

SITE ASSESSMENT - Kingston Business Park

Address: Fullers Way South, Chessington, KT9 1DQ

Area: 0.36 Ha
Site Reference: SA 113

Current Use	Proposed Use
Business Park	Residential Only - 36 units

Current Vulnerability Classification	Proposed Vulnerability Classification
Less Vulnerable	More Vulnerable

Current Risk Summary					
Fluvial / Tidal			Groundwater		
FZ2	0	% of Site	<25	100	% of Site
FZ3a	0	% of Site	25-50	0	% of Site
FZ3b	0	% of Site	50-75	0	% of Site
Surface Water			>75	0	% of Site
1 in 30	3.2	% of Site	Artificial		
1 in 100	32.1	% of Site	Reservoir	N	At risk?
1 in 1000	68.9	% of Site	Canal	N	At risk?
Sewer Flooding			Town Centre		
No. Incidents	81/128		Y/N		N

Flood Defences
The site is not in an area benefitting from flood defences.
Flood Warning Area
This site is not within a flood warning area.

FLUVIAL / TIDAL

Risk Assessment (Defended)				
Parameter	FZ3b	FZ3a	*FZ3a+CC	Units
Speed of inundation	N/A	N/A	N/A	Hrs
Min. Depth	N/A	N/A	N/A	m
Max. Depth	N/A	N/A	N/A	m
Max. Velocity	N/A	N/A	N/A	m/s
Max Flood Level	N/A	N/A	N/A	m AOD
Max Ground Level	N/A	N/A	N/A	m AOD
Min Ground Level	N/A	N/A	N/A	m AOD
Max Flood Hazard	N/A	N/A	N/A	N/A
Duration of Flood	N/A	N/A	N/A	Hrs

* The +35% Climate Change Allowance event (upper end allowance extreme case) is reviewed

Risk Assessment (Undefended)			
Parameter	FZ3a	*FZ3a+CC	Units
Speed of inundation	N/A	N/A	Hrs
Min. Depth	N/A	N/A	m
Max. Depth	N/A	N/A	m
Max. Velocity	N/A	N/A	m/s
Max. Hazard	N/A	N/A	N/A
Duration of Flood	N/A	N/A	Hrs

Description of Flood Mechanism
N/A - No fluvial / tidal risk is predicted at this site.

Figure 1 - Fluvial Flood Depth Map

Site Access / Egress
N/A - No fluvial / tidal risk is predicted at this site.

Figure 2 - Fluvial Flood Hazard Map

Mitigation / FRA Requirements
N/A - No fluvial / tidal risk is predicted at this site.

SURFACE WATER

Risk Assessment				
Parameter	1 in 30	1 in 100	1 in 1000	Units
Min. Depth	0	0.00-0.15	0.00-0.15	m
Max. Depth	0.15-0.30	0.30-0.60	0.60-0.90	m
Max. Velocity	0.00-0.25	0.50-1.00	1.00-2.00	m/s
Max. Hazard	0.75-1.25	0.75-1.25	1.25-2.00	N/A

*The 1 in 1000 annual probability extent represents the potential climate change adjusted impact of current risk

Description of Flood Mechanism
<ul style="list-style-type: none"> The site is currently at risk of surface water flooding, particularly in the centre and southern section of the site. Fullers Way South to the south east of the site and Kingston By-Pass to the north of the site are at risk from surface water flooding. Climate change is predicted to increase the flood extent, depth, velocity, and hazard.

Site Access / Egress
Safe egress routes should be directed towards Hook Rise South to the north of the site where there is a lower risk of flooding.

Figure 3 - RoFSW Flood Depth Map

Mitigation - Flood Risk Requirements
<ul style="list-style-type: none"> Development should be directed away from the centre of the site where there is higher risk of surface water flooding. See also SFRA Level 2 Report mitigation requirement numbers 4.2, 4.4, 4.5 and 4.6 for further development stipulations.

Figure 4 - RoFSW Flood Hazard Map

Mitigation - Surface Water Drainage
<ul style="list-style-type: none"> A Kingston SuDS Proforma must be submitted with the planning application. Developments should apply the Sustainable Drainage Hierarchy set out in Policy SI13 of the London Plan. Ground investigations are required to confirm whether infiltration based SuDS are suitable.

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SEWER	GROUNDWATER	ARTIFICIAL												
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PLANNING CONSIDERATIONS

Safety of Development

- A. Can the development be future proofed for climate change considerations?**
- Yes. See SFRA - Level 2 Report mitigation requirement number 4.2 and 4.4 for the required finished floor levels and flood resistant / resilient building stipulations.
- B. Can the development be designed safe throughout its lifetime without increasing flood risk elsewhere?**
- Yes - The development must use surface water drainage techniques to manage surface water runoff onsite through above ground SuDS and / or below ground attenuation. Green drainage infrastructure should be prioritised to provide wider ecological / biodiversity benefits as per London Plan Policy SI 13.
 - See SFRA - Level 2 Report mitigation requirement number 4.5 for compensatory flood storage stipulations.
- C. What is the cumulative impact of the development land use change and will flood risk increase?**
- The development land use is changing from the 'Less Vulnerable' to the 'More Vulnerable' classification, as residential uses have been proposed.
 - The site is covered partially by impermeable areas, but there is also an area of green space in the centre of the site. An increase in impermeable area coverage on site will increase surface water runoff and flood risk if not managed properly.
- D. How can the development reduce risk overall?**
- Direct development around the centre of the site.
 - Include SuDS to manage surface water runoff and reduce run-off rates to comply with Policy DM 4 in Kingston's Core Strategy.
 - By complying with SFRA - Level 2 Report mitigation requirement numbers 4.2, 4.4 and 4.5.
- E. Will development require a flood risk permit/watercourse consent?**
- No. The site is not within 8m of a Main River or 5m of an Ordinary Watercourse.
- F. Is the Exception Test required?**
- The Exception Test is required for 'More Vulnerable' development in Flood Zone 3a (the middle section and western edge of the site).
 - This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see Mitigation - Surface Water Drainage and Mitigation - Flood Risk Requirements boxes).



