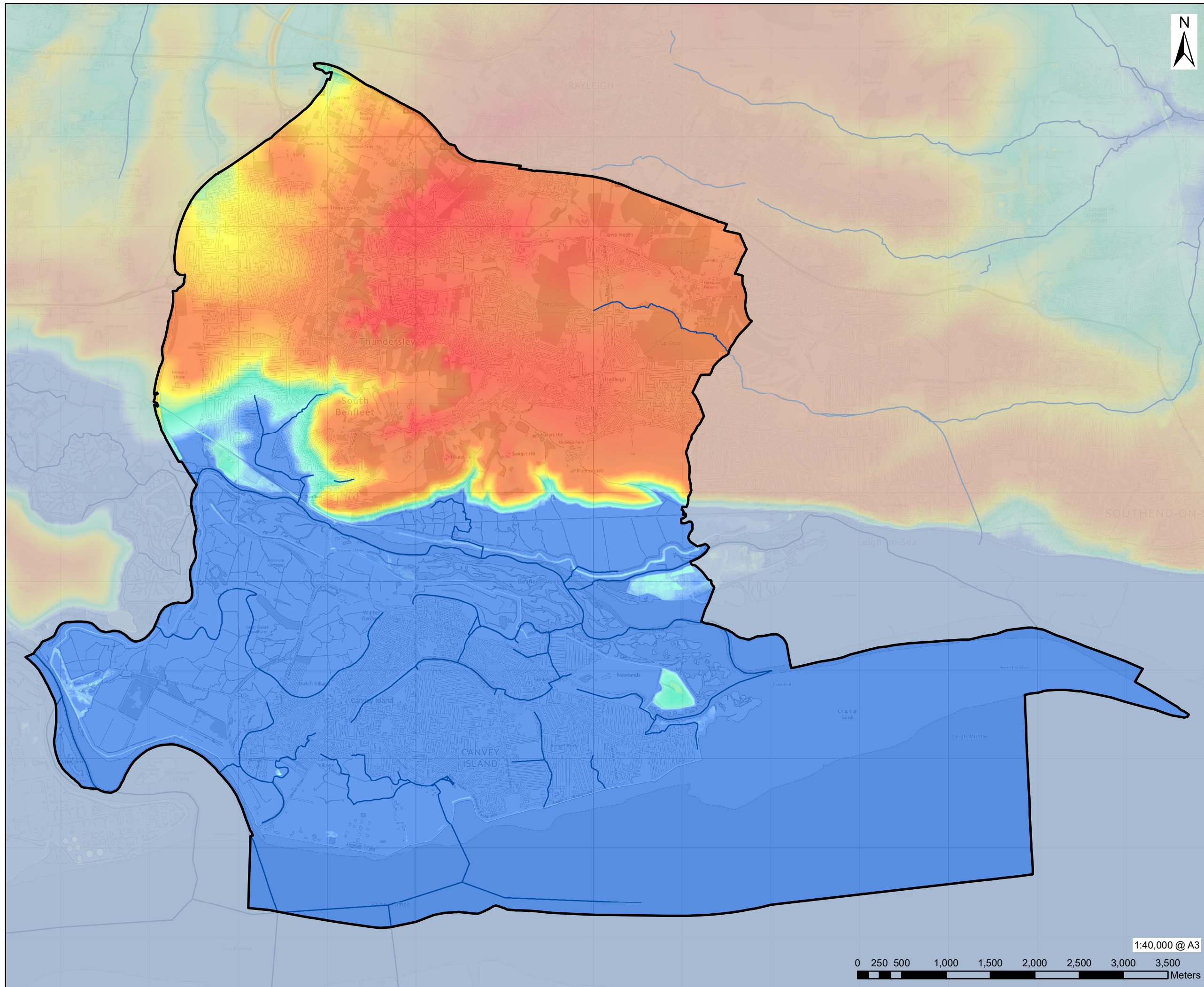
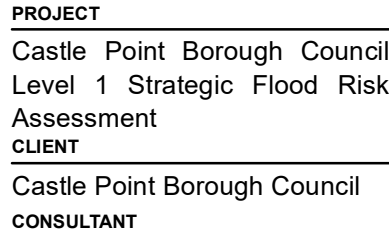


Appendix A Mapping










Map	Title
Map 1	LiDAR Topography
Map 2	Watercourses
Map 3a	Flood Zones
Map 3b	Future Tidal Flood Zones
Map 4	Historic Flood Map
Map 5	AIMS Spatial Flood Defences
Map 6	Risk of Flooding from Surface Water
Map 7	Bedrock Geology
Map 8	Superficial Geology
Map 9	BGS Susceptibility to Groundwater Flooding
Map 10	Records of sewer flooding by Postcode
Map 11	Risk of Flooding from Reservoirs
Map 12	Working with Natural Processes
Map 13	BGS Infiltration SuDS Suitability
Map 14	Flood Warning Areas



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LEGEND

-  Castle Point Borough Council
 EA Main River
LiDAR Topographic Survey (mAOD)
 <5
 10
 20
 30
 50
 70
 80

- 1: Light Detection and Ranging (LIDAR) is an airborne mapping techniques which uses laser to measure the distance between the aircraft and the ground.
- 2: This dataset has a spatial resolution of 1m. The Environment Agency's LIDAR data archive contains digital elevation data derived from surveys carried out since 1998.

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SFRA

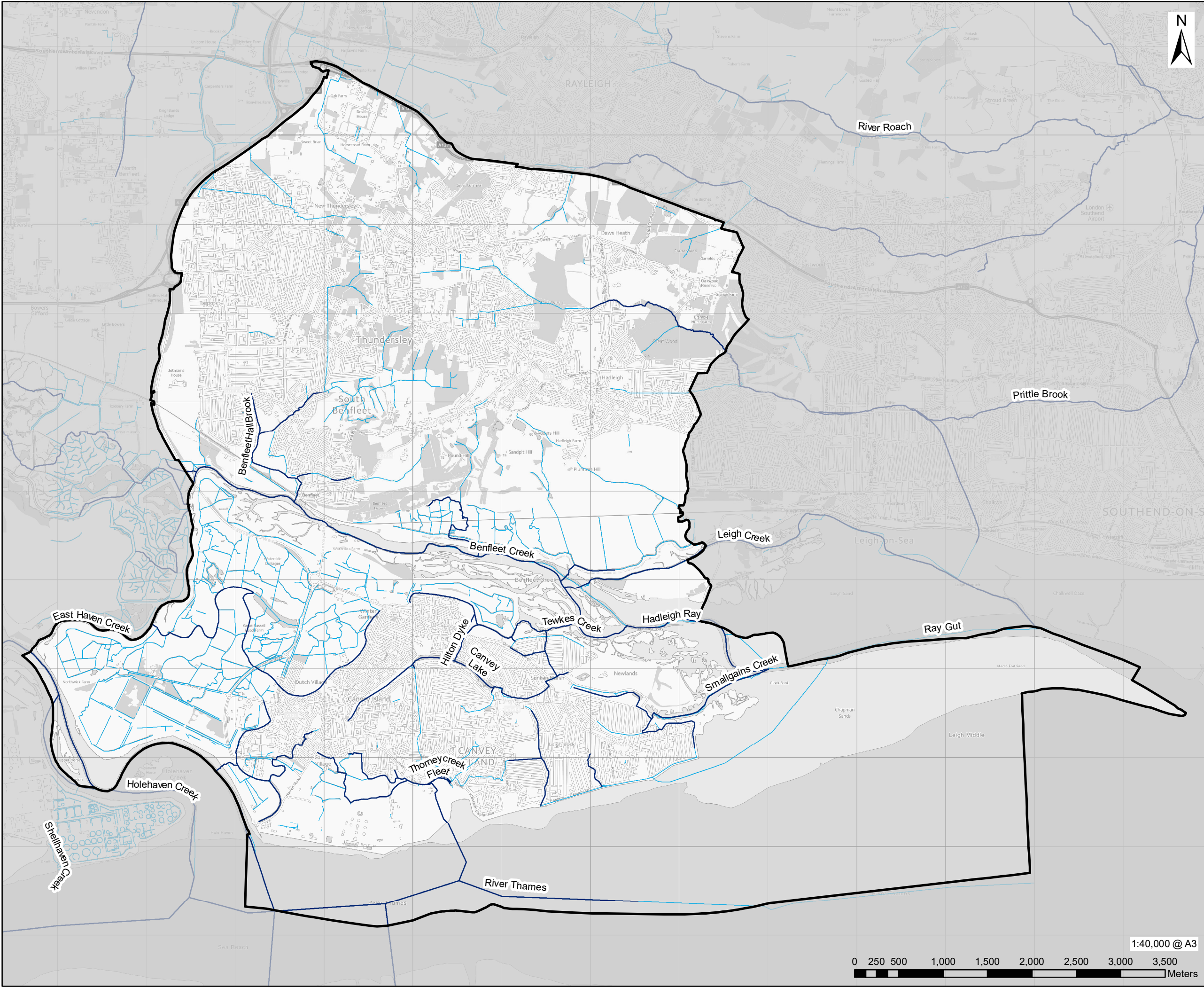
PROJECT NUMBER

60725540

MAP TITLE

Topography

Appendix A Map 1



PROJECT
Castle Point Borough Council
Level 1 Strategic Flood Risk
Assessment

CLIENT
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LEGEND
Castle Point Borough Council
Boundary
EA Main River
Watercourse

NOTES
1: This map shows the EA Main River and
OS Watercourse layers.
2: This map is intended to provide a strategic
overview of watercourses within Castle Point.

