

SMART Dojos Headquarters

FLOOD RISK ASSESSMENT

Rev. v1

Date: 04 May 2021

The Application Description

This Application is for change of use of the existing light industrial/storage unit (B1(c), B2 & B8 uses) to mixed use B1 (office), B8 (storage), D2 (leisure) use to provide a Headquarters office, storage, and a small training area for a martial arts club SMART Dojos.

The site/building location

Site address: Unit 6, Jubilee End, Lawford, Manningtree, Essex, CO11 1UR.

The Unit is part of an existing larger light industrial units' estate. This popular industrial development is situated approximately ½ mile to the West of Manningtree in an established industrial area with direct access onto the B1352 which links to the A137 leading to Colchester and Ipswich. The development provides a variety of units mainly of steel portal frame construction with brick and profile steel elevations.





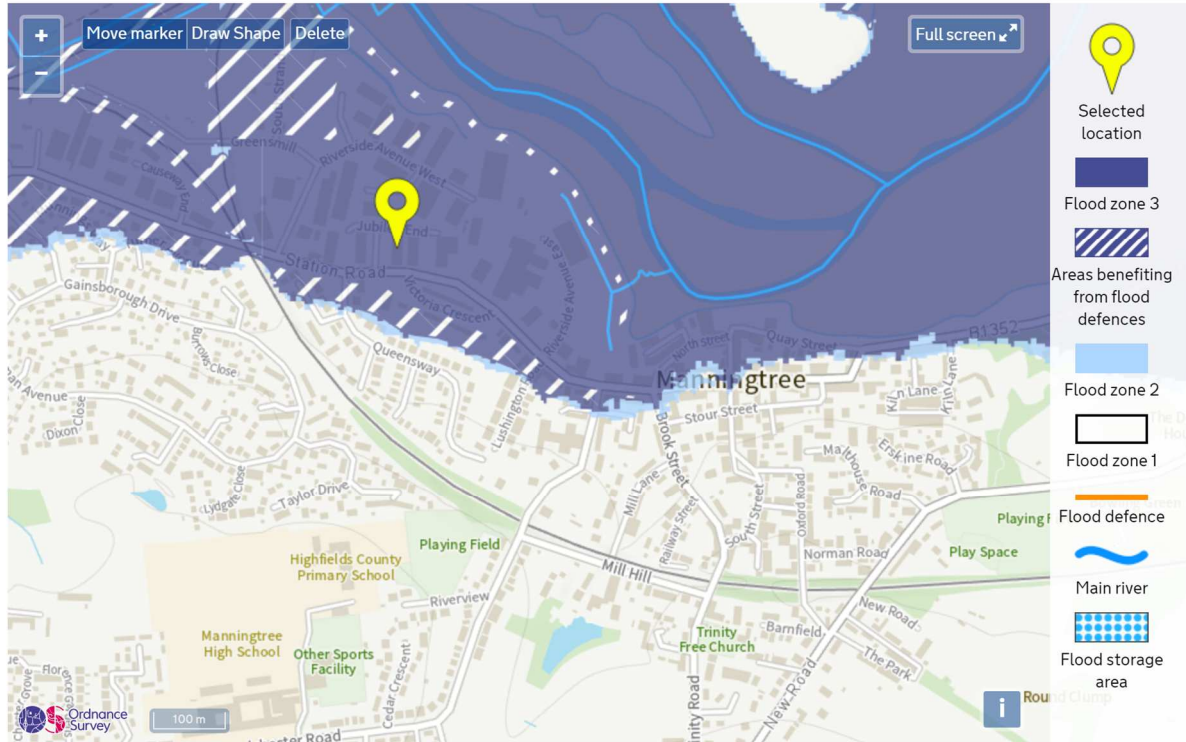
SITE LOCATION PLAN
Scale 1:1250



Flooding Risk from Rivers and Sea

The application site falls within Flood Zone 3a of high probability of flooding, but it is currently being protected by a raised embarkment.

The distance of the Unit 6 from River Stour is approx. 200m.



