BLA002				
OSNGR: 456188 298318	Area: 10.85ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 95.5%	**FZ3a** 1.5%	**FZ2** 1.2%	**FZ1** 1.7%

Proposed Development Details:
Proposed development type unknown.

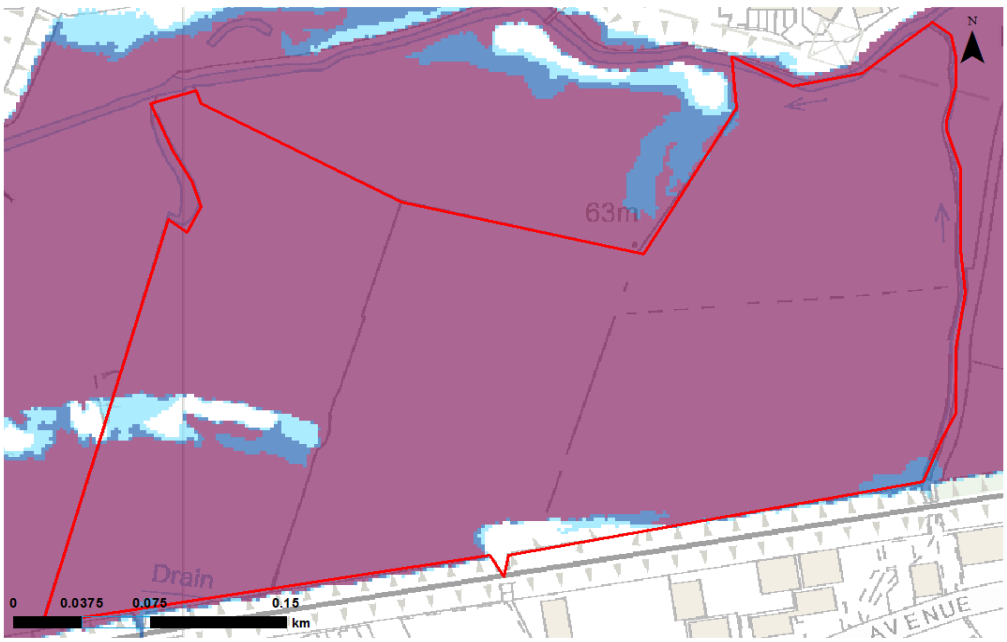
Exception Test Required?
Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:
A large proportion of the assessment area is in Flood Zone 3b. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:

- remain operational and safe for users in times of flood
- result in no net loss of floodplain storage
- not impede water flows and not increase flood risk elsewhere

In view of the flooding problems from the River Sence, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the assessment area proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.
This assessment area is not suitable for Less Vulnerable, More Vulnerable and Highly Vulnerable development.

Flood Zone Map



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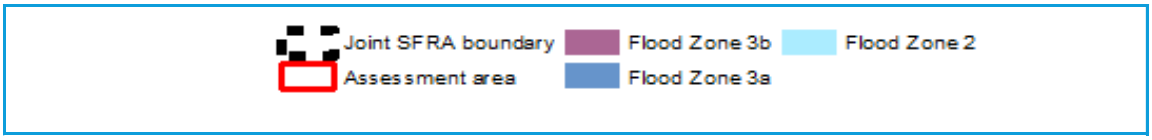
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.


Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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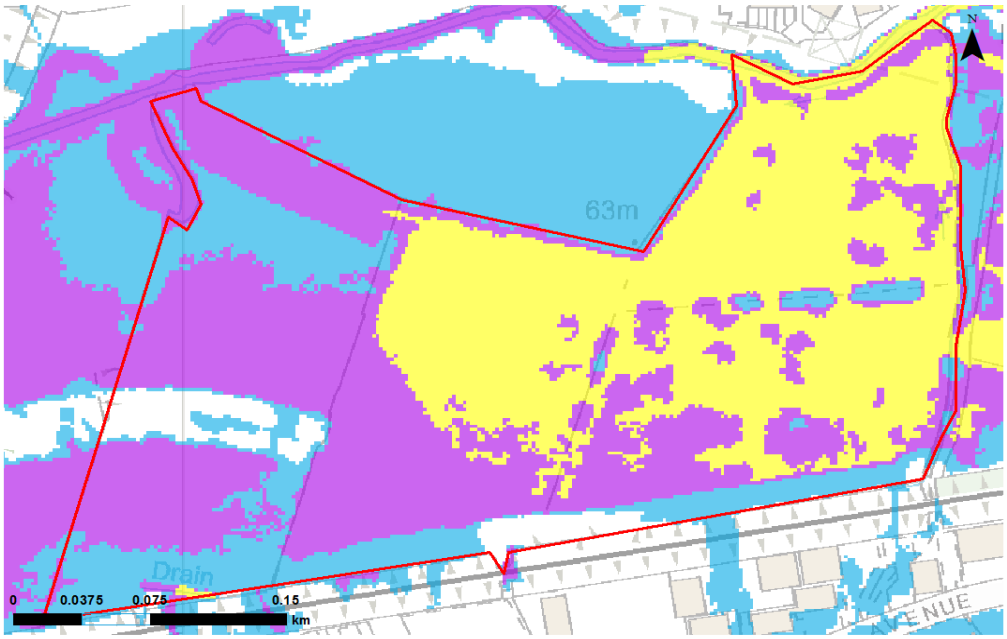
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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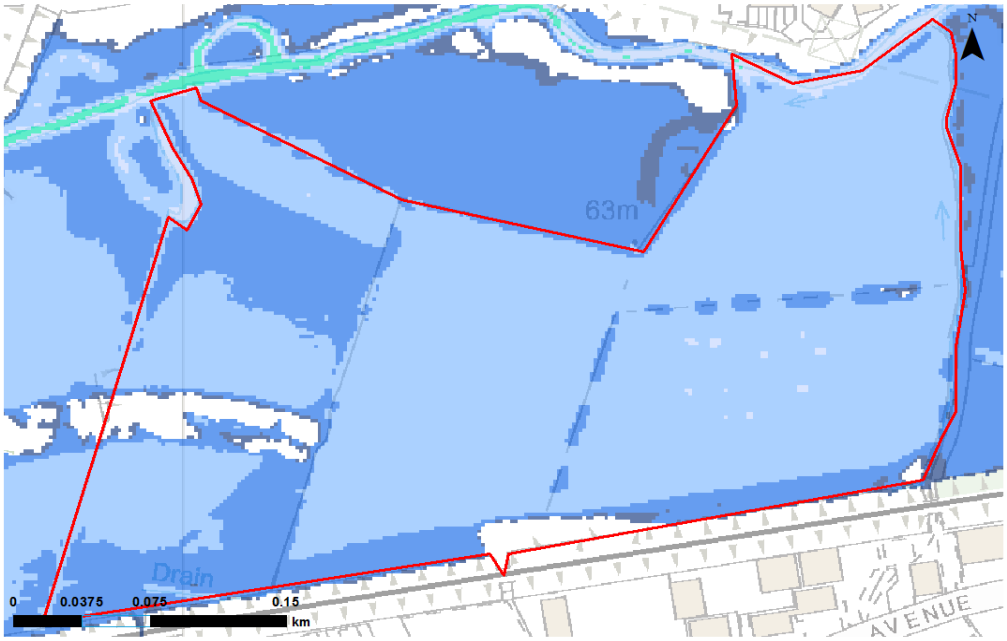
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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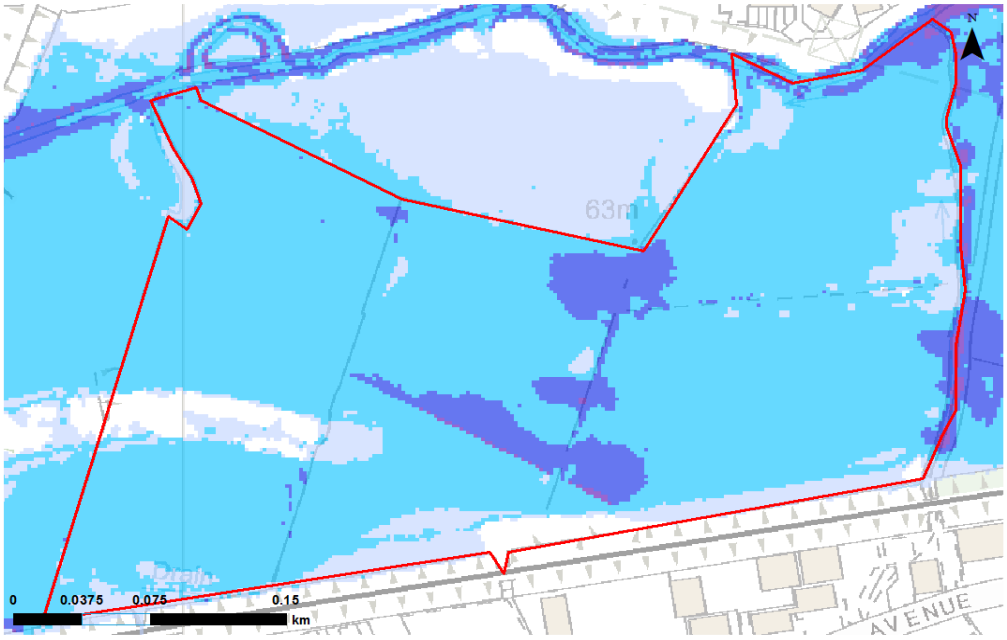
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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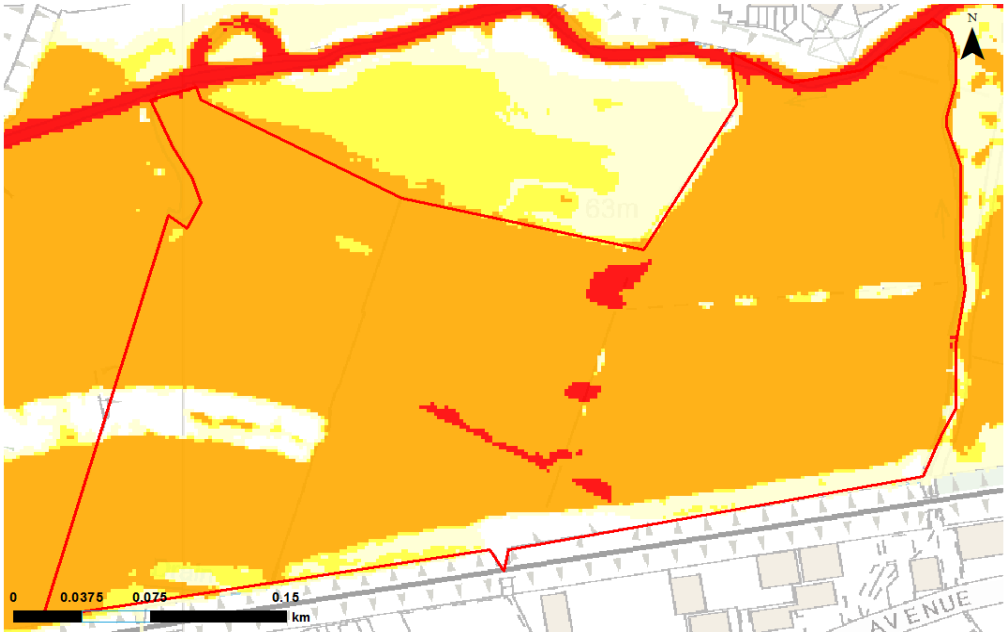
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the River Sence as it flows along the northern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option is likely to be suitable, provided slopes are <5 %. Larger 'above ground' features may not be viable where slopes are steep. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Canal: The assessment area is located close to the Grand Union Canal and may be at risk in the event of bank failure.
Flood Warning: This assessment area is in the River Sence in Leicestershire Flood Alert Area.
Access & Egress: All routes to and from the assessment area are at risk of flooding. There are no alternative safe access and egress routes.
Climate Change: • Increased storm intensities. • Increased water levels in the River Sence.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Flood risk based on the overtopping or breach of the Grand Union Canal should be considered during a detailed site-specific flood risk assessment. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Sence should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the River Sence to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

BLA005				
OSNGR: 457245 297379	Area: 7.35ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 22.1%	**FZ3a** 9.5%	**FZ2** 8.9%	**FZ1** 59.5%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

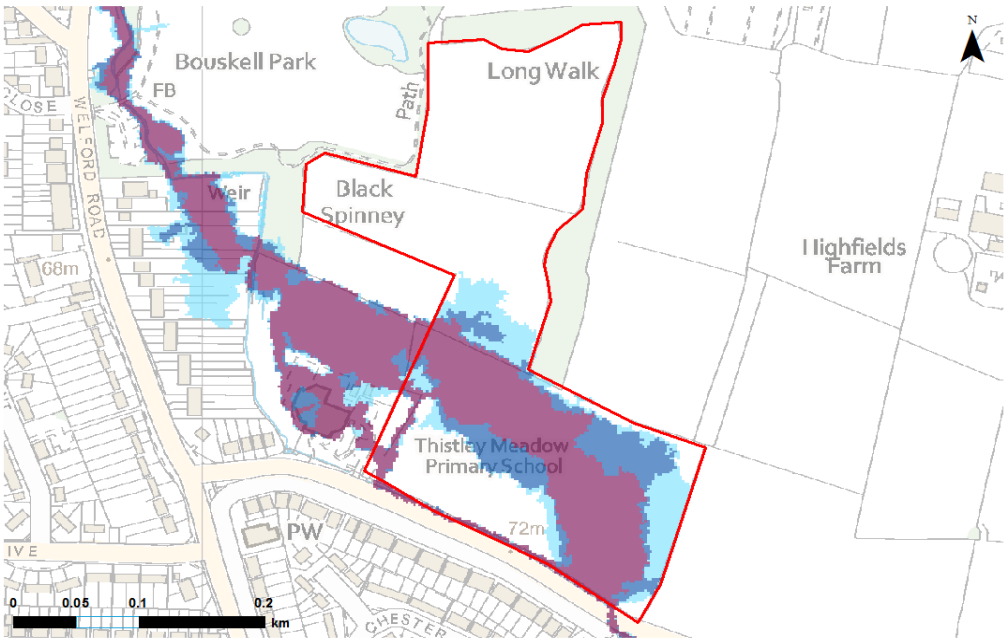
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the north of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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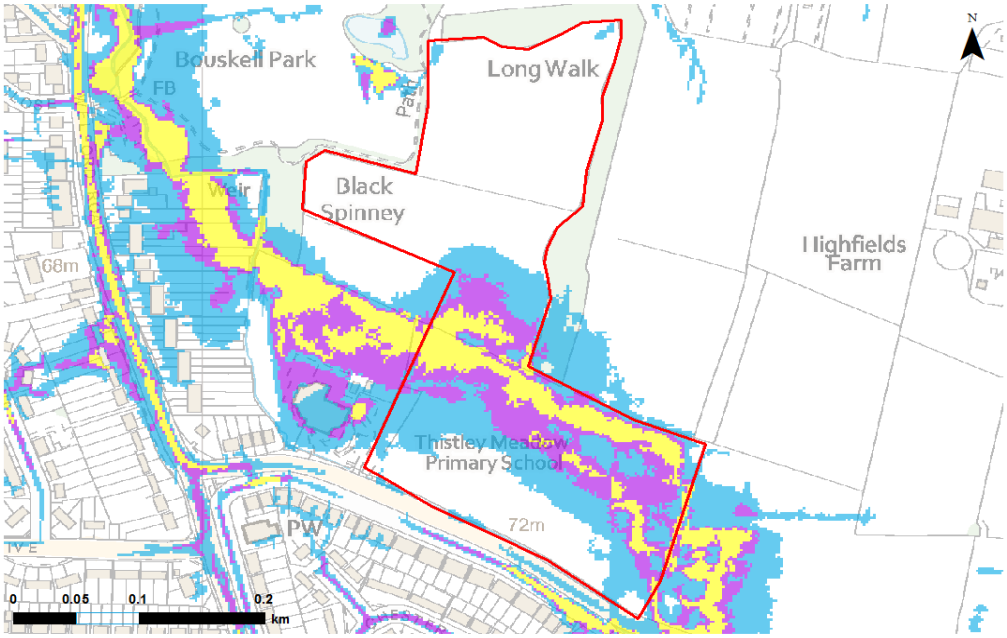
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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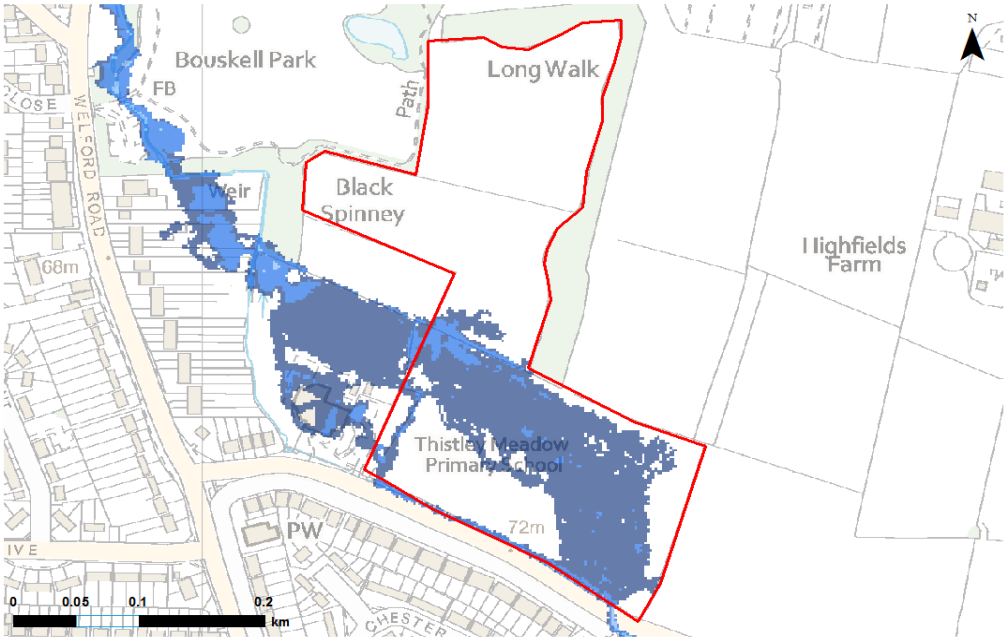
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent

Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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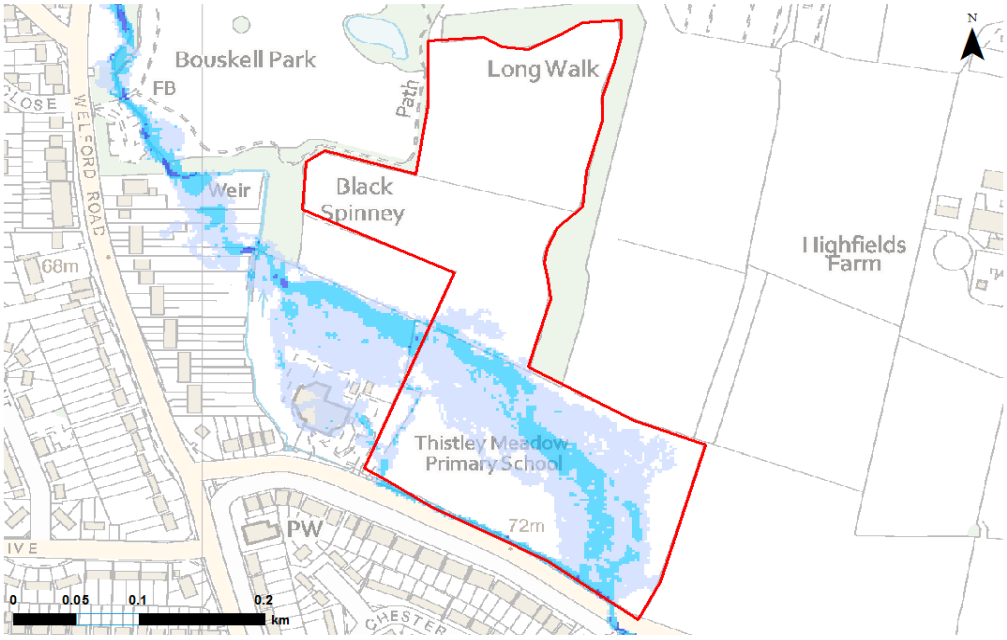
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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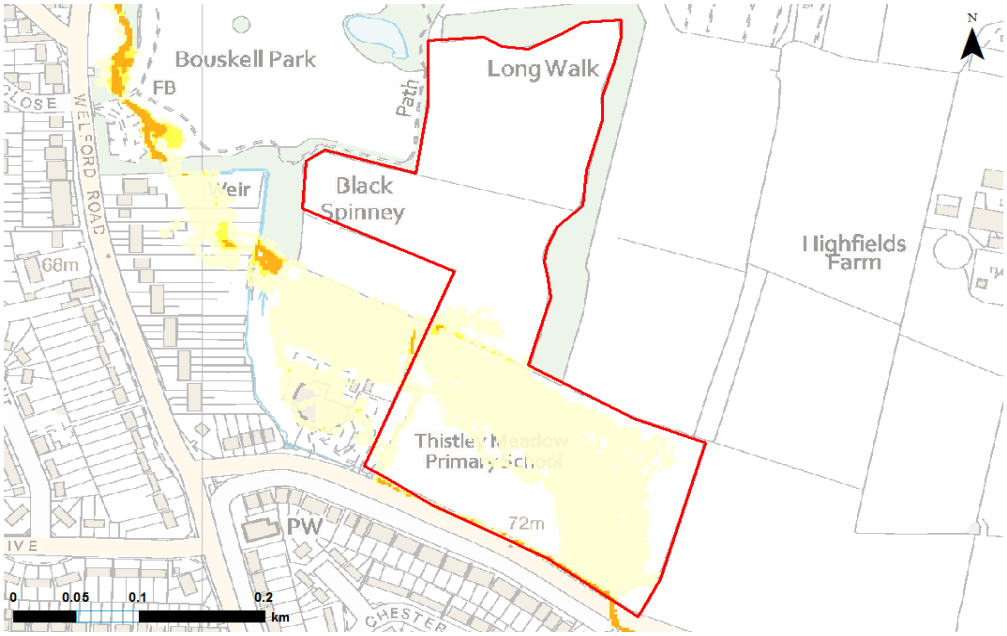
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows to the south and east of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and the groundwater flood risk.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		Mapping suggests that there may be steep slopes within the assessment area, however, filtration features may be suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.

Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: The main access/egress routes for the assessment area (Hospital Lane) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

BLA008				
OSNGR: 457013 297419	Area: 1.08ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 21.5%	**FZ3a** 10.5%	**FZ2** 24%	**FZ1** 44%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

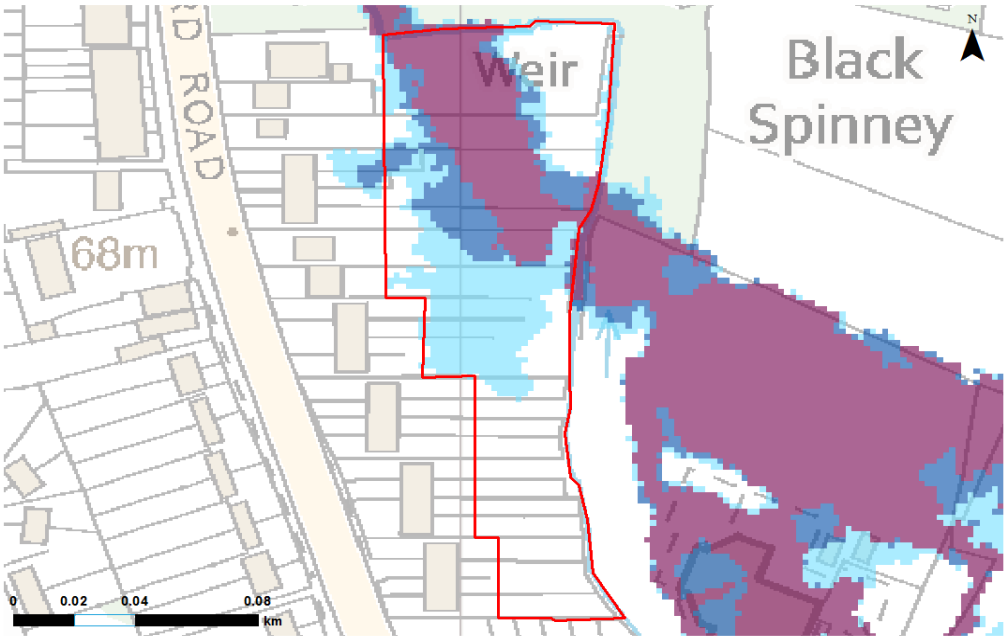
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zones 1 and 2. Risks to development could be reduced by using sequential design to locate development in the south of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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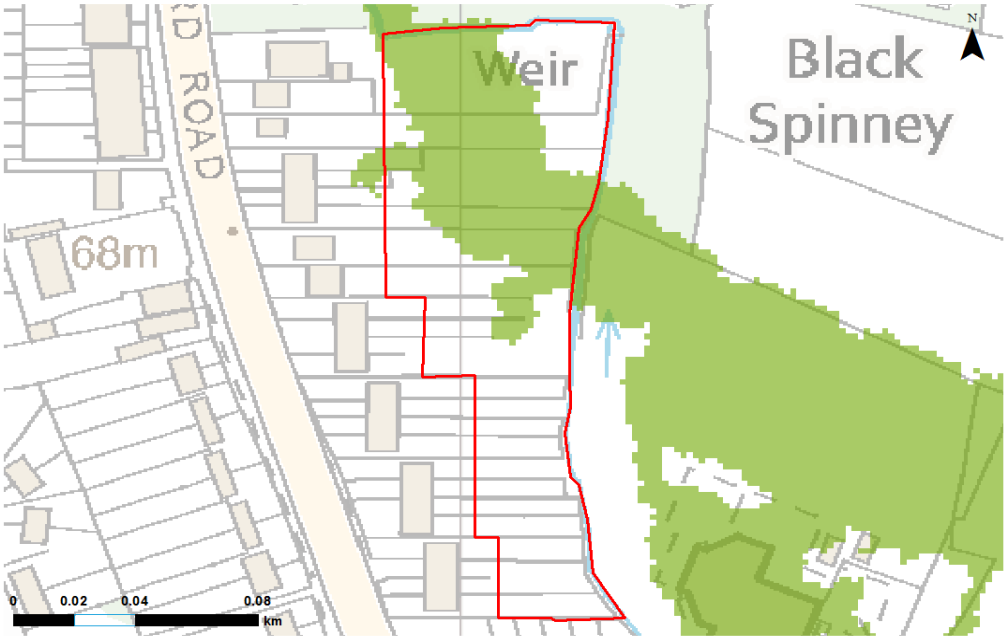
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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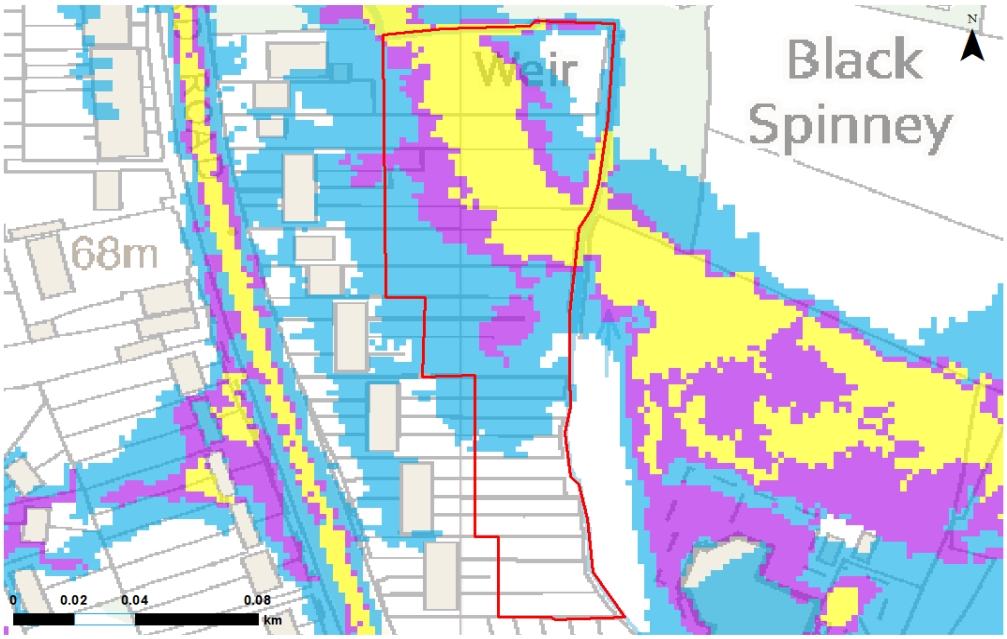
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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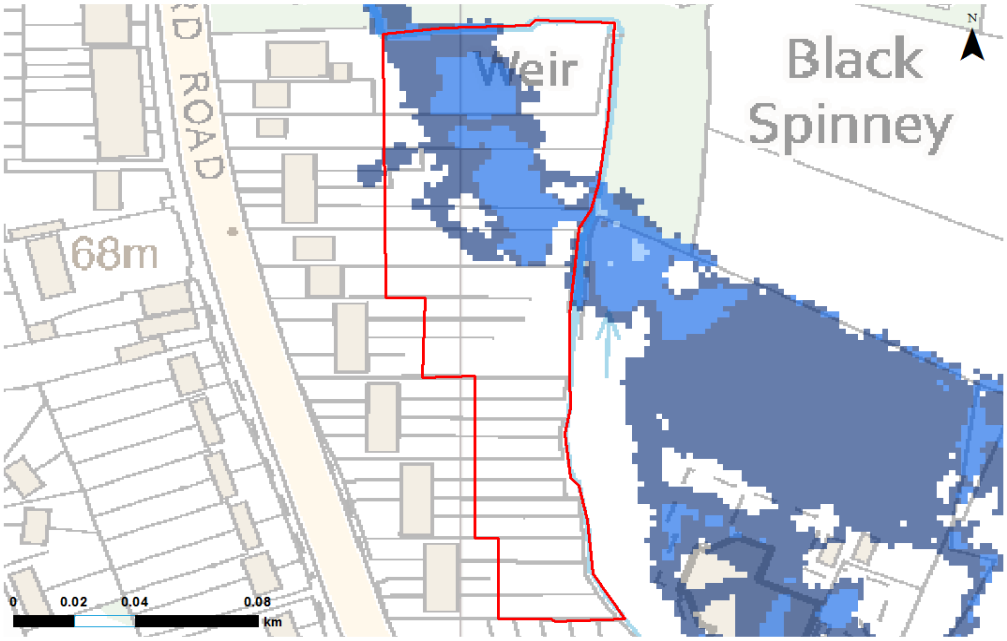
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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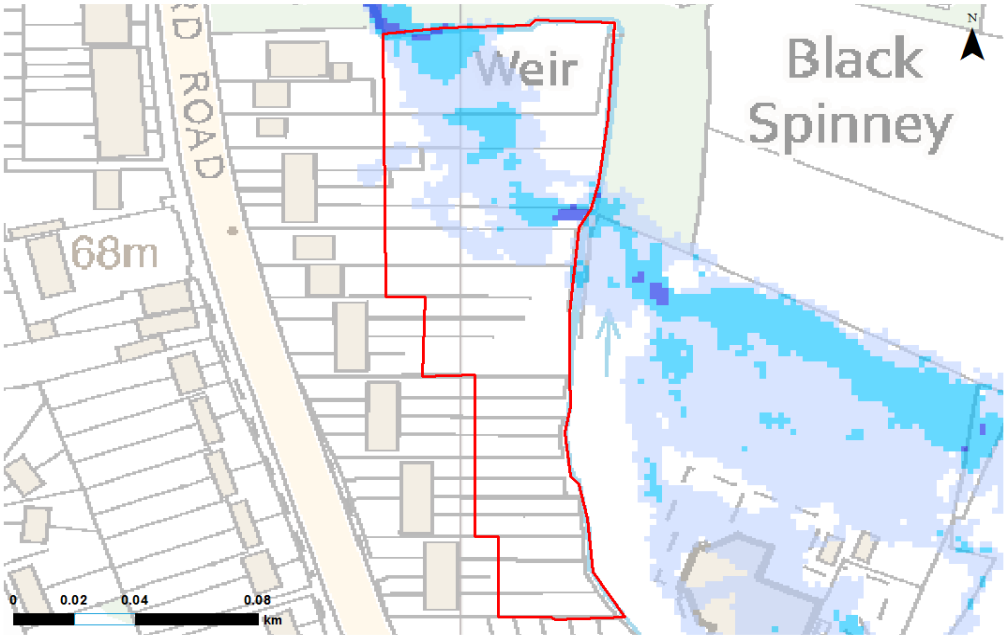
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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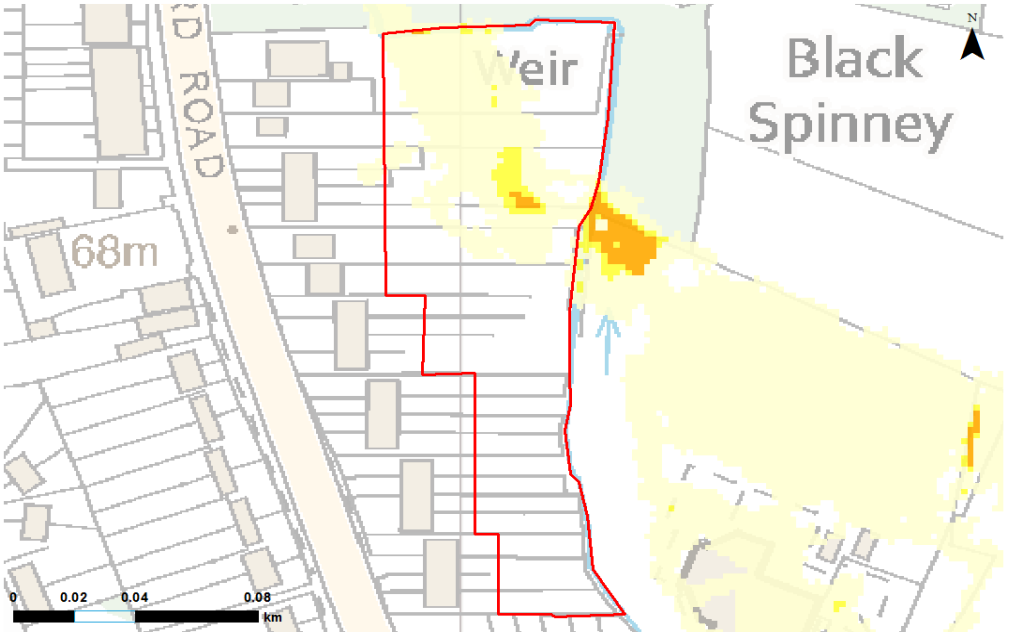
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the eastern and northern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option is likely to be suitable, provided slopes are <5 %. Larger 'above ground' features may not be viable where slopes are steep. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: The main access/egress route for the assessment area (Welford Road) is shown to be at risk from fluvial flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

BLA014				
OSNGR: 457416 296419	Area: 22.02ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 1.9%	**FZ3a** 0.5%	**FZ2** 0.4%	**FZ1** 97.3%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

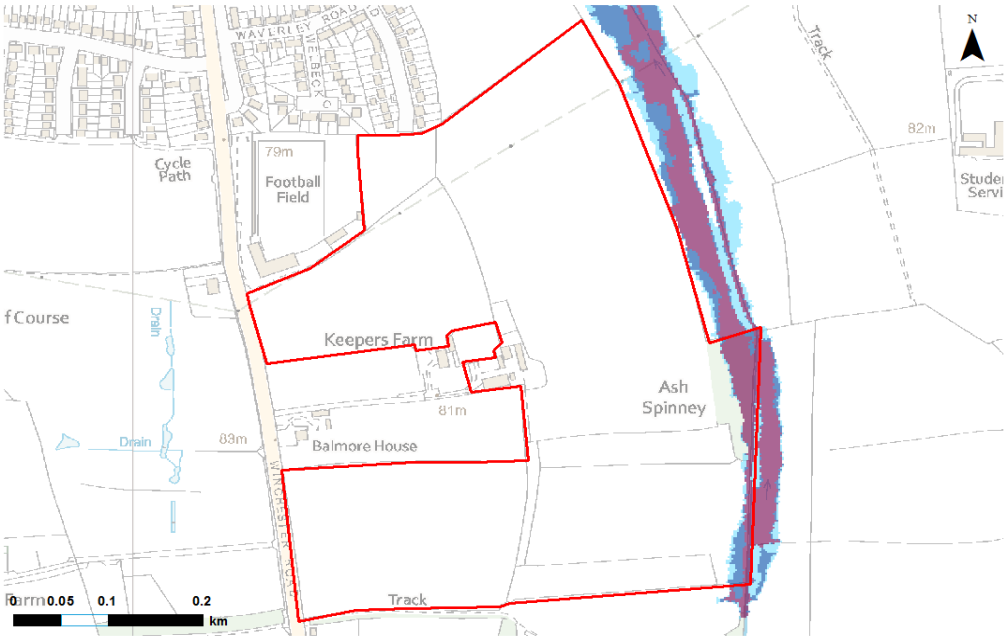
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the eastern boundary of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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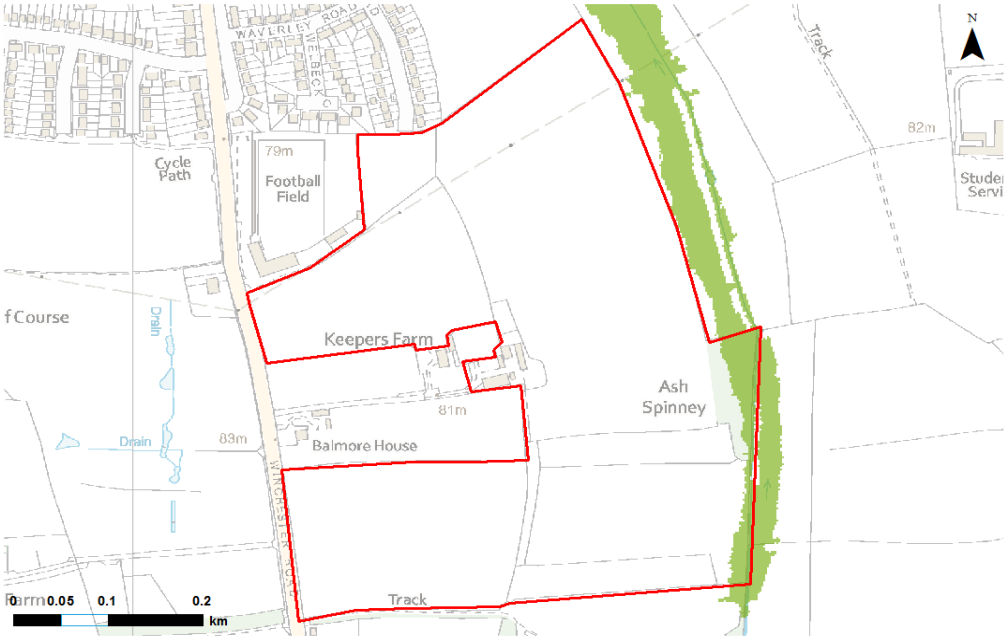
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary | Flood Zone 3b | Flood Zone 2
Assessment area | Flood Zone 3a

Climate Change Map



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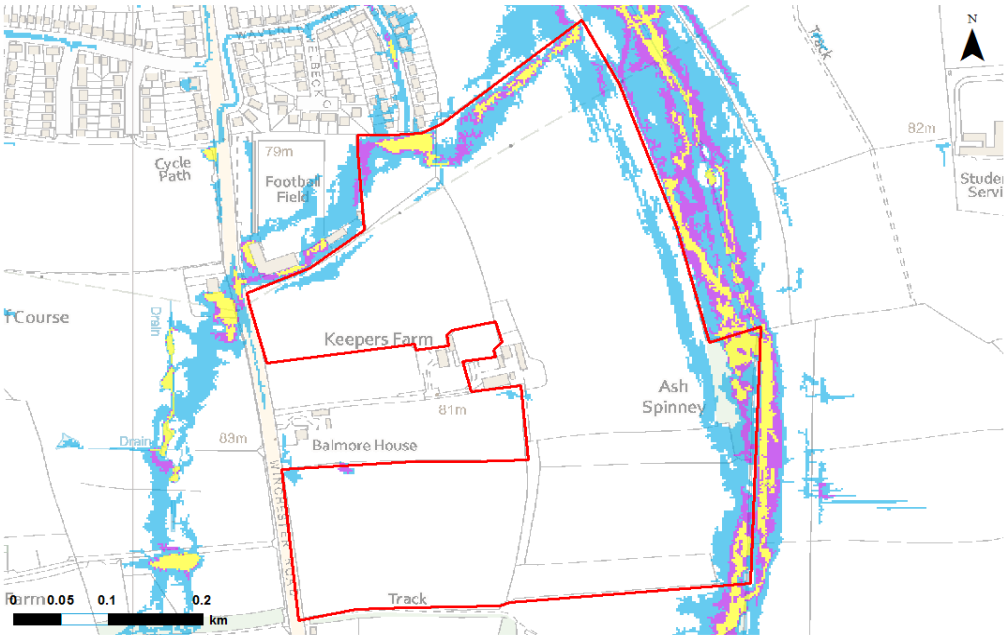
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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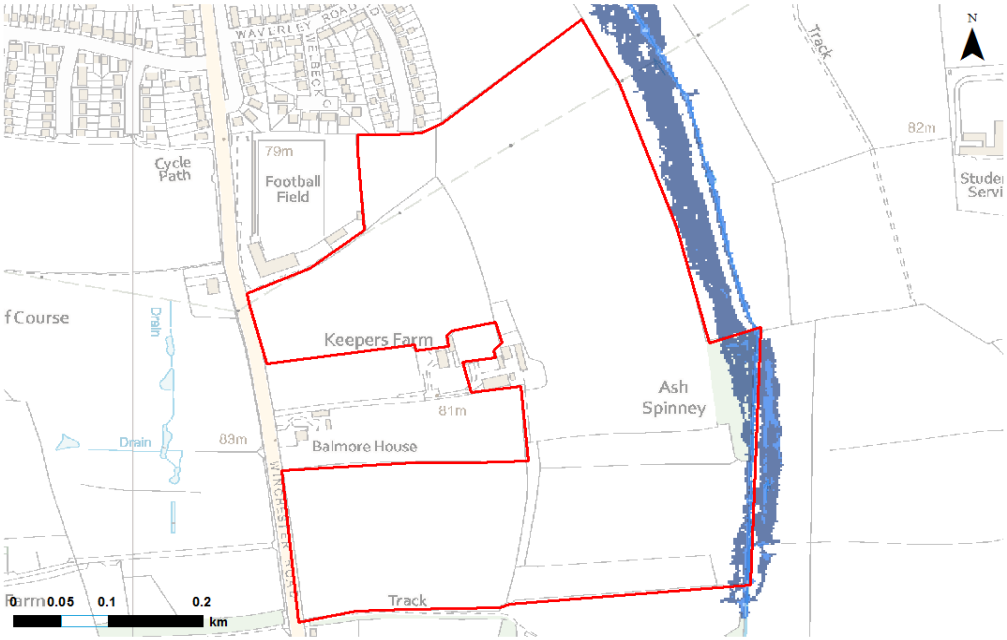
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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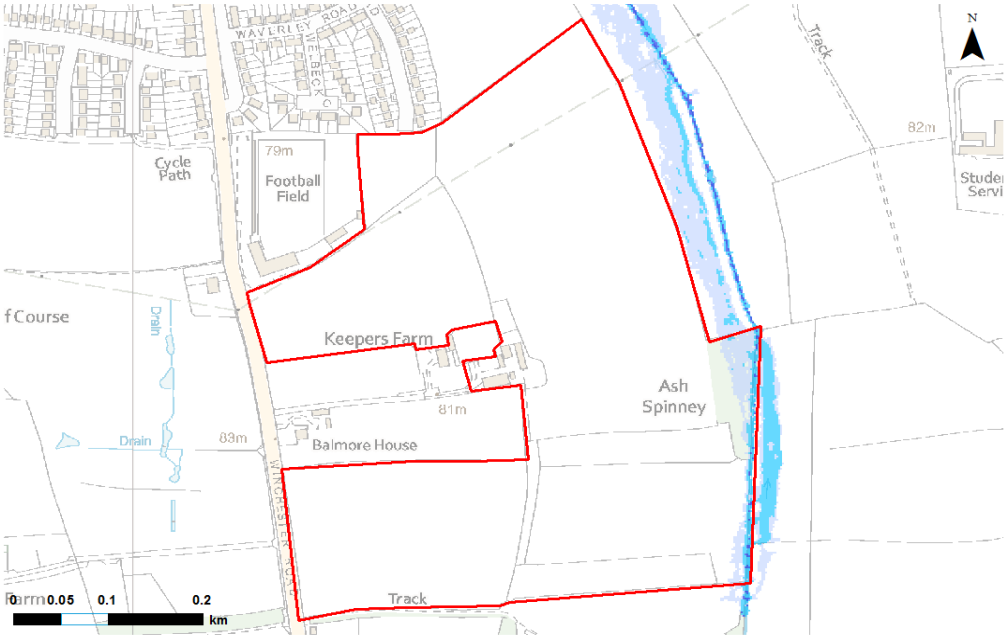
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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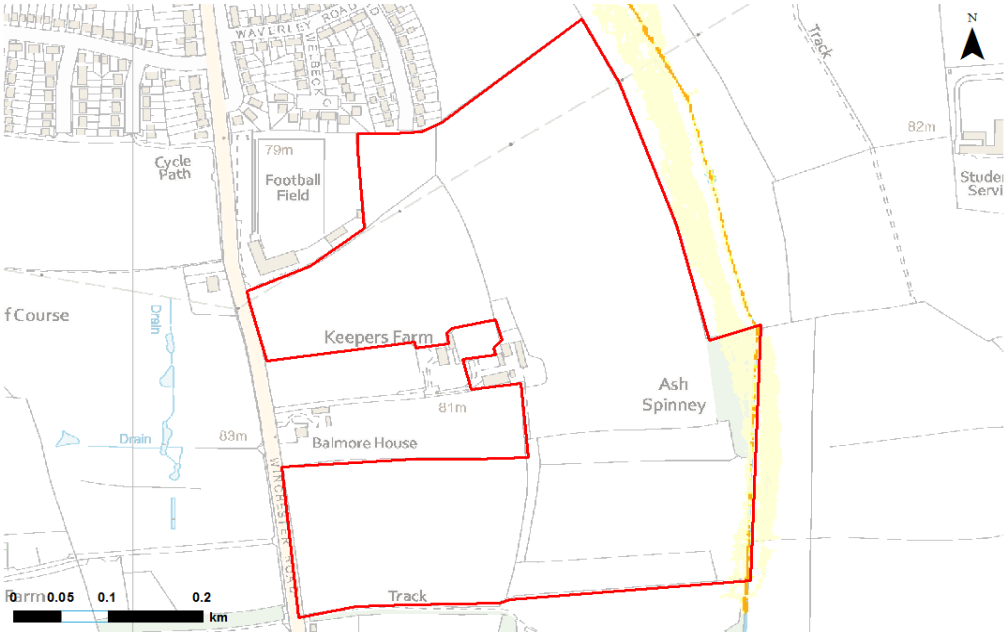
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the eastern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to high risk of groundwater flooding.
Infiltration		Mapping suggests soils have a low permeability and therefore it is likely infiltration techniques will not be suitable.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: The main access/egress route for the assessment area (Winchester Road) is shown to be at risk from surfcae water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

BLA019				
OSNGR: 457283 297492	Area: 15.84ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 9.9%	**FZ3a** 4.4%	**FZ2** 4.7%	**FZ1** 81%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

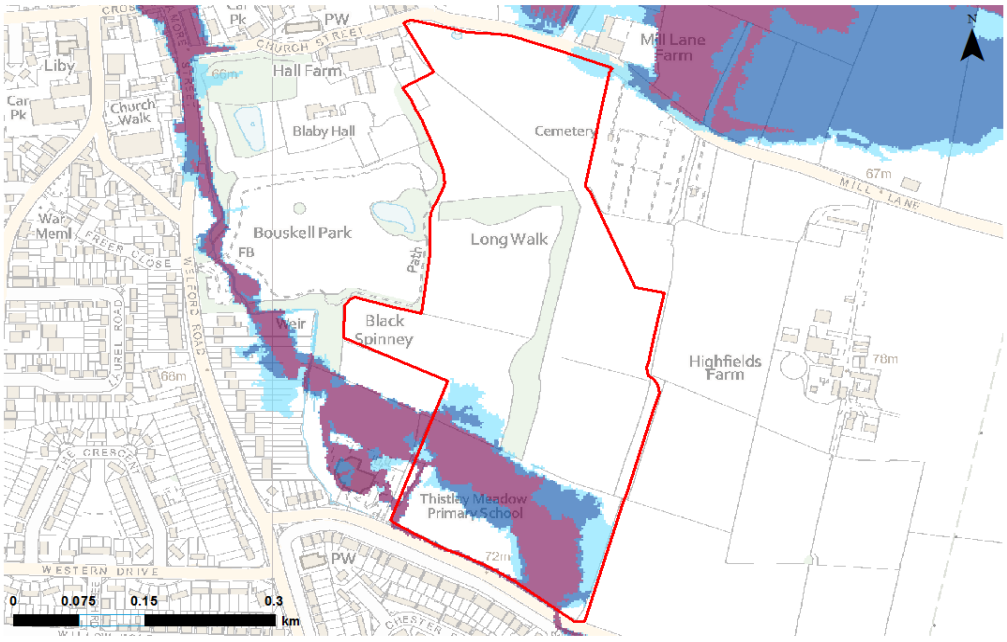
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the southern boundary of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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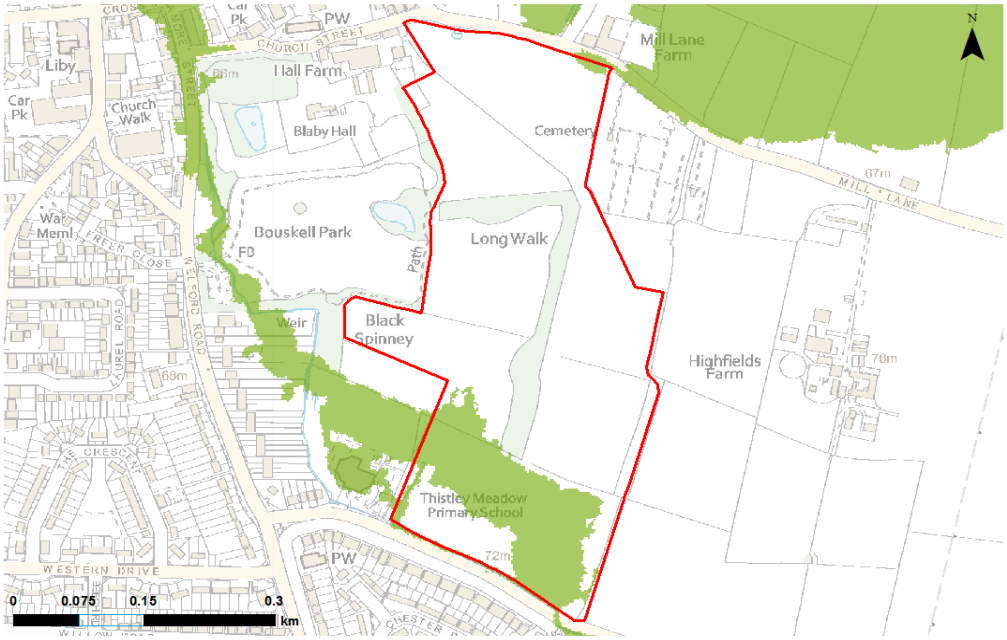
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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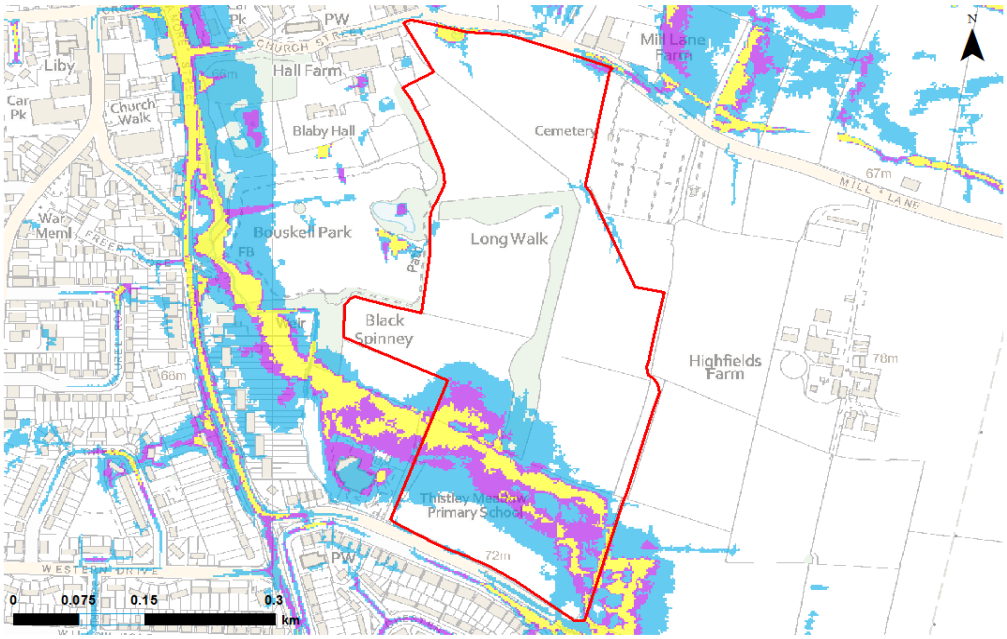
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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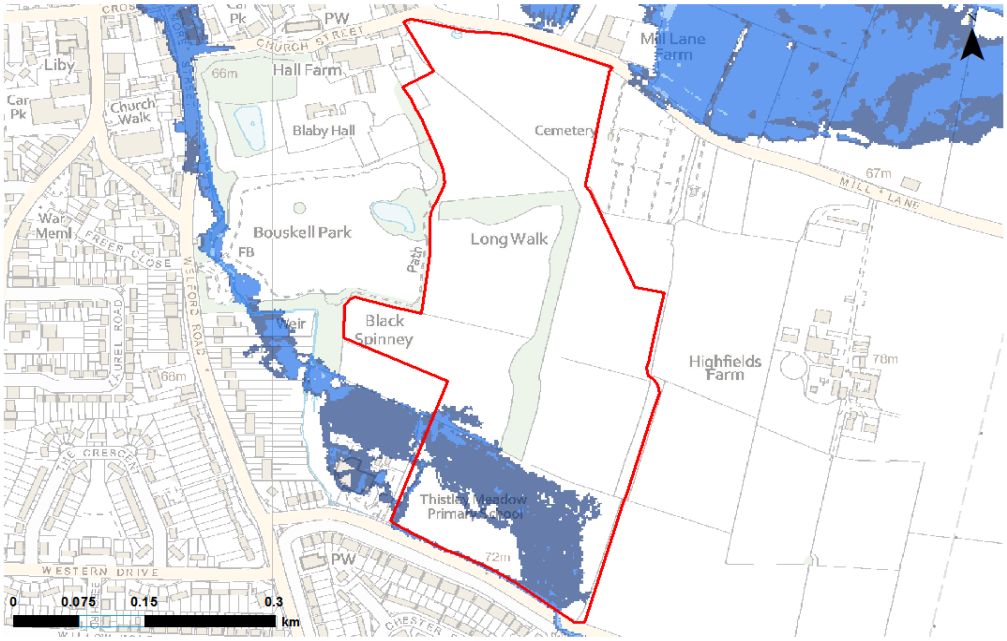
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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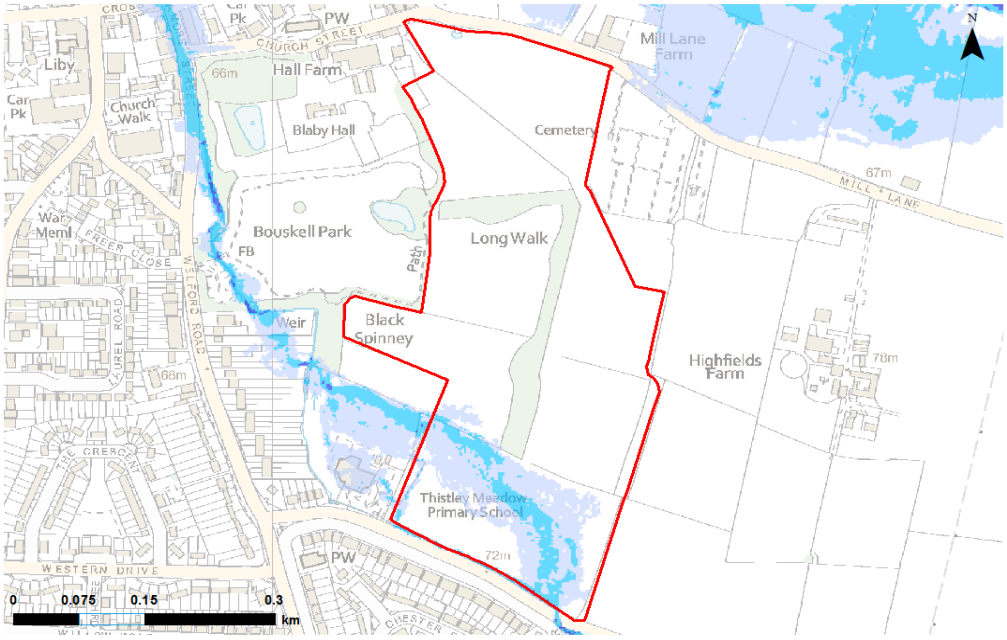
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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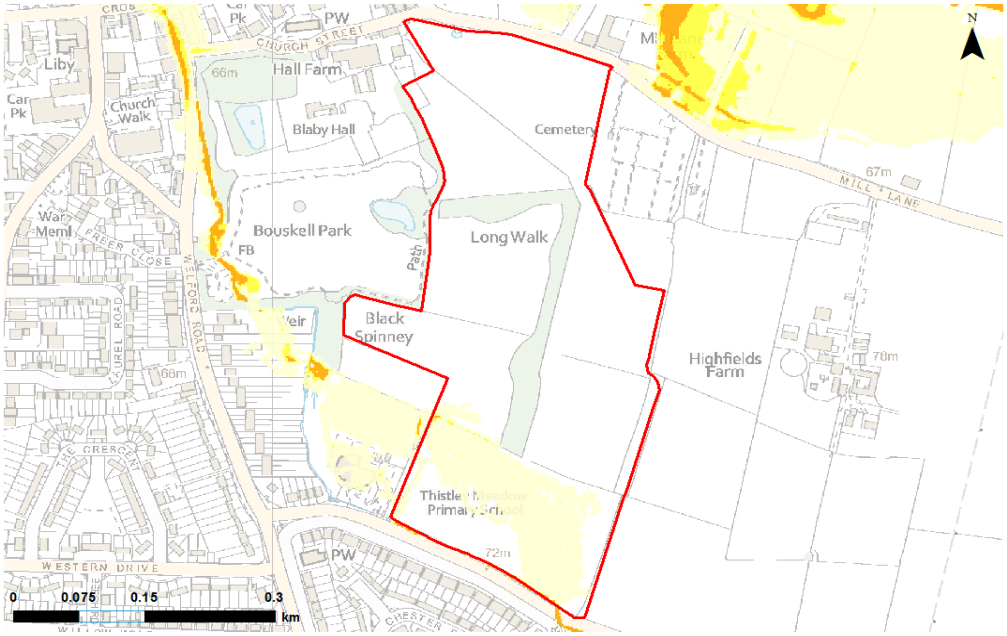
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary | Assessment area

Hazard

Very low hazard - caution | Danger for some | Danger for most | Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows to the south and east of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: A part of this assessment area is in the River Sence at Blaby and Glen Parva Flood Warning Area.
Access & Egress: The main access/egress routes for the assessment area (Hospital Lane) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

BLA025				
OSNGR: 457114 297783	Area: 1.48ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 0%	**FZ3a** 2.7%	**FZ2** 1.3%	**FZ1** 96.0%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.

