



**Strategic Flood Risk Assessment
Detailed Site Summary Tables**

Lancing Meadows



Site details

Site Code ADC/167/21 and ADC/168/21

Address Lancing Meadows

Area 13.7ha

Current land use Greenfield

Proposed land use Mixed use

Flood Risk Vulnerability More vulnerable

Sources of flood risk

Location of the site within the administrative area

The site is located to the east of Lancing, adjacent to The Barn Caravan Park, in the south of the Adur District boundary. The site is split into five land parcels, which will be referred to as the northern (Land north of Minstrels Gallery, Land East of Minstrels Gallery, Land south of Minstrels Gallery), southern (Land north west of West Avenue) and western (Land north of Willowbrook Park) land parcels for ease of reporting.

- The southern land parcel is the largest at 7.3ha with access off West Way Road via West Avenue.
- The northern land parcel is 5.5ha located at the end of Old Salts Farm Road.
- The western land parcel is the smallest at 0.9ha located off Old Salts Farm Road.

The land parcels are all shown to comprise of agricultural land, with a small storage yard/depot to the south of the site, accessed via West Avenue.

Topography

The Environment Agency's 1m resolution 2022 Composite LiDAR shows that the topography of the site is relatively flat with an approximate 1% gradient across all three land parcels. The southern and western land parcels contain localised areas of higher ground up to 4.93mAOD and 3.44mAOD respectively, with low area declining to 0.7mAOD and 0.6mAOD respectively. A watercourse borders the site.

The topography of the northern land parcel is shown to decline from 4.68mAOD in the west to 0.66mAOD in the channel to east.

Lancing Meadows – Topography

Existing drainage features

There are multiple watercourses throughout the site.

A watercourse is shown to flow between the northern and southern land parcels, before flowing along the southern boundary of the western land parcel. Within the western land parcel there is also an unnamed ordinary watercourse to the west of the area.

It should be noted that within the southern land parcel a ditch is shown to flow in a northerly direction into this watercourse, with regular standing water.



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Due to the sites greenfield nature, it is likely that other field ditches are located within the site boundary and should be investigated prior to development.

**Flood Map for
Planning (Rivers
and Sea)**

Available data and mapping: Environment Agency Flood Map for Planning for Rivers and Sea.

Lancing Meadows - FMfP

Data analysis: Details of the sites location within each Flood Zone are provided within the SFRA Site Screening Appendix.

Flood characteristics: The site is almost entirely located within Flood Zone 3 of the Flood Map for Planning for sea, with a very small area in Flood Zone 2 within the northern land parcel along the western boundary.

- Flood Zone 2 represents areas which have less than 1 in 100 (1%) but greater than 1 in 1,000 (0.1%) chance of river flooding or less than 1 in 200 (0.5%) but greater than 1 in 1,000 (0.1%) chance of tidal flooding in a given year.
- Flood Zone 3 representing an area greater than 1 in 100 (1%) chance of river flooding in a given year or greater than 1 in 200 (0.5%) chance of tidal flooding.

Surface Water flooding should be considered. It is understood that additional Surface Water datasets will be published in 2025.

Tidal

Available data and mapping: 2025 Arun-Adur modelling – defended scenario.

Depth

Lancing Meadows – Tidal – Present Day – 3.3%

Lancing Meadows – Tidal – Present Day – 0.5%

Lancing Meadows – Tidal – Present Day – 0.1%

Hazard

Lancing Meadows – Tidal – Present Day – 3.3%

Lancing Meadows – Tidal – Present Day – 0.5%

Lancing Meadows – Tidal – Present Day – 0.1%

Velocity

Lancing Meadows – Tidal – Present Day – 3.3%

Lancing Meadows – Tidal – Present Day – 0.5%

Lancing Meadows – Tidal – Present Day – 0.1%

Data analysis: Details of the site’s location within the 2025 Arun-Adur modelling are provided within the Level 2 SFRA Site Screening Appendix.

Flood characteristics: The site has not been identified to be located within an area at risk of tidal flooding.

**Tidal with Climate
Change**

Available data and mapping: Arun-Adur modelling – defended. The Environment Agency guidance recommends that the Higher Central (55%) and Upper End (107%) allowance is considered.

