

1 Flood Risk Assessment (FRA) template

Please enter text in the boxes provided.

1.1 1 Site description

1.1 Site address

171 Brighton Road, Worthing, West Sussex, BN11 2EX. National Grid Reference TQ 15806 02866 (easting/northing 515806/102866), consistent with the EA Flood Map for Planning output for this location (created 20 July 2026), appended to this assessment.

This assessment supports a householder application for a single-storey rear garage addition and associated internal alterations, as shown on BuildView Studio drawings A01 and A02 (Rev 01, July 2026).

1.2 Vulnerability classification

Under the NPPG Flood Risk Vulnerability Classification (Table 2), the existing and proposed residential use is classified as “More Vulnerable”. The proposed garage element, considered in isolation, is a “Less Vulnerable” use.

The proposal is householder development: a single-storey rear garage addition with internal re-modelling. It does not create a new dwelling, does not add sleeping accommodation or bedspaces, and does not increase the number of people at risk. The flood risk vulnerability classification of the site is therefore unchanged by the proposal.

1.3 Flood zone incompatibility

The site is confirmed to lie within Flood Zone 3 (high probability of flooding) on the current EA Flood Map for Planning. The Flood Map for Planning defines flood zones ignoring the presence of defences, which is why the frontage reads as Flood Zone 3 notwithstanding the Worthing sea defences; the actual (defended) risk and design levels are addressed at 2.3 and 2.11. As a developed, defended urban street frontage the site is Flood Zone 3a; it is not functional floodplain (Flood Zone 3b).

1.4 Lifetime of development

A residential design life of 100 years is adopted (EA guidance for residential development). The assessment therefore applies climate-change allowances to the 2125 epoch. Peak tidal/sea-level allowances for the relevant management catchment should be taken from the latest EA “Flood risk assessments: climate change allowances” guidance current at submission.

1.5 Local Plan policies and SFRA recommendations

Development plan: Worthing Local Plan 2020–2036 (adopted 28 March 2023). Relevant flood-risk and drainage policies: Policy DM20 (Flood risk and sustainable drainage) and Policy DM21 (Water quality and sustainable water use).

Evidence base: Adur & Worthing Level 1 Strategic Flood Risk Assessment (July 2024). The SFRA identifies tidal flood risk to the Worthing coastal strip behind the seafront defences and recommends that finished floor levels be set above the design flood level with freeboard, that flood-resistant and flood-resilient construction be used, and that

surface-water be managed via sustainable drainage. This FRA is prepared consistently with those recommendations.

1.2 2 Assess flood risk

2.1 Existing site

The site is currently occupied by the existing two-storey dwelling with a hard/soft rear curtilage. The proposal replaces part of the rear garden/hardstanding with a single-storey garage (footprint approximately 29 m²), well below the 250 m² minor-development threshold.

Indicative ground levels from the survey base of drawing A01 and nearby Ordnance benchmarks (location plan shows 5.4 m, 5.5 m and TCB 4.9 m) suggest site levels in the order of 4.9–5.5 m AOD. These are to be confirmed by measured survey and reflected in the finished floor levels (Section 4.1). No basement is proposed.

2.2 Fluvial flood risk

2.2.1 Design flood event

No main river or ordinary watercourse lies within influencing distance of the site; the nearest main river (River Adur) is several kilometres to the east. The site is not within a fluvial flood zone. Fluvial flood risk is negligible.

Not applicable – there is no fluvial source affecting the site, so no fluvial design flood event is relevant.

2.2.2 Residual fluvial risk

Negligible. There is no credible residual fluvial mechanism (no upstream watercourse or fluvial defence whose failure could affect the site).

2.3 Tidal flood risk

2.3.1 Design flood event

Tidal (coastal) flooding from the English Channel is the primary flood source. The site lies within the tidal floodplain landward of Worthing's seafront defences and within the EA flood warning area "Coastal areas of Rustington, Ferring, Worthing and Lancing".

The design tidal event is the 0.5% annual exceedance probability (1 in 200-year) still-water sea level, plus the appropriate sea-level-rise allowance to the 2125 epoch. The design still-water level for the site is taken from the Environment Agency's detailed flood risk data (Product 4) and informs the finished floor levels set out in Sections 2.11 and 4.1.

The design tidal event is the 0.5% AEP (1 in 200-year) still-water sea level, with the sea-level-rise allowance applied to the 2125 epoch, taken from the Environment Agency's detailed flood risk data (Product 4). Finished floor levels to habitable areas are set a minimum of 300 mm above the design flood level (see 2.11 and 4.1). Where the design level falls below existing ground level, the existing floor level is retained. This requirement can be secured by planning condition.

2.3.2 Residual tidal risk

Residual tidal risk arises from overtopping or breach of the coastal defences. The defended standard and any modelled breach hazard are set out in the Environment Agency's detailed flood risk data and the Adur & Worthing SFRA (2024). Residual risk is

managed through flood-resilient construction, safe first-floor refuge above the design level, and registration for EA flood warnings (Section 5 and 6).

