

Flood Risk Assessment

IN SUPPORT OF THE APPLICATION AT HOTHERSALL HALL FARM,
RIBCHESTER, PR3 2XB
CREATION OF SILAGE STORE



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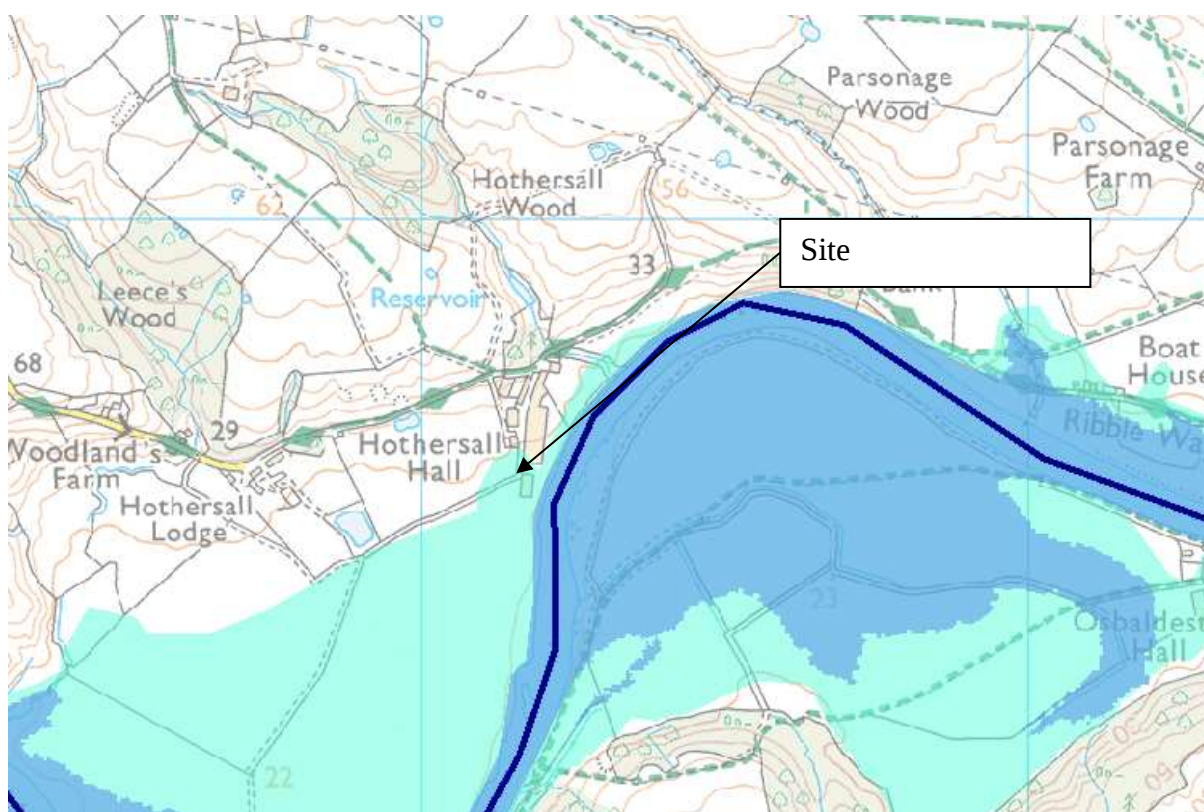
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1.0 Introduction

The report is produced to support the application for the development of additional Silage store at Hothersall Hall farm, Ribchester. This is an established dairy unit located alongside the River Ribble. As a result the storage of both manures and silage needs to be to the highest standards to ensure there is no run off of effluent from the site. The EA has been consulted as part of the development process.

A flood risk assessment is required to be prepared in relation to the development potential of the site and is a requirement of the Environment Agency for the following reasons:

The site lies within the indicative flood risk area as detailed on the Environment Agency Flood Zone 2.



The Flood Risk and Coastal Change strategy defines Zone 2 as follows (Table 1):

***Flood Zone 2: Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or
Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)***

As the proposal consists of an agricultural use application within Flood Zone 2 Table 2 of the Guidance provides the following uses within the 'Less Vulnerable' classification.

Land and buildings used for agriculture and forestry.

The requirements of the FRA are dictated by the zone in which the site lies as well as the use proposed. The Guidance provides the following within Table 3. The guidance indicates that the proposed 'Less Vulnerable' uses are appropriate in Flood Zone 2 and therefore do not require an Exception Test.

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	✗	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	✗	✗	✗	✓*

The guidance on sequential tests no longer specifies those sites that do not require a sequential test but in this case the 'Test of Impracticality' would apply.

The proposed development is for an extension to an existing farming operation. As such it meets the 'Test of Impracticality' as set out within the NPPG Guidance.

This states that where the proposed operation is an extension to an existing business the sequential approach would not be practical. In this case there is a substantial farming operation already on site. Silage needs to be stored alongside the cattle housing to allow for feeding without unacceptable transport requirements. The building also needs to be connected to the existing on site clean and dirty water drainage system.

Due to the nature of the ground it is simply not practical to move the building any higher due to the amount of cut and fill that would be required.

1.1 Site Details & Proposed Development

The proposed development is to construct a steel frame silage store measuring 18.30m x 36.60m adjacent to an existing silage building. The building is required to store maize and grass silage for the 340 strong dairy herd.

The building will be constructed to meet the design guidance within the Silage, Slurry and Agricultural Fuel Oils regulations (SAFFO) and managed in accordance with the regulations.

Across the proposed site the average datum is 21m AOD. The final floor finish of the property is 21.5m AOD, 50cm above datum. This level is just within Flood Zone 2 primarily due to the risk of river flooding associated with the River Ribble.



1.2 Flood Risk

The site is located within the Environment Agency designated Flood Risk Zone 2. The principle flood hazards are detailed below. The risk level is taken from the E.A web site.

River and Tidal: Low Risk: Risk associated with the River Ribble. Defined as follows *'Low means that each year, this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%).'* Of note is the fact that the area did not flood during the flood events of December 2015.

Land: Very Low risk. The area is primarily limestone so there are few surface water streams.

Groundwater: No risk: The site lies outside the ground water protection zones.

Sewers: There are no sewers located within the vicinity of the development..

Reservoirs: No risk. There are no reservoirs in the area that form a risk.

2.0 Flood Records

Although located alongside the Ribble the farm buildings have never flooded. During the storms of December 2015 neither the existing buildings nor proposed site were flooded.

3.0 Flood Precaution and Mitigation.

The site will be above the existing ground level so that the building is on the same level as the adjacent silage building. In addition all electrical wires will be kept within the roof and avoid low points.

4.0 Impact on Surrounding Properties

Most of the site is already impervious so there will be only minimal increase in surface water run off as a result of the development. Surface water will be routed through the existing yard drainage into the Ribble. As the farm is the lowest property next to the Ribble there will be no impact on any surrounding properties. In relation to the Ribble there will be minimal increase in surface water discharge compared to the volume of water already passing through the system.

5.0 Conclusions

The site is located within Flood Risk Zone 2 although the level of risk is categorised as 'low' due to the nature of the proposed agricultural activity. The site does not require a sequential test as it is an extension to an existing business.

The site will only generate a minimal increase in surface water drainage compared to the present use. Finally, despite the low risk of flooding the development will still include additional flood mitigation measures to ensure electrical installations are unaffected.

On this basis it is suggested that the site meets the requirements of the Technical Guidance.