Depth – 70th percentile (higher central)

Lancing Meadows – Tidal – Future – 3.3%

Lancing Meadows – Tidal – Future – 0.5%

Hazard – 70th percentile (higher central)



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*Lancing Meadows – Tidal – Future – 3.3%
 Lancing Meadows – Tidal – Future – 0.5%
 Velocity -70th percentile (higher central)
 Lancing Meadows – Tidal – Future – 3.3%
 Lancing Meadows – Tidal – Future – 0.5%
 Depth – 95th percentile (upper end)
 Lancing Meadows – Tidal – Future – 3.3%
 Lancing Meadows – Tidal – Future – 0.5%
 Hazard - 95th percentile (upper end)
 Lancing Meadows – Tidal – Future – 3.3%
 Lancing Meadows – Tidal – Future – 0.5%
 Velocity -95th percentile (upper end)
 Lancing Meadows – Tidal – Future – 3.3%
 Lancing Meadows – Tidal – Future – 0.5%*

Data analysis: Details of the site’s location within the 2025 Arun-Adur modelling are provided within the SFRA Site Screening Appendix.

3.3% AEP (1 in 30 year) + Higher Central Climate Change event:

Proportion – 83%	
Max Depth – 1.63m	Mean Depth – 0.52m
Max Velocity – 1.61m/s	Mean Velocity – 0.07m/s
Max Hazard – 1.95 Danger to most	Mean Hazard – 1.20 Danger to some

3.3% AEP (1 in 30 year) + Upper End Climate Change event:

Proportion – 93%	
Max Depth – 2.69m	Mean Depth – 1.40m
Max Velocity – 1.39m/s	Mean Velocity – 0.13m/s
Max Hazard – 2.38 Danger to all	Mean Hazard – 1.71 Danger to most

0.5% AEP (1 in 200 year) + Higher Central Climate Change event:

Proportion – 89%	
Max Depth – 2.06m	Mean Depth – 0.90m
Max Velocity – 1.10m/s	Mean Velocity – 0.11m/s
Max Hazard – 2.19 Danger to all	Mean Hazard – 1.45 Danger to most

0.5% AEP (1 in 200 year) + Upper End Climate Change event:

Proportion – 95%	
Max Depth – 3.27m	Mean Depth – 2.03m
Max Velocity – 1.67m/s	Mean Velocity – 0.20m/s
Max Hazard – 2.80 Danger to all	Mean Hazard – 2.05 Danger to all

Flood characteristics: The site is shown to flood in all climate change events. The majority of the site is modelled to flood, with the greatest depths located along the existing channels in the site. The mean depths during the 3.3% AEP Higher Central and Upper End event is 0.52m and 1.40m respectively. The mean velocity remains low for both climate change events, suggesting water is pooling at the site rather than flowing. During the 0.5% AEP Higher Central event, small, localised areas across the site remain flood free, with an 89% coverage. During the 0.5% AEP



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Upper End event these localised areas are shown to flood, with only the western portion of the northern land parcel remaining flood free in both events.

The mean hazard is shown to be a 'Danger to some' during the 3.3% AEP plus the higher central climate change events, with a large extent of scattered areas across all three land parcels.

The mean depth, velocity and hazard are shown to be 2.03m, 0.20m/s and 2.05 (a 'danger to all') during the 0.5% AEP event. As a result, access and egress will be limited and unavailable across the majority of the site.

Surface Water

Available data and mapping: Environment Agency Risk of Surface Water flooding for the 3.3%, 1% and 0.1% AEP events. It should be noted that the data discussed below relates to the available surface water data prior to March 2025, as the newly released data does not include depth, hazard and velocity information. Details on the coverage of the two surface water flooding datasets are discussed below and are detailed within the Site Screening document undertaken as part of the Level 2 SFRA.

- Lancing Meadows – Surface Water Depth – Present Day – 3.3%*
- Lancing Meadows – Surface Water Depth – Present Day – 1%*
- Lancing Meadows – Surface Water Depth – Present Day – 0.1%*
- Lancing Meadows – Surface Water Hazard – Present Day – 3.3%*
- Lancing Meadows – Surface Water Hazard – Present Day – 1%*
- Lancing Meadows – Surface Water Hazard – Present Day – 0.1%*
- Lancing Meadows – Surface Water Velocity – Present Day – 3.3%*
- Lancing Meadows – Surface Water Velocity – Present Day – 1%*
- Lancing Meadows – Surface Water Velocity – Present Day – 0.1%*
- Lancing Meadows – Surface Water – Present Day – NAFRA2*

Data analysis:

3.3% AEP (1 in 30 year) event:

Proportion – <1%	Mean Depth – 0.36m
Max Depth – 0.4m	Mean Velocity – 0.07m/s
Max Velocity – 0.16m/s	Mean Hazard – 1.16 Danger to some
Max Hazard – 1.20 Danger to some	

1% AEP (1 in 100 year) event:

Proportion – 2%	Mean Depth – 0.29m
Max Depth – 0.69m	Mean Velocity – 0.17m/s
Max Velocity – 1.24m/s	Mean Hazard – 0.92 Danger to some
Max Hazard – 1.37 Danger to most	

0.1% AEP (1 in 1000 year) event:

Proportion – 14%	Mean Depth – 0.30m
Max Depth – 0.98m	Mean Velocity – 0.16m/s
Max Velocity – 1.27m/s	Mean Hazard – 0.94 Danger to some
Max Hazard – 1.68 Danger to most	

NAFRA2 - 3% AEP (1 in 30 year) event:

Proportion – 3%

NAFRA2 - 1% AEP (1 in 100 year) event:



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Proportion – 7%

NAFRA2 - 0.1% AEP (1 in 1000 year) event:

Proportion – 23%

Description of surface water flow paths: The site is shown to flood during all three events, with up to a 14% coverage during the 0.1% AEP event.

Flooding within the 3.3% AEP event flows along the western boundary of the western land parcel, extending along the watercourses, with additional small, localised areas of ponding across all three land parcels during the 1% AEP event. During the 0.1% AEP event a flow path is shown to flow from the northeast to the southwest across the centre of the southern land parcel following the drainage ditch, with an additional flow path to the west of the parcel. The northern land parcel contains localised areas of ponding across the centre of the site due to topographic lows, whilst the western land parcel is shown to contain the most flood coverage. Ponding is shown to be a direct result of the watercourses bordering the western and southern boundaries.

The newly released NaFRA2 dataset is shown to be slightly different with additional flood extents and larger flow paths. Most notably this affects the 3.3% AEP event, with localised areas affected across all three land parcels, rather than just the western boundary of the western land parcel. The flood extents increase along the flow paths with a much larger extent during the 0.1% AEP event in the southern land parcel, connecting the flow paths together from northeast to southwest. The northern land parcel is also shown to contain additional areas to the north. The western land parcel is however identified to be very similar in extent.

**Surface Water with
Climate Change**

Available data and mapping: Surface Water flooding for the 3.3%, 1% and 0.1% AEP events with climate change, using data available prior to March 2025. The Environment Agency guidance recommends that the Upper End allowance is considered for both the 3.3% and 1% AEPs for the 2070's epoch, unless the allowance for the 2050's epoch is higher, in which case this should be used. The recommended uplift on peak rainfall intensity for the 3.3% AEP is 40% and for the 1% AEP is 45%.

Depth

Lancing Meadows – Surface Water – Future – 3.3%+20CC

Lancing Meadows – Surface Water – Future – 3.3%+40CC

Lancing Meadows – Surface Water – Future – 1%+25CC

Lancing Meadows – Surface Water – Future – 1%+45CC

Lancing Meadows – Surface Water – Future – 0.1%+25CC

Lancing Meadows – Surface Water – Future – 0.1%+45CC

Hazard

Lancing Meadows – Surface Water – Future – 3.3%+20CC

Lancing Meadows – Surface Water – Future – 3.3%+40CC

Lancing Meadows – Surface Water – Future – 1%+25CC

Lancing Meadows – Surface Water – Future – 1%+45CC

Lancing Meadows – Surface Water – Future – 0.1%+25CC

Lancing Meadows – Surface Water – Future – 0.1%+45CC

Velocity

Lancing Meadows – Surface Water – Future – 3.3%+20CC

Lancing Meadows – Surface Water – Future – 3.3%+40CC

Lancing Meadows – Surface Water – Future – 1%+25CC

Lancing Meadows – Surface Water – Future – 1%+45CC



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Lancing Meadows – Surface Water – Future – 0.1%+25CC
Lancing Meadows – Surface Water – Future – 0.1%+45CC

Data analysis:

3.3% AEP (1 in 30 year) + 20% Climate Change event:

Proportion – <1%	Mean Depth – 0.27m
Max Depth – 0.52m	Mean Velocity – 0.07m/s
Max Velocity – 0.43m/s	Mean Hazard – 0.88 Danger to some
Max Hazard – 1.28 Danger to most	

3.3% AEP (1 in 30 year) + 40% Climate Change event:

Proportion – 1%	Mean Depth – 0.29m
Max Depth – 0.66m	Mean Velocity – 0.11m/s
Max Velocity – 0.89m/s	Mean Hazard – 0.91 Danger to some
Max Hazard – 1.34 Danger to most	

1% AEP (1 in 100 year) + 25% Climate Change event:

Proportion – 14%	Mean Depth – 0.31m
Max Depth – 1.01m	Mean Velocity – 0.15m/s
Max Velocity – 1.02m/s	Mean Hazard – 0.96 Danger to some
Max Hazard – 1.81 Danger to most	