Highly Vulnerable infrastructure should not be permitted within FZ3a.

Potential to pass the Exception Test:

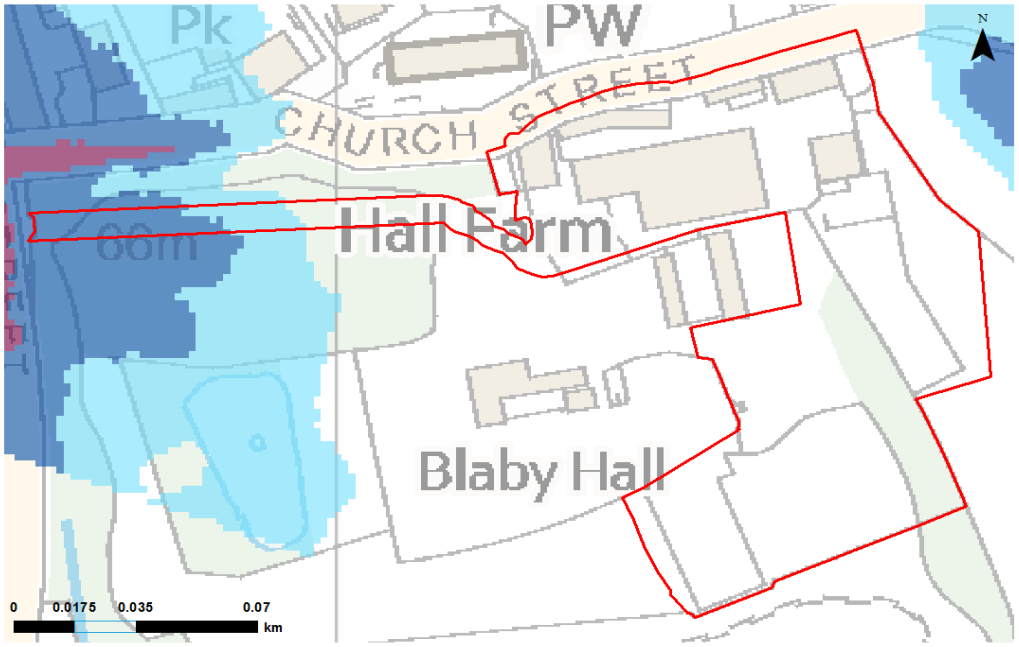
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the western boundary of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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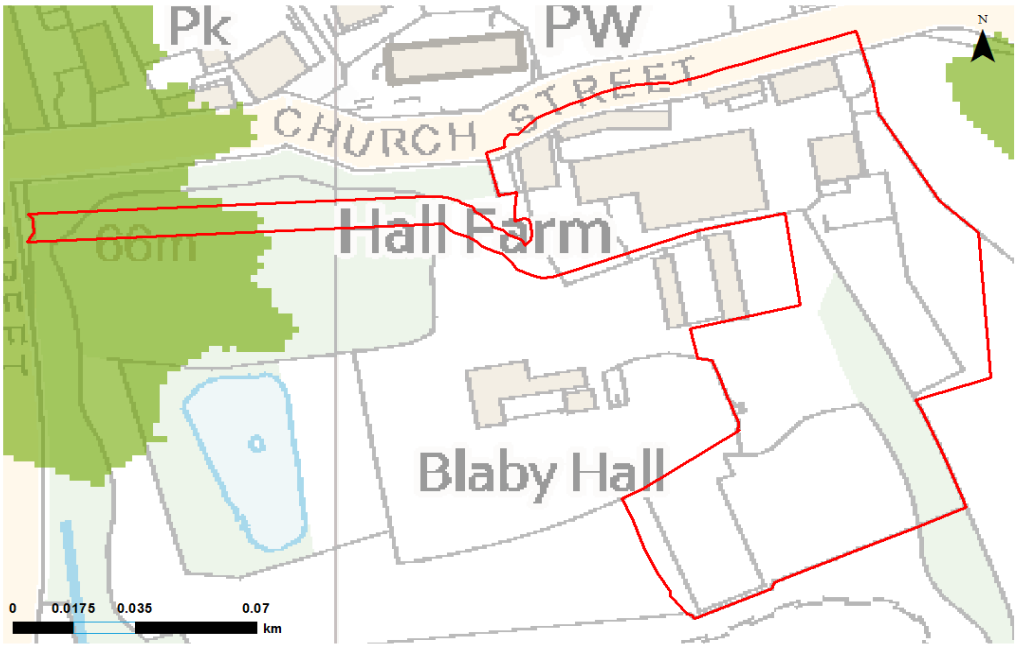
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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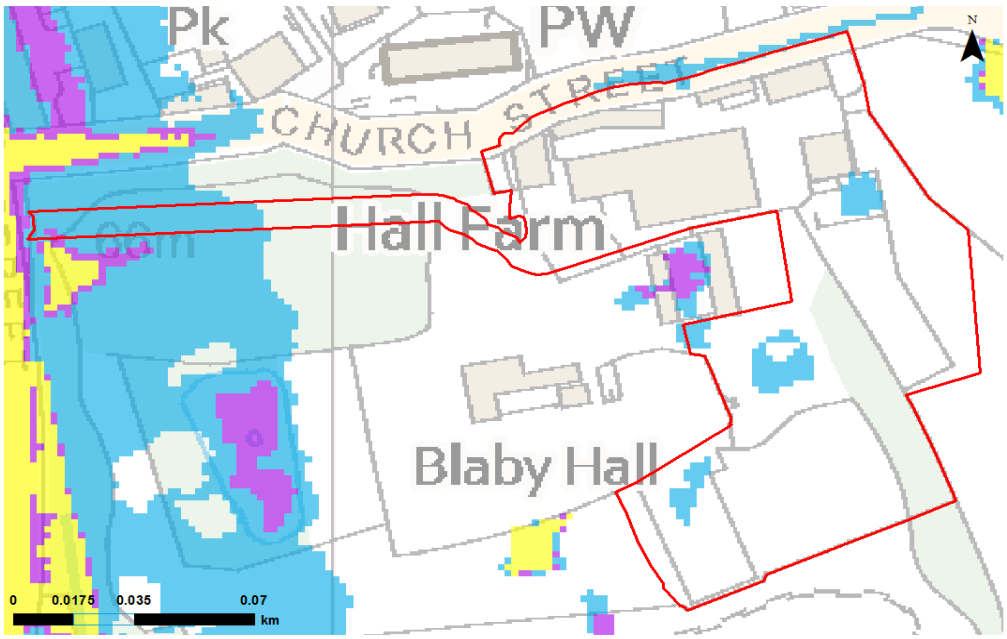
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk: • Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows to the west of the boundary of the assessment area. • Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.		
SuDS & the Assessment Area:		
SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to high risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and high permeability of soils. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: A part of this assessment area is in the River Sence at Blaby and Glen Parva Flood Warning Area.
Access & Egress: The main access/egress routes for the assessment area (Sycamore Street and Church Street) are shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main routes to the assessment area are at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding. o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

BRA008				
OSNGR: 455986 300826	Area: 3.31ha		Brownfield	
Flood Zone Coverage:	**FZ3b** 0.5%	**FZ3a** 1.6%	**FZ2** 16.8%	**FZ1** 81.1%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

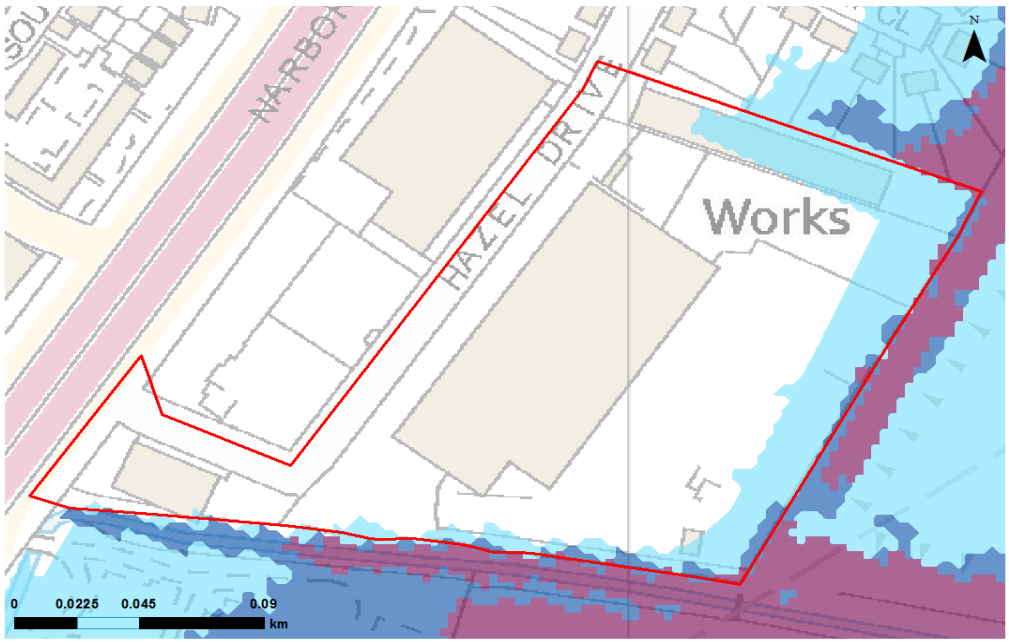
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the southern and eastern boundaries of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the Lubbesthorpe Brook, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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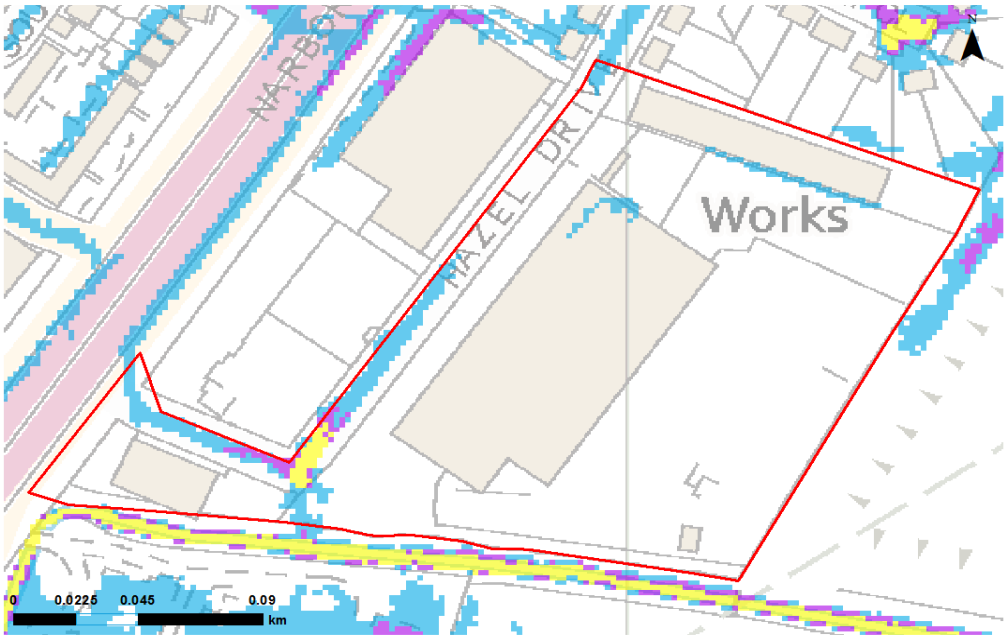
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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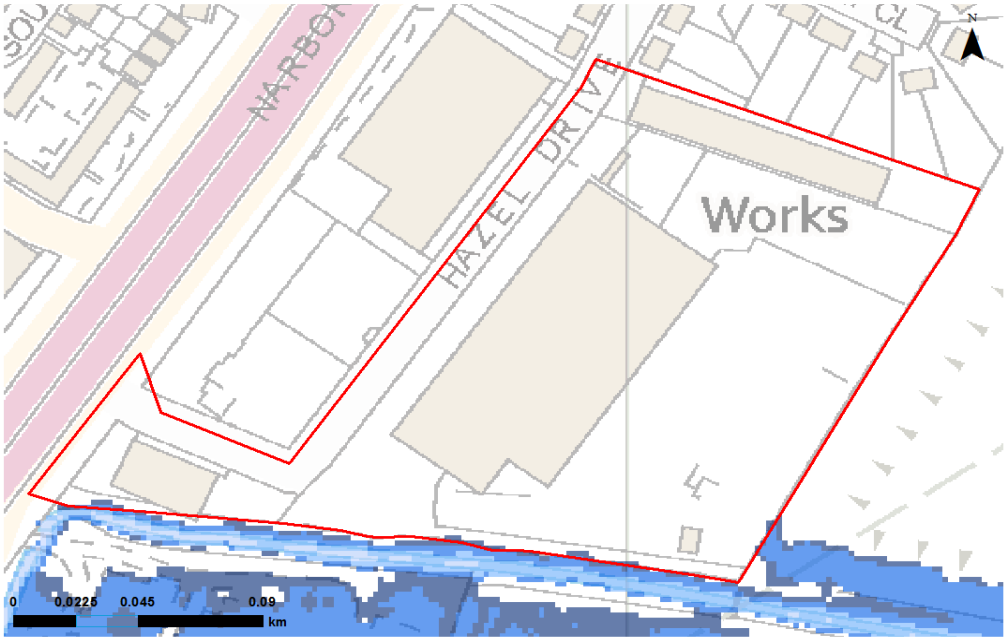
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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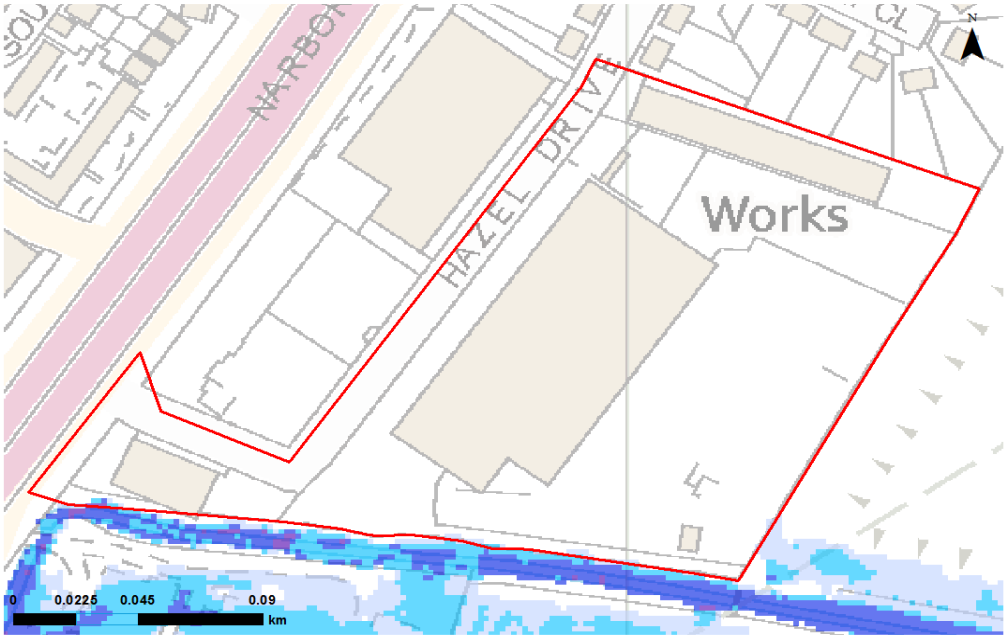
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10
0.10 - 0.50
0.50 - 1.00
1.00 - 1.50
1.50 - 2.00
2.00 - 2.50
2.50 - 3.00
3.00 - 3.50
3.50 - 4.00
>4.00

Velocity Map: 100-year



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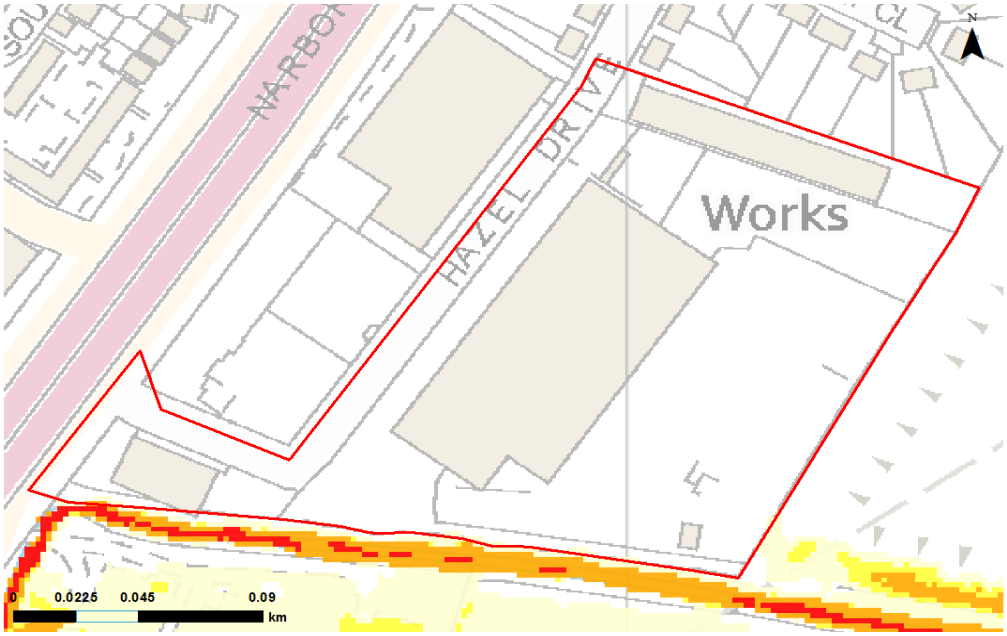
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2
0.2 - 0.5
0.5 - 1.0
1.0 - 2.0
> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Lubbesthorpe Brook as it flows along the southern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area and the River Soar at Braunstone Flood Warning Area.
Access & Egress: The main access/egress route for the assessment area (Hazel Drive) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the Lubbesthorpe Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Lubbesthorpe Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Lubbesthorpe Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

BRA009				
OSNGR: 455106 301716	Area: 1.85ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 4%	**FZ3a** 1.8%	**FZ2** 2.7%	**FZ1** 91.5%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

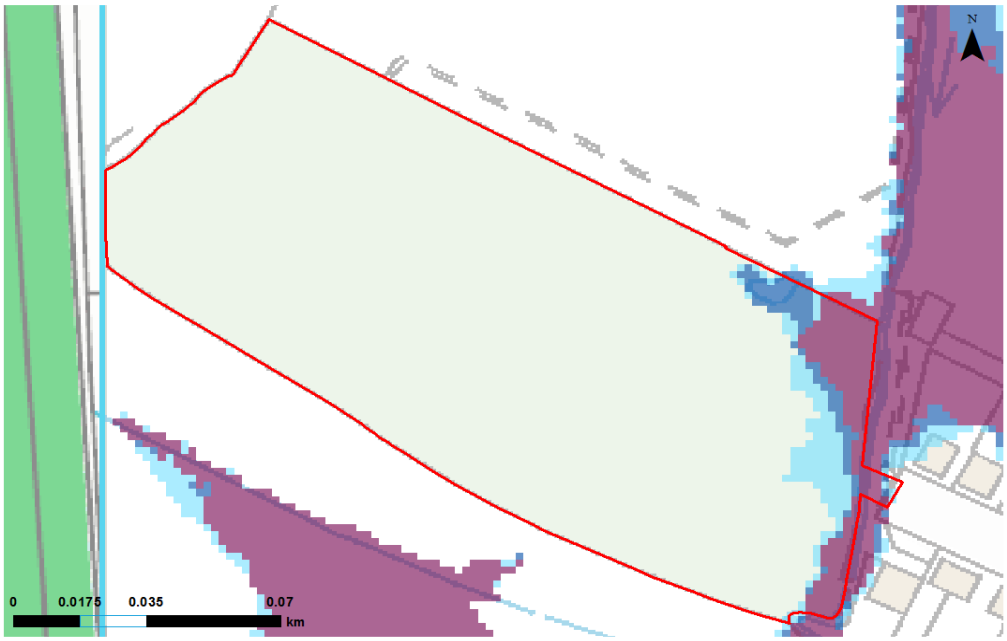
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the eastern boundary of the assessment area, outside of the floodzones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the Lubbesthorpe Brook, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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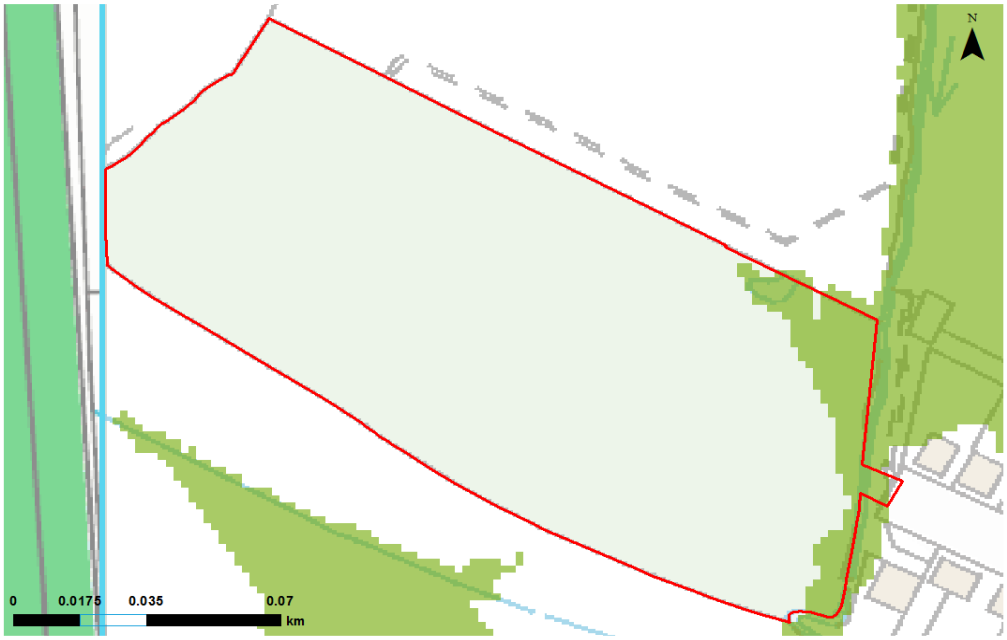
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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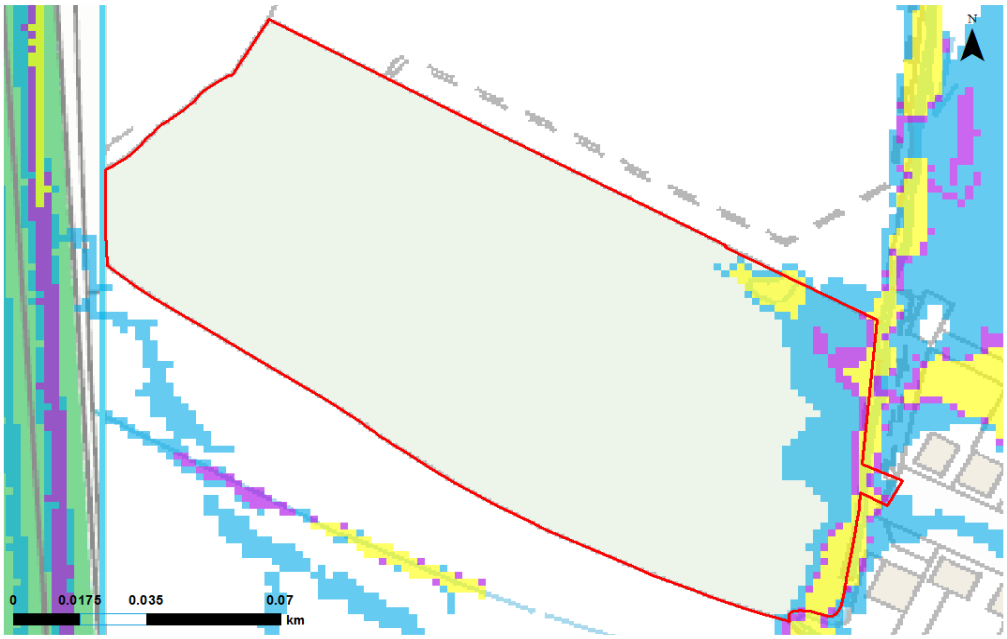
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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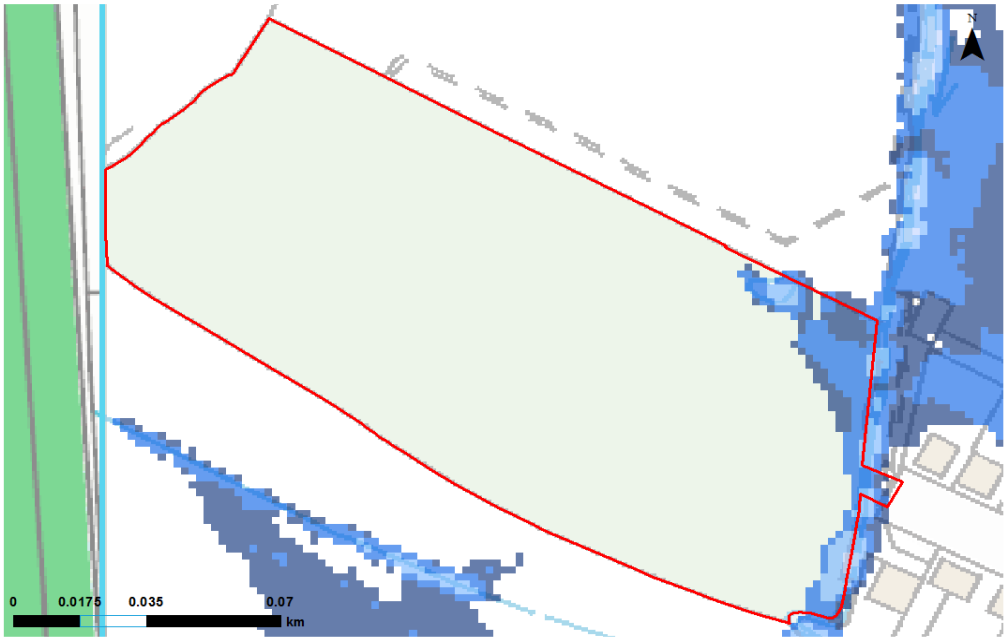
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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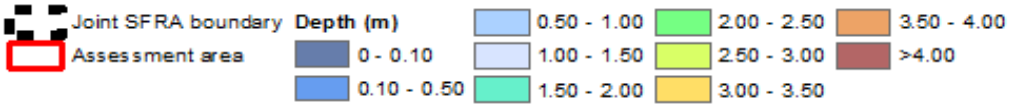
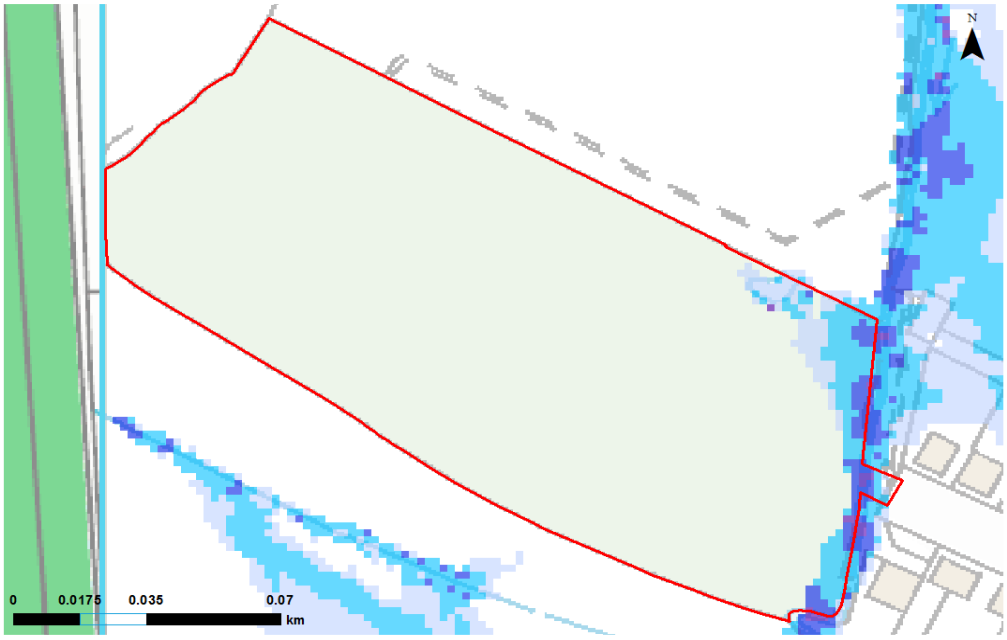


Velocity Map: 100-year



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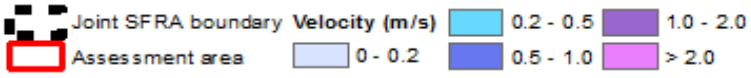
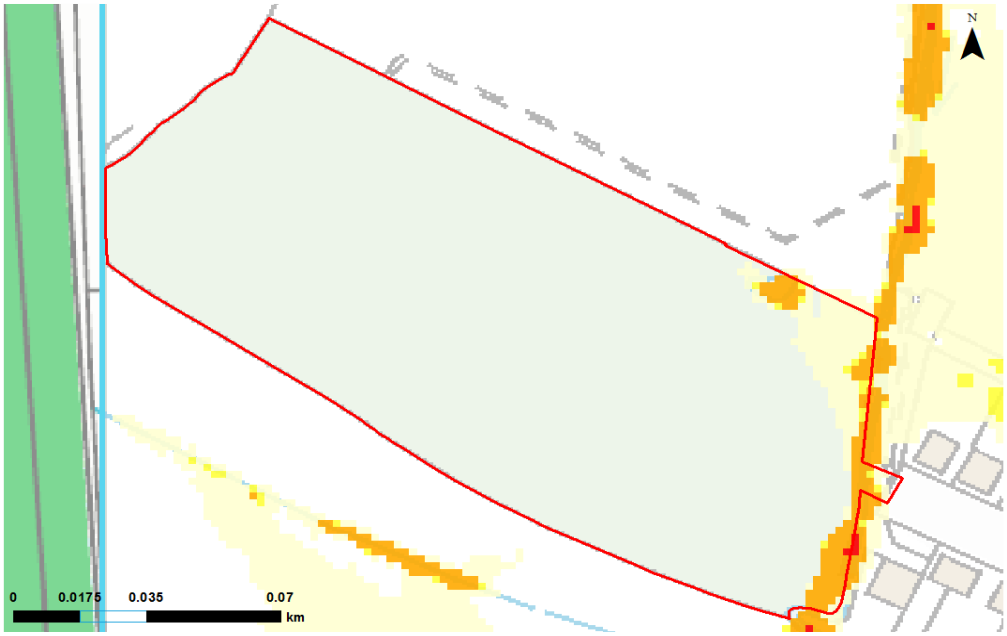


Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Lubbesthorpe Brook as it flows along the eastern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and the groundwater flood risk.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		Mapping suggests that there may be steep slopes within the assessment area, however, filtration features may be suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: The main access/egress route for the assessment area (Brockenhurst Drive) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the Lubbersthorpe Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Lubbersthorpe Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Lubbersthorpe Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

COS002				
OSNGR: 454349 295500	Area: 16.39ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 9.9%	**FZ3a** 3.8%	**FZ2** 3.2%	**FZ1** 83.1%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

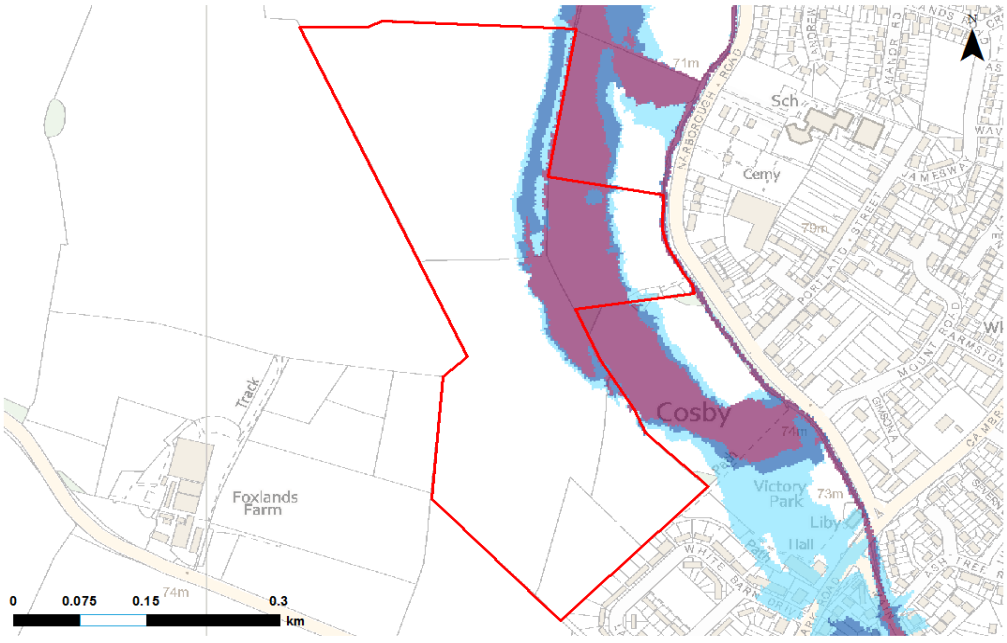
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the western area of the assessment area, outside of the Flood Zones and away from the Cosby Brook which flows along the eastern boundary of the assessment area.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the Cosby Brook, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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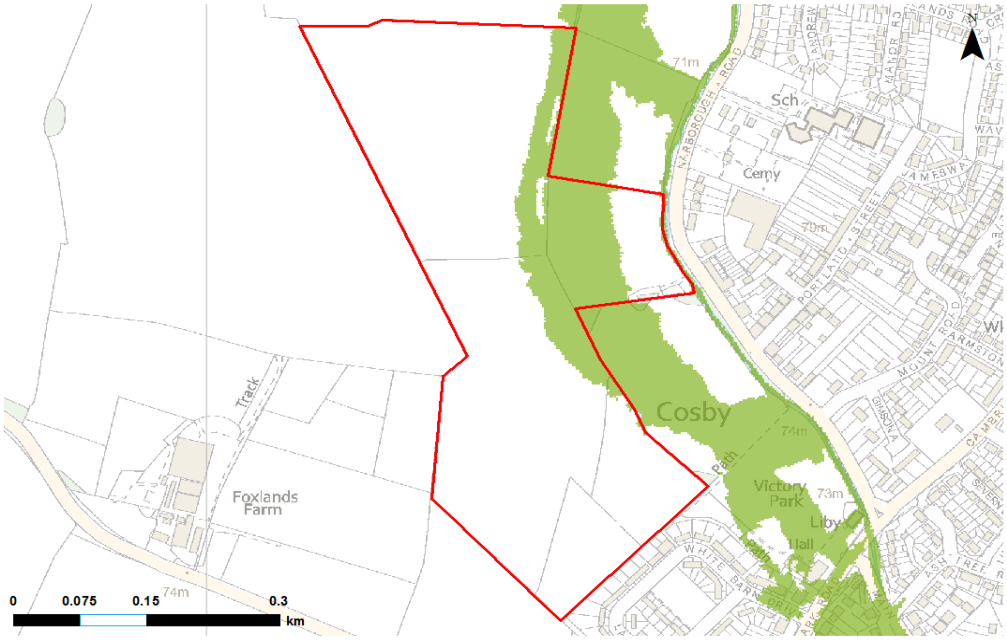
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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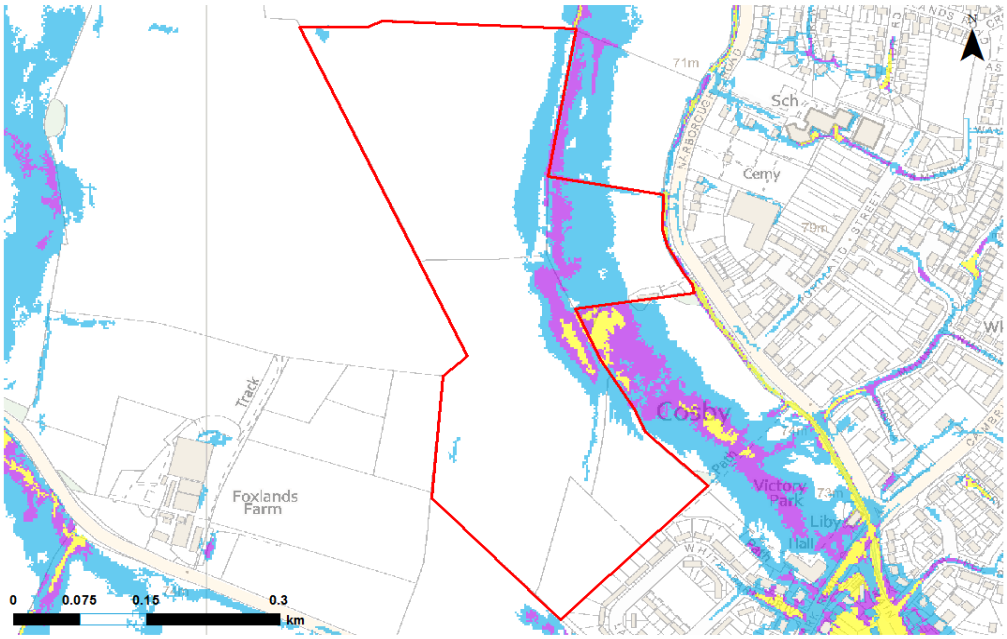
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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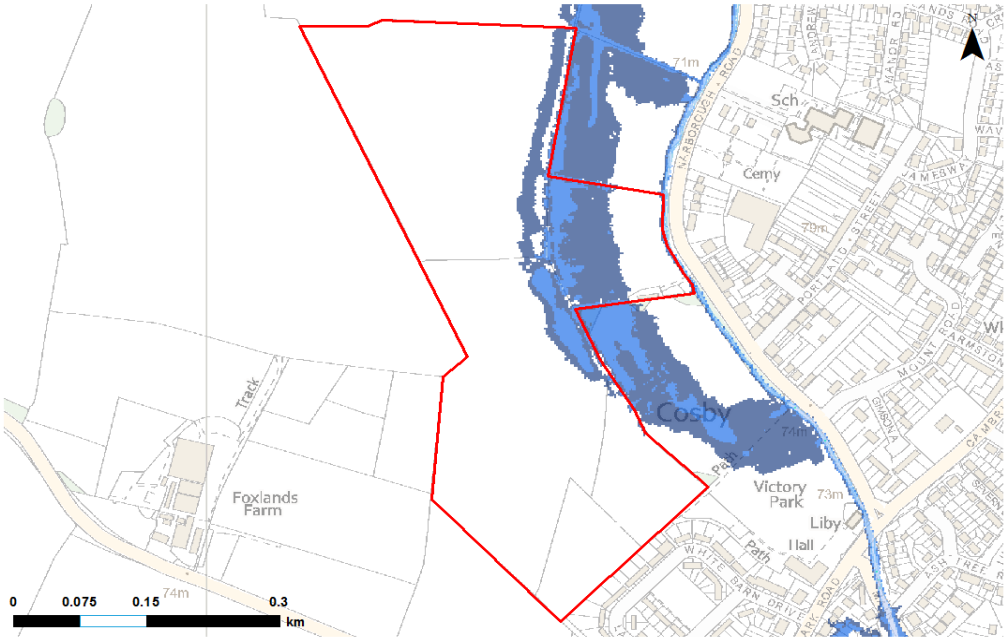
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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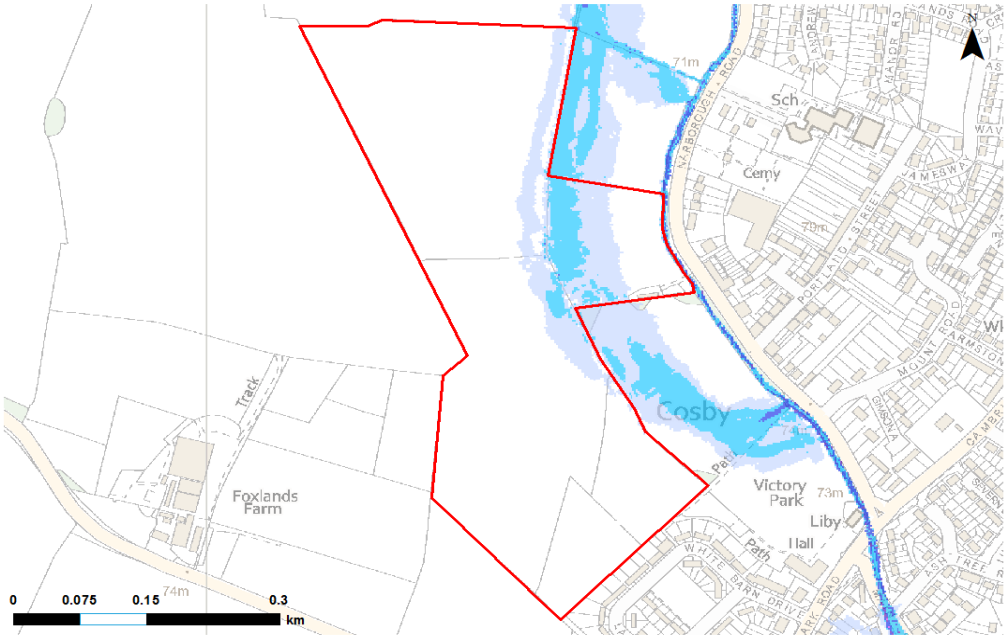
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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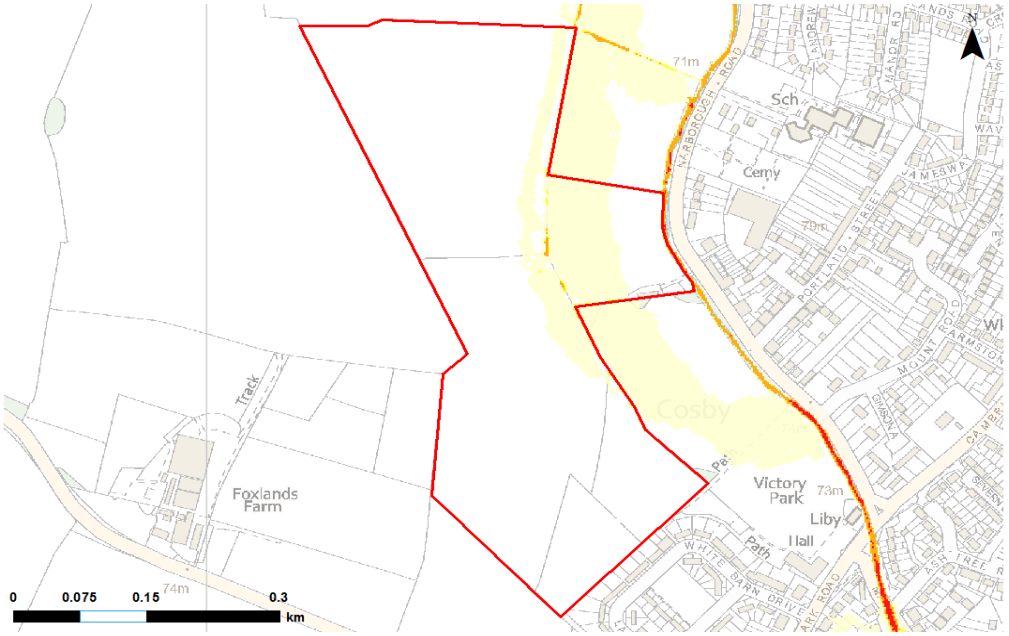
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area

Hazard

Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Cosby Brook as it flows along the eastern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assesment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and high permeability of soils. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: A part of this assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (a track running north to the assessment area from Park Road) is not shown to be at risk from fluvial or surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the Cosby Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Cosby Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Cosby Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is not at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

COU008				
OSNGR: 458988 295081	Area: 3.58ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 5%	**FZ3a** 15.9%	**FZ2** 8%	**FZ1** 71.1%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

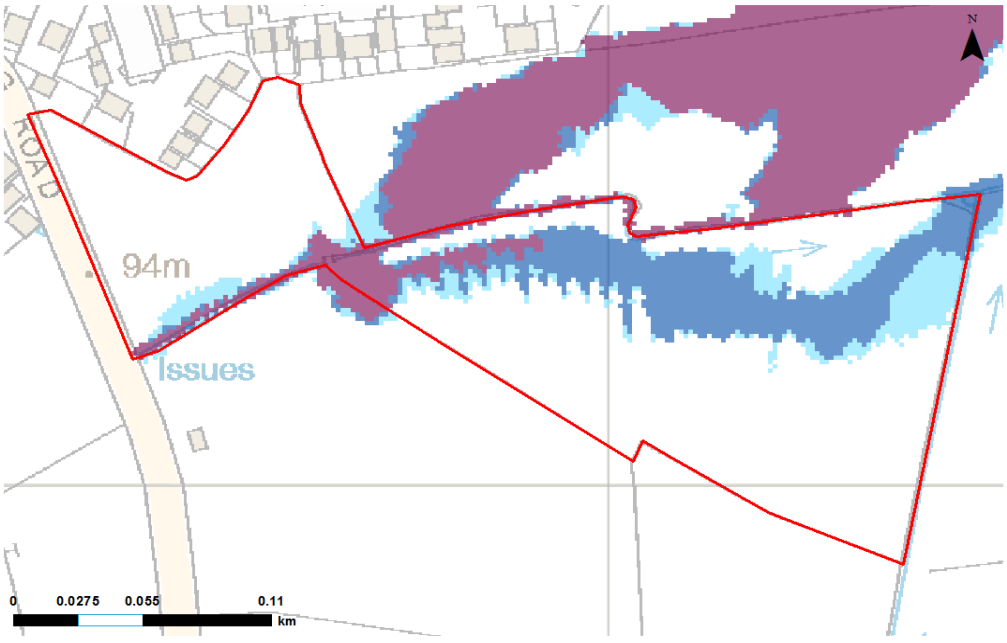
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development outside of the Flood Zones, away from the unnamed watercourse which flows through the centre of the assessment area.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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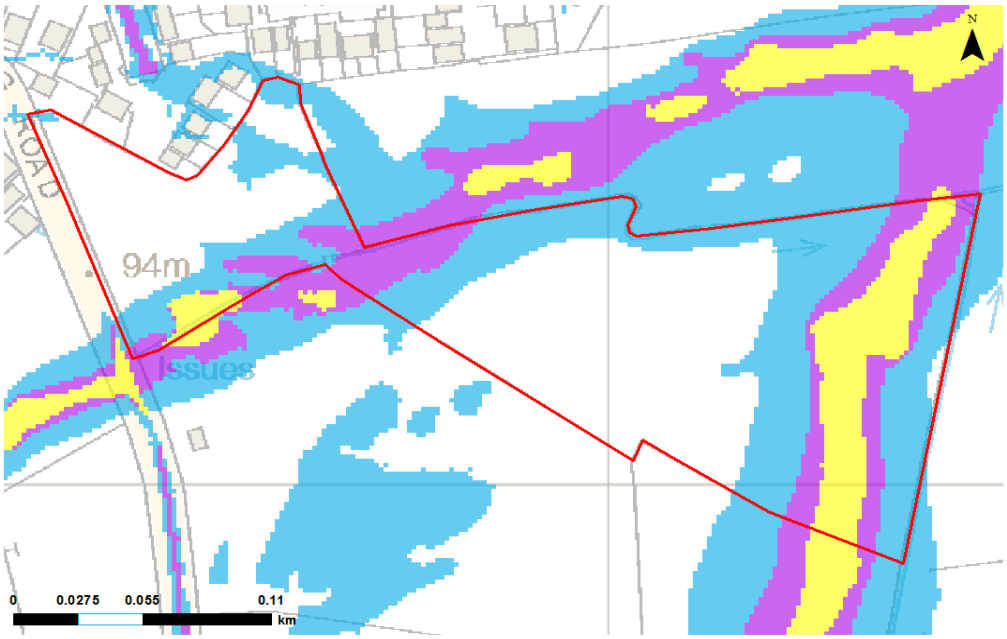
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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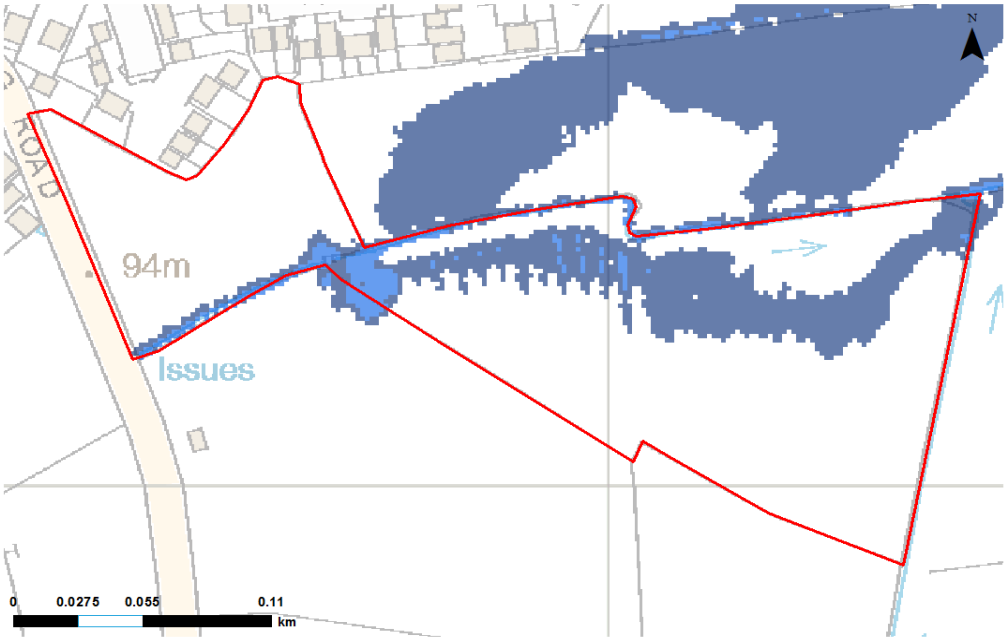
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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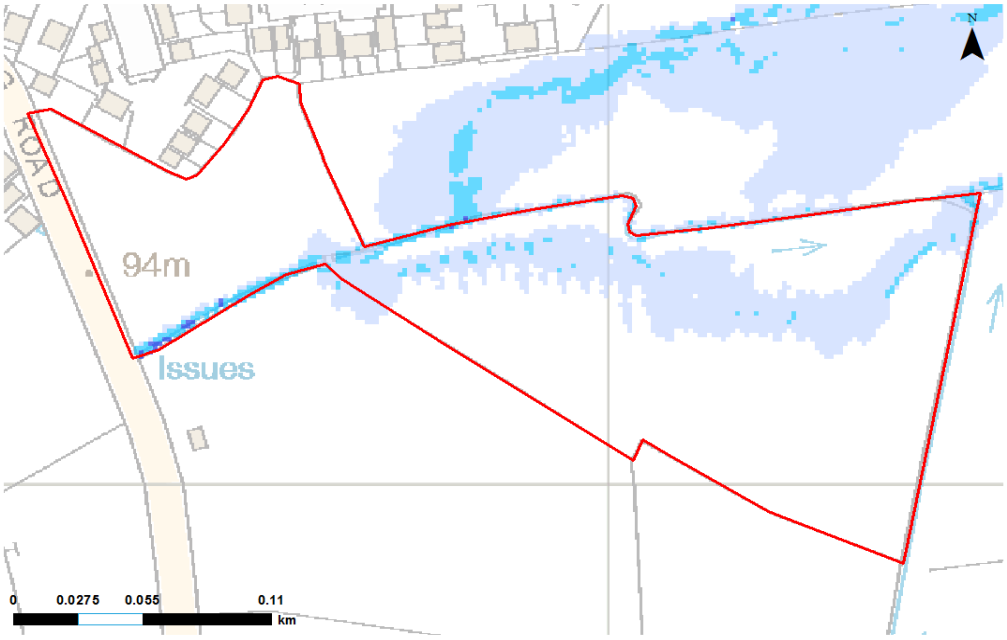
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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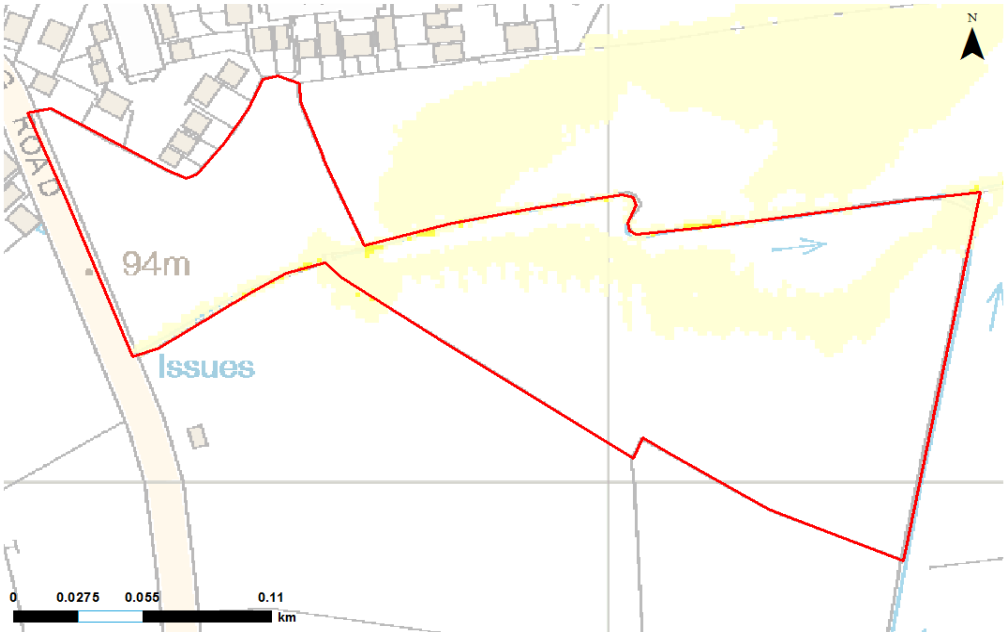
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows through the centre of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the high risk of groundwater flooding.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This option is unlikely to be suitable due to the high groundwater flood risk at the assessment area.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: The main access/egress route for the assessment area (Peatling Road) is shown to be at risk from surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any site greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

COU011				
OSNGR: 459010 296154	Area: 20.41ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 5.5%	**FZ3a** 0.2%	**FZ2** 0.3%	**FZ1** 93.9%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

