	Strategic Flood Risk Assessment **Detailed Site Summary Tables** **Egypt Wharf/Lennards Wharf**	

Site details	
Site Code	**SH/013/18 and SH/014/18**
Address	Egypt Wharf/Lennards Wharf
Area	2.5ha
Current land use	Brownfield - Commercial
Proposed land use	Residential
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 Shoreham-by-Sea, directly north of the River Adur. The site consists of commercial land-use and waste storage, accessed via Brighton Road to the north.
Topography	The Environment Agency's 1m resolution 2022 Composite LiDAR shows that the topography of the site declines from the localised peak in the centre (approximately 7.5mAOD) towards the east and the west both measured at approximately 4mAOD respectively. There are raised areas of ground in the north-east of the site, measured at approximately 10mAOD. *Egypt_Lennards Wharf - FMfP*
Existing drainage features	The River Adur is situated directly south of the site, flowing in an easterly direction. Given the site is brownfield there is likely to be existing drainage networks at the site.
Flood Map for Planning (Rivers and Sea)	**Available data and mapping:** Environment Agency Flood Map for Planning for Rivers and Sea. *Egypt_Lennards Wharf - 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 predominantly located within Flood Zone 3 of the Flood Map for Planning for sea. Patches across the east, west and north of the site are located in Flood Zone 1 and 2. • Flood Zone 1 represents areas which have less than a 1 in 1000 (0.1%) chance of river or tidal flooding in a given year. • Flood Zone 2 represents areas which have less than 1 in 100 (1%) but greater than 1 in 1000 (0.1%) chance of river flooding or less than 1 in 200 (0.5%) but greater than 1 in 1000 (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* *Egypt_Lennards Wharf – Tidal – Present Day – 3.3%* *Egypt_Lennards Wharf – Tidal – Present Day – 0.5%* *Egypt_Lennards Wharf – Tidal – Present Day – 0.1%* *Hazard* *Egypt_Lennards Wharf – Tidal – Present Day – 3.3%* *Egypt_Lennards Wharf – Tidal – Present Day – 0.5%* *Egypt_Lennards Wharf – Tidal – Present Day – 0.1%* *Velocity* *Egypt_Lennards Wharf – Tidal – Present Day – 3.3%* *Egypt_Lennards Wharf – Tidal – Present Day – 0.5%* *Egypt_Lennards Wharf – 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. **3.3% AEP (1 in 30 year) event:** Proportion – 13% Max Depth – 31m Max Velocity – 1.61m/s Max Hazard – 1.34 (danger to most) Mean Depth – 0.13m Mean Velocity – 0.1m/s Mean Hazard – 0.65 (very low hazard) **0.5% AEP (1 in 200 year) event:** Proportion – 38% Max Depth – 0.52m Max Velocity – 0.21m/s Max Hazard – 1.89 (danger to most) Mean Depth – 0.21m Mean Velocity – 0.04m/s Mean Hazard – 0.81 (danger to some) **0.1% AEP (1 in 1000 year) event:** Proportion – 53% Max Depth – 0.70m Max Velocity – 0.78m/s Max Hazard – 2.00 (danger to all) Mean Depth – 0.32m Mean Velocity – 0.08m/s Mean Hazard – 0.99 (danger to some) **Flood characteristics:** The site is shown to flood during all tidal events. During the 3.3% AEP event, 13% of the site is shown to flood with areas in both the east and west of the site affected. This is shown to increase to 38% and 53% coverage for the 0.5% and 0.1% AEP events, respectively. During the 0.1% AEP event, a small flow path opens up, linking the River Adur to Brighton Road through the western half of the site. The mean depth, velocity and hazard are shown to be 0.32m, 0.08m/s and 0.99 (a 'danger to some')

	Strategic Flood Risk Assessment **Detailed Site Summary Tables** **Egypt Wharf/Lennards Wharf**	

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)
Egypt_Lennards – Tidal – Future – 3.3%
Egypt_Lennards – Tidal – Future – 0.5%
Hazard - 70th percentile (higher central)
Egypt_Lennards – Tidal – Future – 3.3%
Egypt_Lennards – Tidal – Future – 0.5%
Velocity -70th percentile (higher central)
Egypt_Lennards – Tidal – Future – 3.3%
Egypt_Lennards – Tidal – Future – 0.5%
Depth – 95th percentile (upper end)
Egypt_Lennards – Tidal – Future – 3.3%
Egypt_Lennards – Tidal – Future – 0.5%
Hazard - 95th percentile (upper end)
Egypt_Lennards – Tidal – Future – 3.3%
Egypt_Lennards – Tidal – Future – 0.5%
Velocity -95th percentile (upper end)
Egypt_Lennards – Tidal – Future – 3.3%
Egypt_Lennards – 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 – 74%
Max Depth – 1.21m
Mean Depth – 0.65m
Max Velocity – 1.81m/s
Mean Velocity – 0.16m/s
Max Hazard – 2.63 (danger to all)
Mean Hazard – 1.32 (danger to most)