Areas within flood zone 3 have been shown to be at a 1% or greater probability of flooding from rivers or 0.5% or greater, probability of flooding from the sea. Zone 3 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).

The area bounded in blue on the map shows the area covered by flood alerts and warnings for the tidal River Stour at Manningtree. *Note: the area shown on the map is the area covered by flood alerts and warnings. It is not a live map of current flooding. The area covered broadly equates to the area where the risk of flooding in any year is greater than 1% (the "hundred year" flood risk).*

The monitoring is part of the national Flood Alert System. River and sea levels are checked regularly by a network of monitoring stations operated by the Environment Agency, Natural Resources Wales and the Scottish Environmental Protection Agency. Flood warnings and flood alerts are published whenever flooding is expected. The Flood Forecasting Centre, a collaboration between the Environment Agency and the Met Office, provides a detailed five day flood forecast for England and Wales.

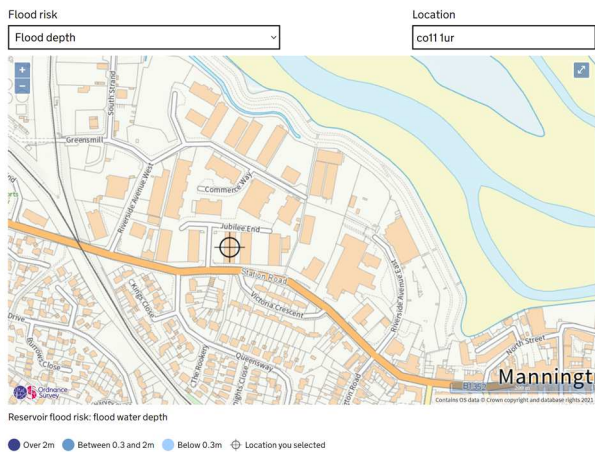


Flood Warning History

Number of historic Flood Warnings that have previously been recorded for this area:

	Flood Warning	Severe Flood Warning
Last alert or warning date	13 Jan 17	---
Last 12 Months	0	0
Last 3 Years	0	0
Last 5 Years	2	0

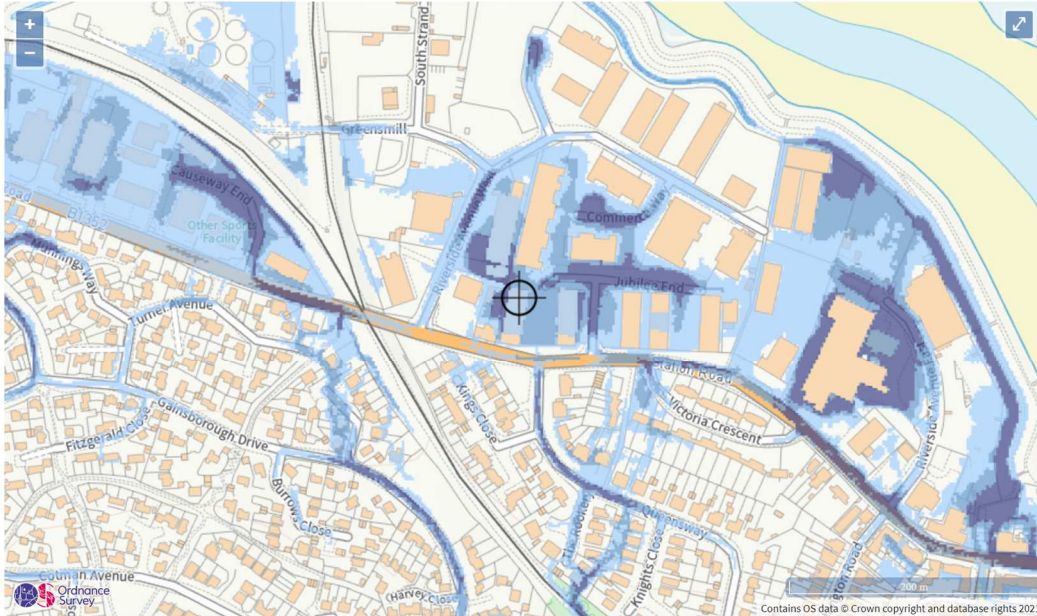
There is no reservoir flood risk for this site.



