

SITE ASSESSMENT - Kingston Business Park

0.36 **Ha** Address: Fullers Way South, Chessington, Area: Site Reference: SA 113 KT9 1DQ

Current Use Proposed Use Residential Only - 36 units **Business Park**

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. Inc	cidents	81/128	Y/N N		V

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.

Site Access / Egress

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

Mitigation / FRA Requirements

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

Safe egress routes should be directed

towards Hook Rise South to the north of the

site where there is a lower risk of flooding.

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

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

Description of Flood Mechanism

- 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.

SURFACE WATER

Site Access / Egress **Mitigation - Flood Risk Requirements**

- 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.

• A Kingston SuDS Proforma must be submitted with the planning application.

Mitigation - Surface Water Drainage

- 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.

Figure 3 - RoFSW Flood Depth Map

Figure 4 - RoFSW Flood Hazard Map

Figure 2 - Fluvial Flood Hazard Map

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Figure 1 - Fluvial Flood Depth Map



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SEWER

Risk Assessment

- The site falls within two postcode areas where there are 81 and 128 reported flood incidents from sewer flooding.
- The site is served by separate surface water and foul sewer networks.

Figure 5 - Thames Water Sewer Flood Map

Mitigation Requirements

- Applicant must consult with TWUL to confirm if the development site has historically flooded. TWUL must agree to any proposed sewer connections.
- Where historic flooding has occurred, the applicant must show how this risk will be managed for the lifetime of the development.

GROUNDWATER

Risk Assessment

- The site is classified as having <25% susceptibility to groundwater flooding.
- The site is underlain by London Clay bedrock geology.

Mitigation Requirements

- Applicant should carry out a screening study (as a minimum) to establish if there are any subterranean flood risk issues that may require further investigation.
- If there is a potential level of impact, mitigation actions must be proposed.
- Must be prepared by a chartered professional or specialist.

Figure 6 - Areas Susceptible to Groundwater Flooding Map

ARTIFICIAL Risk Assessment

The site is not at risk from artificial flooding.

Figure 7 - Outline Reservoir Flood Map

Mitigation Requirements

No mitigation measures required.

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?

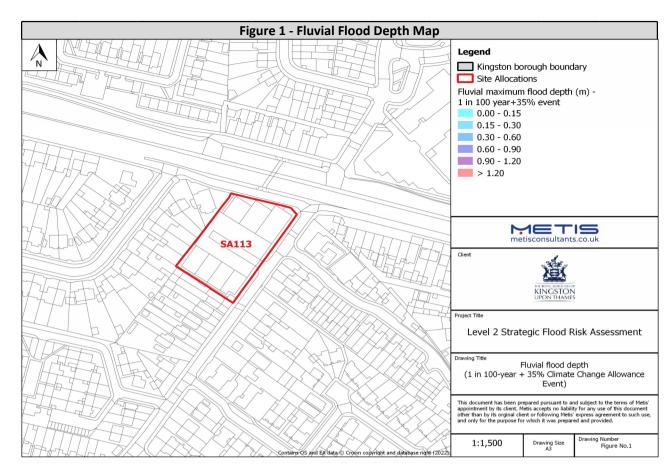
• No. The site is not within 8m of a Main River or 5m of an Ordinary Watercourse.

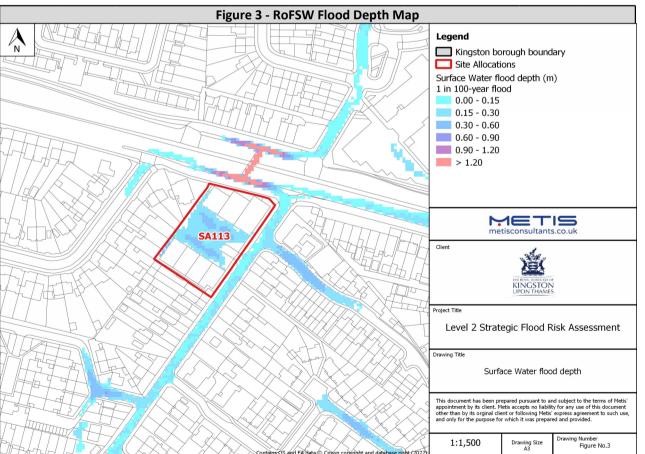
F. Is the Exception Test required?

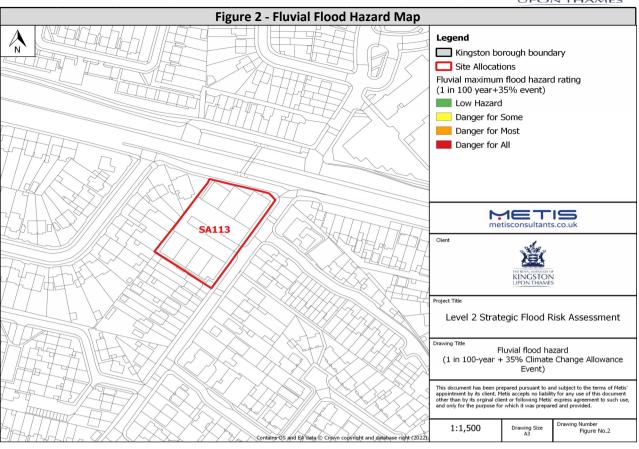
- The Exception Test is required for 'More Vulnerable' development in Flood Zone 3a (the middle section and western edge of the site).
- This can be passed by making the site safe throughout its lifetime without increasing flood risk elsewhere (see questions A, B, and C). The site could also reduce flood risk overall with appropriate SuDS and flood storage compensation measures implemented (see Mitigation Surface Water Drainage and Mitigation Flood Risk Requirements boxes).

