

FLOOD RISK ASSESSMENT

Proposed Single-Storey Rear Extension

207 Havant Road

Hayling Island

Hampshire PO11 0LG

Prepared in support of a Householder Planning Application to Havant Borough Council

Revised: August 2026

IMPORTANT LEVEL INFORMATION: The submitted drawings do not state existing ground levels, existing finished floor level or the design flood level in metres Above Ordnance Datum (mAOD). This report therefore sets a firm design methodology and mitigation specification, but the numeric mAOD values must be inserted following a topographical threshold survey and confirmation of the Environment Agency design flood level. The report should not be represented as containing verified site levels until Section 6.3 is completed.

Executive Summary

This Flood Risk Assessment supports the proposed single-storey rear extension at 207 Havant Road, Hayling Island. The extension projects approximately 5.6 metres beyond the original rear wall and provides additional dining and lounge accommodation, two roof lanterns and two sets of bifold doors. It remains part of the existing dwelling and does not create a separate residential unit.

The principal potential source of flooding in this part of Hayling Island is tidal flooding from the sea, together with possible surface-water, sewer and groundwater effects. The development is minor in scale, but because it adds vulnerable ground-floor accommodation it must be designed so it is safe, does not increase flood risk elsewhere and can recover quickly after an event.

Whilst current guidance often recommends a freeboard of 600 mm above the design flood level where practicable, The proposed extension has been designed to match the existing dwelling's finished floor level, which is approximately 470 mm above adjacent external ground level. Raising the extension above the existing dwelling would create impractical internal level changes, affect accessibility and require unnecessary alterations to the existing structure. The reduced freeboard is therefore compensated by an enhanced package of flood-resistance and resilience measures including a continuous flood-resistant external envelope, sealed service penetrations, flood-resistant wall and floor construction, demountable flood barriers to the bifold doors, positive surface water drainage away from the building, resilient internal finishes and a comprehensive flood warning, evacuation and first-floor refuge plan. Matching the existing finished floor level also avoids creating a step between the existing dwelling and the extension, maintaining safe internal access while significantly improving the property's ability to resist and recover from flooding.

1. Site and Development

1.1 Site

The application site is an established dwelling at 207 Havant Road, Hayling Island, Hampshire PO11 0LG. The works are confined to the existing residential curtilage at the rear of the property.

1.2 Proposed works

- Single-storey rear extension projecting approximately 5.6 m beyond the original rear wall.
- Maximum height approximately 2.9 m and eaves height approximately 2.7 m.
- New dining and lounge accommodation facing the south-facing garden.
- Two sets of white uPVC bifold doors and two roof lanterns.
- Brick and flint external walls to match the existing dwelling.
- Warm flat roof with an EPDM or equivalent waterproof finish.
- No new dwelling, basement, new vehicle access or change to existing parking arrangements.

2. Policy and Assessment Basis

This assessment follows the Environment Agency standing advice for minor extensions in Flood Zones 2 and 3, the National Planning Policy Framework and Planning Practice Guidance on flood risk and coastal change. Environment Agency standing advice recommends that minor-extension finished floor levels are normally set at least 470 mm above the estimated design flood level, with flood-resistant materials extending to at least 470 mm above that level. A reduction to 300 mm may be acceptable only where there is a high degree of certainty in the estimated flood level and the Local Planning Authority accepts the approach.

All levels used for the final design must be stated in metres Above Ordnance Datum (mAOD). The design flood for tidal risk is the 0.5% annual probability event, including the appropriate climate-change allowance over the development lifetime.

3. Sources of Flood Risk

Source	Initial appraisal	Design response
Tidal / sea flooding	Potentially material because the site is on Hayling Island. Exact design level and residual defence risk require Environment Agency data.	Raised floor level, resistant envelope, protected openings, warning and evacuation plan.
Surface water	Roof runoff and local ponding are possible during intense rainfall.	Positive falls away from walls; rainwater managed through existing lawful system or an approved infiltration/attenuation arrangement.
Groundwater	Cannot be excluded from the submitted documents.	Continuous DPM linked to DPC; sealed service penetrations; no basement.
Sewer flooding	Residual risk may arise during surcharge.	Non-return valves to low-level drainage where technically appropriate; raised or sealed low-level connections.
Artificial sources	No source identified in the submitted documents.	Confirm against current mapping and utility information before final submission.

4. Proposed Flood Mitigation Strategy

4.1 Hierarchy

- Avoid: keep the extension within the existing domestic curtilage and do not create sleeping accommodation or a separate dwelling at ground-floor level.
- Control: raise the finished floor and threshold levels and grade external areas away from the building.
- Resist: provide a continuous low-permeability external envelope and demountable protection to openings.
- Recover: use materials and service layouts that can be cleaned, dried and reinstated quickly.
- Warn and evacuate: register for flood warnings, leave before access routes become unsafe and retain first-floor refuge as a last resort.

4.2 Surface-water management

The extension roof drainage shall not discharge uncontrolled against the building or neighbouring land. Rainwater downpipes shall connect to the existing lawful drainage system only after its condition and capacity have been checked. Where infiltration is proposed, a soakaway or other infiltration feature shall be designed following ground testing and positioned so that it does not increase groundwater entry or affect foundations.