1% AEP (1 in 100 year) + 45% Climate Change event:

Proportion – 17%	Mean Depth – 0.31m
Max Depth – 1.05m	Mean Velocity – 0.16m/s
Max Velocity – 1.05m/s	Mean Hazard – 0.96 Danger to some
Max Hazard – 1.92 Danger to most	

0.1% AEP (1 in 1000 year) + 25% Climate Change event:

Proportion – 35%	Mean Depth – 0.32m
Max Depth – 1.18m	Mean Velocity – 0.20m/s
Max Velocity – 1.22m/s	Mean Hazard – 0.97 Danger to some
Max Hazard – 2.16 Danger to all	

0.1% AEP (1 in 1000 year) + 45% Climate Change event:

Proportion – 43%	Mean Depth – 0.33m
Max Depth – 1.23m	Mean Velocity – 0.21m/s
Max Velocity – 1.35m/s	Mean Hazard – 0.99 Danger to some
Max Hazard – 2.26 Danger to all	

Description of surface water flow paths: The site is shown to flood during all climate change events covering up to 43% of the site. Flow paths are shown to flow along the southern boundary of the western land parcel, with a small, localised area in the northern land parcel during the 3.3% AEP plus 25% Climate Change event. These localised area extents increase up to the 1% AEP plus 25% Climate Change event where these areas are shown to connect as flow paths, increasing in extent across the AEPs, flowing from the northeast to the southwest across the centre of the



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land parcels. The mean depth, velocity and hazard is shown to be 0.33m, 0.21m/s and 0.99 (a 'danger to some') during the 0.1% AEP plus 45% Climate Change. The areas with the most significant hazard ratings are primarily identified to be located within the ditches and flow paths on site and therefore are shown to affect the western land parcel most significantly.

**Tidally influenced
Surface Water Risk
Zone**

Available data and mapping: JBA's Tidally influenced Surface Water Risk Zones derived using the RoFSW data available prior to March 2025, the Present day 1% AEP extreme tidal level, LiDAR data and the Environment Agency's climate change sea level uplift allowance for South East England.

Lancing Meadows – Tidal Drainage Risk Zones

Flood characteristics: The majority of the site is shown to be located within SW2 within the Surface Water Risk Zone mapping. Small, localised areas are shown to be located within SW4, with banded areas of SW3 amongst these, predominantly stretching from north to south. No areas are shown to be located above the future tidal level, with a small western corner in SW1 in the northern land parcel.

It should be noted that areas identified to be at higher risk are generally defined by a lower topography.

- SW0 - Above the future tidal level.
- SW1 - Not at risk of SW flooding and above the current tidal level but below the future tidal level.
- SW2 - Not at risk of SW flooding but below the present-day tidal level OR at risk of SW flooding from climate change only and above the current day tidal level but below future tidal level.
- SW3 - At risk of SW flooding from climate change only and below the present-day tidal level OR At risk of SW flooding without climate change and above current day tidal level but below future tidal level.
- SW4 - At risk of SW flooding without climate change and below present-day tidal level.

Groundwater

Available data and mapping: The JBA Groundwater Flood Data Map (GW5) is provided as a 5m resolution grid.

Lancing Meadows – Groundwater Flood Risk

Flood characteristics: During a 1% AEP groundwater flood event, groundwater levels are predominantly shown to be 'low risk', with small areas shown to be at or very near (within 0.025m of) the ground surface and between 0.025m and 0.5m below the ground surface to the west of the northern land parcel. This could be due to the soils which are shown to be loamy and clayey soils of coastal flats with naturally high groundwater with a small area of freely draining slightly acid loamy soils across the northwestern portion of the northern land parcel.

It should be noted that there is a known relationship between tide levels and groundwater levels in the area and that this dataset does not account for any tidal influence on groundwater levels. It is therefore necessary that site investigations are carried out to better understand groundwater levels on the site at the earliest opportunity. The tidally influenced



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groundwater risk zones discussed below can be used to help identify areas where groundwater is likely to be influenced by tide levels.

**Tidally influenced
Groundwater Risk
Zone**

Available data and mapping: JBA's Tidally influenced Groundwater Risk Zones derived using the JBA Groundwater data, the British Geological Society 50k bedrock mapping, the Present day 1% AEP extreme tidal level, LiDAR data and the Environment Agency's climate change sea level uplift allowance for South East England.

Shoreham Gateway – Groundwater Risk Zones

Flood characteristics: The majority of the site is located within GW2 of the Groundwater Risk Zone mapping. Only small western areas of the northern land parcel are shown to be located within GW3 and GW4. No areas are shown to be located within GW0 or GW1.