Surface water flooding risk

The application unit is an existing building with the existing storm drainage connections.

The applicant is not looking to amend the building externally and only minor adaptations to the layout internally, therefore the runoff rates would not change from the existing.



Extent of flooding from surface water

● High
 ● Medium
 ● Low
 Very low
 ⊕ Location you selected

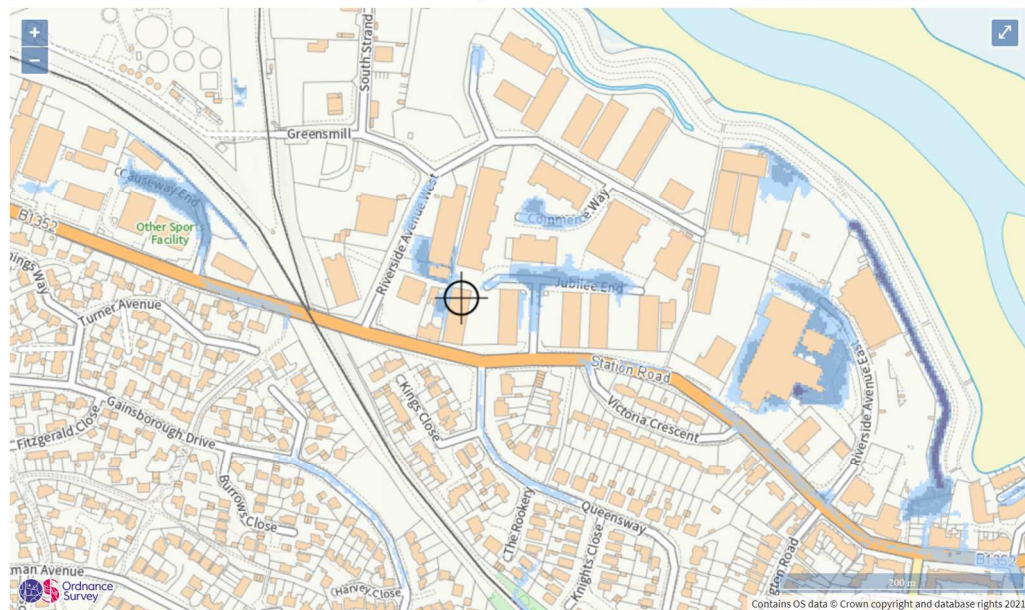
The high risk depth for Unit 6 location is below 300mm to the front of the unit and between 300 – 900mm to the rear.