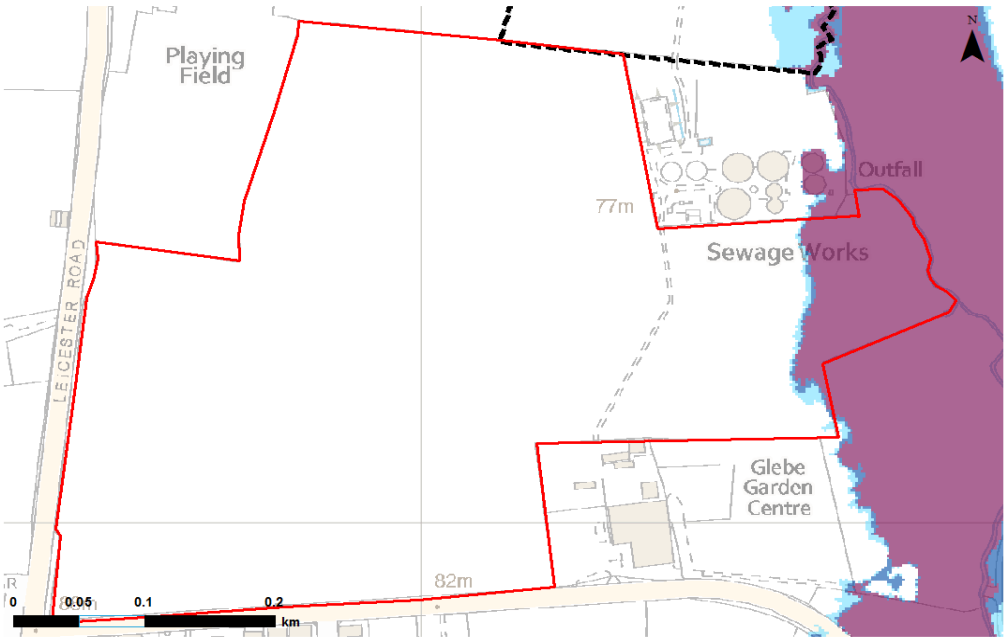
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the eastern boundary of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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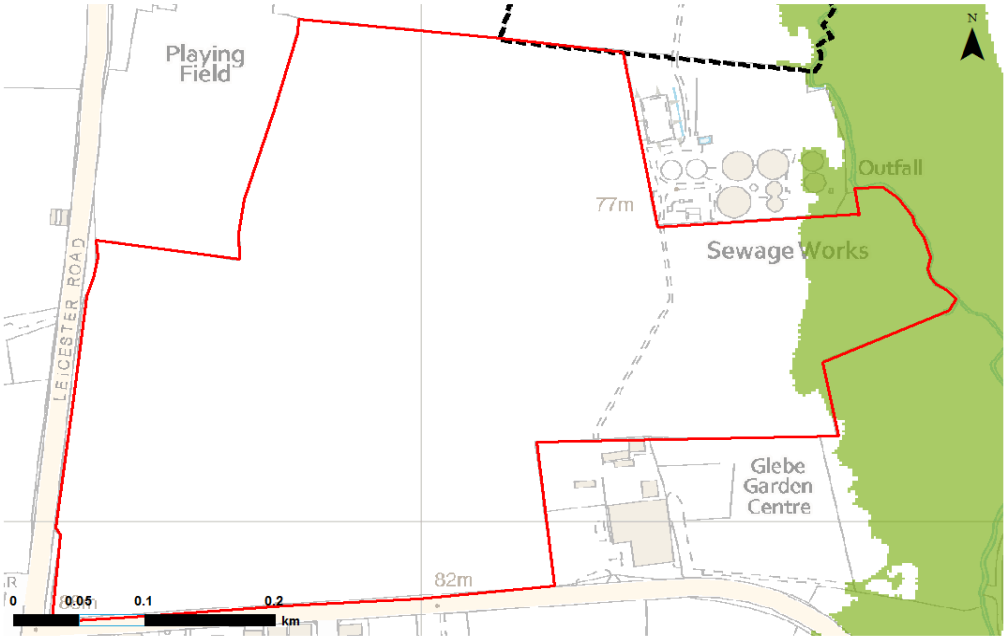
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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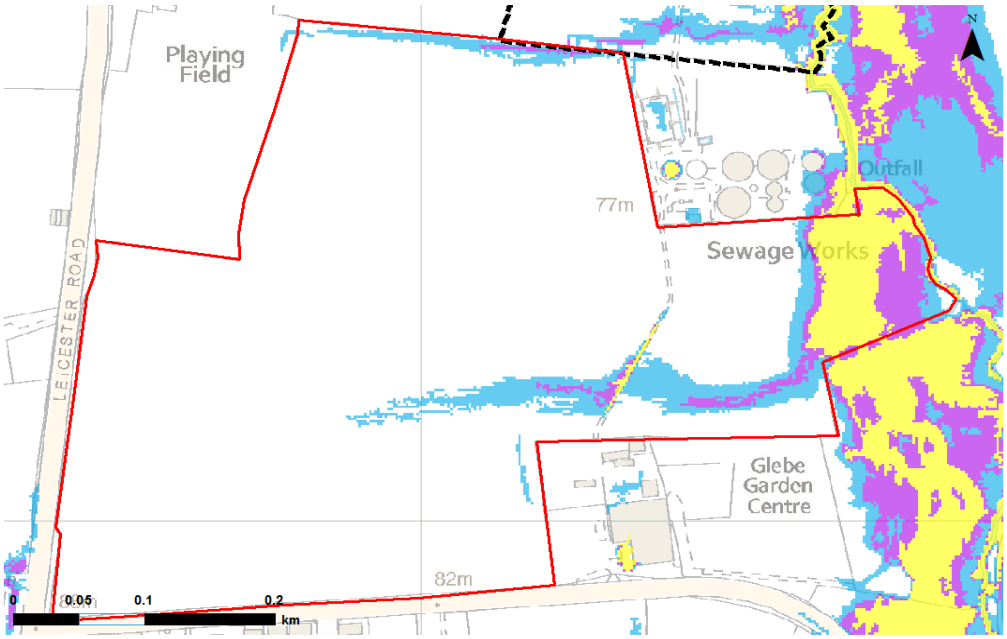
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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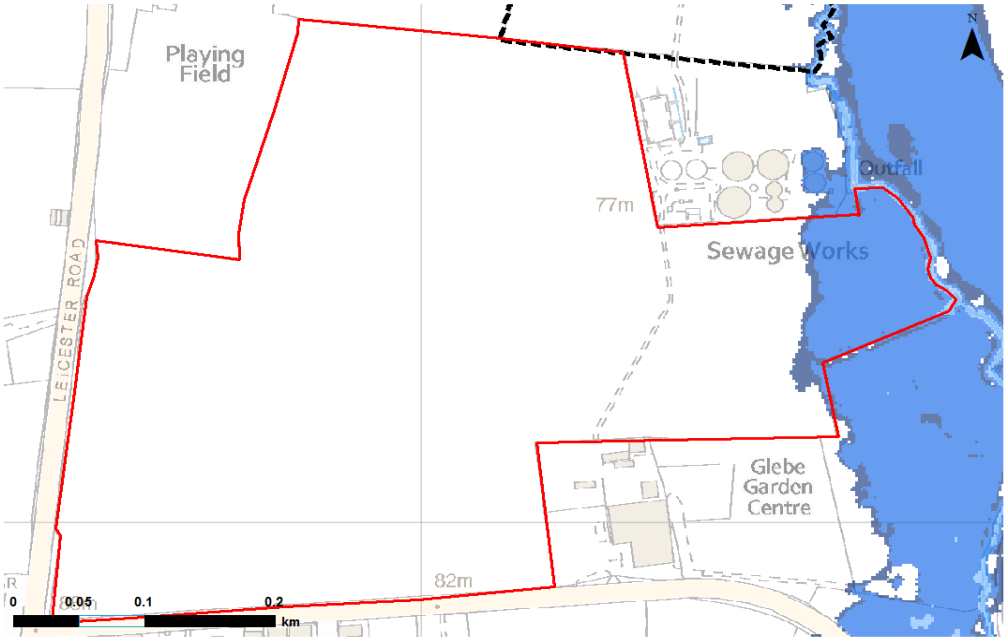
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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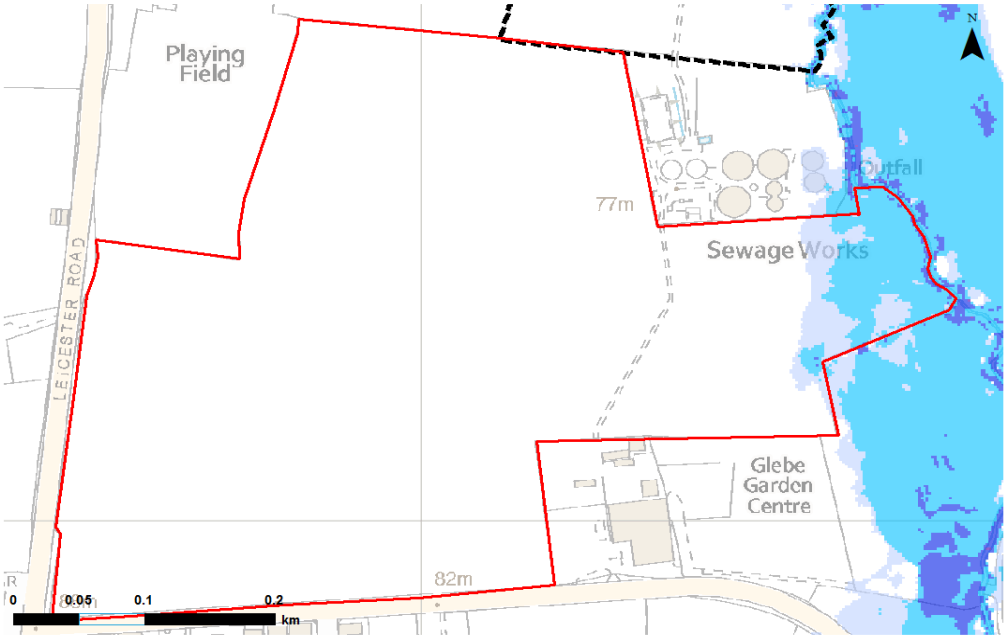
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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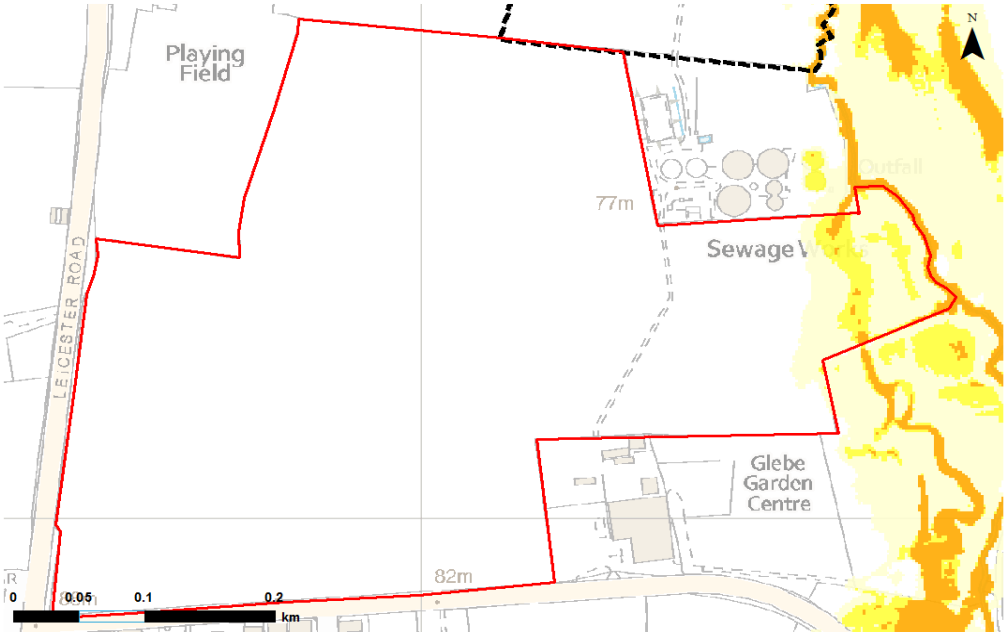
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the eastern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and high permeability of soils. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: A part of this assessment area is in the River Sence in Leicestershire Flood Alert Area.
Access & Egress: The main access/egress routes for the assessment area (Leicester Road and Foston Road) are not shown to be at risk from fluvial or surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main routes to the assessment area are not at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

COU026				
OSNGR: 459304 296032	Area: 5.76ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 45.8%	**FZ3a** 1.8%	**FZ2** 1%	**FZ1** 51.4%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

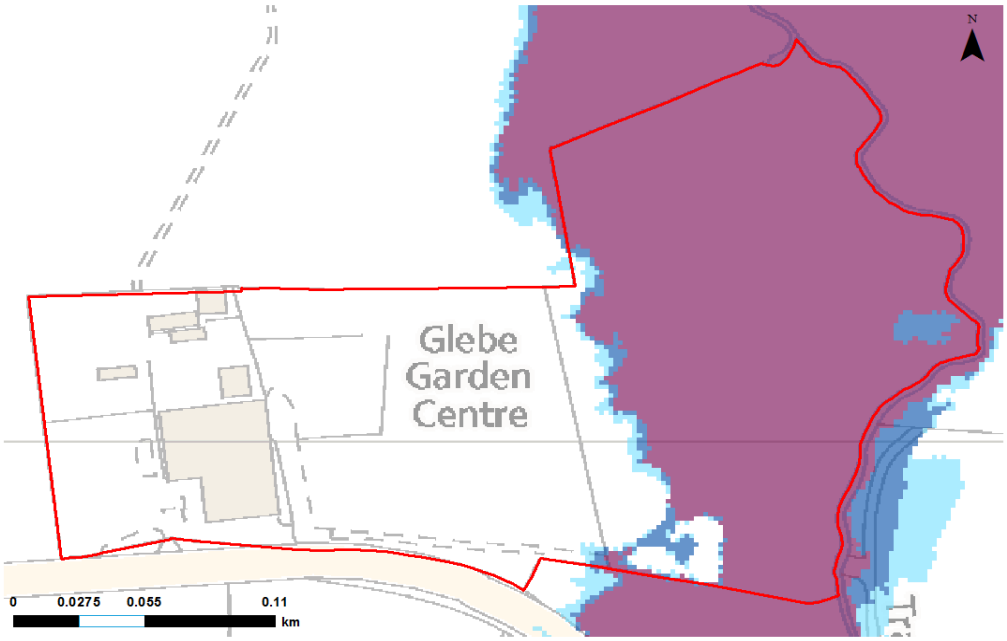
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• Flood risk in the assessment area is split fairly equally between Flood Zones 3b and 1. Risks to development could be reduced by using sequential design to locate development in the west of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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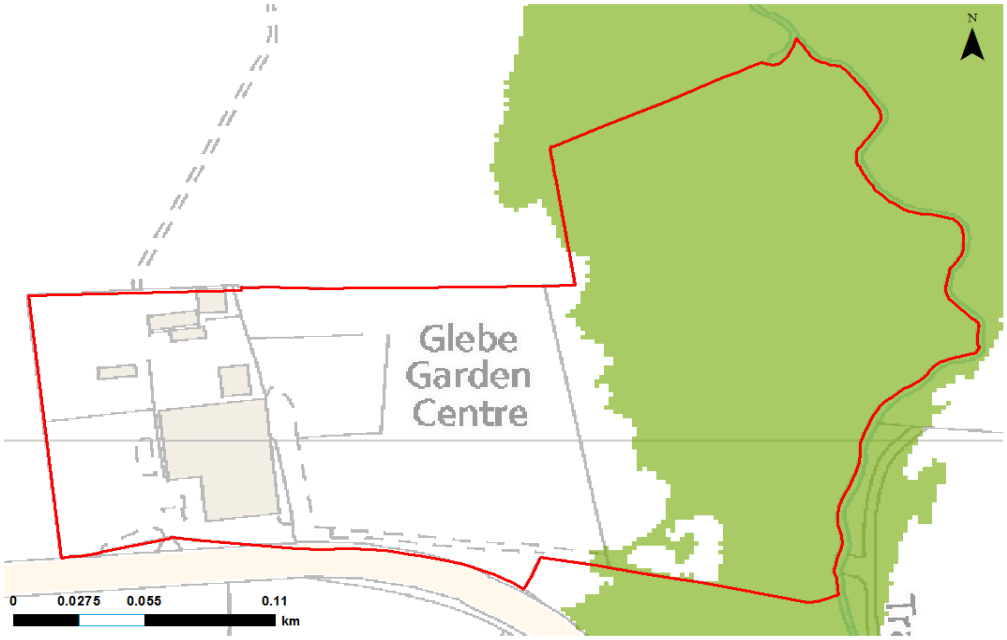
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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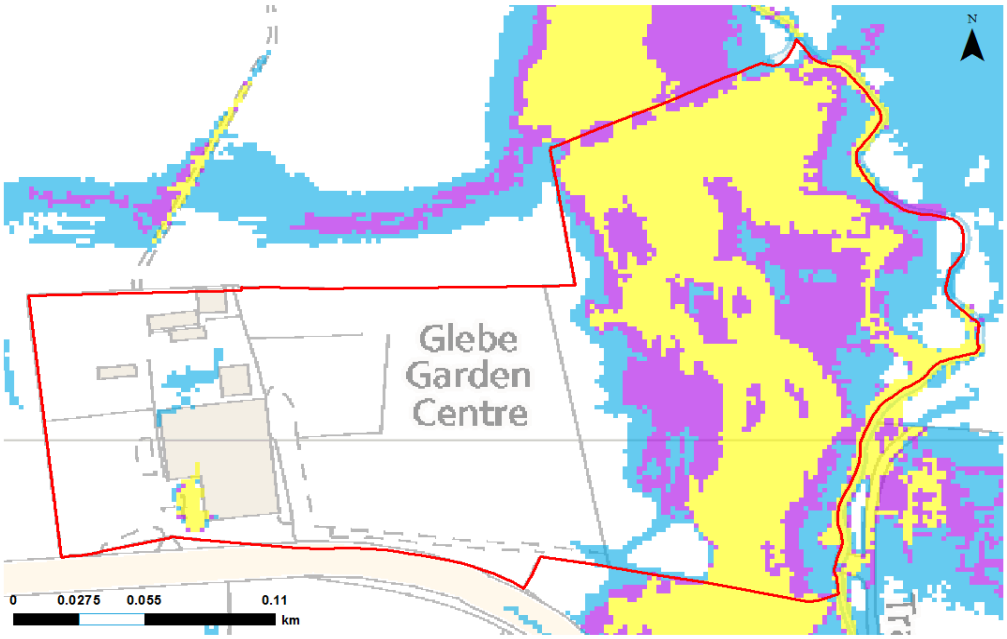
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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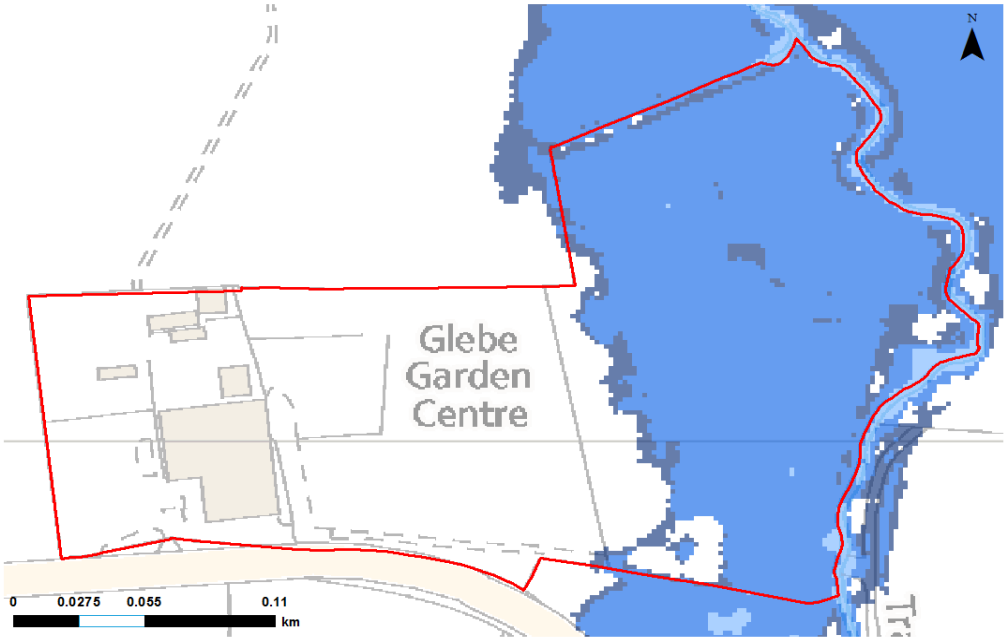
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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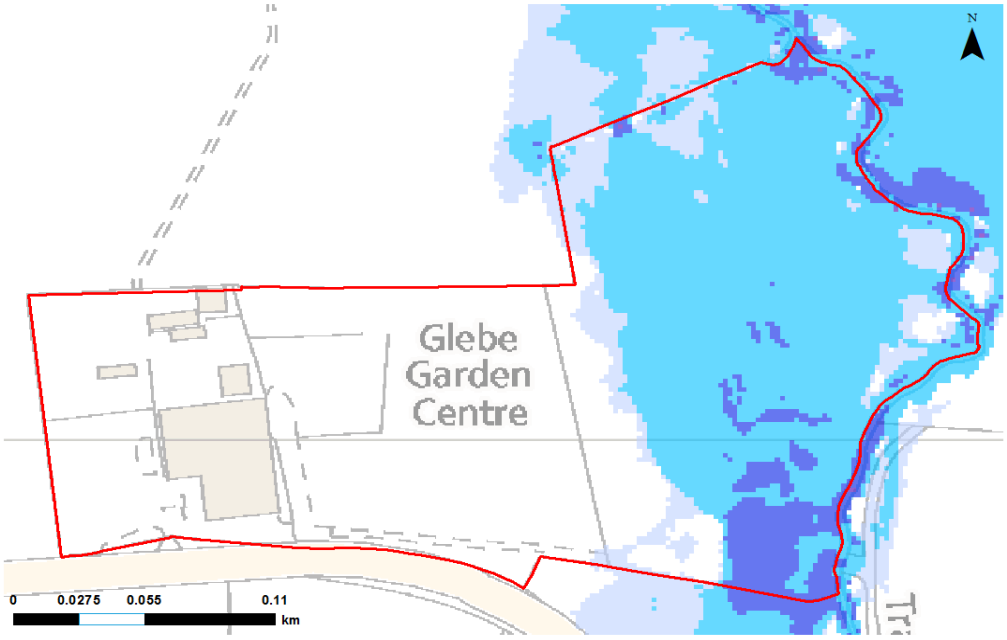
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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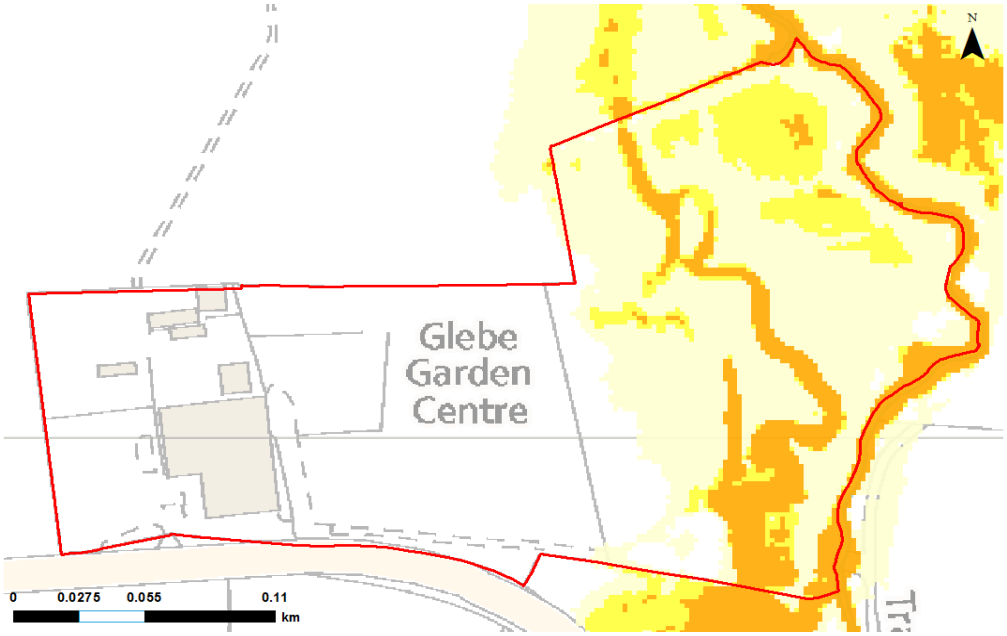
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	0.5 - 1.0	1.0 - 2.0
			> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area

Hazard

Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the eastern side of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the high risk of groundwater flooding.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This option is unlikely to be suitable due to the high groundwater flood risk at the assessment area.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the River Sence in Leicestershire Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (Foston Road) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment site is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

CRO001				
OSNGR: 451510 295214	Area: 6.67ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 3.4%	**FZ3a** 1%	**FZ2** 1.1%	**FZ1** 94.5%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

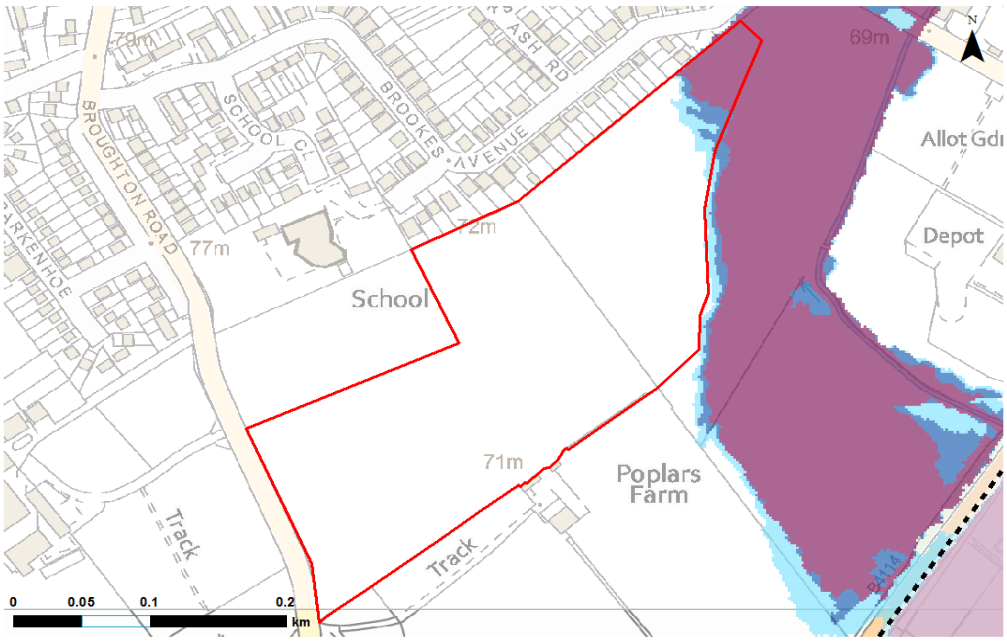
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the northeastern corner of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the Broughton Astley Brook, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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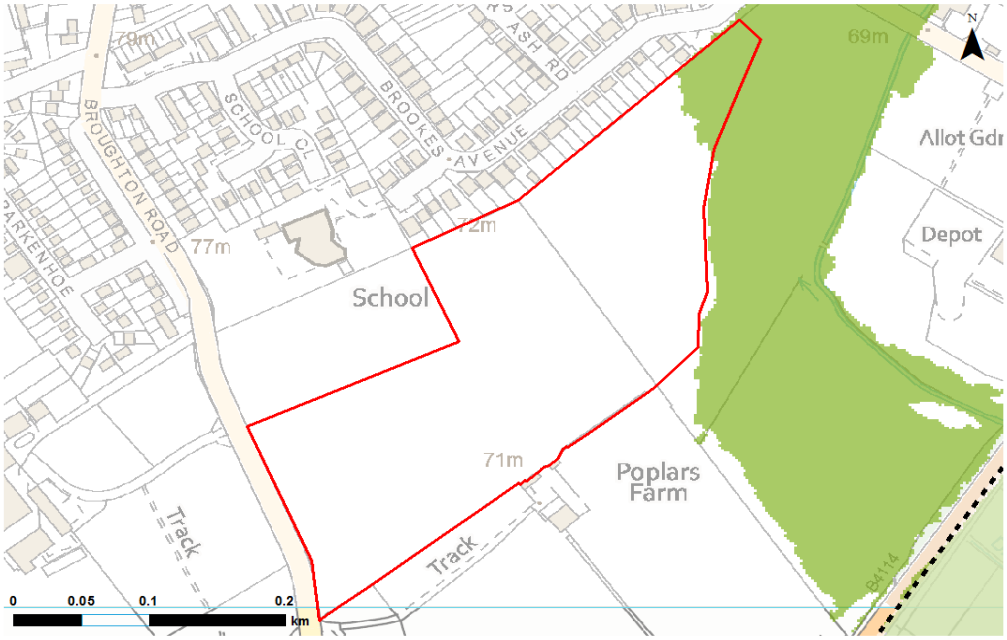
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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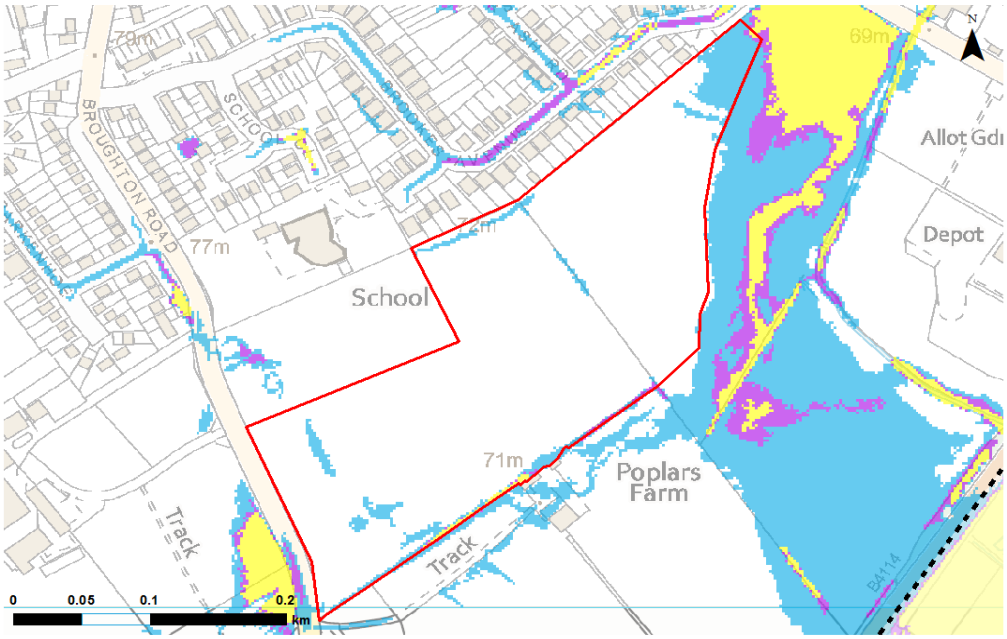
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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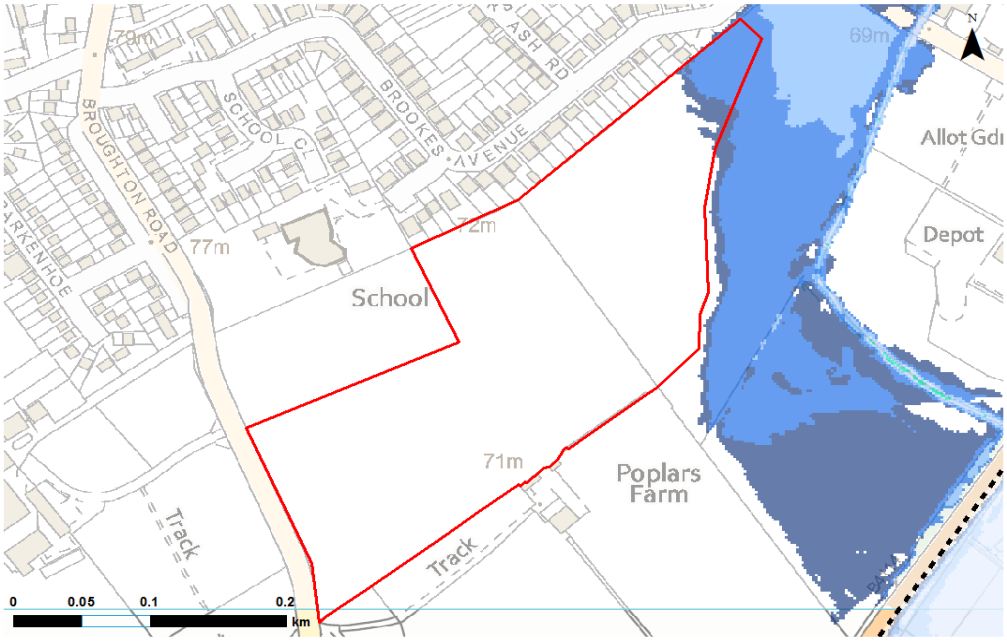
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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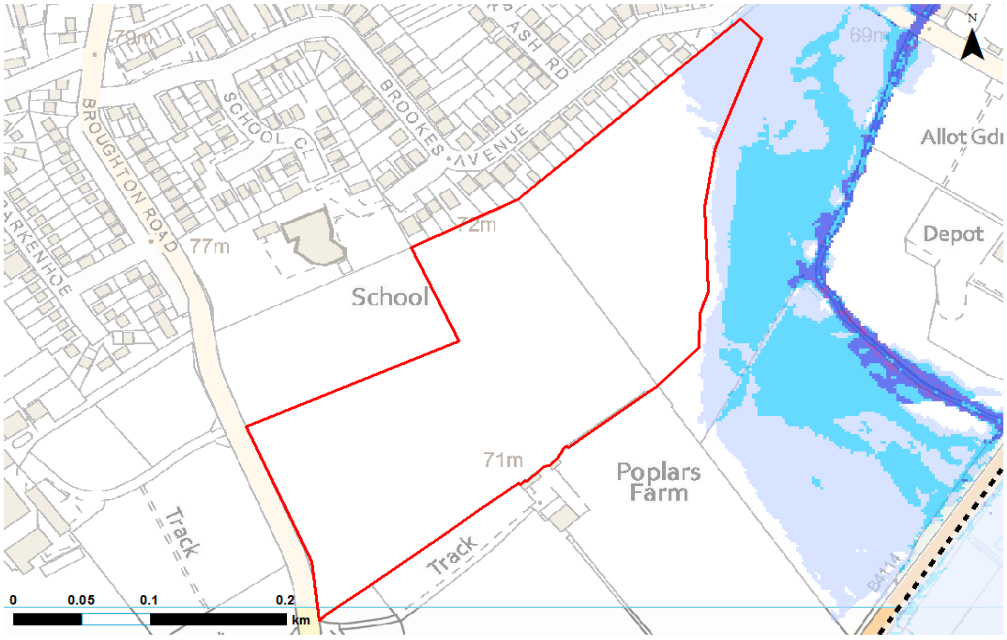
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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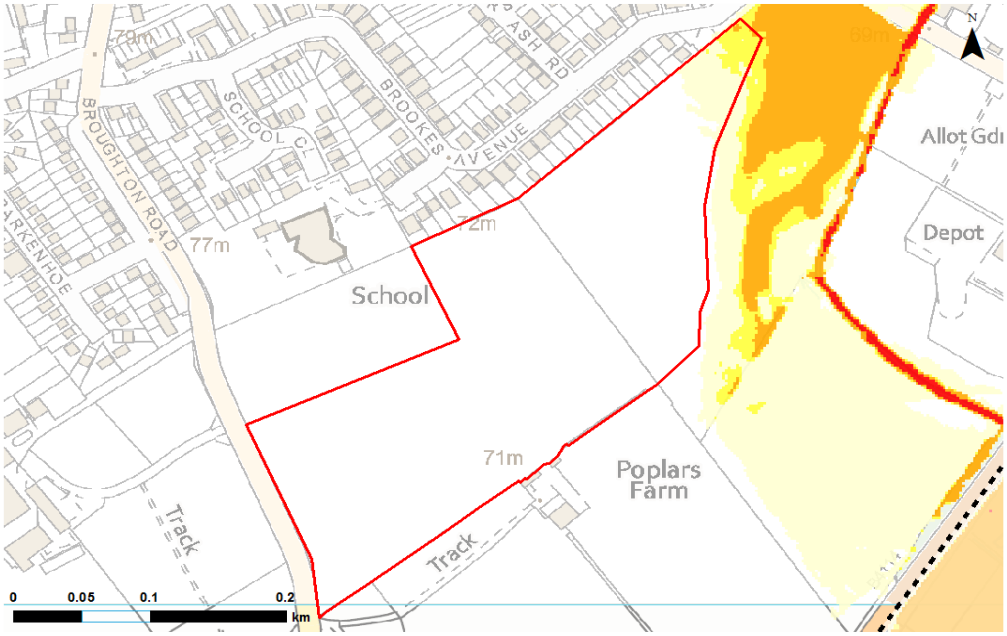
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Broughton Astley Brook as it flows to the east of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: A part of this assessment area is in Upper Soar Catchment Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (Broughton Road) is shown to be at risk from surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the Broughton Astley Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Broughton Astley Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Broughton Astley Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

ELM001				
OSNGR: 447370 296060	Area: 26.25ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 16.1%	**FZ3a** 5.1%	**FZ2** 4.7%	**FZ1** 74.1%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

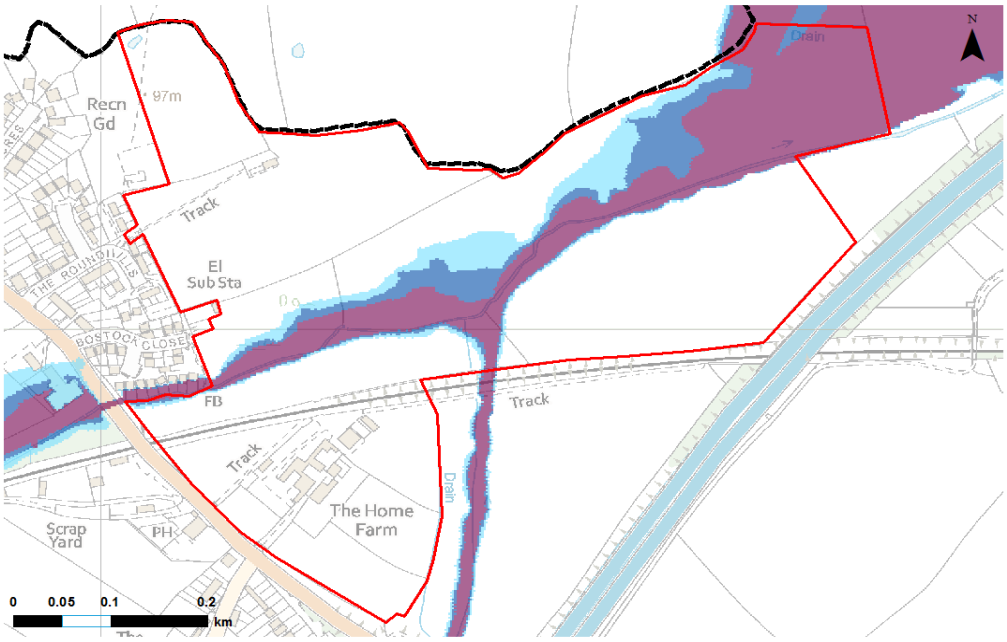
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development outside of the Flood Zone away from the unnamed watercourses that cross the centre of the assessment area.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourses, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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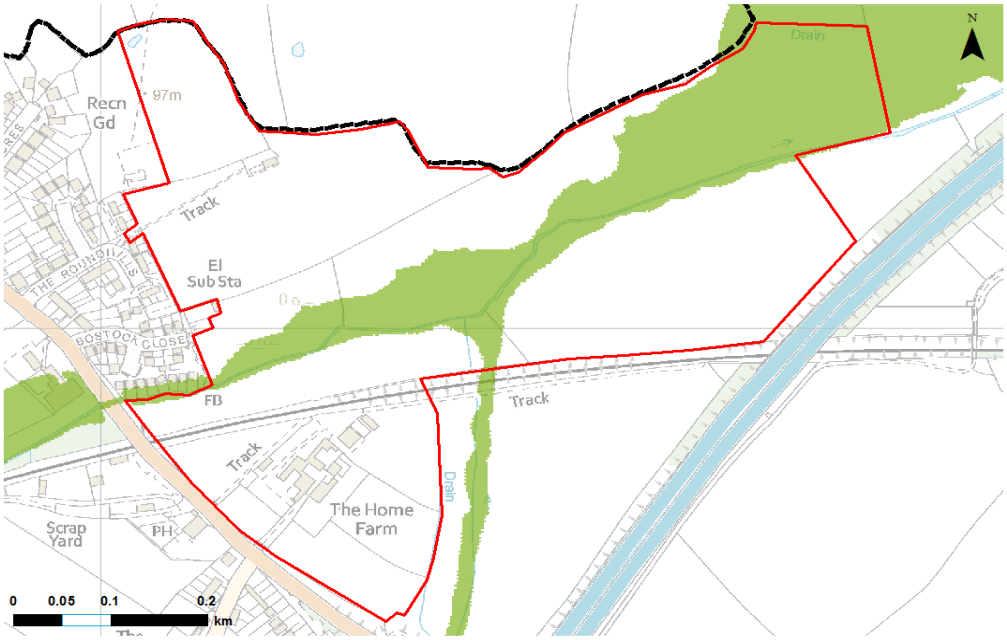
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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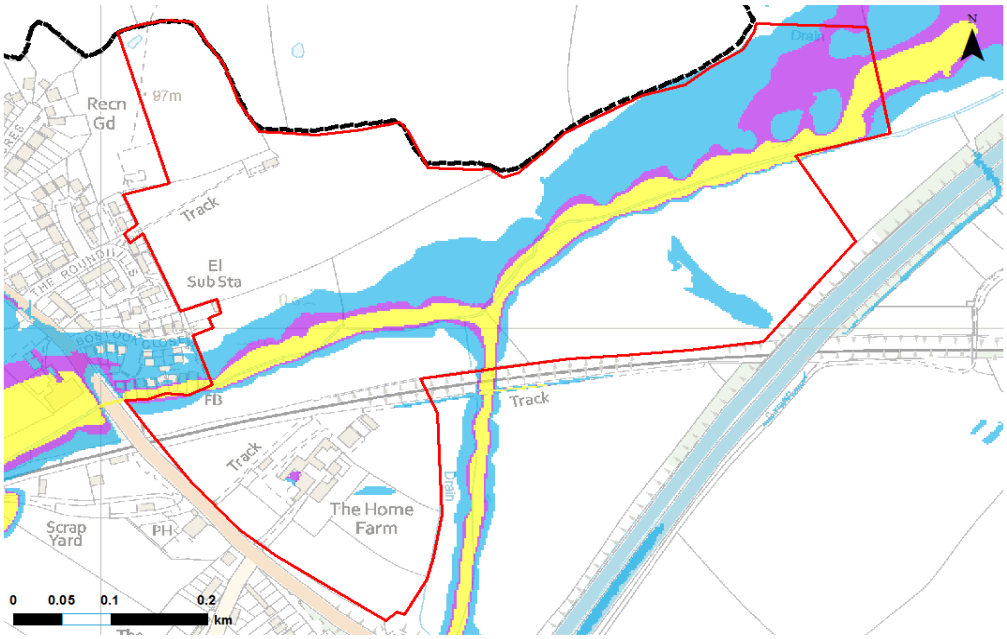
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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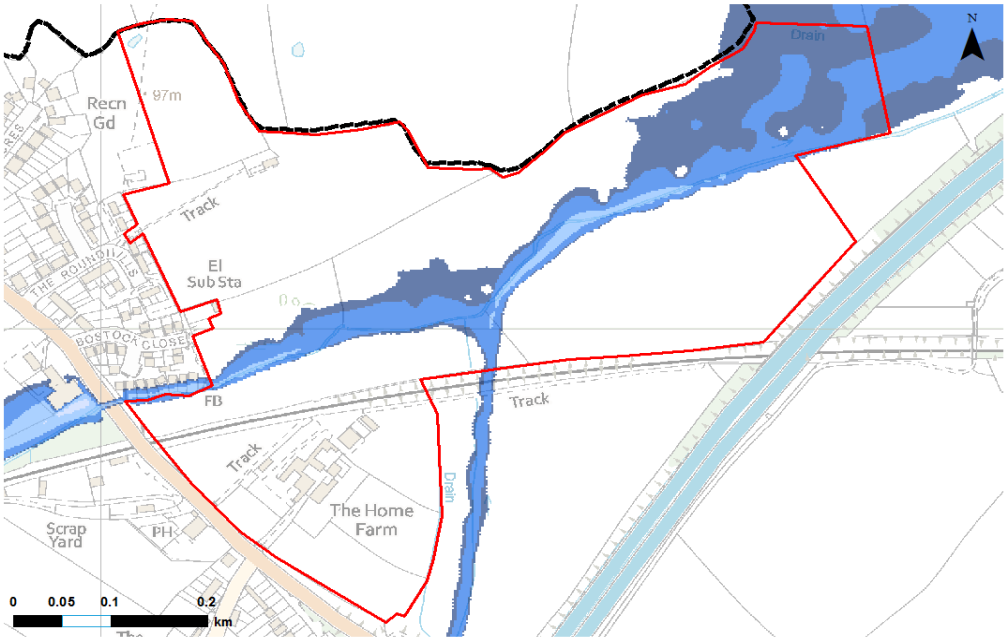
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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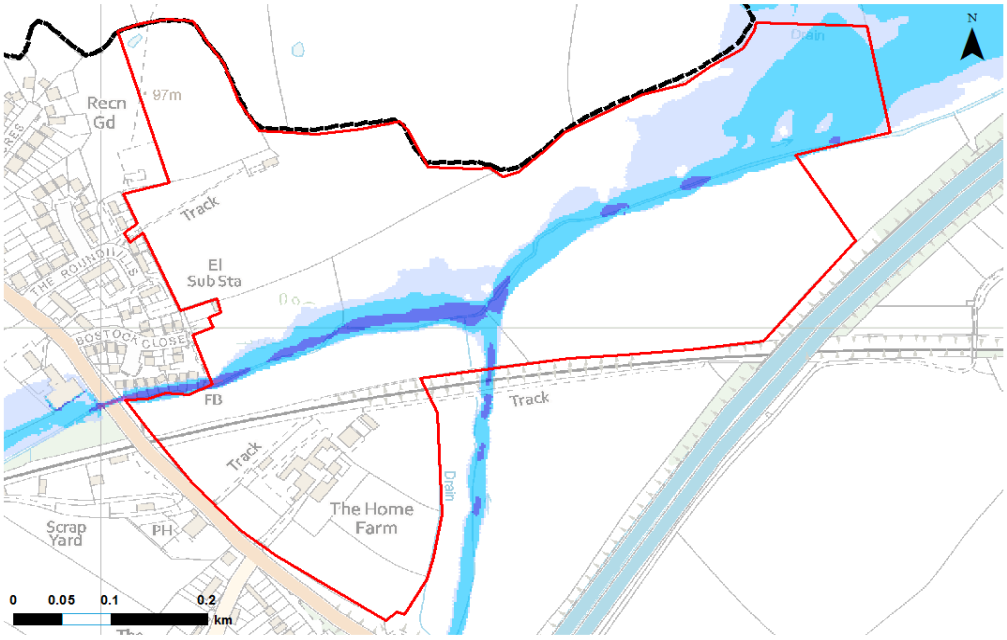
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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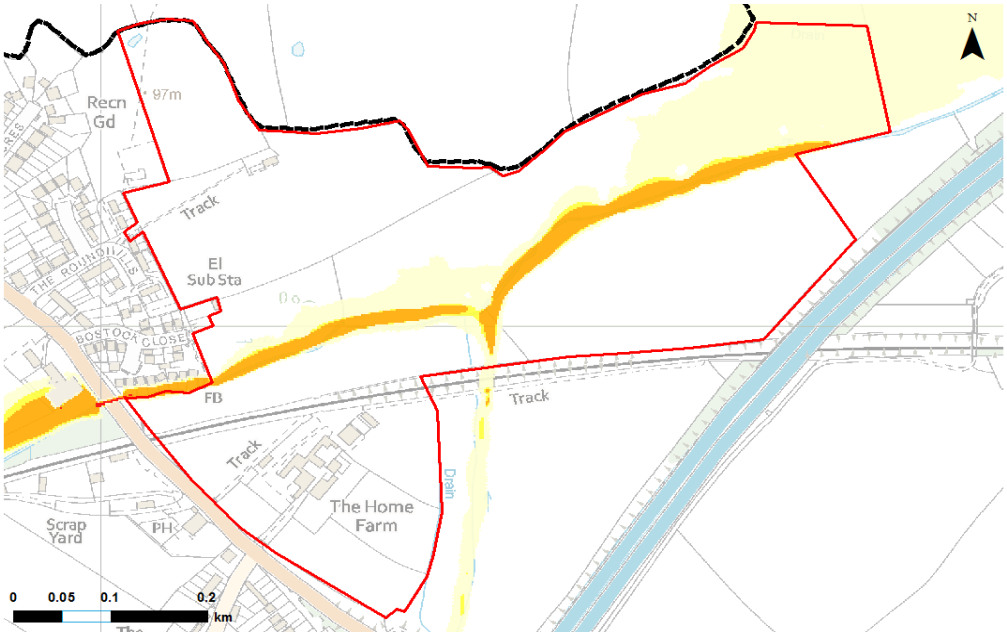
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area

Hazard

Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourses as they flow across the centre of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Mapping suggests soils have a low permeability and therefore it is likely infiltration techniques will not be suitable.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: A part of this assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (Station Road) is shown to be at risk from surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourses.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourses should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourses to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

END003				
OSNGR: 454176 299903	Area: 94.58ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 2.5%	**FZ3a** 0.4%	**FZ2** 0.4%	**FZ1** 96.7%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

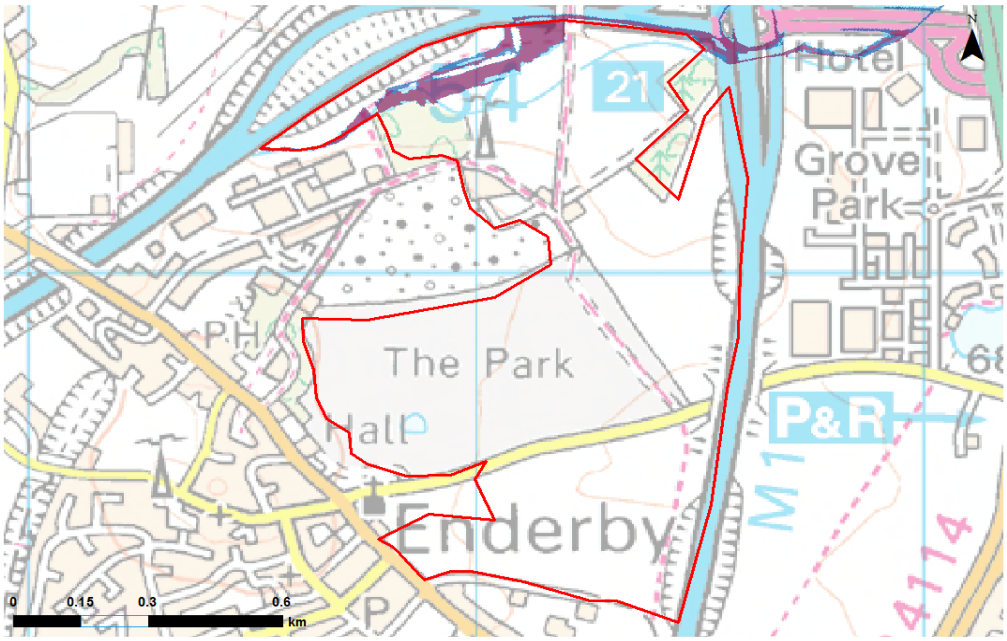
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the northern boundary of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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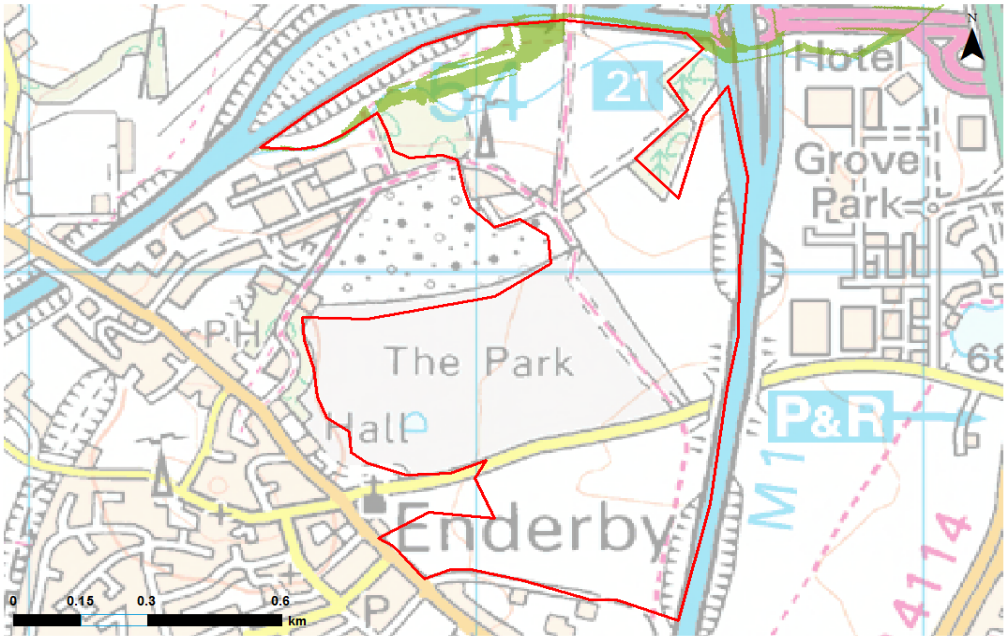
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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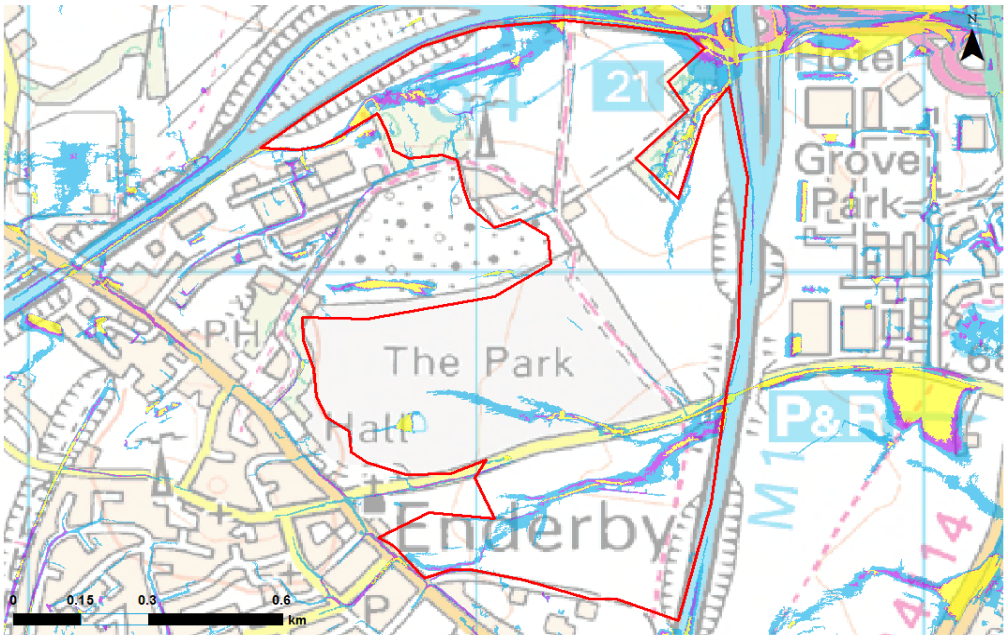
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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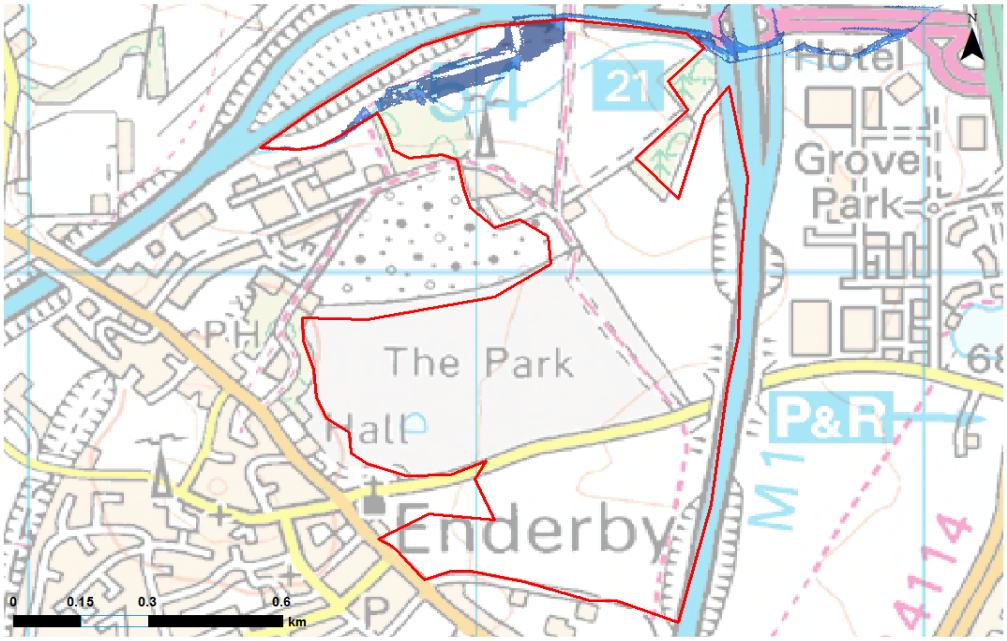
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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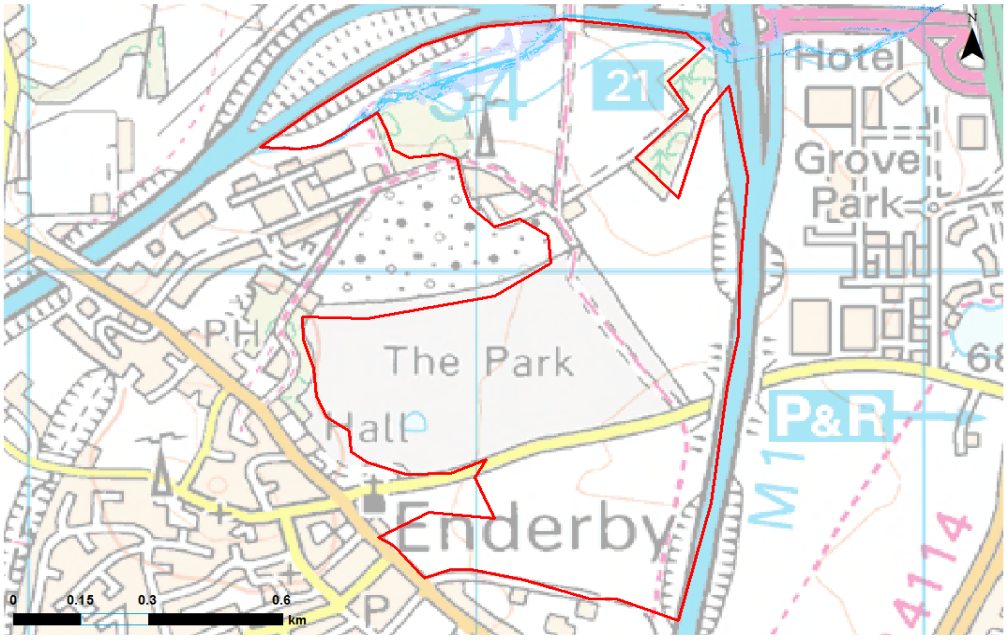
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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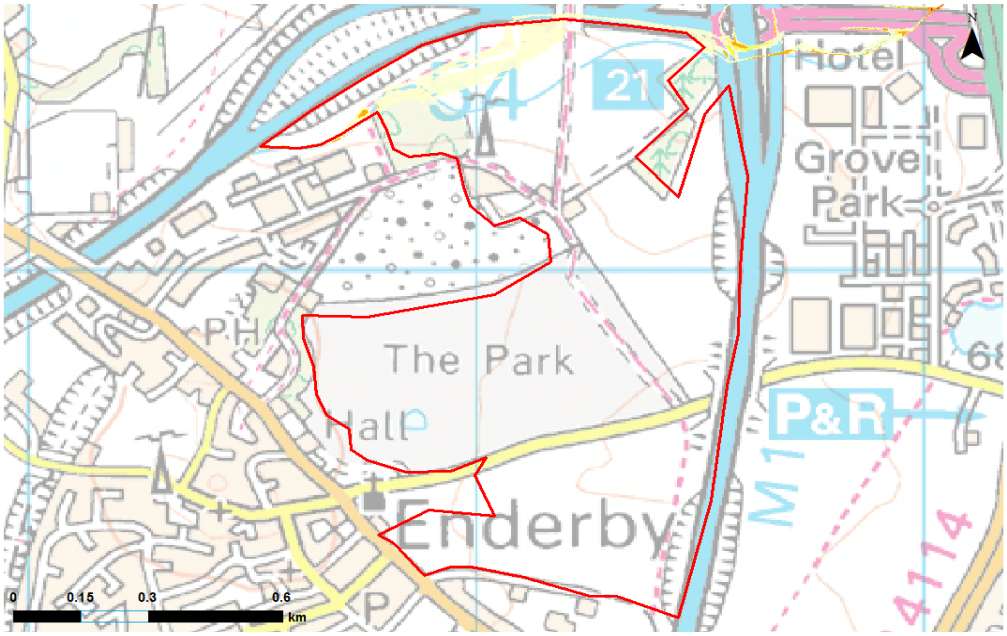
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows through the northern area of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning
Access & Egress: The main access/egress route for the assessment area (Leicester Lane) is shown to be at risk from surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

END013				
OSNGR: 456200 300582	Area: 12.63ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 99.3%	**FZ3a** 0.7%	**FZ2** 0%	**FZ1** 0%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

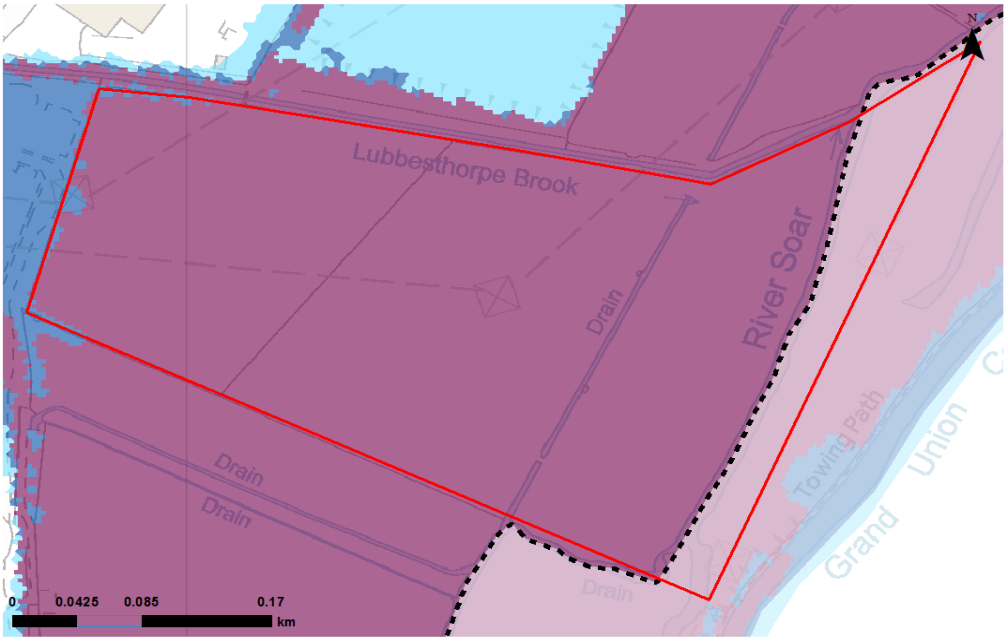
• The majority of the assessment area is within Flood Zone 3b. The only development permitted in Flood Zone 3b is Water Compatible or Essential Infrastructure. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:

• remain operational and safe for users in times of flood
• result in no net loss of floodplain storage
• not impede water flows and not increase flood risk elsewhere

In view of the flooding problems from the Lubbesthorpe Brook and River Soar, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the assessment area proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.

