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Level 2 Strategic Flood Risk Assessment - Site CFS24

Ridham Dock - redevelopment

Final

Prepared for
Swale Borough Council

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1 Background

This is a Level 2 Strategic Flood Risk Assessment (SFRA) site screening report for site CFS24. The content of this Level 2 SFRA site screening report assumes the reader has already consulted the Swale Borough Council Level 1 SFRA and read the Swale Borough Council Level 2 SFRA main report and is therefore familiar with the terminology used in this report.

1.1 Site details

- Location: Ridham Dock - redevelopment, ME9 8SR
- Site area: 37.5ha
- Existing site use: Brownfield
- Proposed site use: Employment
- Proposed use flood risk vulnerability classification: Less Vulnerable

The site is situated northeast of Iwade and north of Kemsley and comprises Ridham Docks. The site is bounded by The Swale, a statutory Main River, to the north and east, Ridham Fleet, another Main River to the south, and greenfield land containing several tributaries to Ridham Fleet and The Fleet to the west. An unnamed road is present along the southwest and western boundaries of the site, and Lockyer Road leads into the site from the south and exits to the northwest. Swale Train Station is situated 660m to the northwest of the site.

1.2 Topography

Figure 1-1 shows the topography of the site represented by the Environment Agency 1m resolution LIDAR flown in 2022. The site is relatively low lying (between 7.0mAOD and 1.8mAOD). However, there are areas of higher elevation due to sediment deposits from construction. Raised defence embankments are in place along The Swale. There are also topographic depressions in the east and north and a drainage ditch along the southern, eastern and northern boundaries.

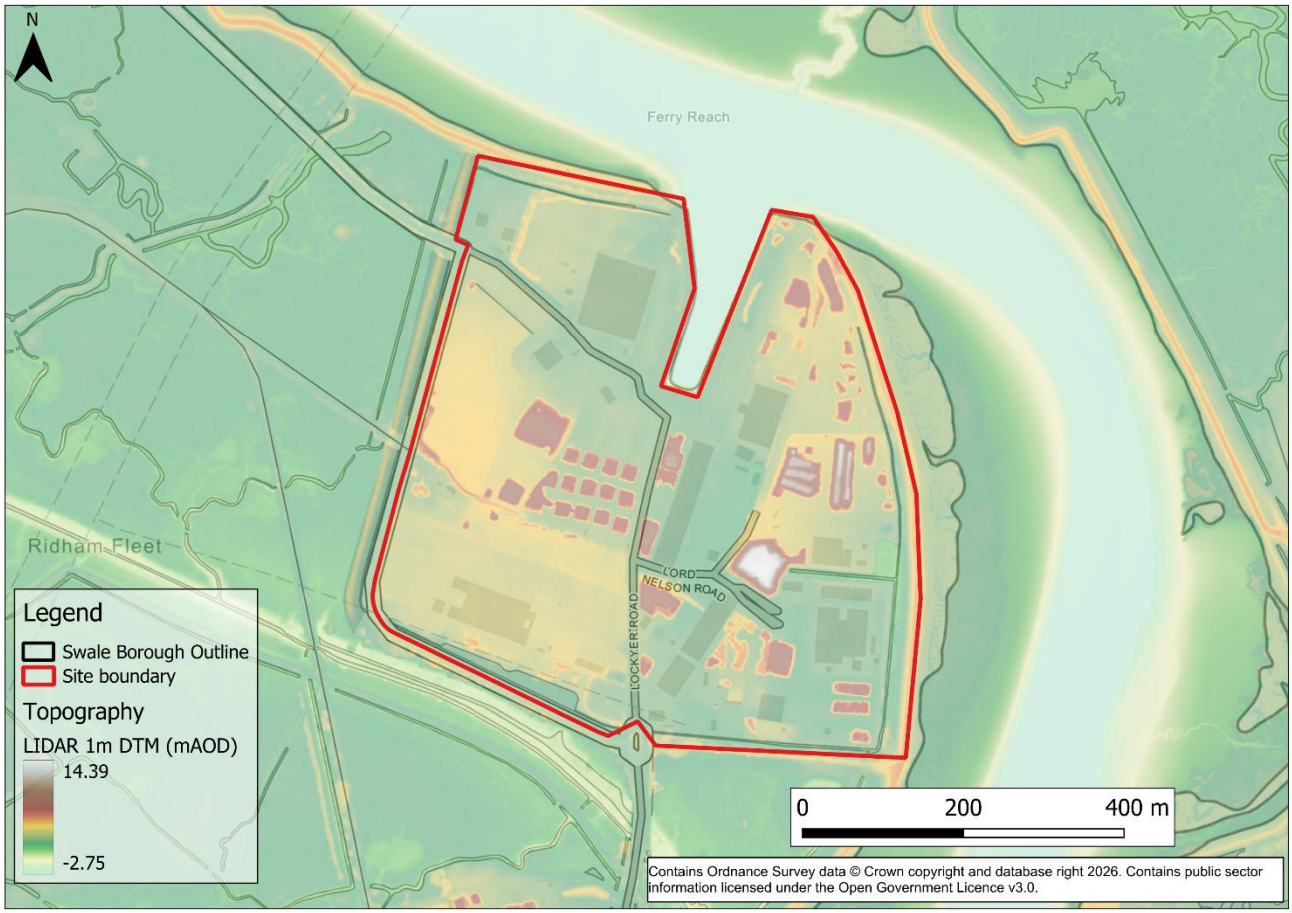


Figure 1-1: Topography of the site.

1.3 Geology and soils

Geology at the site consists of:

- Bedrock - London Clay Formation consisting of clay, silt and sand.
- Superficial - Alluvium consisting of clay, silt, sand and peat.

Soils at the site consist of:

- Loamy and clayey soils of coastal flats with naturally high groundwater.

The potential influence of the site's geology and soil conditions on drainage is discussed in Section 7.

2 Sources of flood risk

2.1 Existing drainage features

The site is bounded by The Swale, a statutory Main River to the north and east, Ridham Fleet, another Main River is situated 40m to the south and there are unnamed tributaries to Ridham Fleet and the The Swale to the west of the site. There is also a drainage ditch which runs along the eastern, southern and northern boundaries.

The site is within the North Kent Marshes Water Level Management Board district.

2.2 Flood Zones

2.2.1 Available data

The Environment Agency's Flood Map for Planning (FMfP) has been used within this assessment to determine Flood Zones 2 and 3a. Flood Zones 2 and 3a do not consider defences.

Flood Zone 3b in this area has been defined using the Environment Agency's River and Sea 3.3% AEP (1 in 30-year) defended flood risk extents – present day dataset, and the North Kent Coast model (2024).

2.2.2 Description of risk to the site

According to the FMfP dataset, virtually the entire site is within Flood Zone 3a. Flood Zone 3b is present along the northern and eastern boundaries but only covers 3% of the site due to tidal flooding.

Table 2-1: Existing fluvial and tidal flood risk based on Environment Agency FMfP and Flood Zone 3b

Flood Zone 1 (%)	Flood Zone 2 (%)	Flood Zone 3a (%)	Flood Zone 3b (%)
0	1	96	3

2.3 Fluvial present day defended risk

2.3.1 Available data

The Environment Agency's Iwade Stream detailed hydraulic model for the Iwade Stream was used in this assessment. There are no defences included in this model.

2.3.2 Description of risk to the site

The Iwade Stream model floods the areas 17m to the south and 30m west of the site but does not impact the site itself. The nearby tributaries have not been modelled though given the dominant risk is tidal, these watercourses are unlikely to have any significant effect on risk to the site. A site-specific flood risk assessment should confirm this.

2.4 Tidal/coastal present day defended risk

2.4.1 Available data

The North Kent Coast modelling study (2024) has been used to understand the tidal flood risk.

2.4.2 Description of risk to the site

According to the North Kent Coast model, the defended 3.3% AEP (1 in 30-year) event covers the northern and eastern boundaries due to close proximity to The Swale and the local ground levels. The defended 0.5% AEP (1 in 200-year) event covers over half of the site with patches in the northeast and southwest that are not predicted to flood. In the defended 0.1% AEP (1 in 1000-year) event, the flooding is predicted to inundate the majority of the site except the southwestern area, the furthest area from The Swale, with high topography.

Table 2-2: Existing tidal flood risk based on the North Kent Coast model*

<0.1% AEP (1 in 1000-year) (%)	0.1% AEP (1 in 1000-year) (%)	0.5% AEP (1 in 200-year) (%)	3.3% AEP (1 in 30-year) (%)
21	79	62	3

** The percentage of tidal extents quoted show the percentage of the site at risk from that particular event, including the percentage of the site at flood risk at a higher risk zone (e.g., 0.5% AEP (1 in 200-year) includes the 3.3% AEP (1 in 30-year) percentage). The <0.1% AEP event shows the area of the site not predicted to be impacted by tidal flooding.*

2.5 Surface water present day risk

2.5.1 Available data

The Environment Agency's Flood Map for Planning – Surface Water Spatial Planning map has been used within this assessment to inform the extent and depth of surface water risk. Velocity and hazard data is not currently available from the Environment Agency for this dataset.

2.5.2 Description of risk to the site

During the 3.3% (1 in 30-year) and 1% AEP (1 in 100-year) events, surface water flooding is predicted within the localised areas of low elevation all over the site, mostly observed in the centre, north, east and southeast, as well as within the drainage ditch around the site's perimeter. There is also ponding in between the areas of high elevation and existing infrastructure. The maximum flood depths during these events are predicted in the eastern area of the site, to the east of the access road, between 0.30m and 0.60m and between 0.60m and 1.20m respectively.

During the 0.1% AEP (1 in 1000-year) event, the flooding is more extensive and there is further ponding in between the built-up areas as well as in areas of lower elevation. This

event covers 19% of the site and has a maximum predicted flood depth of between 1.20m and 2.30m.

Table 2-3: Existing surface water flood risk based on the Flood Map for Planning map – Surface Water Spatial Planning map

Event	<0.1% AEP (1 in 1000-year) (%)	0.1% AEP (1 in 1000-year) (%)	1% AEP (1 in 100-year) (%)	3.3% AEP (1 in 30-year) (%)
Percentage of site at risk* (%)	71	19	8	4
Maximum depth (m)	N/A	1.20-2.30	0.90-1.20	0.30-0.60

** The percentage of surface water extents quoted show the percentage of the site at surface water risk from that particular event, including the percentage of the site at flood risk at a higher risk zone (e.g., 1% AEP (1 in 100-year) includes the 3.3% AEP (1 in 30-year) percentage). The <0.1% AEP (1 in 1000-year) event shows the area of the site not predicted to be impacted by surface water flooding.*

2.6 Reservoir

The Environment Agency's Reservoir Flood Map shows the southeastern area of the site to be affected by the Dry Day flood extents from Culnell's Fishing Lake. The Wet Day flood extent inundates nearly the entire site due to flooding from Culnell's Fishing Lake and Kemsley Mill Lagoon.

The Wet Day event seeks to estimate the effect of a breach at the same time as a 0.1% AEP (1 in 1000-year) river flood is occurring and suggests that the consequences of such a breach are similar to the modelled 0.1% AEP (1 in 1000-year) event river flood event, but would likely be associated with a much lower probability.

2.7 Groundwater

The JBA Groundwater Emergence Map shows there is negligible risk of groundwater flooding during a 1% AEP (1 in 100-year) groundwater event.

This assessment does not negate the requirement for an appropriate assessment of the groundwater regime at the site-specific FRA stage.

2.8 Sewers

Southern Water has confirmed there may be limited network capacity near the site and phasing of development may be needed alongside network reinforcement prior to occupation of the total number of dwellings indicated. Southern Water should be consulted to confirm requirements.

2.9 Flood history

According to the Environment Agency's Historic Flood Map, the entire site flooded in 1978 due to overtopping of sea defences.

The Kent County Council (Lead Local Flood Authority) historic data was provided as point data with an easting and northing. Due to the protection of data, the eastings and northings were plotted on GIS and the number of incidents recorded within a 0.85km^2 area was calculated. According to Kent County Council's recorded flood incident records, the site is within two areas that have had 4 and no flooding incidents respectively.

According to Southern Water's Sewer Incident Report Form (SIRF), there have been two sewer flood incidents in the ME9 8 postcode area since 2015.

3 Climate change

Increased storm intensities due to climate change may increase the extent, depth, velocity, hazard, and frequency of tidal, fluvial and surface water flooding.

Climate change allowances are determined by the management catchment in which the site is located. The site lies within the North Kent Management Catchment. Please see Section 6 of the Swale Borough Council Level 2 SFRA main report for information on climate change allowances.

Development proposals at the site must address the potential changes associated with climate change and be designed to be safe for the intended lifetime. The provisions for safe access and escape must also address the potential increase in severity and frequency of flooding.

3.1 Flood Zones plus climate change

3.1.1 Available data

The Environment Agency's FMfP plus climate change has been used within this assessment. This shows the combined extent of Flood Zones 2 and 3 using the following climate change allowances:

- 'Central' allowance for the 2080s epoch (2070-2125) for risk of flooding from rivers
- 'Upper End' allowance for risk of flooding from the sea, accounting for cumulative sea level rise to 2125.

3.1.2 Description of risk to the site

Present day Flood Zones are included in Table 3-1 as a comparison to the Flood Zones plus climate change dataset. Flood Zones and the Flood Zones plus climate change inundates the entire site due to close proximity to The Swale and the sea, along with local ground levels.

Table 3-1: Flood Zones compared to Flood Zones plus climate change

Event	Flood Zones	Flood Zones plus climate change
Percentage of site at risk (%)	100	100

3.2 Fluvial

3.2.1 Available data

As part of the SFRA, the fluvial model of the Iwade Stream has been run with the most up to date climate change allowances for the 1% AEP (1 in 100-year) event. These are the 22%, 34% and 67% allowances for the North Kent Management catchment for the 2080s (2070 to 2125) epoch. The central allowance has been used in this assessment.

3.2.2 Description of risk to the site

During the 1% AEP (1 in 100-year) plus 22% climate change event the Iwade Stream model shows the site is not predicted to flood and there is risk approximately 12m to the south of the site and 30m to the west. However, there are nearby watercourses which have not been modelled for fluvial risk. A site-specific flood risk assessment with site-specific modelling may be required to confirm fluvial risk, but tidal risk is likely to be the dominant source of flooding at the site.

3.3 Tidal

3.3.1 Available data

The North Kent Coast modelling study (2024) has been used to understand the tidal and coastal flood risk within the Local Plan area. The mapping provides information for present day and for the Upper End climate change event for the years 2100 and 2125. Only the 2100 event has been assessed in this site summary sheet due to the likely lifetime of development (75-years) for employment sites.

3.3.2 Description of risk to the site

During the present day defended 0.5% AEP (1 in 200-year) event, 62% of the site is predicted to flood, not covering areas in the southwest, northeast and southeast. Whereas the 0.5% AEP (1 in 200-year) 2100 Upper End event inundates virtually the entire site. The maximum depths of over 2.50m are predicted along the northern site boundary, along the eastern drainage ditch, and east of the access road within the centre of the site. An extreme hazard classification is predicted in the majority of the site with exception of the southwestern area which predominantly has a significant hazard classification.

Table 3-2: Tidal flood risk to the site in the 0.5% AEP (1 in 200-year) 2100 Upper End climate change event.

Event	0.5% AEP (1 in 200-year) 2100 UE
Percentage of site at risk (%)	99
Maximum depth (m)	8.68
Maximum velocity (m/s)	3.15
Maximum hazard classification	18.11 - Danger for all

3.4 Surface water

3.4.1 Available data

The Environment Agency's Surface Water Spatial Planning Dataset, released in May 2026, has been used within this assessment to inform the extent and depth of surface water risk with climate change. Climate change outputs are available for the 3.3% (1 in 30-year), 1% (1 in 100-year), and 0.1% AEP (1 in 1000-year) events with the Upper End climate change allowance for the 2070s epoch. There is currently no available velocity or hazard information from the Environment Agency to use for this dataset.

3.4.2 Description of risk to the site

The flooding in the 1% AEP (1 in 100-year) plus climate change event is predicted to increase compared to the 1% AEP (1 in 100-year) event, predominantly in the east and the north but is predicted all over the site within areas of lower elevation and areas in between existing infrastructure.

The maximum flood depth is predicted to remain between 0.90m and 1.20m

Table 3-3: Comparison of surface water flood risk to the site between the 1% AEP (1 in 100-year) present day and 1% AEP (1 in 100-year) plus climate change events.

Event	1% AEP (1 in 100-year)	1% AEP (1 in 100-year) plus 40% CC
Percentage of site at risk (%)	8	15
Maximum depth (m)	0.90-1.20	0.90-1.20

4 Flood risk management infrastructure

4.1 Defences

The Environment Agency AIMS (Asset Information Management System) dataset shows the presence of a sea wall along part of the northern site boundary with standards of protection of 1 in 200-year and 1 in 1000-year events. There are also embankments along The Swale along the eastern and northern boundary as well as to the southeast and northwest with standards of protection of 1 in 1000-years. There are no formal flood defences protecting the site from Ridham Fleet to the south.

4.2 MEAS Hold the Line Benefit Area

The Medway Estuary and Swale flood and coastal risk management Strategy (MEAS) sets out the Environment Agency's plan to sustainably manage the coastline and tidal defences in the Medway estuary and Swale area. It aims to protect people, properties, designated habitat and agricultural land over the next 100 years.

The site is within the MEAS Hold the Line Benefit Area. This means the site lies within an area where the long-term strategic intention is to continue maintaining or improving flood defences, subject to future funding and review.

4.3 Residual risk

Ridham Fleet is culverted underneath Lockyer Road 150m south of the site. There is a potential blockage risk due to build up of debris or the culvert collapsing which would cause a backup of water which could potentially flow overland into the site.

There is also a residual risk of the flood defences along The Swale being breached, which could cause significant flooding to the site. There is breach modelling available for the North Kent Coast model for the 0.5% AEP (1 in 200-year) 2075 Upper End event which shows the site would be at risk of flooding. However, for this site, as the proposed land use is employment development, the 2100 0.5% AEP (1 in 200-year) flood event should be assessed within a breach model as part of a detailed Flood Risk Assessment.

5 Coastal Change Management Area

The boundaries of the site are located within the Coastal Change Management Area (CCMA). This has been defined by the North Kent Coast 2125 Upper End defended 3.3% AEP (1 in 30-year) flood extent zone in this area.

The Local Plan's CCMA policy is set out under Policy C6. Development for employment along the boundary will only be appropriate subject to the criteria defined in Policy C6.

A Coastal Change Vulnerability Assessment will need to accompany any planning application for the site. However, as the site is at risk of inundation only along the boundary of the site, this could largely be satisfied by the submission of a Flood Risk Assessment.

The implications of the site being located within the CCMA can be found within Appendix J of the Level 1 SFRA and Policy C6 of the Local Plan.