Flood risk

High risk: depth

Location

Enter a place or postcode

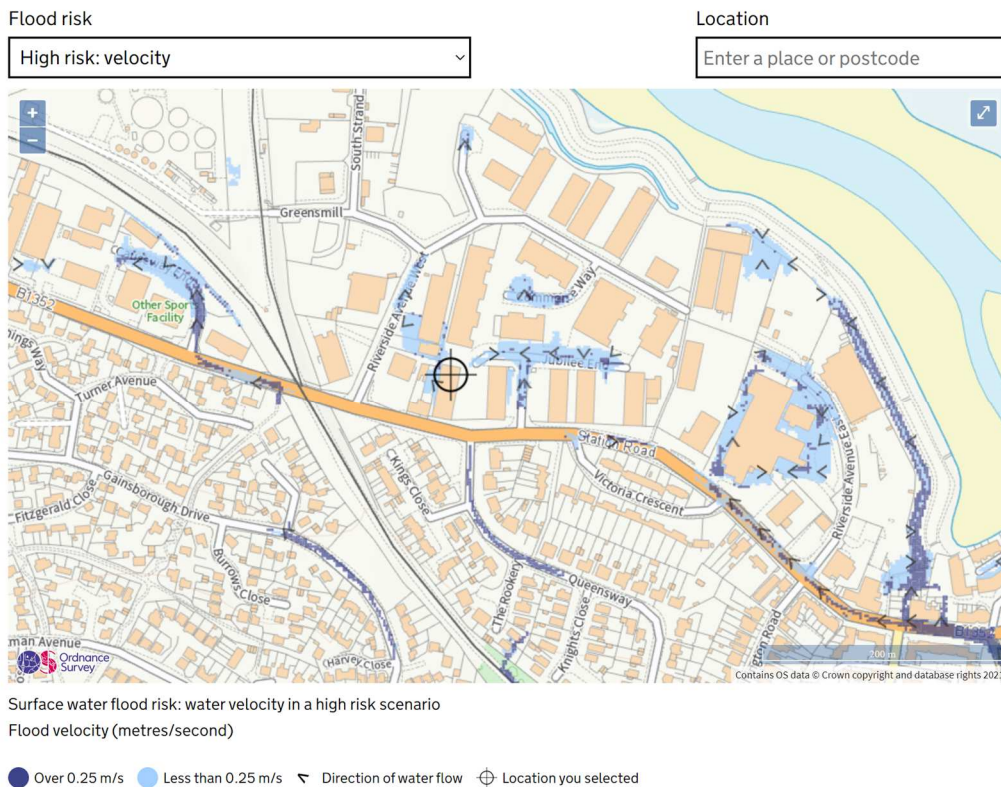


Surface water flood risk: water depth in a high risk scenario

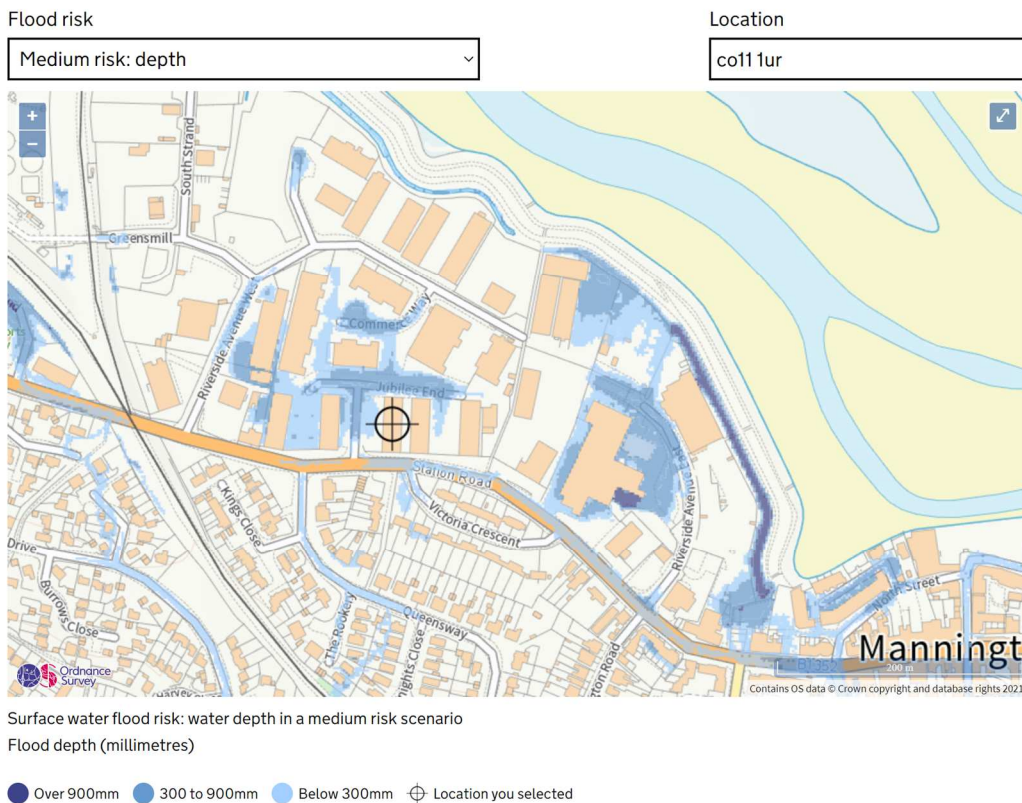
Flood depth (millimetres)