This assessment area is not suitable for Less Vulnerable, More Vulnerable and Highly Vulnerable development.

Flood Zone Map



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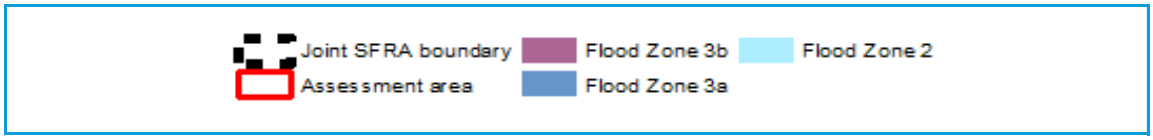
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.


Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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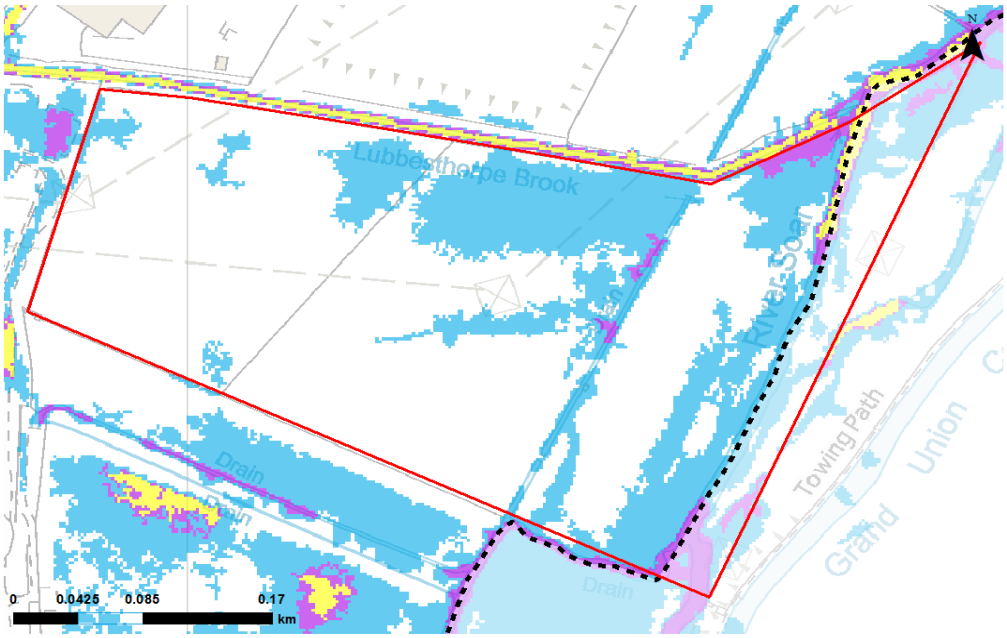
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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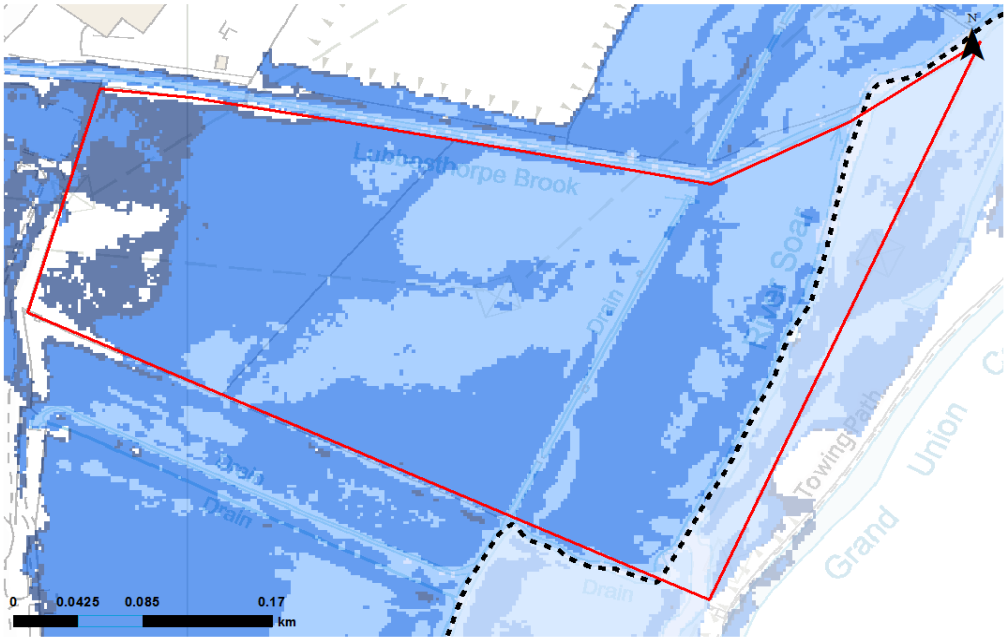
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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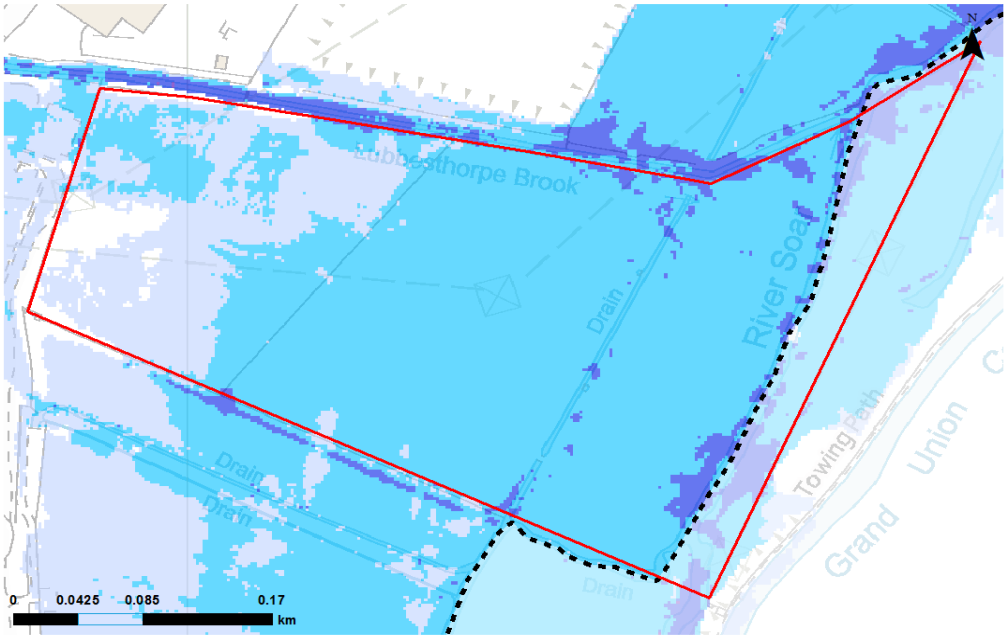
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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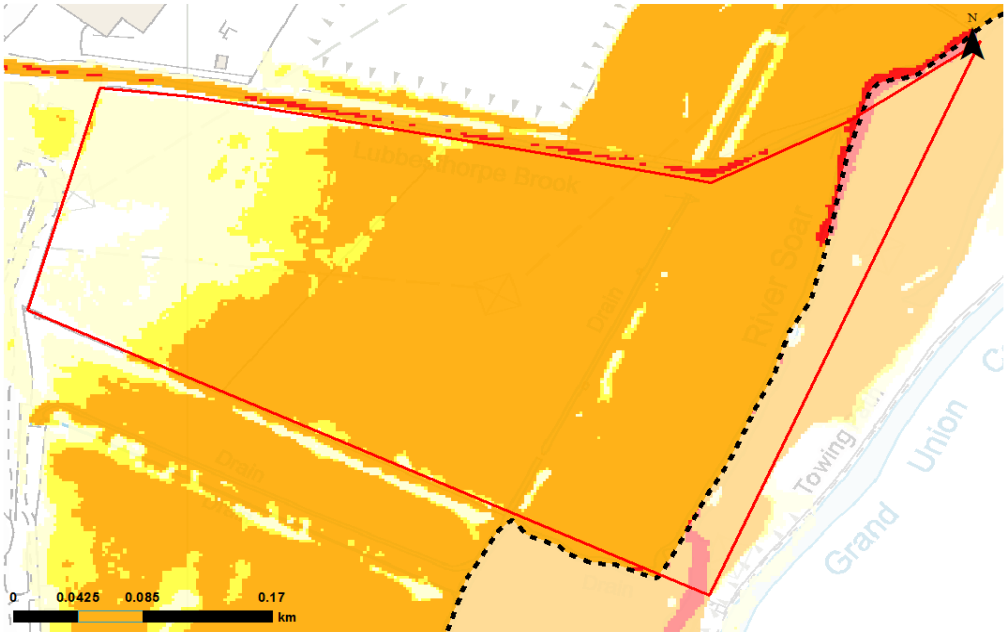
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary | Assessment area | **Hazard** | Very low hazard - caution | Danger for some | Danger for most | Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the River Soar as it flows along the eastern border of the assessment area and the Lubbesthorpe Brook as it flows along the northern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Canal: The assessment area is located close to the Grand Union Canal and may be at risk in the event of bank failure.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (Fosse Park Way) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the River Soar and Lubbesthorpe Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Flood risk based on the overtopping or breach of the Grand Union Canal should be considered during a detailed site-specific flood risk assessment. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Soar and Lubbesthorpe Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrographs of the River Soar and Lubbesthorpe Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

END014				
OSNGR: 456024 300342	Area: 5.02ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 99.9%	**FZ3a** 0.1%	**FZ2** 0%	**FZ1** 0%

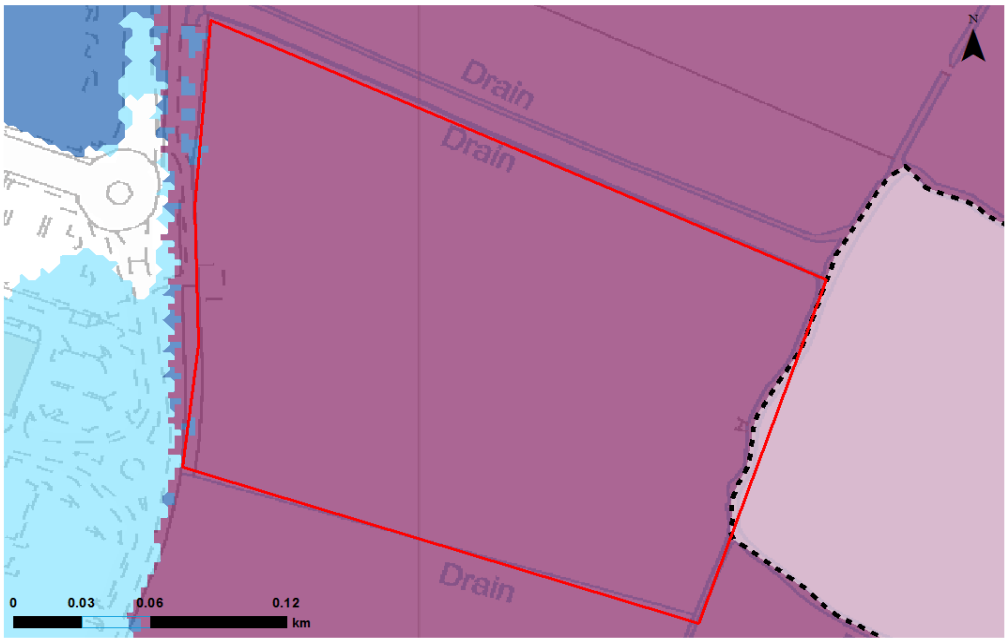
Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

• The majority of the assessment area is within Flood Zone 3b. The only development permitted in Flood Zone 3b is Water Compatible or Essential Infrastructure. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:
• remain operational and safe for users in times of flood
• result in no net loss of floodplain storage
• not impede water flows and not increase flood risk elsewhere
In view of the flooding problems from the Lubbersthorpe Brook and River Soar, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the assessment area proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.
This assessment area is not suitable for Less Vulnerable, More Vulnerable and Highly Vulnerable development.

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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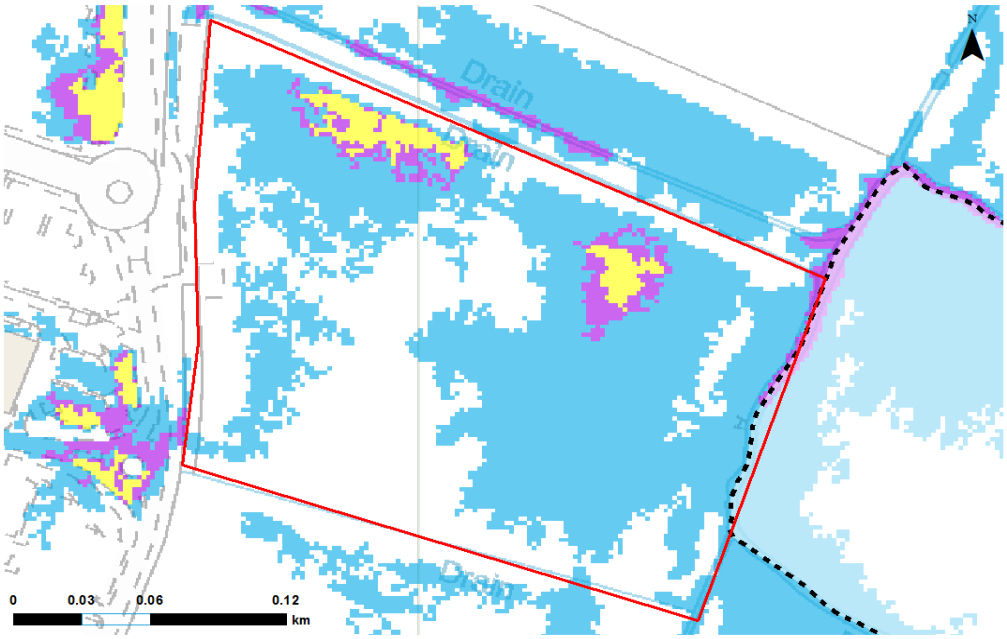
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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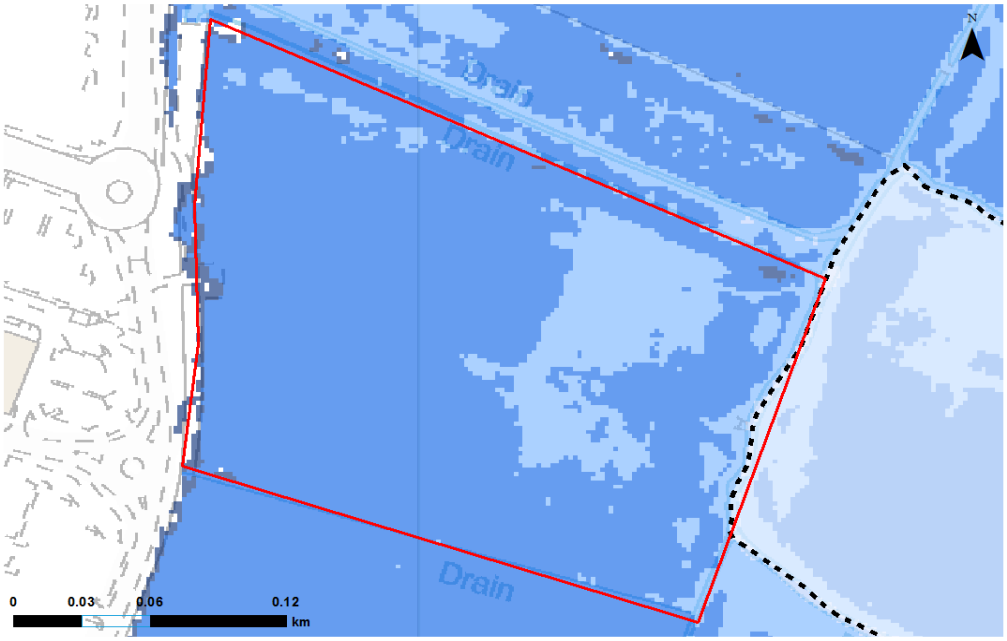
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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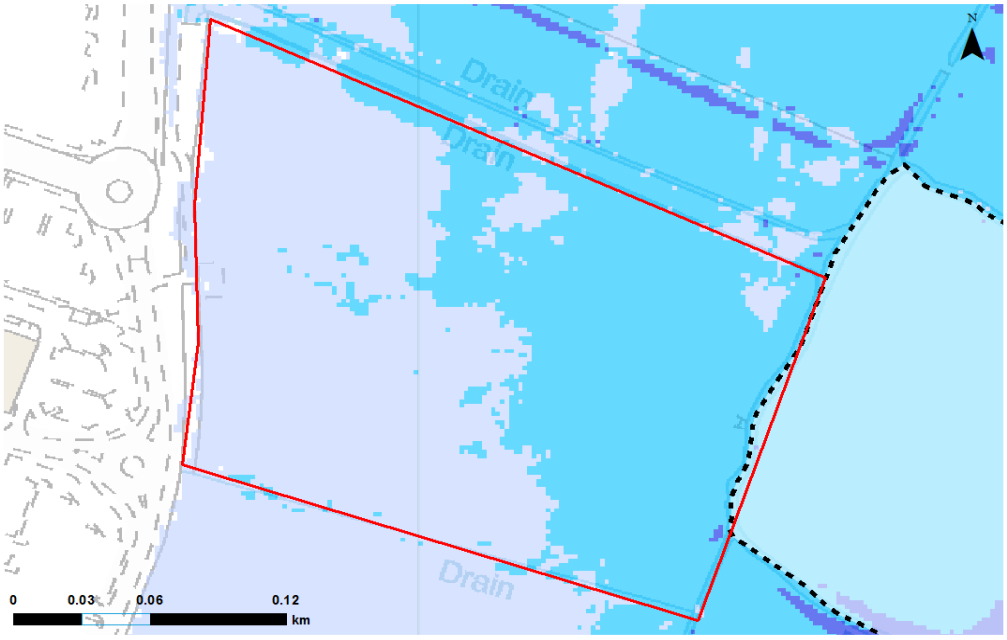
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	1.00 - 1.50	2.50 - 3.00
0.10 - 0.50	1.50 - 2.00	3.00 - 3.50
0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
		>4.00

Velocity Map: 100-year



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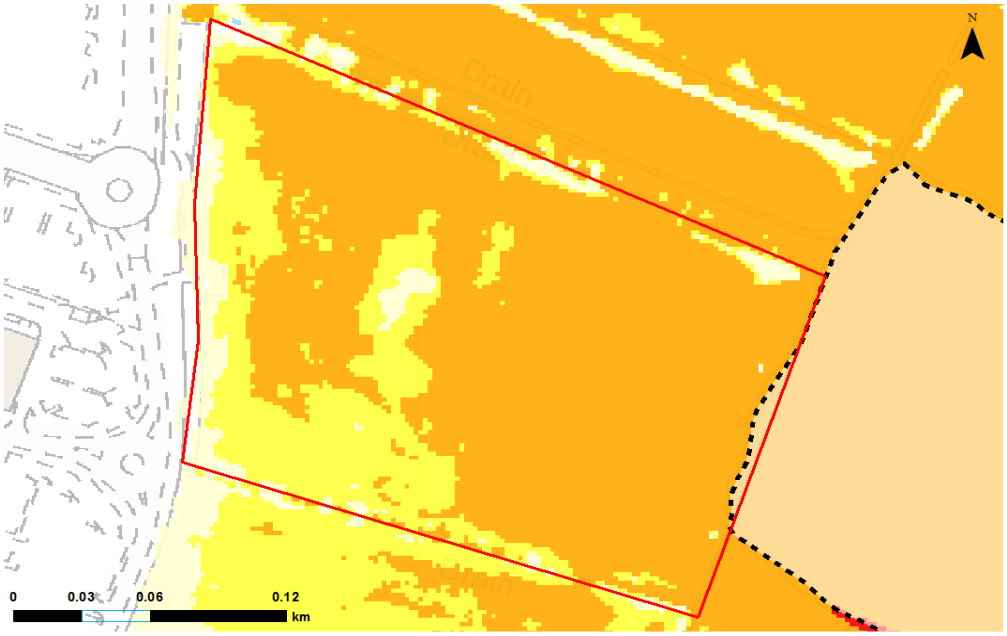
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.5 - 1.0	> 2.0
0.2 - 0.5	1.0 - 2.0	

Hazard Map: 100-year



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Joint SFRA boundary | **Hazard** | Danger for some | Danger for all

Assessment area | Very low hazard - caution | Danger for most

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the River Soar as it flows along the eastern border of the assessment area and the Lubbesthorpe Brook as it flows along the northern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Canal: The assessment area is located close to the Grand Union Canal and may be at risk in the event of bank failure.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (Fosse Park Way) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the River Soar and Lubbesthorpe Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Flood risk based on the overtopping or breach of the Grand Union Canal should be considered during a detailed site-specific flood risk assessment. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Soar and Lubbesthorpe Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrographs of the River Soar and Lubbesthorpe Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

END017				
OSNGR: 454311 298362	Area: 1.21ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 1.3%	**FZ3a** 0.2%	**FZ2** 1.7%	**FZ1** 96.8%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the southern boundary of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map

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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map

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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year

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Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year

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Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year

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Joint SFRA boundary | Assessment area | **Hazard** | Very low hazard - caution | Danger for some | Danger for most | Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the southern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		Mapping suggests that there may be steep slopes within the assessment area, however, filtration features may be suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: The main access/egress route for the assessment area (an unnamed track running north from King Edward Avenue) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

GLE011				
OSNGR: 452740 305826	Area: 0.52ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 7.7%	**FZ3a** 1.1%	**FZ2** 1.6%	**FZ1** 89.7%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

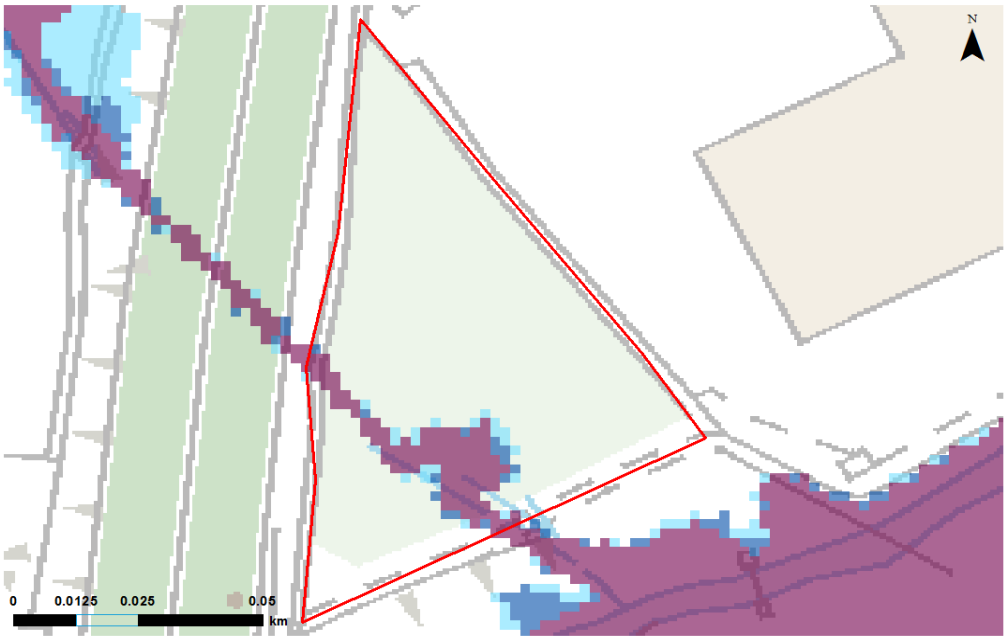
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development outside of the Flood Zone away from the unnamed watercourse crossing the centre of the assessment area.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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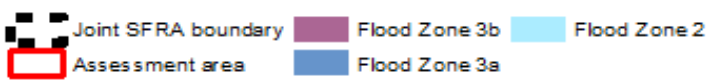
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.



Climate Change Map

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Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map

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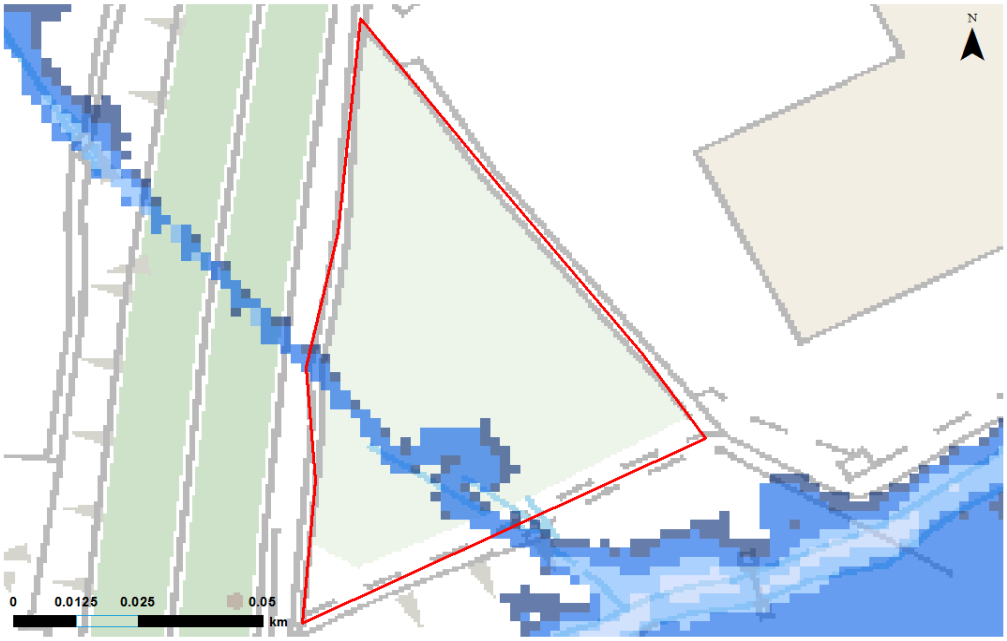
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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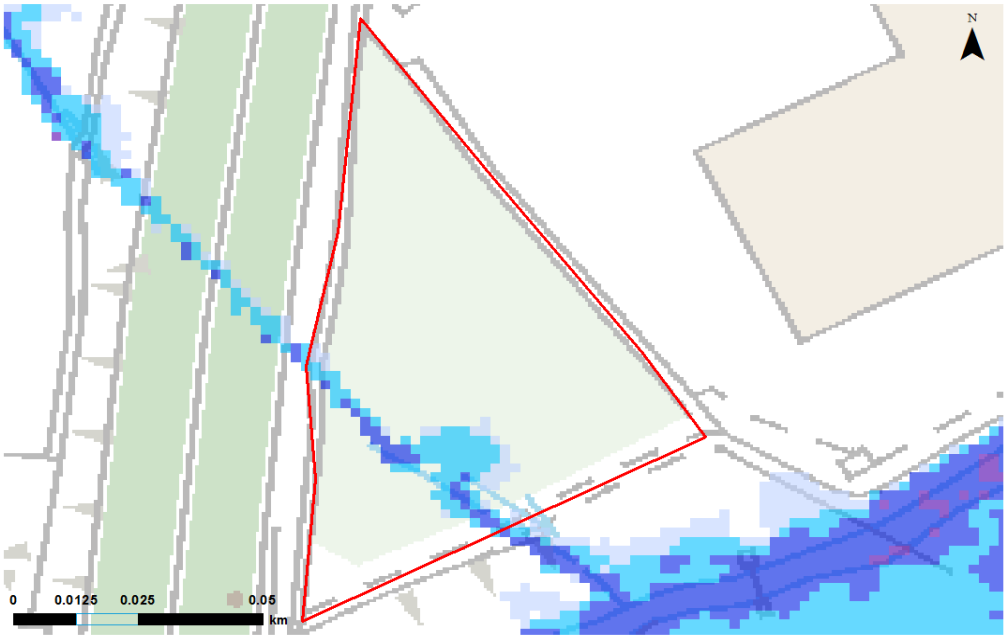
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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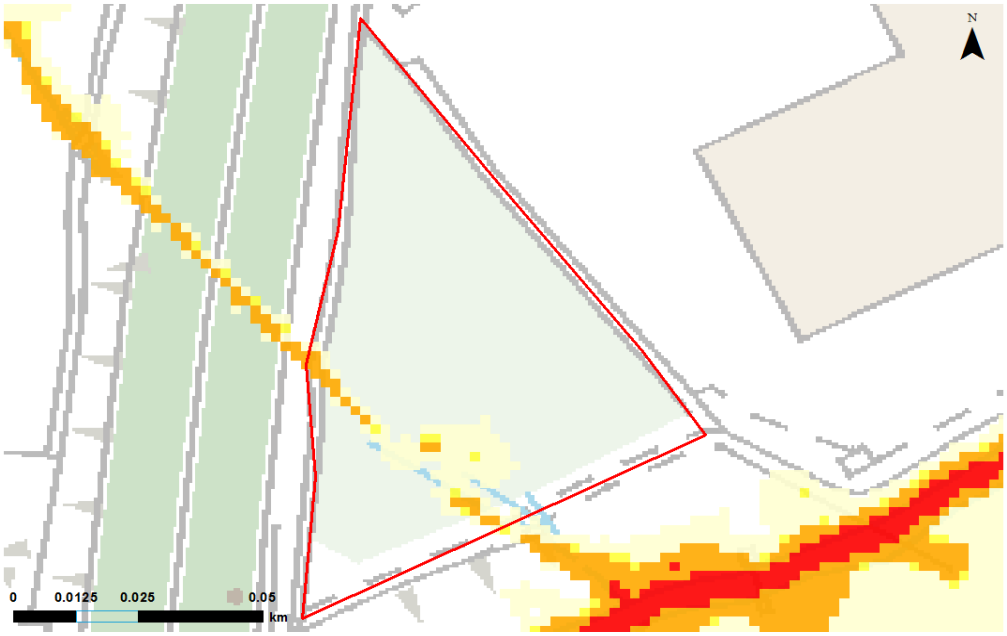
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows across the centre of the site.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the site and the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		Mapping suggests that the site may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		Mapping suggests that there may be steep slopes within the site, however, filtration features may be suitable provided site slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The site is not located in an area designated as a landfill site.* • *The site is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this site.
Flood Warning: This site is not currently covered by the Environment Agency's Flood Warning Service
Access & Egress: The main access/egress route for the site (an unnamed road running through the Mill Lane Industrial Estate) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

GLE013				
OSNGR: 453462 306517	Area: 27.07ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 2.4%	**FZ3a** 0.4%	**FZ2** 0.9%	**FZ1** 96.2%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

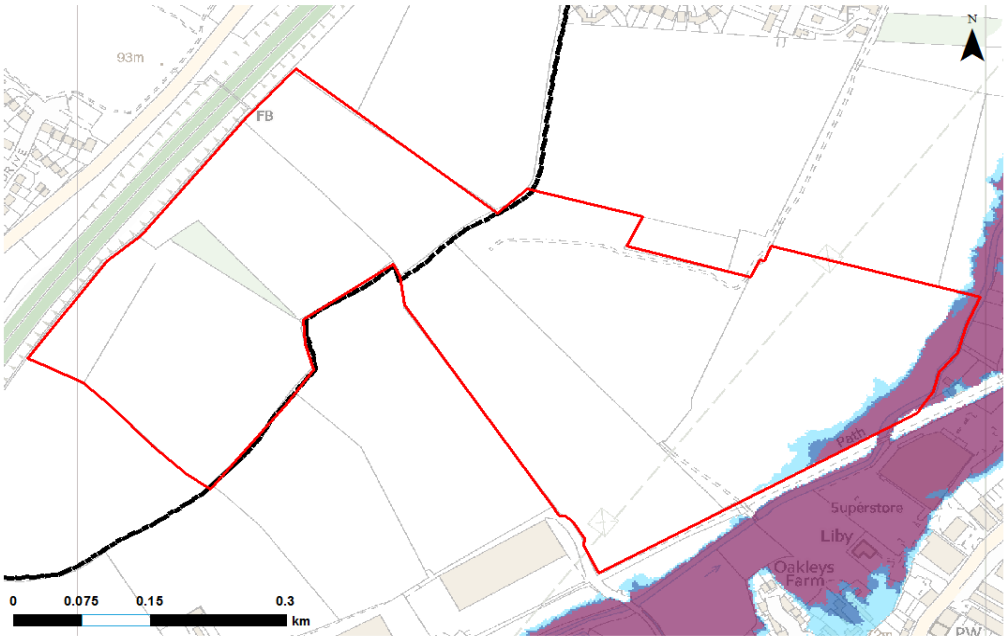
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the eastern boundary of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the Rothley Brook, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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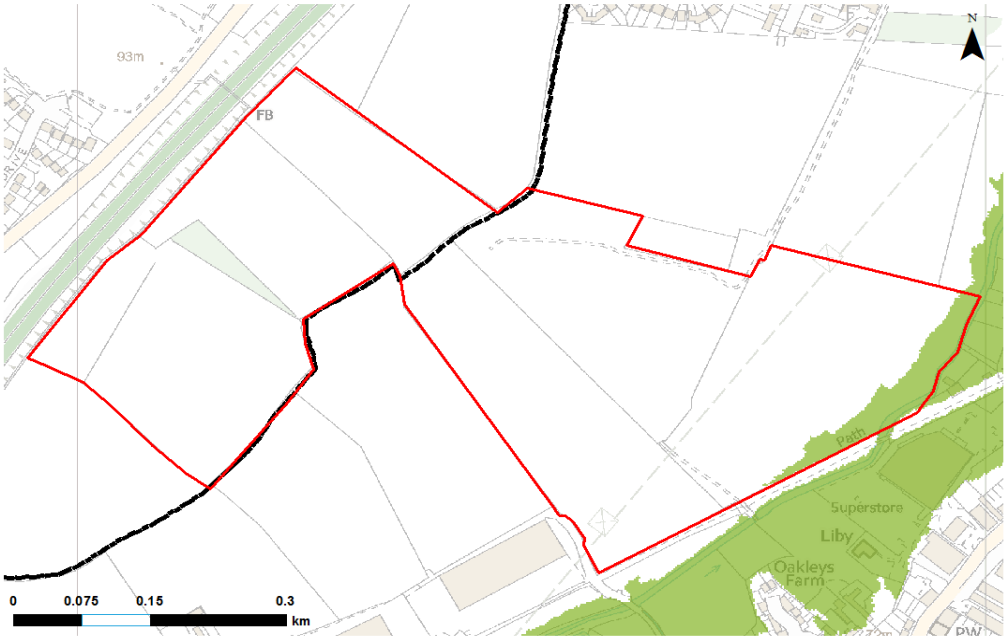
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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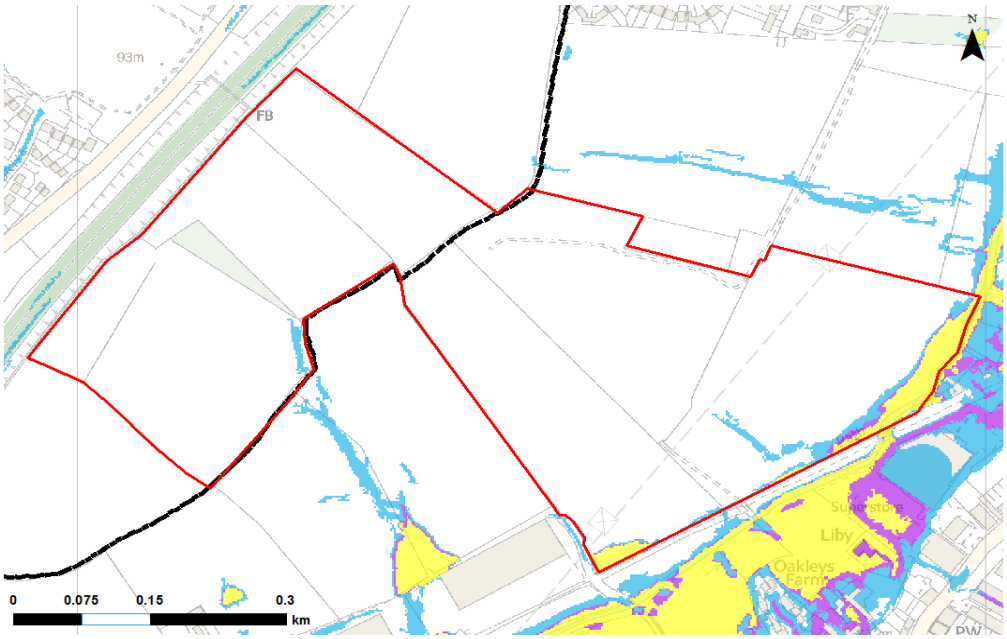
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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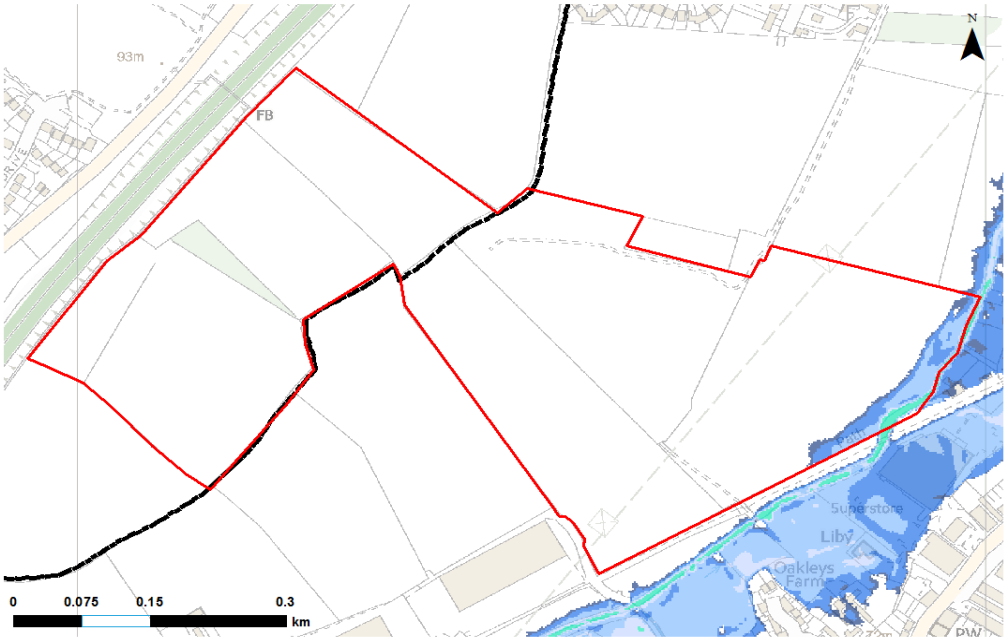
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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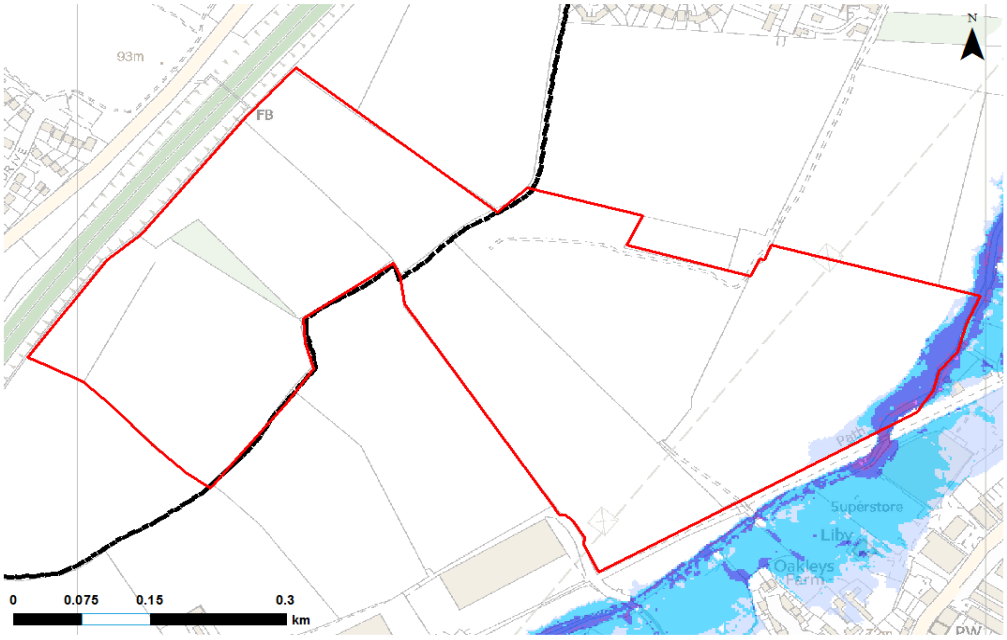
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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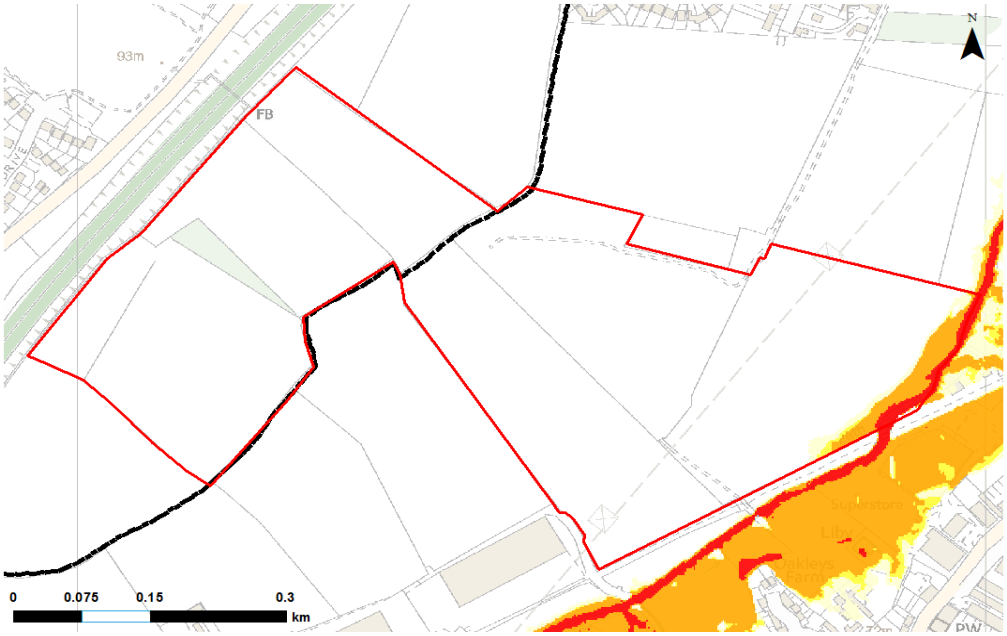
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area

Hazard

Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Rothley Brook as it flows along the eastern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: A part of this assessment area is in the Rothley Brook in Leicestershire Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (an unnamed track running south from Glen Park Avenue) is shown to be at risk from surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the Rothley Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Rothley Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Rothley Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

GLE018				
OSNGR: 453116 305723	Area: 3.52ha		Brownfield	
Flood Zone Coverage:	**FZ3b** 2.5%	**FZ3a** 2.7%	**FZ2** 4.7%	**FZ1** 90.2%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

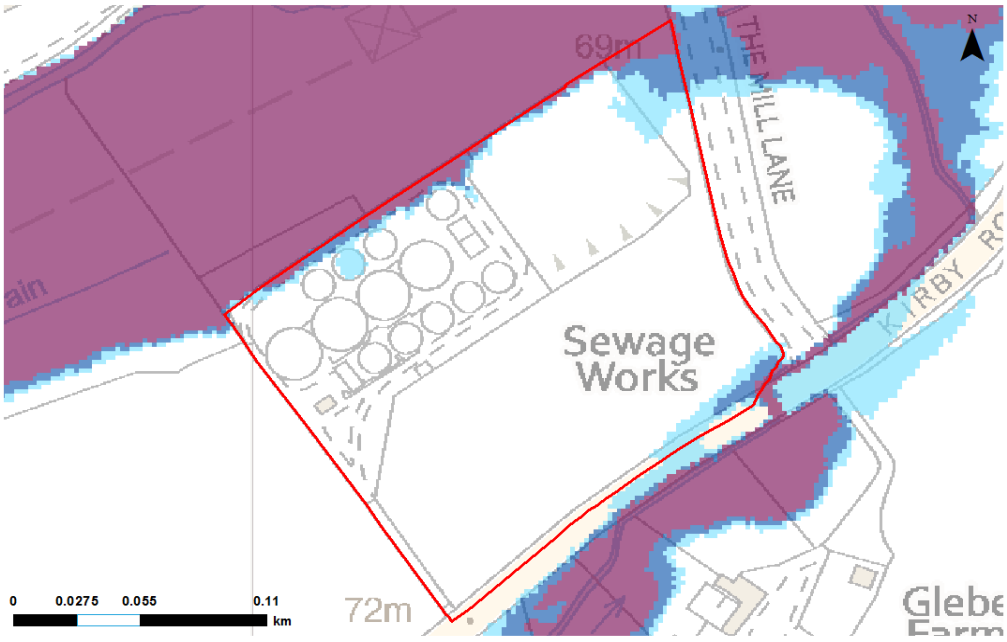
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development away from the northern and southern boundaries of the assessment area, outside of Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the Rothley Brook and unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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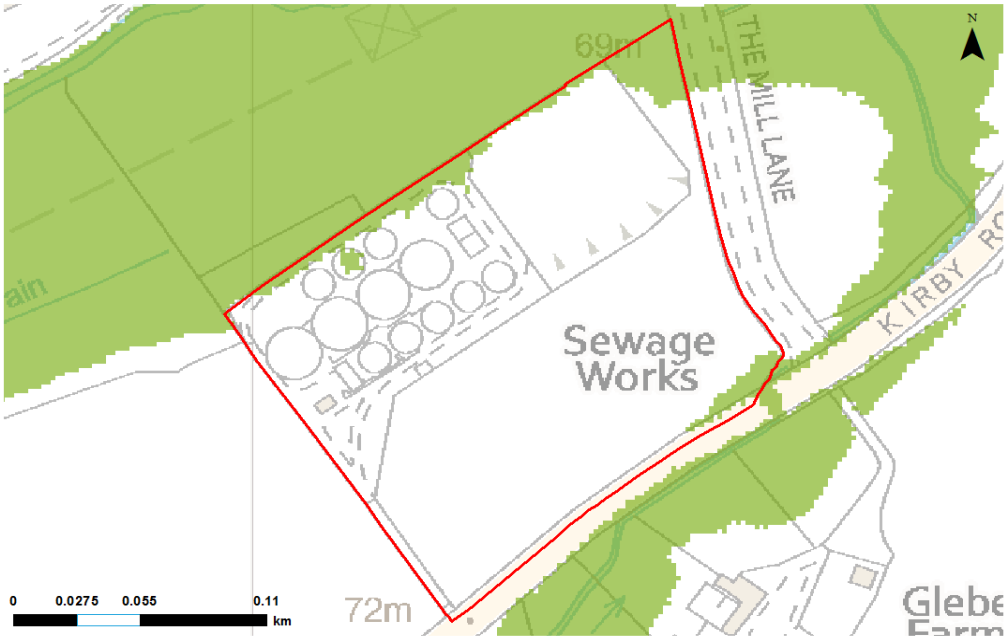
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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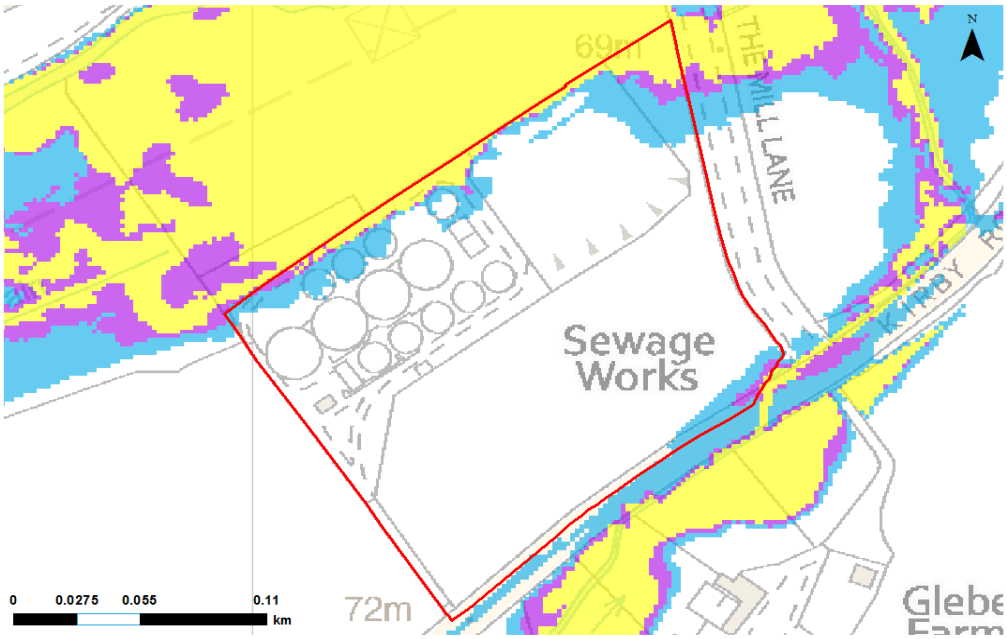
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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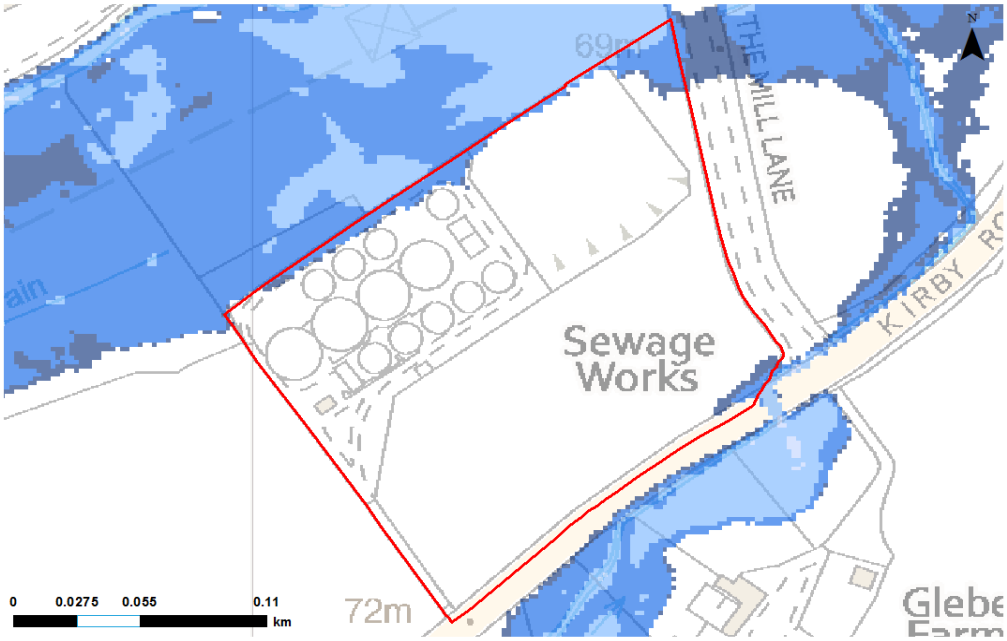
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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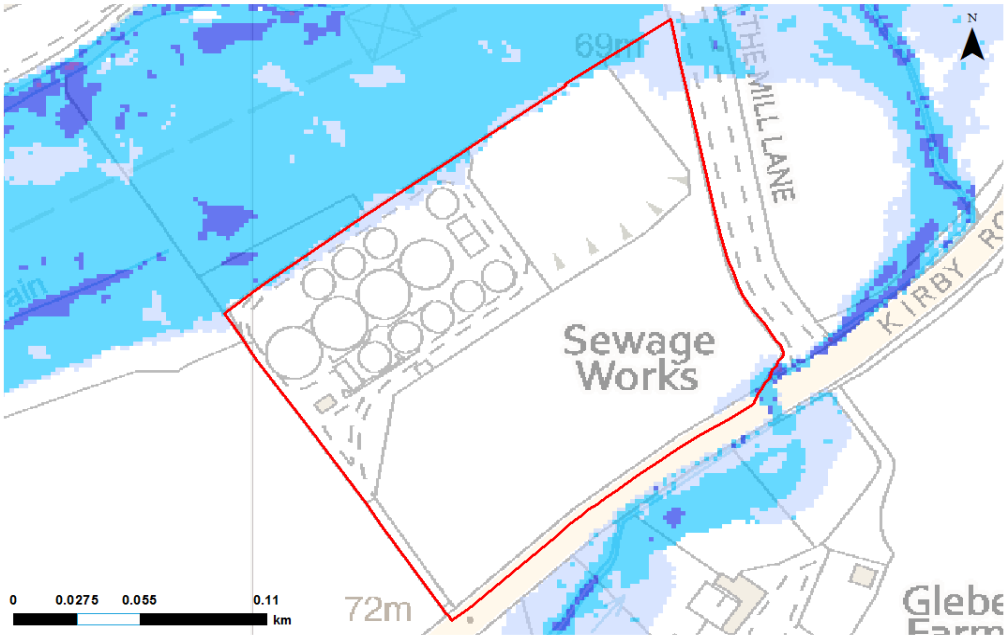
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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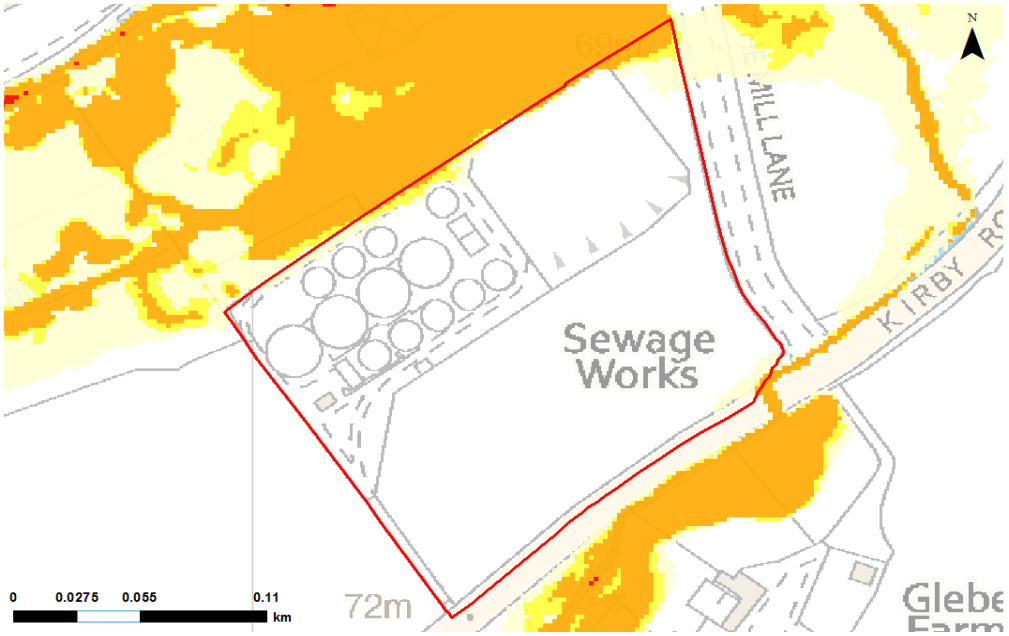
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Rothley Brook as it flows along the northern boundary of the assessment area and the unnamed watercourse as it flows to the south of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area.
Infiltration		Infiltration may be suitable. Mapping suggests a low risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		Mapping suggests that there may be steep slopes within the assessment area, however, filtration features may be suitable provided slopes are <5% and the depth to the water table is >1m.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: A part of this assessment area is in the Rothley Brook in Leicestershire Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (Kirby Road) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the Rothley Brook and unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Rothley Brook and unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrographs of the Rothley Brook unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

GPA002				
OSNGR: 457607 298223	Area: 0.49ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 6.1%	**FZ3a** 14.3%	**FZ2** 79.6%	**FZ1** 0%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.