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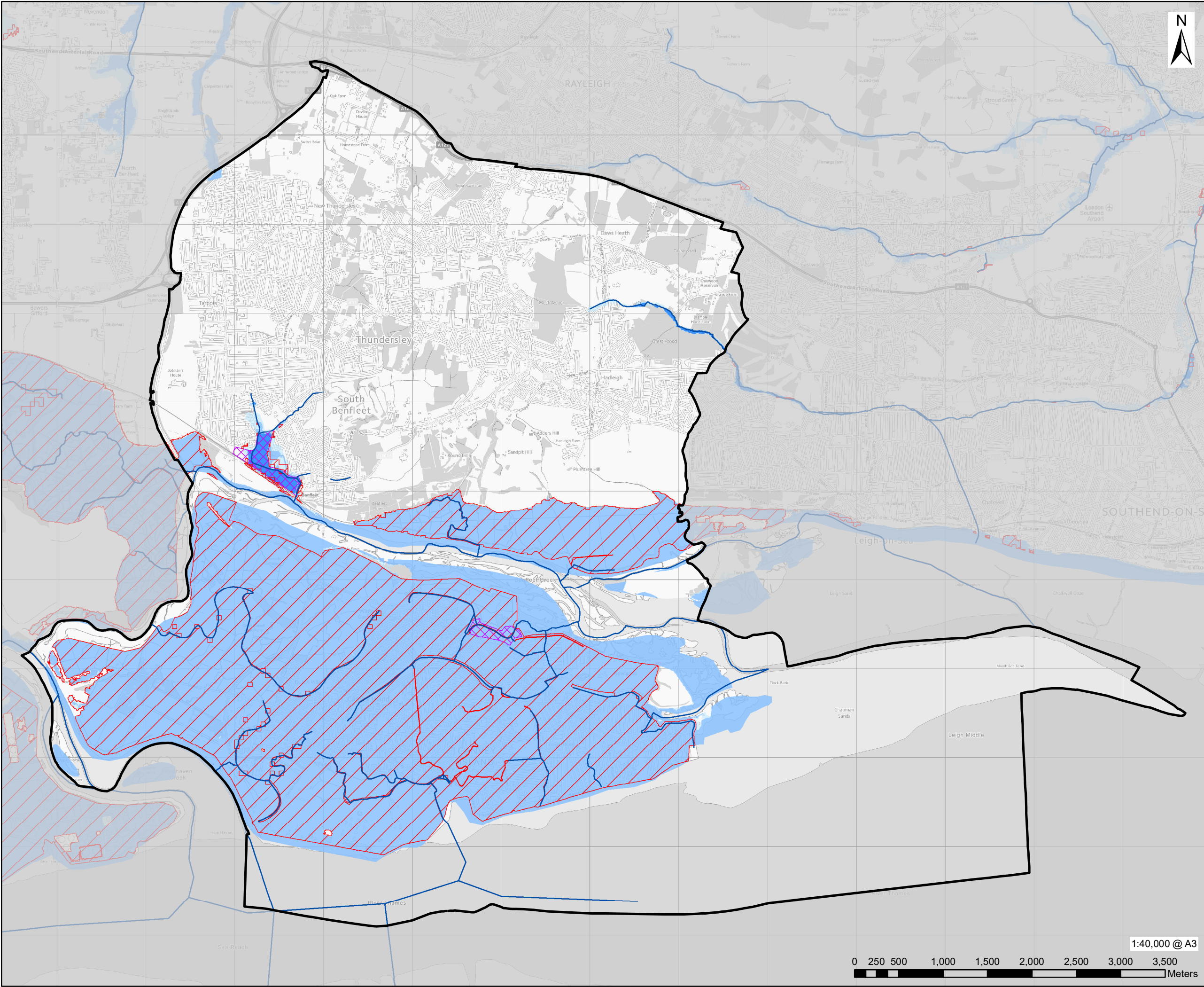
ISSUE PURPOSE
SFRA

PROJECT NUMBER
60725540

MAP TITLE
Main Rivers and Watercourses

MAP NUMBER
Appendix A Map 2

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PROJECT

Castle Point Borough Council
Level 1 Strategic Flood Risk
Assessment

CLIENT

Castle Point Borough Council

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LEGEND

- Castle Point Borough Council
- Flood Storage
- Reduction In Risk of Flooding from Rivers and Sea due to Defences

- Flood Zones**
- Flood Zone 3b
 - Flood Zone 3a
 - Flood Zone 2

NOTES

- This map shows the predicted likelihood of fluvial and tidal flooding based on the Environment Agency's Flood Map for Planning (Rivers and the Sea) and catchment modelling studies, which may be subject to revision in the future. The Flood Map for Planning is provided on the Environment Agency website (<https://flood-map-for-planning.service.gov.uk/>).
- The probability of fluvial and tidal flooding is divided into the following four categories: Flood Zone 1, Flood Zone 2, Flood Zone 3a and Flood Zone 3b. It should be noted that Flood Zone 3b has been derived from the undefended 3.33% AEP fluvial modelling. Refer to the SFRA Report for further detail of the Flood Zones.
- There are two EA Flood Storage Areas located within the Castle Point Borough Boundary.
- This map is intended to provide a strategic overview of fluvial flood risk and should not be used to assess the flood risk for individual properties.

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ISSUE PURPOSE

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PROJECT NUMBER

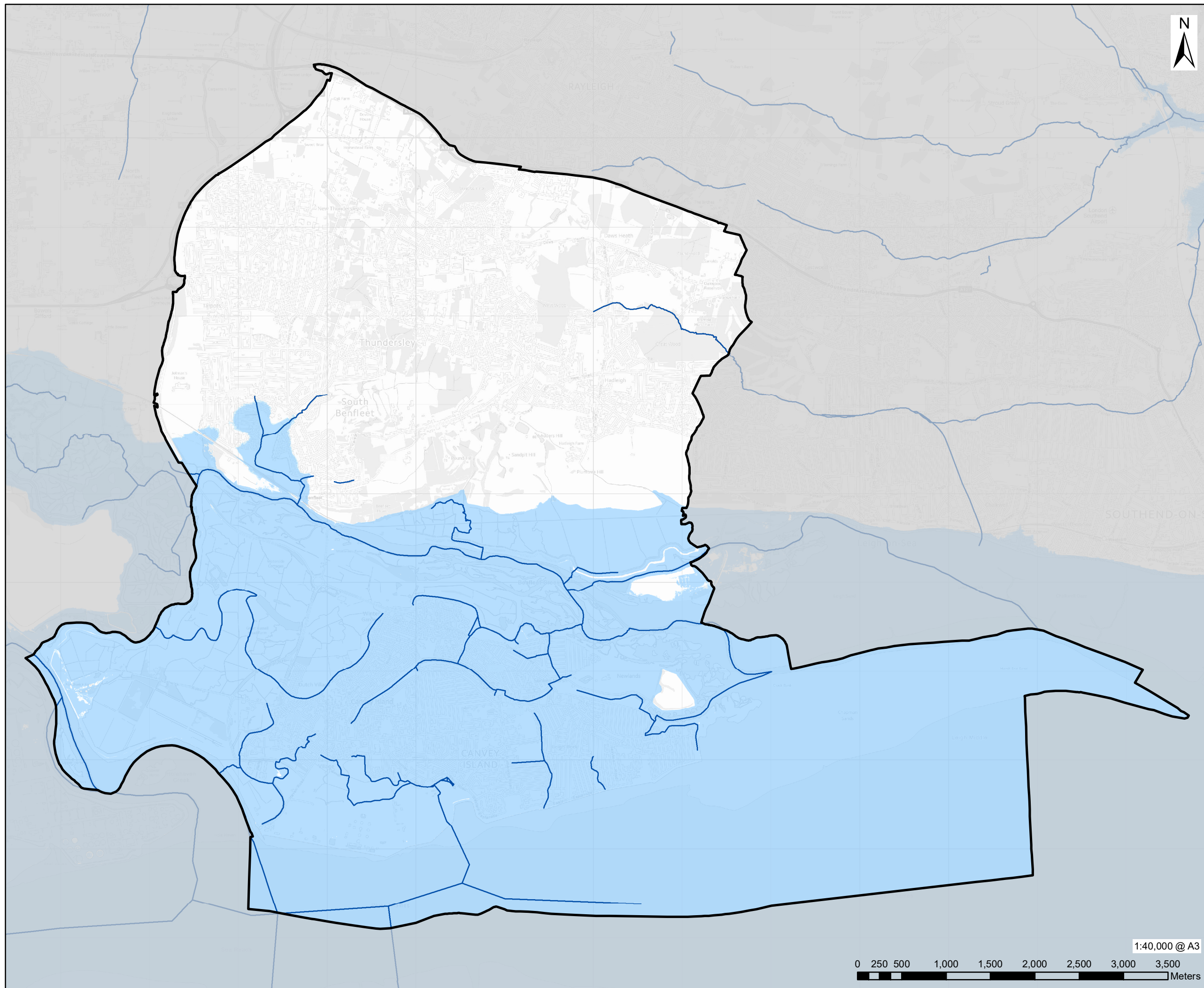
60725540

MAP TITLE

Flood Zones and Reduction in Risk of Flooding from Rivers and Sea due to Defences

