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FLOOD RISK ASSESSMENT

PROPOSED CHANGE OF USE OF EXISTING GARAGE TO FORM 1 DWELLING

1. Introduction

This flood risk assessment has been prepared to support the proposed change of use of an existing garage located between Salley Street and Higher Calderbrook Road, Littleborough, Rochdale, within a Critical Drainage Area (CDA). The proposed change of use involves no extensions or new openings and includes converting the garage into a habitable space. The garage has been constructed in accordance with the approved planning permission and is located approximately 4 meters above Salley Street, with access via a sloped road. The site has been designed with appropriate drainage systems, including permeable paving slabs and connection to the existing rainwater drainage system on-site.

2. Site Description and Location

The garage is situated in a CDA, a designated area where surface water flooding is more likely to occur due to the local topography, infrastructure, or climate. The site is elevated at approximately 4 meters above Salley Street, which is a positive factor in terms of flood risk. The access road to the site is sloped, providing good drainage opportunities for surface water runoff.

The surrounding area is primarily residential with a mixture of paved and green spaces, and the garage itself is constructed on a relatively flat platform that drains into the existing rainwater drainage system. The existing paving is permeable, which assists with surface water infiltration.

3. Flood Risk Overview

The flood risk for this site is assessed in terms of both fluvial (river) and pluvial (surface water) flooding, as well as the potential for any impacts arising from the change of use.

a. Fluvial Flooding

Based on available flood risk maps, the site is not located in an area directly at risk from river or tidal flooding. The elevation of the site (4 meters above Salley Street) provides significant protection against fluvial flooding, and there is no indication that the site is within the floodplain of any nearby watercourses.

b. Pluvial Flooding

The site lies within a CDA, meaning that surface water runoff is a potential concern, particularly during periods of heavy rainfall. However, the site's elevation and the sloped access road reduce the likelihood of significant surface water flooding. Additionally, the use of permeable paving slabs helps reduce the amount of runoff by allowing water to infiltrate into the ground.

c. Existing Drainage Systems

The garage site is already equipped with an effective drainage system, where rainwater from the building is directed into the existing on-site drainage network. The majority of the site is paved with permeable paving slabs, which further aids in the attenuation of surface water runoff by allowing it to soak into the ground.

The rainwater from the garage is connected to the existing drainage system, which appears adequate to handle the anticipated rainfall under typical conditions. Given that the change of use involves no extensions or alterations to the existing footprint, the surface water runoff from the site will remain at similar levels to its current state, ensuring no additional burden on the drainage system.

4. Impact of Proposed Change of Use

The change of use from a garage to a habitable space involves minimal physical changes to the building, as no extensions or new openings are proposed. The existing drainage system remains unaffected by the proposed use, and the permeable paving slabs continue to serve as an effective means of managing surface water runoff.

Given that the existing drainage system already accommodates the runoff from the garage and surrounding paved areas, and considering that the ground surface will remain largely unchanged, the change of use is not anticipated to have any adverse impact on the flood risk at the site. The inclusion of permeable surfaces in the design of the garage further reduces the impact of surface water runoff.

5. Flood Risk Management and Mitigation

Although the proposed development will not significantly alter the site's drainage dynamics, it is still important to ensure that any residual flood risks are properly managed. The following measures should be considered as part of the flood risk mitigation strategy:

a. Sustainable Drainage Systems (SuDS)

The use of permeable paving across the majority of the site significantly reduces the volume of surface water runoff, which helps to mitigate the risk of flooding, especially in heavy rainfall events.

It is important to ensure that the permeable paving is maintained in good condition to continue to perform effectively. Regular inspections and cleaning of the paving to prevent blockages will help maintain its permeability.

b. Maintenance of the Drainage System

It is recommended that the existing drainage system be regularly maintained to ensure that it is functioning optimally. The system should be checked for blockages, damage, or other maintenance issues that could impede the flow of rainwater.

The connections between the garage and the drainage system should be inspected to ensure that the system continues to discharge rainwater effectively.

c. Flood Resilience Measures

While the risk of flooding is low due to the site's elevation, the building has originally been designed and constructed to be min. 200mm above the surrounding ground levels at any one point. This ensures that any potential localized flooding or surface water runoff does not enter the habitable space.

Flood-resistant building materials and finishes should be considered for any alterations to the internal structure to minimize the risk of damage in the unlikely event of surface water flooding.

6. Conclusion

Based on the current site conditions, the proposed change of use for the garage is unlikely to result in any significant increase in flood risk. The garage is located in an elevated position, and the use of permeable paving and connection to the existing drainage system ensures that surface water runoff is managed effectively. The change of use does not involve any extensions or new openings, and as such, will not significantly alter the volume or flow of surface water on the site.

In conclusion, the proposed change of use does **not** exacerbate the existing flood risk, and the current drainage system is considered adequate to manage surface water. No additional flood mitigation measures are required beyond regular maintenance of the existing systems and the use of resilient building practices.