6 Emergency planning

6.1 Flood warnings and alerts

The site is located within the Environment Agency "Coast from Kemsley to Seasalter Flood Warning Area" and the "Isle of Sheppey and coast from Kemsley to Seasalter Flood Alert Area".

6.2 Access and escape

Safe access and escape will need to be demonstrated in the 1% AEP (1 in 100-year) plus climate change fluvial and surface water events and the 0.5% AEP (1 in 200-year) plus climate change tidal event. Site layout and design should address the requirements for safe access and escape routes, avoid impeding surface water flows and preserve the storage of surface water to avoid exacerbation of flood risk elsewhere on the site and in the wider catchment.

6.2.1 Current and potential access to the site

Current and future access and escape to and from the site is via Lockyer Road from the south of the site leading into the centre, and the unnamed road from the northwest which is connected to Lockyer Road.

6.2.2 Fluvial

In the Iwade model, the 1% AEP (1 in 100-year) plus 22% climate change extent does not impact Lockyer Road, therefore there is flood free access via this route. From the unnamed road in the northwest, there is flood free access and escape at the access point but travelling from the west, there is flooding along Old Ferry Road reaching more than 0.50m in depth. Therefore, this route is inhibited.

However, the nearby watercourses are currently unmodelled, therefore their potential impact on flood risk to the access and escape routes is unknown. The site-specific FRA should investigate this potential risk.

6.2.3 Tidal

Safe access and escape routes are not possible via any route during the defended 0.5% AEP (1 in 200-year) 2100 Upper End event as flood depths are predicted to be up to 2.50m along both access roads with an extreme flood hazard.

6.2.4 Surface water

There is flood free access and escape via Lockyer Road during the 1% AEP (1 in 100-year) plus 40% climate change surface water event.

There is flooding along the unnamed road in the northwest of the site. However, the predicted flood depths are shallow at between 0.15m and 0.30m. Therefore, vehicular access may be viable via this route.

6.3 Dry islands

A dry island is a parcel of land that is elevated above surrounding areas at risk of flooding and is not at risk of flooding itself.

The site is not located on a dry island.

7 Requirements for drainage control and impact mitigation

7.1 Broadscale assessment of possible SuDS

- The site is not considered to be susceptible to groundwater flooding, due to the nature of the local geological conditions. This should be confirmed through additional site investigation work at the FRA stage.
- British Geological Survey (BGS) data indicates that the underlying geology is clay, silt and sand and therefore permeability could be highly variable. As a result, permeability should be confirmed through infiltration testing at the FRA stage. Off-site discharge may be required to discharge surface water runoff from the site. This would need to be in accordance with the SuDS hierarchy and national and local SuDS guidance.
- The site is not located within a Groundwater Source Protection Zone and there are no restrictions over the use of infiltration techniques with regard to groundwater quality.
- The topography is relatively low lying.
- The site is not located within a historic landfill site.

7.2 Opportunities for wider sustainability benefits and integrated flood risk management

- Implementation of SuDS at the site could provide opportunities to deliver multiple benefits including volume control, water quality, amenity and biodiversity. This could provide wider sustainability benefits to the site and surrounding area. Proposals to use SuDS techniques should be discussed with relevant stakeholders (Local Planning Authority, Lead Local Flood Authority, and the Environment Agency) at an early stage to understand possible constraints.
- The drainage ditch within the site should be integrated into the site drainage strategy as blue-green infrastructure.
- Development at this site should not increase flood risk either on or off site. The design of the surface water management proposals should take into account the impacts of future climate change over the projected lifetime of the development.
- Opportunities to incorporate filtration techniques such as filter strips, filter drains and bioretention areas must be considered.
- Consideration should be made to the existing condition of receiving waterbodies for water quality. The use of multistage SuDS treatment will improve water quality of surface water runoff discharged from the site and reduce the impact on receiving water bodies.
- Opportunities to incorporate source control techniques such as green roofs, permeable surfaces and rainwater harvesting must be considered in the design of the site.

- The potential to utilise conveyance features such as swales to intercept and convey surface water runoff should be considered. Conveyance features should be located on common land or public open space to facilitate ease of access.
- Surface water discharge rates should not exceed the existing greenfield runoff rates for the site for the 50% AEP (1 in-2 year) and 1% AEP (1 in-100) year storm events. Opportunities to further reduce discharge rates should be considered and agreed with the LLFA. It may be possible to reduce site runoff by maximising the permeable surfaces on site using a combination of permeable surfacing and soft landscaping techniques.
- If it is proposed to discharge runoff to a watercourse or sewer system, the condition and capacity of the receiving watercourse or asset should be confirmed through surveys and the discharge rate agreed with the Lead Local Flood Authority alongside confirmation with the asset owner of the available capacity.
- The site is within the North Kent Marshes Water Level Management Board (WLMB) district who may have additional requirements regarding discharge rates (directly or indirectly) into their district. The WLMB should be consulted during the detailed design of the site to establish the Board's requirements, approval to discharge into WLMB watercourses (directly or indirectly) and ordinary watercourse consents.

8 NPPF and planning implications

8.1 Exception Test requirements

The Local Planning Authority has confirmed that the Sequential Test has been carried out in line with national guidelines. The Sequential Test needs to be passed before the Exception Test is applied.

Annex F of the NPPF classifies employment development as "Less vulnerable".

The Exception Test is not required for this site because it is Less vulnerable. Although, development will not be permitted in the area within Flood Zone 3b.

8.2 Requirements and guidance for site-specific Flood Risk Assessment

At the planning application stage, a site-specific FRA will be required as the proposed development site:

- in Flood Zones 2 or 3
- within Flood Zone 3b
- within 'Flood Zones plus Climate Change', showing it is at increased risk of flooding from rivers or sea in future
- within Flood Zone 1 and the flood map for planning shows it is at risk of flooding from surface water, now or in future

All sources of flooding should be considered as part of a site-specific FRA.

Consultation with the Local Authority, Lead Local Flood Authority, Southern Water, North Kent Marshes WLMB and the Environment Agency should be undertaken at an early stage.

Any FRA should be carried out in line with latest guidance including the National Planning Policy Framework (NPPF), Flood Risk and Coastal Change Planning Practice Guidance (PPG), and Swale Borough Council Local Plan Policies.

The development should be designed with mitigation measures in place where required as outlined in Section 8.3.

8.3 Guidance for site design and making development safe

- Due to the boundaries of the site being located within the CCMA, development within the CCMA will be subject to the criteria defined in Policy C6 of the Local Plan.
- A sequential approach should be applied within the site, locating development in the areas of lowest flood risk where possible. While tidal flood risk affects a significant proportion of the site, the layout should also take account of current and future fluvial and surface water flood risk. Development should be steered outside areas within Flood Zone 3b.
- Where ground raising or flood defences are proposed as part of a development surface water flow paths should be avoided to prevent detriment elsewhere. If

flow paths cannot be avoided then site-specific hydraulic modelling will be needed to demonstrate that there is no impact on flood risk elsewhere.

- The residual risk at the site should be assessed including for breach modelling for the 2100 0.5% AEP (1 in 200-year) tidal event and the risk of culvert collapse or blockage.
- Assuming the site can be made safe from tidal flooding and development can be undertaken in line with the requirements of Policy C6 of the Local Plan:
    - Where development cannot avoid areas at risk of flooding, then flood resilience and resistance measures e.g. raising of floor levels, including property flood resistance and resilience measures. should be implemented, where appropriate. These measures should be assessed to make sure that flooding is not increased either on or off the site.
    - The risk from surface water flow routes should be quantified as part of a site-specific FRA, including a drainage strategy, so runoff volumes from the development are not increased by development. A drainage strategy should help inform site layout and design to ensure runoff rates are as close as possible to pre-development greenfield rates, with areas of surface water ponding retained as open space and SuDS or water compatible/essential infrastructure uses only.
    - Developers should consider utilising the on-site drainage ditch as a green corridor or as a location for SuDS.
    - A Flood Response Plan will be required. Arrangements for safe access and escape will need to be provided for the 1% AEP (1 in 100-year) fluvial and surface water and 0.5% AEP (1 in 200-year) tidal events with an appropriate allowance for climate change, considering depth, velocity, and hazard. Design and access arrangements will need to incorporate mitigation measures, to ensure development and occupants are safe.
    - Provisions for safe access and escape should not impact on surface water flow routes or contribute to loss of floodplain storage. Consideration should be given to the siting of access points with respect to areas of surface water flood risk.
    - The Environment Agency has confirmed that any flood risk activities carried out within 16 metres of the main river, or tidal defence would require a Flood Risk Activity Permit.

9 Conclusions

According to the FMfP dataset, nearly the entire site is within Flood Zone 3a. Flood Zone 3b is present along the northern and eastern boundaries but only covers 3% of the site.

There is a sea wall along part of the northern boundary, embankments along the rest of The Swale along the eastern and northern boundary as well as to the southeast and northwest.

The Iwade Stream fluvial model predicts flooding in the areas 17m to the south and 30m west of the site but does not impact the site itself.

According to the North Kent Coast model, the defended present day 3.3% (1 in 30-year) AEP event covers the northern and eastern boundaries, the 0.5% AEP (1 in 200-year) event covers over half of the site with patches in the northeast and southwest that are not predicted to flood. In the 0.1% AEP (1 in 1000-year) event, the flooding is predicted to inundate the majority of the site except the southwestern area, whereas the defended 0.5% AEP (1 in 200-year) 2100 Upper End event inundates nearly the entire site.

In terms of surface water flood risk, during the 3.3% (1 in 30-year) and 1% AEP (1 in 100-year) events, surface water flooding is predicted in the centre, north, east and southeast, as well as within the drainage ditch around the site's perimeter. There is also ponding in between the areas of high elevation and existing infrastructure. During the 0.1% AEP (1 in 1000-year) event, the flooding is more extensive and there is further pooling in between the built up areas as well as in areas of lower elevation. The 1% AEP (1 in 100-year) plus climate change event is predicted to flood the same areas.

Reservoir flood mapping shows the southeastern area of the site is affected by the Dry Day flood extents from Culnell's Fishing Lake. The Wet Day flood extent inundates nearly the entire site due to flooding from Culnell's Fishing Lake and Kemsley Mill Lagoon.

According to the Environment Agency's Historic Flood Map, the entire site flooded in 1978 due to overtopping of sea defences.

According to Kent County Council's recorded flood incident records, the site is within two areas, one with 4 recorded incidents and one with none.

There have been two sewer flood incidents in the ME9 8 postcode area since 2015 according to Southern Water's SIRF dataset.

The boundaries of the site are located within the Coastal Change Management Area (CCMA). This has been defined by the North Kent Coast 2125 Upper End defended 3.3% AEP (1 in 30-year) flood extent zone.

The following points should be considered in development of this site:

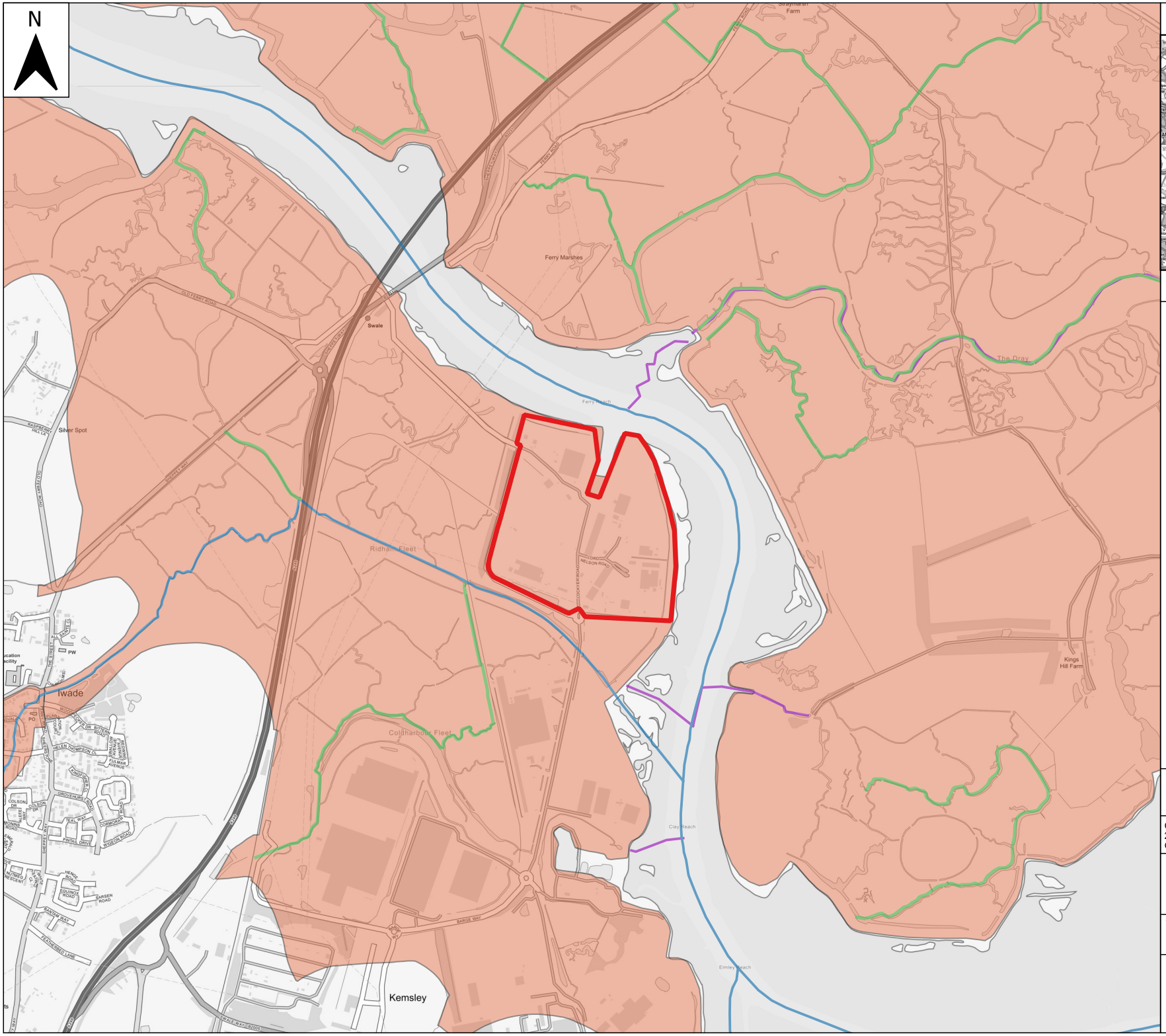
- Due to the boundaries of the site being located within the CCMA, development along the boundary will be subject to the criteria defined in Policy C6 of the Local Plan.

- A site-specific Flood Risk Assessment will be required which demonstrates that development can be safely accommodated on the site for its lifetime. A sequential approach should be applied within the site, locating development in the areas of lowest flood risk where possible. Development should be steered outside of the areas within Flood Zone 3b and areas at risk of surface water flooding on site. Where development cannot avoid areas at risk of flooding, then flood resilience and resistance measures e.g. raising of floor levels, including property flood resistance and resilience measures. should be implemented, where appropriate. These measures should be assessed to make sure that flooding is not increased either on or off the site.
- The residual risk should be assessed and include breach modelling for the 2100 0.5% AEP (1 in 200-year) event.
- SuDS (filtration techniques, conveyance features such as swales or discharging to nearby sewers) should be incorporated throughout the site to manage runoff, provide climate change resilience and deliver wider water quality, biodiversity and amenity benefits.
- A Flood Response Plan will be required. Arrangements for safe access and escape will need to be provided for the 1% AEP fluvial and surface water events and 0.5% AEP tidal event with an appropriate allowance for climate change, considering depth, velocity, and hazard. Design and access arrangements will need to incorporate mitigation measures, to ensure development and occupants are safe.

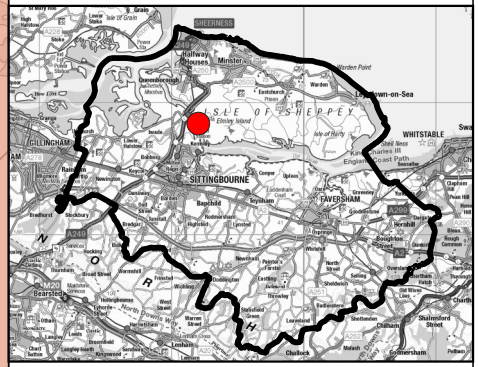
A Sources of information

- National Planning Policy Framework (NPPF) https://www.gov.uk/guidance/national-planning-policy-framework
- Planning Practice Guidance (PPG), Flood Risk and Coastal Change https://www.gov.uk/guidance/flood-risk-and-coastal-change
- Swale Borough Local Plan https://services.swale.gov.uk/media/files/localplan/adoptedlocalplanfinalwebversion.pdf
- Swale Borough Council Sequential and Exception Tests for Planning Applications https://swale.gov.uk/planning-and-regeneration/local-plans/local-plan-review-evidence/flood-risk#h2
- Swale Borough Council Level 1 SFRA
- https://swale.gov.uk/planning-and-regeneration/local-plans/local-plan-review-evidence/flood-risk#h2
- Kent County Council Local Flood Risk Management Strategy https://www.kent.gov.uk/__data/assets/pdf_file/0016/205621/Local-Flood-Risk-Management-Strategy-2024-2034.pdf
- Flood risk assessments: applying for planning permission https://www.gov.uk/guidance/flood-risk-assessments-applying-for-planning-permission
- Kent County Council's Drainage and Planning Policy Statement https://www.kent.gov.uk/about-the-council/strategies-and-policies/service-specific-policies/economic-regeneration-and-planning-policies/planning-policies/flooding-drainage-and-water-management-policies-and-guidance
- Defra's National standards for sustainable drainage systems (SuDS) https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds
- Flood Map for Planning - Flood Zones dataset https://environment.data.gov.uk/dataset/04532375-a198-476e-985e-0579a0a11b47
- Flood Map for Planning - Flood Zones plus Climate Change https://environment.data.gov.uk/dataset/59065c43-257e-4867-8798-fd2366156a6b
- British Geological Survey (BGS) Geology Viewer https://geologyviewer.bgs.ac.uk/
- Flood Warning sign up https://www.gov.uk/sign-up-for-flood-warnings

B Flood Risk Mapping



Location Plan



Legend

- Swale Borough Outline
- Site boundary

Watercourses

- Statutory Main Rivers
- Ordinary watercourses
- North Kent Marshes Water Level Management Board Watercourses
- North Kent Marshes Water Level Management Board

0 400 800 m

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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
WATERCOURSES - CFS24

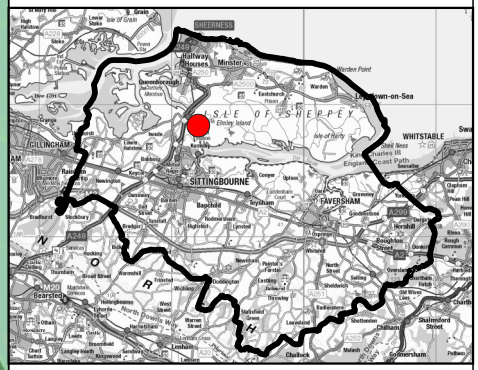
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Location Plan



Legend

Swale Borough Outline

Site boundary

Topography

LIDAR 1m DTM (mAOD)

14.43

-2.75

Notes

The LIDAR Composite DTM (Digital Terrain Model) is a raster elevation model covering ~99% of England at 1m spatial resolution. The DTM (Digital Terrain Model) is produced from the last or only laser pulse returned to the sensor. We remove surface objects from the Digital Surface Model (DSM), using bespoke algorithms and manual editing of the data, to produce a terrain model of just the surface.

