

Flood risk assessment - Dog paddock

Change of use of land to a dog exercise paddock to include associated gravel car parking area and field shelter

Introduction

The Government has placed increasing priority on the need to take full account of the risks associated with flooding at all stages of the planning and development process. This course of action seeks to reduce the future damage to property and risk to life resulting from incidents of flooding.

National Planning Policy does not prevent all development in flood risk areas, and this would be unsustainable and result in economic stagnation, depriving existing communities of much needed homes, services, employment opportunities etc. It is in the essential interests of the vitality of settlements and for the wider economic and social wellbeing of the community, that development opportunities are not unnecessarily constrained.

Accordingly, the aims of this site-specific FRA will be as follows:

- Identify and address flood risk issues associated with the development.
- Assess if the project is likely to be affected by flooding from all relevant sources both now and in the future.
- Assess whether the project will increase the flood risk elsewhere.
- Demonstrate that the project is safe and where possible, reduces flood risk.
- Propose measures to deal with the identified effects and risks.

Site description

The land is located within Deeping St Nicholas, adjacent to the A1175 on one side and the Peterborough to Spalding railway line to the south. The land is classed as agricultural and is currently first year grass.

Proposal description

The proposed works comprise the following:

- Change of use of the land to use as a dog walking/exercise paddock
- erection of a small field shelter for dog owners to shelter whilst their dogs exercise.
- galvanised mesh fencing around the field boundary to ensure the field is fully secure to prevent any dogs from escaping
- standard field gate to access the field from the car parking area. Gated areas locked to control access
- Laid gravel on the gated gravel car park area, sufficient for 3 cars

Policy assessment

The National Planning Policy Framework (NPPF) 2019 sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced. This Framework must be taken into account in preparing the development plan, and is also a material consideration in planning decisions.

Section 12 of NPPF, 2019 is aimed to provide guidance on how to shape places in ways that contribute to minimise vulnerability and improve resilience ahead of climate change effects on flood risk and coastal change. To achieve that, NPPF sets out a sequential risk-based sequential approach to allow new development at locations with the least flood risk as much as is practicable.

Paragraph 158 of NPPF states that "the aim of the sequential test is to steer new development to areas with the lowest risk of flooding" and "the strategic flood risk assessment will provide the basis for applying this test".

The Environment Agency's Flood Map has created four categories of flood risk probability as shown in Table 1 below. The Flood Zones shown on (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the Strategic Flood Risk Assessment when considering location and potential future flood risks to developments and land uses.

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3)
Zone 2 Medium Probability	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)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

The NPFF and PPG provides a flood risk vulnerability classification, which defines the vulnerability of various types of development and confirms if they are permitted in different flood zones.

The site is located in flood zone 3- with the land having a 1 in 100 or 200 probability of annual flooding. The development would be classed as:

Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.

In light of the above the development is classed as water compatible/ less vulnerable. So there is no requirement for sequential testing. The development would also have a relatively short lifespan of approximately 20 – 25 years further reducing flood risk due to climate change.

FLOOD RISK ASSESSMENT

This section is focused on identifying the potential sources of flood risk to the application site; assessing the flood risk probability of each source taking into consideration the climate change effect; and accordingly proposing a set of mitigation measures to prevent the increase of flood risk, and, where possible, reduce it.

Sources of flood risk:

Rivers and Sea

The Environment Agency Risk of Flooding from Rivers and Sea Map shows that the site is at high risk of flooding. This takes into account the protection provided by flood defences. These defences reduce, but do not completely stop the chance of flooding as they can be overtopped or fail.

In this instance the main risk of flooding would come from the River Welland which is just over 2 miles away. The River Welland has a designed flood area of Cowbit Wash if it were unable to cope with excessive water flows. The sea is 17 miles away and as such not of concern.

Surface water

Environment agency assessments show that risk of surface water flooding is very low. 0.1-1% each year

Ground water and Reservoirs

Environment agency assessments show that flood risk due ground water levels rising are unlikely.

The EA state that there is a flood risk from reservoirs in this area. The nearest reservoirs are Rutland Water and Eyebrook a distance of some 16 miles.

Climate change

NPPF, 2019 emphasises the relevance of climate change when addressing the flood risk in the context of new development. Making allowances for climate change in any site-specific flood risk assessment would help minimise vulnerability and provide resilience to flooding and coastal change.

Environment Agency sets out the climate change allowances which are in fact predictions of anticipated change for peak river flow, peak rainfall intensity, sea level rise, offshore wind speed and extreme wave height.

Flood Mitigation

In light of the flood risk probability from the potential sources of flooding, the following mitigation measures are recommended to incorporate to the proposed development to prevent the increase of flood risk, and, where possible, reduce it.

- Dog paddock area to be maintained as grass
- Loose gravel and permeable material will be used for the small car parking area to reduce surface water run off
- Current land drains that flow into the field dykes will be regularly maintained to reduce standing water
- The dog paddock will be accessible by padlock and a booking system. If there are flood risk warnings for the local area the dog park will be closed. Customers will be contacted if they have made a booking. This will ensure that there are no potential customers on site if there are flood risks at the time
- It should also be noted that there are no welfare facilities (toilets etc) so there is no requirement for foul water drainage
- The development is classed as water compatible and less vulnerable form of land use and is therefore compatible with the flood risk for this site

Conclusion

Overall the proposed development is acceptable in flood risk and drainage terms and in accordance with NPPF in this regard.