- Provide finished paving falls of at least 1:60 away from external walls and door thresholds.
- Use a linear channel drain immediately outside the bifold doors where external paving approaches threshold level.
- Set channel outlets to a suitable trapped and maintainable drainage point.
- Do not raise garden levels in a way that displaces floodwater onto adjoining properties.
- Retain as much permeable garden area as practicable.

5. Detailed Flood-Resistance and Water-Resilience Plan

5.1 Foundations, floor and damp protection

- Provide reinforced ground-bearing slab or engineered suspended floor designed for the verified ground and groundwater conditions.
- Install a continuous, lapped and sealed damp-proof membrane beneath the floor, linked continuously to the wall damp-proof course.
- Turn the membrane up at perimeter walls and seal it to the DPC so there is no unprotected junction.
- Seal all pipe, duct and cable penetrations using proprietary watertight collars or puddle flanges.
- Use closed-cell or otherwise water-resistant insulation below floor level; do not use absorbent insulation in positions liable to inundation.
- Use cementitious or lime-cement screed and a water-tolerant finish such as porcelain tile or sealed concrete. Avoid timber laminate, chipboard or absorbent floating floors at the vulnerable level.
- Avoid underfloor service ducts or voids that could trap contaminated floodwater unless access for inspection, drainage and drying is provided.

5.2 External walls

- Construct the brick/flint cavity wall with a continuous DPC and correctly installed cavity closers.
- Below the design protection level, use low-permeability masonry and mortar compatible with the proposed brick and flint construction.

- Provide a waterproof cementitious tanking or proprietary flood-resistant coating to the inner face of the external wall below the design protection level where compatible with the wall build-up.
- Use closed-cell cavity insulation or another insulation product confirmed by the manufacturer as suitable for flood-resilient construction.
- Avoid gypsum plaster below the design protection level. Use cementitious render, lime-based render where appropriate, or removable plasterboard panels fixed horizontally with accessible joints.
- Extend resistant and recoverable construction to at least 470 mm above the verified design flood level.

5.3 Bifold doors, thresholds and other openings

- Set door thresholds as high as practicable while maintaining compliant access details.
- Use proprietary flood-rated demountable barriers across each bifold opening, with permanent side channels and a tested compression seal.
- Select barriers and frames certified for the design water depth; installation must follow the manufacturer's tested detail.
- Provide a drained threshold or linear channel externally and positive paving falls away from the opening.
- Use flood-compatible door-frame sealants and mechanically secure the frame to resist hydrostatic loading.
- Store barrier panels in an accessible location above flood level and include deployment instructions in the household flood plan.
- Provide covers or non-return protection to low-level airbricks, vents and extract terminals. Any necessary ventilation must be restored after the event.

5.4 Drainage and services

- Fit non-return valves to foul and surface-water connections serving low-level appliances where technically suitable and accessible for maintenance.
- Locate the consumer unit, boilers, control equipment, data hubs and principal isolation points above the design protection level.
- Set electrical sockets and vulnerable controls at least 470 mm above the verified design flood level where practicable.
- Run electrical wiring from ceiling level down to sockets rather than from floor level up.
- Use plastic or corrosion-resistant service conduits and provide labelled isolation points.
- Raise or securely anchor external plant and equipment, including any heat-pump or air-conditioning units.

5.5 Structural limitation

Floodwater exclusion creates hydrostatic pressure. The resistance strategy shall not be used to exclude more than 470 mm depth of water against the building without confirmation from a suitably qualified structural engineer that the walls, floor and openings can safely withstand the loading. Above the safe exclusion depth, the design shall prioritise controlled entry and rapid recovery rather than risking structural failure.

6. Finished Floor Levels

6.1 Required design rule

The proposed extension finished floor level (FFL) shall be no lower than the highest of:

- the existing dwelling finished floor level;
- the verified tidal design flood level, including climate change, plus 470 mm;

- the average site ground level plus 470 mm; and
- the adjacent access-road level plus 470 mm.

The extension has been designed to match the existing dwelling's finished floor level, approximately 470 mm above surrounding ground level. Although Environment Agency guidance often refers to a 600 mm freeboard where practicable, achieving this would require the new extension to sit above the existing house floor, creating an impractical internal step and reducing accessibility. The adopted level is therefore justified by matching the existing dwelling and is supported by the enhanced flood-resistance and resilience measures detailed in Section 5.

6.2 Threshold and external levels

- The bifold threshold shall be set at or above the extension FFL wherever practicable.
- External paving shall be at least 150 mm below the DPC, except at a specifically designed accessible threshold.
- At an accessible threshold, provide a drained and tanked threshold detail with a linear channel and falls away from the building.
- No external landscaping shall form a trapped basin against the rear elevation.