- GW0 - Above the future tidal level.
- GW1 - Groundwater level more than 0.5m below the surface and region is above the current tidal level but below the future tidal level.
- GW2 - Groundwater level more than 0.5m below the surface and region is below the present-day tidal level OR groundwater level between 0.025m and 0.5m below the surface and region is above the current tidal level but below the future tidal level.
- GW3 - Groundwater level between 0.025m and 0.5m below the surface and region is below the present-day tidal level OR Groundwater level within 0.025m of the surface and region is above the current tidal level but below the future tidal level.
- GW4 Groundwater level within 0.025m of the surface and region is below the present day tidal level.

Sewers

Available data and mapping: Drainage and Wastewater Management Plan (DWMP) [Overview of the Adur and Ouse River Basin Catchment](#) and Southern Water's Sewer Incident Report Form data (SIRF) at a five digit post code level.

Flood characteristics: 47 reportable sewer incidents have occurred since 1990 within the five-digit postcode area of the proposed development site. These incidents have been attributed to hydraulic overload following rainfall.

Flood history

Available data and mapping: The Environment Agency's Recorded Flood Outlines dataset and WSCC recorded flood incidents.

Shoreham Gateway – Historic Flooding

Flood characteristics: The southern and northern land parcels are shown to be located in the Environment Agency's Recorded Flood Outlines dataset for surface water flooding and drainage issues in 1960 and 1986.



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The site is also located within 50m of two flood incidents identified within the WSCC dataset. Both events occurred in November 1974 due to flooding in gardens and within the home.

Furthermore, it is noted that the ditch within the centre of the southern land parcel has been identified to regularly contain standing water.

Flood risk management infrastructure

Existing Defences

The Environment Agency's AIMS dataset identifies one formal flood defence within the vicinity of the site, comprising of a beach along West Beach approximately 170m south of the site.

It is also likely that the site is protected by the flood defences along the River Adur, comprising of an embankment approximately 1.3km east of the site.

Residual risk

Available data and mapping: The 2025 Arun-Adur breach modelling.

Depth

- Lancing Meadows – Breach A–3.3%
- Lancing Meadows – Breach A – 0.5%
- Lancing Meadows – Breach A – 0.1%
- Lancing Meadows – Breach B–3.3%
- Lancing Meadows – Breach B – 0.5%
- Lancing Meadows – Breach B – 0.1%
- Lancing Meadows – Breach C–3.3%
- Lancing Meadows – Breach C – 0.5%
- Lancing Meadows – Breach C – 0.1%
- Lancing Meadows – Breach D –3.3%
- Lancing Meadows – Breach D – 0.5%
- Lancing Meadows – Breach D – 0.1%
- Lancing Meadows – Breach E–3.3%
- Lancing Meadows – Breach E – 0.5%
- Lancing Meadows – Breach E – 0.1%

Hazard

- Lancing Meadows – Breach A–3.3%
- Lancing Meadows – Breach A – 0.5%
- Lancing Meadows – Breach A – 0.1%
- Lancing Meadows – Breach B–3.3%
- Lancing Meadows – Breach B – 0.5%
- Lancing Meadows – Breach B – 0.1%
- Lancing Meadows – Breach C–3.3%
- Lancing Meadows – Breach C – 0.5%
- Lancing Meadows – Breach C – 0.1%
- Lancing Meadows – Breach D –3.3%
- Lancing Meadows – Breach D – 0.5%
- Lancing Meadows – Breach D – 0.1%
- Lancing Meadows – Breach E–3.3%
- Lancing Meadows – Breach E – 0.5%
- Lancing Meadows – Breach E – 0.1%

Velocity

- Lancing Meadows – Breach A–3.3%
- Lancing Meadows – Breach A – 0.5%
- Lancing Meadows – Breach A – 0.1%
- Lancing Meadows – Breach B–3.3%



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Lancing Meadows – Breach B – 0.5%
Lancing Meadows – Breach B – 0.1%
Lancing Meadows – Breach C – 3.3%
Lancing Meadows – Breach C – 0.5%
Lancing Meadows – Breach C – 0.1%
Lancing Meadows – Breach D – 3.3%
Lancing Meadows – Breach D – 0.5%
Lancing Meadows – Breach D – 0.1%
Lancing Meadows – Breach E – 3.3%
Lancing Meadows – Breach E – 0.5%
Lancing Meadows – Breach E – 0.1%

Flood characteristics:

The site is impacted by flooding following breaches at locations 'a', 'c' and 'd'. Following a breach at location 'c' the majority of the site is flooded, the mean water depth across the site is 0.46m. Water starts to impact the site approximately 90 minutes after a breach and extends across the majority of the site within 5 hours.

