

# FLOOD RISK ASSESSMENT

7 WALLBRIDGE, STROUD, GLOUCESTERSHIRE.  
GL5 3JS

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## **Introduction**

This risk assessment is prepared to fulfil the requirements of Stroud District Council as part of a planning application for new boundary walls to an existing property

The proposed development comprises brick walls to the front and side and a sleeper wall largely built on top of an existing retaining wall alongside the river

The site is within an urban area of Stroud and at the northern end of a terrace of mixed style dwellings, adjacent to a modern bypass to one boundary (north) a cul-de-sac to the side (west) and The River Frome to the other side (east)

The proposal was considered acceptable in a pre-planning consultation subject to the provision of this Flood Risk Assessment and other considerations which are the subject of other reports.

## **Proposals and existing conditions**

Investigations of available information for the area reveal that the site is in a Level 3 flood zone based on the Environment Agency's maps for river and sea flooding. There are other factors which must be considered in addition to the risk from river flooding. Those factors are the ability of local public drainage systems to cope with exceptional rainfall such as that experienced in 2007, sheet surface water run-off from adjacent land, rising groundwater, roads liable to flooding and infrastructure failure, such as burst water mains and collapsed sewers.

There is a strategic flood risk assessment produced for Stroud District Council which highlights flood zones 2, 3A & 3B and which indicates that the site is within 3B of those areas due to the proximity of the River Frome and history of problems with surface water drainage adjacent to the site.

Severn Trent Water was asked to provide information about the condition of the sewerage system and surface drainage within 300 metres of the site but did not fully respond as extensive tunnelling operations are being carried out to improve the performance of the sewerage and surface drainage systems with one key location immediately outside the subject property in the Wallbridge cul-de-sac. The sewerage system on site is not regarded as an asset by Severn Trent and is therefore unaffected by any building extension adjacent to the sewer. The existing layout of the site includes a large yard gully with open grating and this is piped into the highway immediately outside the site in the Wallbridge underpass approach.

The nearest watercourse to the site (River Frome) is directly on the boundary of the site and part of the existing dwelling has external walls which are directly in the river; these walls are assumed to be part of the original building and continue where attached to Number 8 Wallbridge. Extending from the aforementioned walls is a retaining wall which is set on the riverbank and terminates approximately 960 mm above the water level. The retaining wall

extends to form the eastern boundary of the site and effectively forms a flood barrier to the river.

The site currently has approximately 199 square metres of impermeable concrete and existing buildings and the proposals including the existing buildings and the proposed extension equate to 106 square metres of impermeable surfaces. It is intended to replace the remaining concrete with permeable paving and planting of approximately 93 square metres, therefore the surface run-off from the site will be almost 50% less than for the previous situation. This reduction does not take into account the insertion of an ACO Raindrain to proposed gated access to the front of the property which will not only assist with the dispersal of surface water from the site but will also reduce the likelihood of surface water entering from outside the site.

The risk to the site from surface water run-off is low; the adjacent property is at a slightly lower level to the site and the adjacent road is approximately 400mm lower than any part of the site.

In July 2007 a flood event did take place adjacent to the site, which was attributed to the then surface water system being overwhelmed by the combined effects of extremely heavy rainfall, the lack of capacity in the River Frome, Slad Brook and saturated ground in the catchment area. That event affected 11 houses most of which were in the Slad Road area.

A recent storm cell centred on Stroud (12<sup>th</sup> June 2023) produced exceptional rainfall in the space of an hour which caused very temporary flooding in the Slad Road at the foot of Locking Hill, temporary flooding on the Stratford Road adjacent to Tesco Superstore and flooding in Ebley Road close to the approach to SDC offices. The surface water adjacent to the site rose to within 35mm of the property's front entrance but very rapidly drained away. There is no recorded history of the River Frome bursting its banks in the immediate vicinity of the site.

## **Conclusion**

Considering all the available evidence, the location of the site and non-existent impact on neighbouring properties this proposal for the boundary walls to the property will have there, is no valid reason for the walls not to be built, especially as the improvement to the site will actually much improve the current conditions

If there is a failure of local drainage systems the entire area and not just the site would be impacted and the proposals would not have any bearing on the outcome.



14.02.24.