Produced by the Environment Agency in 2022, the DTM is derived from a combination of the EA's Time Stamped archive and National LIDAR Programme surveys, which have been merged and re-sampled to give the best possible coverage. Where repeat surveys have been undertaken the newest, best resolution data is used. Where data was resampled a bilinear interpolation was used before being merged.

The 2025 LIDAR Composite contains surveys undertaken between 6th June 2000 and 1st August 2025.

0 100 200 m

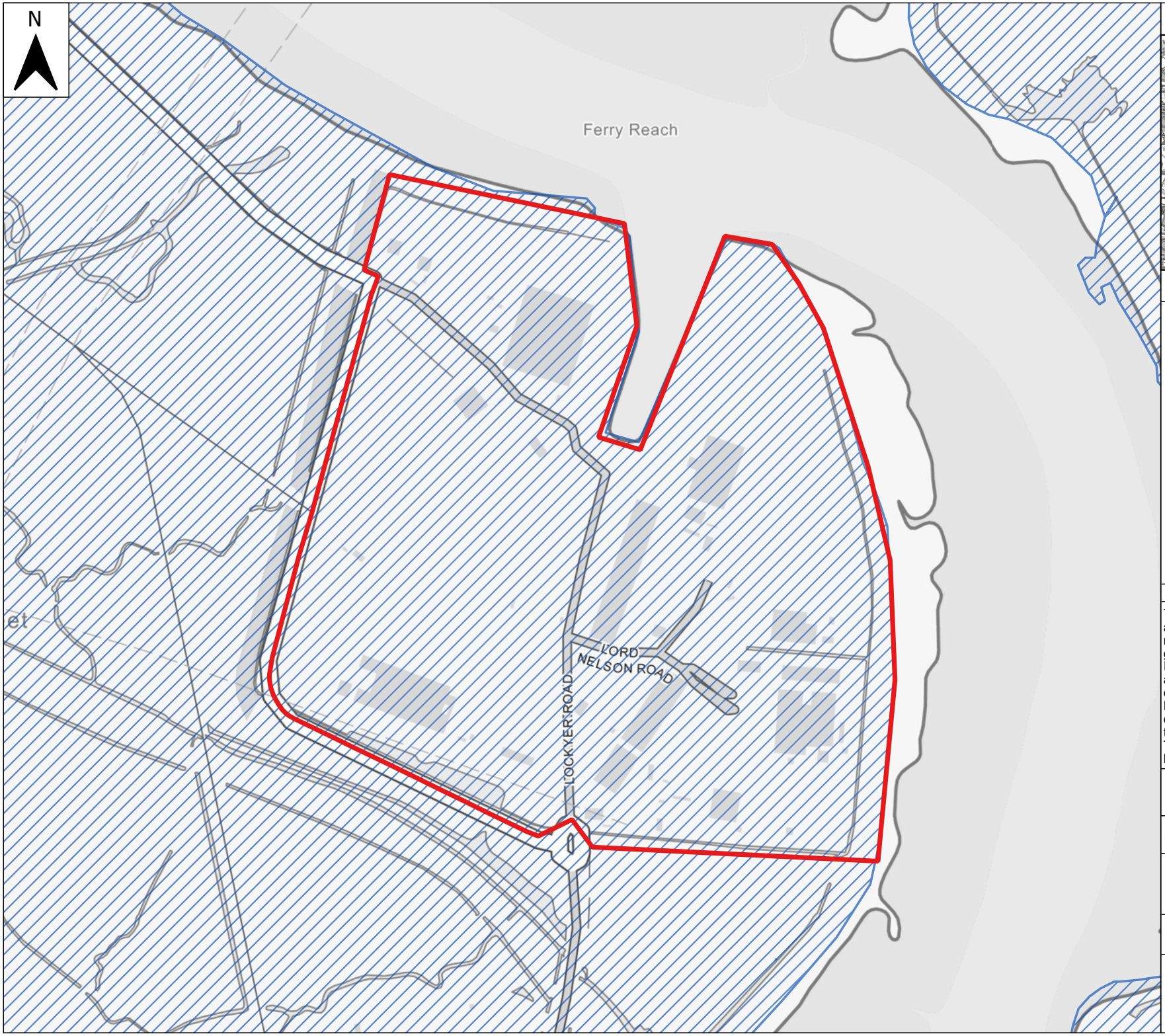
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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
TOPOGRAPHY - CFS24

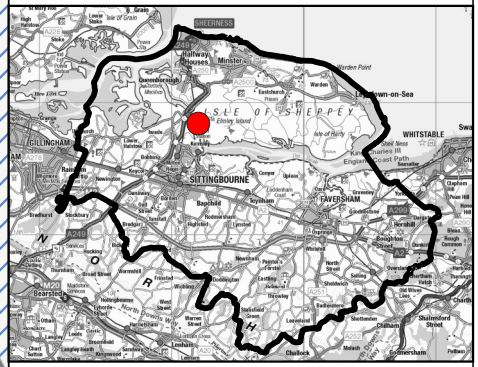
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

Environment Agency recorded flood outlines

- Main Rivers
- Sea

Notes

The Historic Flood Map shows the recorded flood outlines available from the Environment Agency. The dataset records historical flooding from rivers, the sea, groundwater and surface water.
It is possible that the pattern of flooding has changed and area would now flood or not flood under different circumstances.
Please note that not all historical records may be shown on this map, and that it is therefore advised you contact the Environment Agency for updated information.
The map does not include recorded incidents of flooding held by Kent County Council or Southern Water.

0 100 200 m

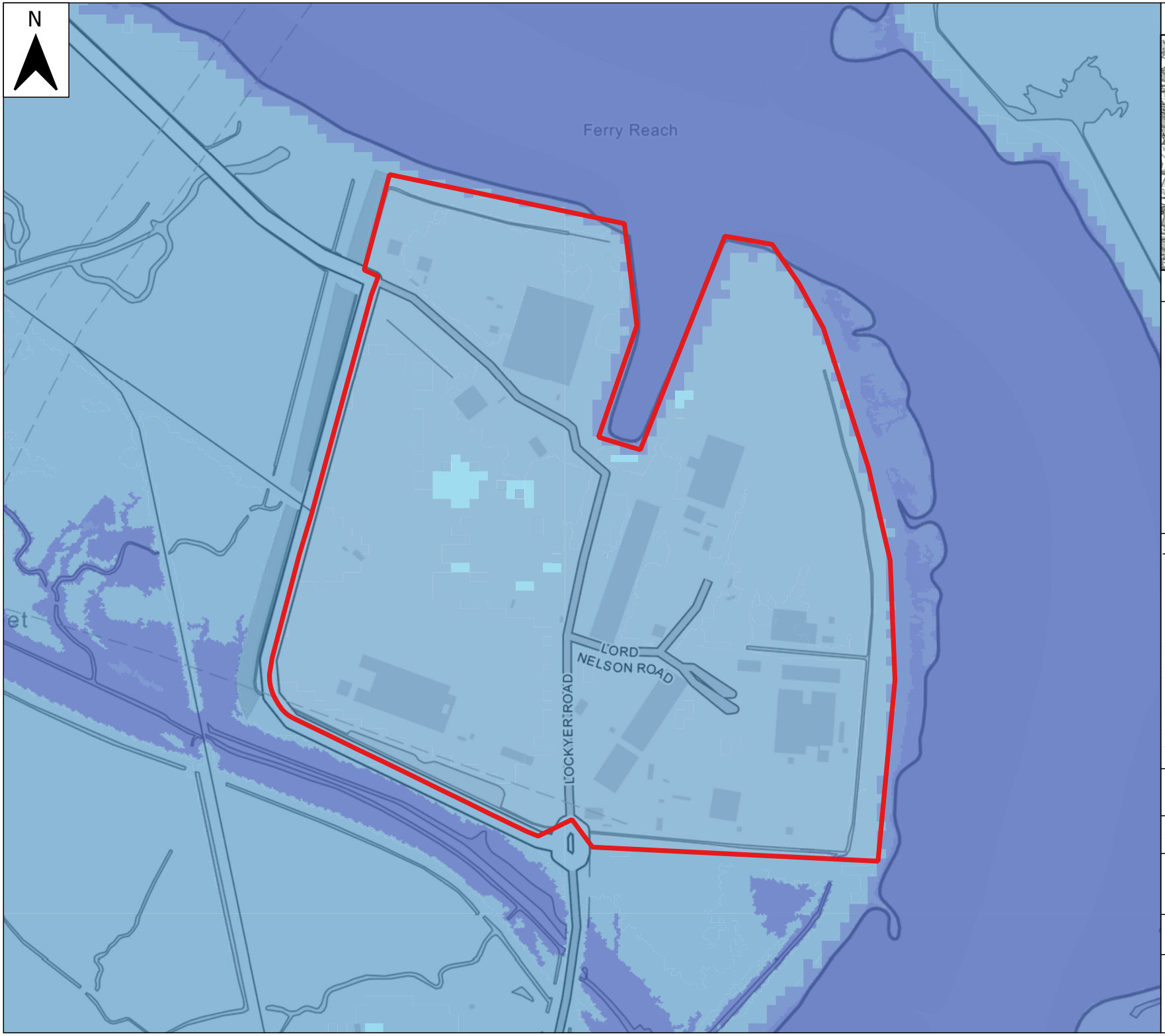
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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
HISTORIC FLOODING - CFS24

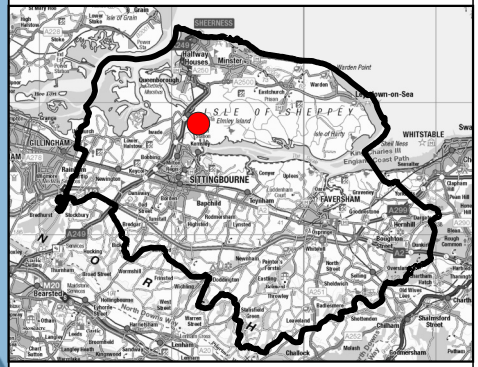
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

Flood Zone

- Flood Zone 2
- Flood Zone 3
- Flood Zone 3b
- Generalised modelling used for Flood Zone 3b

Notes

Flood Zone 1: Land assessed as having a less than 0.1% AEP of river or sea flooding.
Flood Zone 2: Land assessed as having a 0.1% - 1% AEP (1 in 1000-year and 1 in 100-year) of river flooding or a 0.1% - 0.5% AEP (1 in 1000-year and 1 in 200-year) of flooding from the sea.
Flood Zone 3a: Land assessed as having a greater than a 1% AEP (1 in 100-year) of river flooding or a greater than 0.5% AEP (1 in 200-year) of flooding from the sea.
Flood Zone 3b: Land where water has to flow or be stored in times of flood (functional floodplain). The SFRA identifies this Flood Zone as land which floods with an annual probability of 3.3% AEP (1 in 30-year) where detailed modelling exists. Where the 3.3% AEP (1 in 30-year) ouputs are not available, Flood Zone 3a is used as a surrogate as a precautionary approach. If a proposed development is in Flood Zone 3, further analysis should be undertaken in a detailed site specific FRA to define and confirm the extent of Flood Zone 3b.

0 100 200 m

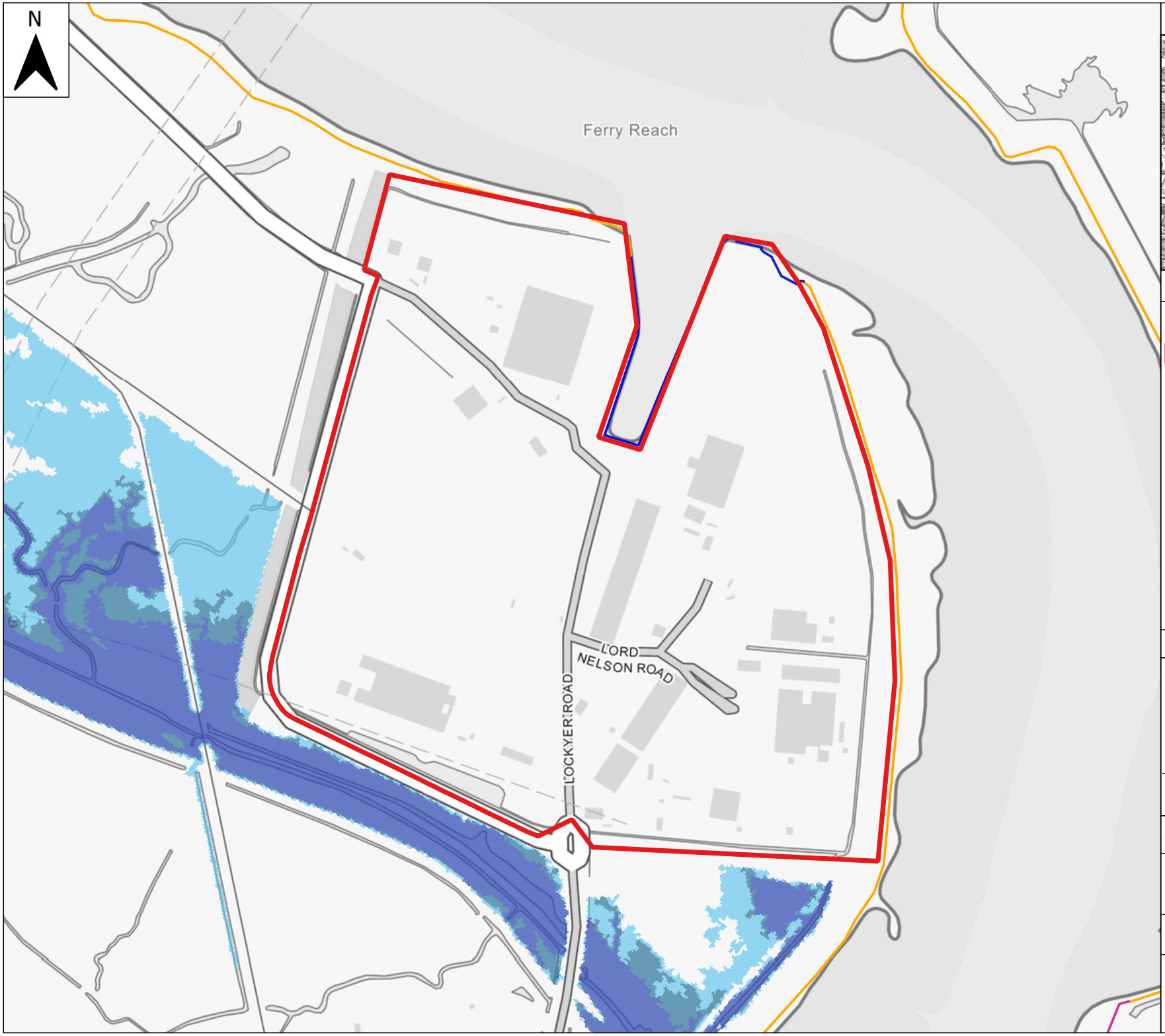
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LEVEL 2 SFRA:
PRESENT DAY FLOOD RISK FROM RIVERS AND SEA (FLOOD ZONES) - CFS24

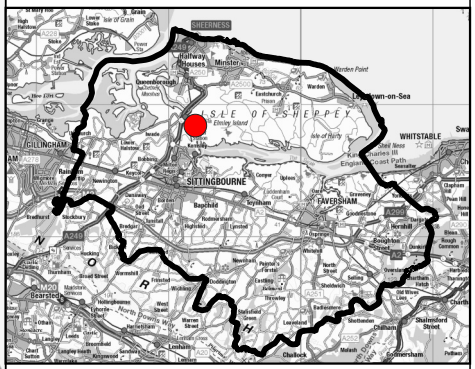
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Location Plan



Legend

- Swale Borough Outline
- Site boundary
- Fluvial events 3.3% AEP (1 in 30-year)
- Fluvial events 1% AEP (1 in 100-year)
- Fluvial events 0.1% AEP (1 in 1000-year)

Environment Agency Flood Defence Types

- Embankment
- Engineered High Ground
- Wall

Notes

Present day 3.3% AEP (1 in 30-year), 1% AEP (1 in 100-year) and 0.1% AEP (1 in 1000-year) flood extents taken from Environment Agency's Scrapsgate Drain, Warden Bay and Iwade Stream fluvial models.

