

Flood Risk Assessment

In support of full planning application

Farm diversification to include construction of a dog agility training arena on land at Pool Farm, Ham Lane, Kingston Seymour.

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Development description and location

The development proposed is for the small expansion and construction of wet weather shelter for a dog agility training arena (permeable hard standing) on land at Pool Farm, Ham Lane, Kingston Seymour BS21 6XJ.

The application site (Coordinates X338900 Y166718) lies within Flood Zone 3a off Ham Lane near Kingston Seymour.

Flood Zone 3a - high probability of flooding

NPPG Flood Zone which comprises land assessed as having a 1 in 100 or greater annual exceedance probability of river flooding (>1%) or a 1 in 200 or greater annual exceedance probability of sea flooding (>0.5%) in any year.

Appropriate uses

Water-compatible uses are appropriate in this zone. These include “Amenity open space, nature conservation and biodiversity, outdoor sports, recreation and essential facilities”.

The proposed development is classified as “water compatible” development according to Table 2 of Technical Guidance to NPPF document and guidance issued by North Somerset / Env Agency advice notes.

Sequential Test

As set out in the National Planning Policy Framework, the aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding.

The proposal is to allow a small expansion and provision of a wet weather shelter for the existing dog agility training arena and is a farm diversification project which uses land located adjacent to Pool Farm farmhouse. It would neither be practical given the existing arena and location nor viable for this use to be located anywhere other than on land at Pool Farm.

Given this functional requirement for the proposed development being part of an existing dog arena the sequential test has to conclude that there is no alternative site that would present a lower flood risk whilst meeting the specific functional requirements for the proposal necessary to support the existing farm diversification enterprise.

Table 3: Flood risk vulnerability and flood zone ‘compatibility’

Flood risk vulnerability classification (see table 2)	Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood zone (see table 1)	Zone 1	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test required	✓
	Zone 3a	Exception Test required	✓	*	Exception Test required
	Zone 3b functional floodplain	Exception Test required	✓	*	*

Key: ✓ Development is appropriate.
 * Development should not be permitted.

Exception Test

Table 3 of the technical guidance to NPPF confirm that **no exception test is required** for a water compatible use in flood zone 3a.

It is reasonable to conclude that the proposed development will not increase the number of people at risk from flooding, that the development will be safe with effective flood management procedures in place and that the development does not significantly increase the risk of flooding elsewhere.

Definition of flood hazard

The North Somerset SFRA shows that the site is located within an area designated as Flood Zone 3a.

Surface water drainage will divert to existing ditch drainage systems. External hard surfaced areas will be permeable.

Probability

This zone comprises land where water has to flow or be stored in times of flood. It is defined as land which would flood with an annual probability of 1 in 20 (5%) or greater in any year or is designed to flood in an extreme (0.1%) flood, or at another probability to be agreed between the LPA and the EA.

Climate Change

The Environment Agency guidance on accounting for climate change has been considered as follows:

- The site is in flood zone 3A and is exposed to fluvial events given its location. It is exposed to tidal flooding and therefore sea level changes due to climate change - albeit it will remain protected by sea defences.
- The lifetime of the proposed development is considered to be circa 20 years and as a water-compatible use the “central” allowances should be applied to the assessment of climate change impact.
- The rainfall changes for the period up to 2041 suggests increase of 10-20% should be taken into account. For periods of 100 years the increased rainfall suggested is 30% on the base period 1961-1990. Sea level allowances in the “central” category are not forecast in Table 3.

Flood risk management measures

Design of construction and resilience to flooding

Finished floor levels to the training rooms (static vans) will be circa 500mm above ground levels. The structure will be anchored to the ground to prevent movement off site if flood water were to rise sufficiently.

Speed of onset of flooding

The speed of onset of flooding is an important factor in flood management as a rapid onset of flooding increases risk to life. The speed of onset affects how much time people have to react to rising water levels and possible flooding. The speed of onset of flooding affects the notice given to visitors and workers.

The North Somerset SFRA notes that for the coastal strip including Kingston Seymour the speed of onset of flooding is moderate suggesting there would be between 1.5 – 4.0 hrs to peak flood levels which allows for sufficient time from the onset for workers and visitors to evacuate safely.

Safe Access and Egress

The applicant lives and works at Pool Farm and will ensure that registration with the EA flood warning systems is always maintained. In addition, the proposal is to adopt the flood management plan outlined below.

Flood warning

The EA are responsible for flood watches and flood warnings for designated flood warning areas either directly or indirectly. The indirect system is based around the internet and the Floodline dial-up-and-listen service, where members of the public and other parties can obtain current flood warning information for their area. Flood warnings are also broadcast by television and radio services.

The direct warning service requires people in at risk properties in designated flood risk areas to register their telephone number with the EA under the Floodline Warnings direct scheme. They can then receive automatic warning messages if a flood is likely. The applicant will register to receive EA direct warning systems.

Management of Residual Risk

Residual risks identified are the management of safe evacuation (including health and safety issues), ensuring an understanding by visitors of flow routes of flood water and

minimising potential safety consequence. A flood management plan outlined below is proposed to manage these risks.

Recommended Flood Management Plan

1. Present a permanent notice that clearly communicates action to be taken at a time of flood.
2. Ensure maintenance of registration with the Environment Agency automatic messaging service to receive this service. Where warnings of impending flood received call the Environment Agency floodline for details – 0845 988 1188.
3. Maintain a list of useful numbers including the EA 24 floodline service, North Somerset emergency planning office and local emergency services. Detail website for early warning notices - <http://www.environment-agency.gov.uk/homeandleisure/floods/31620.aspx>
4. A completed “worker” flood plan to be retained for easy reference
5. Plan for the following clear evacuation procedures:
 - a. Isolate any utility services to the facility
 - b. Protect any key personal assets
 - c. Secure any buildings
 - d. Evacuation to safe location

Conclusion

The development is located in flood zone 3a and is classed as water compatible. The sequential test confirms that the functional need requires that the facility proposed be located adjacent to the existing operations on the holding. No practical or viable alternatives can be considered.

Even so the management of risk can be satisfactorily achieved for the workers and visitors using the facility and that the development will be safe with effective flood management procedures in place. The development does not significantly increase the risk of flooding elsewhere.