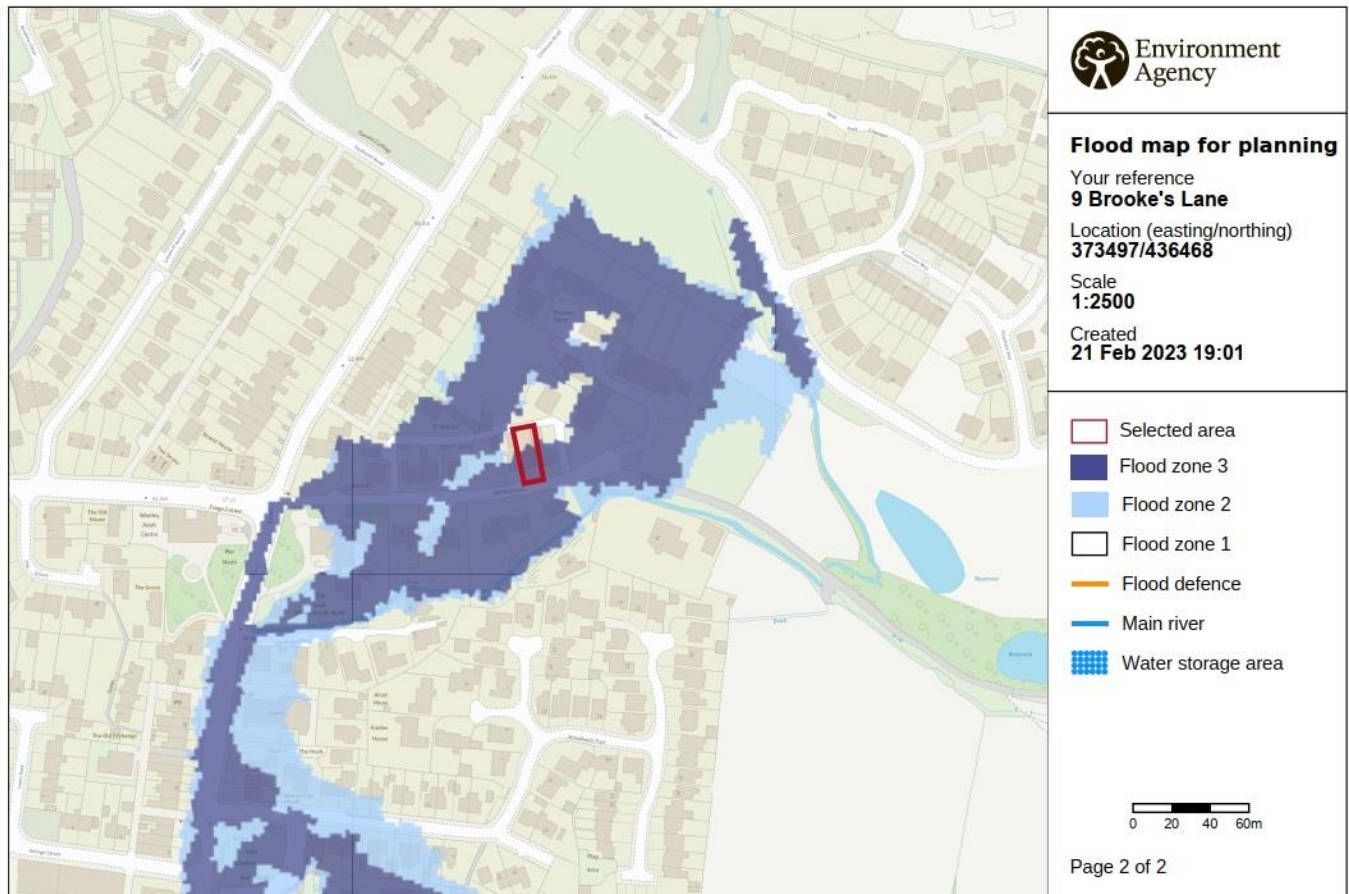


Ref: 2335/FRA
Client: Ms Amin
Project: Single storey rear extension
Site: 9 Brooke's Lane, Whalley, Clitheroe, BB7 9RG

Flood Risk Assessment

The site location is (easting/northing) 373497/436468.

The site is in Flood Zone 3, an area with high probability of flooding as noted in Environmental Agency map below.



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Technical Guidance to the National Planning Policy Framework

The purpose of the flood risk assessment is to avoid inappropriate development in areas of high risk but where development is necessary, making it safe without increasing flood risk elsewhere.

'Areas at risk of flooding' means land within Flood Zones 2 & 3. 'Flood risk' means risk from all sources of flooding including from rivers and the sea, directly from rainfall on the ground surface and rising groundwater, overwhelmed sewers and drainage systems, and from reservoirs, canals and lakes.

Referring to the Technical Guidance the site falls under the following:

Table 1: Zone 3A - high probability

Definition: This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 greater annual probability of flooding from the sea (>0.5%) in any year.

Appropriate uses: The water-compatible and less vulnerable uses of land (Table 2) are appropriate in this zone. The more vulnerable use should only be permitted in this zone if the Exception Test passes.

Table 2: Floor risk vulnerability classification:

More vulnerable: Dwelling house (householder development is a minor development).

Table 3: Flood risk vulnerability and floor zone compatibility

Zone 3a / More vulnerable = Exception test required.

The exception test does not need to be applied to minor developments. The proposed application is for the minor extension of an existing residential property.

Potential Flood Hazards

The following sources have been identified as potential flood hazards:

- 1) Flooding from seas and rivers
- 2) Flooding from land
- 3) Flooding from groundwater
- 4) Flooding from sewers
- 5) Effect of development on Wider Catchment
- 6) Other sources

Flood Risk Management

The existing site is classified as 'more vulnerable' and after the proposed extension will remain as 'more vulnerable'. The extension will marginally increase the vulnerability of the site.

The proposed extension will create habitable room and will not have any sleeping accommodation.

The proposed floor level will match the existing house and is approximately 250mm above external ground level.

To help protect against flooding during extreme events the following design measures can be looked at:

- Use materials with low permeability to at least 300mm above external ground level
- Use flood resistance materials such as lime plaster
- Raise electrical sockets and have separate electrical circuit for the extension from the main house
- Avoid using MDF woodwork in joinery/carpentry
- Have drying and cleaning spaces (under floor as an example) with access
- Add flood barriers to doorways
- Have a flood warning and evacuation plan post development
- Subscribe to Environmental Agency flood warning service.