MAP NUMBER

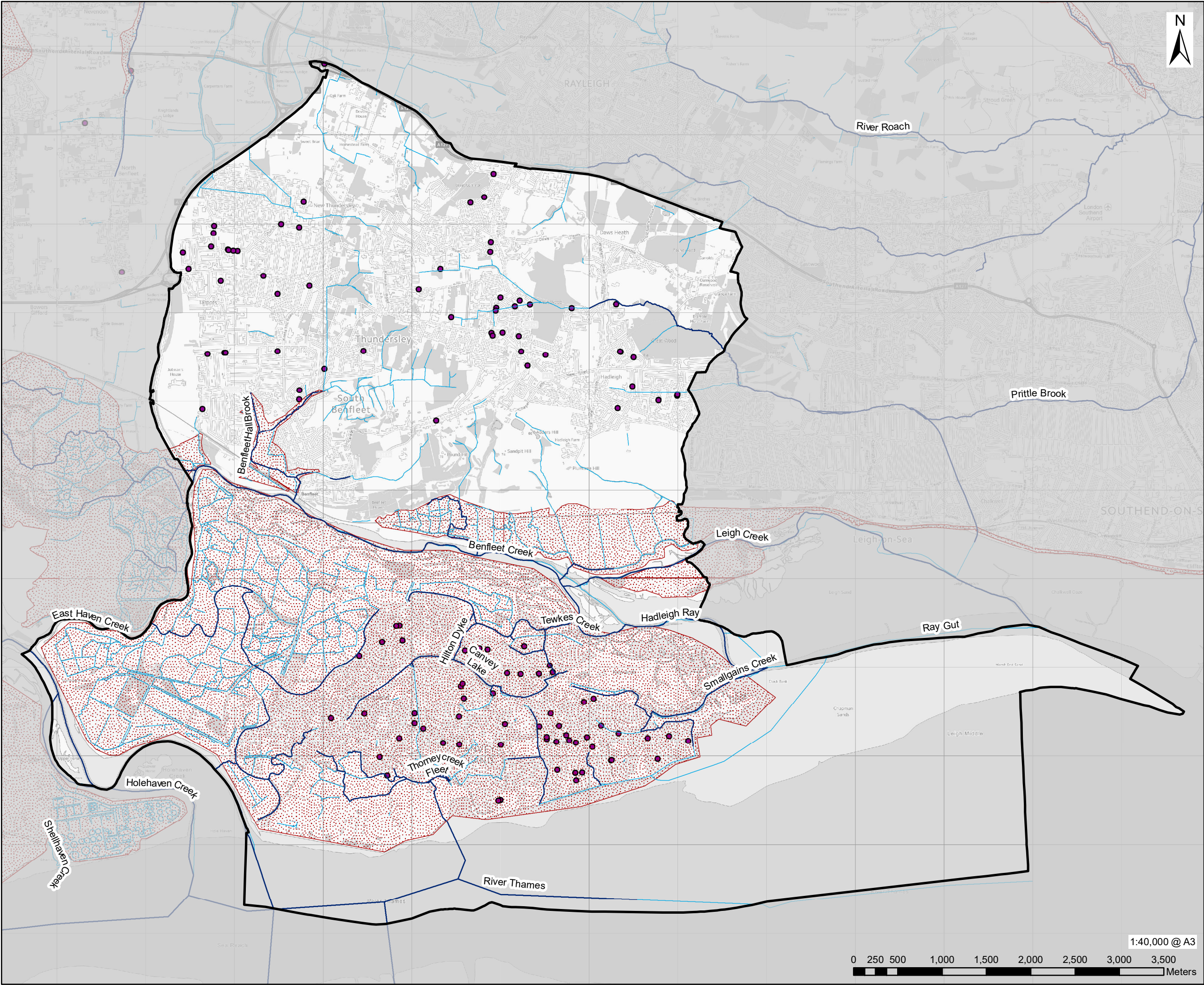
Appendix A Map 3a



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MAP NUMBER

Appendix A Map 3b



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PROJECT
Castle Point Borough Council
Level 1 Strategic Flood Risk
Assessment

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LEGEND
Castle Point Borough Council
EA Main River
Watercourse
Historic Flood Extents
Flood Incidents

NOTES

1: This map shows the historic records of flooding that have been provided by the Environment Agency and Essex County Council. Refer to the SFRA Report for further detail of the records used.

2: This map is intended to provide a strategic overview of historic flooding and should not be used to assess the flood risk for individual properties.

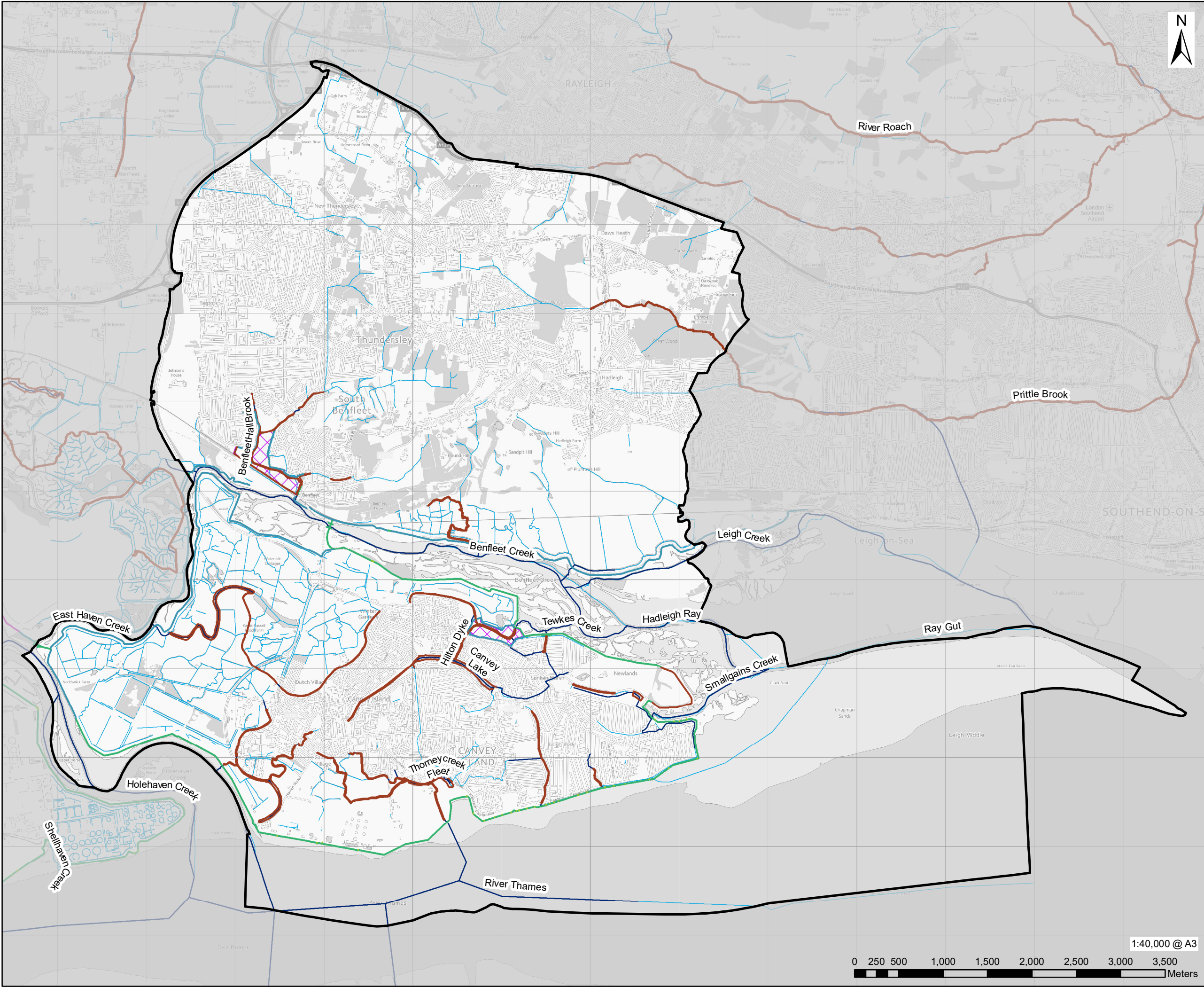
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ISSUE PURPOSE
SFRA

PROJECT NUMBER
60725540

MAP TITLE
Historic Records of Flooding

MAP NUMBER
Appendix A Map 4



PROJECT

Castle Point Borough Council
Level 1 Strategic Flood Risk
Assessment

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LEGEND

- Castle Point Borough Council Boundary
- EA Main River
- Watercourse
- Flood Storage Areas
- AIMS Spatial Flood Defences**
 - Embankment
 - Engineered High Ground
 - Flood Gate
 - Natural High Ground
 - Spillway
 - Wall

NOTES

- This map shows the EA AIMS Spatial Flood Defences and EA Flood Storage Areas.
- There are two Flood Storage Areas located within the Castle Point Borough.
- This map is intended to provide a strategic overview of defences within Castle Point.

