FLOOD RISK ASSESSMENT

MARSH FARM

GARSTANG ROAD

GT ECCLESTON

PRESTON

PR3 0XA

FOR THE ERECTION OF A SINGLE STOREY REAR EXTENSION TO EXISTING FUNCTION SUITE

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 defended. 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.

CONSULTATION & GUIDANCE

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

The site benefits from the tidal defences. These defences offer protection to the development area for a 1 in 200-year storm event.

The site lies within a flood warning area where free flood warnings are issued to homes and businesses when flooding is expected.

Previous advice from the Environment Agency is that when considering a householder development, finished floor levels should be set no lower than those of the existing dwelling. This advice has been taken into account in the design of the building.

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, ponds 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.

Sewers

There are public sewers in the vicinity of the site, however there have been no local breaches recorded.

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%).

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.

RISK OF FLOODING TO PROPOSED DEVELOPMENT

Tidal Flood Risk

Following advice from the Environment Agency, the finished floor levels of the proposed extension will be set no lower than the existing host dwelling and all sleeping accommodation shall be located on the first floor.

Flood proofing measures are to be implemented to ensure future occupants are not at an unacceptable level of flood risk..

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.

Site arrangements

Finished levels

It is considered that the tidal defences offer adequate protection and there is, therefore, not a significant risk from tidal flooding on this site.

- Proposed finished floor levels will be set no lower than those of the existing building
- There are no sleeping quarters in the extension

Safe access and egress

Safe egress from the site will be available along Garstang Road to higher ground. 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.

Future proofing against flooding

The extension will be future proofed against future flood events. The measures will include the use of solid floors and routing new electrical wiring through the building at ceiling level so that plugs are located above possible flood levels.

CONCLUSIONS & RECOMMENDATIONS

The site lies within Flood Zone 3 and is defended.

The risk of fluvial flooding is low.

The tidal flood risk due to overtopping the defences or a breach scenario is low.

The risk of flooding from canals, reservoirs and other sources is low.

The flood risk from groundwater is low.

The risk from sewer flooding and pluvial runoff is low.

To protect the development the following mitigation measures are to be implemented:

- The finished floor levels of the proposed building will be set no lower than those of the existing building.
- There are no bedrooms involved
- 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 building is to be future proofed against future flood events as above.