Lee Fenton Planning Services Ltd

# FLOOD RISK ASSESSMENT

32 PHEASANT WOOD DRIVE

THORNTON CLEVELEYS

LANCASHIRE

FY5 2AW

**EXTENSION TO EXISTING DWELLING**

# SCOPE OF THE ASSESSMENT

The National Planning Policy Framework (NPPF) sets out the Government's national policies on different aspects of land use planning in England in relation to flood risk. Supporting Planning Practice Guidance is also available.

The NPPF sets out the vulnerability to flooding of different land uses. It encourages development to be located in areas of lower flood risk where possible, and stresses the importance of preventing increases in flood risk off site to the wider catchment area.

The NPPF also states that alternative sources of flooding, other than fluvial (river flooding), should also be considered when preparing a Flood Risk Assessment.

As set out in the NPPF, local planning authorities should only consider development in flood risk areas appropriate where informed by a site specific Flood Risk Assessment. This document will identify and assess the risk associated with all forms of flooding to and from the development. Where necessary it will demonstrate how these flood risks will be managed so that the development remains safe throughout its lifetime, taking climate change into account.

In investigating the flood risk relating to the site, the Environment Agency flood mapping has been reviewed and has confirmed that the site lies within Flood Zone 3. Flood Zone 3 is identified as land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year. The flood zones categorisation refers to the probability of river and sea flooding, ignoring the presence of defences.

# STRATEGIC FLOOD RISK ASSESSMENT

The Strategic Flood Risk Assessment for Wyre Borough Council is dated April 2007 and was produced by Wyre Borough Council.

The SFRA states this area is very low lying and flat with the majority of the area in Flood Zone 3. The area is predominately agricultural in nature with sporadic larger villages.

The main risk of flooding within the area is from tidal sources, from a breach of the coastal or estuary defences. This would lead to significant areas being flooded. The area is also susceptible to flooding from fluvial sources due to the low gradients and difficulty in discharging into Morecambe Bay. This is compounded by rising beach levels at the discharge points. Similarly sewer flooding, groundwater and highway drainage systems can result in flooding problems as they are interconnected to the watercourses and suffer from poor hydraulics and overcapacity in the urban area.

# SOURCES OF FLOOD RISK

This section of the Flood Risk Assessment looks at the flood risk to the site before any mitigation measures are put into place and hence identifies where mitigation will be required. This document will continue to explain the mitigation measures proposed and the residual risk following implementation of any proposed mitigation.

*Tidal flooding*

The SFRA states the main risk of flooding within the area is from tidal sources, from a breach of the coastal or estuary defences.

The site is identified on the Environment Agency's flood mapping as lying within Flood Zone 3 defended. The main risk of flooding is tidal.

The area is protected by coastal defences that provide protection to the site. The walls and embankments provide protection from a 1 in 200 year event.

The site lies within an Environment Agency flood warning area.

*Canals, reservoirs and other sources*

There are no canals or reservoirs *local* to the area.

*Groundwater*

Groundwater flooding tends to occur after much longer periods of sustained high rainfall. The areas that are at risk tend to be those low-lying areas where the water table is shallow. Flooding tends to occur in areas that are underlain by major aquifers, although groundwater flooding is also noted in localised floodplain sands and gravels. The main causes of groundwater flooding are:

- Natural groundwater rising due to tidal influence, or exceptionally wet periods leading to rapid recharge;
- Groundwater rebound due to cessation of abstraction and mine dewatering;
- Existence of confined aquifers and springs.

*Pluvial runoff*

The Environment Agency Risk of Flooding from Surface Water map indicates the site is at a very low risk of surface water flooding i.e. this means that each year, this area has a chance of flooding of less than 1 in 1000 (0.1%); and a low to medium risk of surface water flooding confined to within the drainage ditch along the site's southern boundary.

It should be noted that surface water flooding can be difficult to predict, much more so than river or sea flooding as it is hard to forecast exactly where or how much rain will fall in any storm.

*Development drainage*

Surface water (including the risk of sewers and culverted watercourses surcharging) poses the highest risk of more frequent flooding. Surface water drainage from new developments is critical in reducing the risk of localised flooding.

If surface water runoff is not managed appropriately, there may be an increased risk presented elsewhere from development drainage, and the aim should be to implement appropriate sustainable drainage systems (SuDS) to treat and contain flows and mimic the existing conditions.

Where possible the preference for dealing with surface water runoff from the developed site is for it to infiltrate back into the ground or alternatively to a watercourse. Only if it is not possible for either of these options is surface water from the development to be allowed into the public sewers.

# PREDICTED IMPACTS & MITIGATION

This section of the FRA sets out the mitigation measures recommended to reduce the risk of flooding to the proposed development and outlines any residual impacts.

*Finished levels*

Standard EA advice states that in flood zone 3, householder extensnions should retain the existing established floor level of the host dwelling.

**Finished floor levels of the proposed extension will therefore be set no lower than floor levels of the existing house.**

*Safe access and egress*

The site is in an area benefitting from the Environment Agency's flood warning service and the business operators are to be registered to receive free flood warnings when flooding is expected to enable the evacuation of people for a range of flooding events up to and including the extreme event. Should a flooding event occur, residents will have sufficient time to evacuate via Stakepool Drive & Garstang Road.

*Future proofing against flooding*

The building will be future proofed against future flood events. The measures will include

- the use of hard floors
- routing of all electrical services and cables down from ceiling level
- all electrical switches & sockets will be located at least 600mm above internal ground floor level

# CONCLUSIONS & RECOMMENDATIONS

The site lies within Flood Zone 3 and is defended.

All land subject to our planning application is outside the flood risk zone.

The finished internal ground floor levels of the proposed building are to be set no lower than those of the existing dwelling (32 Pheasant Wood Drive).

The building owners are to be registered to receive free flood warnings when flooding is expected to enable the evacuation of people for a range of flooding events up to and including the extreme event.

The development is to use flood avoidance as mitigation (detailed above).