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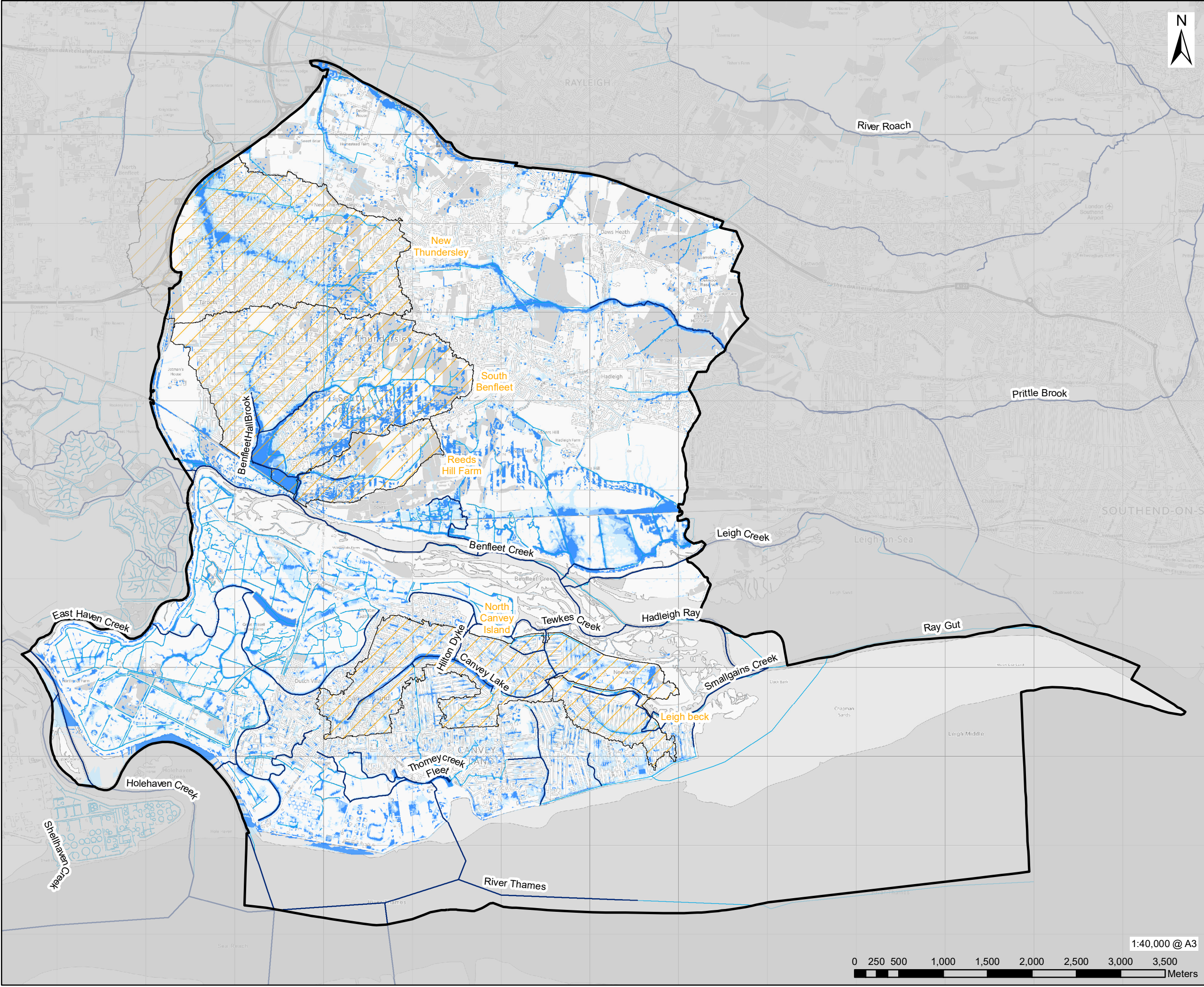
60725540

MAP TITLE

AIMS Spatial Flood Defences and
Flood Storage Areas

MAP NUMBER

Appendix A Map 5



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PROJECT

Castle Point Borough Council
Level 1 Strategic Flood Risk
Assessment

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LEGEND

- Castle Point Borough Council
- EA Main River
- Watercourse
- Critical Drainage Area

Risk of Flooding from Surface Water

- High
- Medium
- Low

NOTES

- 1: Surface water flooding occurs when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead. This type of flooding can be difficult to predict as it is hard to forecast exactly where or how much rain will fall.
- 2: This map shows the predicted likelihood of surface water flooding based on the Environment Agency's Risk of Flooding from Surface Water (ROFSW) data, which may be subject to further analysis in the future. Further information is provided on the Environment Agency website (<https://www.gov.uk/check-long-term-flood-risk>).
- 3: Surface water risk is divided into four categories: High - Flooding greater than 3.33% Annual Exceedence Probability (AEP), Medium - Flooding between 3.33% and 1% AEP, Low - Flooding between 1% and 0.1% AEP and Very Low - Less than 0.1% AEP. Land outside the mapped extents are at very low risk.
- 4: The potential impact of surface water flooding can vary according to the depth of the water and its velocity (speed and direction its flowing in).
- 5: This map is intended to provide a strategic overview of surface water flood risk and should not be used to assess the flood risk for individual properties.

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ISSUE PURPOSE

SFRA

PROJECT NUMBER

60725540

MAP TITLE

Risk of Flooding from Surface Water
and Critical Drainage Areas

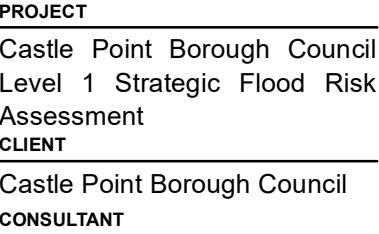
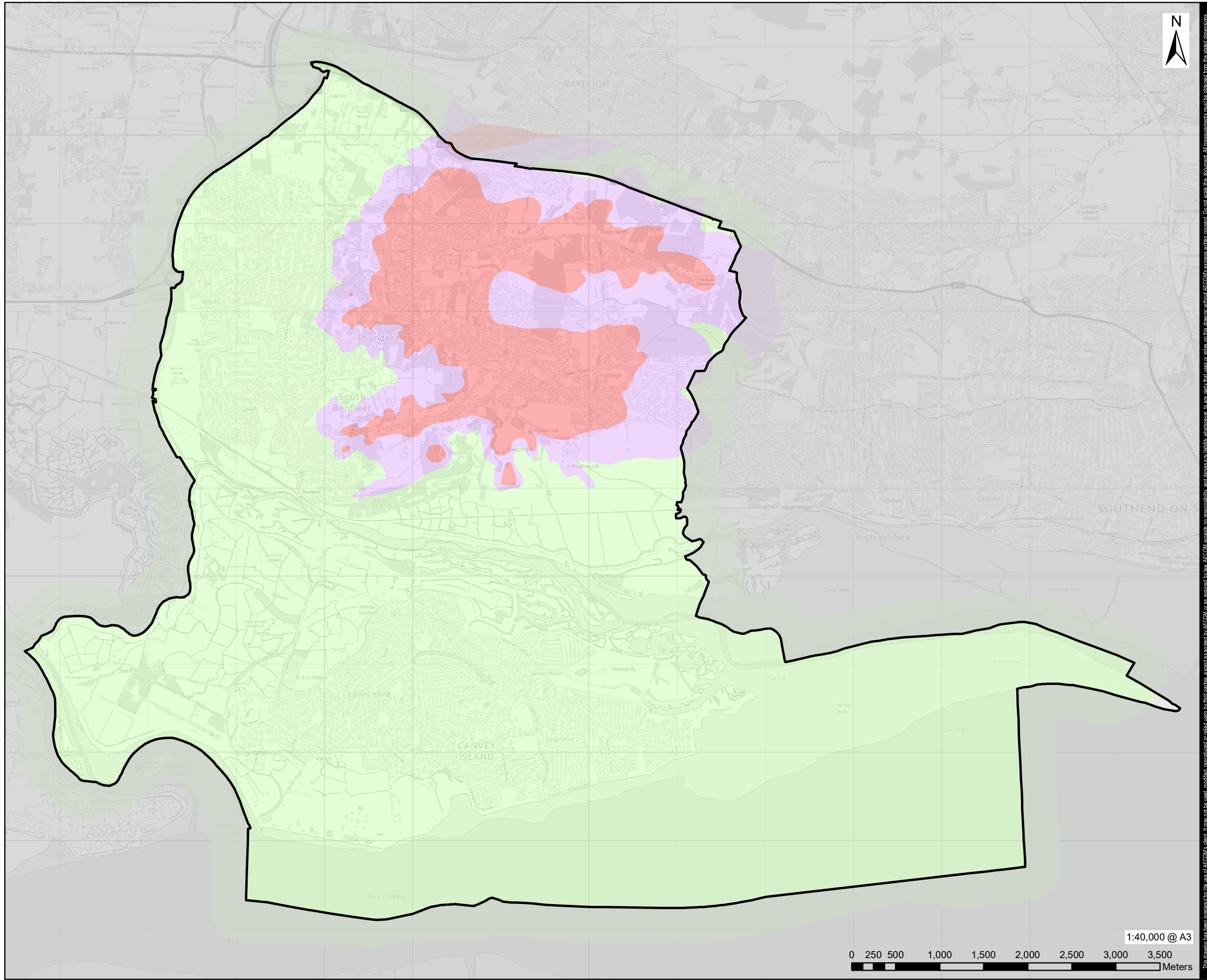
MAP NUMBER