3.3% AEP (1 in 30 year) + Upper End Climate Change event:
Proportion – 83%
Max Depth – 1.49m
Mean Depth – 0.83m
Max Velocity – 1.14m/s
Mean Velocity – 0.19m/s
Max Hazard – 3.04 (danger to all)
Mean Hazard – 1.50 (danger to most)

0.5% AEP (1 in 200 year) + Higher Central Climate Change event:
Proportion – 81%
Max Depth – 1.39m
Mean Depth – 0.76m
Max Velocity – 1.10m/s
Mean Velocity – 0.16m/s
Max Hazard – 2.89 (danger to all)
Mean Hazard – 1.42 (danger to most)

0.5% AEP (1 in 200 year) + Upper End Climate Change event:
Proportion – 86%
Max Depth – 1.66m
Mean Depth – 0.96m
Max Velocity – 1.13m/s
Mean Velocity – 0.22m/s
Max Hazard – 3.31 (danger to all)
Mean Hazard – 1.64 (danger to most)

	Strategic Flood Risk Assessment **Detailed Site Summary Tables** **Egypt Wharf/Lennards Wharf**	
	Flood characteristics: The majority of the site is shown to flood during all of the tidal climate change events. Coverage ranges from 74% to 86%. During the 3.3% climate change scenarios the mean hazard rating is 'danger to most' at the eastern and western extents of the site boundary. The centre of the site is low risk of flooding. In the 0.5% AEP scenario, the flood extent increases with the centre of the site also at risk. A flow path is present at the east of the site connecting Brighton Road to the River Adur. This is classified as 'danger to all'. The mean hazard rating in the 0.5% plus climate change scenarios is 'Danger to most' Given the site's proximity to the River Adur, it is likely that the maximum depth, velocity and hazard data is associated with the channel. The greatest values are along the southern site boundary.	
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. A comparison of the two surface water flooding datasets is discussed below and are detailed within the Site Screening document undertaken as part of the Level 2 SFRA**.** *Egypt_Lennards Wharf – Surface Water Depth – Present Day – 3.3%* *Egypt_Lennards Wharf – Surface Water Depth – Present Day – 1%* *Egypt_Lennards Wharf – Surface Water Depth – Present Day – 0.1%* *Egypt_Lennards Wharf – Surface Water Hazard – Present Day – 3.3%* *Egypt_Lennards Wharf – Surface Water Hazard – Present Day – 1%* *Egypt_Lennards Wharf – Surface Water Hazard – Present Day – 0.1%* *Egypt_Lennards Wharf – Surface Water Velocity – Present Day – 3.3%* *Egypt_Lennards Wharf – Surface Water Velocity – Present Day – 1%* *Egypt_Lennards Wharf – Surface Water Velocity – Present Day – 0.1%* *Egypt_Lennards Wharf – Surface Water – Present Day – NAFRA2* **Data analysis:** **1% AEP (1 in 100 year) event:** Proportion – 5% Max Depth – 0.33m Mean Depth – 0.18m Max Velocity – 0.34m/s Mean Velocity – 0.08m/s Max Hazard – 1.17 (danger to some) Mean Hazard – 0.6 (caution) **0.1% AEP (1 in 1000 year) event:** Proportion – 11% Max Depth – 0.43m Mean Depth – 0.23m Max Velocity – 0.87m/s Mean Velocity – 0.14m/s Max Hazard – 1.35 (danger to most) Mean Hazard – 0.88 (danger to some) **NAFRA2 - 3% AEP (1 in 30 year) event:** Proportion – 10% **NAFRA2 - 1% AEP (1 in 100 year) event:** Proportion – 12%	

