

**Land at Salesbury Hall
Near Ribchester**

**Proposed former gravel business
building rebuild**

Flood risk assessment

NGR SD 674 357

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1.0 Introduction

New offices are proposed in a reconstruction of the existing former gravel business building at the Salesbury Hall Farm complex to the north east of Ribchester. This is a third phase of office provision at the existing farm and this report covers flood risk from the Ribble and other sources.

2.0 Executive summary

The Ribble floods the area close to its banks as it flows around the two acute bends near to the hall. The current Environment Agency flood map shows the gravel building as floodzone 2 and commercial use is acceptable in floodzone 2. A 1 in 1000 year Ribble flood risk level is 29.55 and the new building floor level will be 29.6. A short stretch of the existing access road will be resurfaced to ensure only shallow ponding in a 1 in 100 year plus climate change storm and the access road will have additional marker posts provided. New drainage for surface water will be to a soakaway and foul flows will be treated in a package plant with a 'drainage field' as a soakaway for the effluent. The site is not in a groundwater protection zone.

3.0 Existing site

Salesbury Hall land is approx 2 km east of Ribchester. Its access is via Ribchester Road off Blackburn Road or from Chapel Lane, Old Langho. The Ribble is a large well established river with incised meanders in a flattish valley and Salesbury Hall and Salesbury Hall Farm land border the river with a land height range of 26 to 33 AOD. The farm complex is the existing buildings next to the hall plus the former gravel business building on the northern Ribble bend. The existing gravel building has a slab level of 29.15 and the access is via a tarmac road from Ribchester Road corner. The existing roadway level range is 28.71 to 29.62.

4.0 River system and risk level data

The Ribble at Ribchester bridge has a catchment area of 1083 km². There is a gauging station 71009 at Jumbles Rocks and station data is available

The river itself between Salesbury Hall and Ribchester bridge has an apparent pool and riffle regime with areas where the river can be crossed in thigh waders and a few much deeper areas which may be as a result of gravel extraction. The deeper areas are

- a. The pool on the bend next to the hall which is reputed to be 20m or so depth and used to be used for training purposes by Lancashire CC police divers- this could be a scour hole.
- b. The bend next to the gravel building which has been used for gravel extraction for many years.

The EA has risk level data for the Ribble and this has been obtained from NWcentral external relations at the EA. In the past we have surveyed and modelled the Ribble ourselves and in 2007 the Agency advised us that their section 105 study model produced risk levels 1m or so higher than our model at 29.72 for a 1 in 100 year (1%) risk level at the bend nearest the farm. This correlated with their website floodplain map of 23/9/05. We attach the Agency website revised floodplain map of 21/2/13 from which it can be seen that the floodplain area is now much reduced. Risk levels from the EA 2010 study near the gravel building bend are :-

Flow frequency	Node 39087	Node 38585
1 in 100 year	28.76	28.33
1 in 100 year + 20% climate change	29.26	28.8
1 in 1000 year	29.8	29.3

The gravel building is between these two nodes and risk levels are approx:-

1 in 100 year 28.55

1 in 100 year + CC 29

1 in 1000 year 29.55

5.0 Proposals and drainage

The existing gravel business building is to be rebuilt to provide office accommodation. The existing building roofwater currently falls onto the ground and new roof runoff will be drained into a soakaway adjacent to the building as the existing ground is permeable. Foul flows will be treated by means of a package plant with a drainage field soakaway in accord with Building Regulations Approved Document H.

There is new surface water guidance since January 2012 which is SR744 preliminary rainfall runoff management for developments issued by DEFRA. As the new building will discharge to a soakaway this is a SUDS solution and SR 744 is complied with and flood risk to others will not increase.

The new building should have a simple emergency procedure in that all staff should understand that if Ribble water starts to approach the building they are to leave down the access road only by car or on foot.

6.0 River flood risk and proposed levels.

A 1 in 100 year risk level is 28.55 and climate change is likely to increase this to 29. The existing levels around the building are 28.8 to 29 and the site of the building is floodzone 2 as shown on the Environment Agency website mapping. Where the access road joins onto Ribchester Road the junction is floodzone 1. The new building slab level will be 29.6. The access road levels show a slight dip from 29 to approx 28.72 near to the building over a length of approx 70m and we would advise that approx 30m of this length be resurfaced to give a minimum level of 28.85 and that marker posts be placed 1 metre from the road edge either side. At present the access road is defined either side with tree planting however extra definition over the low 30m length should assist vehicles to stay on the tarmac and a 150mm shallow water depth should not affect slow moving vehicles under 1 in 100 year plus climate change conditions.

7.0 National Planning Policy Framework and Technical Guidance

The proposed use as offices is classed as 'less vulnerable' in table 2 and this use is 'appropriate' as per table 3.

All forms of flooding for this site (former PPS 25 notation) are:-

C4- rivers- see above

C5- sea- no tidal influence

C6- land- no undrained land slopes towards the building

C7-groundwater- no springs or weep areas near the building, the area is not a groundwater protection zone.

C8- sewers-there are no private or public sewers nearby

C9- reservoirs canals- none nearby.

C100- extreme short urban storms- runoff from extreme events will flow into the Ribble as sheet flow.

8.0Attachments

Attachment	Number	Size
Location plan on EA risk levels map base	1	A3
EA risk levels	2	A3
Proposals	3	A3
Aerial view	4	A3
EA mapping-flood risk & groundwater	5, 6	A3
Site survey extracts	7 to 10	A3