

Flood Risk Assessment (FRA) template

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1 Site description

1.1 Site address

Unit 3, 7 Kings Crescent, Shoreham-by-Sea, West Sussex BN43 5LE

1.2 Vulnerability classification

The existing and proposed use is a commercial vehicle repair / mechanics garage with no sleeping accommodation and no overnight residential occupation. On the basis of the NPPF flood vulnerability categories, the use is treated as Less Vulnerable as an industrial / commercial operation analogous to general industry / commercial premises. Occupation is expected to be daytime / working hours only and the building can be closed when severe weather or flood warnings are issued

1.3 Flood zone incompatibility

For this proportionate minor-extension FRA, the site is treated as being in a tidal flood risk area and, on the basis of local context and adjoining-site planning evidence, within Flood Zone 3a

1.4 Lifetime of development

A 75-year lifetime has been adopted, consistent with the normal planning starting point for non-residential development. Flood risk has therefore been considered for present-day and future climate-change conditions across that period.

1.5 Local Plan policies and SFRA recommendations

The assessment has been prepared having regard to Adur Local Plan Policy 36 and the Adur & Worthing Level 1 SFRA 2024. The proposal must show that it is safe for its lifetime, flood resilient / resistant, does not increase flood risk elsewhere, gives priority to SuDS and, where possible, reduces flood risk overall. The SFRA also requires residual risk from existing defences to be considered and notes that, for development without sleeping accommodation at ground floor, finished floor levels should normally be set 300 mm above the design flood level or else resilience measures should protect to at least 300 mm above the estimated flood level.

2 Assess flood risk

2.1 Existing site

The site is an existing developed commercial plot in a low-lying coastal setting. The extension is proposed on existing hardstanding / yard area beside the current garage rather than on undeveloped land. No topographical survey or plot-specific EA modelled flood level has been supplied with the instructions for this FRA. The submitted drawings therefore provide the main site information currently available, and this FRA takes a proportionate resilience-led approach suitable for a minor commercial extension.

2.2 Fluvial flood risk

2.2.1 Design flood event

Direct fluvial flood risk is not the principal issue for this site. There is no ordinary watercourse or main river within the red-line site, and the relevant flood mechanism locally is the tidal / estuarine system associated with the coast and lower River Adur. No separate fluvial design level for the plot has been supplied. Accordingly, fluvial risk is treated as secondary to tidal flood risk for this proposal.

2.2.2 Residual fluvial risk

Residual fluvial risk is considered low to secondary at the plot itself relative to tidal flood risk. No basement or other below-ground accommodation is proposed. The development does not increase vulnerability, and the same resilience measures proposed for tidal / surface water flooding would also improve resilience to any coincident fluvial component.

2.3 Tidal flood risk

2.3.1 Design flood event

Tidal flooding is the principal source of flood risk affecting the site. The Adur & Worthing SFRA confirms the coastal and Adur estuary setting is defended; the majority of defences provide at least a 4% AEP standard of protection and many in Adur provide 1% AEP or greater, while the Shoreham Adur Tidal Walls scheme was designed to provide protection against 0.33% probability events allowing for 50 years of sea level rise. However, the SFRA and standing advice require residual risk to be considered even where defences are present. No plot-specific modelled tidal depth or level has been supplied, so the proposal adopts a conservative resilience-led approach for a Less Vulnerable daytime commercial use.

2.3.2 Residual tidal risk

Residual risk remains from overtopping, breach, exceedance and events more severe than the design standard of existing defences, particularly over the 75-year lifetime with climate change. The building therefore should not rely only on area-wide defences. Risk

management will include flood-compatible use, no sleeping accommodation, warning-based closure and evacuation, resilient materials, raised services, backflow protection and drainage / surface-water design that does not worsen risk.

2.4 Surface water flood risk

2.4.1 Design flood event

Surface water flood risk is a relevant secondary source. The SFRA states that Shoreham is among the areas of greatest surface water risk within the study area and identifies tide-locking of gravity outfalls as an issue along the defended coastal plain. The extension must therefore ensure no increase in runoff or obstruction of overland exceedance routes. The development should incorporate source-control drainage, threshold / flow management and backflow measures as part of the final detailed design.

2.4.2 Residual risk

Residual surface water risk may arise from intense rainfall, blocked gullies, overwhelmed drainage, tide-locking and exceedance of drainage features. This will be managed by keeping finished floor levels no lower than the existing internal slab where practicable, keeping external routes free for exceedance flows, using robust floor / wall finishes, raising services, and ensuring the final drainage design provides no increase in peak runoff from the site.

2.5 Sewer flood risk

The SFRA records historic sewer flooding incidents in postcode sector BN43 5. This indicates that sewer surcharge must be treated as a live secondary risk. The proposal should therefore include non-return valves / backflow protection where feasible, maintain or improve drainage performance relative to the existing situation, and consult the sewerage undertaker if connection changes or capacity issues arise.