In scenarios 'a' and 'd' in which breaches occur along embankments on the River Adur north of the site, a small portion of the north east corner of the northern parcel is impacted by flooding. Following a breach at location 'a' flooding occurs approximately 20 hours after the breach, flooding at the site occurs approximately 15 hours after the breach at location 'd'. Mean depths are 0.13m and 0.18m respectively.

Due to the tidal nature of the River Adur, the extent of the breach impact is dependent on the tide height.

Emergency planning

Flood warning

The site has been identified to be located within the 'Inland areas of Shoreham, Lancing and Southwick' (065WAC409) Flood Alert Area and the 'Shoreham Town and Lancing' (065FWC3002) Flood Warning Area.

Lancing Meadows – Flood Warning

Future residents should be encouraged to sign up to Environment Agency flood alerts and warnings. Details can be found at the end of this document.

Access and egress

Surface Water 1% AEP plus 45% climate change (upper end allowance)

Access and egress are shown to be affected during the 1% AEP plus climate change surface water modelling with numerous flow paths crossing the western land parcel. Access via Old Salts Farm Road to the western land parcel will therefore be limited due to the extent of flooding on site and along the site boundaries.

Access and egress for the southern land parcel are available via West Avenue to the south of the site, however access along West Way road will be limited due to depths exceeding 300mm.

Access and egress for the northern land parcel is likely possible along Old Salts Farm Road locally, however significant flood depths occur at the entrance of the lane, approximately 1m. It is likely that these flood depths are a result of inaccurate LiDAR representation within the surface water



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modelling and therefore access will likely be unaffected along Old Salts Farm Road. It should however be noted that a flow path divides the northern land parcel and therefore preventing access to the southern portion. It may be possible during development to construct a bridge between the southern and northern land parcels to provide safe access and egress, without affecting the flow path.

The mean hazard rating is shown to be a 'Danger to some' during this event with an increase in severity along the ditches and ponded areas across all three land parcels. The majority of the site is therefore not shown to be at a significant hazard risk.

Tidal 0.5% AEP plus 55% climate change (higher central allowance)

Access and egress across the majority of the site is unavailable during the 0.5% AEP plus climate change tidal events. Limited access is available to the western portion of the northern site and access along Old Salts Farm Lane is restricted.

As a result of the affected access and egress and the severity of the hazard ratings throughout the design flood events it is necessary that a Flood Response Plan is developed in line with [ADEPT Guidance](#).

Requirements for drainage control and impact mitigation

**Broad-scale
assessment of
possible SuDS**

Geology & Soils

The geology consists of White Chalk Subgroup comprised of chalk. The superficial deposits predominantly consists of Alluvium (clay, silt and sand), with a small area of sand and gravel to the southwest of the western land parcel.

The soils are shown be loamy and clayey soils of coastal flats with naturally high groundwater with a small area of freely draining slightly acid loamy soils across the northwestern portion of the northern land parcel.

The geology of the Adur District is complex; areas of chalk are often capped with small sections of clay. This can result in groundwater being trapped beneath the clay layer and surface water pooling at the surface unable to infiltrate. Groundwater may find a fissure in the clay and rise to the surface resulting in flooding that is difficult to predict in terms of location and scale

SuDS

Implementation of SuDS at the site could provide opportunities to deliver multiple benefits including volume control, water quality, amenity and biodiversity. Evidence should be given where multiple benefits are not provided to show that this is not possible.

Preference should be given to multi-functional sustainable drainage systems, and to solutions that allow surface water to be discharged according to the hierarchy of drainage options listed in the [PPG Flood Risk and Coastal Change](#) paragraph 056.

The layout and function of drainage systems needs to be considered at the start of the design process for new development, as integration with road



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networks and other infrastructure can maximise the availability of developable land.

Suitability and considerations for sustainable drainage

In line with Defra's [National Standards for Sustainable Drainage Systems](#), runoff from the development shall be discharged to the following final destinations, to the maximum extent practicable, in accordance with the below hierarchy:

- Priority 1: collected for non-potable use
- Priority 2: infiltrated to ground
- Priority 3: discharged to an above ground surface water body
- Priority 4: discharged to a surface water sewer, or another piped surface water drainage system
- Priority 5: discharged to a combined sewer

SuDS measures should also follow West Sussex County Council's discharge hierarchy, and 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 asset owner based on the National Standards for SuDS.