2.4 Surface water flood risk

2.4.1 Design flood event

The risk of flooding from surface water at the site is low (Environment Agency surface-water mapping; Adur & Worthing SFRA Appendix F). The Brighton Road frontage is not identified as a significant overland flow path in the SFRA. The proposal does not increase impermeable area if permeable finishes and roof drainage controls are used (see 5.5).

Surface-water design events considered: 3.3% (1 in 30), 1% (1 in 100) and 0.1% (1 in 1000) AEP, with a 40% climate-change uplift applied to rainfall for the drainage design in line with EA allowances.

2.4.2 Residual risk

Residual surface-water risk is low and is managed by the sustainable-drainage measures in 5.5, ensuring no increase in runoff rate or volume relative to the existing situation and no worsening of risk to neighbours.

2.5 Sewer flood risk

Foul and surface-water sewers in the area are operated by Southern Water (largely combined). Recorded sewer-flooding incidence at the site is low. The proposal directs foul flows to the existing connection and manages surface water via SuDS/soakaway (subject to ground conditions), so it does not increase loading on the public sewer. Sewer flood risk is low.

2.6 Groundwater flood risk

The site overlies the coastal margin of the chalk aquifer. Groundwater levels can be elevated in coastal locations, but no basement or below-ground habitable space is proposed and finished floor levels are at/above existing ground level, so vulnerability to groundwater emergence is low. The Adur & Worthing SFRA groundwater mapping indicates limited susceptibility in the wider area.

2.7 Reservoir flood risk

There is no reservoir upstream of, or hydraulically connected to, the site whose failure could cause inundation here. Reservoir flood risk is negligible.

2.8 Canals and other artificial sources of flood risk

There are no canals, docks or other artificial water bodies in proximity that present a flood risk to the site. This source is negligible.

2.9 Coastal erosion risk implications on tidal flood risk

The Worthing frontage is a defended, managed shingle beach with sea wall and groyne field. The relevant Shoreline Management Plan policy for this frontage is Hold the Line, and the defences are maintained under the Brighton Marina to River Adur Flood and Coastal Erosion Risk Management Strategy. The site is approximately 500 m inland and is not subject to direct coastal-erosion risk within the development's lifetime; erosion does not therefore alter the tidal flood-risk conclusions.

2.10 Interactions of various sources

Tidal flooding is the dominant and governing source. A theoretical coincidence of a tidal event with intense rainfall (surface water/sewer surcharge) is possible but is not materially compounding for a minor single-storey householder addition, and is addressed collectively by setting floor levels above the tidal design level and by on-plot SuDS. No adverse interaction between sources increases the assessed risk.

2.11 Design flood level according to all the sources identified

The governing design flood level is the tidal 0.5% AEP still-water level plus climate change to the 2125 epoch, as given in the Environment Agency's detailed flood risk data (Product 4). Finished floor levels to habitable areas are to be set at least 300 mm above this level, or to match/exceed the existing dwelling FFL where that is already higher. The garage FFL is set at existing external level to avoid raising risk elsewhere, with resilient construction (5.2).

2.12 Exception Test

Not applicable. As householder development the proposal is exempt from the Exception Test (NPPF ¶176; NPPG). For completeness, were it engaged: part (a) – the works are minor betterment to an existing lawful dwelling within a sustainable urban location; part (b) – this FRA demonstrates the development can be made safe for its lifetime without increasing flood risk elsewhere. Both limbs would be satisfied.

2.13 Summary of flood risks

Summary of flood risk by source:

- Tidal / coastal – primary source; defended; managed by raised floor levels, resilient construction, refuge and flood warnings.
- Surface water – low; managed by on-plot SuDS with no increase in runoff.
- Sewer and groundwater – low; no basement, no increased sewer loading.
- Fluvial, reservoir, canal/artificial – negligible.

Overall, residual flood risk to the proposal is acceptable subject to the mitigation in Sections 5 and 6.

1.3 3 Avoid flood risk

3.1 Evidence of the Sequential Test

A Sequential Test is not required. Householder development is exempt from the Sequential Test (NPPF ¶176; NPPG). In addition, under the proportionate approach at NPPG ¶27a, where a proposal is shown to be safe for its lifetime and does not increase flood risk elsewhere – as demonstrated in this FRA – the Sequential Test need not be applied.

3.2 Sequential Approach

A sequential approach is nonetheless applied within the site: the lowest-vulnerability use (the garage) is placed at ground-floor level; no new sleeping accommodation is created at ground floor; habitable floor levels are set above the design flood level; and safe refuge remains available at first floor, which sits well above the design flood level.