Appendix A Map 6





1:40,000 @ A3

0 250 500 1,000 1,500 2,000 2,500 3,000 3,500
Meters

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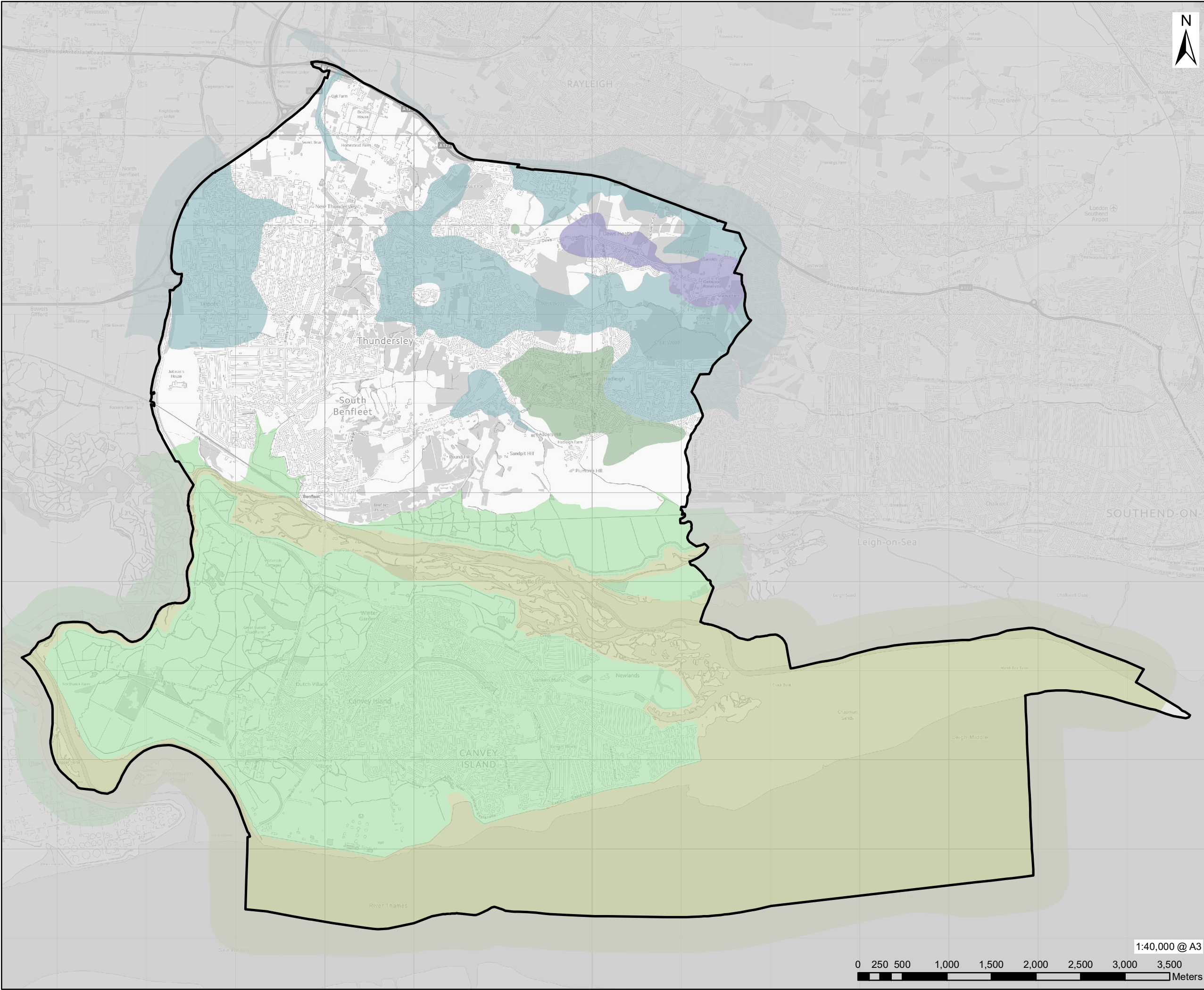
-  Castle Point Borough Council
- Bedrock Geology**
-  Bagshot Formation
-  Claygate Member
-  London Clay Formation

- 1: Bedrock geology is the term used for the main mass of rocks forming the earth and is present everywhere, whether exposed at the surface or concealed beneath superficial deposits or water.
- 2: This map shows the BGS Bedrock Geology data. The dataset is based on geological and hydrogeological information and is mapped to a 1:50,000 scale.
- 3: The geological interpretation should only be used as a guide to the geology at a local level, not as a site specific geological plan based on detailed site investigations.
- 4: This map is intended to provide a strategic overview of bedrock geology and should not be used to assess ground conditions at individual properties.

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SFRA
PROJECT NUMBER
60725540
MAP TITLE
BGS Bedrock Geology

Appendix A Map 7



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AECOM

PROJECT

Castle Point Borough Council
Level 1 Strategic Flood Risk
Assessment

CLIENT

Castle Point Borough Council

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LEGEND

Castle Point Borough Council

Beach and Tidal Flat Deposits
(Undifferentiated)

Glaciofluvial Deposits, Mid
Pleistocene

Head

Superficial Deposits

Tidal Flat Deposits

NOTES

1: Superficial deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 2.6 million years from the present. They rest on older deposits or rocks referred to as bedrock.

2: This map shows the BGS Superficial Deposits Geology data. The dataset is based on geological and hydrogeological information and is mapped to a 1:50,000 scale.

3: The geological interpretation should only be used as a guide to the geology at a local level, not as a site specific geological plan based on detailed site investigations.

4: This map is intended to provide a strategic overview of superficial deposits and should not be used to assess ground conditions at individual properties.

ISSUE PURPOSE

SFRA

PROJECT NUMBER

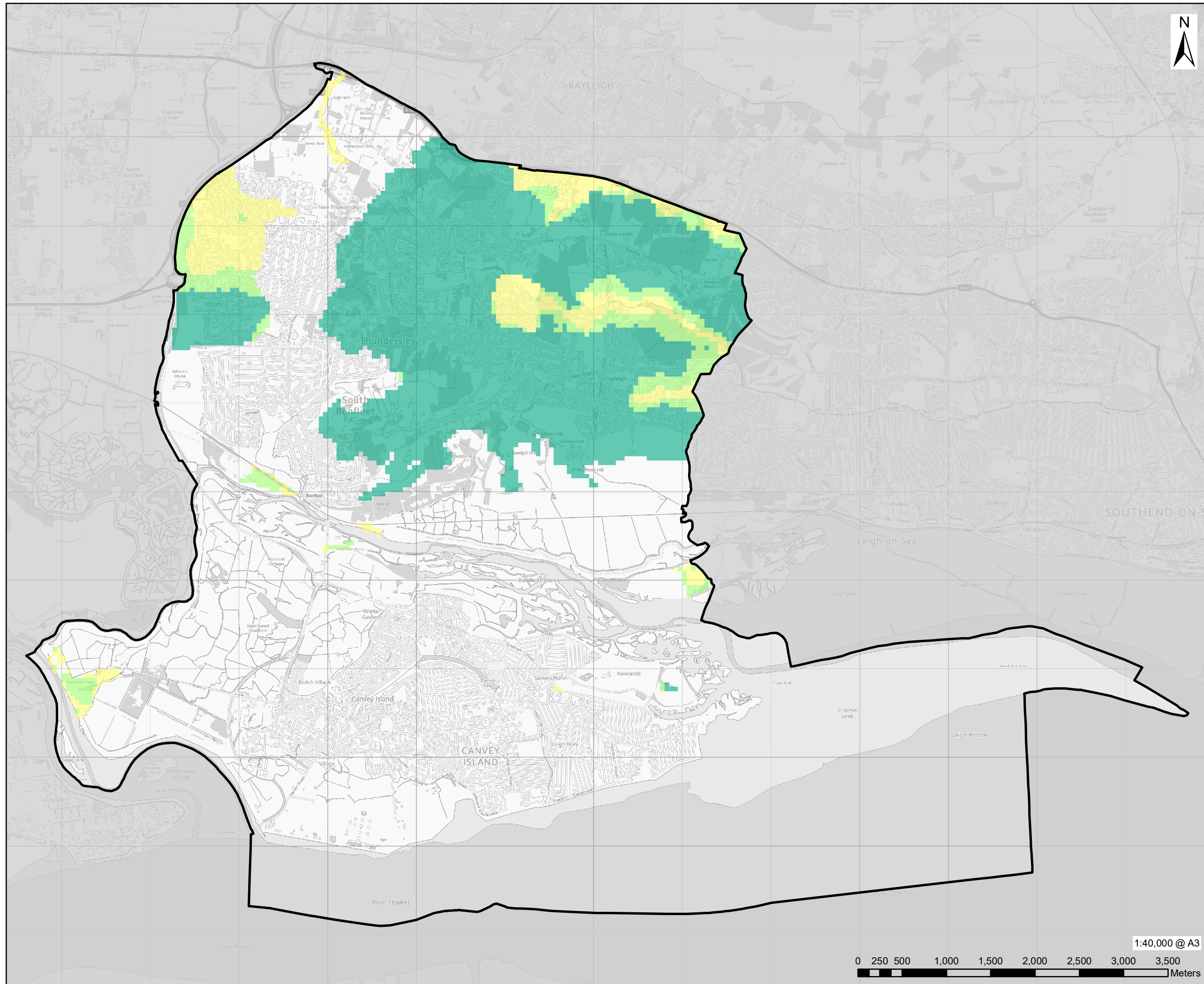
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MAP TITLE