Highly Vulnerable infrastructure should not be permitted within FZ3a

Potential to pass the Exception Test

• The majority of the assessment area is within Flood Zone 2. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:

• remain operational and safe for users in times of flood

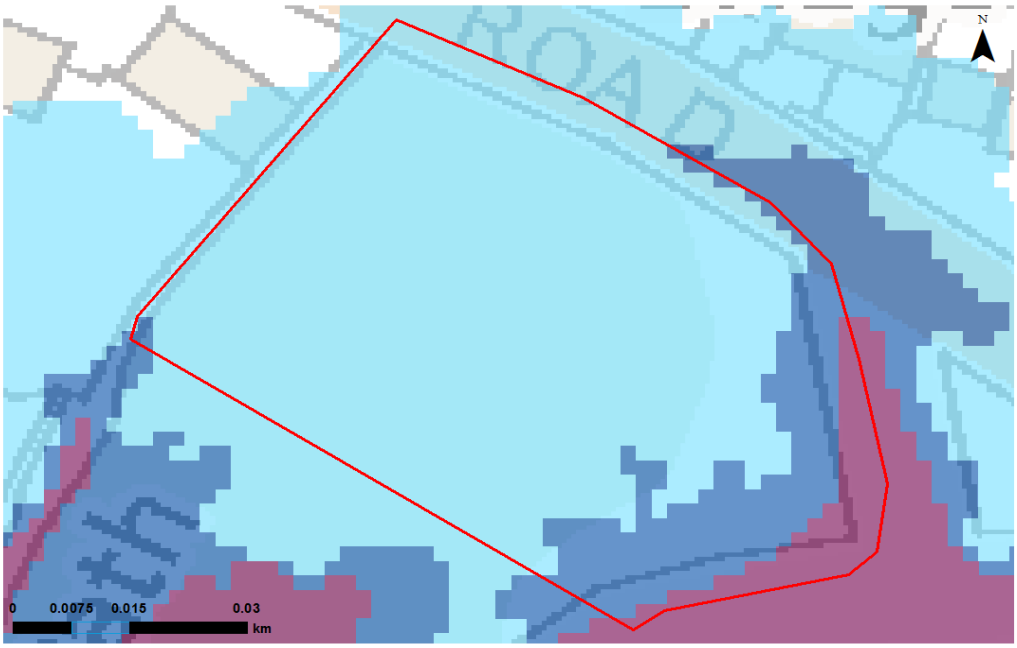
• result in no net loss of floodplain storage

• not impede water flows and not increase flood risk elsewhere

In view of the flooding problems from the River Sence, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the site proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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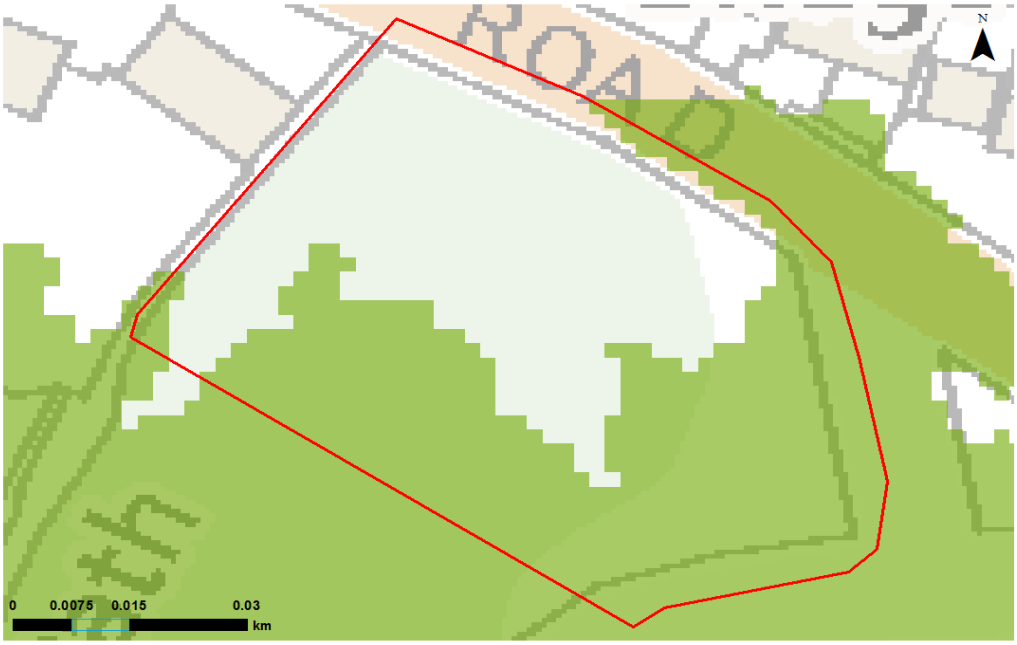
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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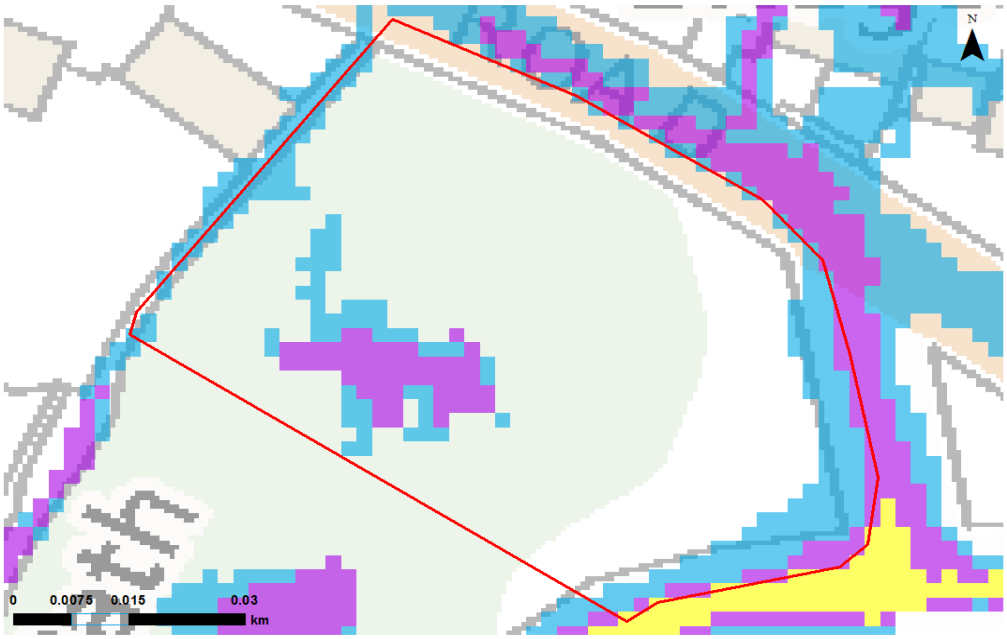
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk: • Fluvial flood risk is from the overtopping of the River Sence as it flows to the south of the assessment area. • Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.		
SuDS & the Assessment Area:		
SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and high permeability of soils. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		Mapping suggests that there may be steep slopes within the assessment area, however, filtration features may be suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the River Sence in Leicestershire Flood Alert Area and the River Sence at Blaby and Glen Parva Flood Warning Area.
Access & Egress: The main access/egress route for the assessment area (Little Glen Road) is shown to be at risk from surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the River Sence.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Sence should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the River Sence to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is not at risk of fluvial flooding, but is at risk of surface water flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

GPA003				
OSNGR: 457766 298056	Area: 5.08ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 16.9%	**FZ3a** 12.20%	**FZ2** 49.2%	**FZ1** 21.7%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

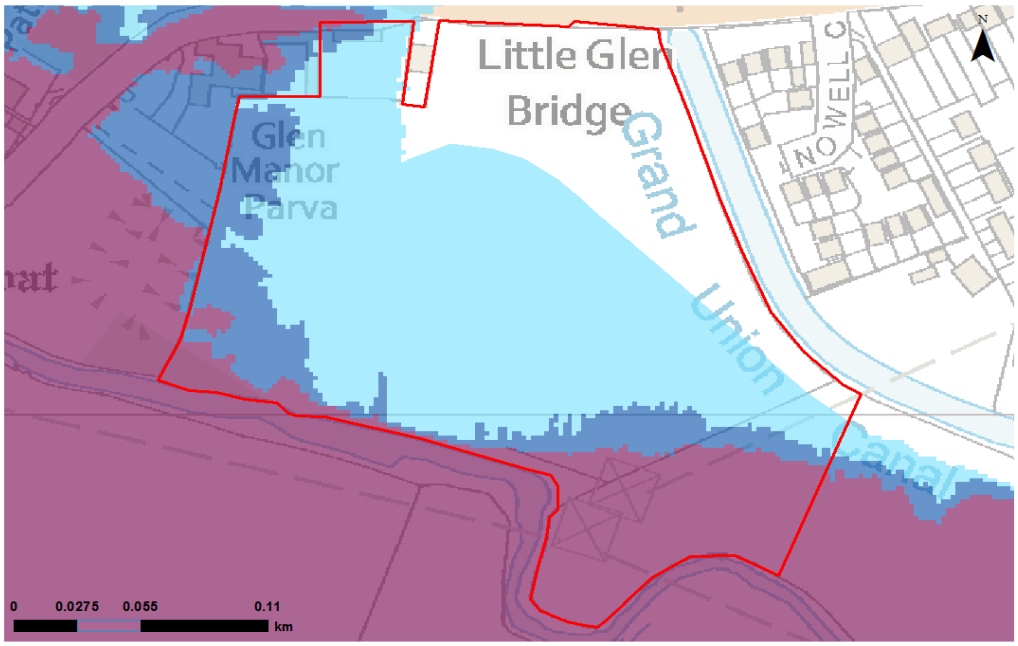
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment is within Flood Zone 2. Risks to development could be reduced by using sequential design to locate development in the north of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the the River Sence, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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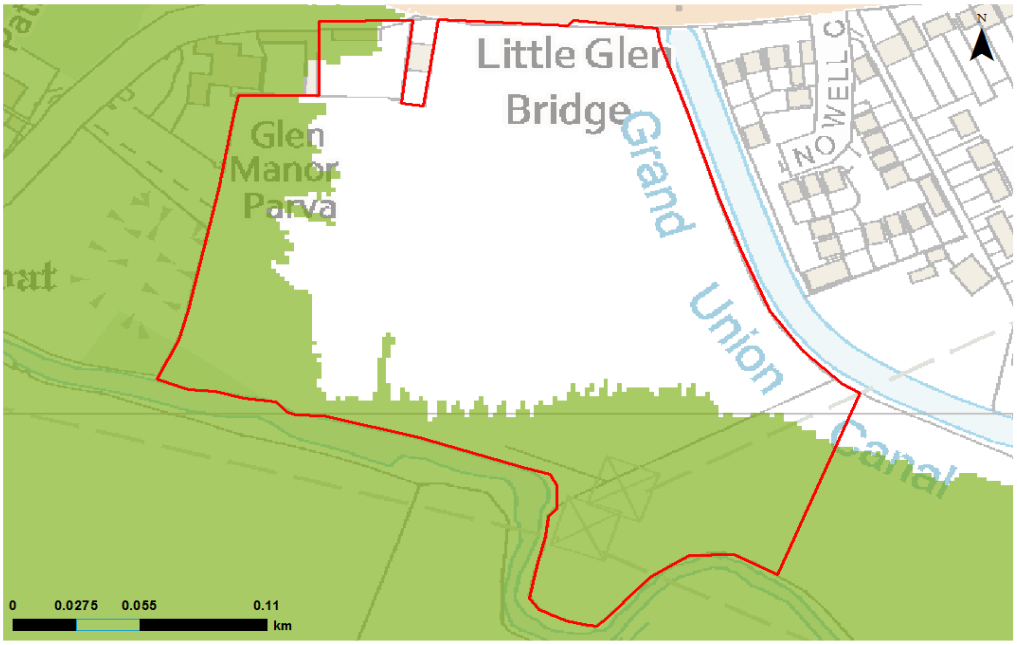
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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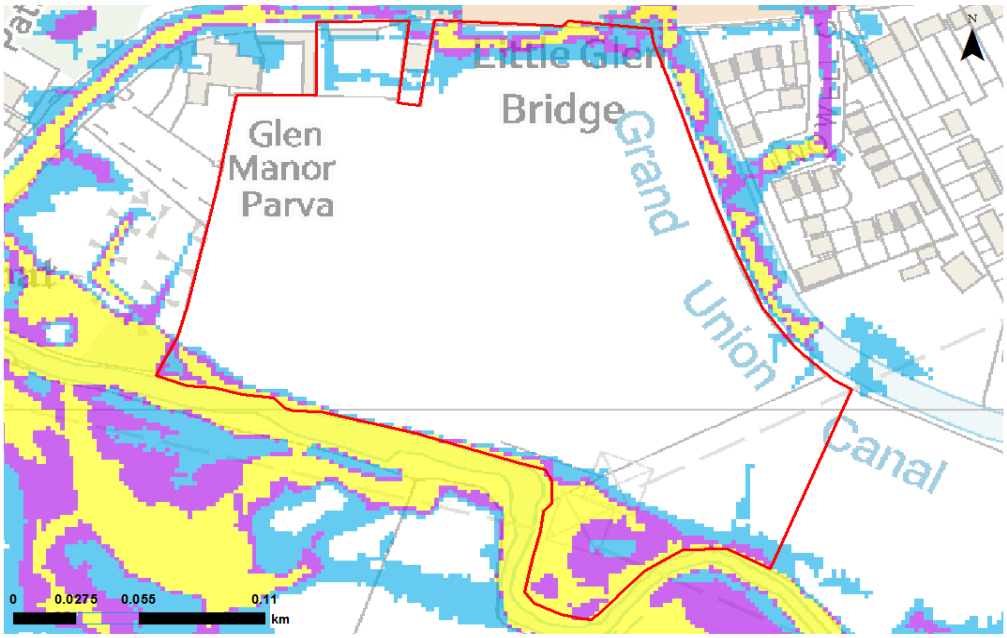
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk: • Fluvial flood risk is from the overtopping of the River Sence as it flows along the southern boundary of the assessment area. • Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.		
SuDS & the Assessment Area:		
SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Canal: The assessment area is located close to the Grand Union Canal and may be at risk in the event of bank failure.
Flood Warning: This assessment area is in the River Sence in Leicestershire Flood Alert Area and the River Sence at Blaby and Glen Parva Flood Warning Area.
Access & Egress: The main access/egress route for the assessment area (Little Glen Road) is shown to be at risk from surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the River Sence.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or for any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • Flood risk based on the overtopping or breach of the Grand Union Canal should be considered during a detailed site-specific flood risk assessment. • The peak flows on the River Sence should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the River Sence to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is not at risk of fluvial flooding but is at risk of surface water flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

GPA004				
OSNGR: 457028 298406	Area: 1.47ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 20.4%	**FZ3a** 27.2%	**FZ2** 52.4%	**FZ1** 0%

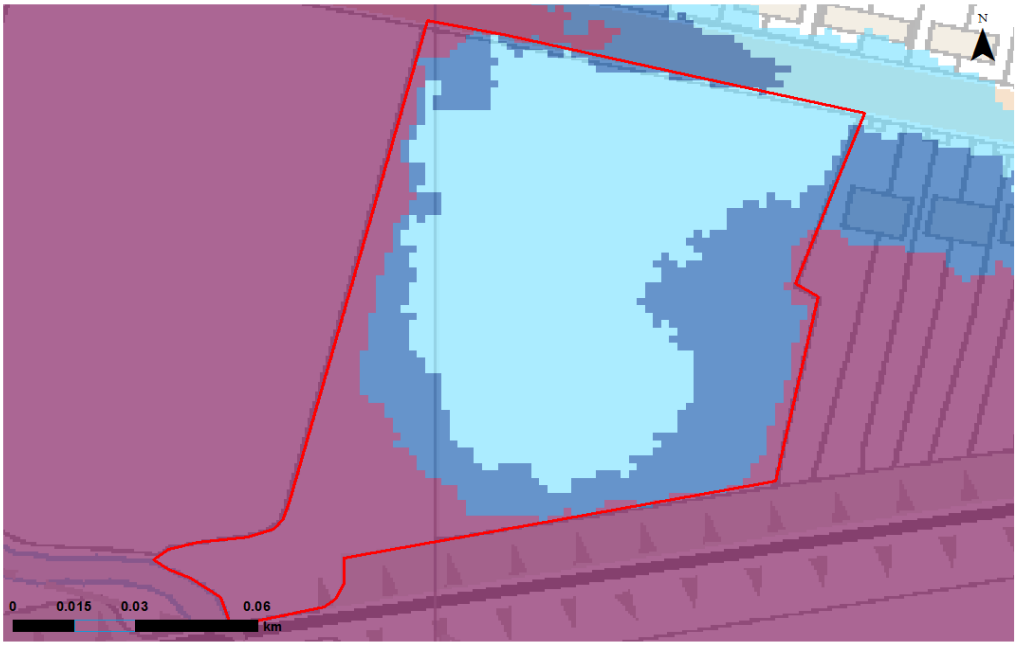
Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

• The assessment area is entirely within Flood Zones 3b and 3a and 2. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:
• remain operational and safe for users in times of flood
• result in no net loss of floodplain storage
• not impede water flows and not increase flood risk elsewhere
In view of the flooding problems from the River Sence, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the site proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.
• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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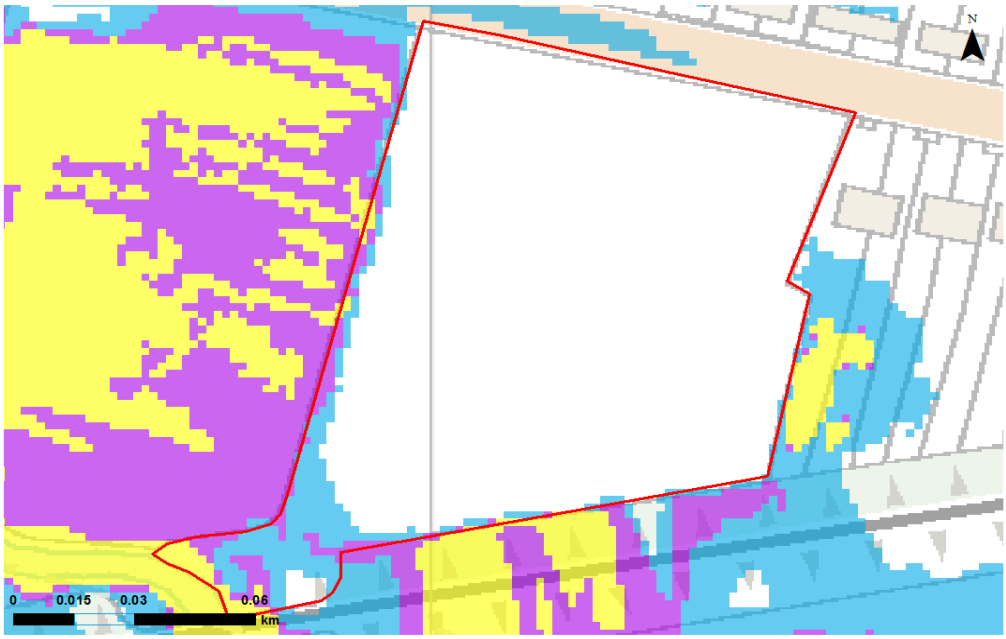
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk: • Fluvial flood risk is from the overtopping of the River Sence as it flows south of the assessment area. • Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.		
SuDS & the Assessment Area:		
SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. The site is partially located in an area defined by the EA as being landfill and therefore site investigations are needed to determine the suitability of infiltration techniques.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater and for contaminated land issues.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• The assessment area is located or is partial located in an area defined by the EA as being a landfill site. *• The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the River Sence in Leicestershire Flood Alert Area and the River Sence at Blaby and Glen Parva Flood Warning Area.
Access & Egress: The main access/egress route for the assessment area (Little Glen Road) is shown to be at risk from surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the River Sence.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or for any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Flood risk based on the overtopping or breach of the Grand Union Canal should be considered during a detailed site-specific flood risk assessment. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Sence should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of River Sence to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area (Little Glen Road) is shown to be at risk from surface water flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

GPA012				
OSNGR: 455746 298548	Area: 4.52ha		Brownfield	
Flood Zone Coverage:	**FZ3b** 29.8%	**FZ3a** 21.5%	**FZ2** 10.6%	**FZ1** 38.1%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

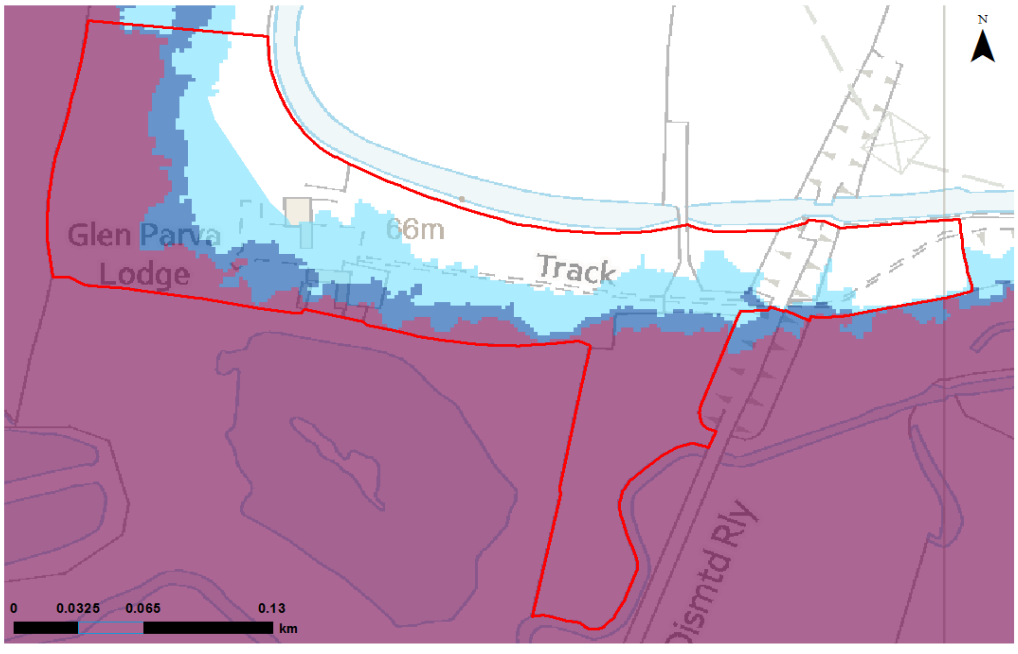
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. A large proportion of the assessment area is also with Flood Zones 3b and 3a. Risks to development could be reduced by using sequential design to locate development in the north of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the River Sence, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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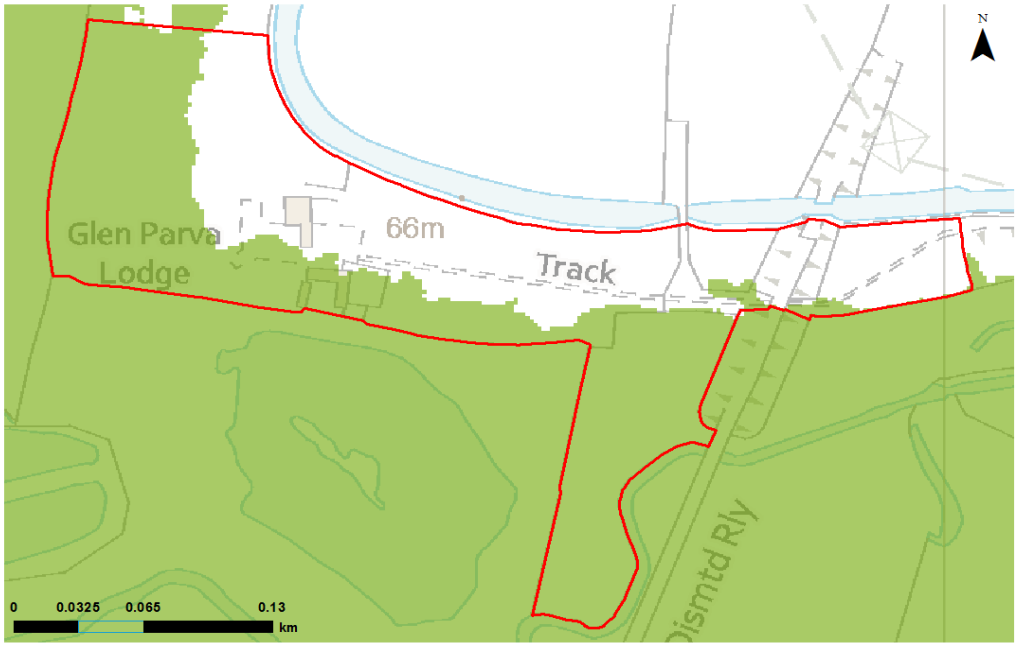
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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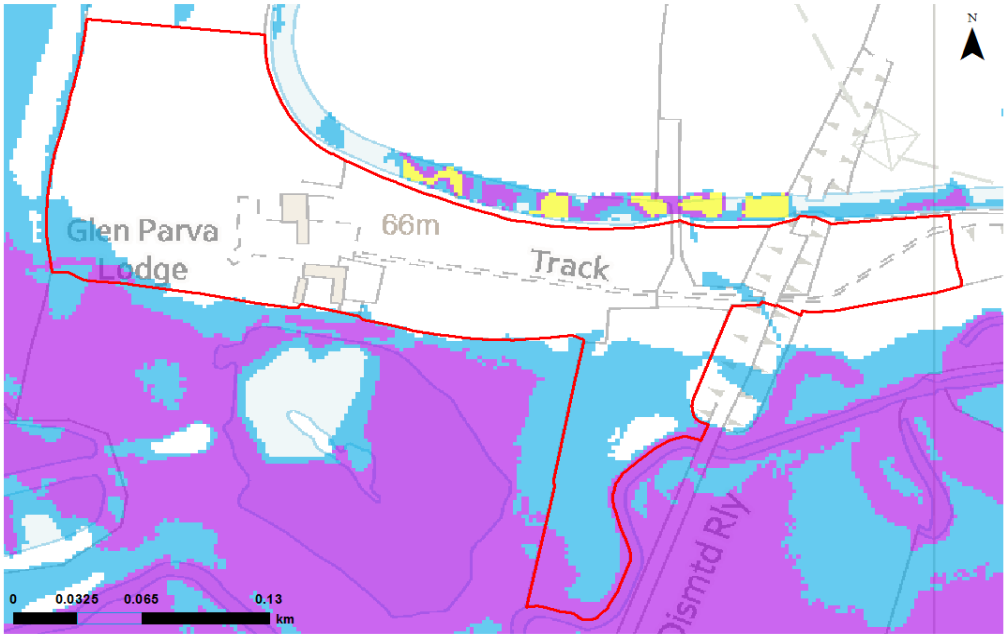
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk: • Fluvial flood risk is from the overtopping of the River Sence as it flows south of the assessment area. • Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.		
SuDS & the Assessment Area:		
SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and the high groundwater flood risk.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		This option is unlikely to be suitable due to the high groundwater flood risk at the assessment area and steep slopes.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Canal: The assessment area is located close to the Grand Union Canal and may be at risk in the event of bank failure.
Flood Warning: This assessment area is in the River Sence in Leicestershire and Upper Soar Catchment Flood Alert Area and the River Sence at Blaby and Glen Parva Flood Warning Area.
Access & Egress: The main access road to the assessment area is a track which is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the River Sence.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Flood risk based on the overtopping or breach of the Grand Union Canal should be considered during a detailed site-specific flood risk assessment. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Sence should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of River Sence to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

GPA013				
OSNGR: 456672 298506	Area: 0.74ha		Brownfield	
Flood Zone Coverage:	**FZ3b** 100%	**FZ3a** 0%	**FZ2** 0%	**FZ1** 0%

Exception Test Required?

Yes, Essential Infrastructure in Flood Zone 3b will require the Exception Test
Highly Vulnerable infrastructure should not be permitted within FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.

Potential to pass the Exception Test

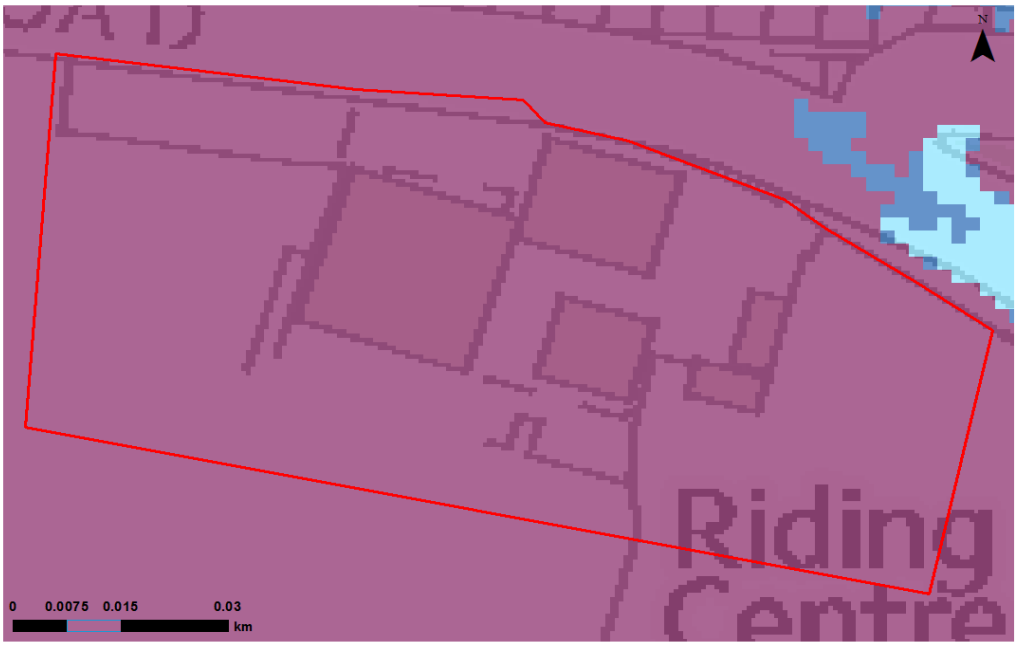
• The entire assessment area is within Flood Zone 3b. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:

• remain operational and safe for users in times of flood
• result in no net loss of floodplain storage
• not impede water flows and not increase flood risk elsewhere

In view of the flooding problems from the River Sence, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the assessment area proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.

This assessment area is not suitable for Less Vulnerable, More Vulnerable and Highly Vulnerable development

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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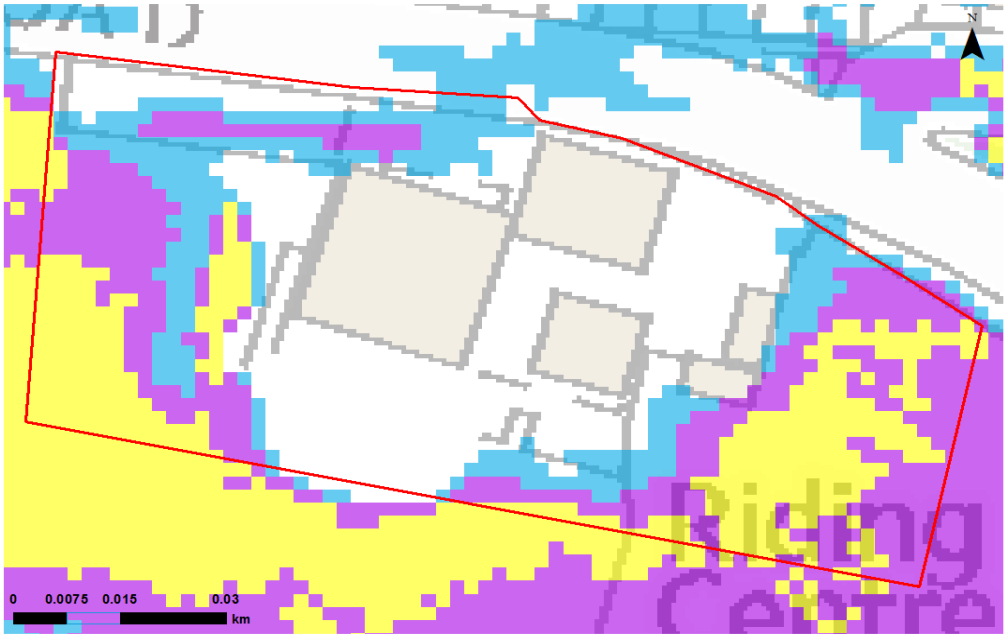
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk: • Fluvial flood risk is from the overtopping of the River Sence as it flows to the south of the assessment area. • Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.		
SuDS & the Assessment Area:		
SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the River Sence in Leicestershire Flood Alert Area and the River Sence at Blaby and Glen Parva Flood Warning Area.
Access & Egress: The main access/egress route for the assessment area (New Bridge Road) is shown to be at risk from fluival and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the River Sence.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Sence should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the River Sence to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

GPA014				
OSNGR: 456569 298523	Area: 0.88ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 100%	**FZ3a** 0%	**FZ2** 0%	**FZ1** 0%

Exception Test Required?

Yes, Essential Infrastructure in Flood Zone 3b will require the Exception Test
Highly Vulnerable infrastructure should not be permitted within FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.

Potential to pass the Exception Test

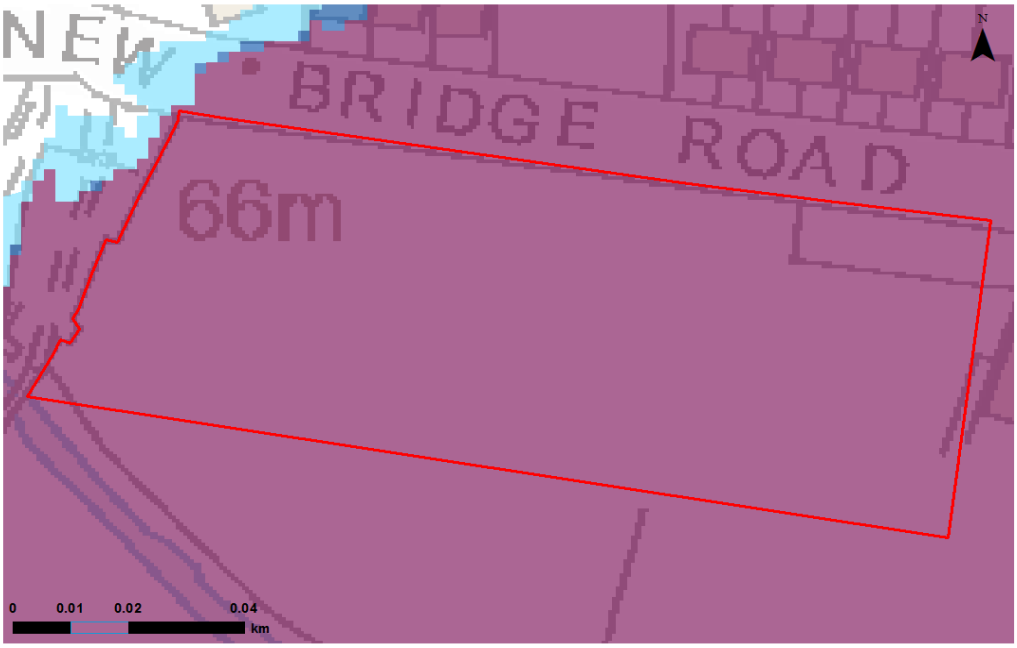
• The entire assessment area is within Flood Zone 3b. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:

• remain operational and safe for users in times of flood
• result in no net loss of floodplain storage
• not impede water flows and not increase flood risk elsewhere

In view of the flooding problems from the River Sence, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the assessment area proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.

This assessment area is not suitable for Less Vulnerable, More Vulnerable and Highly Vulnerable development

Flood Zone Map



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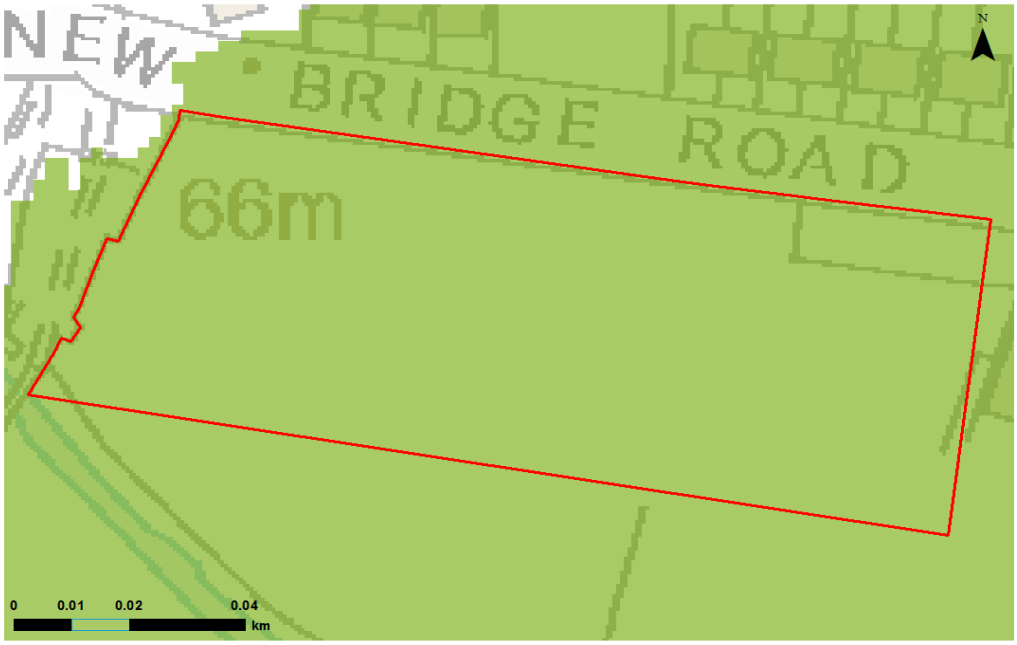
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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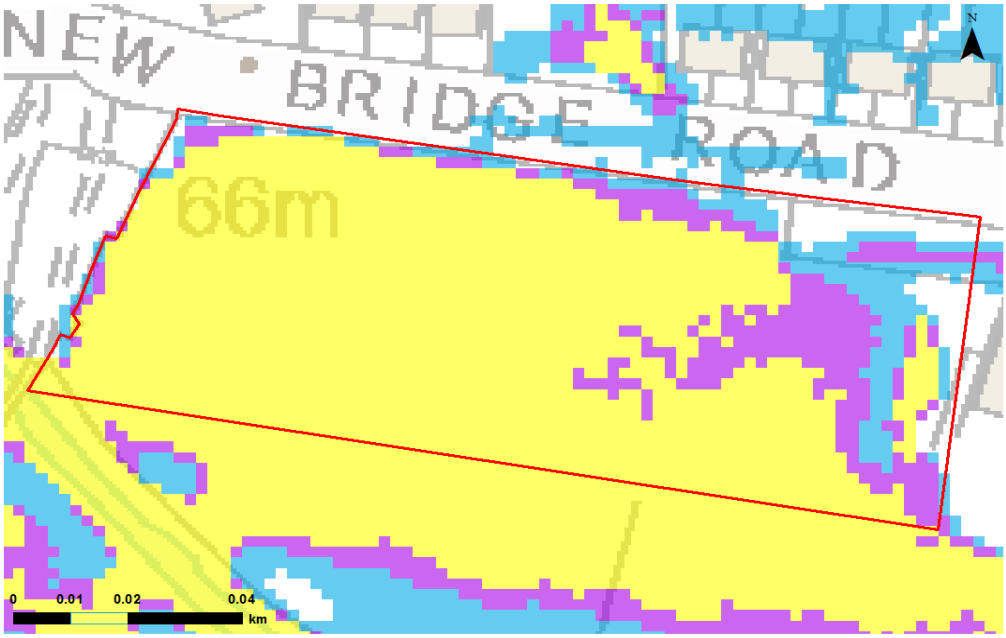
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk: • Fluvial flood risk is from the overtopping of the River Sence as it flows to the south of the assessment area. • Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.		
SuDS & the Assessment Area:		
SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the River Sence in Leicestershire Flood Alert Area and the River Sence at Blaby and Glen Parva Flood Warning Area.
Access & Egress: The main access/egress route for the assessment area (New Bridge Road) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the River Sence.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Sence should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the River Sence to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the site is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk at the site, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

GPA017				
OSNGR: 457501 298211	Area: 1.51ha		Brownfield	
Flood Zone Coverage:	**FZ3b** 27.1%	**FZ3a** 23.2%	**FZ2** 33.8%	**FZ1** 15.9%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

NPPF Guidance:

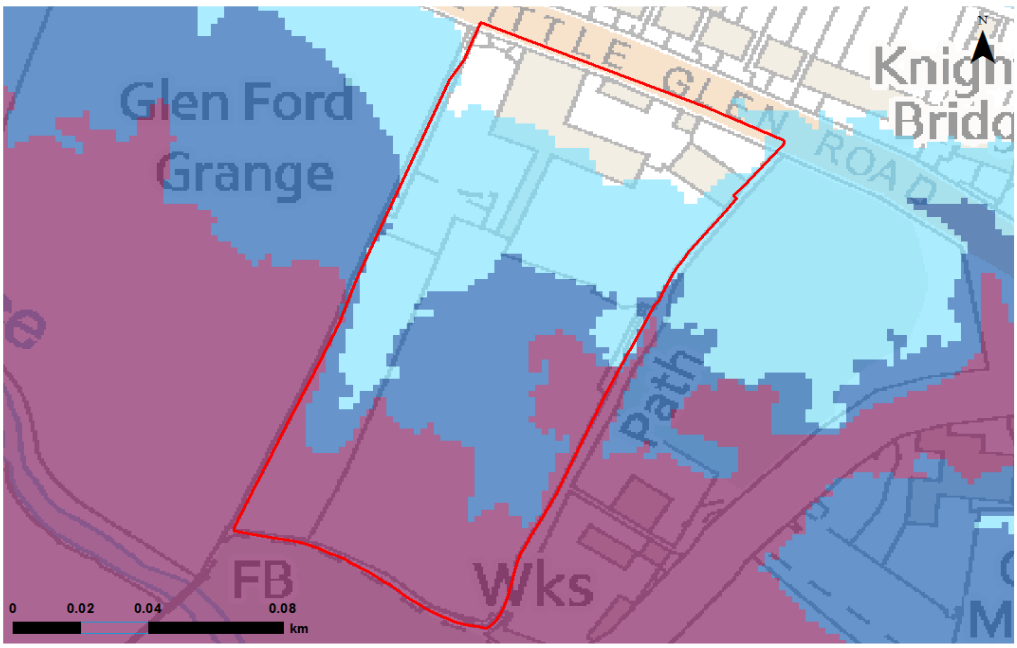
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The flood risk to the assessment area is split fairly equally between Flood Zones 3b, 3a and 2. Risks to development could be reduced by using sequential design to locate development in the north of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the River Sence, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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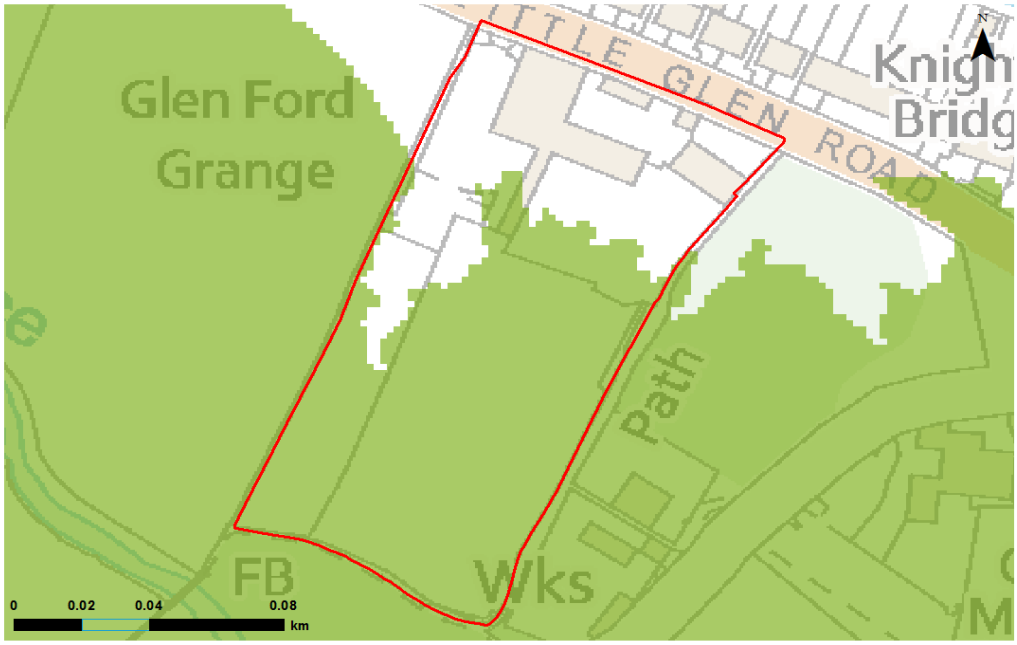
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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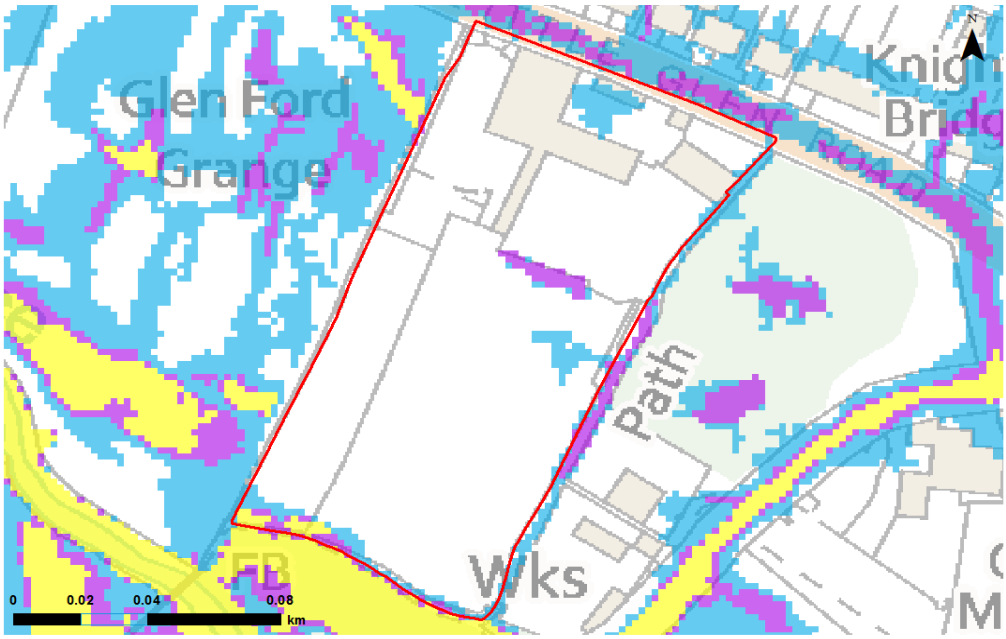
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk: • Fluvial flood risk is from the overtopping of the River Sence as it flows to the south of the assessment area. • Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.		
SuDS & the Assessment Area:		
SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and high permeability of soils. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the River Sence in Leicestershire Flood Alert Area and the River Sence at Blaby and Glen Parva Flood Warning Area.
Access & Egress: The main access/egress route for the assessment area (Little Glen Road) is shown to be at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the River Sence.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Sence should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the River Sence to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

KIL003				
OSNGR: 461891 295400	Area: 1.09ha		Brownfield	
Flood Zone Coverage:	**FZ3b** 13.4%	**FZ3a** 6.2%	**FZ2** 7.3%	**FZ1** 73.1%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