● Over 900mm
 ● 300 to 900mm
 ● Below 300mm
 ⊕ Location you selected

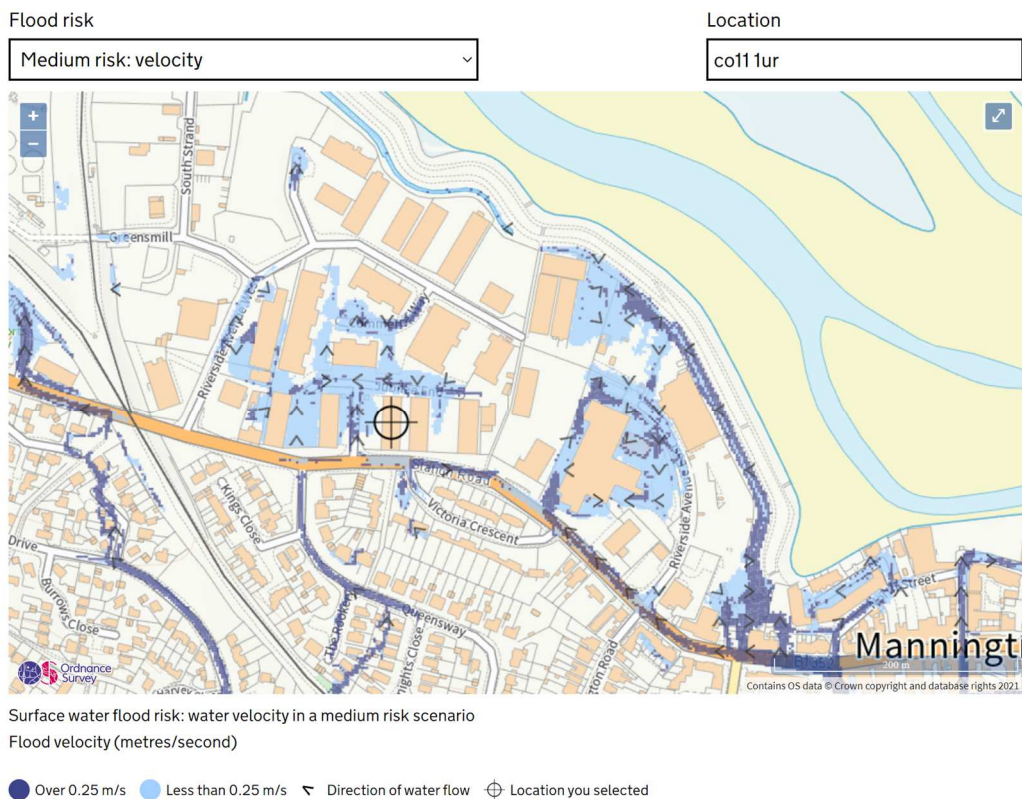
High risk velocity for Unit 6 is less than 0.25m/s.