Surface water discharge rates should not exceed pre-development discharge rates for the site and should be designed to be as close to greenfield runoff rates as reasonably practical in consultation with the LLFA. Discharge to a watercourse or surface water sewer must be restricted to the estimated mean greenfield runoff rate (Q_{bar}) for all design storm events. The calculations must be based on the positively drained area, rather than the entire greenfield site area.

A concept drainage strategy has been completed for the site, with greenfield runoff rates calculated. The key findings of the concept drainage strategy are that following Standard 1 of the National SuDS Standards, that discharge from Lancing Meadows will be to existing surface water channels that discharge into the tidal River Adur. The concept strategy proposes that the site makes use of eight strategically placed swales and five ponds. The drainage strategy assumes that all land parcels are developed. Further details are available in 'Concept Drainage Strategy for Lancing Meadows, Barns at New Salts Farm and Land East of Adur Close'.

Groundwater levels on site suggest low risk across the majority of the site, with levels close to the surface across the western portion of the northern land parcel during the 1% AEP flood event. This suggests that infiltration may be limited in some areas. Offsite discharge may therefore be required to discharge surface water runoff. The infiltration potential of the site should be confirmed through infiltration testing, in line with BRE 365.

Groundwater levels are shown to be influenced by tide levels. The capacity for infiltration needs to take into account the impact of future sea levels. The influence of tide levels on groundwater levels should be investigated through groundwater monitoring.

Due to the topography, any surface water not intercepted via infiltration will likely drain via gravity into the unnamed ordinary watercourse. It is



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therefore recommended that the LLFA and the EA are consulted about viable discharge locations for surface water from the site and their attenuation potential

The site is located within a Nitrate Vulnerable Zone. Therefore, early engagement with the LLFA and the EA is recommended to determine requirements for the site to manage the impact to surrounding watercourses. Consideration of water quality is likely to be of high importance and demonstrated through the use of the Simple Index Approach.

The site has not been identified to be located within a historic landfill site or a groundwater Source Protection Zone.

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 also provide wider sustainability benefits to the site and surrounding area. Proposals to use SuDS techniques should be discussed with relevant stakeholders (LPA, LLFA and EA) at an early stage to understand possible constraints. Standard 5 of the National SuDS Standards requires SuDS to maximise the amenity benefit through multifunctional places and landscapes.
- 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 source control techniques such as green roofs, permeable surfaces and rainwater harvesting must be considered in the design of the site. It is recommended that future developers appoint suitable landscape architects and ecologists to ensure that the full amenity and biodiversity benefits are achieved.
- SuDS are to be designed so that they are easy to maintain, and it should be set out who will maintain the system, how the maintenance will be funded and should be supported by an appropriately detailed maintenance and operation manual.
- SuDS should be designed with a holistic approach, combining ecology, landscape and drainage requirements specific to the site, and incorporating Biodiversity Net Gain requirements.
- 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 and their Water Framework Directive objectives 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.
- 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.
- SuDS should be designed in line with the National Standards for Sustainable Drainage Systems.

NPPF and planning implications



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Exception Test requirements

(Local Authority considerations)

The Local Authority will need to confirm that the Sequential Test has been carried out in line with national guidelines. The Sequential Test will need to be passed before the Exception Test is applied. In addition, once the sequential test has been passed, a sequential approach to development should still be undertaken.

The site is located within Flood Zone 3 according to the Environment Agency's Flood Map for Planning and also shown to be at future tidal risk in the 2025 Arun-Adur detailed modelling and surface water flood risk. The NPPF classifies the usage as "More Vulnerable". The Exception Test is therefore required for this site due to the severity of flooding.

Detailed flood modelling should be assessed within a site-specific FRA

Requirements and guidance for site-specific Flood Risk Assessment

(Developer considerations)

Flood Risk Assessment:

The Level 1 SFRA has more guidance on this section and any relevant policies and information applicable to development within Adur District.

- All sources of flooding should be included as part of the site specific FRA.
- The most recent risk of Flooding from Surface Water dataset should be used.
- Consultation with Adur and Worthing Councils, West Sussex County Council, and where relevant the Environment Agency and Southern Water should be undertaken at an early stage.
- Developers should consult with Southern Water to ensure that the development aims to help achieve the targets of the Drainage and Wastewater Management Plan.
- Development plans should use the Level 1 and 2 SFRA for Adur and Worthing Council, as well as the Local Flood Risk Management Strategies to identify cumulative flood risk issues. It should also promote an integrated approach to water management by working with other nearby development sites where possible.