	Strategic Flood Risk Assessment **Detailed Site Summary Tables** **Egypt Wharf/Lennards Wharf**	
	NAFRA2 - 0.1% AEP (1 in 1000 year) event: Proportion – 14% **Description of surface water flow paths:** The site has not been identified to be located within an area at risk of surface water flooding during the 3.3%AEP. The site is shown to flood during the 1% AEP and 0.1% AEP events, reaching a maximum of 11% coverage. During the 1% AEP, flooding is isolated to a small area to the east and west of the site, the mean hazard rating is 'caution'. The mean depth, velocity and hazard during the 0.1% AEP event is shown to be 0.23m, 0.14m/s and 0.88 (a 'danger to some'), respectively. Flood extent remains limited to the eastern and western extents of the site. NAFRA2 shows a slight increase in surface water flood extent, with areas at risk in the east and west of the site in addition to a small area in the centre of the site.	
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* *Egypt_Lennards Wharf – Surface Water – Future – 3.3%+20CC* *Egypt_Lennards Wharf – Surface Water – Future – 3.3%+40CC* *Egypt_Lennards Wharf – Surface Water – Future – 1%+25CC* *Egypt_Lennards Wharf – Surface Water – Future – 1%+45CC* *Egypt_Lennards Wharf – Surface Water – Future – 0.1%+25CC* *Egypt_Lennards Wharf – Surface Water – Future – 0.1%+45CC* *Hazard* *Egypt_Lennards Wharf – Surface Water – Future – 3.3%+20CC* *Egypt_Lennards Wharf – Surface Water – Future – 3.3%+40CC* *Egypt_Lennards Wharf – Surface Water – Future – 1%+25CC* *Egypt_Lennards Wharf – Surface Water – Future – 1%+45CC* *Egypt_Lennards Wharf – Surface Water – Future – 0.1%+25CC* *Egypt_Lennards Wharf – Surface Water – Future – 0.1%+45CC* *Velocity* *Egypt_Lennards Wharf – Surface Water – Future – 3.3%+20CC* *Egypt_Lennards Wharf – Surface Water – Future – 3.3%+40CC* *Egypt_Lennards Wharf – Surface Water – Future – 1%+25CC* *Egypt_Lennards Wharf – Surface Water – Future – 1%+45CC* *Egypt_Lennards Wharf – Surface Water – Future – 0.1%+25CC* *Egypt_Lennards Wharf – Surface Water – Future – 0.1%+45CC* **Data analysis:** **3.3% AEP (1 in 30 year) + 20% Climate Change event:** Proportion – <1% Max Depth – 0.29m Mean Depth – 0.19m Max Velocity – 0.15m/s Mean Velocity – 0.07m/s	

	Max Hazard – 1.14 (danger to some) Mean Hazard – 0.61 (caution) **3.3% AEP (1 in 30 year) + 40% Climate Change event:** Proportion – 4% Max Depth – 0.32m Mean Depth – 0.18m Max Velocity – 0.3m/s Mean Velocity – 0.07m/s Max Hazard – 1.16 (danger to some) Mean Hazard – 0.6 (caution) **1% AEP (1 in 100 year) + 25% Climate Change event:** Proportion – 11% Max Depth – 0.43m Mean Depth – 0.23m Max Velocity – 0.86m/s Mean Velocity – 0.14m/s Max Hazard – 1.35 (danger to most) Mean Hazard – 0.88 (danger to some) **1% AEP (1 in 100 year) + 45% Climate Change event:** Proportion – 12% Max Depth – 0.45m Mean Depth – 0.23m Max Velocity – 1.1m/s Mean Velocity – 0.16m/s Max Hazard – 1.4 (danger to most) Mean Hazard – 0.9 (danger to some) **0.1% AEP (1 in 1000 year) + 25% Climate Change event:** Proportion – 18% Max Depth – 0.51m Mean Depth – 0.23m Max Velocity – 1.38m/s Mean Velocity – 0.26m/s Max Hazard – 1.51 (danger to most) Mean Hazard – 0.89 (danger to some) **0.1% AEP (1 in 1000 year) + 45% Climate Change event:** Proportion –25% Max Depth – 0.54m Mean Depth – 0.22m Max Velocity – 1.98m/s Mean Velocity – 0.38m/s Max Hazard – 1.56 (danger to most) Mean Hazard – 0.87 (danger to some) **Description of surface water flow paths:** The site is shown to flood during all climate change events, covering up to 25% of the site during the 0.1% AEP plus 45% climate change event. Localised areas of flooding are shown in the west and north-east of the site during the 1% AEP climate change events. These areas increase in extent during the 0.1% AEP plus climate change events; a flow path is present to both the east and west of the site connecting Brighton Road to the River Adur. The maximum hazard rating is danger to most.
Tidally influenced Surface Water Risk Zone	**Available data and mapping:** JBA's Tidally influenced Surface Water Risk Zones derived using the RoFSW data, 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.