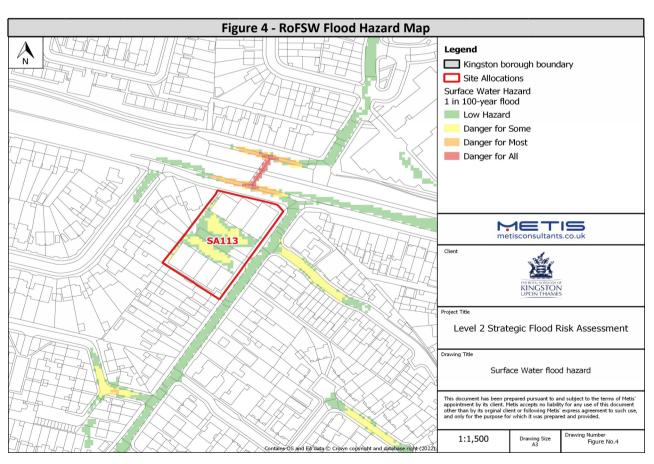
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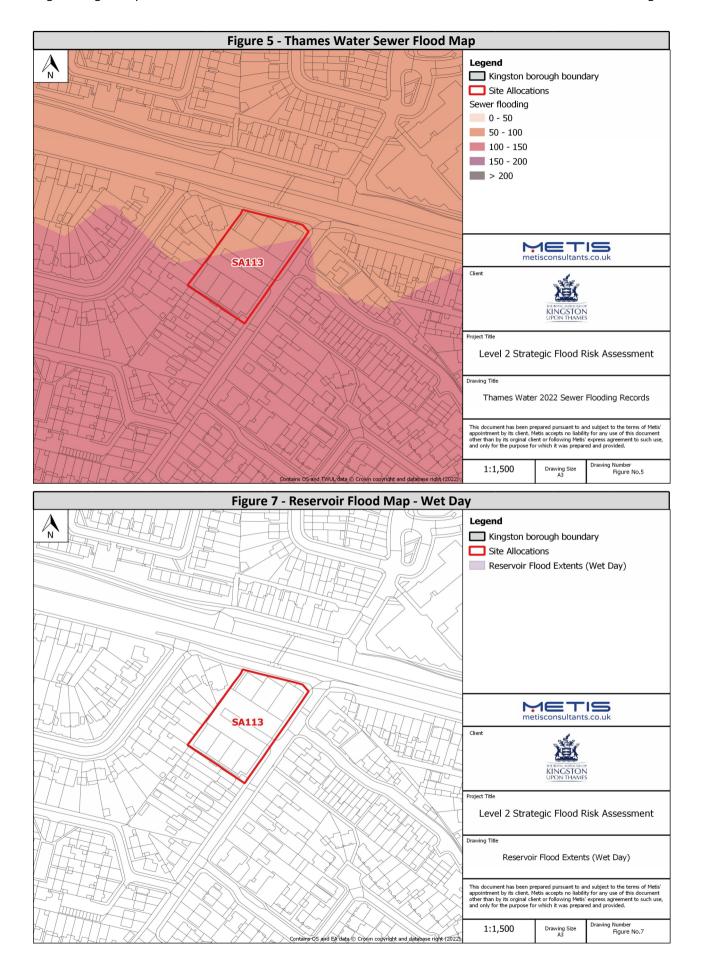


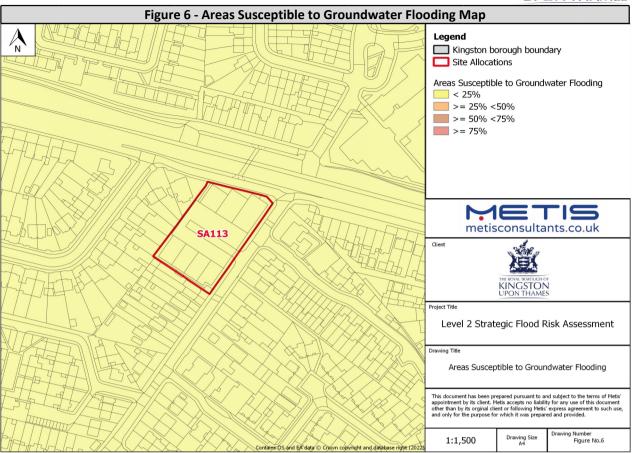




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