Guidance for site design and making development safe:

- The developer will need to show, through an FRA, that future users of the development will not be placed in danger from flood hazards throughout its lifetime. It is for the applicant to show that the development meets the objectives of the NPPF's policy on flood risk. For example, how the operation of any mitigation measures can be safeguarded and maintained effectively through the lifetime of the development. (Para 048 Flood Risk and Coastal Change PPG).
- The risk from surface water flow routes should be quantified as part of a site-specific FRA, including a drainage strategy, so runoff magnitudes from the development are not increased by development across any ephemeral surface water flow routes (temporary/seasonal surface water flow paths).
- Development design should prioritise avoiding development within surface water flow paths, including off-site flow paths. Any loss in surface water flood storage will require on-site level for level compensatory storage, so that any displaced volumes of water do not increase surface water flood risk within the site or elsewhere.



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- A drainage strategy should be prepared to understand infiltration capacity at the site given the underlying chalk geology and risk of groundwater emergence.
- Following groundwater monitoring, development should be directed away from areas of high groundwater risk.
- Arrangements for safe access and egress are unlikely to be possible due to the severity of flooding and will need to be considered further within a site-specific FRA for the tidal, surface water and fluvial events with an appropriate allowance for climate change, using the depth, velocity, and hazard outputs. A Flood Response Plan should therefore be developed and may consider opportunities to shelter in place alongside evacuation routes.
- The Flood Response Plan should consider arrangements for safe use, access and egress of the site in a breach event due to the speed of onset and maximum flood depths recorded.
- The design and layout of development at the site will need to consider the impact of tidal and surface water flow paths. A sequential approach to development should be undertaken with development located in the areas of lowest risk within the site boundary. The site layout should make space for water and seek to avoid obstructing offsite flow paths and avoid off site detriment.
- To allow for maintenance, 3m easements will be required from the top of both banks along the ordinary watercourses.
- As outlined in the PPG, the Finished Floor Levels of the development should be raised to a minimum of whichever is higher of 600mm above the:
 - Average ground level of the site
 - Adjacent road level to the building
 - Estimated river or sea flood level
- It is suggested that flood resilient design is adopted in the construction of development. The PPG sets out that flood resistant material that have low permeability should be used to at least 600mm above the estimated flood level; flood resilient materials to at least 600mm above the estimated flood level and raising of electrical equipment at least 600mm above the estimated flood level

Key messages

The site is located within Flood Zone 3. According to the 2025 Arun-Adur modelling, 89% of the site is at risk of tidal flooding in the design event (0.5% AEP plus 55% climate change allowance).

A small area of land, less than 1% is at risk of surface water flooding during the 3.3%AEP scenario. Land with this probability is considered high risk and development in these areas should not take place. 17% of the site is at risk of surface water flooding in the design event (1% AEP plus 45% climate change allowance).

The site has generally been identified to be at low risk of flooding at this time, with an increasing risk in the future due to the severity of flooding during the tidal climate change events. This is only likely to become an issue if the standard of protection for the defences are not maintained in line with the effects of climate change.



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Given the future flood risk posed to the site. Development will only be able to progress if:

- The Exception Test is satisfied.
- A sequential approach to development is undertaken. Layout and design should aim to avoid developing in the areas of greatest flood risk.
- The recommendations included in the drainage strategy are implemented.
- A detailed Flood Response Plan is prepared in line with ADEPT guidance that considers not only the risk at the site but also the access and egress arrangements.
- The site-specific Flood Risk Assessment assesses the risk of breach and incorporates this risk into an emergency response plan for the site development.
- Finished floor levels are raised to a minimum of whichever is higher of 600mm above the average ground level of the site, the adjacent road level to the building or the estimated river or sea flood level. The flood level is for the design event (tidal flood level plus higher central climate change allowance, surface water flood level plus upper end)

Sources of information

National Planning Policy Framework (NPPF)

https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf

Planning Practice Guidance (PPG), Flood Risk and Coastal Change

<https://www.gov.uk/guidance/flood-risk-and-coastal-change>

Flood Map for Planning (NaFRA2 2025)

<https://www.data.gov.uk/dataset/104434b0-5263-4c90-9b1e-e43b1d57c750/flood-map-for-planning-flood-zones1>

Long Term Flood Risk

[Where do you want to check? - Check your long term flood risk - GOV.UK](#)

British Geological Survey (BGS) Geology Viewer

<https://geologyviewer.bgs.ac.uk/>

Southern Water's Drainage and Wastewater Management Plan

<https://www.southernwater.co.uk/about-us/our-plans/drainage-and-wastewater-management-plans/>

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 Warning sign up

<https://www.gov.uk/sign-up-for-flood-warnings>