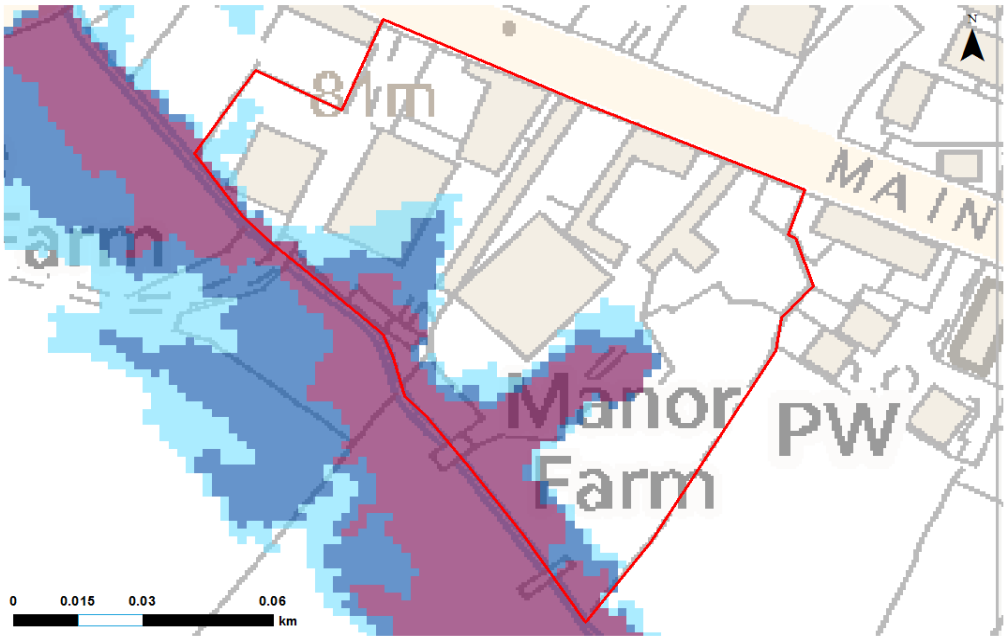
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• A large proportion of the assessment area is within Flood Zone 3a and 3b. Risks to development could be reduced by using sequential design to locate more vulnerable development to the north east of the assessment area, away from the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether development proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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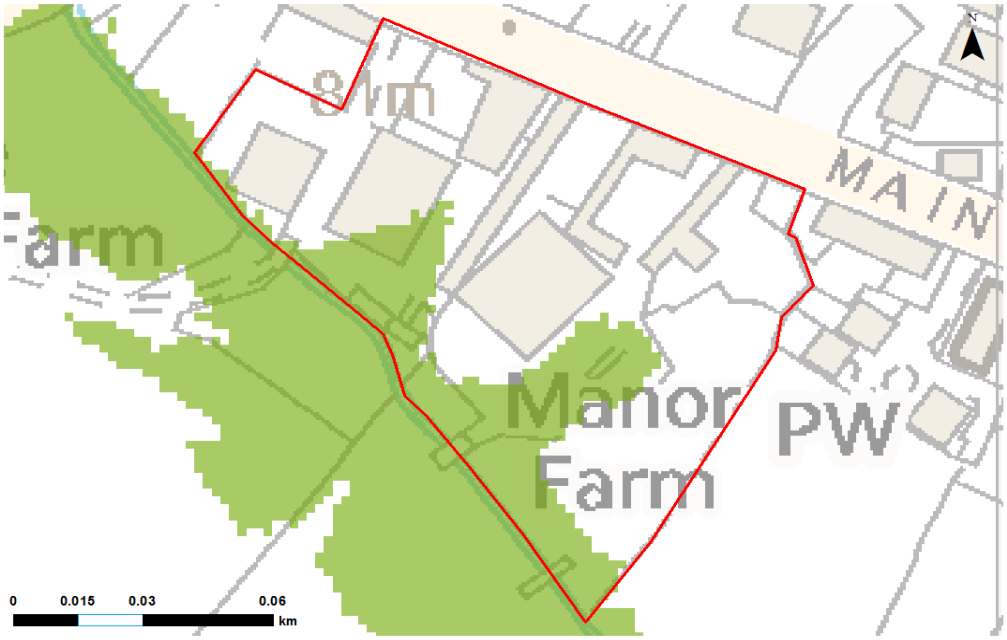
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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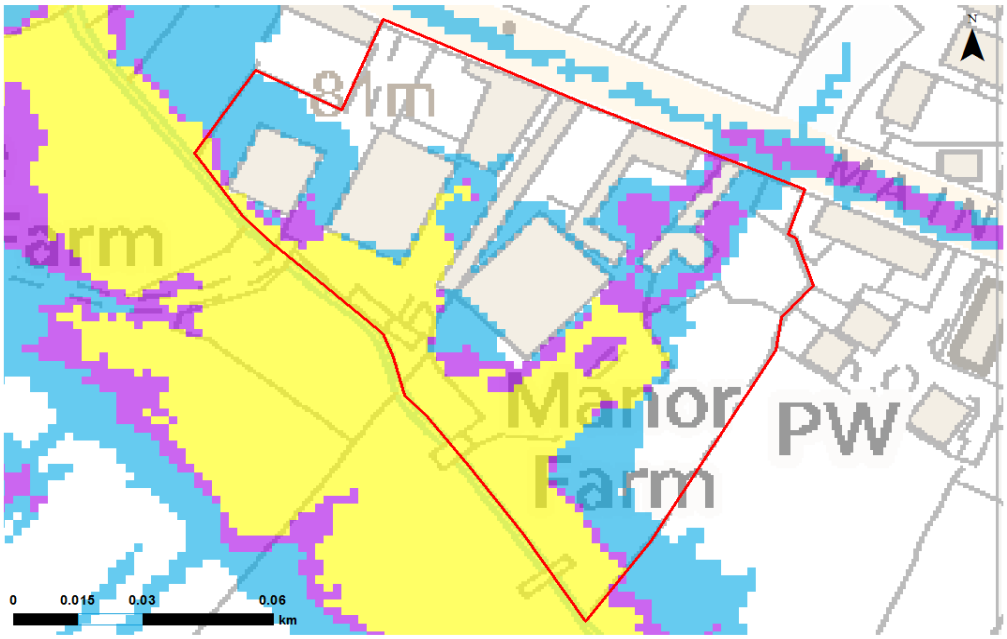
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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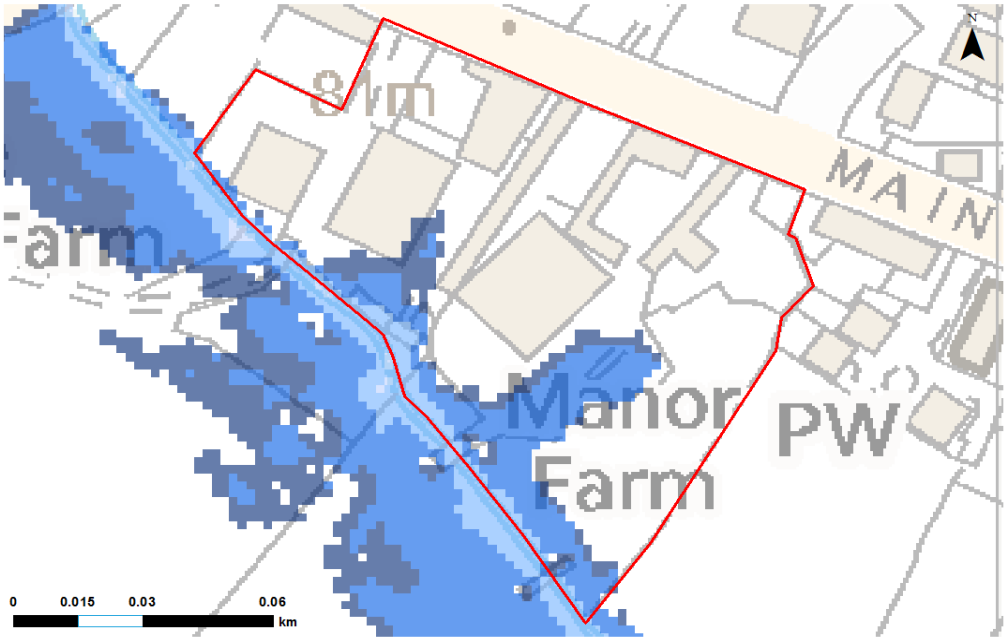
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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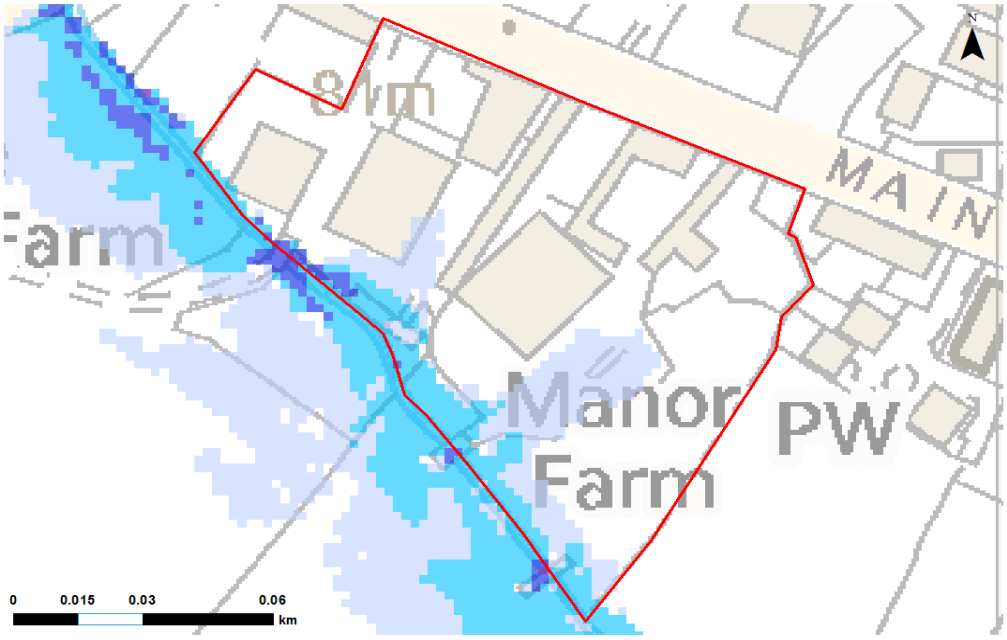
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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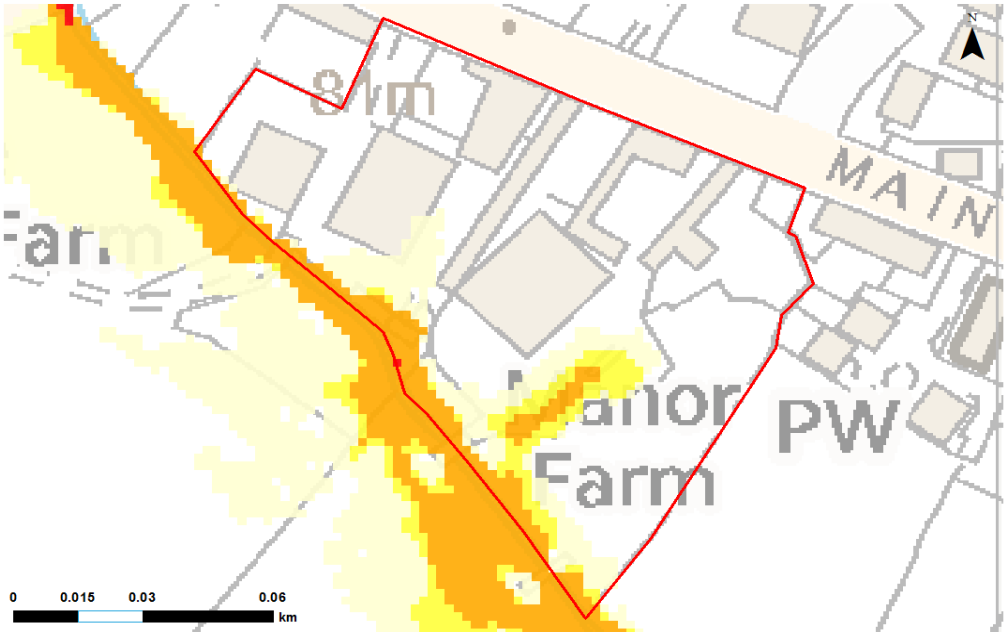
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	0.5 - 1.0	1.0 - 2.0
			> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the western boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and the high groundwater flood risk.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		This option is unlikely to be suitable due to the high groundwater flood risk at the assessment area and steep slopes.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the River Sence in Leicestershire Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (Main Street) is not shown to be at risk from fluvial of surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the ordinary watercourse flowing through the centre of the site should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the ordinary watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. Although the current main route to the assessment area is not shown to be at risk of flooding, the western half of the assessment area may potentially be cut of during flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

KIL006				
OSNGR: 461941 295332	Area: 0.8ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 12.3%	**FZ3a** 3.1%	**FZ2** 2.7%	**FZ1** 82%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

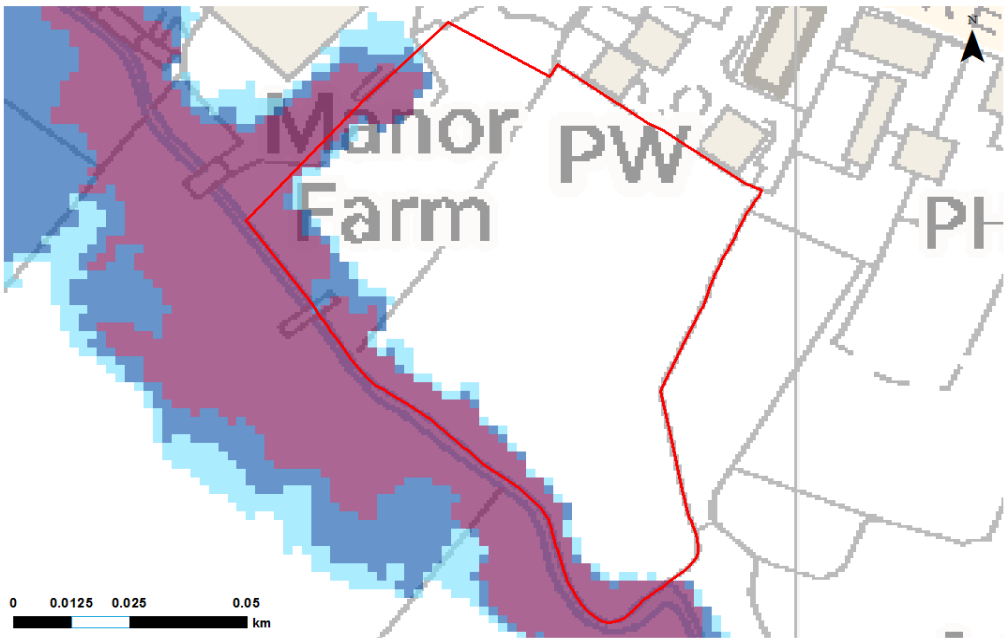
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the east of the assessment area, outside of the Flood Zones .

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether development proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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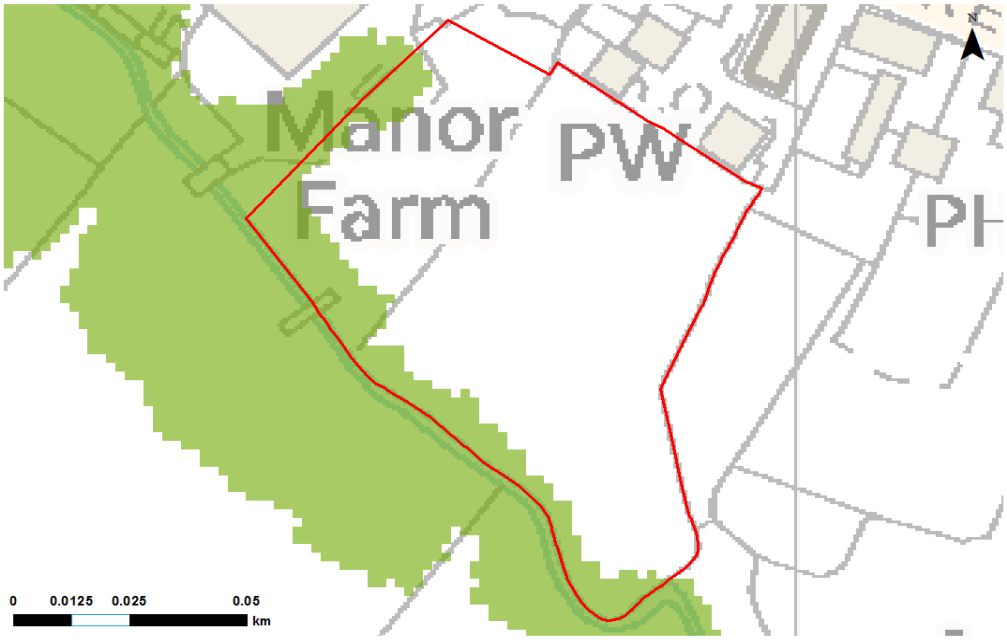
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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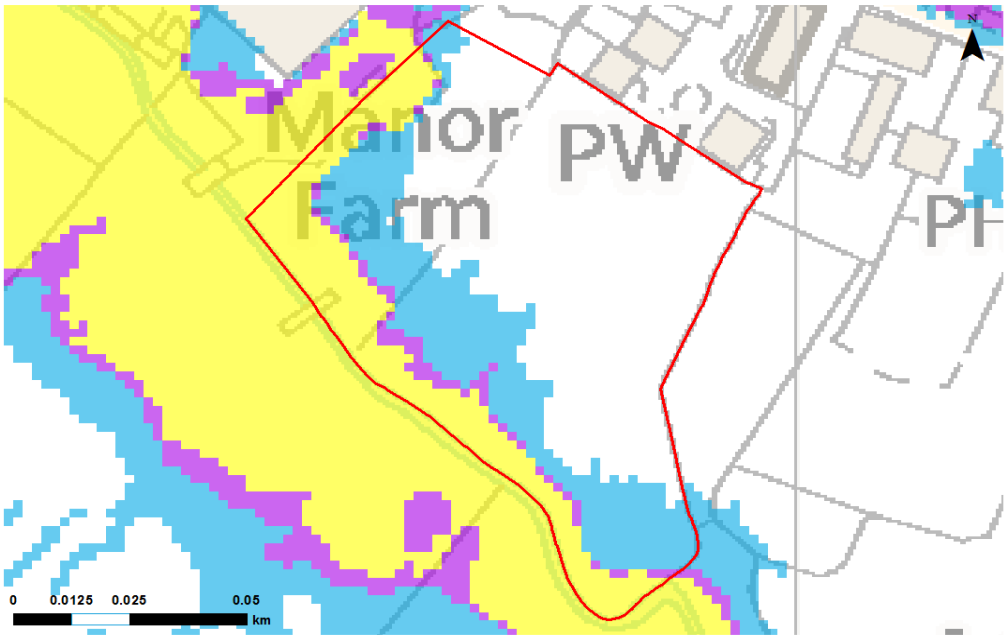
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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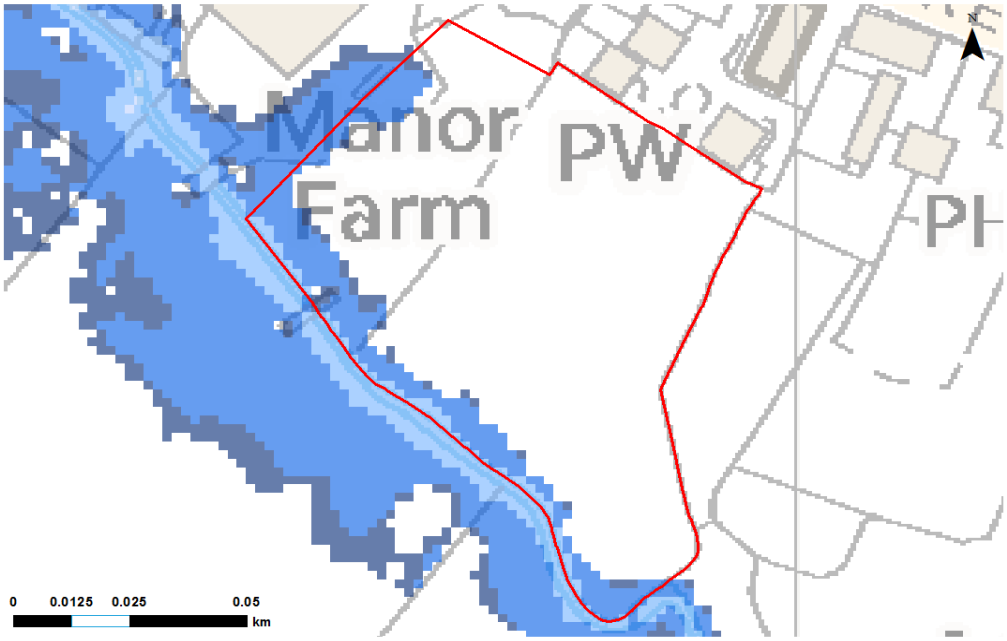
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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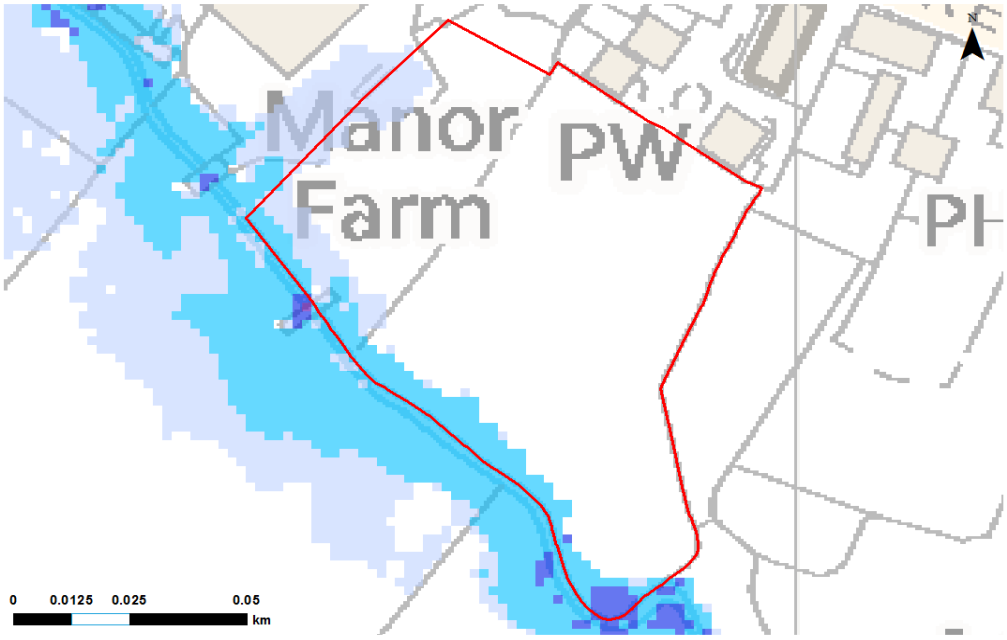
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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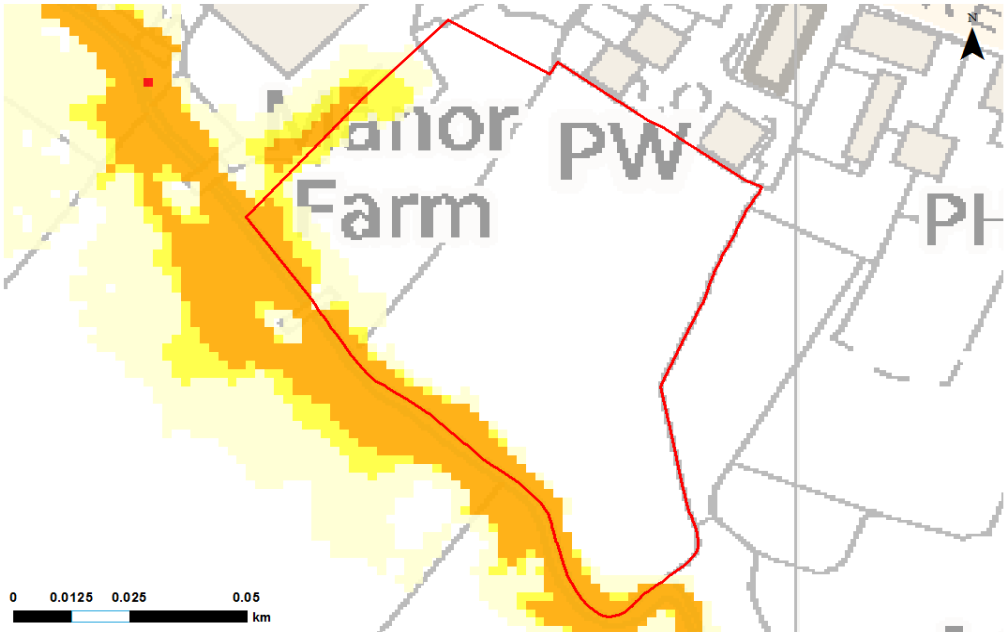
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the western boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and the high groundwater flood risk.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		This option is unlikely to be suitable due to the high groundwater flood risk at the assessment area and steep slopes.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the River Sence in Leicestershire Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (Main Street) is not shown to be at risk from fluvial of surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the ordinary watercourse flowing through the centre of the site should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the ordinary watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. Although the current main route to the assessment area is not shown to be at risk of flooding, the western half of the assessment area may potentially be cut of during flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

KMU002				
OSNGR: 452360 304223	Area: 5.25ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 3%	**FZ3a** 1.2%	**FZ2** 2%	**FZ1** 93.8%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test:

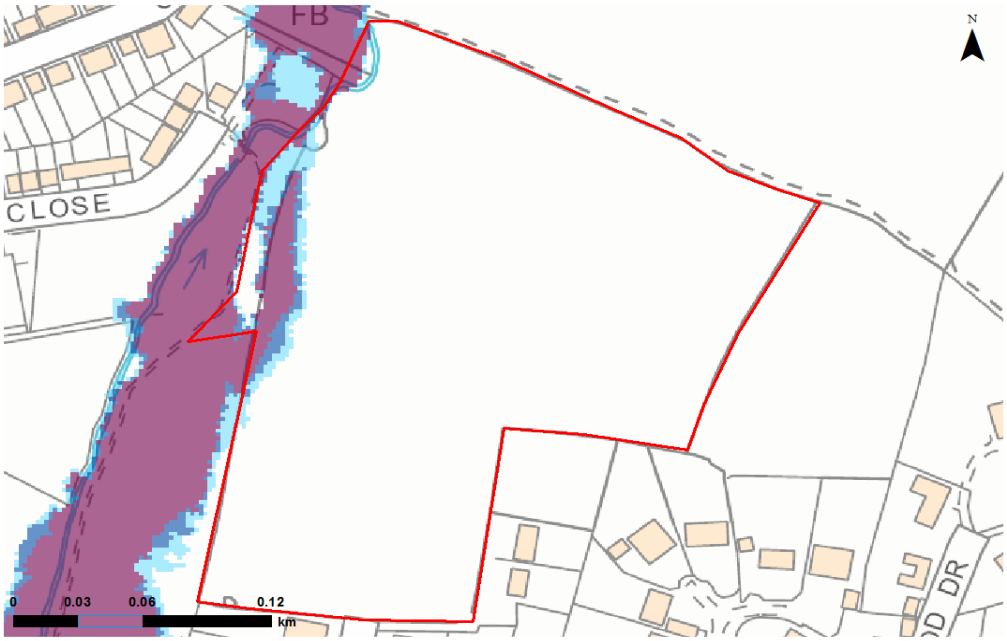
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the east of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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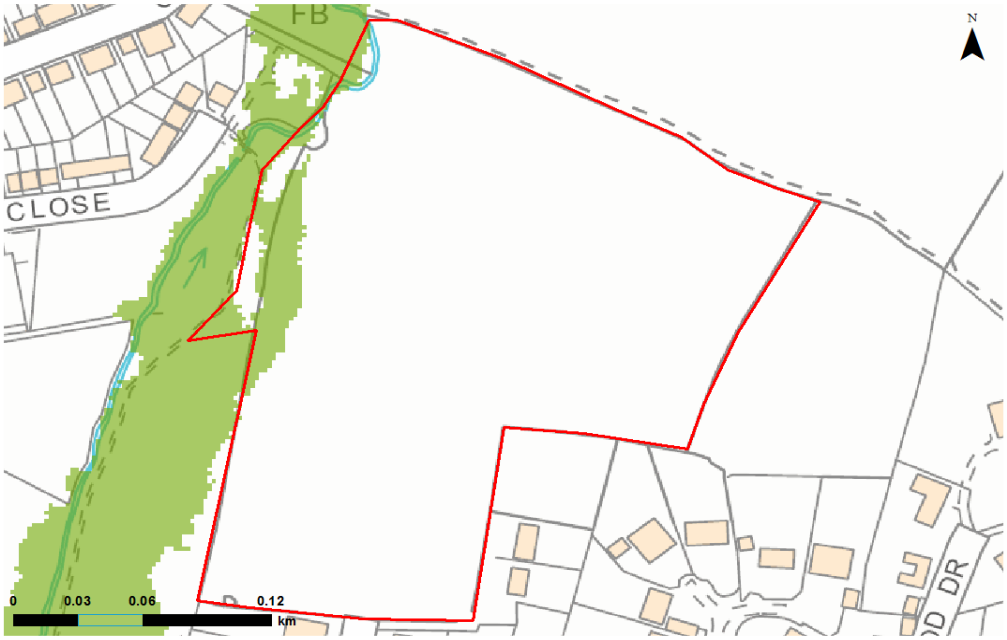
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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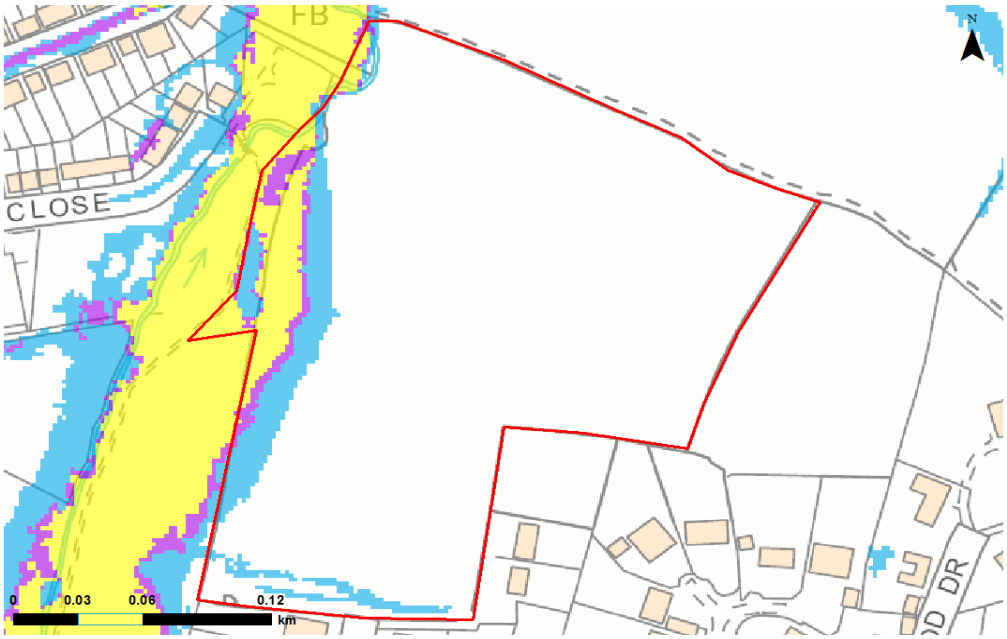
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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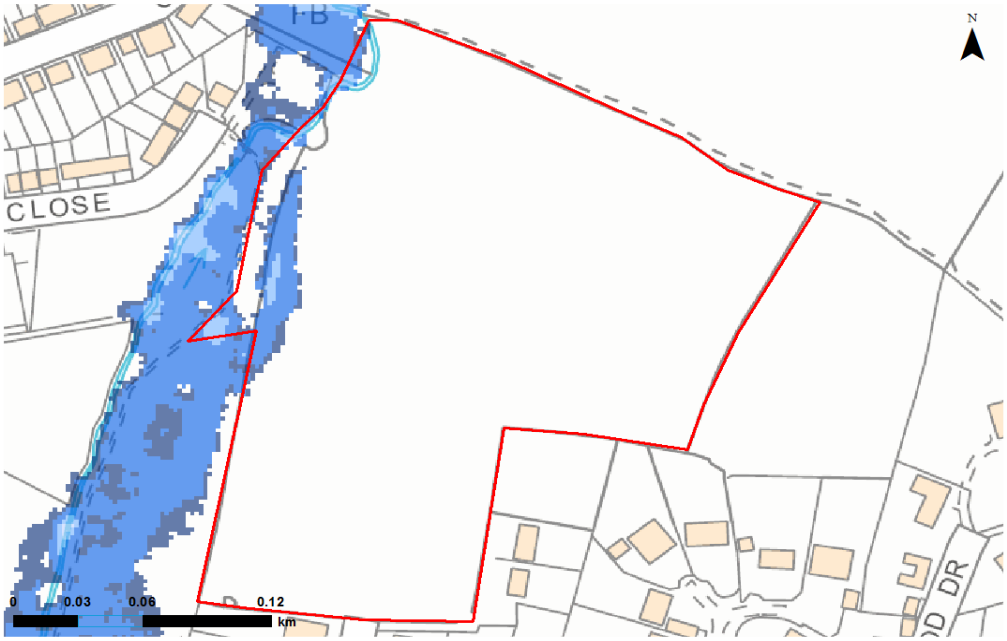
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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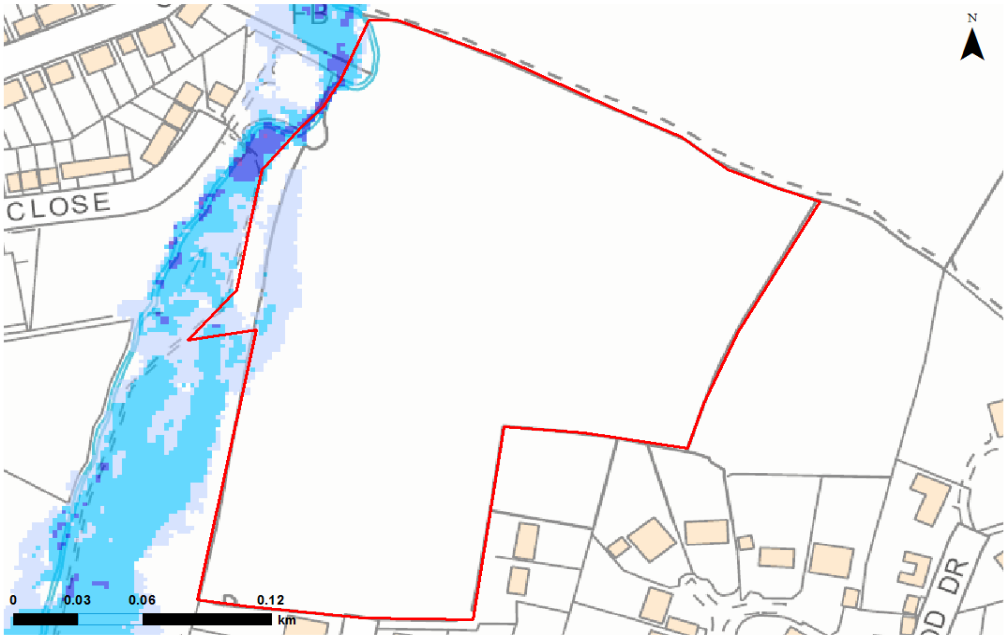
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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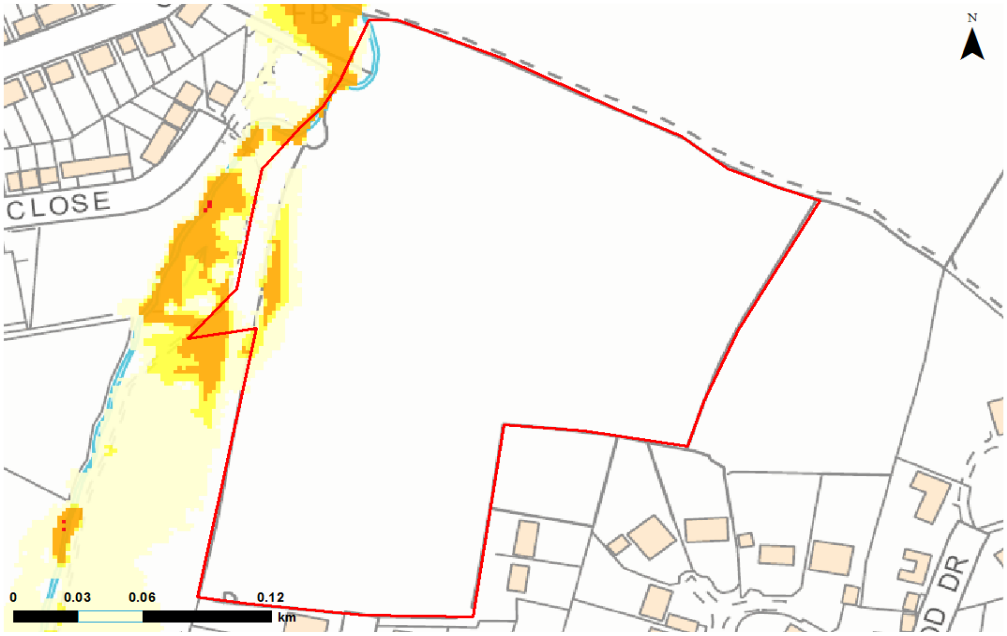
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows west of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		All forms of source control are likely to be suitable.
Infiltration		Infiltration may be suitable. Mapping suggests a low risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration.
Detention		This option may be feasible provided slopes are < 5%.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: There are two potential access routes to the assessment area - Court Close and Portland Road. Court Close may potentially become cut off during flooding. Portload Road is not shown to be affected by flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or for development greater than 1ha in Flood Zone 1 • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. One of the two access routes to the assessment area is at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding. o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

KMU007				
OSNGR: 452864 304158	Area: 53.44ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 0.9%	**FZ3a** 0.1%	**FZ2** 0.2%	**FZ1** 98.8%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

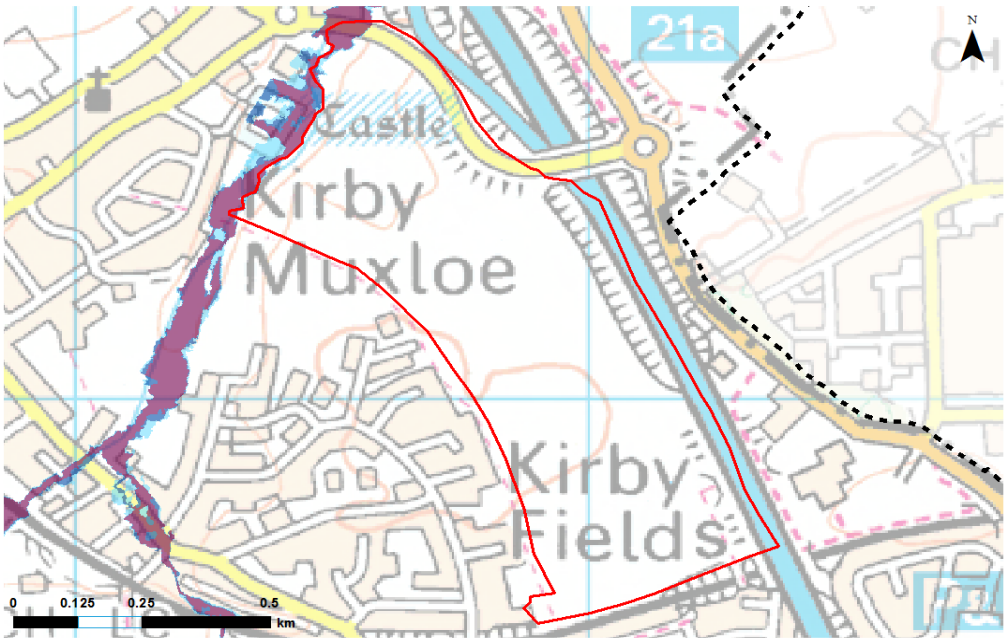
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the south of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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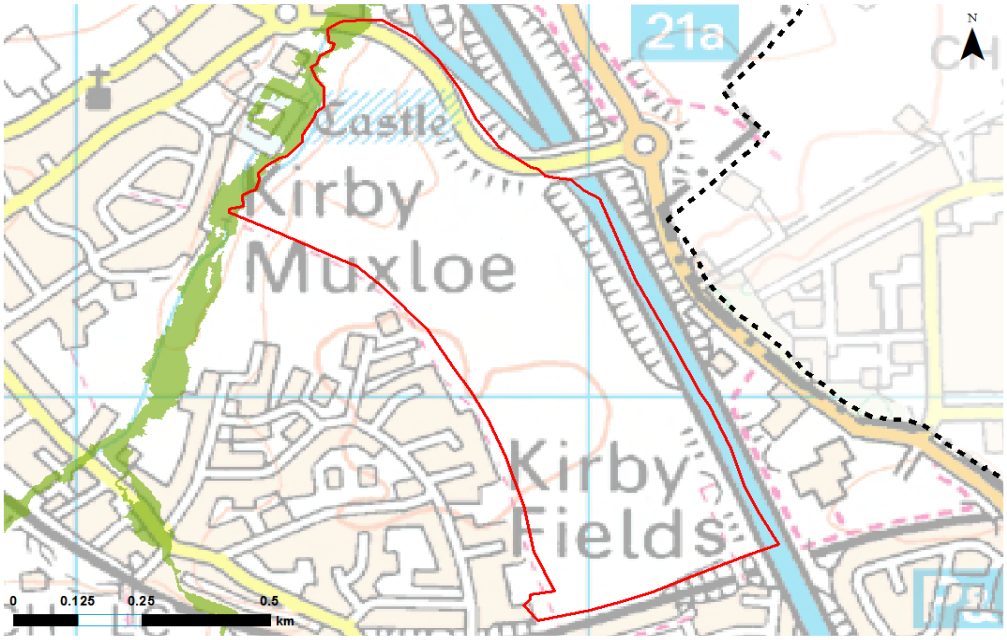
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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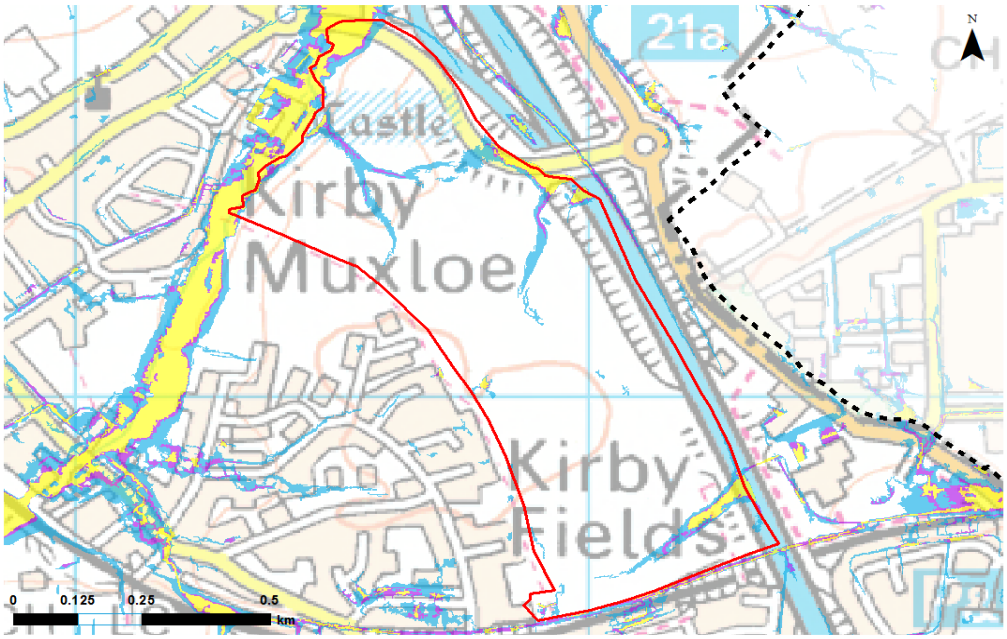
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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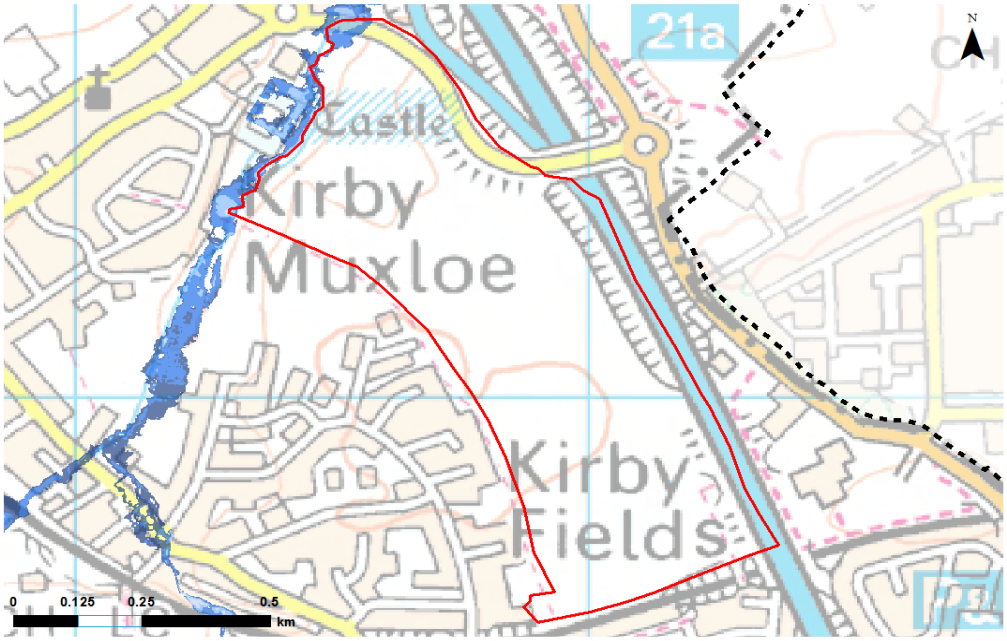
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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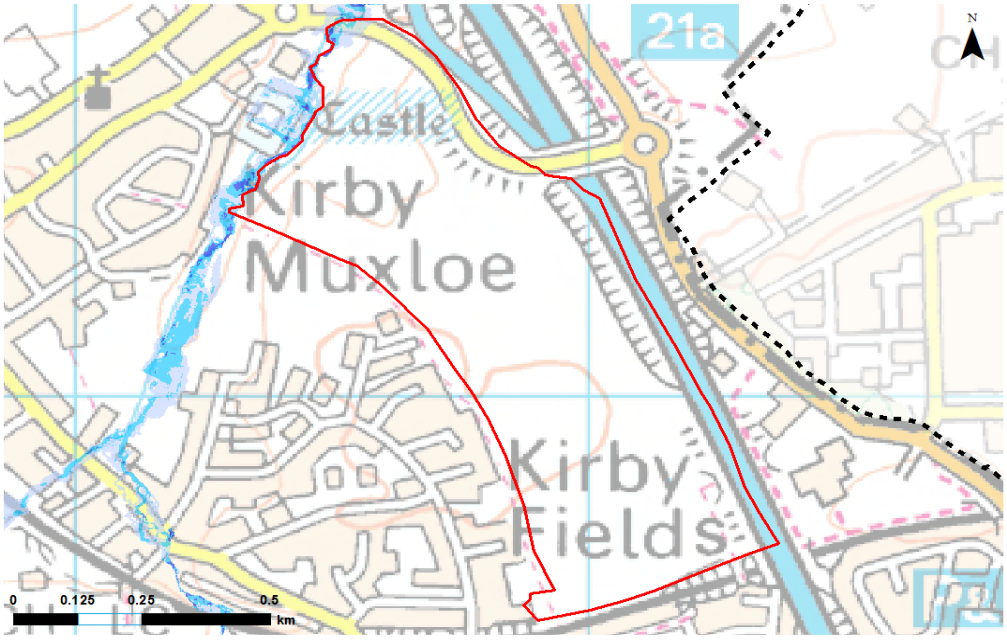
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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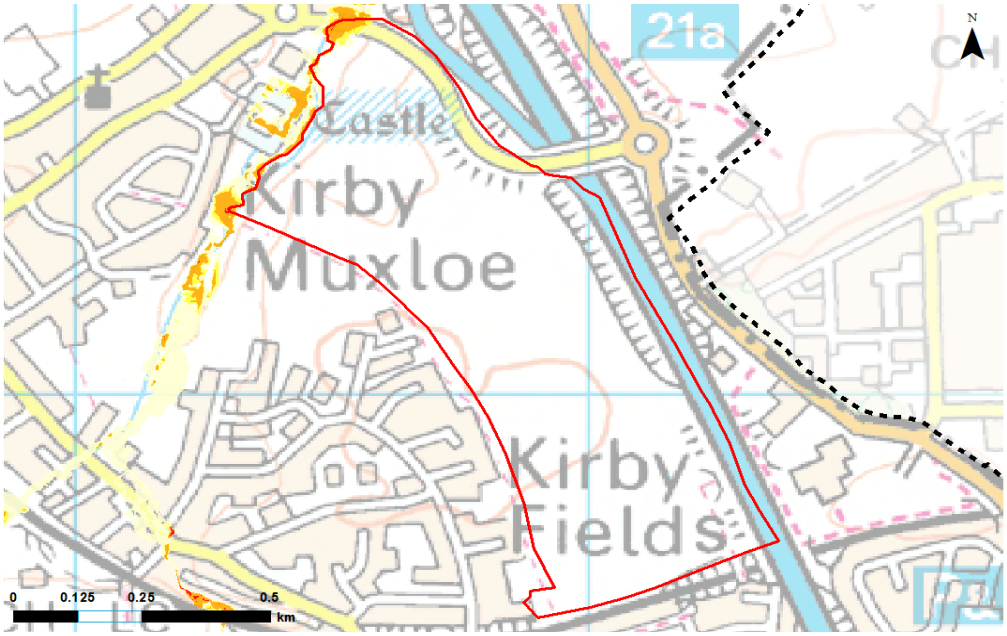
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the north west boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

KMU013				
OSNGR: 452144 303409	Area: 8.14ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 4.1%	**FZ3a** 1.1%	**FZ2** 0.9%	**FZ1** 93.8%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

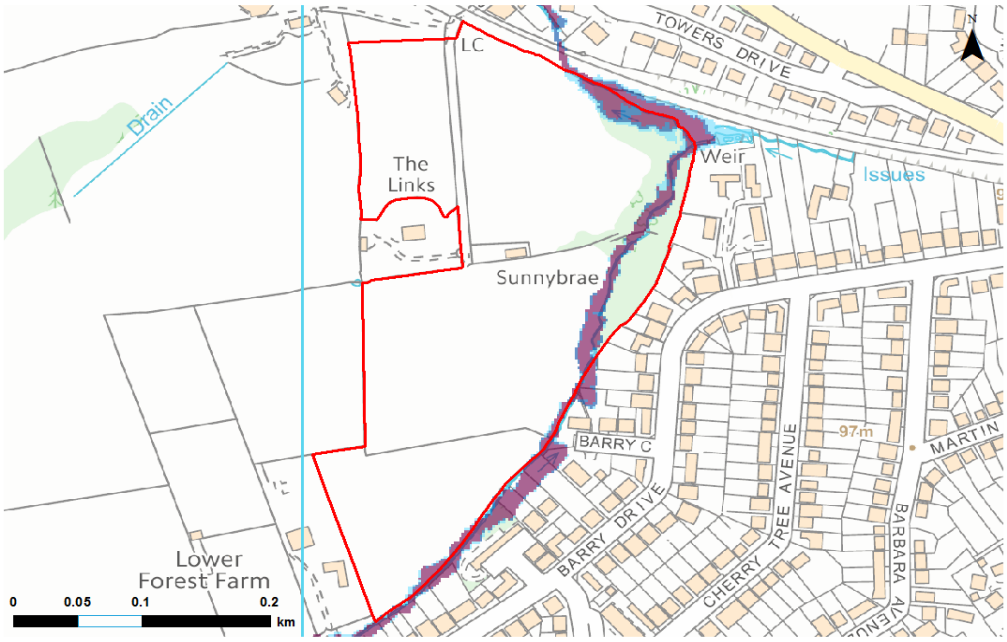
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the west of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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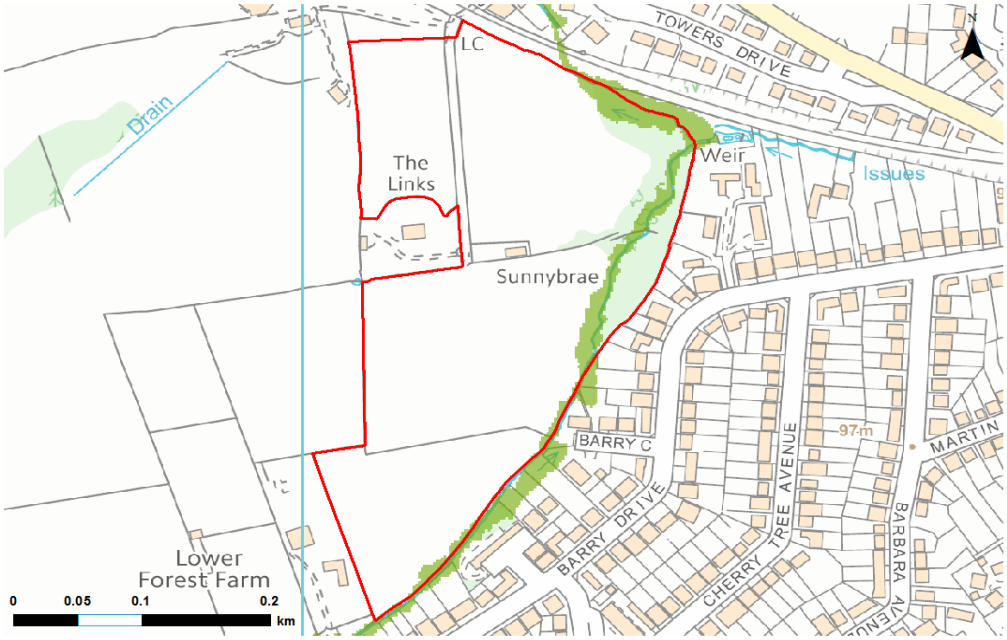
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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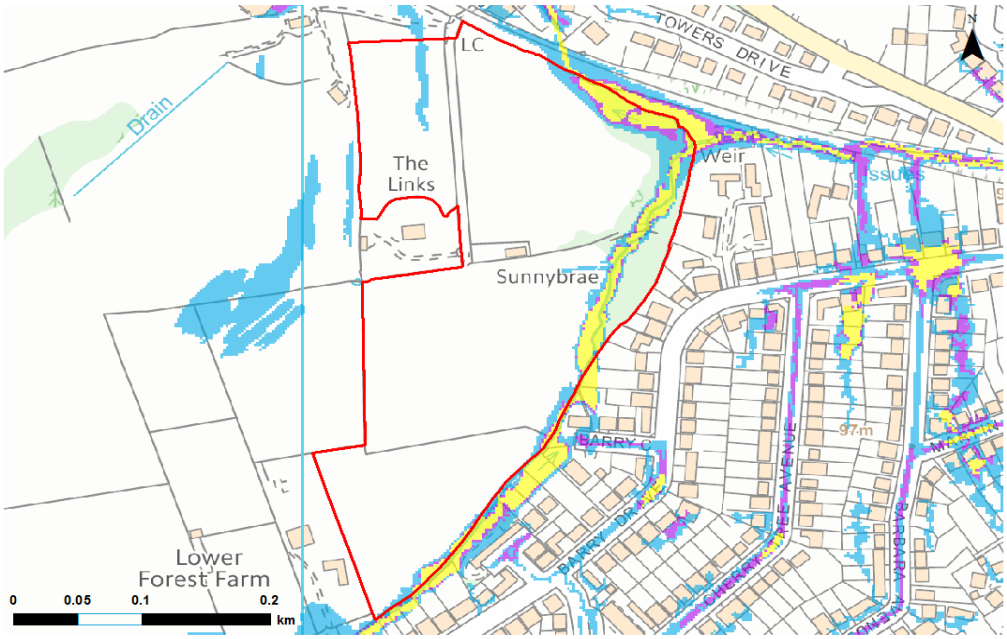
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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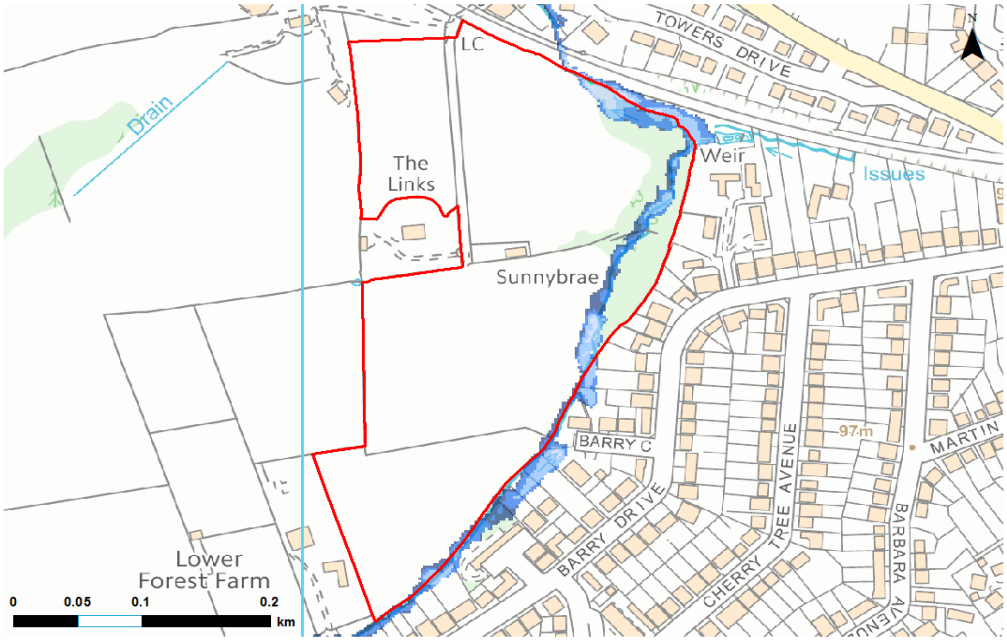
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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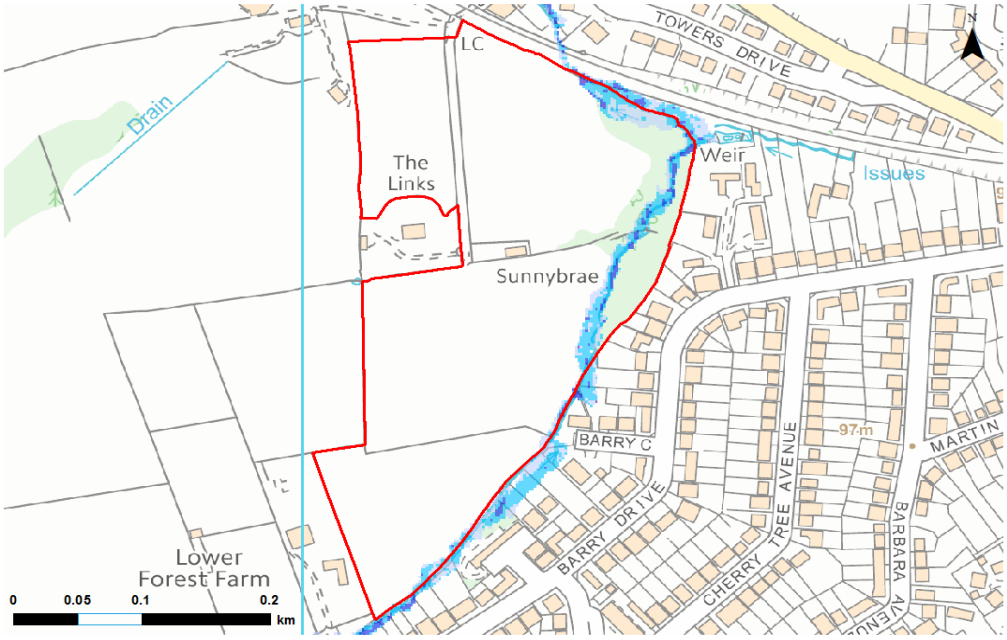
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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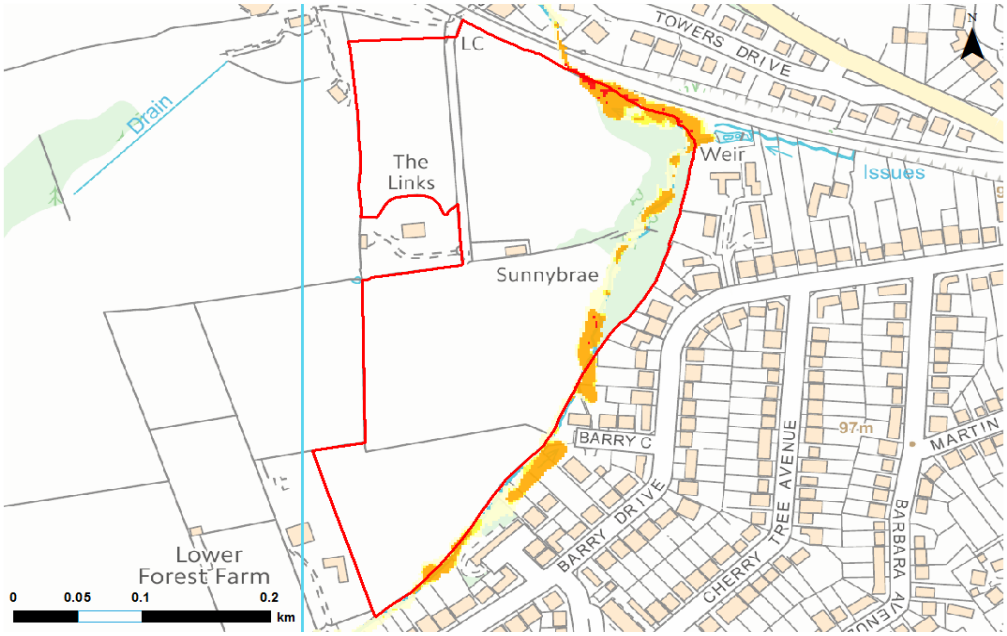
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the eastern side of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

LFE002				
OSNGR: 451607 302815	Area: 126.2ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 1.1%	**FZ3a** 0.2%	**FZ2** 0.2%	**FZ1** 98.5%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

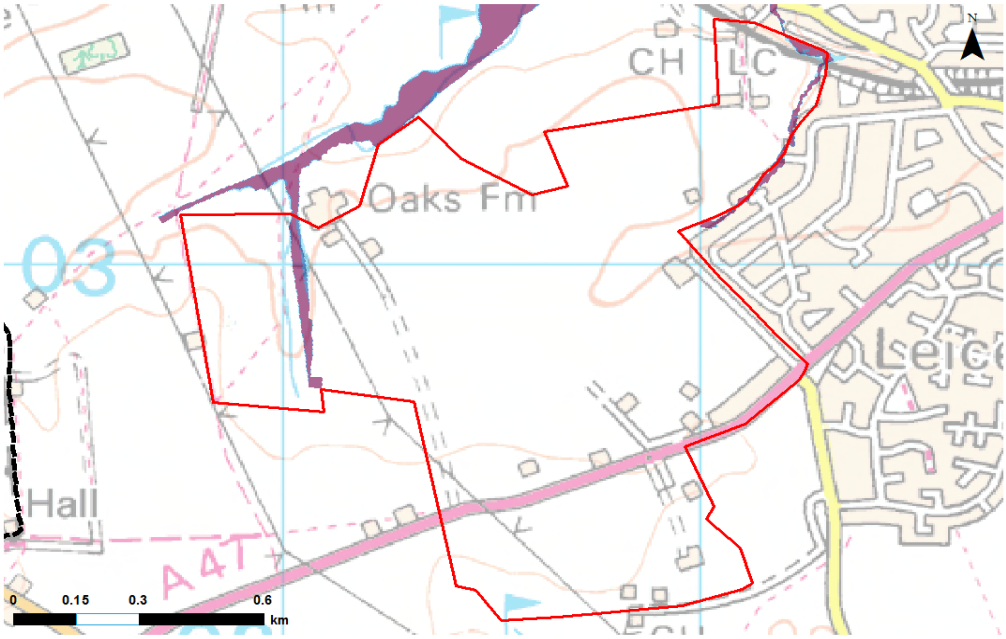
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the east of the assessment area, away from the watercourse and outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & Assessment Area' below).