0 100 200 m

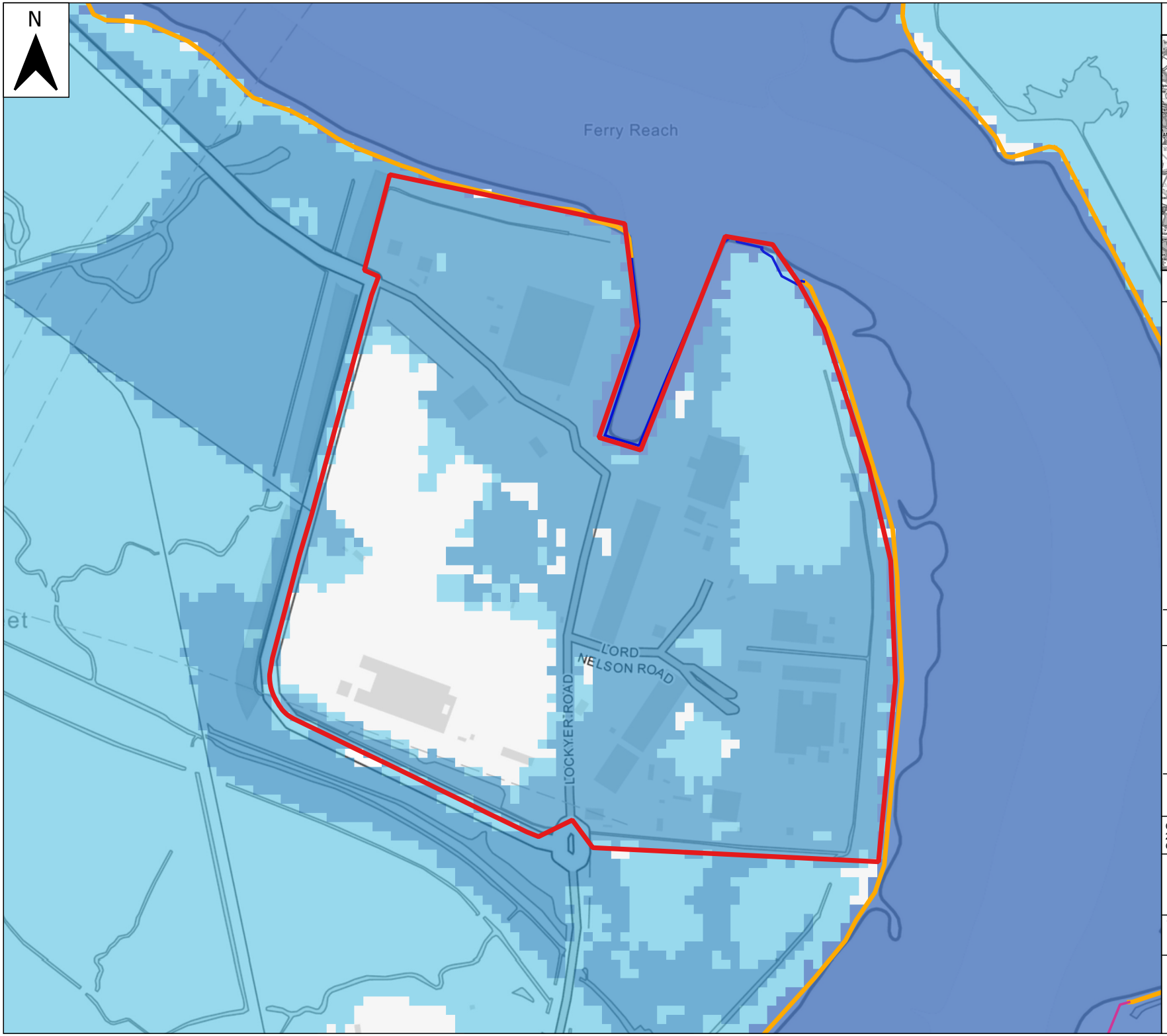
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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
DETAILED MODELS - DEFENDED PRESENT DAY FLUVIAL EXTENT- CFS24

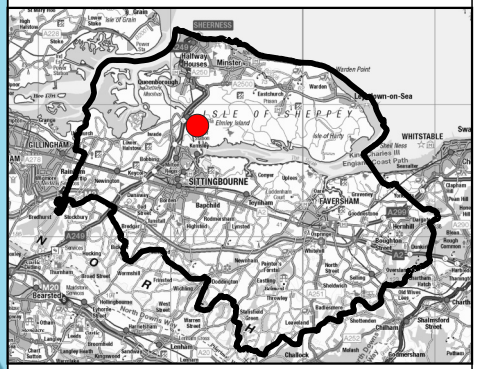
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Location Plan



Legend

- Swale Borough Outline
- Site Boundary
- 3.3% AEP (1 in 30-year)
- 0.5% AEP (1 in 200-year)
- 0.1% AEP (1 in 1000-year)

EA Flood Defence Types

- Embankment
- Engineered High Ground
- Wall

Notes

Present day extents for the North Kent Coast modelling study shows the tidal and coastal flood risk for the 3.3% AEP (1 in 30-year) defended flood event and 0.5% AEP (1 in 200-year) and 0.1% (1 in 1000-year) defended flood events.

0 100 200 m

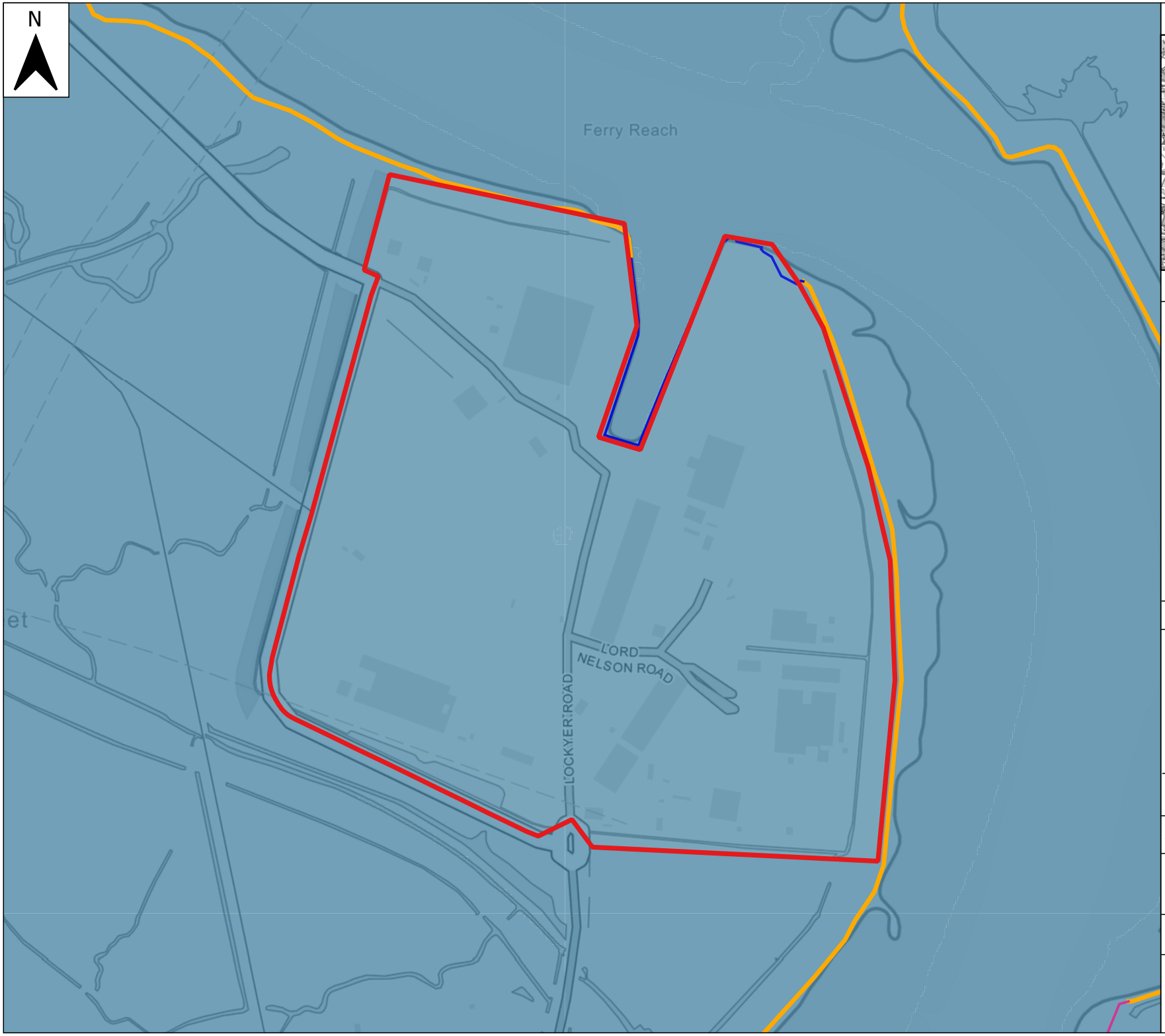
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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
NORTH KENT COAST MODEL - DEFENDED PRESENT DAY TIDAL EXTENT - CFS24

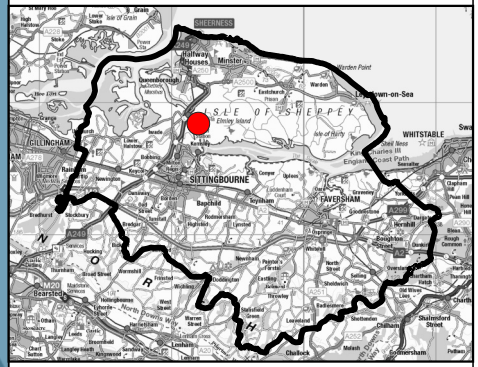
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Location Plan



Legend

- Swale Borough Outline
- Site Boundary
- 1% AEP (1 in 100-year) and 0.1% AEP (1 in 1000-year) undefended extents under the 2125 year climate change scenario

EA Flood Defence Types

- Embankment
- Engineered High Ground
- Wall

Notes

The Flood Zone plus Climate Change mapping was produced by combining the Flood Zone 2 and Flood Zone 3 extents with the relevant climate change allowances to illustrate the potential future flood risk to the area. This represents an undefended scenario, meaning that existing flood defences are not considered in the modelling. For further information on this flood extent dataset, please refer to the guidance available on:

https://environment.data.gov.uk/dataset/59065c43-257e-4867-8798-fd2366156a6b;

0 100 200 m

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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
FUTURE FLOOD RISK FROM RIVERS AND SEA - FLOOD MAP FOR PLANNING- CFS24

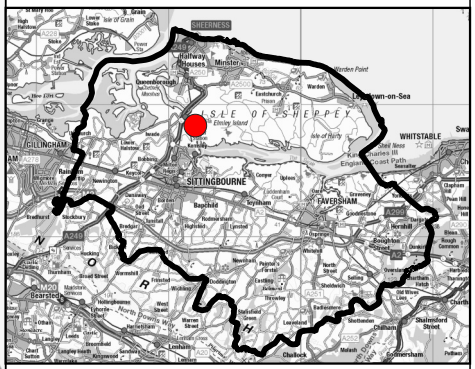
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Location Plan



Legend

- Swale Borough Outline
- Site boundary
- 1% AEP (1 in 100-year) plus 22% climate change allowance
- 0.1% AEP (1 in 1000-year) plus 22% climate change allowance

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Future fluvial modelling for the Iwade, Scrapsgate Drain and Warden Bay have been run with the most up to date climate change allowances, applying the Central 22% allowance for the 2070 and 2125 epochs within the North Kent Management Catchment.

0 100 200 m

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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
FUTURE FLOOD RISK FROM RIVERS - DETAILED RIVER MODELS - CFS24

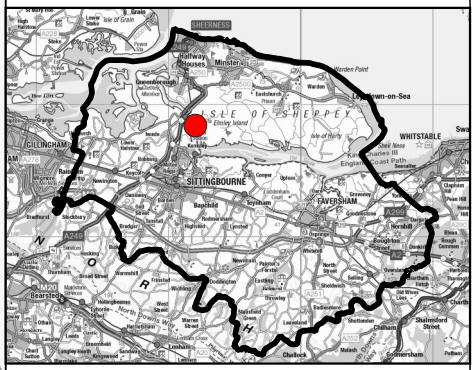
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Location Plan



Legend

Swale Borough Outline

Site boundary

1% AEP (1 in 100-year) plus 22% climate change flood depth (m)

- 0.00 - 0.10
- 0.10 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- > 2.50

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Future fluvial modelling for the Iwade, Scrapsgate Drain and Warden Bay have been run with the most up to date climate change allowances, applying the Central 22% allowance for the 2070 epoch within the North Kent Management Catchment.

0 100 200 m

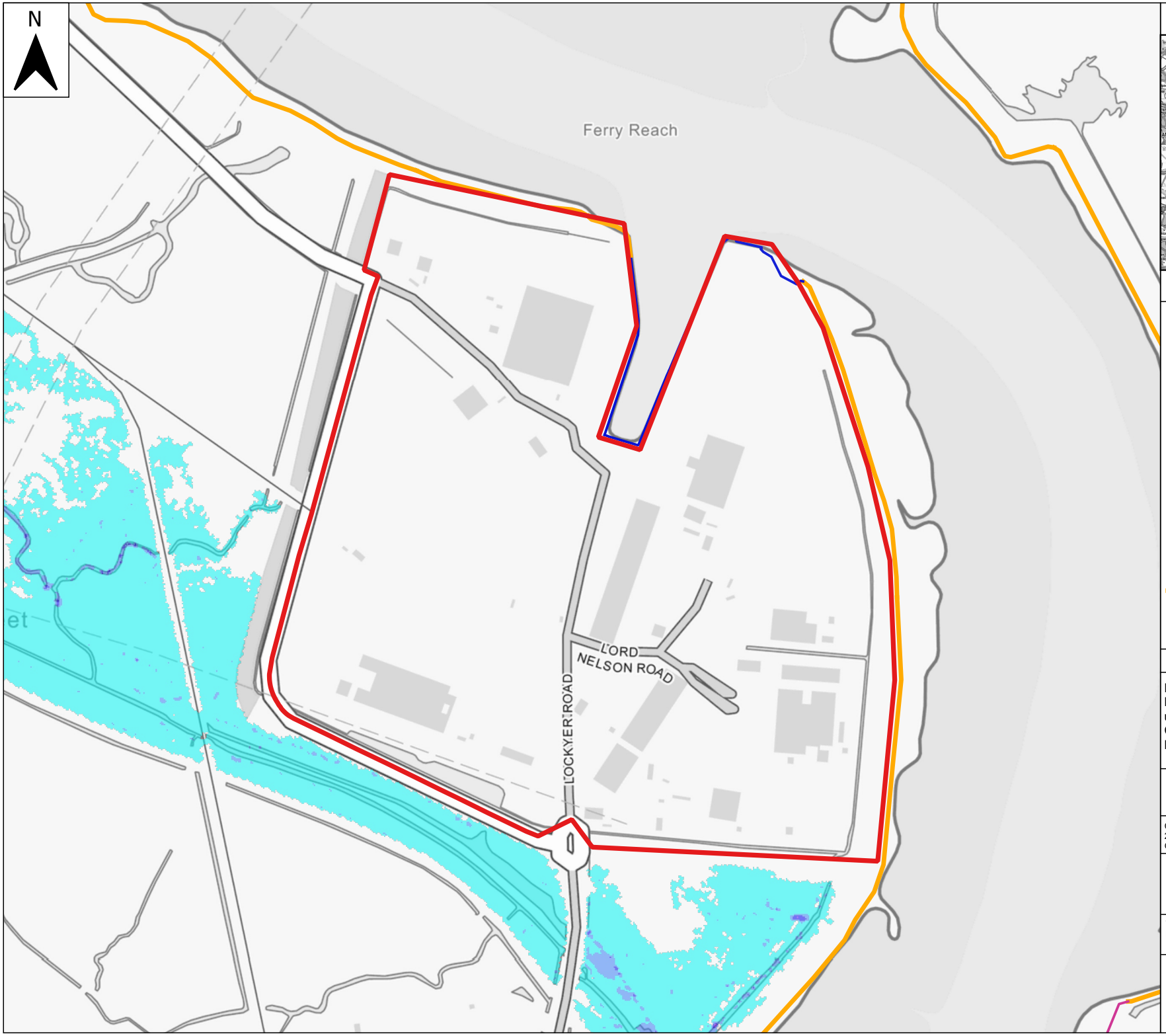
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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
FUTURE FLOOD RISK FROM RIVERS - DETAILED RIVER MODEL DEPTHS - CFS24

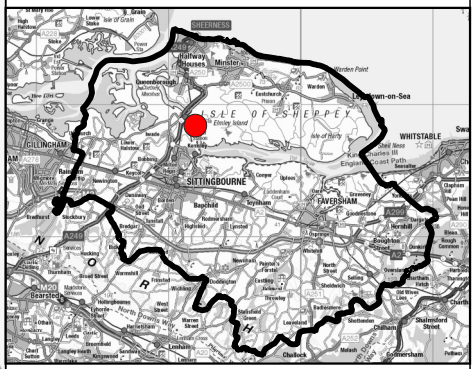
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

1% AEP (1 in 100-year) plus 22% climate change flood velocity (m/s)

- 0.0 - 0.2
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 2.0
- > 2.0

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Future fluvial modelling for the Iwade, Scrapsgate Drain and Warden Bay have been run with the most up to date climate change allowances, applying the Central 22% allowance for the 2070 epoch within the North Kent Management Catchment.

0 100 200 m

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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
FUTURE FLOOD RISK FROM RIVERS - DETAILED RIVER MODEL VELOCITY - CFS24

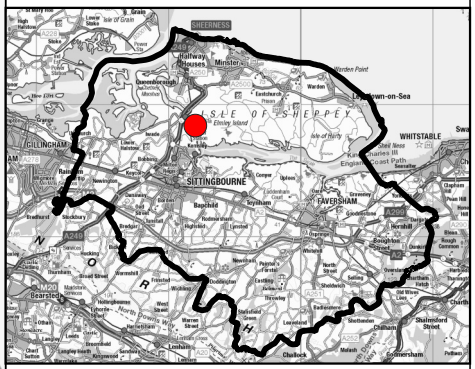
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

1% AEP (1 in 100-year) plus 22% climate change flood hazard classification

- No hazard
- Very low hazard - Caution
- Danger for some
- Danger for most
- Danger for all

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Future fluvial modelling for the Iwade, Scrapsgate Drain and Warden Bay have been run with the most up to date climate change allowances, applying the Central 22% allowance for the 2070 epoch within the North Kent Management Catchment.