6.3 Level schedule to be completed

Level item	Required value (mAOD)	Evidence / status
Existing dwelling FFL	[INSERT]	Topographical threshold survey required
Average ground level within extension footprint	[INSERT]	Topographical survey required
Havant Road / relevant access-route level	[INSERT]	Topographical survey required
EA tidal design flood level incl. climate change	[INSERT]	Environment Agency product/model data required
Proposed extension FFL	[INSERT]	Set using Section 6.1 rule
Bifold threshold level	[INSERT]	Architectural detail required
Top of flood-resistant construction	[INSERT]	Minimum 470 mm above verified design flood level

7. Access, Escape and Evacuation Plan

7.1 Access assessment

The planning documents confirm that existing pedestrian and vehicle access arrangements are unchanged. However, the submitted information does not demonstrate that Havant Road or the route from the dwelling to land outside the flood-risk area will remain dry during the design flood. A continuously dry access route must therefore not be assumed.

7.2 Evacuation strategy

- The primary strategy is early evacuation before floodwater affects local roads, not evacuation through floodwater.
- The occupiers shall register for the Environment Agency Flood Warning Service and monitor Met Office and local authority warnings.
- On receipt of a Flood Warning, or earlier where directed by emergency services, occupants shall deploy demountable barriers only if safe and then leave by the normal front access route before water reaches the highway.

- Vehicles shall not be driven through floodwater. Occupants shall not walk through moving or unknown-depth water.
- A pre-agreed destination outside the flood-risk area shall be recorded in the household flood plan.
- Pets, medication, identification, phones, chargers and essential documents shall be prepared for early departure.
- No part of the extension shall be relied upon as sleeping accommodation during a flood warning.

7.3 Safe refuge

If evacuation is no longer safe, occupants shall move internally to the existing first floor, which provides a refuge above the single-storey extension. The refuge is a last-resort measure and does not replace early evacuation. Occupants shall call 999 only where there is an immediate threat to life and shall not assume that emergency services will be able to attend during widespread flooding.

- Maintain clear internal access to the staircase at all times.
- Store a torch, battery radio, drinking water, first-aid supplies and emergency contact details at first-floor level.
- Isolate electricity and gas only if this can be done safely and before water enters.
- Do not enter floodwater to deploy barriers or retrieve belongings.

7.4 Household flood plan trigger table

Trigger	Action	Responsibility
Flood Alert / severe weather forecast	Check forecast and warning status; prepare barriers and evacuation bag; move vehicles early.	Occupier
Flood Warning for the relevant area	Deploy barriers only if safe; isolate vulnerable services if safe; evacuate before roads flood.	Occupier
Road or access route beginning to flood	Do not attempt external evacuation through water; move to first-floor refuge and contact emergency services if life is at risk.	Occupier
All clear / water receded	Do not re-enter affected areas until safe; photograph damage; arrange electrical and structural checks.	Occupier / qualified contractors

8. Residual Risk and Maintenance

- Flood barriers, channel drains, non-return valves and seals shall be inspected at least annually and after any deployment.
- Keep channels and gullies clear of leaves and debris.
- Retain manufacturer instructions and replacement seal details with the household flood plan.
- Review flood-warning registration and evacuation contacts annually.
- The owner shall inform future occupiers of the flood-resilience measures and their operation.
- Residual risk remains from events exceeding the design flood, defence breach or overtopping, blocked drainage and failure to evacuate early.

9. Construction-Phase Controls

- Maintain existing drainage paths throughout construction.
- Store materials, fuels and spoil away from drainage routes and areas where they could be mobilised by floodwater.
- Protect gullies from silt and building debris.
- Do not leave excavations open when flooding is forecast.
- Complete the DPM, DPC and service-penetration seals under competent supervision and photograph them before covering up.

10. Commitments for Planning

The development shall be carried out in accordance with the following commitments, which may be secured by planning condition:

- No development above foundation level until a level plan in mAOD has been submitted to and approved by the Local Planning Authority.
- The level plan shall state existing ground, existing dwelling FFL, relevant road/access level, verified design flood level, proposed extension FFL and threshold levels.
- The proposed FFL shall follow the rule in Section 6.1 unless an alternative is agreed in writing.
- Flood-resistant and flood-resilient construction shall be installed in accordance with Section 5.
- Surface-water drainage and external levels shall be completed before the extension is first occupied.
- A household flood warning and evacuation plan shall be retained at the property.

11. Conclusion

Subject to confirmation of the site and flood levels in mAOD and implementation of the mitigation measures in this report, the proposed extension can be made appropriately flood resistant and resilient. The design raises the floor as far as practicable, protects the building envelope and openings, manages surface water, provides rapid-recovery construction and establishes a clear early-evacuation and first-floor refuge strategy.

The report does not claim that a dry access route is available during the design flood. Safety therefore depends on early evacuation before roads become affected, with internal first-floor refuge only as a last resort.

References

- Environment Agency, Preparing a flood risk assessment: standing advice (updated 28 May 2026).
- Environment Agency, Flood risk assessments: applying for planning permission.
- Environment Agency, Flood risk assessment: Flood Zones 1, 2, 3 and 3b (updated 28 May 2026).
- Planning Practice Guidance, Flood risk and coastal change.
- CIRIA, Code of Practice for Property Flood Resilience.
- BS 851188-1:2019+A1:2021, Flood resistance products - Building products - Specification.
- Submitted Householder Planning Application and drawings for 207 Havant Road.