Flood Zone Map



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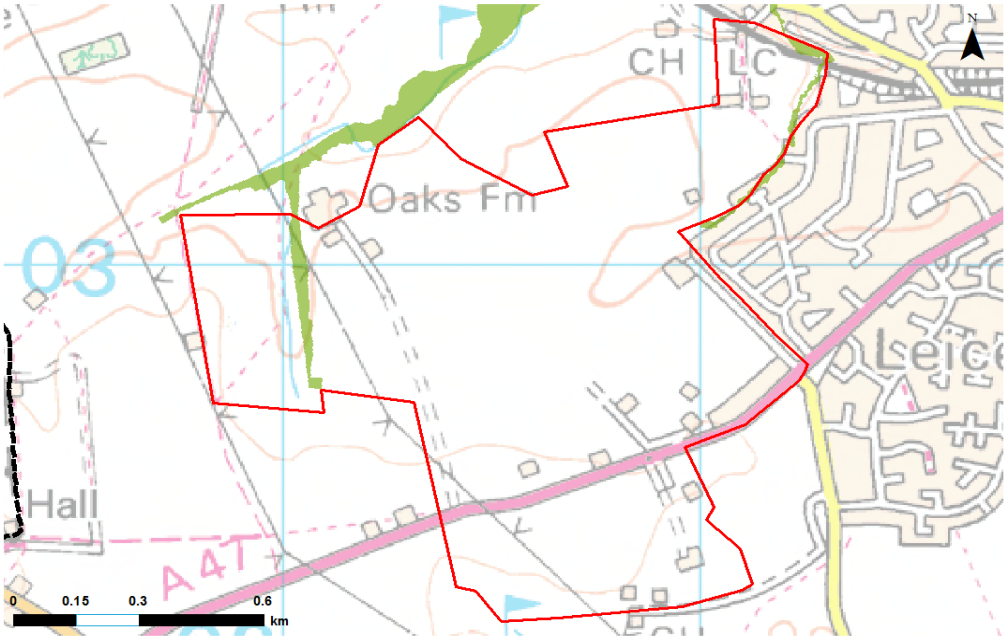
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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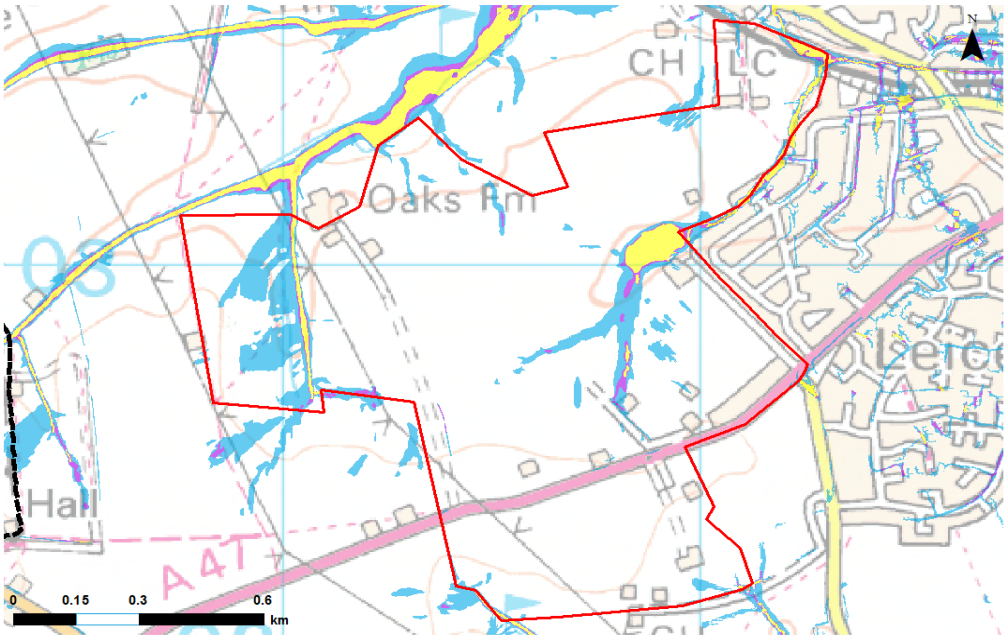
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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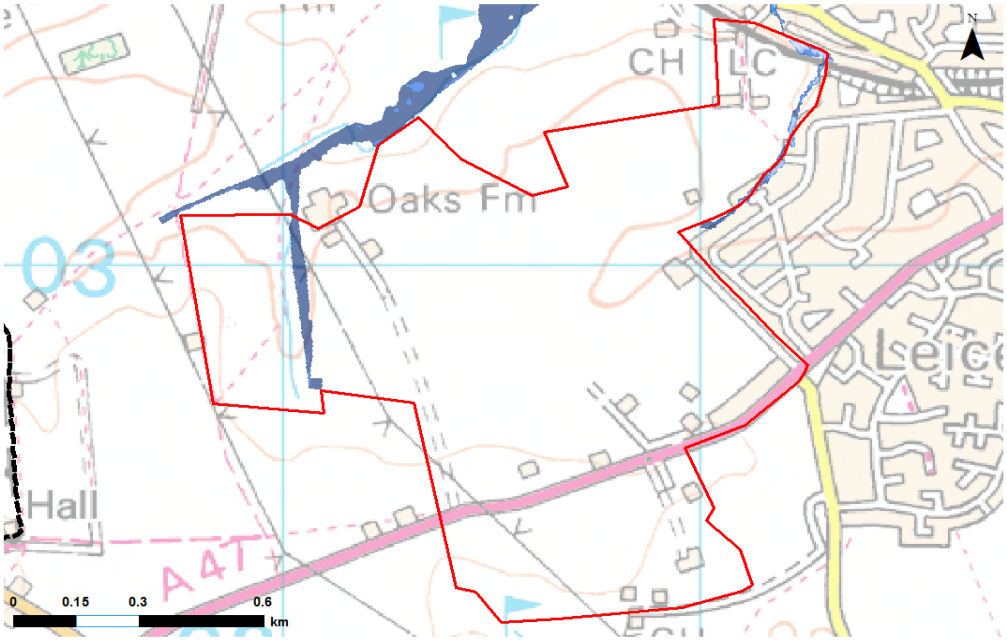
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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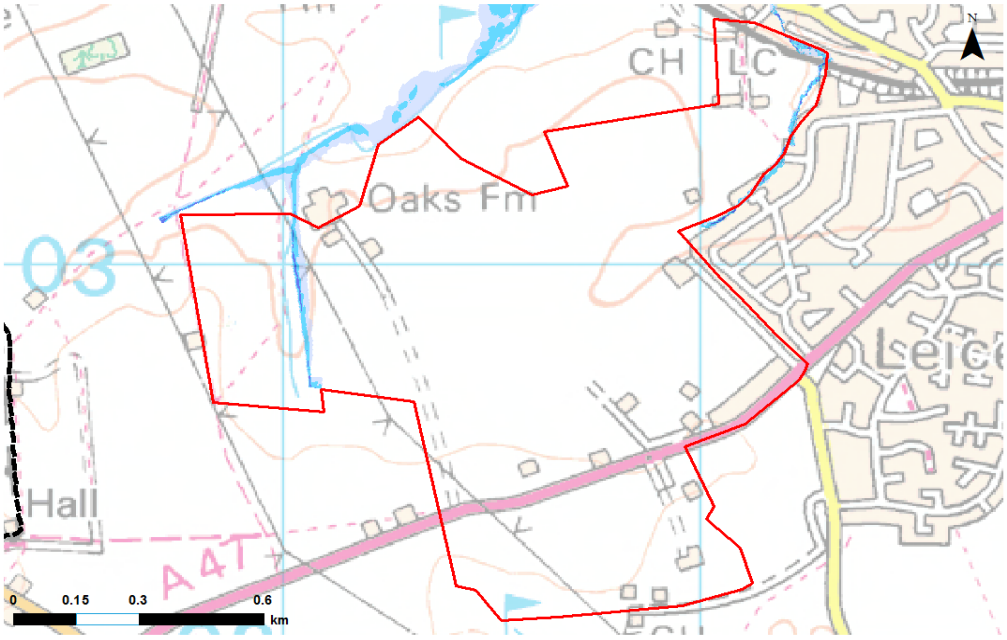
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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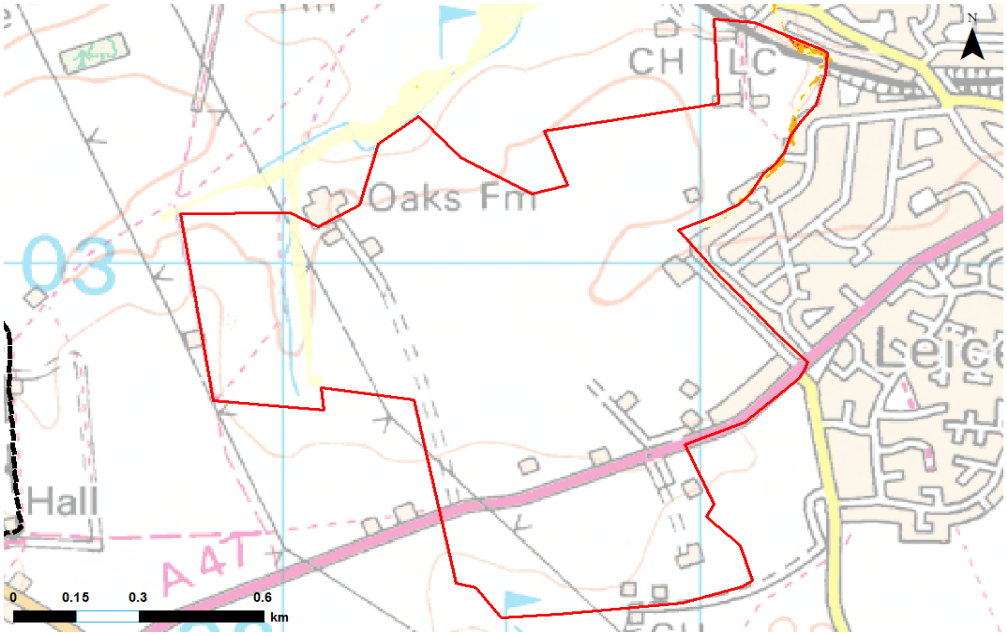
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows to the north of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		All forms of source control are likely to be suitable.
Infiltration		Infiltration may be suitable. Mapping suggests a low risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration.
Detention		This option is likely to be suitable, provided slopes are <5 %. Larger 'above ground' features may not be viable where slopes are steep.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: Safe access and egress needs to be considered when locating development within the site boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

LIT008				
OSNGR: 454254 296568	Area: 0.95ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 33.4%	**FZ3a** 0.9%	**FZ2** 1.5%	**FZ1** 64.2%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

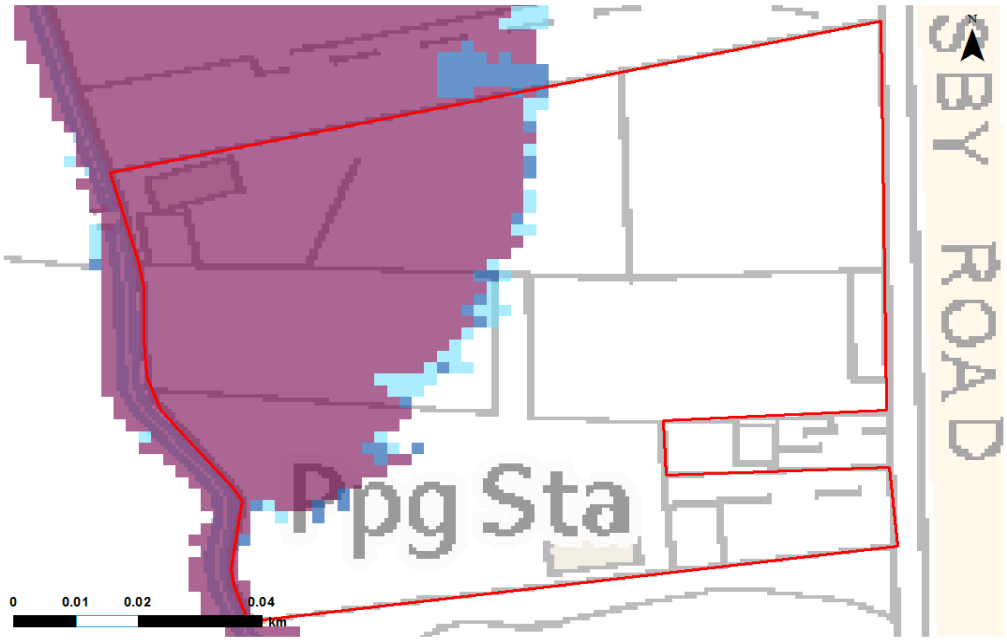
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the east of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the Cosby Brook, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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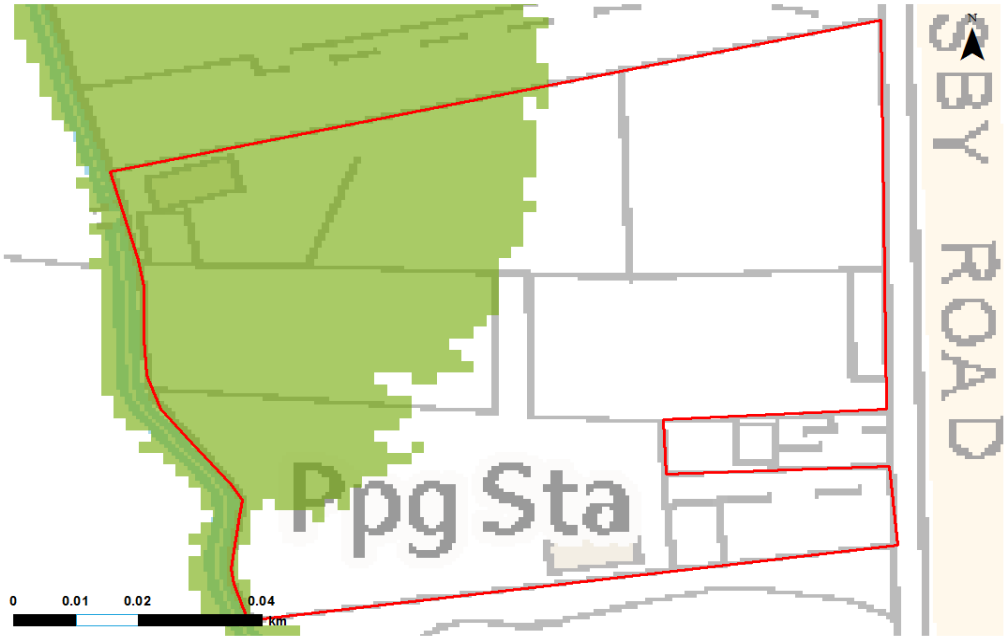
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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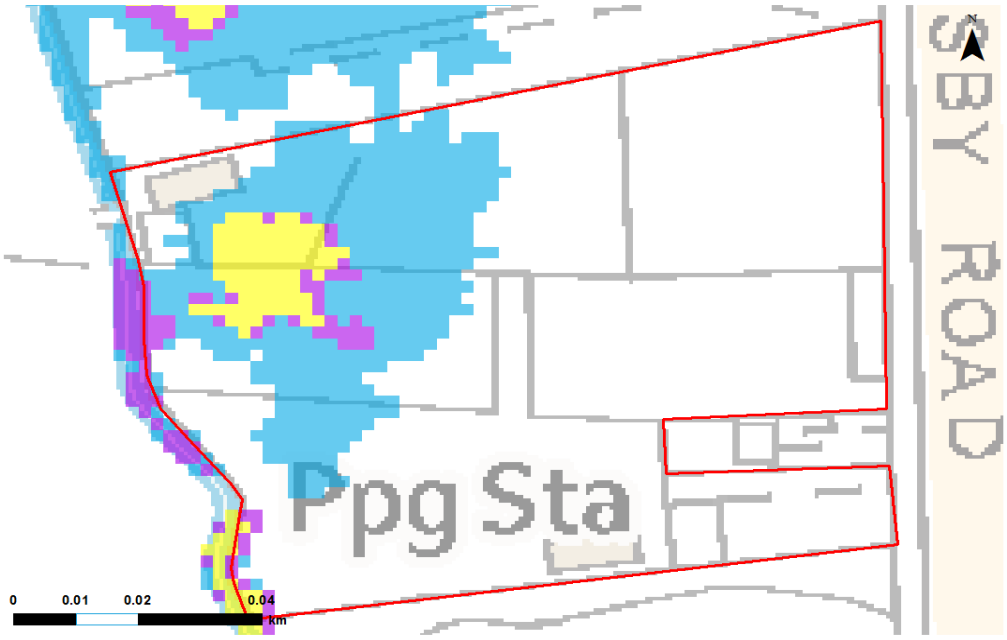
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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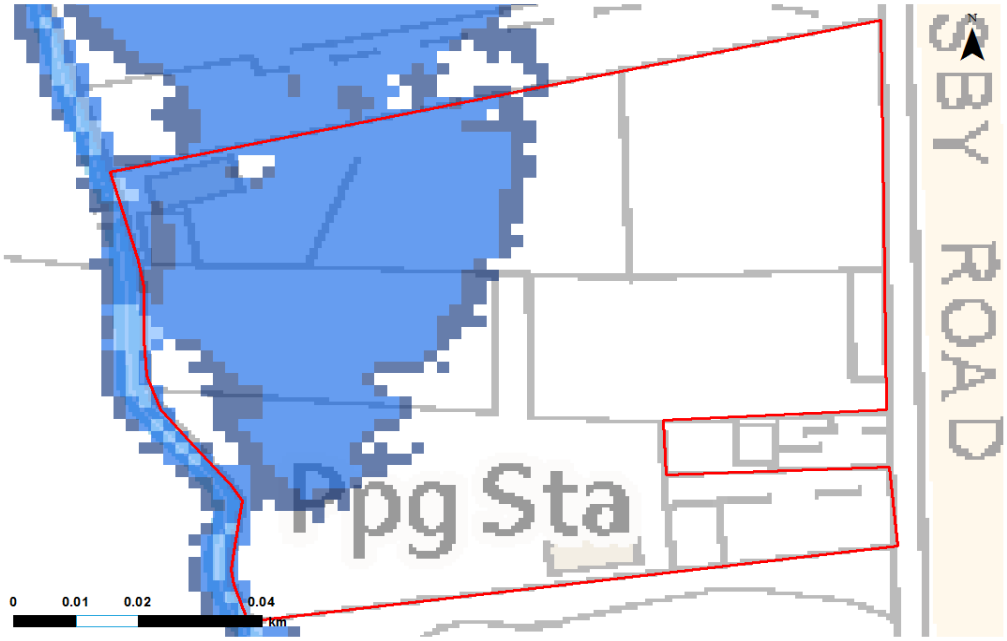
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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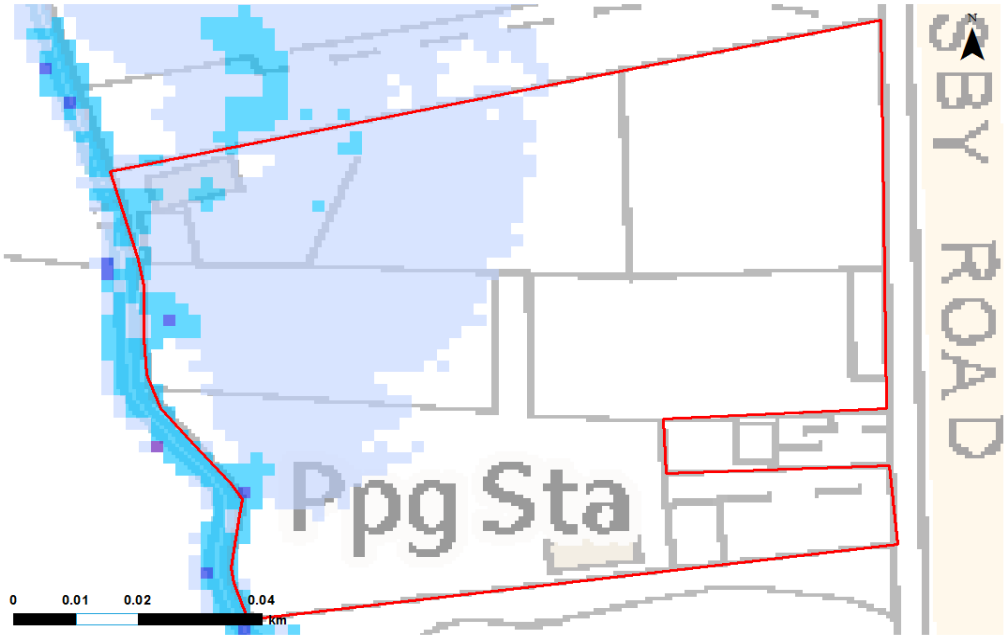
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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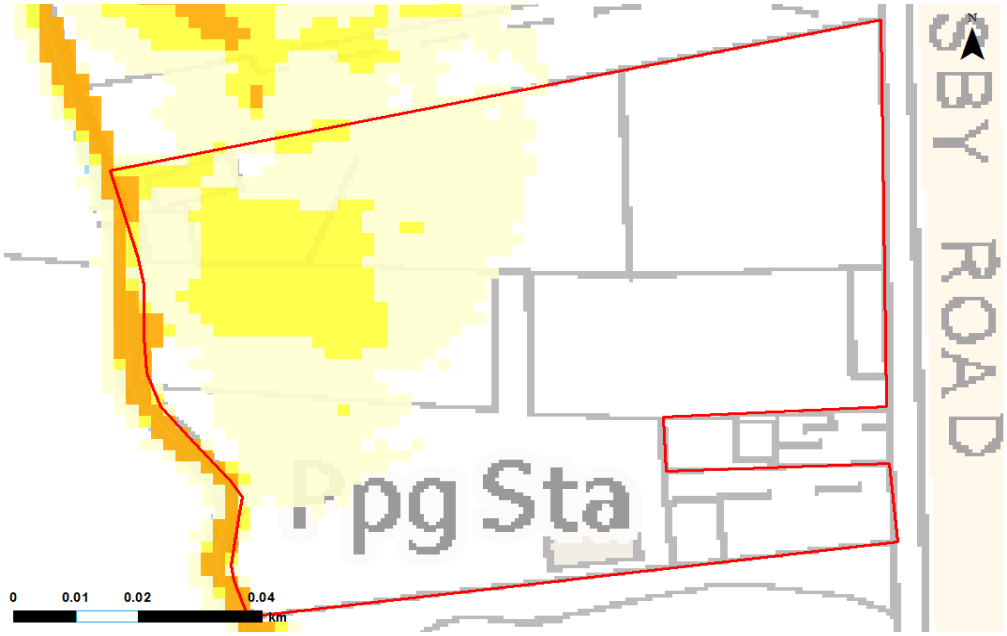
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	0.5 - 1.0	1.0 - 2.0
			> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Cosby Brook as it flows along the western boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the Cosby Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Cosby Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Cosby Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

LIT009				
OSNGR: 454245 296645	Area: 1.02ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 52.2%	**FZ3a** 1.6%	**FZ2** 1.2%	**FZ1** 45%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

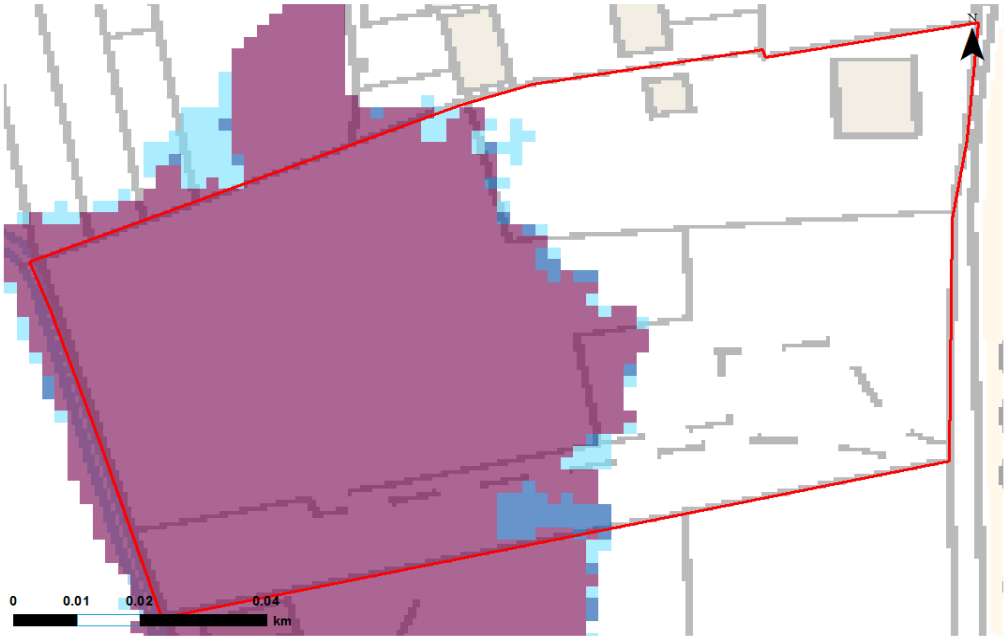
A large proportion of the assessment area is in Flood Zone 3b. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:

- remain operational and safe for users in times of flood
- result in no net loss of floodplain storage
- not impede water flows and not increase flood risk elsewhere

In view of the flooding problems from Cosby Brook, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the assessment area proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.

This assessment area is not suitable for Less Vulnerable, More Vulnerable and Highly Vulnerable development

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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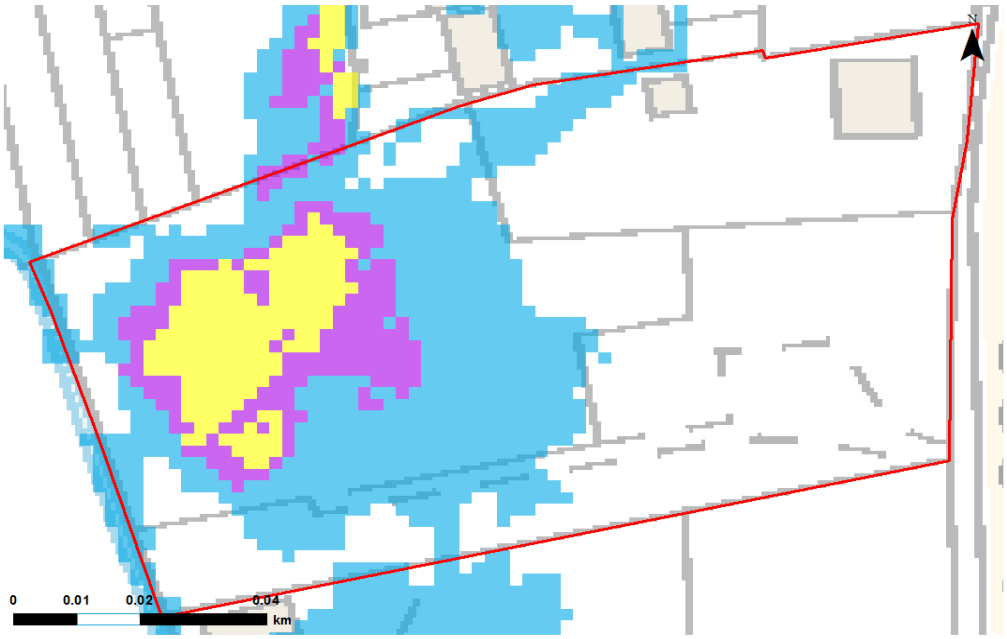
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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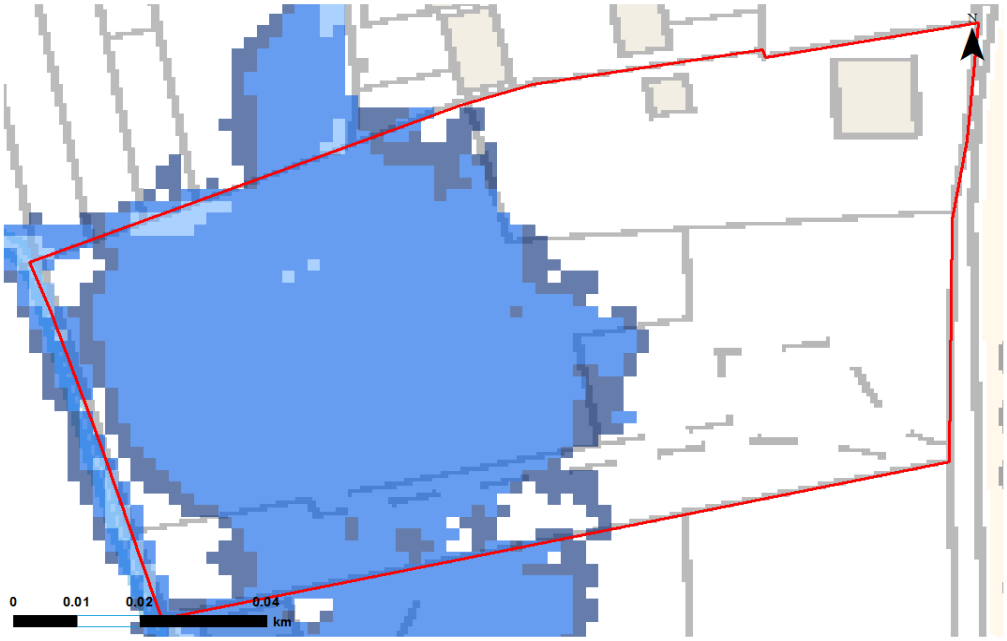
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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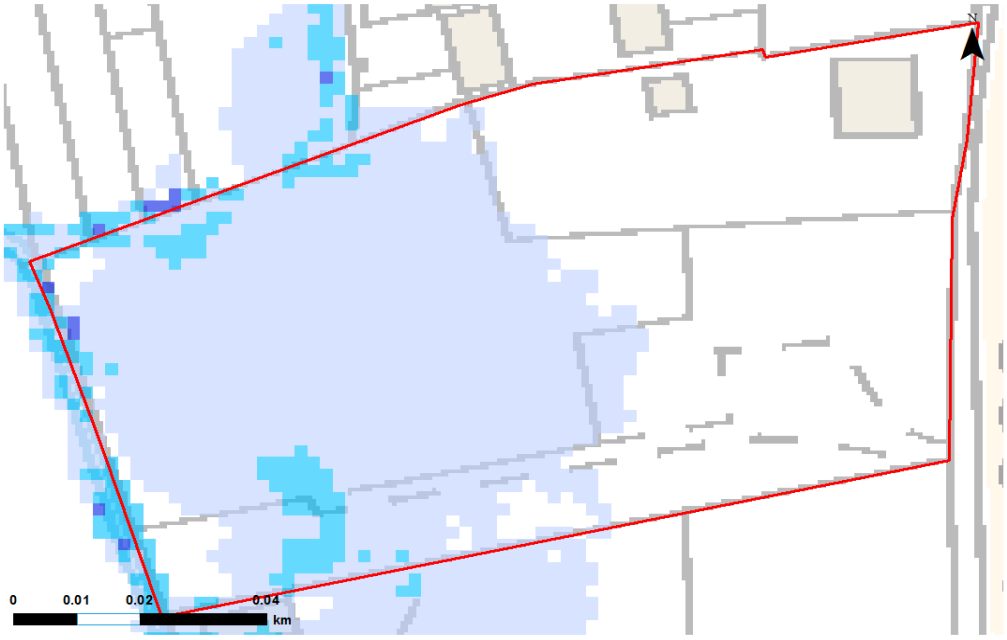
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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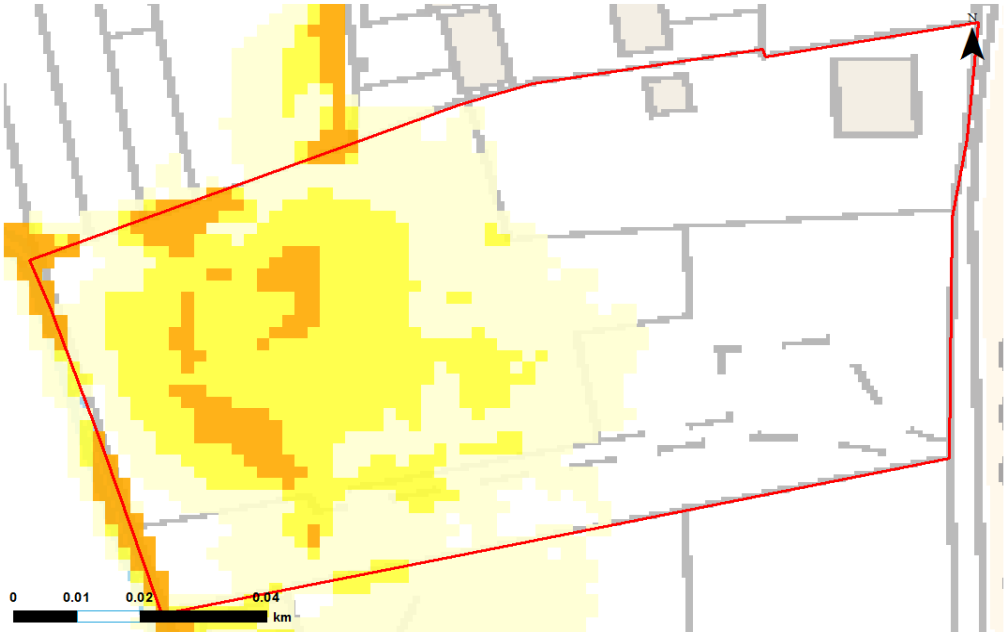
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	0.5 - 1.0	1.0 - 2.0
			> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Cosby Brook as it flows along the western boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the Cosby Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Cosby Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Cosby Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

LIT012				
OSNGR: 453724 296704	Area: 17.28ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 43.5%	**FZ3a** 1.7%	**FZ2** 1.2%	**FZ1** 53.6%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

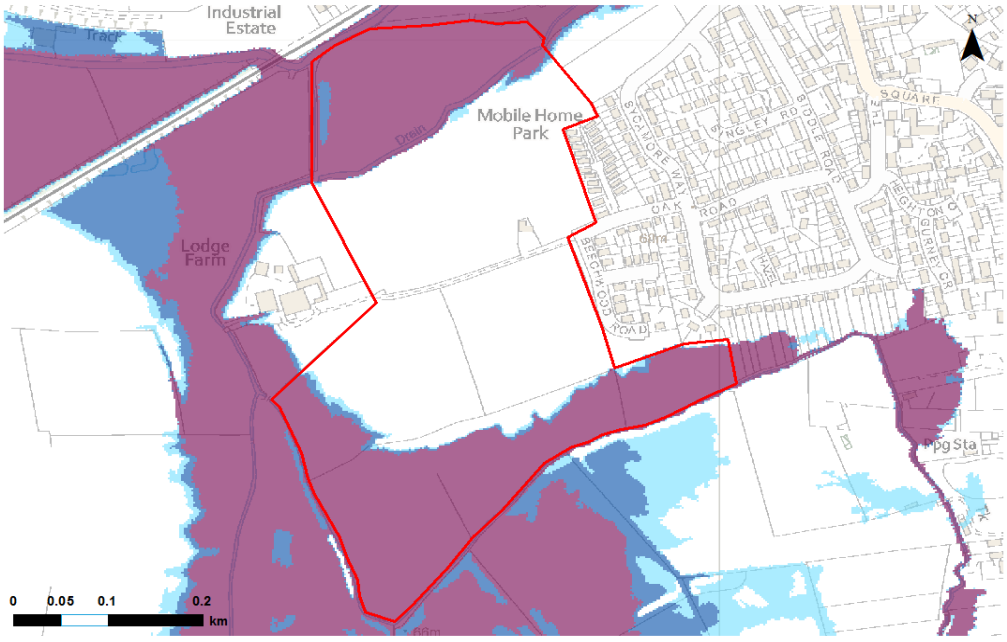
A large proportion of the assessment area is in Flood Zone 3b. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:

- remain operational and safe for users in times of flood
- result in no net loss of floodplain storage
- not impede water flows and not increase flood risk elsewhere

In view of the flooding problems from Cosby Brook, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the assessment area proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.

This assessment area is not suitable for Less Vulnerable, More Vulnerable and Highly Vulnerable development

Flood Zone Map



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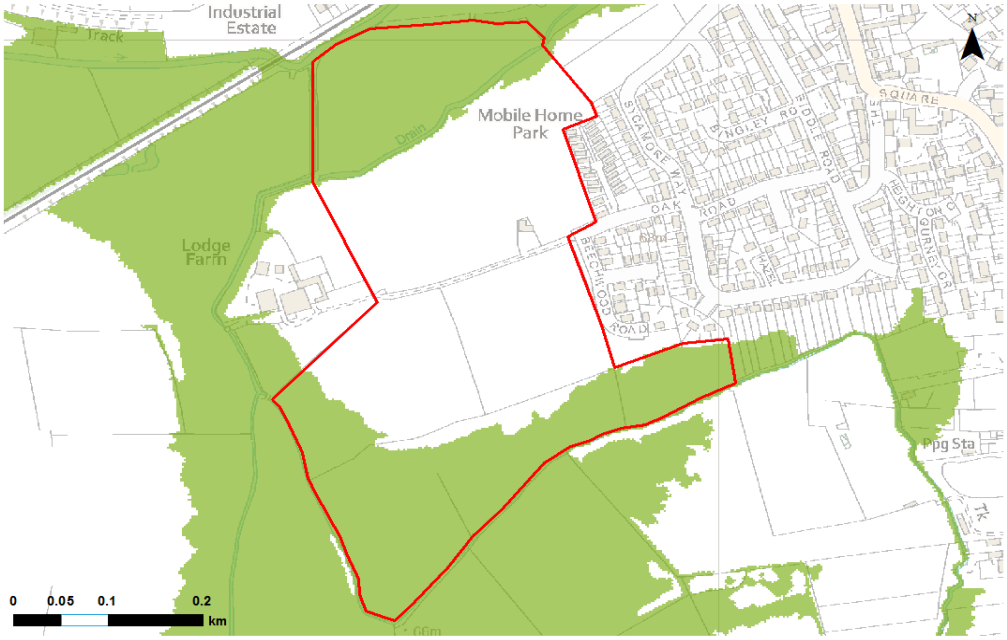
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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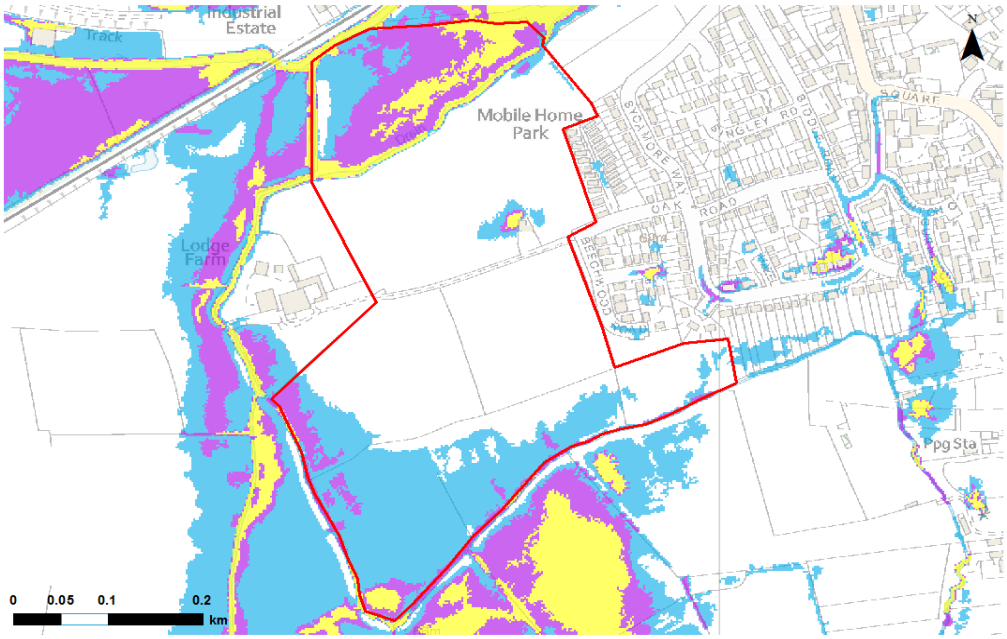
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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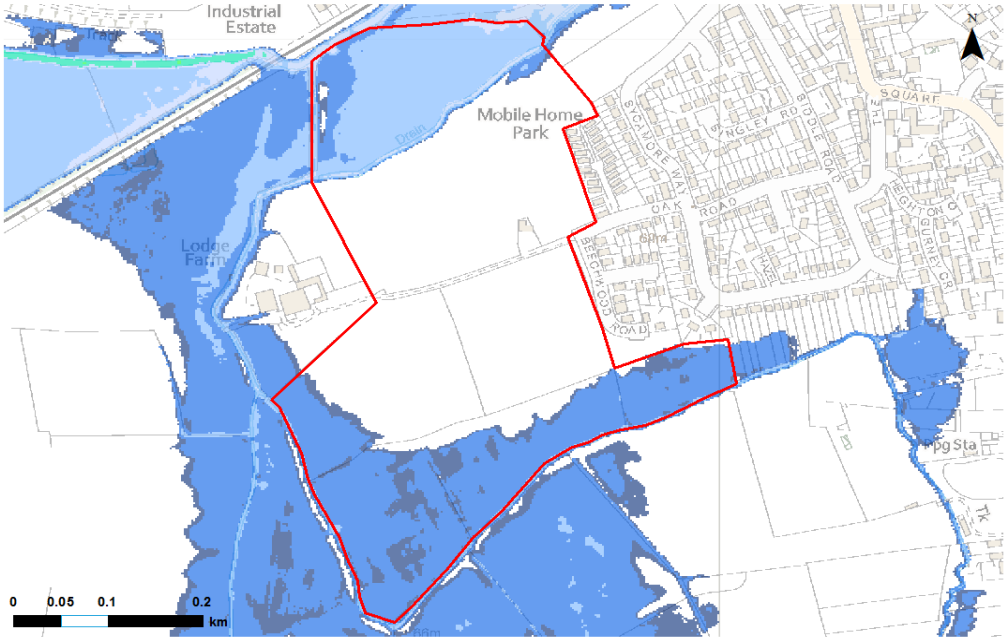
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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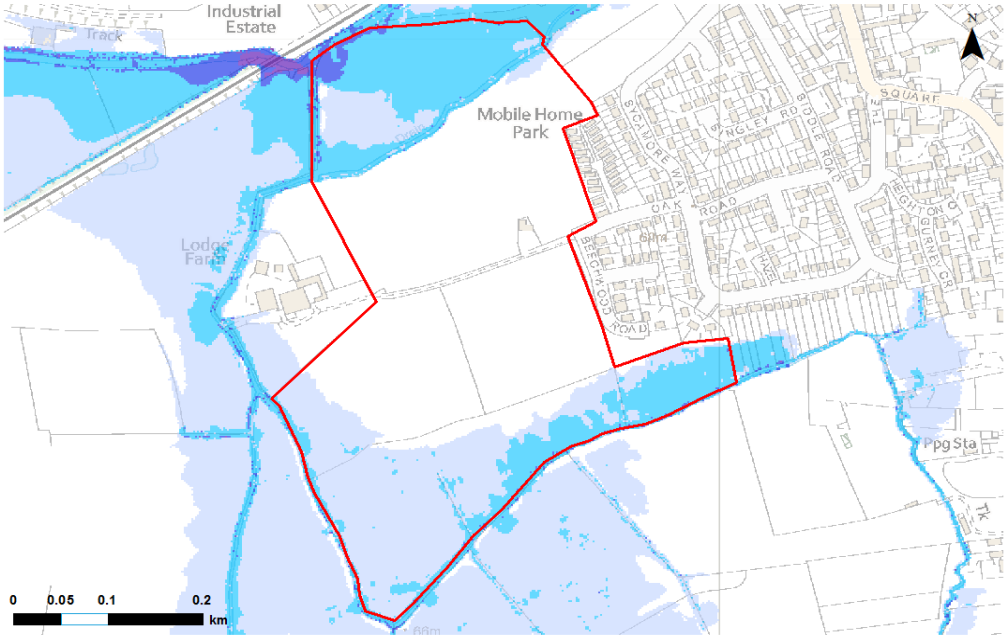
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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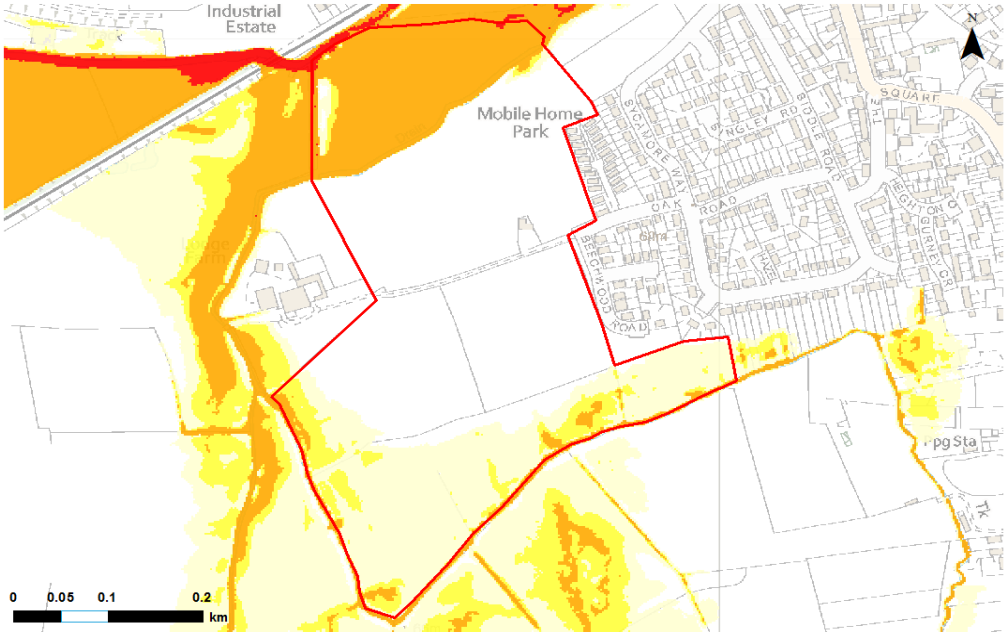
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary | Assessment area | **Hazard** | Very low hazard - caution | Danger for some | Danger for most | Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the River Soar as it flows to the north of the assessment area, the unnamed watercourse as it flows through the centre of the assessment area and the Cosby Brook as it flows along the southern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the high risk of groundwater flooding.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This option is unlikely to be suitable due to the high groundwater flood risk at the assessment area.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area and the River Soar at Littlethorpe and Narborough Flood Warning Area.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the Rive Soar, the unnamed watercourse and the Cosby Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Soar, Cosby Brook and the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the River Soar, the Cosby Brook and the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

LIT013				
OSNGR: 453907 297013	Area: 1.47ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 15.2%	**FZ3a** 5.9%	**FZ2** 6.3%	**FZ1** 72.5%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

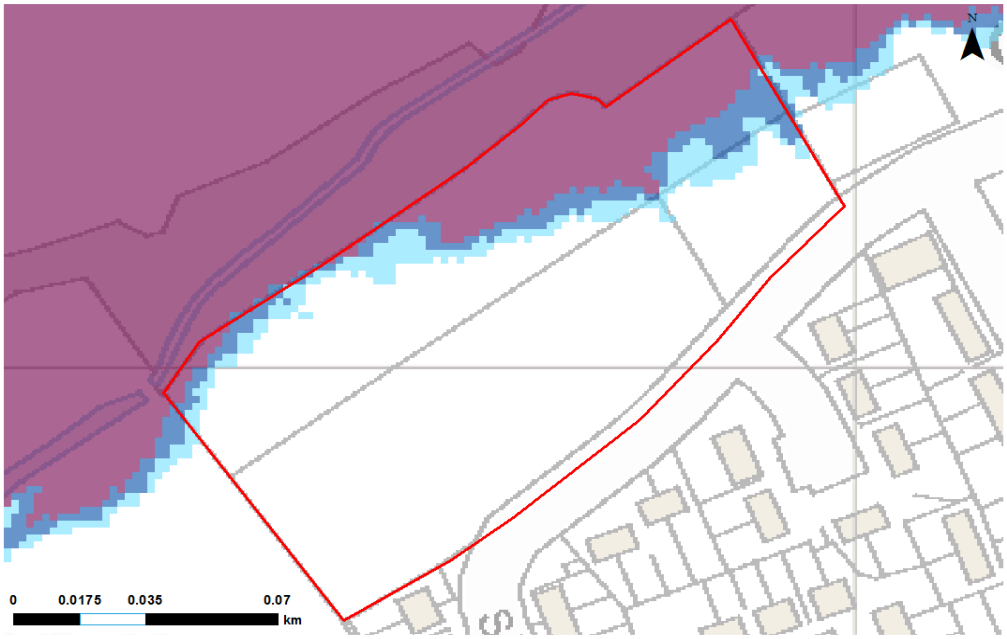
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the south of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the River Soar and the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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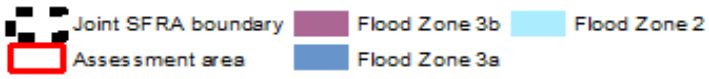
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.



Climate Change Map

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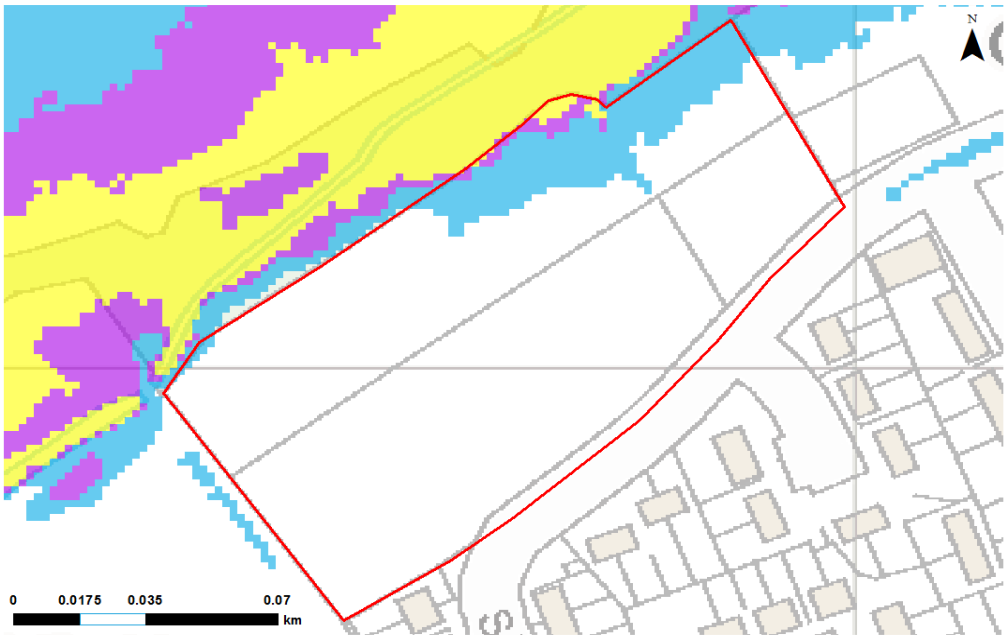
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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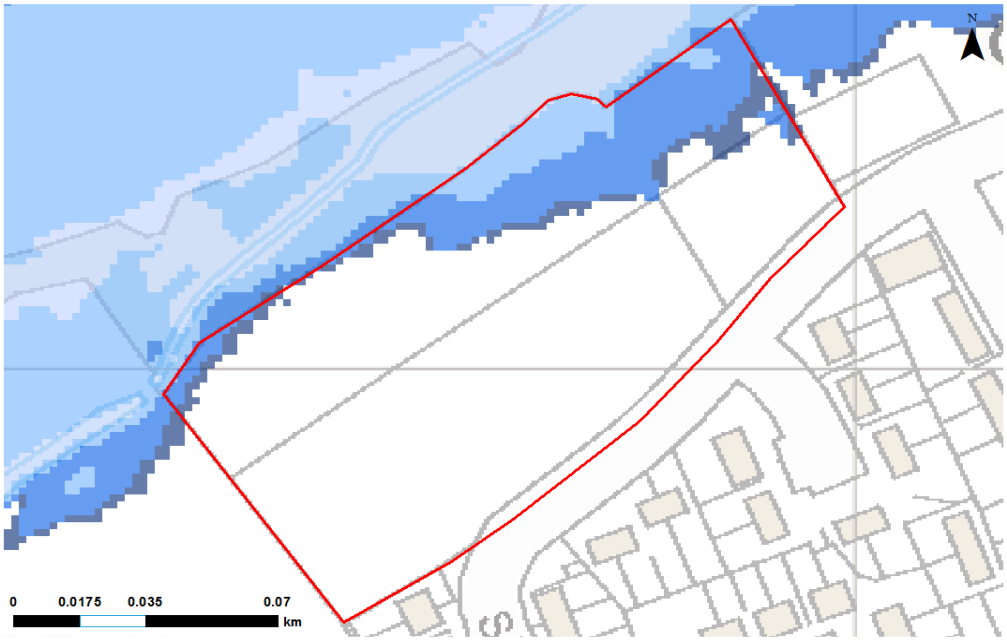
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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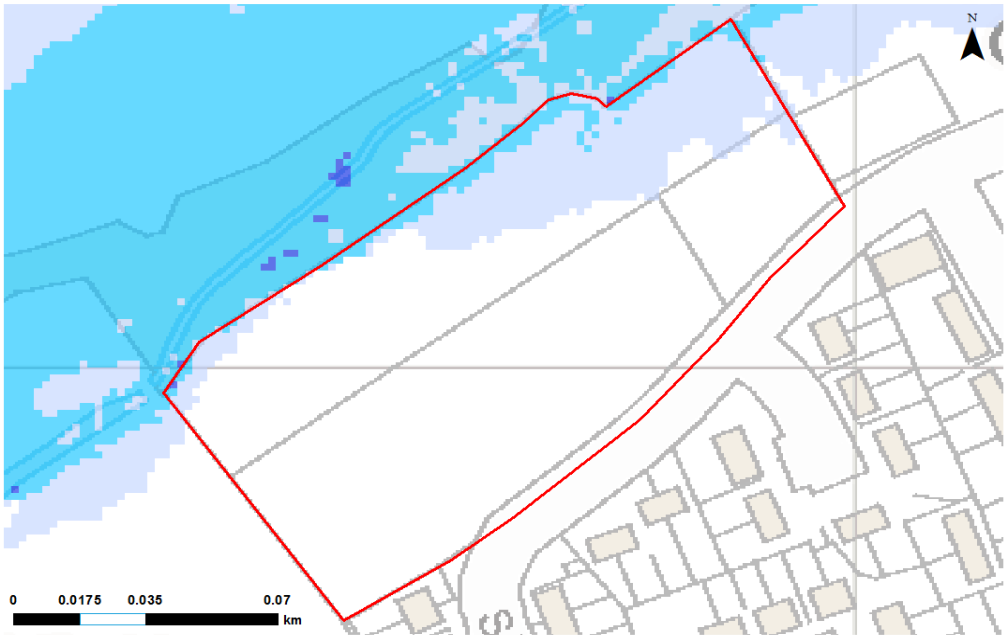
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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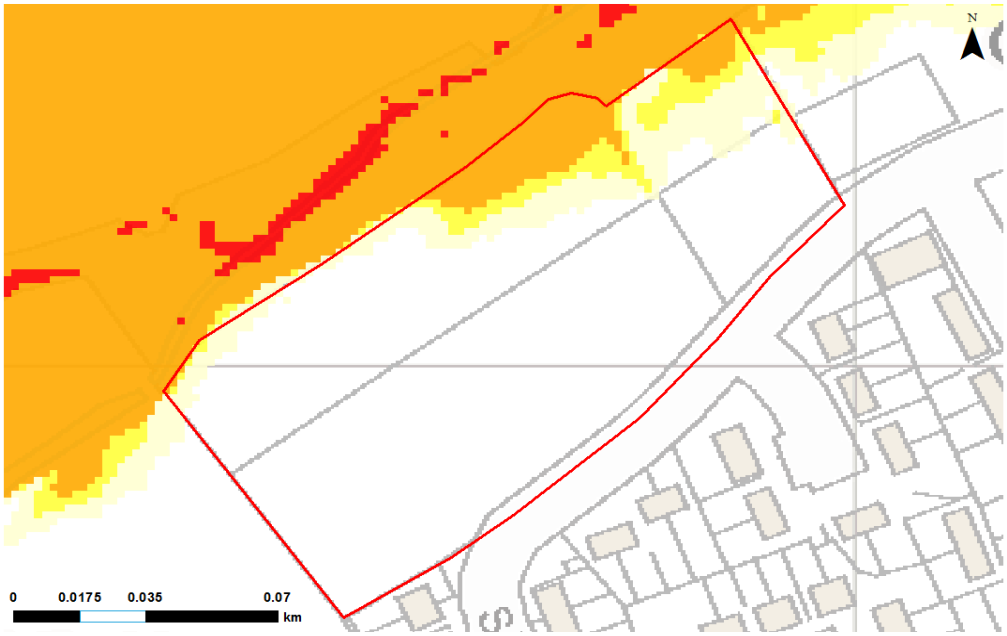
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	0.5 - 1.0	1.0 - 2.0
			> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area

Hazard

Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the River Soar and an unnamed watercourse as they flow to the north of the assessment area.
• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the high risk of groundwater flooding.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This option is unlikely to be suitable due to the high groundwater flood risk at the assessment area.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area and the River Soar at Littlehorpe and Narborough Flood Warning Area.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the River Soar and the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Soar and the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the River Soar and the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

LIT016				
OSNGR: 453943 296619	Area: 1.04ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 71.5%	**FZ3a** 2.6%	**FZ2** 2.4%	**FZ1** 23.6%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

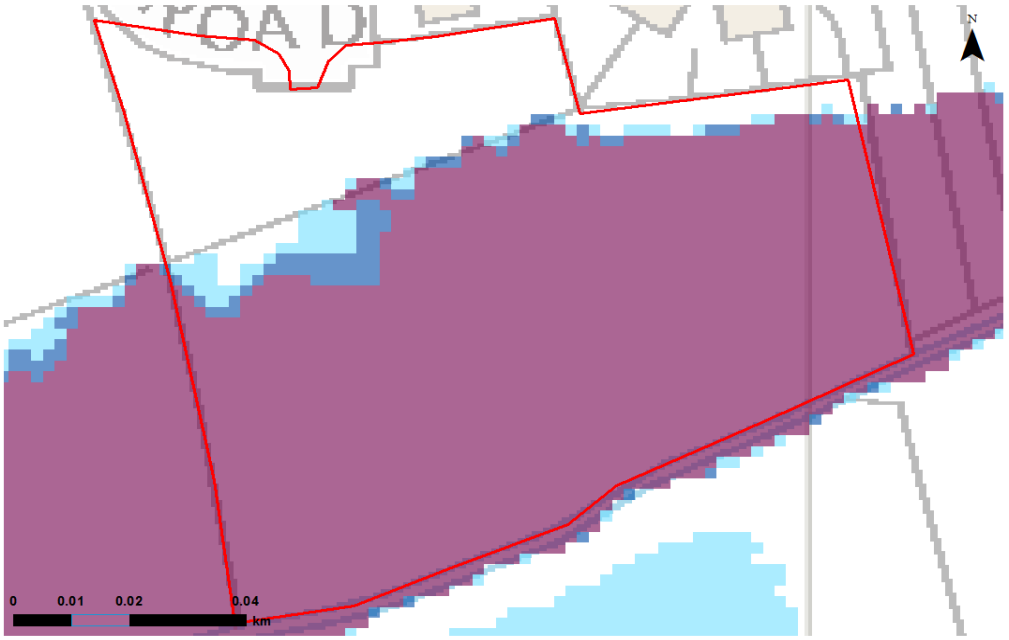
A large proportion of the assessment area is in Flood Zone 3b. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:

- remain operational and safe for users in times of flood
- result in no net loss of floodplain storage
- not impede water flows and not increase flood risk elsewhere

In view of the flooding problems from Cosby Brook, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the assessment area proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.