0 100 200 m

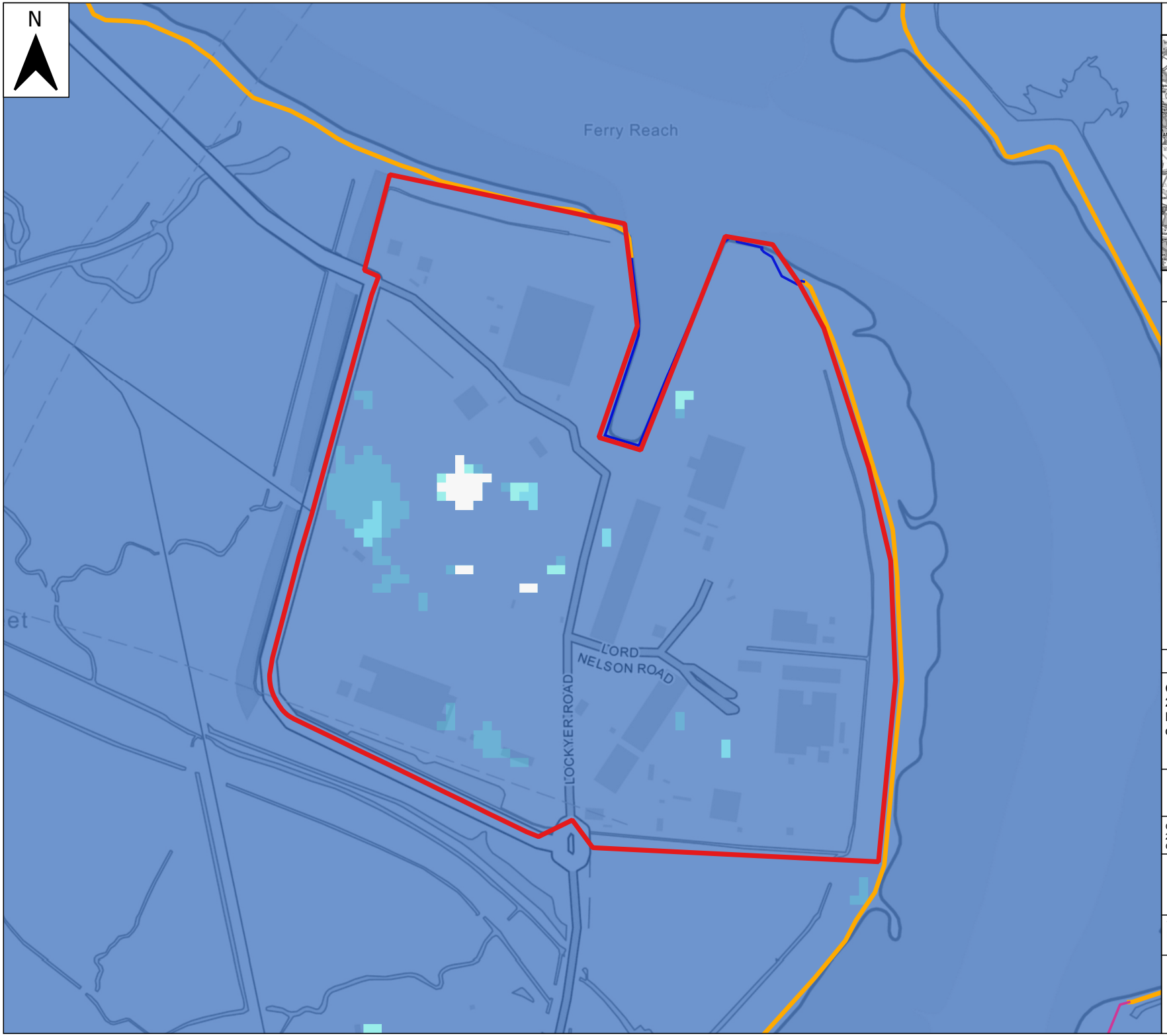
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LEVEL 2 SFRA:
FUTURE FLOOD RISK FROM RIVERS - DETAILED RIVER MODEL HAZARD - CFS24

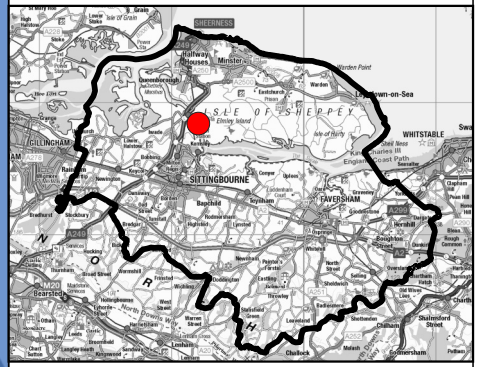
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Location Plan



Legend

- Swale Borough Outline
- Site boundary
- 0.5% AEP (1 in 200-year) 2100 defended (higher central)
- 0.5% AEP (1 in 200-year) 2100 defended (upper end)
- 0.5% AEP (1 in 200-year) 2125 defended (higher central)
- 0.5% AEP (1 in 200-year) 2125 defended (upper end)

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Climate change extents for the 0.5% AEP (1 in 200-year) events with the Higher Central and Upper End estimates (2100 and 2125) are shown. The difference in flood extents are relatively small.

0 100 200 m

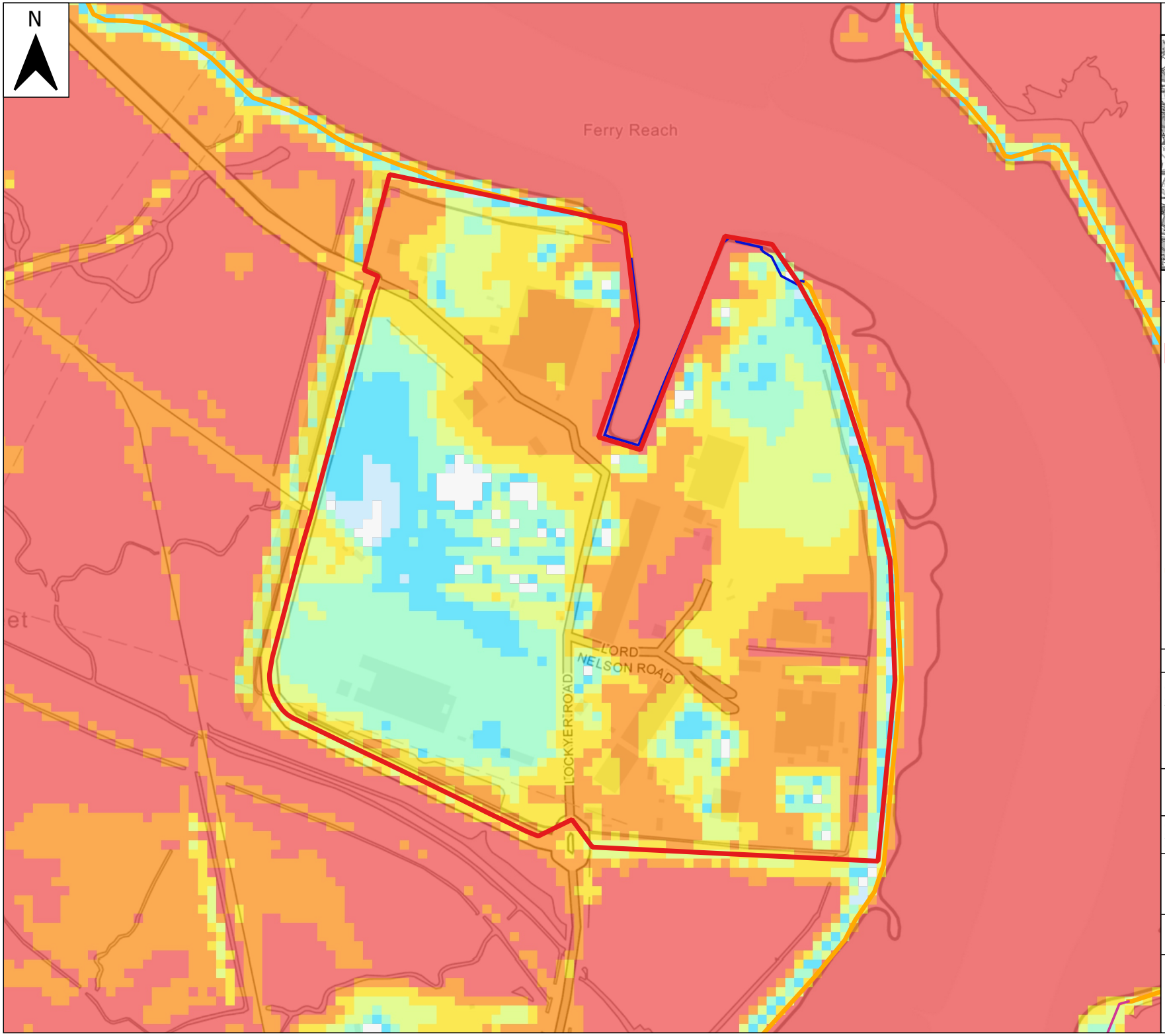
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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
FUTURE FLOOD RISK FROM THE SEA - NORTH KENT COAST MODEL - CFS24

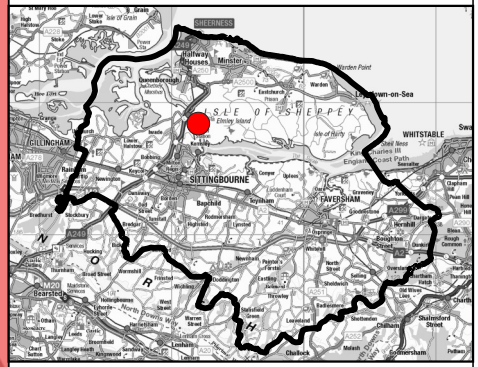
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Location Plan



Legend

Swale Borough Outline

Site boundary

North Kent Coast Model - Defended
0.5% AEP (1 in 200-year) 2100 UE depth (m)

- 0.00 - 0.10
- 0.10 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- > 2.50

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Climate change depths for the 0.5% AEP (1 in 200-year) event with the Upper End estimate (2100) is shown.

0 100 200 m

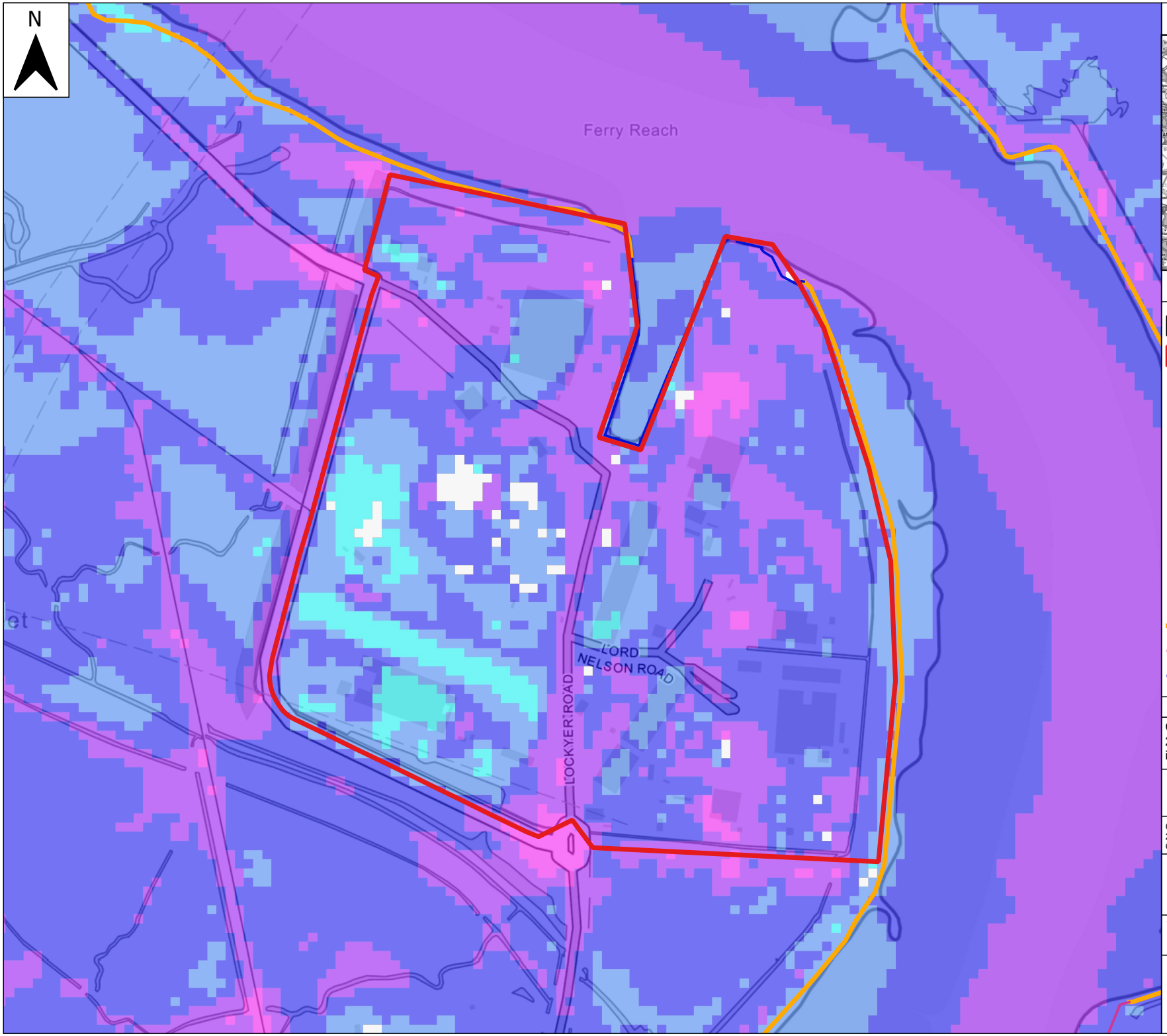
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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
FUTURE FLOOD RISK FROM THE SEA - NORTH KENT COAST MODEL DEPTH - CFS24

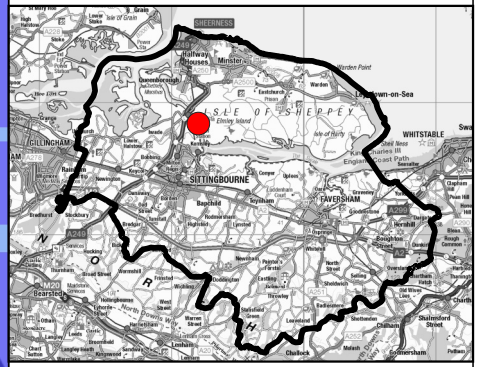
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

North Kent Coast Model - Defended 0.5% AEP (1 in 200-year) 2100 UE Velocity (m/s)

- 0.0 - 0.2
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 2.0
- > 2.0

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Climate change velocity for the 0.5% AEP (1 in 200-year) event with the Upper End estimate (2100) is shown.

0 100 200 m

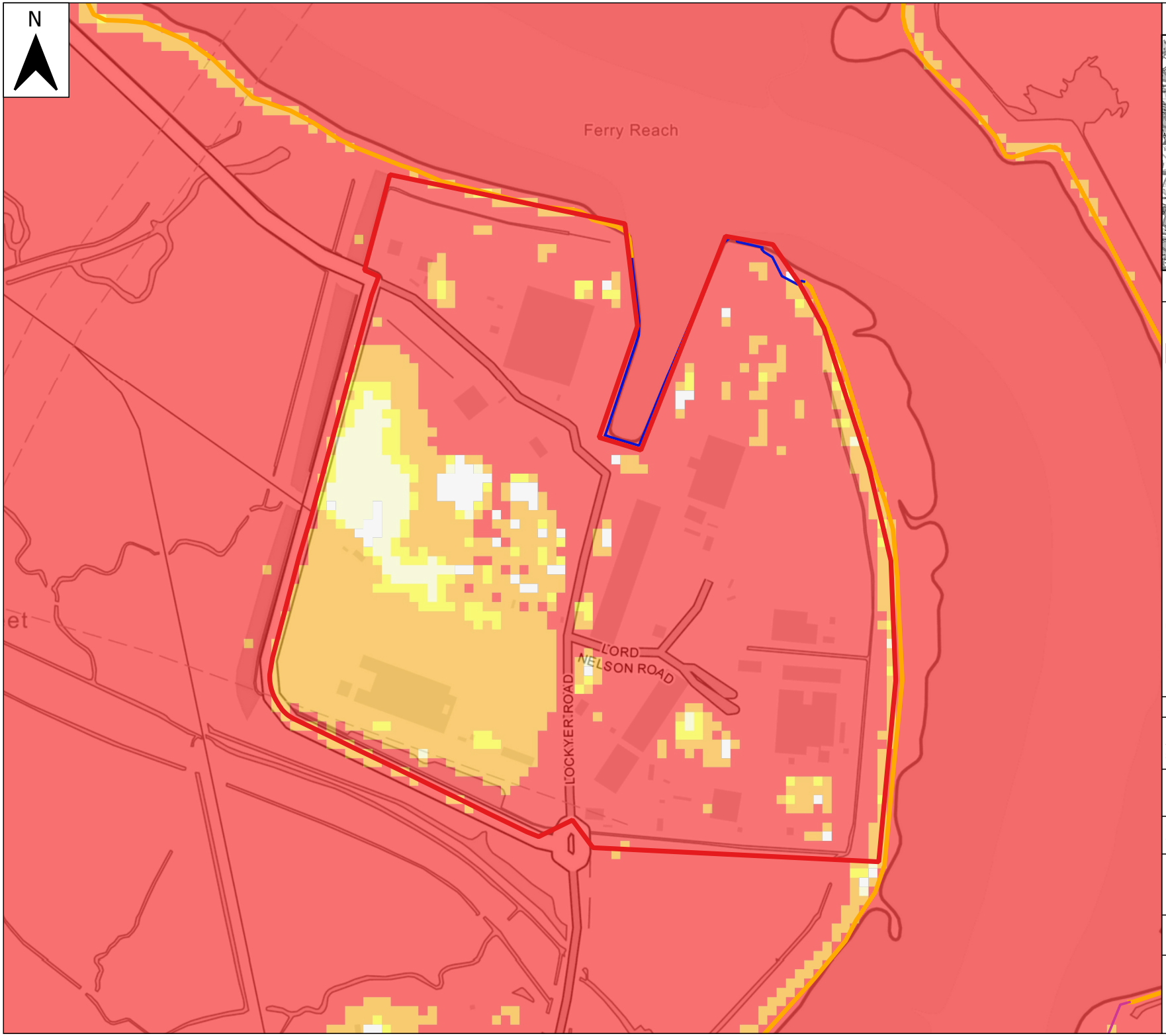
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SWALE BOROUGH COUNCIL
LEVEL 2 SFRA:
FUTURE FLOOD RISK FROM THE SEA - NORTH KENT COAST MODEL VELOCITY - CFS24

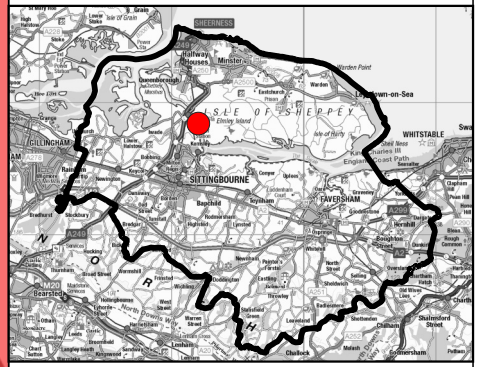
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Making Swale a better place



Location Plan



Legend

- Swale Borough Outline
- Site boundary

North Kent Coast Model - Defended 0.5% AEP (1 in 200-year) 2100 UE hazard classification

- No hazard
- Very low hazard - Caution
- Danger for some
- Danger for most
- Danger for all

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Climate change hazard for the 0.5% AEP (1 in 200-year) event with the Upper End estimate (2100) is shown.

