Flood Risk Assessment

In support of the proposed works at

Westerfield, Fleming Road, Woodnesborough, CT13 0PU

1.0 - INTRODUCTION

This flood risk assessment, which accompanies the full planning application for the proposed works at Westerfield, Fleming Road, Woodnesborough supports the application by providing information additional to that contained within the submitted plans and application forms, in particular the site strategy of the development, flood issues, flood proofing measures and the development impact.

1.1 - SITE PLAN

The plans accompanying this application show the site as a result of the architectural survey carried out with levels, plus OS data on surrounding land.

1.2 - FLOODING

The Environment Agency will of course be consulted as a matter of course by the planning department and given the finished floor level above Ordinance Datum of the extension is no lower than existing we trust that proposals will be deemed acceptable in principle.

The external levels have been set in order to ensure that any surface water falls away from the building in to surface water soakaways/sewers with no surface water generated from the site being terminated on to the highway. Given the limited additional impermeable area generated as a result of the works we are not introducing any new issues to the area that will have a detrimental effect to surrounding properties or that will endanger life.

The finished floor level of the extensions will be in line with the existing. Foul and surface water will terminate into the existing sewers available.

1.3 - FLOOD PROOFING MEASURES

Whilst the replacement floor level is set no lower than existing we would like to propose the following flood proofing measures:

1. Immediately adjacent external ground levels will gently grade away from the building where possible.

2. The occupant will register with the Environment Agency's Flood Warning service before occupying the office.

3. All surface water generated from the roof will terminate in to a traditional soakaway that will be sized subject to receiving in-situ soakage results from the appointed contractor or the surface water sewer if the site doesn't permeate.

4. Water resistant plaster will be used throughout the ground floor.

5. All new walls at ground floor level will be masonry as opposed to timber stud.

6. Proprietary air brick covers will be obtained by the developer and stored within the office at all times sufficient for every air brick within 600mm of external ground level to be protected prior to an impending storm event.

7. Non return valves will be provided to all foul water drain runs.

8. All plug sockets at ground floor level will be located 450mm from finished floor level which will be 600mm from external ground level.

9. The ground floor finish will be suitable so that no major damage will be caused in the event of a flood i.e. screed will be used over the insulation as opposed to chipboard flooring.

1.4 - DEVELOPMENT IMPACT ON FLOOD RISK

Peak Rate of Run-off

Where there is an increase in impermeable area, ensure that the peak rate of run-off over the development lifetime, allowing for climate change, will be no greater for the developed site than it was for the pre-development site. This should comply at the 1 year1 and 100 year2 return period events.

Where the pre-development peak rate of run-off for the site would result in a requirement for the post-development flow rate (referred to as the limiting discharge) to be less than 5 l/s at a discharge point, a flow rate of up to 5 l/s may be used where required to reduce the risk of blockage.

Volume of Run-off

If the developed site would otherwise discharge, over the development lifetime allowing for climate change, a greater volume of rainwater run-off than the pre-development site for the 100 year 6 hour event, then criterion A applies. If A cannot be satisfied then B applies.

A: Ensure that the post development volume of run-off, allowing for climate change over the development lifetime, is no greater than it would have been before the development. The additional predicted volume of run-off for the 100 year 6 hour event must be prevented from leaving the site by using infiltration or other SuDS techniques.

OR

B: If A cannot be satisfied (full justification must be provided) then reduce the post development peak rate of run-off to the limiting discharge. The limiting discharge is the pre-development flow rate equivalent to the 1-year peak flow rate, mean annual flood flow rate (Qbar) or 2 l/s/ha, whichever is the highest flow rate. For the 1-year peak flow rate the 1 year return period event criterion in section 1 above, applies. For all other events up to the 100 year return period event, the peak rate of run-off for the developed site must not exceed the limiting discharge. Where the limiting discharge flow rate would require a flow rate of less than 5 l/s at a discharge point, a flow rate of up to 5 l/s may be used where required to reduce the risk of blockage. Note: Criterion B generally results in more storage than compliance with criterion A.

Designing for local drainage system failure

Demonstrate that the flooding of property would not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance). Note: Where the run-off is being discharged into an existing drainage system, the responsible body may stipulate a more stringent set of hydraulic flow rate criterion which will therefore take precedence.

Based on the above there will therefore be no additional impact on flood risk from run-off from development of the site. The replacement extension will be designed in order to meet building regulation requirements in order to ensure that this development will avoid, reduce and delay the discharge of rainfall to public sewers and watercourses. This will protect watercourses and reduce the risk of localised flooding, pollution and other environmental damage. If it is established at construction stage that the grounds permeability offers acceptable soakage rates, then soakaways will be adopted completely eliminating any impact on existing surface water systems.

1.05 - SUSTAINABILITY

Construction and design will achieve "U" values of thermal transmittance in order to meet the current Building Regulations. Heat gain is controlled by orientation of windows and solar shading. The development will not therefore significantly add to greenhouse emissions, global warming and melting of the ice caps. An enhanced specification will be adopted for the thermal envelope including efficient heating systems and the incorporation of renewable energies.

The development will not therefore impact on long term sea levels, as such, it will not raise the risk of flooding.

1.6 - CONCLUSION

All replacement accommodation is no lower than the existing finished ground floor and improvements / flood resilience measures will be made as a result of the works. This site is in an area in which the local authority has recently given permission for extension works and represents a benefit to the area by providing better quality urban form, as well as contributing to the viability and vitality of the town. As such, therefore this development proposal should be deemed acceptable.