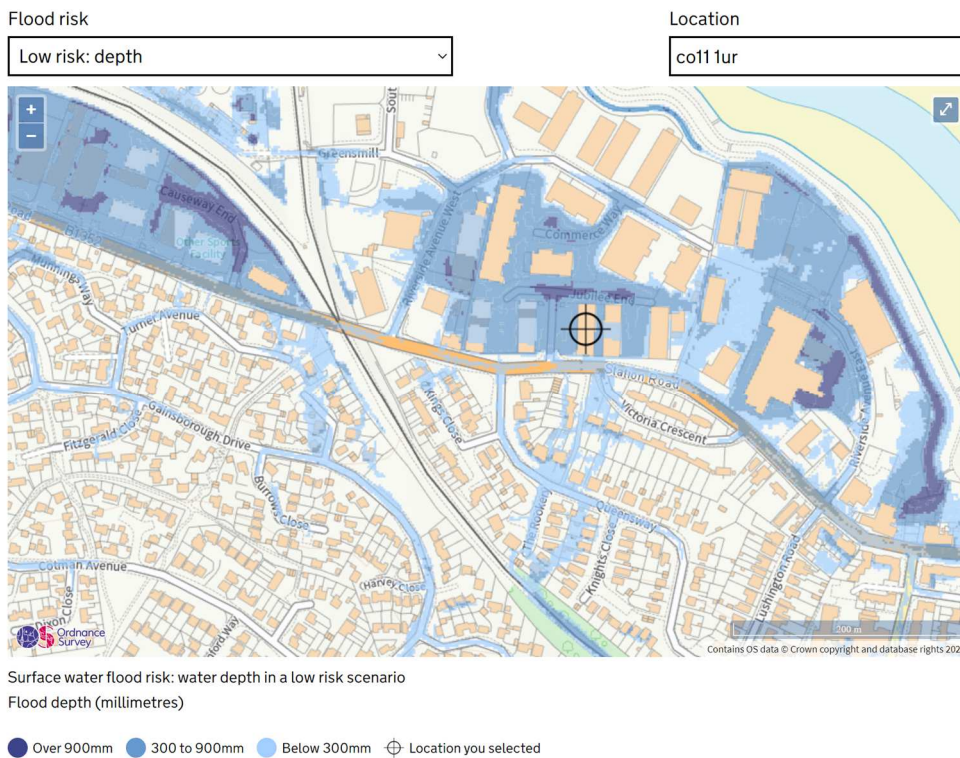
Medium risk depth for Unit 6 is in the range between 300 – 900mm to the front of the unit and below 300mm to the rear.



Medium risk velocity for Unit 6 in less than 0.25m/s.



Low risk depth for Unit 6 is between 300-900mm.



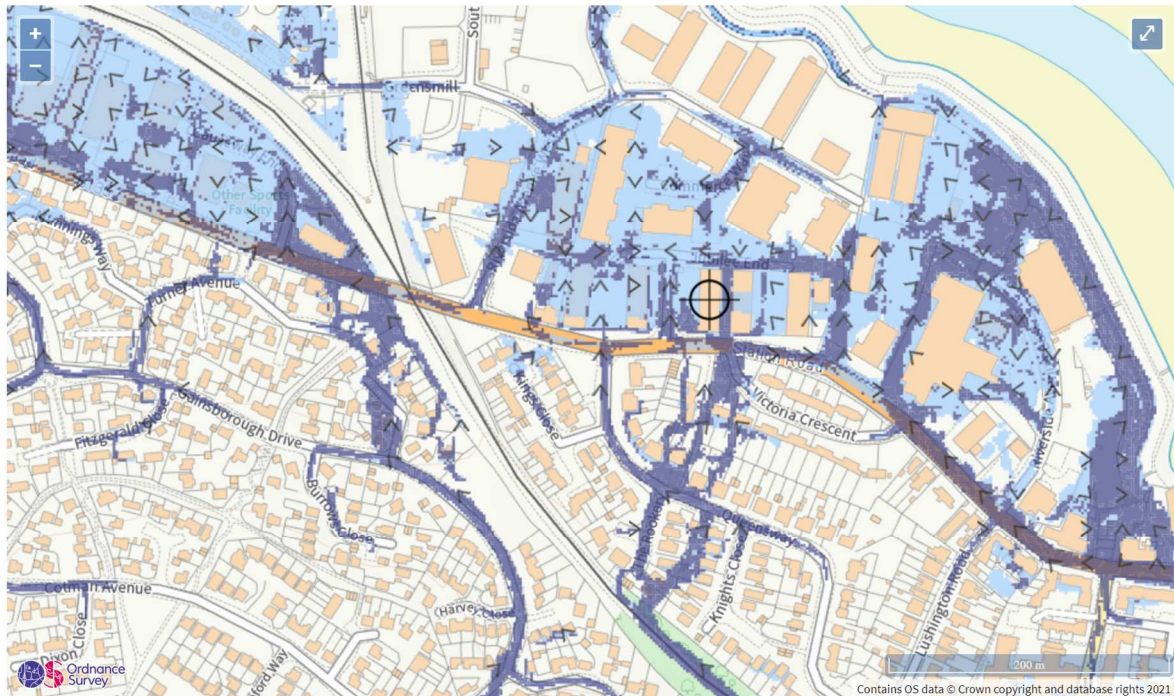
Low risk velocity is less than 0.25m/s to the front and rear of the unit and over 0.25 m/s to the north side elevation.