BGS Superficial Deposits

MAP NUMBER

Appendix A Map 8



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PROJECT

Castle Point Borough Council Level 1 Strategic Flood Risk Assessment


CLIENT

Castle Point Borough Council




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LEGEND

-  Castle Point Borough Council

Susceptibility to Groundwater Flooding

 -  Limited potential for groundwater flooding to occur
 -  Potential for groundwater flooding of property situated below ground level
 -  Potential for groundwater flooding to occur at surface

NOTES

- 1: The BGS Susceptibility to Groundwater Flooding dataset identifies areas where geological conditions could enable groundwater flooding to occur and where groundwater may come close to the surface.
- 2: The dataset is based on geological and hydrogeological information and is mapped to a 1:50,000 scale.
- 3: The geological interpretation should only be used as a guide to the geology at a local level, not as a site specific geological plan based on detailed site investigations.
- 4: Refer to the SFRA Report for further information on groundwater flooding.
- 5: This map is intended to provide a strategic overview of susceptibility to groundwater flooding and should not be used to assess flood risk for individual properties.

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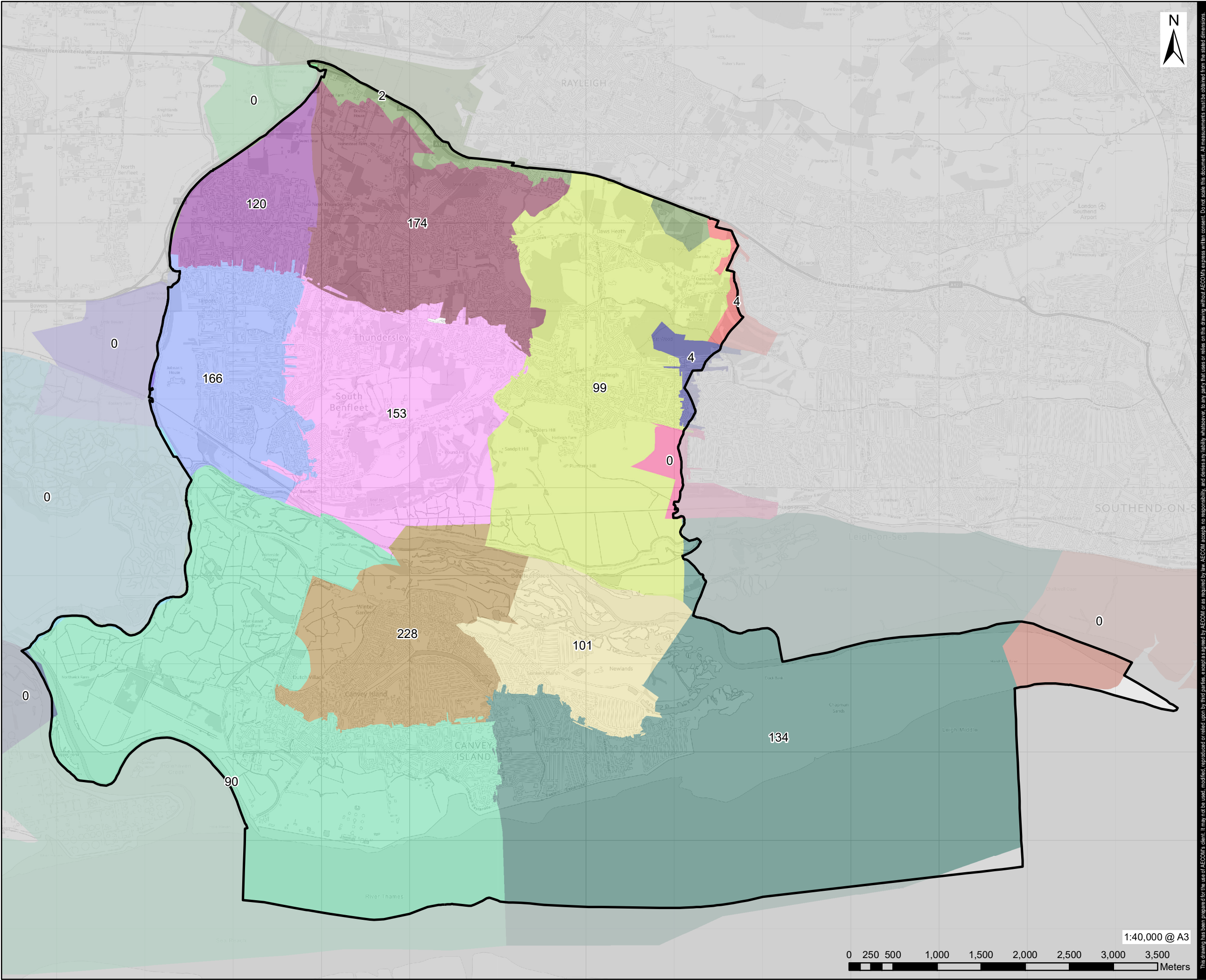
60725540

MAP TITLE

BGS Susceptibility to Groundwater Flooding

MAP NUMBER

Appendix A Map 9



PROJECT
Castle Point Borough Council
Level 1 Strategic Flood Risk
Assessment

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- LEGEND**
- Castle Point Borough Council
Boundary
- Postcode Area**
- SS0 7
 - SS12 9
 - SS13 2
 - SS16 4
 - SS17 9
 - SS6 7
 - SS7 1
 - SS7 2
 - SS7 3
 - SS7 4
 - SS7 5
 - SS8 0
 - SS8 7
 - SS8 8
 - SS8 9
 - SS9 2
 - SS9 3
 - SS9 4

NOTES

1: Anglian Water has supplied Thames Water DG5 records of sewer flooding for the Borough based on historic flooding. This data has been displayed using the 4 or 5 digit postcode boundaries in the Borough. The number of incidents has been labelled on the map.

2: This map is intended to provide a strategic overview of sewer flooding and should not be used to assess the flood risk for individual properties.