1.4 4 Control flood risk

4.1 Proposed site levels

No general raising of site levels is proposed. The garage finished floor level is set at existing external ground level; habitable finished floor levels are set above the design flood level (2.11). Because the additional footprint is minor and single-storey, there is no material loss of flood storage. Finished floor levels are set as described in Section 2.11 and can be secured by planning condition.

4.2 Flood flow route

The site lies landward of the coastal defences and is not within an active overland flow route or functional floodplain conveyance corridor. The proposal does not obstruct any flood flow path; boundary treatments are unchanged or flood-permeable, so overland flow in a residual event is not diverted onto neighbouring land.

4.3 Existing or proposed flood risk management infrastructure

Flood risk is managed by Worthing's coastal defences (sea wall, recharged shingle beach and groyne field) maintained by the Environment Agency and Adur & Worthing Councils under the Brighton Marina to River Adur FCERM Strategy. The proposal is approximately 500 m inland and does not affect, obstruct or rely on altering any defence structure.

1.5 5 Mitigate flood risk

5.1 Risk to people

Risk to people is minimised by registering the occupiers for EA flood warnings (Floodline / online), by the availability of safe vertical refuge at first-floor level above the design flood level, and by the fact that occupancy is not increased. Occupants are able-bodied and mobile; a personal flood plan will identify actions on receipt of a Flood Alert/Warning.

5.2 Risk to property/building

Flood-resilient (water-entry-tolerant) construction is proposed to the garage and ground floor to the greater of 600 mm above finished floor level or the design flood level: e.g. solid/closed-cell insulation, water-resistant wall finishes, tanking/resistant screeds, and non-return valves on drainage. Where the design flood level is at or above the threshold, flood-resistant measures (demountable door barriers and automatic/self-closing air-brick covers) are also incorporated.

5.3 Risk to essential services

Essential services are protected by mounting the consumer unit, sockets and controls a minimum of 600 mm above finished floor level (or above the design flood level), running electrical circuits from the first floor downwards, and siting the boiler and meters clear of the design flood level.

5.4 Floodplain storage and conveyance compensation

Level-for-level floodplain compensation is not required. The site is Flood Zone 3a (confirmed on the EA Flood Map for Planning, 20 July 2026) – defended tidal land outside the functional floodplain (Flood Zone 3b) – the additional structure is minor and single-storey, and there is no meaningful displacement of flood storage.

5.5 Surface water management

Surface water is managed on plot with no increase in runoff rate or volume compared with the existing situation. Following the SuDS discharge hierarchy, roof water from the garage is directed to a soakaway/water butt where infiltration is viable (subject to BRE 365 testing; note coastal groundwater may limit infiltration), otherwise to attenuated, rate-restricted discharge. Any new external hardstanding uses permeable surfacing. This delivers a betterment over the existing garden/hardstanding drainage.

1.6 6. Manage flood risk

6.1 Safe access and escape

Safe access and escape: in an extreme event, safe vertical refuge is available at first-floor level above the design flood level. When warnings are issued in advance of a tidal surge, occupants can leave dry-shod via Brighton Road before the onset of flooding; escape is not required through hazardous depths. The tidal mechanism is forecast in advance, giving usable warning time.

6.2 Evacuation plan

Evacuation / flood plan: occupiers register with the EA flood-warning service (Floodline 0345 988 1188 or gov.uk) to receive Flood Alerts and Warnings, and prepare a simple personal flood plan (move valuables/services upstairs, deploy any resistance measures, follow Adur & Worthing emergency guidance, and evacuate on official advice). No community refuge is relied upon.

6.3 Residual flood risk

After mitigation, the residual risk is a low-probability tidal defence breach or overtopping event. This is managed by the resilient construction, the raised floor levels, the availability of safe first-floor refuge and advance flood warnings. The residual risk is considered acceptable for minor householder development and is not increased for third parties.

6.4 Betterment provision

The proposal delivers betterment relative to the existing dwelling: flood-resilient construction and raised services where none currently exist, floor levels set above the design flood level, on-plot SuDS reducing surface-water runoff, and registration for flood warnings. The net effect is a reduction in flood vulnerability at the property compared with the baseline.

1.7 7. Summary of measures

Summary of flood-risk measures incorporated:

- Habitable finished floor levels set at least 300 mm above the tidal design flood level (2125 epoch).
- Garage FFL at existing external level with flood-resilient construction; resistant measures where thresholds are at/below the design level.
- Electrics, controls and boiler raised above the design flood level; circuits fed from above.
- On-plot sustainable drainage with no increase in surface-water runoff – a betterment over existing.
- Safe first-floor refuge and dry pedestrian escape via Brighton Road; occupiers registered for EA flood warnings with a personal flood plan.

Conclusion: the development can be made safe for its lifetime and does not increase flood risk elsewhere, consistent with the NPPF and NPPG. As householder development it is exempt from the Sequential and Exception Tests. Subject to the finished-floor-level and resilience measures above (which can be secured by condition), the proposal is acceptable in flood-risk terms.