Flood risk

Low risk: velocity

Location

co11 1ur



Surface water flood risk: water velocity in a low risk scenario
Flood velocity (metres/second)

● Over 0.25 m/s ● Less than 0.25 m/s ↖ Direction of water flow ⊕ Location you selected

National Planning Policy Framework - Zone 3a Appropriate Uses

The water-compatible and less vulnerable uses of land (table 2) are appropriate in this zone. The highly vulnerable uses should not be permitted in this zone.

The more vulnerable uses and essential infrastructure should only be permitted in this zone if the Exception Test is passed. Essential infrastructure permitted in this zone should be designed and constructed to remain operational and safe for users in times of flood.

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	✓	x	Exception Test required	✓
	Zone 3b functional floodplain	Exception Test required	✓	x	x	x

Table 2: Flood risk vulnerability classification

<p>Essential infrastructure</p> <ul style="list-style-type: none"> • Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. • Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood. • Wind turbines.
<p>Highly vulnerable</p> <ul style="list-style-type: none"> • Police stations, ambulance stations and fire stations and command centres and telecommunications installations required to be operational during flooding. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use³. • Installations requiring hazardous substances consent⁴. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as “essential infrastructure”⁵).
<p>More vulnerable</p> <ul style="list-style-type: none"> • Hospitals. • Residential institutions such as residential care homes, children’s homes, social services homes, prisons and hostels. • Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. • Non-residential uses for health services, nurseries and educational establishments. • Landfill and sites used for waste management facilities for hazardous waste⁶. • Sites used for holiday or short-let caravans and camping, <i>subject to a specific warning and evacuation plan</i>.⁷
<p>Less vulnerable</p> <ul style="list-style-type: none"> • Police, ambulance and fire stations which are <i>not</i> required to be operational during flooding. • Buildings used for shops, financial, professional and other services,

<p>restaurants and cafes, hot food takeaways, offices, general industry, storage and distribution, non-residential institutions not included in “more vulnerable”, and assembly and leisure.</p> <ul style="list-style-type: none"> • Land and buildings used for agriculture and forestry. • Waste treatment (except landfill and hazardous waste facilities). • Minerals working and processing (except for sand and gravel working). • Water treatment works which do <i>not</i> need to remain operational during times of flood. • Sewage treatment works (if adequate measures to control pollution and manage sewage during flooding events are in place).
<p>Water-compatible development</p> <ul style="list-style-type: none"> • Flood control infrastructure. • Water transmission infrastructure and pumping stations. • Sewage transmission infrastructure and pumping stations. • Sand and gravel working. • Docks, marinas and wharves. • Navigation facilities. • Ministry of Defence defence installations. • Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. • Water-based recreation (excluding sleeping accommodation). • Lifeguard and coastguard stations. • Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms. • Essential ancillary sleeping or residential accommodation for staff required by uses in this category, <i>subject to a specific warning and evacuation plan</i>.

Summary

The application site falls within Flood Zone 3a and is currently being protected by a raised embankment. The site is also subject to Flood Alert System, minimising the life threatening risks, damage and distress the flood causes.

The proposed application use for the site falls under the 'Less Vulnerable' category in accordance with the Table 2 of the National Planning Policy Framework and the proposed development change in use is deemed as appropriate in accordance with Table 3 (as included above).