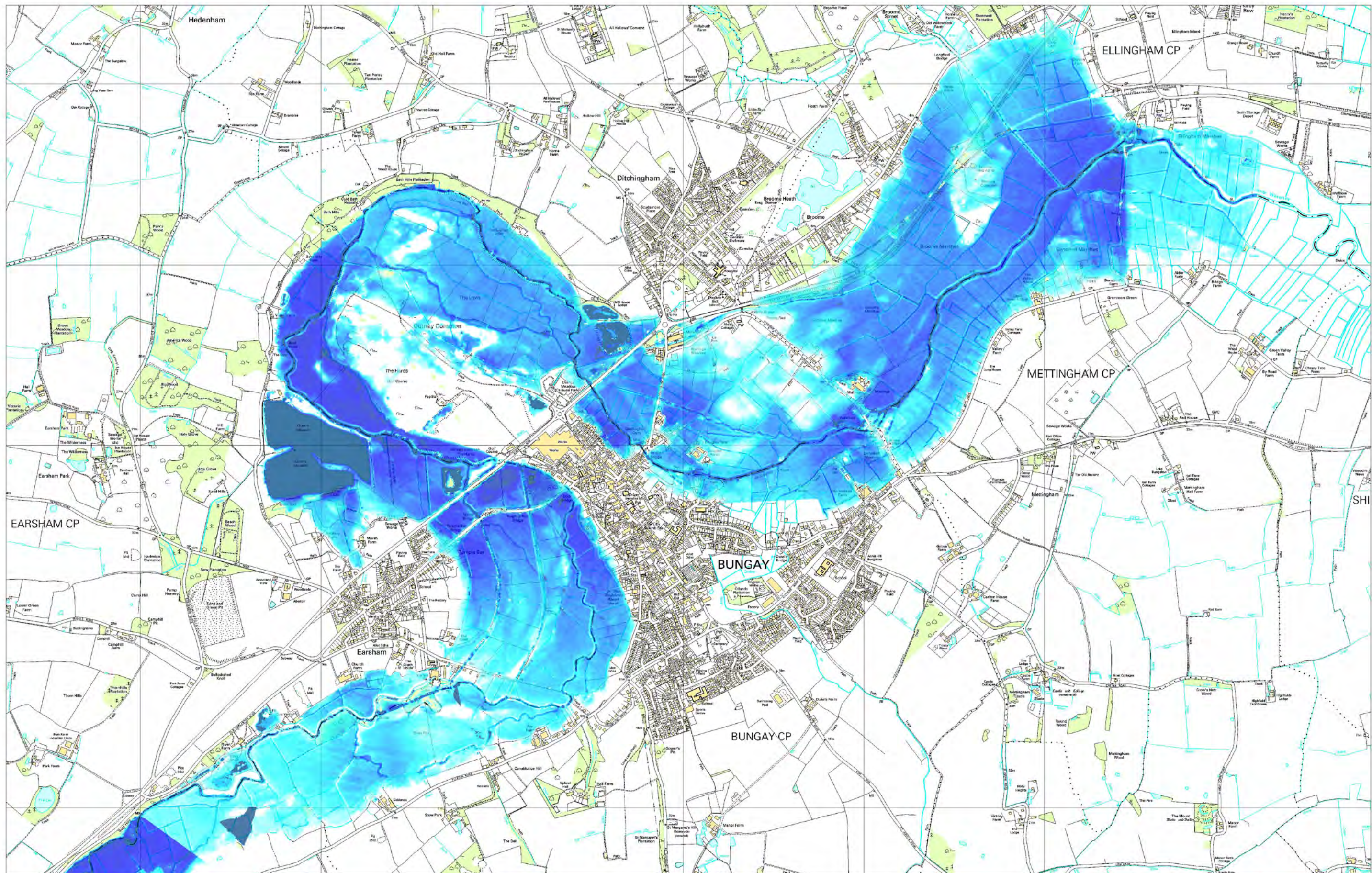
FIGURE A62

Scale: 1:20000 @ A3

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Project:
**Suffolk Coastal & Waveney
 Strategic Flood Risk Assessment**

Title:
**Bungay
 1 in 100 Year - 2107
 Flood Depth (Fluvial)**

Maximum Flood Depth [m]:

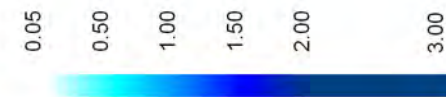


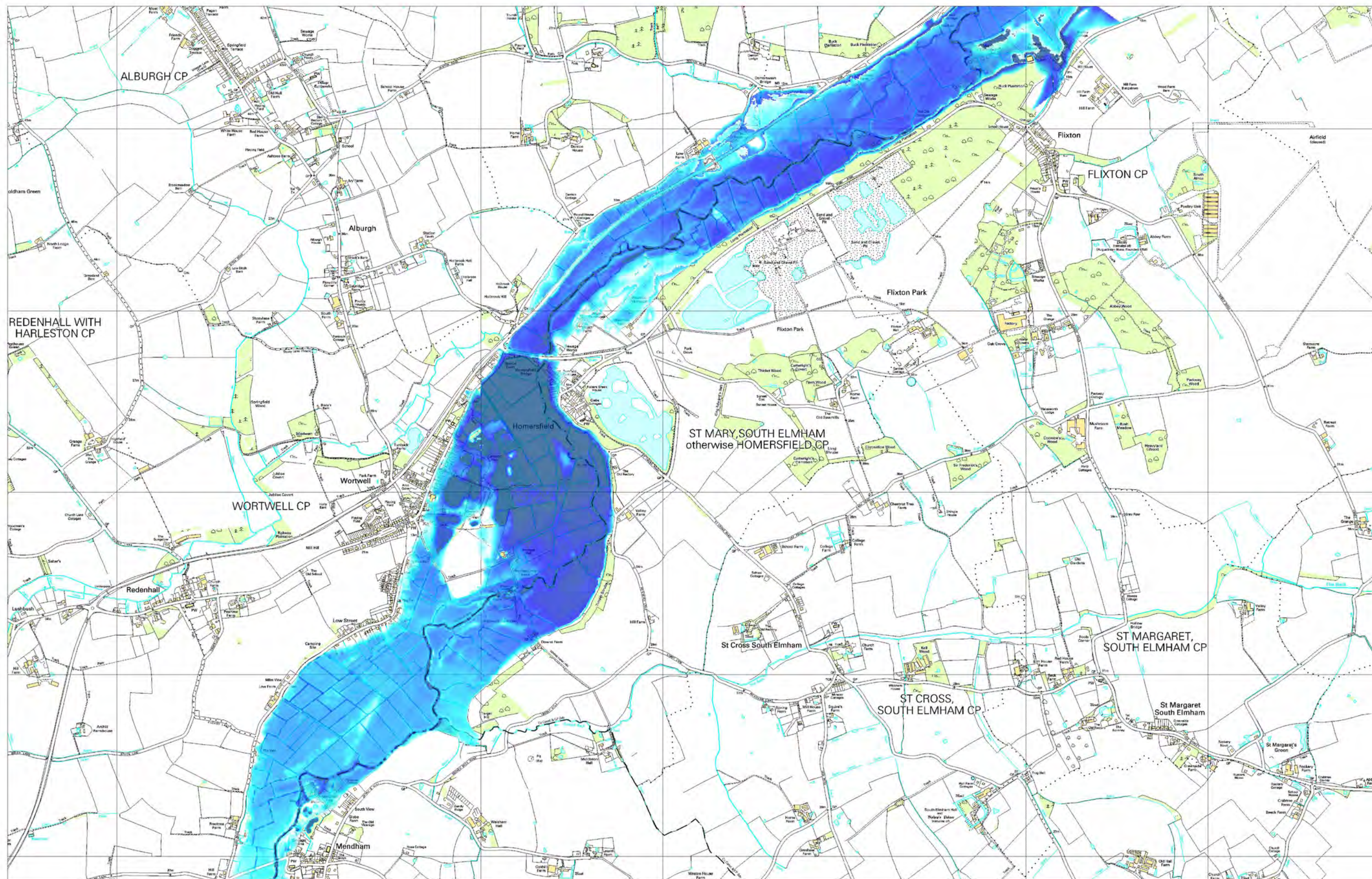
FIGURE A63

Scale: 1:20000 @ A3

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Project:
**Suffolk Coastal & Waveney
 Strategic Flood Risk Assessment**

Title:
**Homersfield
 1 in 1000 Year - 2107
 Flood Depth (Fluvial)**

Maximum Flood Depth [m]:



FIGURE A64

Scale: 1:20000 @ A3

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