	Egypt_Lennards Wharf – Tidal Drainage Risk Zones **Flood characteristics:** The majority of the site is shown to be located within SW1, within the Surface Water Risk Zone mapping, with areas across the south of the site located in SW2. Small areas in the north of the site are also shown to be located above the future tidal level. • 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. *Egypt_Lennards Wharf – Groundwater Flood Risk* **Flood characteristics:** During a 1% AEP groundwater flood event, groundwater levels are predominantly shown to be 'low risk'.
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. *Egypt_Lennards Wharf – Groundwater Risk Zones* **Flood characteristics:** The majority of the site is located within GW1 of the Groundwater Risk Zone mapping, with areas across the south of the site within GW2. Localised patches in the north of the site are shown to be above the future tide level. • 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:** 28 reportable sewer incidents have occurred since 1990 within the five-digit postcode area of the proposed development site. Thes incidents have been attributed to hydraulic overload following rainfall.
Flood history	The site is not shown to be located within the Environment Agency's Recorded Flood Outlines extent.
Flood risk management infrastructure	
Existing Defences	The Environment Agency's AIMS dataset identifies one formal flood defence located directly south of the site, comprising of natural high ground.
Residual risk	**Available data and mapping:** 2025 Arun-Adur modelling – breach scenario. *Depth* *Egypt_Lennards Wharf – Breach A–3.3%* *Egypt_Lennards Wharf – Breach A – 0.5%* *Egypt_Lennards Wharf – Breach A – 0.1%* *Egypt_Lennards Wharf – Breach B–3.3%* *Egypt_Lennards Wharf – Breach B – 0.5%* *Egypt_Lennards Wharf – Breach B – 0.1%* *Egypt_Lennards Wharf – Breach C–3.3%* *Egypt_Lennards Wharf – Breach C – 0.5%* *Egypt_Lennards Wharf – Breach C – 0.1%* *Egypt_Lennards Wharf – Breach D –3.3%* *Egypt_Lennards Wharf – Breach D – 0.5%* *Egypt_Lennards Wharf – Breach D – 0.1%* *Egypt_Lennards Wharf – Breach E–3.3%* *Egypt_Lennards Wharf – Breach E – 0.5%* *Egypt_Lennards Wharf – Breach E – 0.1%* *Hazard* *Egypt_Lennards Wharf – Breach A–3.3%* *Egypt_Lennards Wharf – Breach A – 0.5%* *Egypt_Lennards Wharf – Breach A – 0.1%* *Egypt_Lennards Wharf – Breach B–3.3%* *Egypt_Lennards Wharf – Breach B – 0.5%* *Egypt_Lennards Wharf – Breach B – 0.1%* *Egypt_Lennards Wharf – Breach C–3.3%* *Egypt_Lennards Wharf – Breach C – 0.5%* *Egypt_Lennards Wharf – Breach C – 0.1%* *Egypt_Lennards Wharf – Breach D –3.3%* *Egypt_Lennards Wharf – Breach D – 0.5%*

	Egypt_Lennards Wharf – Breach D – 0.1% *Egypt_Lennards Wharf – Breach E–3.3%* *Egypt_Lennards Wharf – Breach E – 0.5%* *Egypt_Lennards Wharf – Breach E – 0.1%* *Velocity* *Egypt_Lennards Wharf – Breach A–3.3%* *Egypt_Lennards Wharf – Breach A – 0.5%* *Egypt_Lennards Wharf – Breach A – 0.1%* *Egypt_Lennards Wharf – Breach B–3.3%* *Egypt_Lennards Wharf – Breach B – 0.5%* *Egypt_Lennards Wharf – Breach B – 0.1%* *Egypt_Lennards Wharf – Breach C–3.3%* *Egypt_Lennards Wharf – Breach C – 0.5%* *Egypt_Lennards Wharf – Breach C – 0.1%* *Egypt_Lennards Wharf – Breach D –3.3%* *Egypt_Lennards Wharf – Breach D – 0.5%* *Egypt_Lennards Wharf – Breach D – 0.1%* *Egypt_Lennards Wharf – Breach E–3.3%* *Egypt_Lennards Wharf – Breach E – 0.5%* *Egypt_Lennards Wharf – Breach E – 0.1%* **Flood characteristics:** The site is not considered to be at risk in the breach scenarios tested; flooding at the site is not exacerbated by the breach scenarios.
Emergency planning	
Flood warning	The site has been identified to be located within the Shoreham Harbour (065WAC408) Flood Alert Area and the Shoreham Harbour (065FWC3001) Flood Warning Area. *Ham Business Centre – Flood Warning* Future residents should be encouraged to sign up to Environment Agency flood alerts and warnings.
Access and egress	**Surface Water 1% AEP plus 45% climate change (upper end allowance)** Access and egress are shown to be affected during the surface water design event. Surface water risk on Brighton Road adjacent to the site remains low risk, however the wider access to the site is limited with areas east and west on Brighton Road classified as 'Danger to some'. It should also be noted that localised flooding within the site also occurs, with depths exceeding 300mm, thereby limiting access and egress to parts of the site. **Tidal 0.5% AEP plus 55% climate change (higher central allowance)** Access and egress to the site is unavailable during the 0.5% AEP plus climate change tidal events due to flooding across Brighton Road. Depths are shown to exceed 0.5m across significant areas of the road. The hazard rating is 'Danger to most'.