0 100 200 m

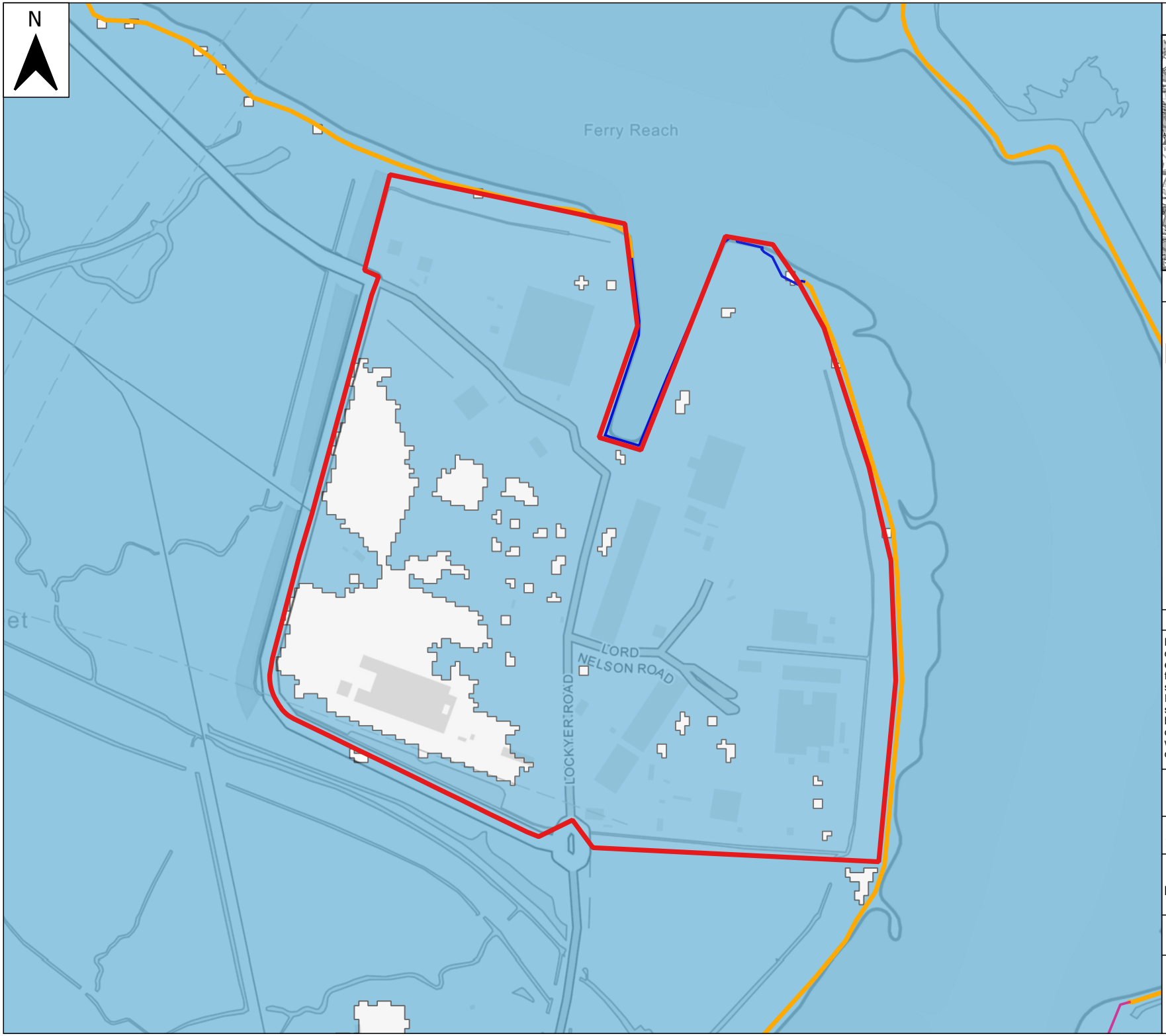
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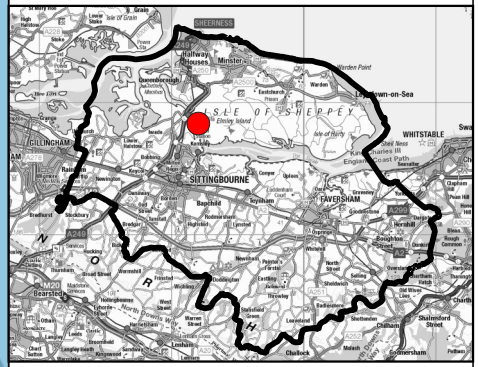
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Location Plan



Legend

- Swale Borough Outline
- Site boundary
- North Kent Coast Model - 0.5% AEP (1 in 200-year) 2075 UE Breach Extent

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Breach modelling is a hydraulic approach used to simulate the failure or overtopping of a flood defence, such as a flood wall or embankment, during a given flood event. It assesses how such a failure would influence flood extents and the potential impacts on surrounding areas.
In the North Kent Coast Model, breach modelling was carried out at several locations. The results presented here relate to all of the breaches, which represent simulated failures of surrounding defences during the climate change 0.5% AEP (1 in 200-year) event with the Upper End estimate (2075), illustrating the predicted extent of flooding under these conditions.

0 100 200 m

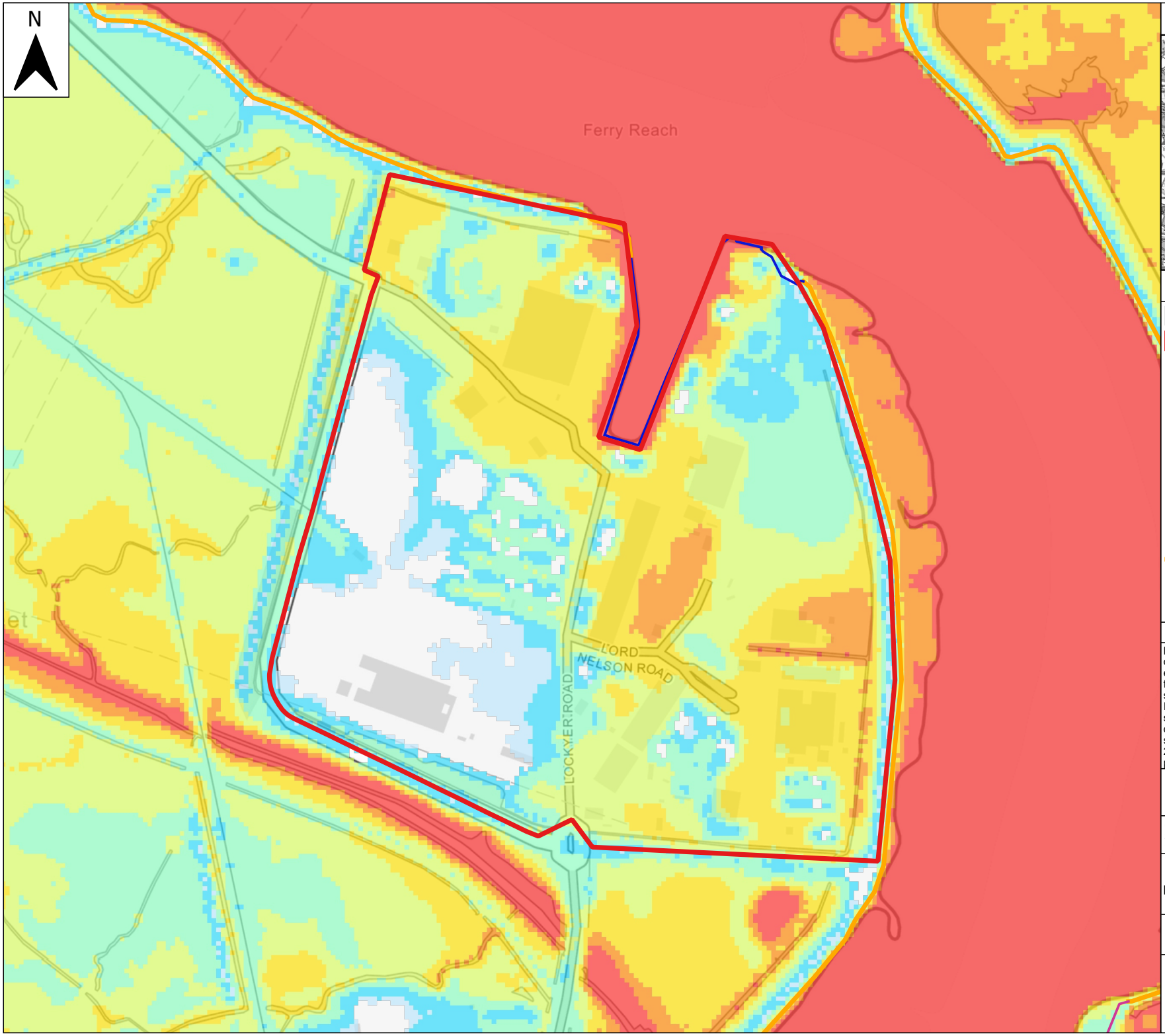
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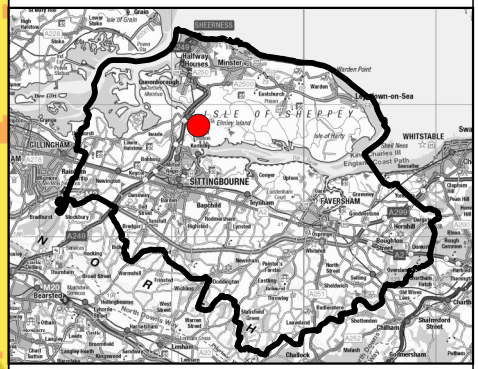
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

North Kent Coast Model - 0.5% AEP (1 in 200-year) 2075 UE Breach Depth (m)

- 0.00 - 0.10
- 0.10 - 0.50
- 0.50 - 1.00
- 1.00 - 1.50
- 1.50 - 2.00
- 2.00 - 2.50
- > 2.50

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Breach modelling is a hydraulic approach used to simulate the failure or overtopping of a flood defence, such as a flood wall or embankment, during a given flood event. It assesses how such a failure would influence flood extents and the potential impacts on surrounding areas.
In the North Kent Coast Model, breach modelling was carried out at several locations. The results presented here relate to the maximum depth of all the breaches, which represent simulated failures of surrounding defences during the climate change 0.5% AEP (1 in 200-year) event with the Upper End estimate (2075), illustrating the predicted depth of flooding under these conditions.

0 100 200 m

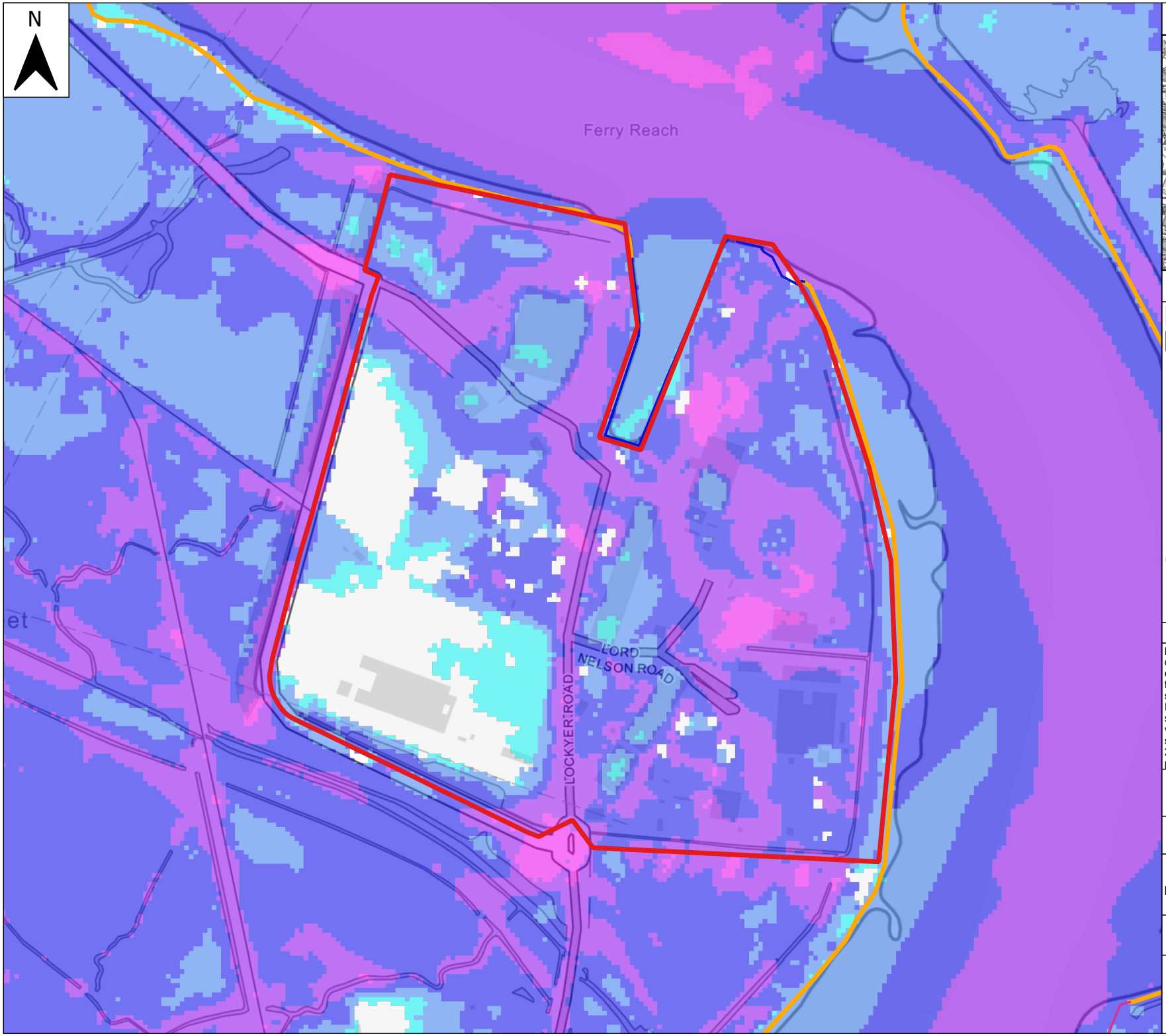
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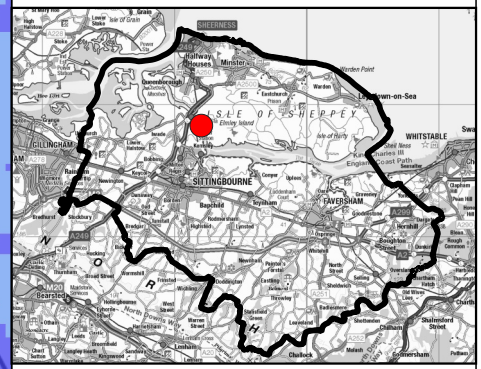
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

North Kent Coast Model - 0.5% AEP (1 in 200-year) 2075 UE Breach Velocity (m/s)

- 0.0 - 0.2
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 2.0
- > 2.0

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Breach modelling is a hydraulic approach used to simulate the failure or overtopping of a flood defence, such as a flood wall or embankment, during a given flood event. It assesses how such a failure would influence flood extents and the potential impacts on surrounding areas.
In the North Kent Coast Model, breach modelling was carried out at several locations. The results presented here relate to the maximum velocity of all the breaches, which represent simulated failures of surrounding defences during the climate change 0.5% AEP (1 in 200-year) event with the Upper End estimate (2075), illustrating the predicted velocity of flooding under these conditions.

0 100 200 m

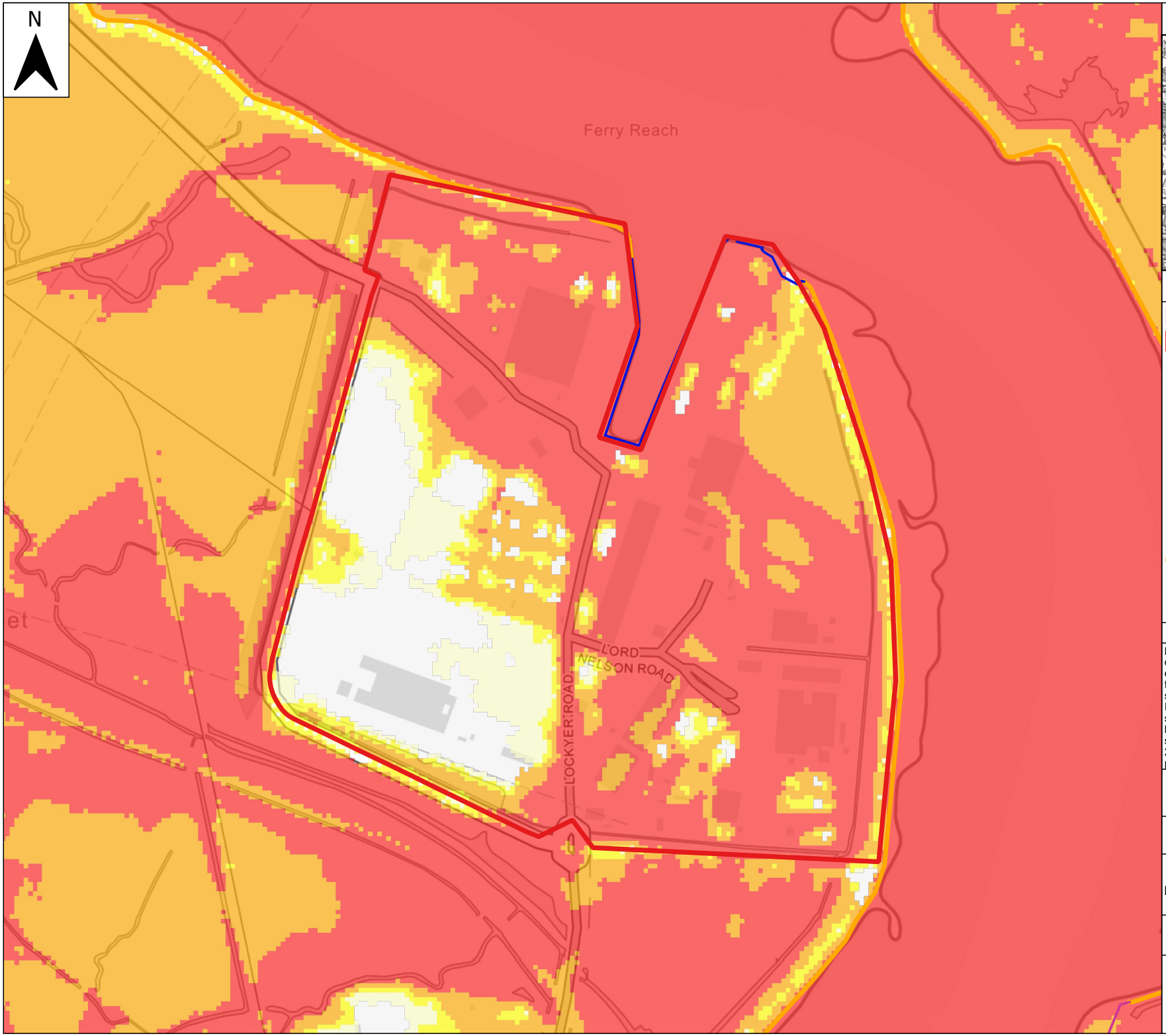
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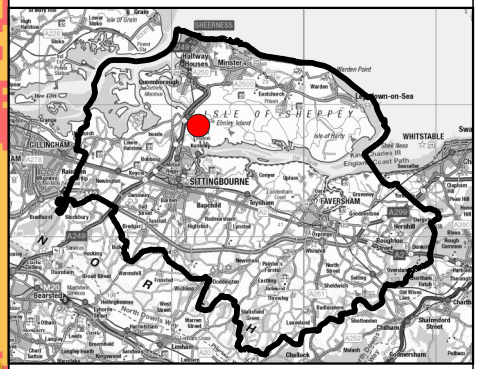
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

North Kent Coast Model - 0.5% AEP (1 in 200-year) 2075 UE Breach Hazard Classification

- No hazard
- Danger for all
- Very low hazard - Caution
- Danger for some
- Danger for most

EA Flood Defences Types

- Embankment
- Engineered High Ground
- Wall

Notes

Breach modelling is a hydraulic approach used to simulate the failure or overtopping of a flood defence, such as a flood wall or embankment, during a given flood event. It assesses how such a failure would influence flood extents and the potential impacts on surrounding areas.
In the North Kent Coast Model, breach modelling was carried out at several locations. The results presented here relate to the maximum hazard of all the breaches, which represent simulated failures of surrounding defences during the climate change 0.5% AEP (1 in 200-year) event with the Upper End estimate (2075), illustrating the predicted hazard of flooding under these conditions.