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PROJECT NUMBER

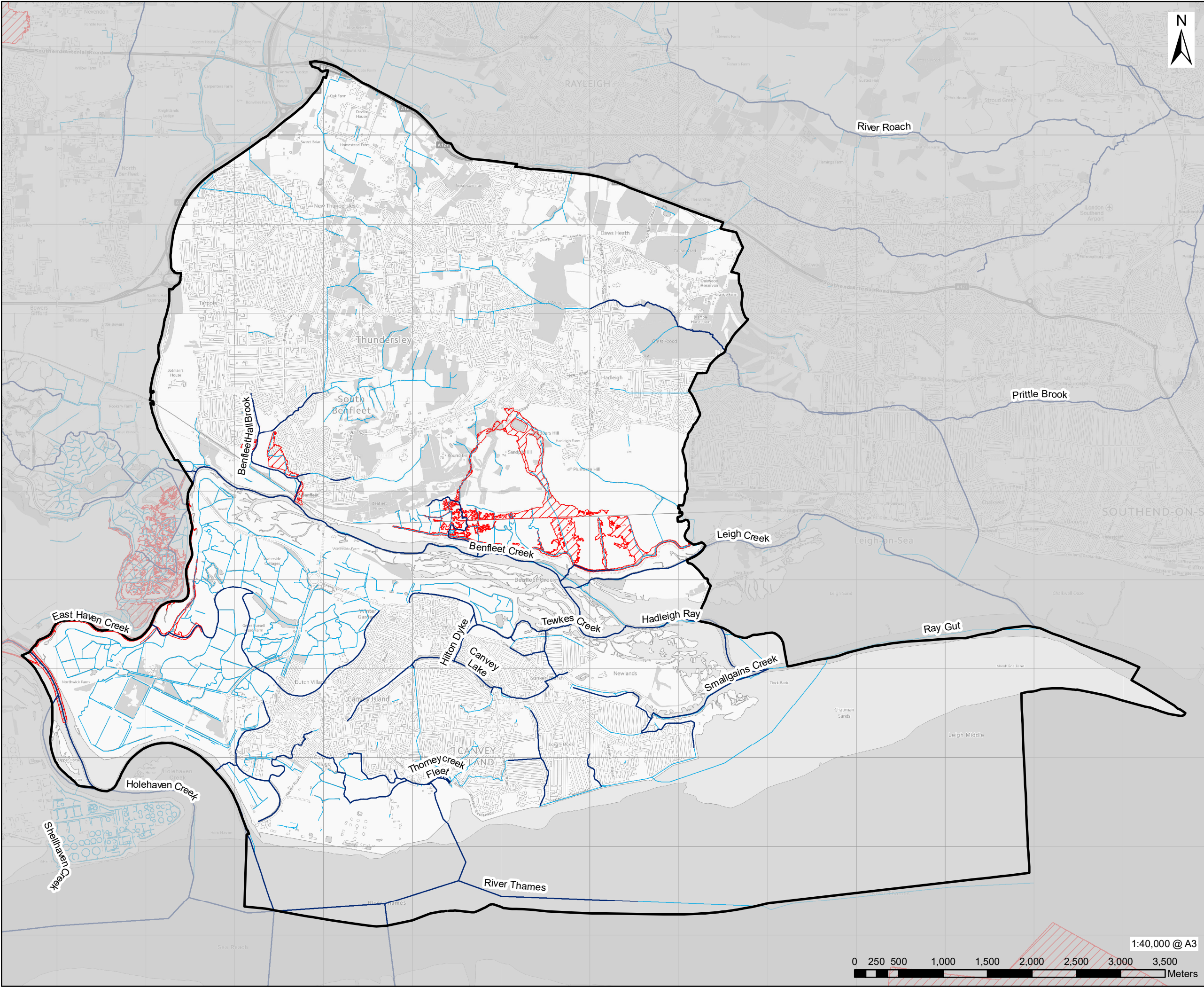
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MAP TITLE

Records of Sewer Flooding by
Postcode

MAP NUMBER

Appendix A Map 10



PROJECT
Castle Point Borough Council
Level 1 Strategic Flood Risk
Assessment

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- LEGEND**
- Castle Point Borough Council
 - EA Main River
 - Watercourse
- Risk of Reservoir Flooding**
- When river levels are normal
 - When there is also flooding from rivers

NOTES

- 1: This map shows the predicted maximum flood extents in the event that a reservoir was to fail and release the water held on both a "dry day" when local rivers are at normal levels and a "wet day" when local rivers have already overflowed their banks.
- 2: Each scenario presents a worst case scenario, however it is unlikely that any actual flood would be this large. This data gives no indication of the probability of reservoir flooding.
- 3: Flood extents for smaller reservoirs or reservoirs commissioned after October 2016 are not included.
- 4: Areas within the Castle Point Borough Council boundary are not indicated to be at risk of flooding from reservoirs in the event of a breach or failure when river levels are normal (dry day).
- 5: This map is intended to provide a strategic overview of reservoir flood risk and should not be used to assess the flood risk for individual properties.

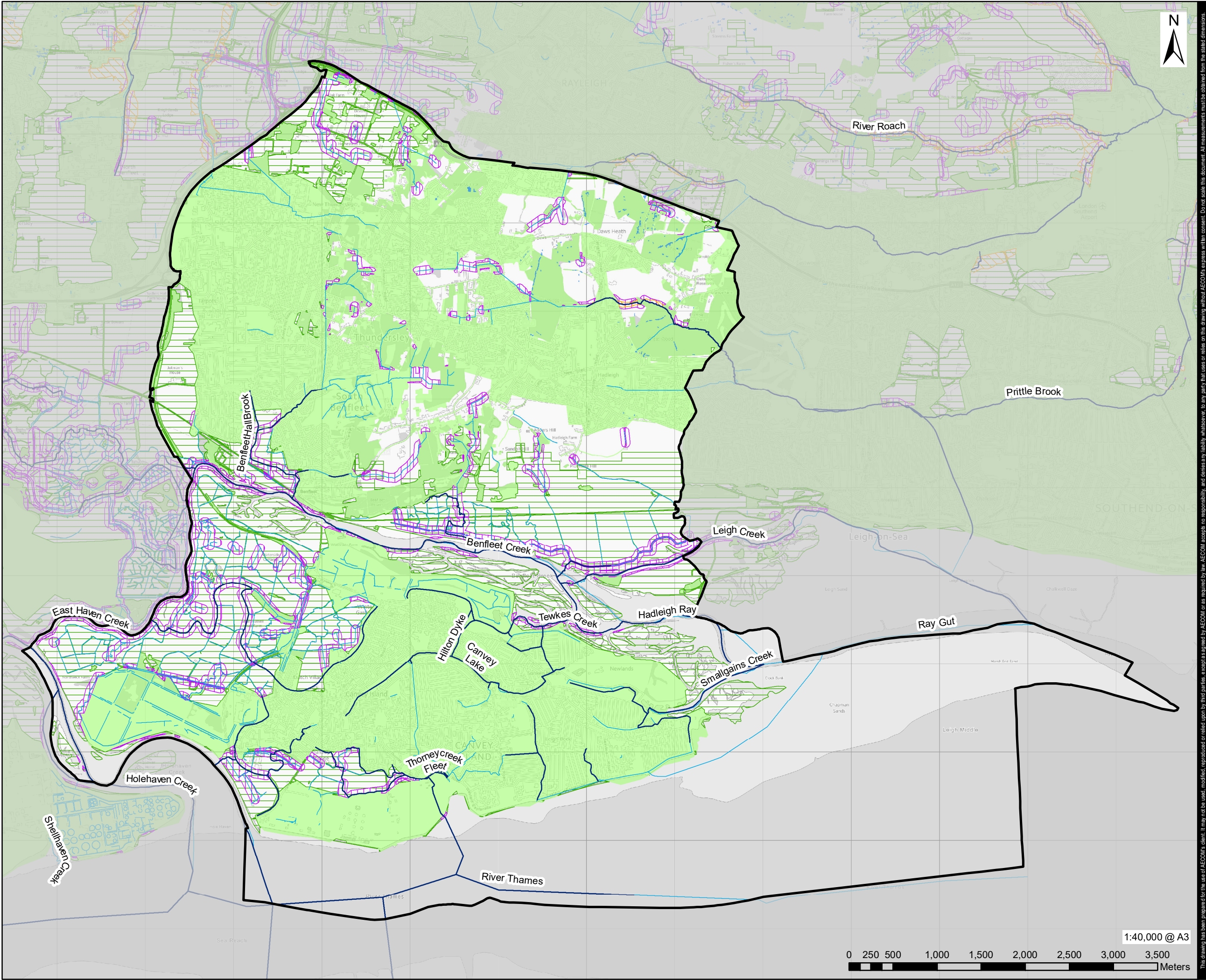
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ISSUE PURPOSE
SFRA

PROJECT NUMBER
60725540

MAP TITLE
Maximum Extent of Flooding from Reservoirs

MAP NUMBER
Appendix A Map 11



PROJECT

Castle Point Borough Council
Level 1 Strategic Flood Risk
Assessment

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LEGEND

- Castle Point Borough Council
- EA Main River
- Watercourse

Working with Natural Processes

- Floodplain Reconnection Potential
- Floodplain Woodland Planting Potential
- Riparian Woodland Planting Potential
- Wider Catchment Woodland Potential

Runoff Attenuation Features

- 3.3% AEP
- 1% AEP
- Woodland Constraints

NOTES

1: Working With Natural Processes (WWNP) is a dataset created by the Environment Agency that identifies potential locations for WWNP. Further information on each dataset mapped can be found at <https://environment.data.gov.uk/>
2: This map is intended to provide a strategic overview of areas with the potential of WWNP in Elmbridge. It should be noted that the WWNP dataset is a national dataset and it has been identified that it may not be accurate for all locations.