2.6 Groundwater flood risk

Groundwater risk is a potential but secondary consideration in the coastal setting. The SFRA notes that its groundwater mapping is broad-scale and not designed for single-property assessment. No basement, cellar or other sub-surface occupied space is proposed. Groundwater risk is therefore managed through avoidance of below-ground accommodation, sealed service entries, robust ground floor construction, and use of infiltration only if supported by ground investigation and groundwater conditions.

2.7 Reservoir flood risk

The Adur & Worthing SFRA states that national reservoir breach mapping does not impact Adur and Worthing. Reservoir flooding is therefore not considered a material source of flood risk for this site.

2.8 Canals and other artificial sources of flood risk

No canals, docks, mill races or other artificial inland sources have been identified on or adjacent to the site from the information reviewed. The relevant artificial-source considerations are therefore the existing drainage network, sewer surcharge and the performance of coastal / tidal defence infrastructure.

2.9 Coastal erosion risk implications on tidal flood risk

Coastal erosion is not the principal planning constraint for this proposal. Adur & Worthing's frontage is subject to a 'Hold the Line' shoreline management policy. Accordingly, the dominant issue for the application is tidal flood risk and residual defence performance rather than unmanaged coastal retreat at this plot.

2.10 Interactions of various sources

The key interaction is between tidal conditions and drainage performance. The SFRA identifies tide-locking as an issue whereby high tides can restrict discharge from gravity outfalls, increasing surface water and potentially sewer-related flooding. During extreme weather, tidal flooding, intense rainfall and sewer surcharge may therefore combine. The proposed mitigation has been selected on that combined-risk basis.

2.11 Design flood level according to all the sources identified

No verified plot-specific design flood level in mAOD has been supplied for this assessment. For planning purposes the site should be treated as being within a high-level tidal flood risk setting with relevant secondary surface water / sewer considerations. If the LPA or EA require a numerical design flood level for the plot, the applicant should obtain current EA site-specific data and a topographical survey. Pending that confirmation, the scheme is assessed and designed on a resilience-led basis suitable for a minor Less Vulnerable extension.

2.12 Exception Test

The Exception Test is not required. The proposal is a small non-residential extension below 250 m² and therefore falls within the category of minor development that is exempt from the Sequential and Exception Tests, while still requiring a site-specific FRA. In any event, Less Vulnerable development is compatible with Flood Zone 3a.

2.13 Summary of flood risks

This FRA concludes that the proposed extension to the mechanics garage at Unit 3, 7 Kings Crescent can be supported in flood-risk terms as a proportionate minor non-residential extension, subject to the mitigation and management measures identified in this report.

The site is in a defended but residual-risk coastal / tidal flood setting. Tidal flooding is the principal source of risk, with surface water, tide-locking, sewer surcharge and broad-scale groundwater considerations also relevant. The proposal is helped by the fact that it does not intensify vulnerability: it remains a Less Vulnerable daytime commercial use with no sleeping accommodation and no basement.

3 Avoid flood risk

3.1 Evidence of the Sequential Test

The Sequential Test is not required because the proposal is a small non-residential extension with a footprint below 250 m². This FRA nevertheless adopts the sequential approach within the site and does not introduce any more vulnerable use.

3.2 Sequential Approach

The proposed extension is located alongside the existing garage on currently hard-surfaced operational land. It does not introduce sleeping accommodation, a basement, or a more vulnerable use. The proposal therefore keeps the existing commercial use and steers the development response toward resilience and management rather than intensification of vulnerability.

4 Control flood risk

4.1 Proposed site levels

No general land raising is proposed. The extension should tie into the existing operational garage floor to preserve vehicle access and workable circulation, and the finished floor should not be set lower than the current slab. If a confirmed design flood level becomes available before determination or construction, thresholds and any local floor raising should be reviewed against the EA and SFRA guidance. Where raising the slab materially is impracticable for an operational garage extension, flood resistance / resilience should be provided instead.

4.2 Flood flow route

The proposal should preserve external exceedance routes around the building and across the retained hardstanding without diverting flood water onto neighbouring land. Drainage channels and any local bunding or threshold details should be designed so that surface water is directed away from door openings while still allowing exceedance to be managed safely within the site.

4.3 Existing or proposed flood risk management infrastructure

The wider area benefits from coastal / tidal defence infrastructure, including the Shoreham Adur Tidal Walls scheme, but the proposal should not rely solely on those assets for site safety. Building-level resistance and resilience measures are therefore required as part of the scheme. No new formal off-site flood defence infrastructure is proposed by the application.

5 Mitigate flood risk

5.1 Risk to people

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5.2 Risk to property/building

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5.3 Risk to essential services

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5.4 Floodplain storage and conveyance compensation

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5.5 Surface water management

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6. Manage flood risk

6.1 Safe access and escape

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6.2 Evacuation plan

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6.3 Residual flood risk

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6.4 Betterment provision

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7. Summary of measures