0 100 200 m

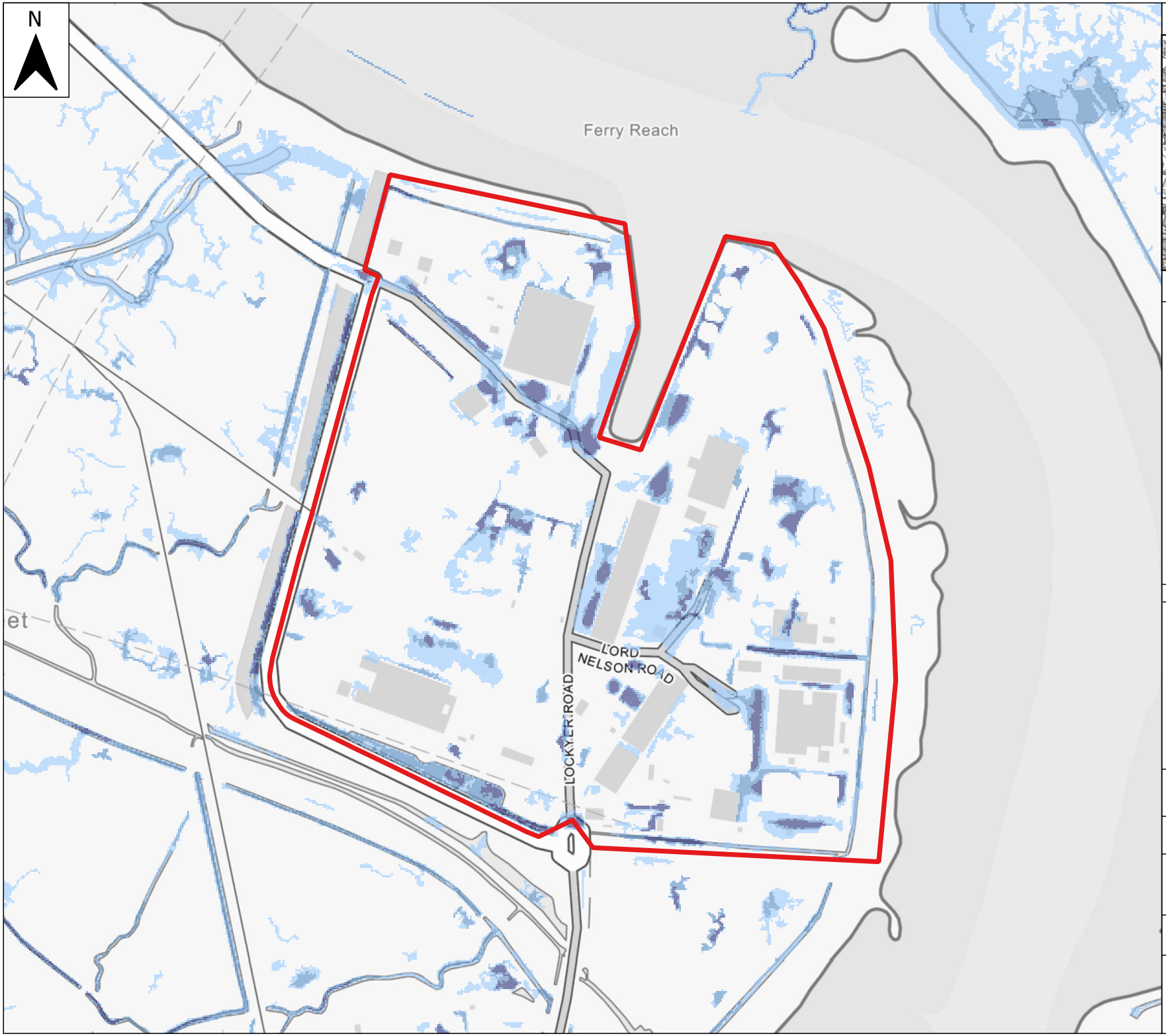
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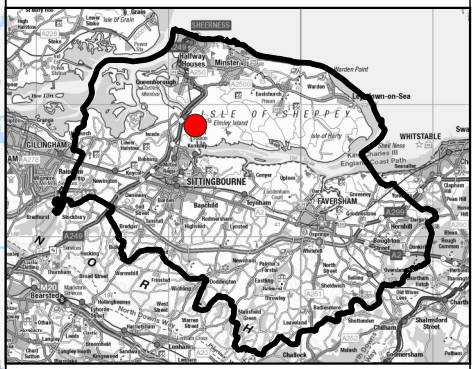
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

FMfP - Surface Water Spatial Planning Extents

- 3.3% AEP (1 in 30-year)
- 1% AEP (1 in 100-year)
- 0.1% AEP (1 in 1000-year)

Notes

The Flood Map for Planning Service includes several layers of information. This includes Surface Water Spatial Planning Extents. These datasets show the extent of land at risk of flooding from surface water to a defined annual exceedance probability (AEP) or chance of flooding each year.
These datasets are designed to only give an indication of flood risk to an area of land and are not suitable for showing whether an individual property is at risk of flooding.

0 100 200 m

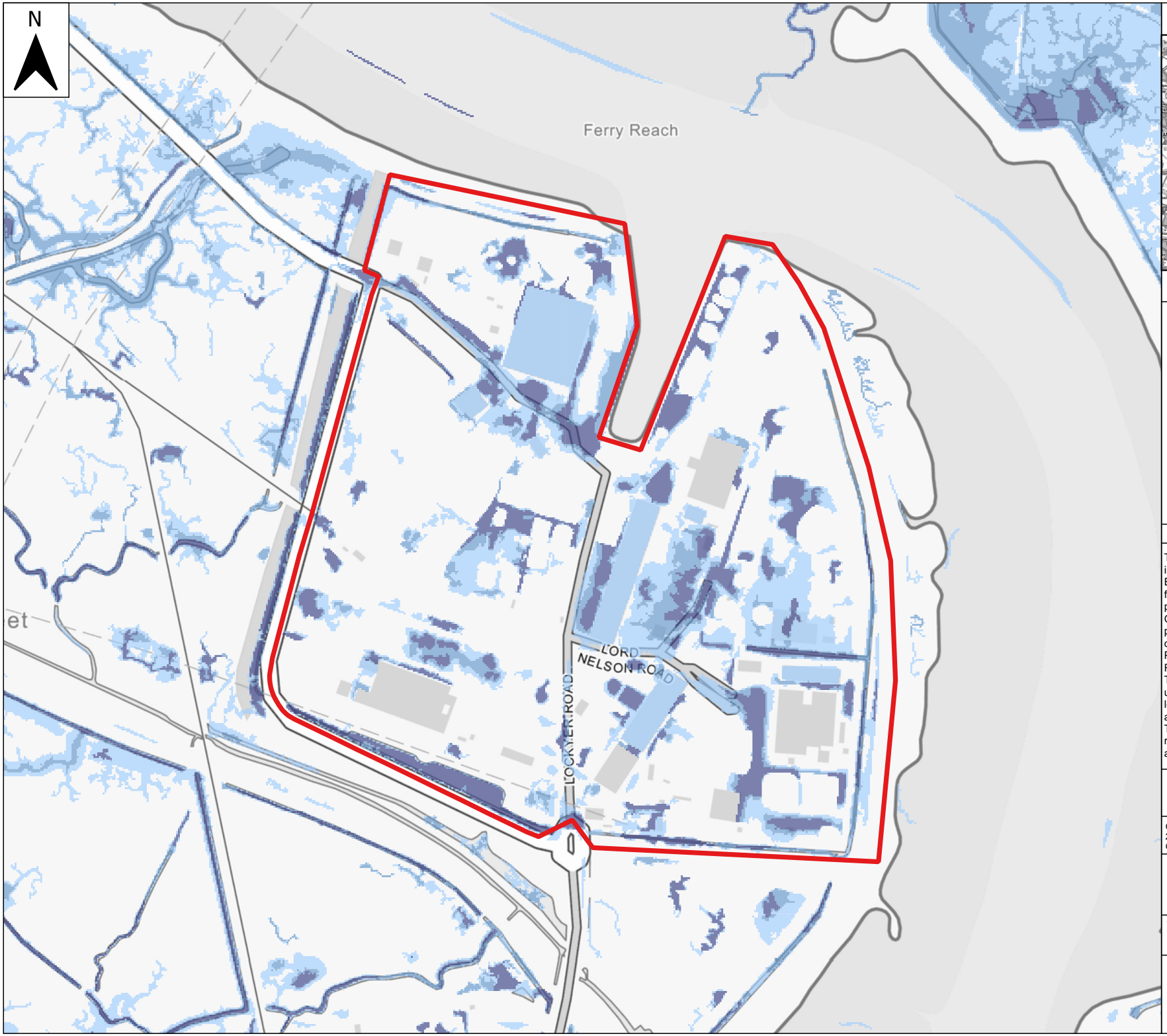
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SURFACE WATER FLOODING - CFS24

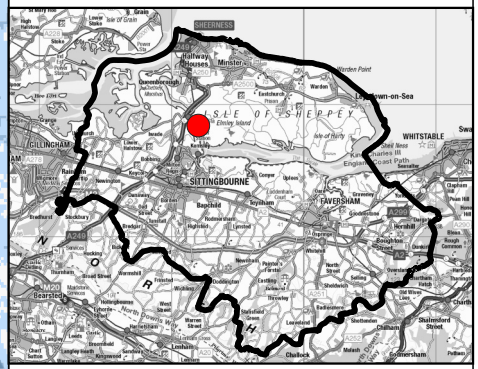
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

FMfP - Surface Water Spatial Planning Extents plus climate change

- 3.3% AEP (1 in 30-year) plus CC
- 1% AEP (1 in 100-year) plus CC
- 0.1% AEP (1 in 1000-year) plus CC

Notes

The Flood Map for Planning Service includes several layers of information. This includes Surface Water Spatial Planning Extents. These datasets show the extent of land at risk of flooding from surface water to a defined annual exceedance probability (AEP) or chance of flooding each year.
Climate change scenarios have been produced to indicate the predicted impacts of climate change on future flood risk. The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5.
The 'Upper End' for the 2070s epoch (2061-2125) has been used for the climate change scenarios. We have chosen long-term epochs appropriate to support long-term planning and development decisions.
These datasets are designed to only give an indication of flood risk to an area of land and are not suitable for showing whether an individual property is at risk of flooding.

0 100 200 m

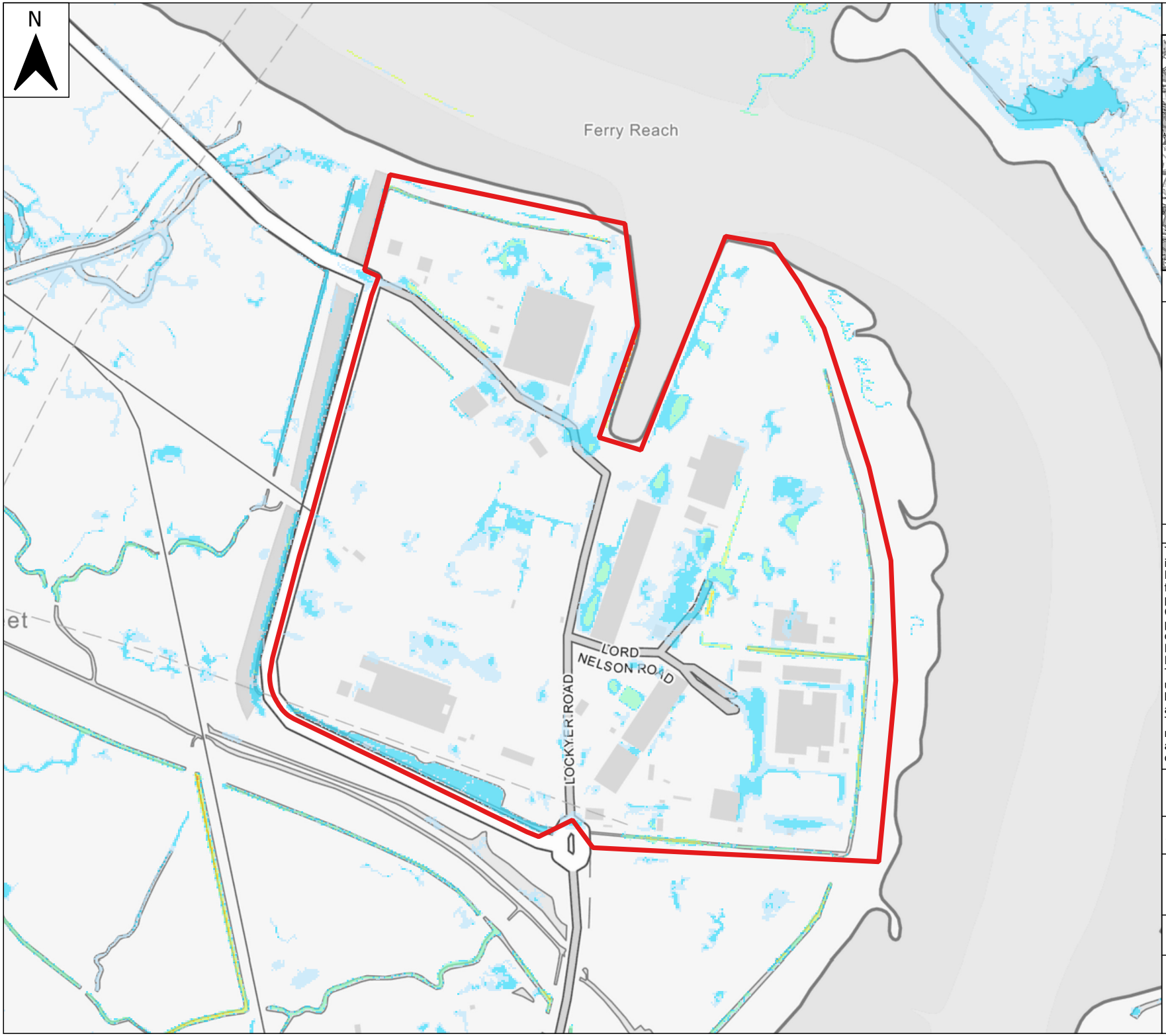
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SURFACE WATER FLOODING PLUS CLIMATE CHANGE - CFS24

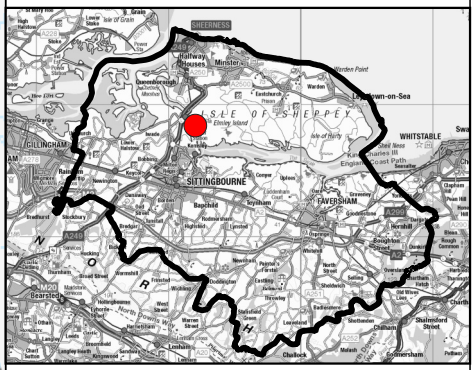
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

FMfP Surface Water Spatial Planning Depths
1% AEP (1 in 100-year) plus climate change

- <150mm
- 150-300mm
- 300-600mm
- 600-900mm
- 900-1200mm
- 1200-2300mm
- >2300mm

Notes

The Flood Map for Planning Service includes several layers of information. This includes Surface Water Spatial Planning Extents. These datasets show the extent of land at risk of flooding from surface water to a defined annual exceedance probability (AEP) or chance of flooding each year.
Climate change scenarios have been produced to indicate the predicted impacts of climate change on future flood risk. The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5.
The 'Upper End' for the 2070s epoch (2061-2125) has been used for the climate change scenarios. We have chosen long-term epochs appropriate to support long-term planning and development decisions.
These datasets are designed to only give an indication of flood risk to an area of land and are not suitable for showing whether an individual property is at risk of flooding. This is because we cannot know all the details about each property.

0 100 200 m

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SURFACE WATER FLOODING PLUS CLIMATE CHANGE DEPTHS - CFS24

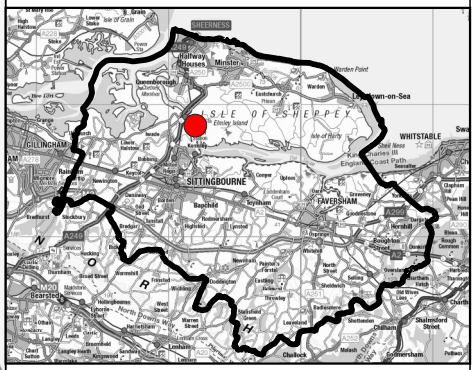
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

JBA Groundwater Flood Map Depths

- Groundwater levels are either at or very near (within 0.025m of) the ground surface.
- Groundwater levels are between 0.025m and 0.5m below the ground surface.
- Groundwater levels are between 0.5m and 5m below the ground surface.
- Groundwater levels are at least 5m below the ground surface.
- Low risk.

Notes

The modelled groundwater levels are not predictions of typical groundwater levels, rather they are flood levels. The 5m resolution JBA Groundwater Flood Map categorises the head difference (m) between the predicted groundwater levels and the surface level into five feature classes based on the 100-year flood model outputs.

It should be noted that the JBA Groundwater Flood Map is suitable for general broad-scale assessment of the groundwater flood hazard in an area, but is not explicitly designed for the assessment of flood hazard at the scale of a single property.