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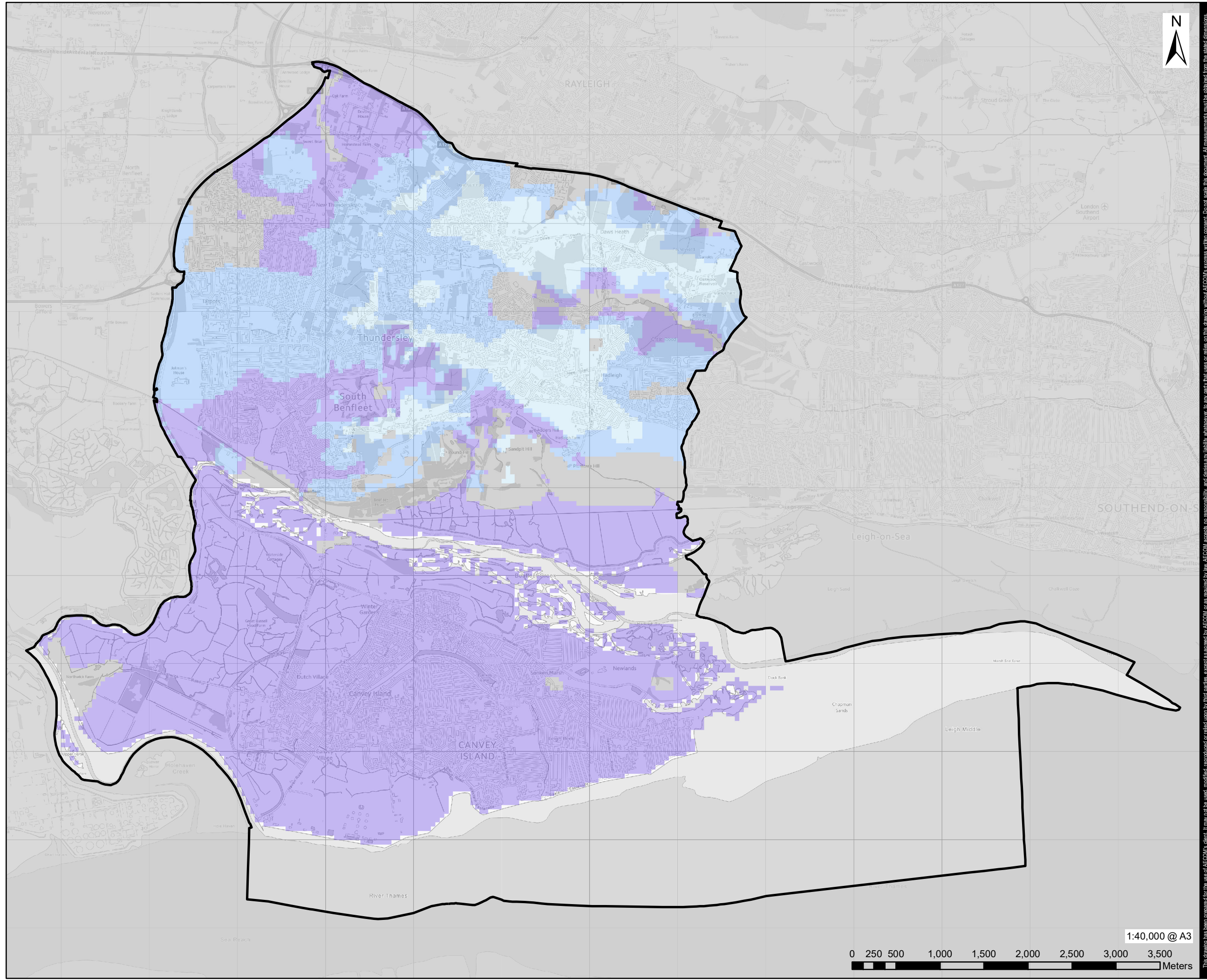
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MAP TITLE

Working With Natural Processes

MAP NUMBER

Appendix A Map 12



- Castle Point Borough Council**
- BGS Infiltration SuDS**
- Highly compatible for infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Very significant constraints are indicated

- 1: The BGS Infiltration SuDS Detailed dataset identifies the compatibility potential for SuDS based on geology across the borough.
- 2: The dataset is based on geological and hydrogeological information and is mapped to a 1:50,000 scale.
- 3: The geological interpretation should only be used as a guide to the geology at a local level, not as a site specific geological plan based on detailed site investigations.
- 4: Descriptions of each of the categories are as follows:
 - Highly compatible for infiltration SuDS: The subsurface is likely to be suitable for free-draining infiltration SuDS.
 - Probably compatible for infiltration SuDS: The subsurface is probably suitable for infiltration although the design may be influenced by the ground conditions.
 - Opportunities for bespoke infiltration SuDS: The subsurface is potentially suitable for infiltration SuDS although the design will be influenced by the ground conditions.
- 5: Very significant constraints are indicated: There is a very significant potential for one or more geohazards associated with infiltration.
- 6: Refer to the SFRA Report for further information on groundwater flooding.
- 7: This map is intended to provide a strategic overview of infiltration and should not be used to assess flood risk for individual properties.

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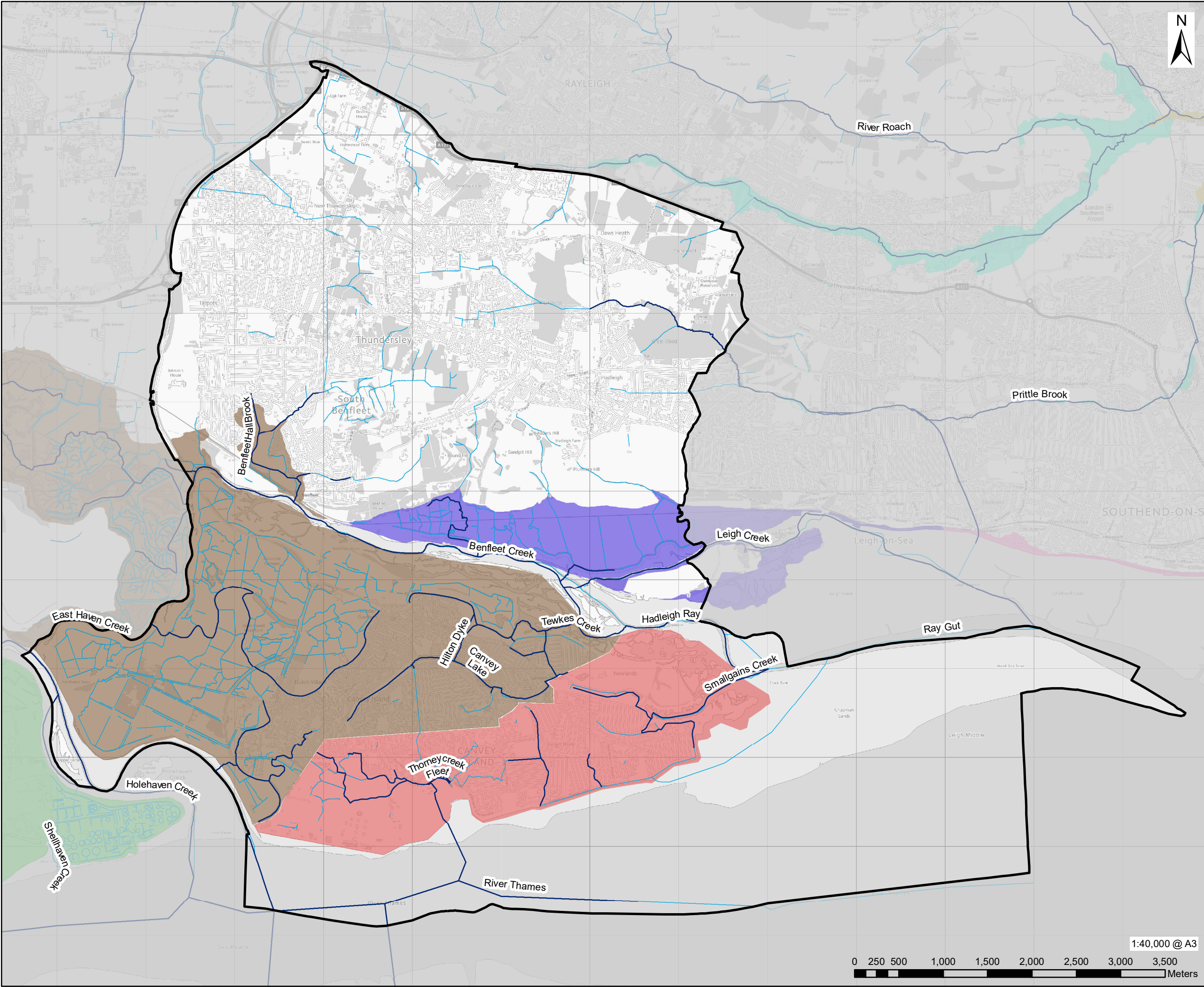
PROJECT NUMBER

60725540

MAP TITLE

BGS Infiltration SuDS Suitability

Appendix A Map 13



PROJECT

Castle Point Borough Council
Level 1 Strategic Flood Risk
Assessment

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LEGEND

- Castle Point Borough Council
- EA Main River
- Watercourse

Environment Agency Flood Warning
Areas

- Canvey Island North
- Canvey Island South
- Paglesham, Rochford, The
Wakerings and Potton Island
- The Eastwood Brook and
Prittlewell Brook in the
Southend area
- The Essex Coast at Southend
seafront from the Pier to
Chalkwell
- The Thames Estuary at Leigh-
on-Sea, from Chalkwell to
Hadleigh marshes
- The Thames Estuary from
Shellhaven, to and including
Tilbury

NOTES

1: This map shows the Flood Warning Areas
that have been downloaded from the Defra
Data Services website
(<https://environment.data.gov.uk>).

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PROJECT NUMBER

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MAP TITLE

EA Flood Warning Areas

MAP NUMBER

Appendix A Map 14