	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 consist of sand and gravel overlay this across the entire site. The soils are shown be loamy and clayey soils of coastal flats that can limit infiltration. 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 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 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 and aim to be restricted to Greenfield Qbar. If that is not possible; flow should be restricted to as close to Qbar as is achievable. A relaxation factor shall be applied to the target 50% and 1% AEP greenfield runoff rates, this relaxation factor should be no greater than five times the greenfield runoff rate. This should be done in consultation 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. The majority of the site is not considered to be susceptible to groundwater flooding (low risk), therefore infiltration is likely to be feasible. Site investigation work and additional groundwater monitoring is recommended to determine the seasonal variability of groundwater levels, as this may affect the design of the surface water drainage system. The infiltration potential of the site should be confirmed through infiltration testing, in line with BRE 365 or similar. The topography of the site is unlikely to affect any proposed SuDS features. Any water not intercepted via infiltration is likely to drain towards the River Adur. It is 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. • 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. • 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	
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 partially within Flood Zone 3 according to the Environment Agency's Flood Map for Planning and also shown to be at 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. A site specific FRA will be required for this site.
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. • Development within 16m of a tidal main river, a tidal river flood defence or culvert or a sea defence is likely to require a flood risk activities permit: https://www.gov.uk/guidance/flood-risk-activities-environmental-permits. If development is within 20m of a main river, flood defence or flow control structure the developer will need to check with the Environment Agency if a separate permit or consent is needed. • Development plans should consider the Level 1 and 2 SFRA for Adur, as well as the Local Flood Risk Management Strategies to identify cumulative flood risk issues. The Cumulative Impact Assessment (CIA) completed as part of the Level 1 SFRA, highlights that the East Adur catchment, is at a high risk of cumulative impacts. The risk of

cumulative impacts of this development and others in the local area on flood risk should be considered within the site-specific flood risk assessment. It should also promote an integrated approach to water management.

- The site is included within the Shoreham Harbour Joint Area Action Plan. Policies outlined within this strategy document should be followed and relevant stakeholders consulted.
- Applicants are expected to provide fully detailed plans of the site's existing surface water drainage arrangements, including impermeable areas, gullies, outfalls, pipes & diameters, manholes, etc., to prove the extent of the existing positively drained areas and their associated points of discharge.

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 and areas of pooling surface water 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.
- 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 is likely to be limited due to the flooding and will need to be considered further within a site-specific FRA for the tidal and surface water events with an appropriate allowance for climate change, using the depth, velocity, and hazard outputs. This will need to accompany a Flood Response Plan for the site and its users.
- 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.

- 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 identified to be at high risk of flooding. According to the 2025 Arun-Adur modelling, the site is situated 13% in Flood Zone 3b, 25% in Flood Zone 3a and 15% in Flood Zone 2. 81% of the site is shown to flood during the tidal design event (0.5% AEP plus 55% climate change allowance).

12% of the site is shown to flood during the surface water design event (1% AEP plus 45% climate change allowance).

The key access route to the site is via Brighton Road. During both the tidal and surface water design events, flooding is predicted along this access routes. Detailed consideration into site access and egress will be required.

Given the high 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.
- Mitigation measures are incorporated to reduce the risk of flooding to the development. Early consultation should be held with the Environment Agency to discuss this.
- A site-specific Flood Risk Assessment, including detailed modelling, is undertaken to assess the risk of tidal and surface water flooding in relation to the proposed development, and the access and egress arrangements.
- Infiltration rates and groundwater levels are assessed on site as part of a drainage strategy, including consideration of the impact of tide levels on infiltration.
- Consideration is given to the safe access and egress to the site during the design flood event. A Flood Response Plan should be prepared in line with ADEPT guidance.
- 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

Shoreham Harbour Joint Area Action Plan

https://www.adur-worthing.gov.uk/media/Media,156282,smxx.pdf

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