0 100 200 m

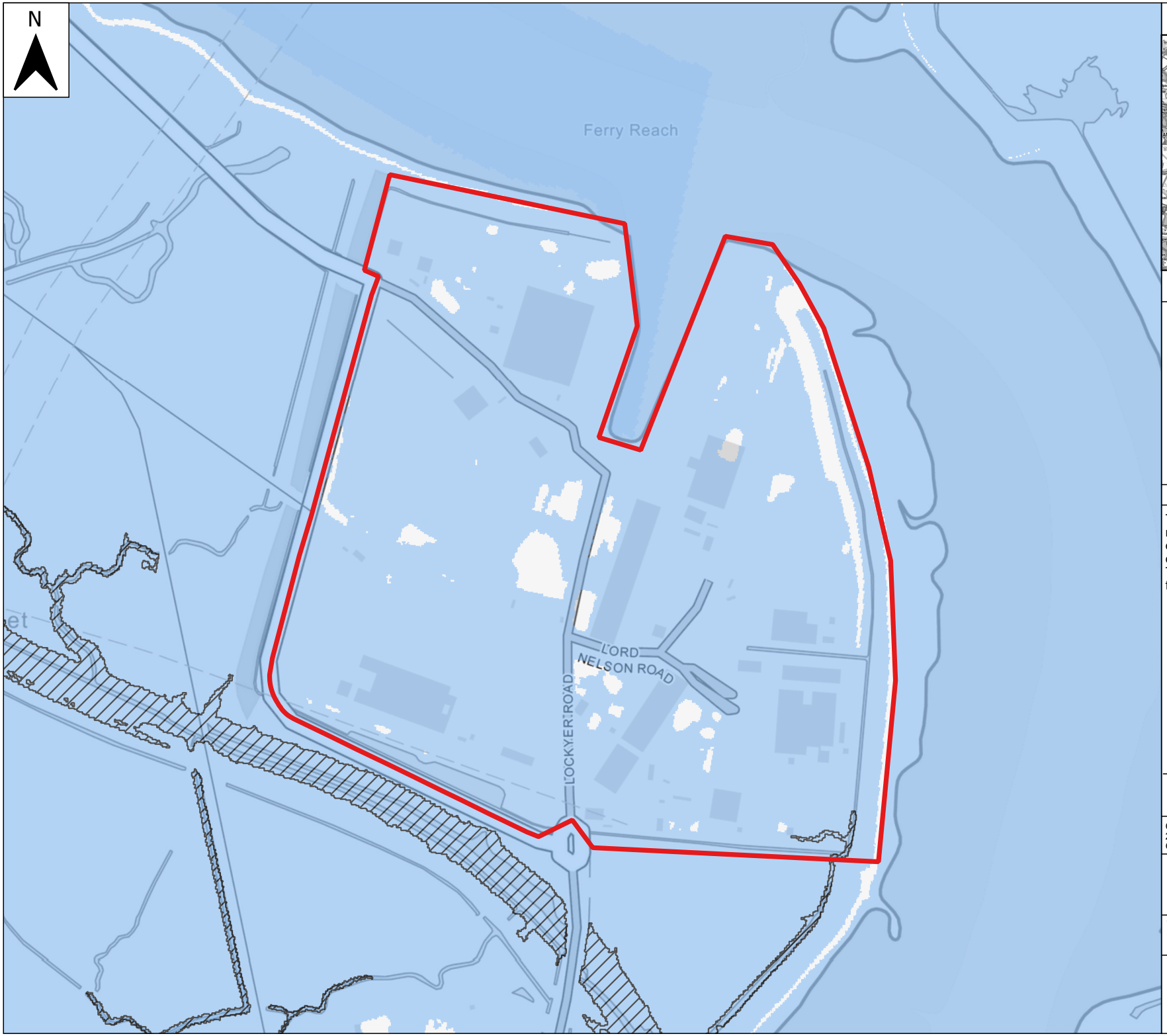
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JBA GROUNDWATER FLOOD MAP - CFS24

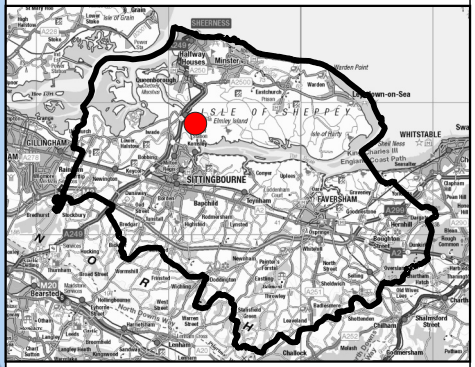
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

Environment Agency Reservoir Flood Extents

- Dry Day
- Wet Day

Notes

The risk of inundation due to reservoir breach or failure of reservoirs within the area has been mapped using the outlines available from the Risk of Flooding from Reservoir dataset, made available by the Environment Agency. The Environment Agency dataset includes areas of sea flooding.

0 100 200 m

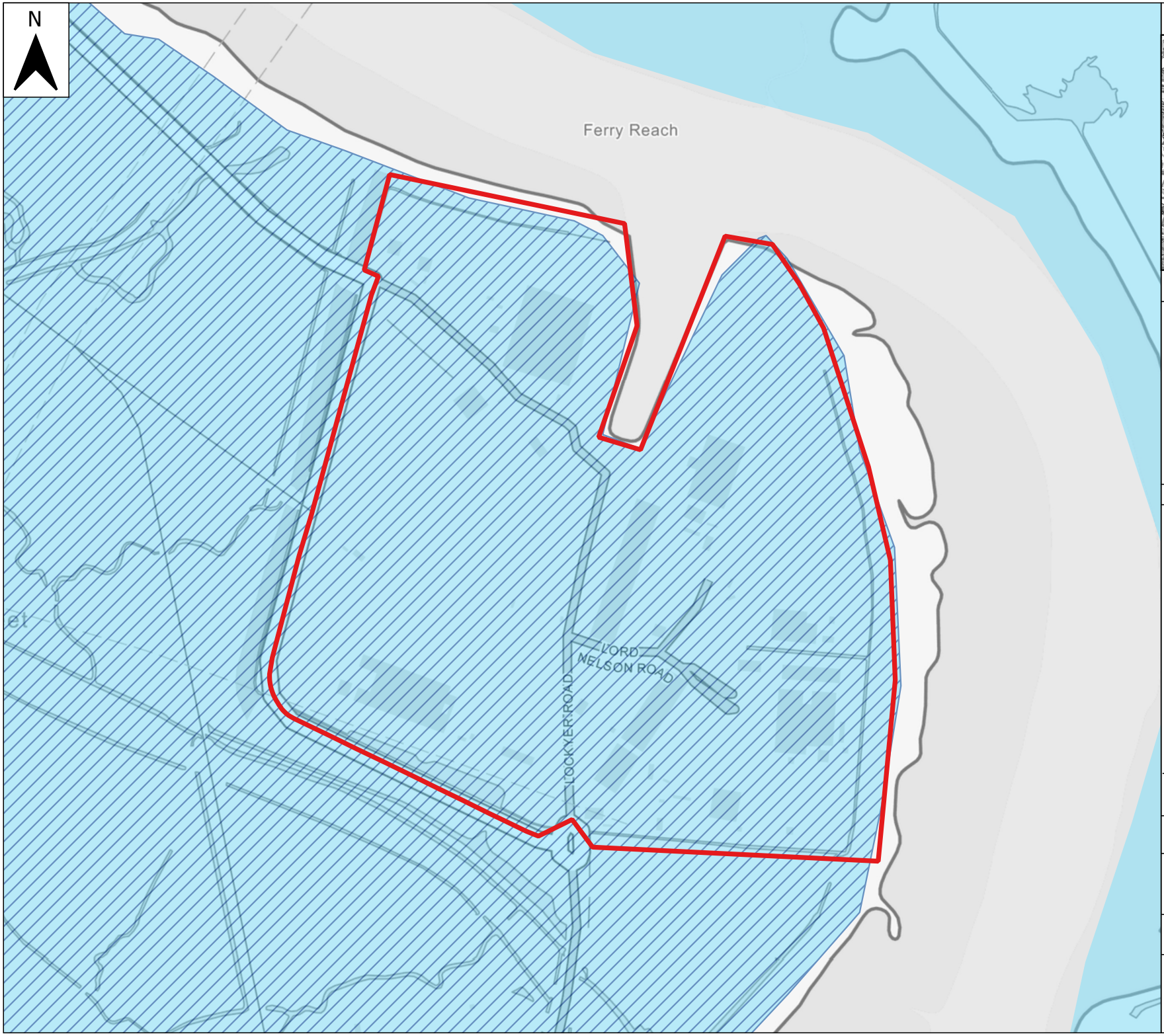
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RISK OF FLOODING FROM RESERVOIRS - CFS24

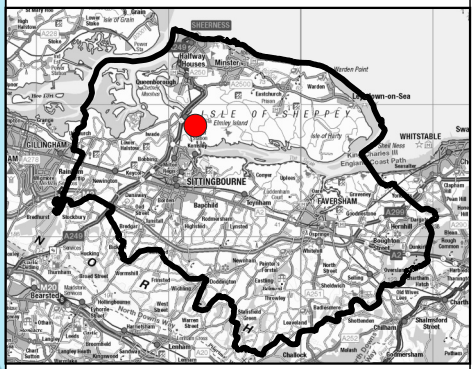
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

Environment Agency Flood Warning and Alerts

- Flood Alert Area
- Flood Warning Area

Notes

Flood Alerts are used by the Environment Agency to warn people of the possibility of flooding and encourage them to be alert, stay vigilant and make early preparations. Flood Alerts are issued earlier than a flood warning to give notice of the possibility of flooding but before the Environment Agency are fully confident that flooding in Flood Warning Areas is expected.

Flood Warnings warn people of expected flooding and encourage them to take action to protect themselves and their property.

0 100 200 m

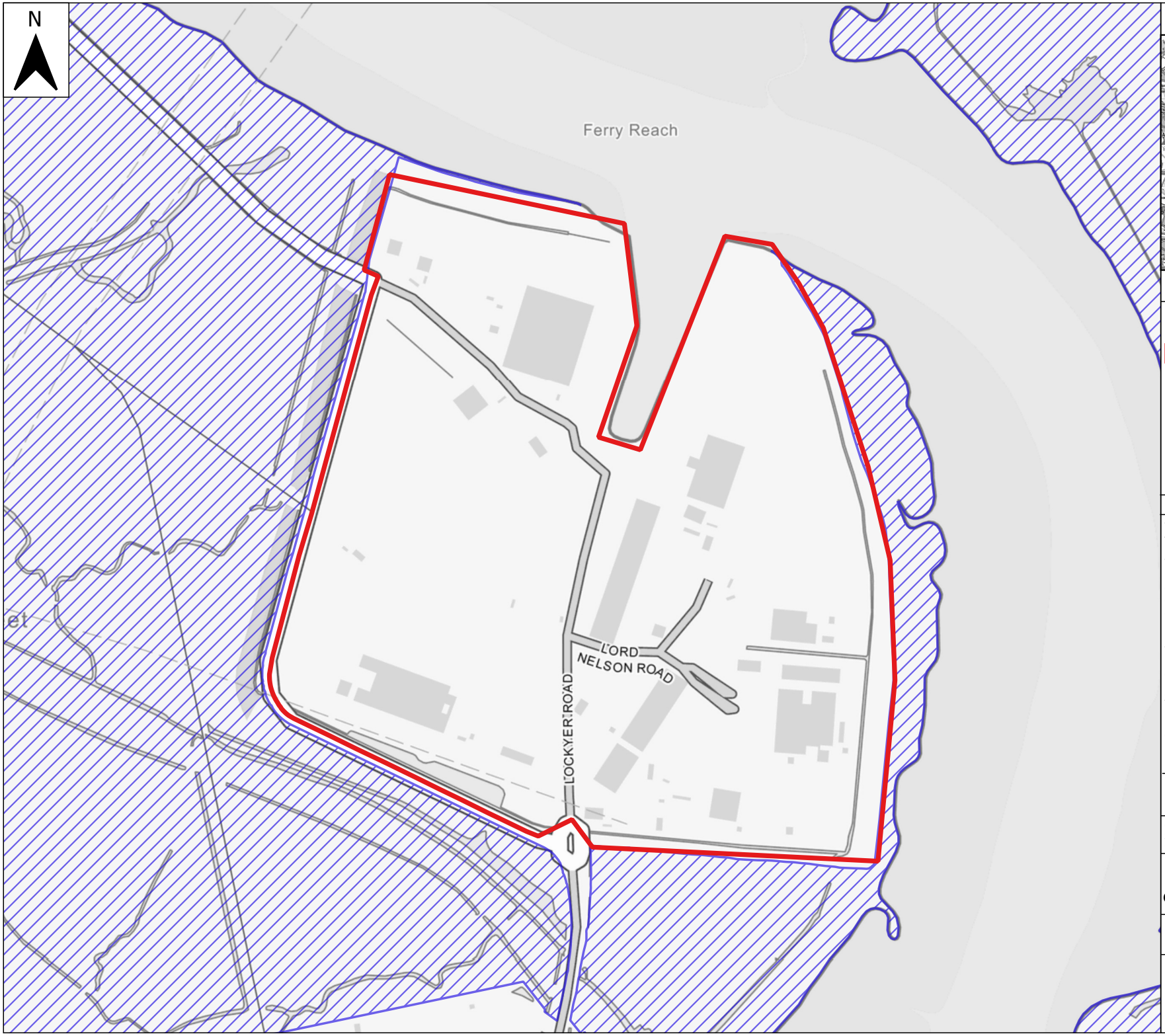
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ENVIRONMENT AGENCY FLOOD WARNINGS AND ALERTS - CFS24

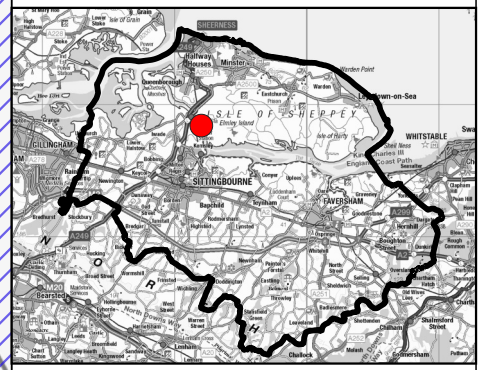
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Location Plan



Legend

- Swale Borough Outline
- Site boundary

Coastal Change Management Area

- Erosion Zone 1
- Erosion Zone 2
- North Kent Coast model Defended 3.3% AEP (1 in 30-year) 2125 Upper End

Notes

The North Kent Coast 2125 Upper End defended 3.3% AEP flood extent has been used to identify land which is predicted to be at risk of inundation by 2125.
The National Coastal Erosion Risk Map (NCERM) Shoreline Management Plan (SMP) 2055 plus 95% (Upper End) climate change allowance and 2105 plus 95% (Upper End) climate change allowance datasets have been used to identify the areas where the whole period covered by the SMP is No Active Intervention or Managed Realignment and there is predicted to be a coastal erosion risk over the next 100 years. It is noted that the SMP considers the year 2105 and does not consider 100 years into the future. However, this is the best readily available information.
Using the two epochs, the CCMA is divided into two separate zones:
• Erosion Zone 1 (defined as the Environment Agency's Coastal Erosion Climate Change (Upper End) to 2055 zone; and
• Erosion Zone 2 (defined as the Environment Agency's Coastal Erosion Climate Change (Upper End) to 2105 zone).

0 100 200 m

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COASTAL CHANGE MANAGEMENT AREAS - CFS24

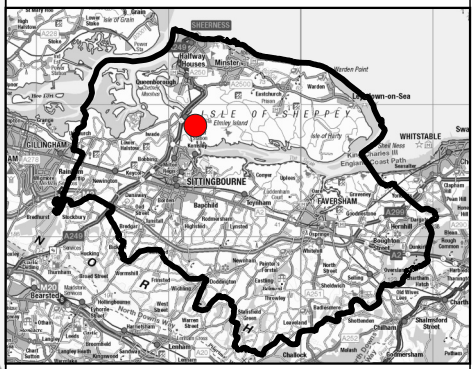
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Location Plan



Legend

- Swale Borough Outline
- Site boundary
- MEAS Benefit Area with a Hold the Line policy

Notes

The Medway Estuary and Swale Strategy Benefit Areas with a Hold the Line policy

0 100 200 m

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MEAS BENFIT AREA - CFS24

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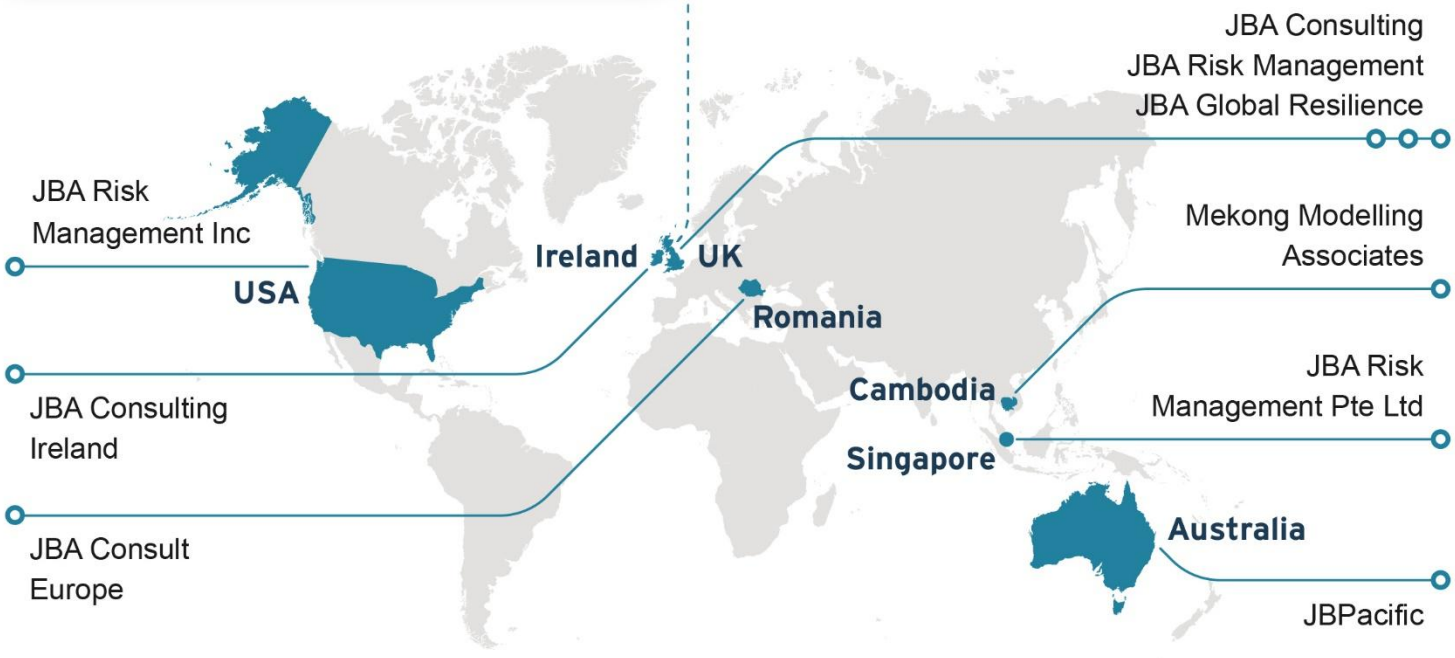
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