This assessment area is not suitable for Less Vulnerable, More Vulnerable and Highly Vulnerable development

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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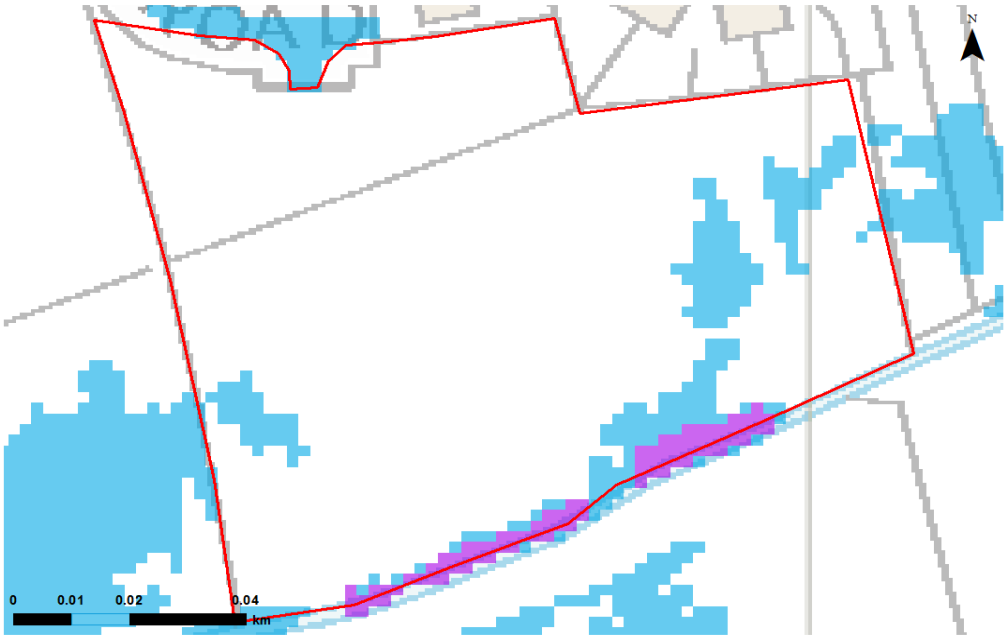
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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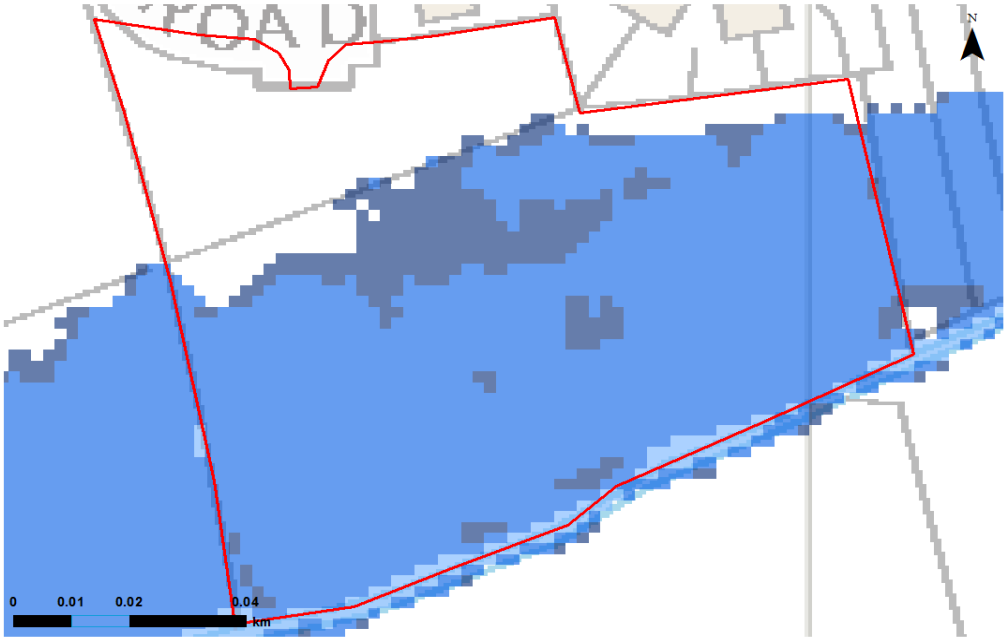
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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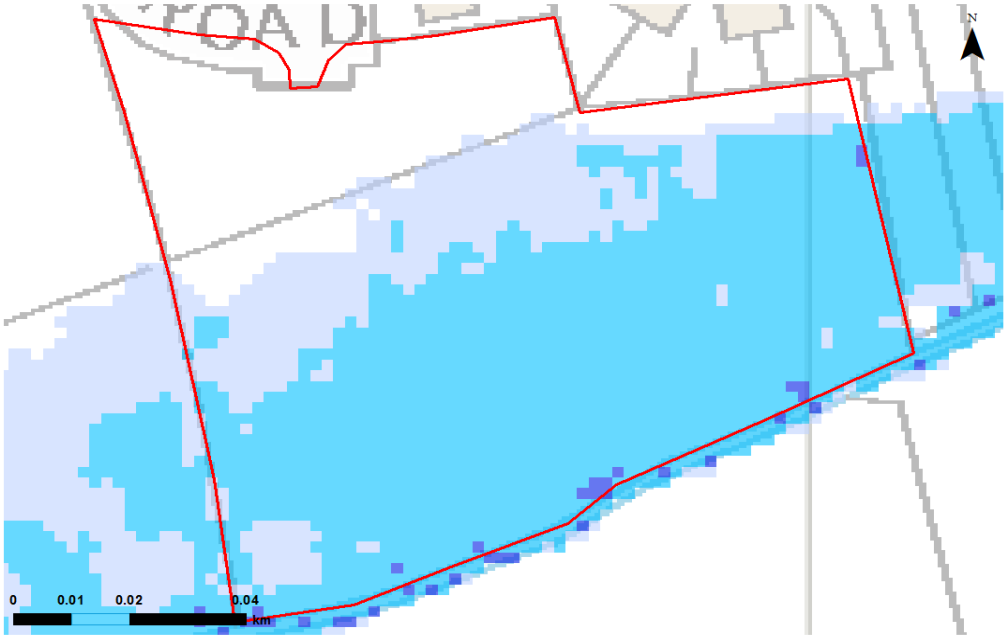
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	0.5 - 1.0	1.0 - 2.0
			> 2.0

Hazard Map: 100-year

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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Cosby Brook as it flows along the southern edge of the assessment area boundary.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and the high risk of groundwater flooding.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		This option is unlikely to be suitable due to the high groundwater flood risk at the assessment area.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the Cosby Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Cosby Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Cosby Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

LIT021				
OSNGR: 454241 296642	Area: 0.93ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 56.2%	**FZ3a** 1.7%	**FZ2** 1.4%	**FZ1** 40.8%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

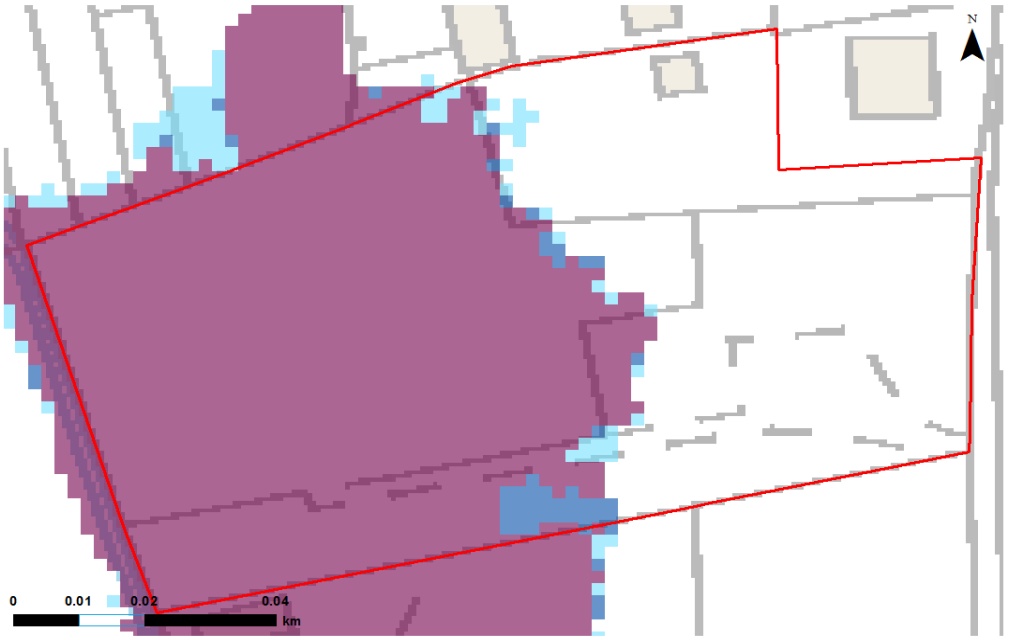
A large proportion of the assessment area is in Flood Zone 3b. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:

- remain operational and safe for users in times of flood
- result in no net loss of floodplain storage
- not impede water flows and not increase flood risk elsewhere

In view of the flooding problems from Cosby Brook, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the assessment area proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.

This assessment area is not suitable for Less Vulnerable, More Vulnerable and Highly Vulnerable development

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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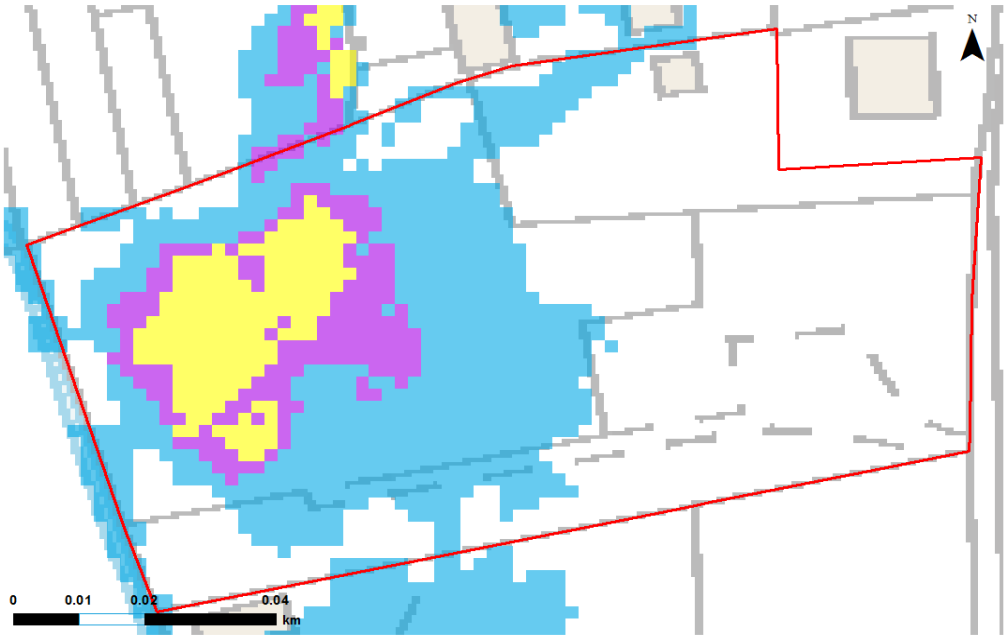
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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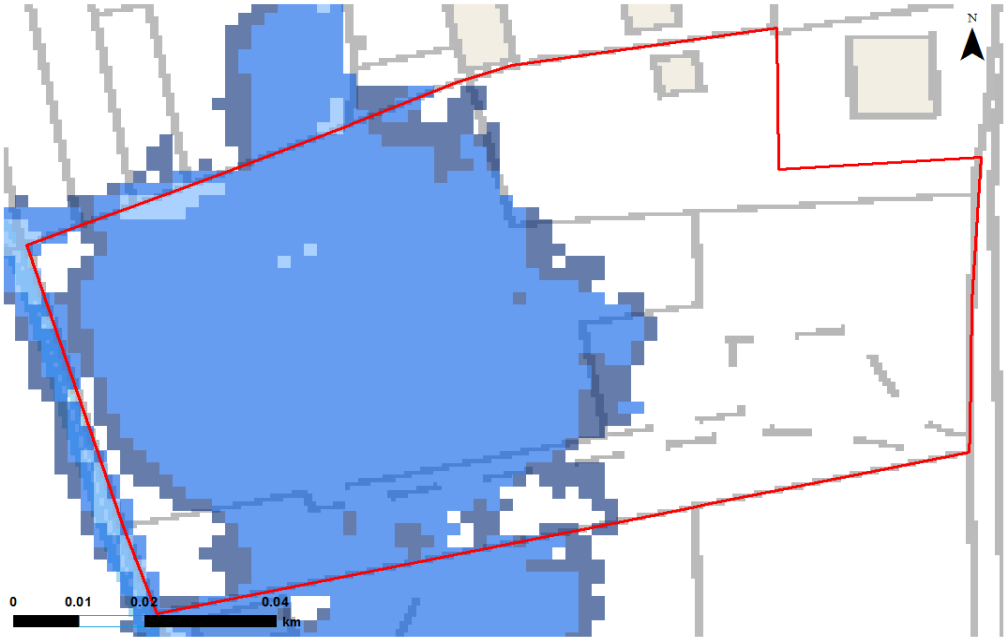
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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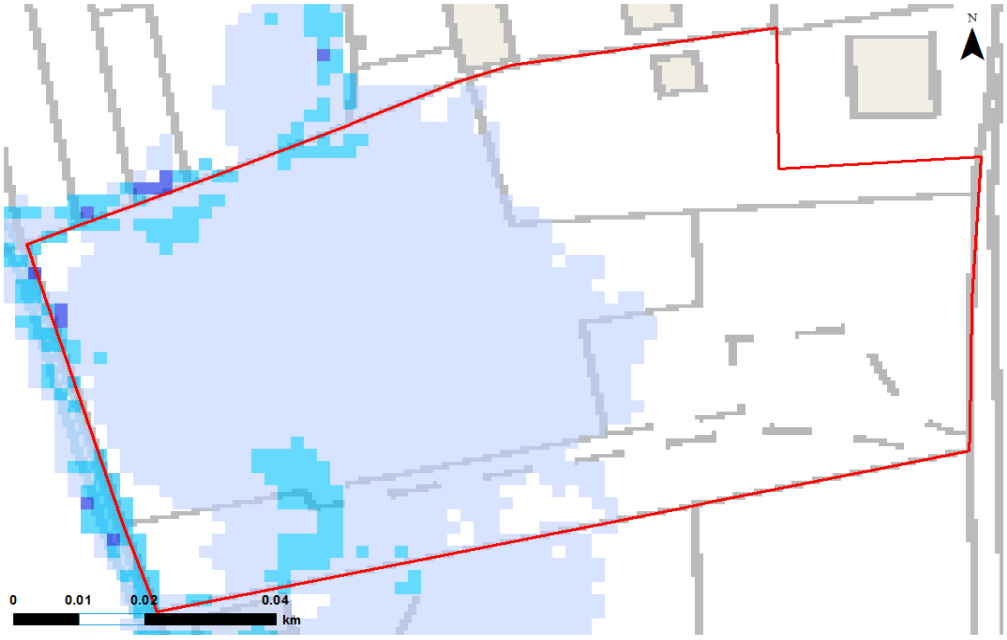
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10
0.10 - 0.50
0.50 - 1.00
1.00 - 1.50
1.50 - 2.00
2.00 - 2.50
2.50 - 3.00
3.00 - 3.50
3.50 - 4.00
>4.00

Velocity Map: 100-year



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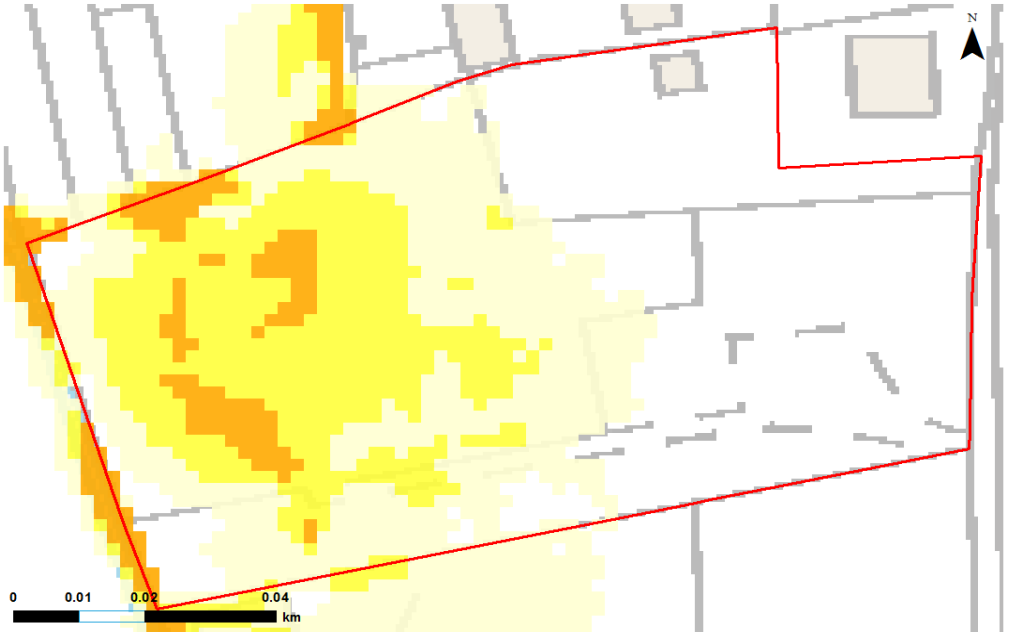
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2
0.2 - 0.5
0.5 - 1.0
1.0 - 2.0
> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Cosby Brook as it flows along the western boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the Cosby Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Cosby Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Cosby Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding. o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

NAR003				
OSNGR: 454598 297510	Area: 1.72ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 0%	**FZ3a** 5.4%	**FZ2** 2.7%	**FZ1** 91.9%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.

Highly Vulnerable infrastructure should not be permitted within FZ3a

Potential to pass the Exception Test

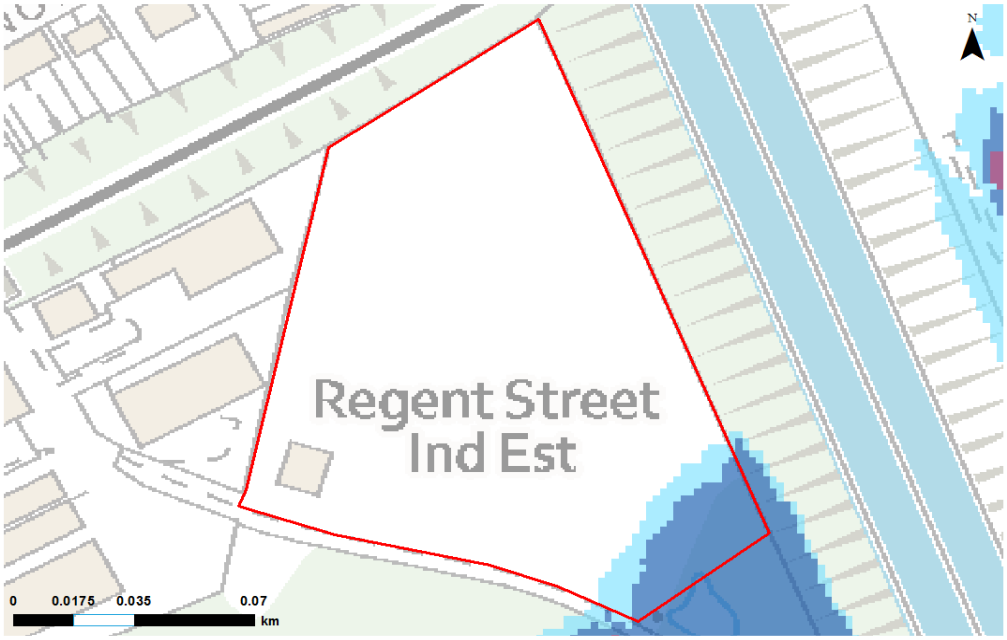
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the north of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the River Soar, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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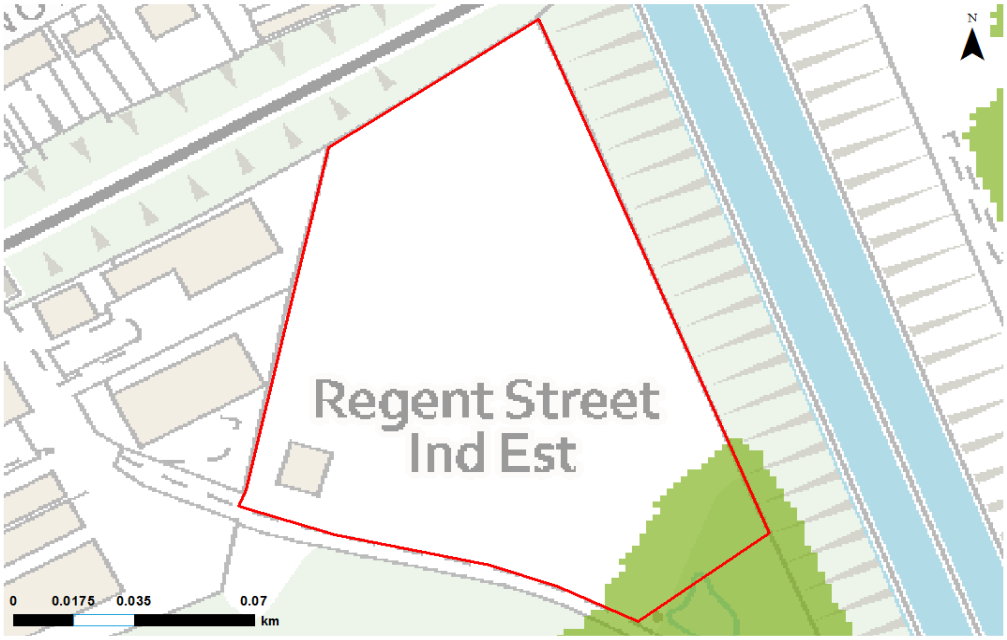
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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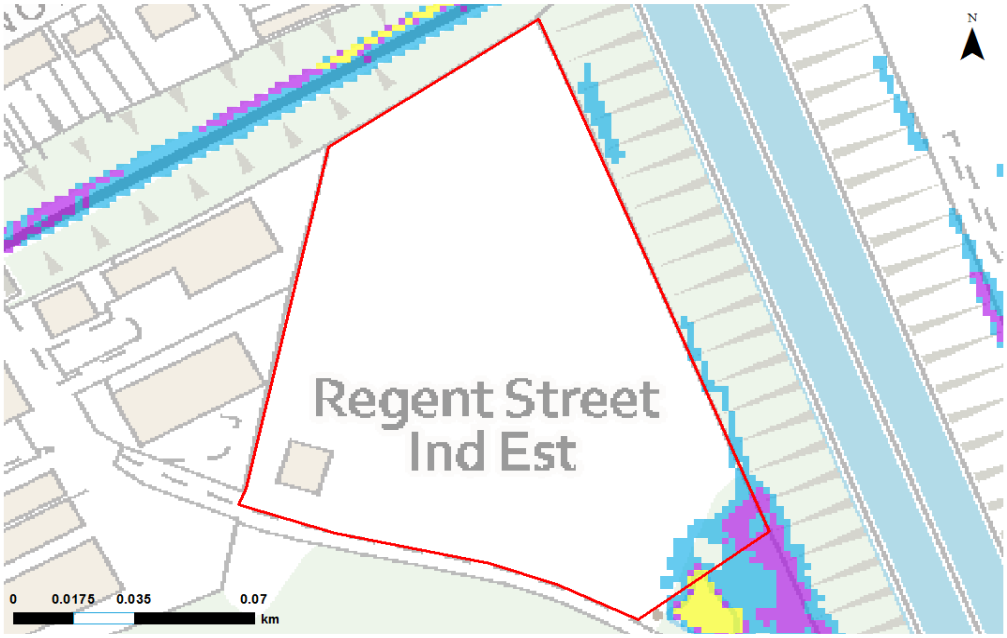
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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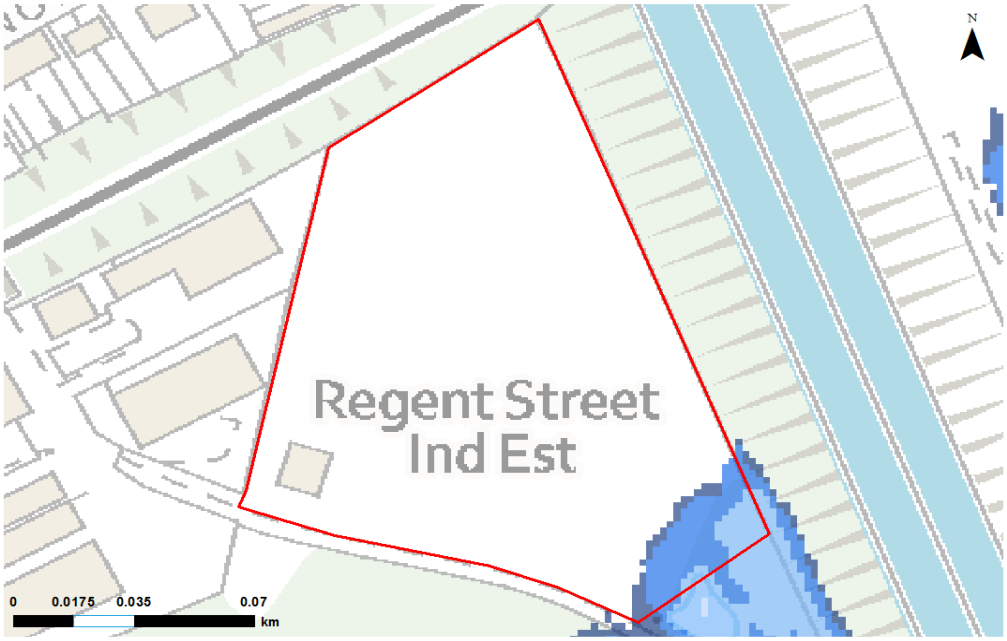
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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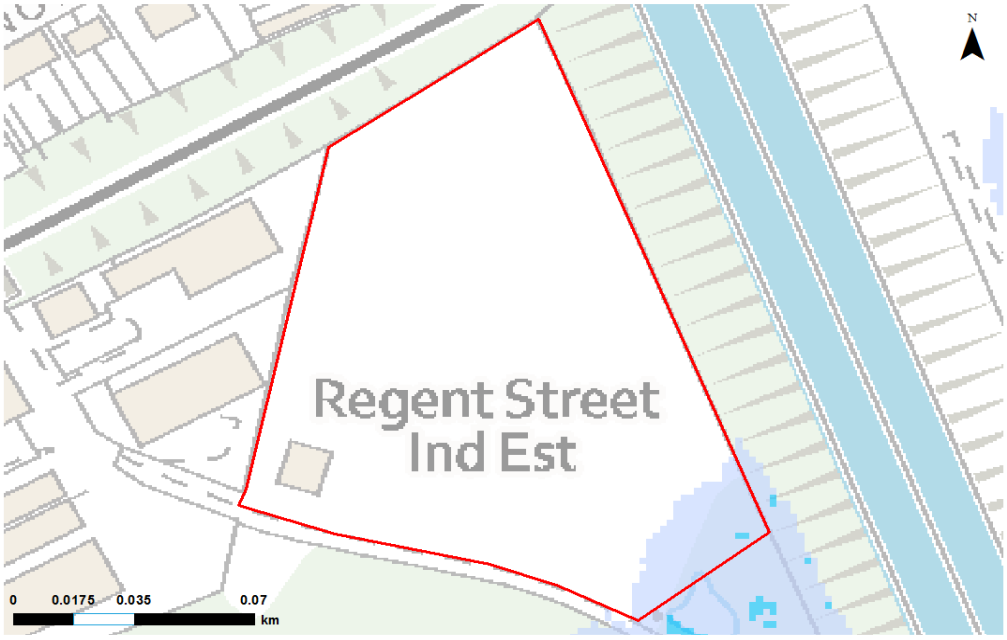
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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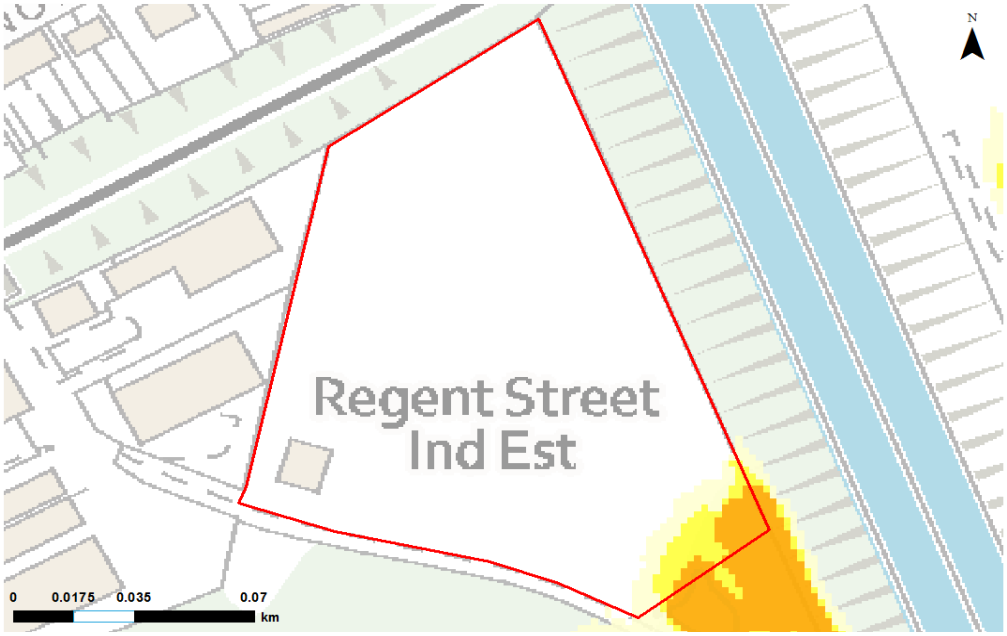
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the River Soar as it flows to the south of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and high risk of groundwater flooding.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		This option is unlikely to be suitable due to the steep slopes at the assessment area and a high groundwater flood risk.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: A part of this assessment area is in the Upper Soar Catchment Flood Alert Area and the River Soar at Littlethorpe and Narborough Flood Warning Area.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the River Soar.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Soar should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the river Soar to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

NAR004				
OSNGR: 453508 297024	Area: 0.75ha		Brownfield	
Flood Zone Coverage:	**FZ3b** 0.1%	**FZ3a** 0%	**FZ2** 0%	**FZ1** 99.9%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

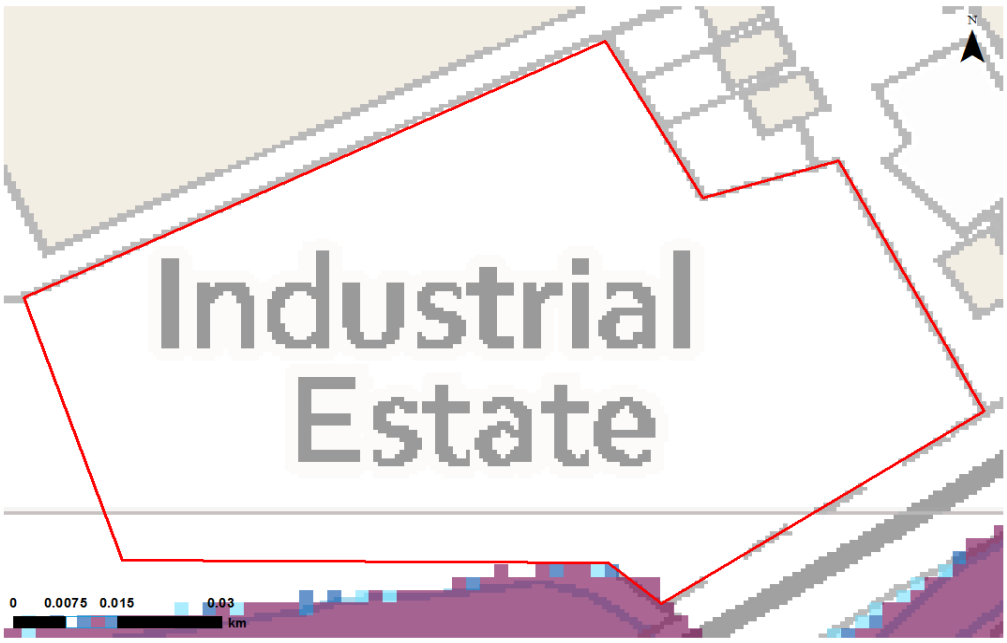
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the north of the assessment area, outside of Flood Zone 3.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the River Soar, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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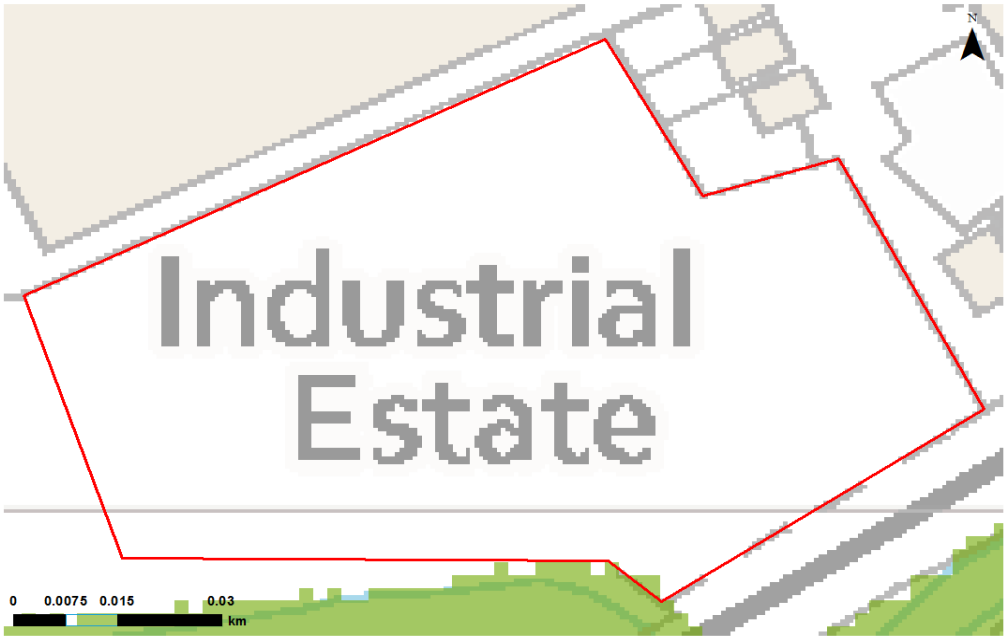
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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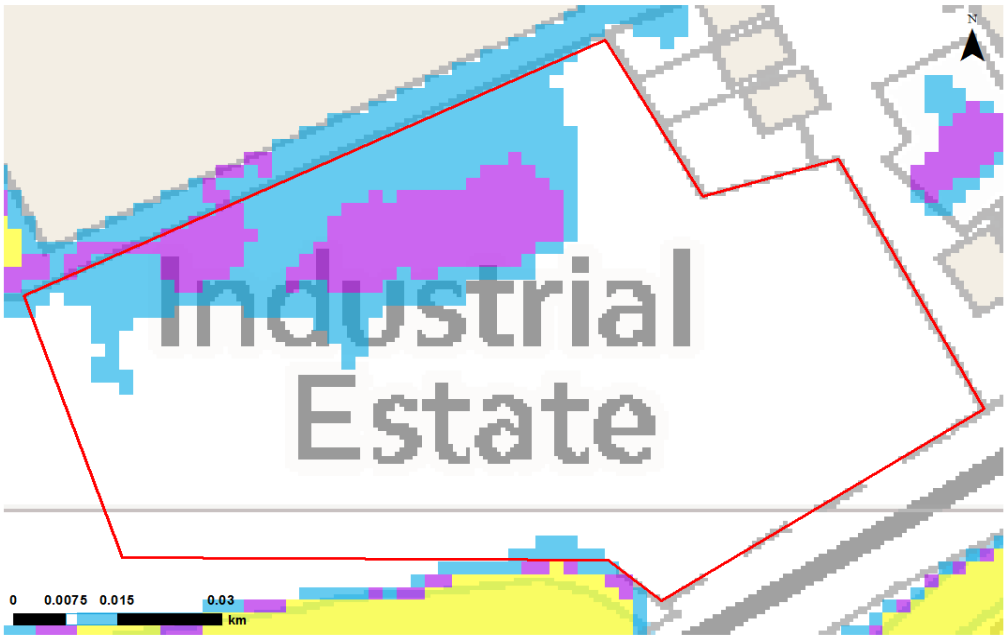
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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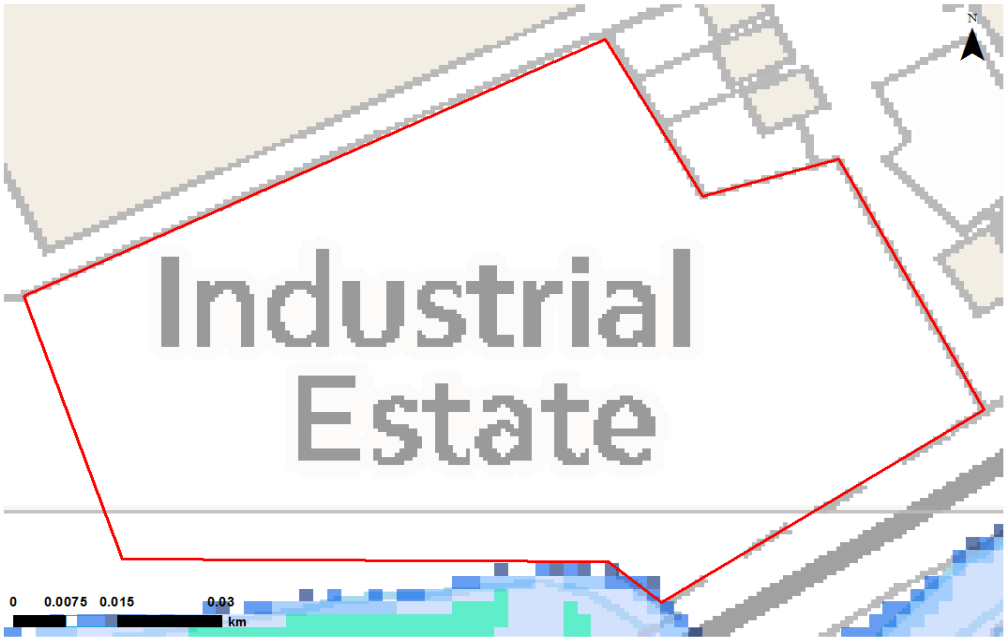
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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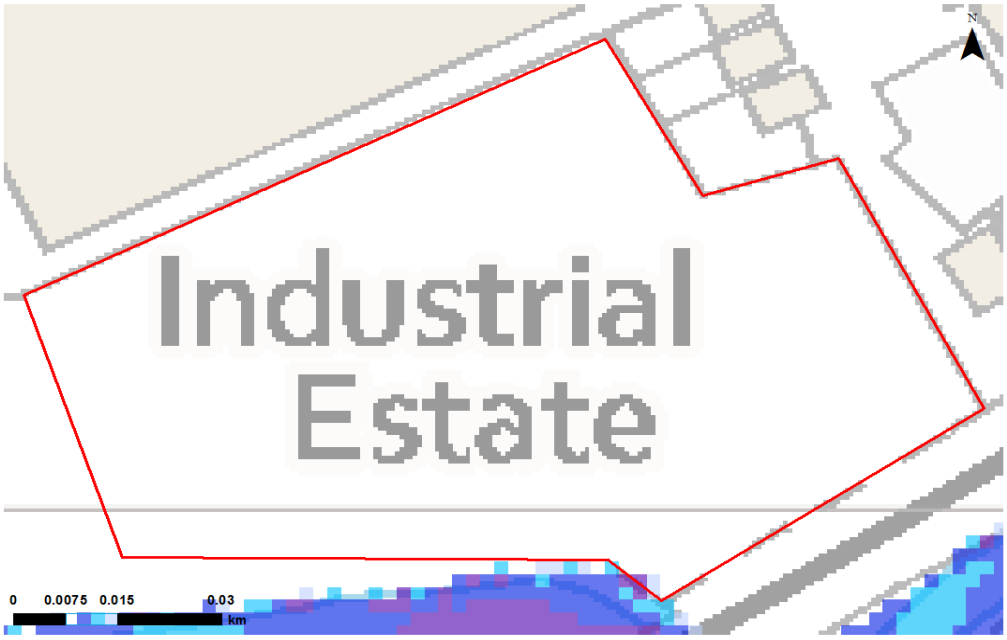
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10
0.10 - 0.50
0.50 - 1.00
1.00 - 1.50
1.50 - 2.00
2.00 - 2.50
2.50 - 3.00
3.00 - 3.50
3.50 - 4.00
>4.00

Velocity Map: 100-year



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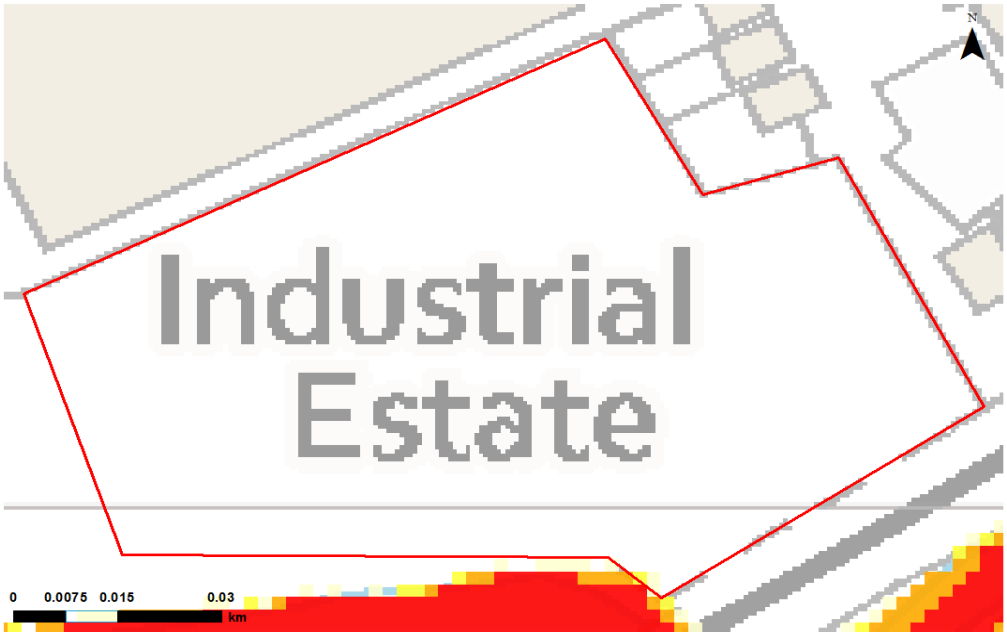
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2
0.2 - 0.5
0.5 - 1.0
1.0 - 2.0
> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the River Soar as it flows along the southern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and high risk of groundwater flooding.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		This option is unlikely to be suitable due to the steep slopes at the assessment area and a high groundwater flood risk.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the River Soar.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zone 3. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Soar should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the River Soar to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

NAR008				
OSNGR: 454671 298120	Area: 3.2ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 7.8%	**FZ3a** 10.6%	**FZ2** 25.7%	**FZ1** 55.9%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

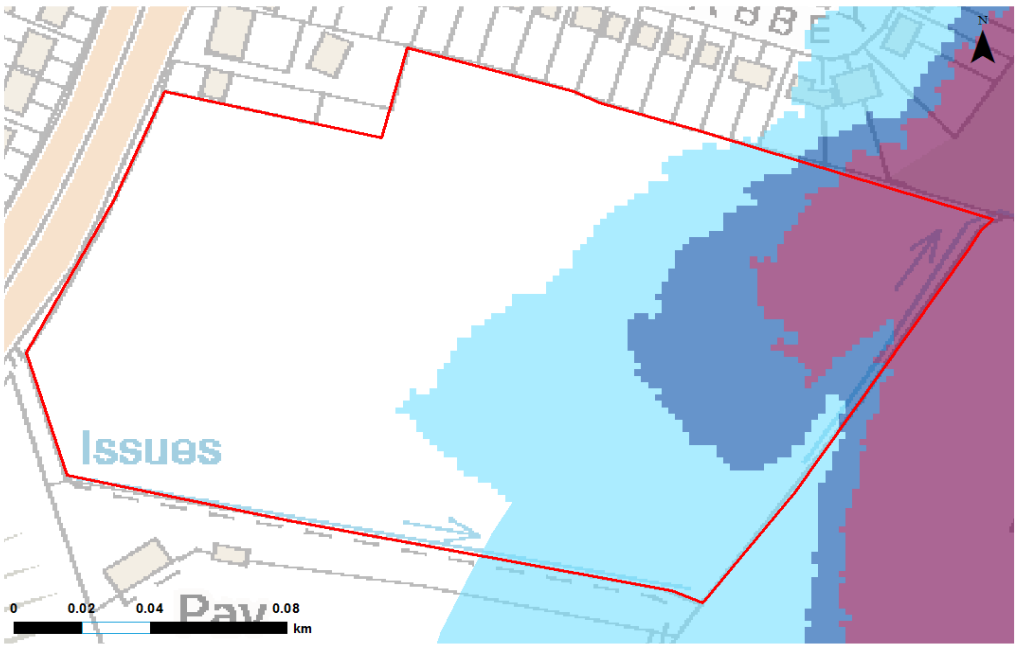
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the west of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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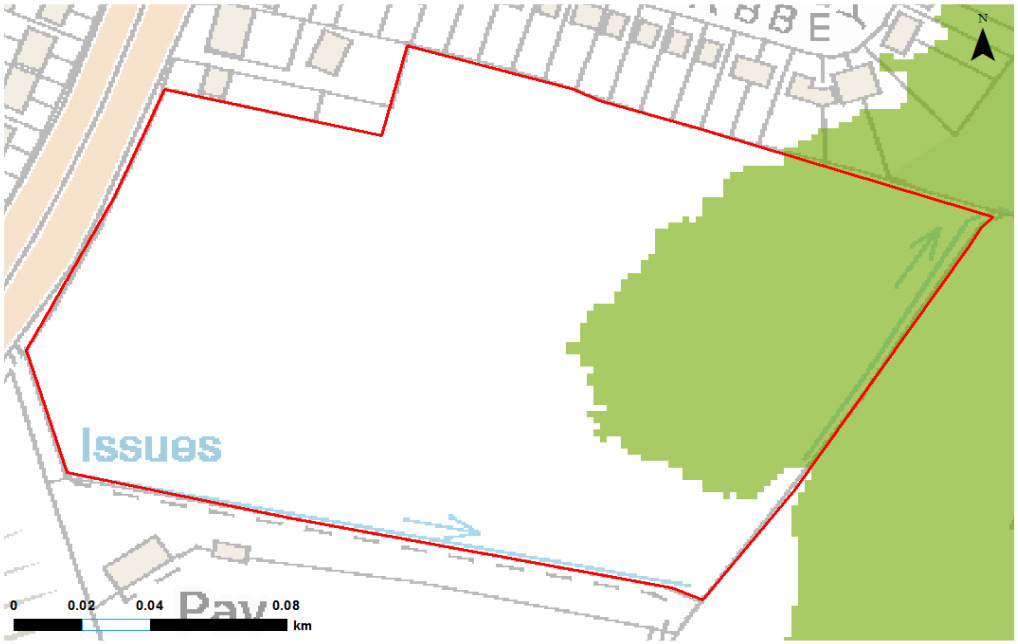
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map

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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk: • Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the southern and eastern boundary of the assessment area. • Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.		
SuDS & the Assessment Area:		
SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and high permeability of soils. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: A part of this assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: The main access/egress route for the assessment area (Leicester Road) is shown to be at risk from surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any site greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area is not at risk of fluvial flooding but is at risk of surface water flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

SAP001				
OSNGR: 448445 293690	Area: 4.82ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 19.7%	**FZ3a** 7.5%	**FZ2** 1.8%	**FZ1** 71%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

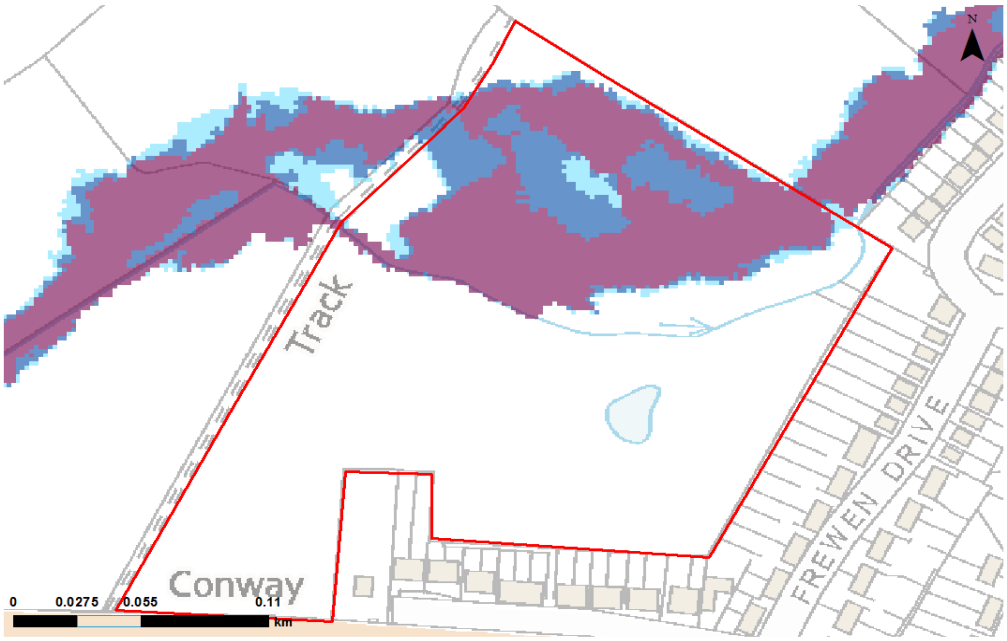
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the south of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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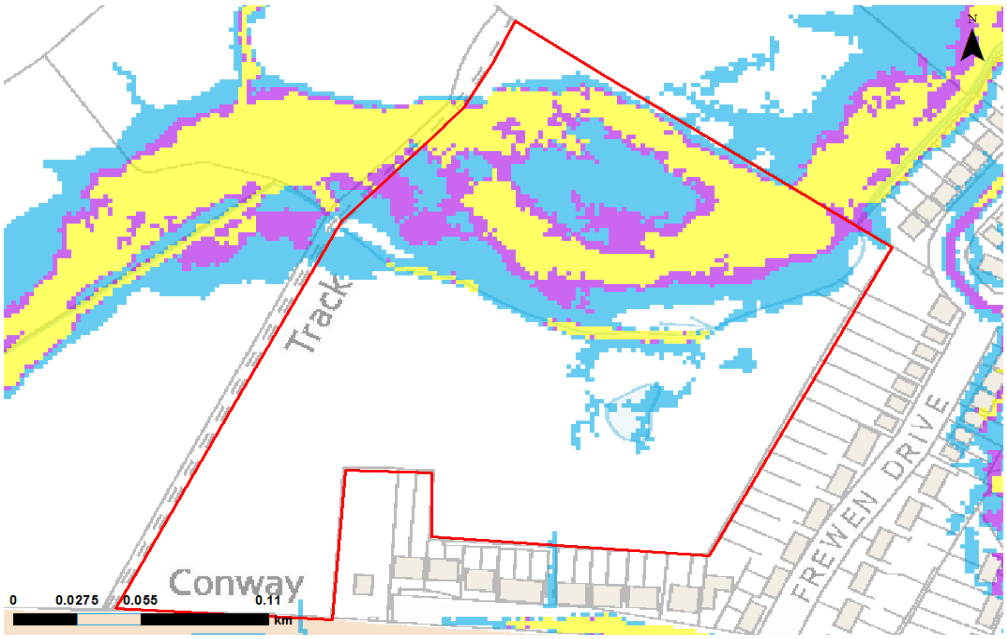
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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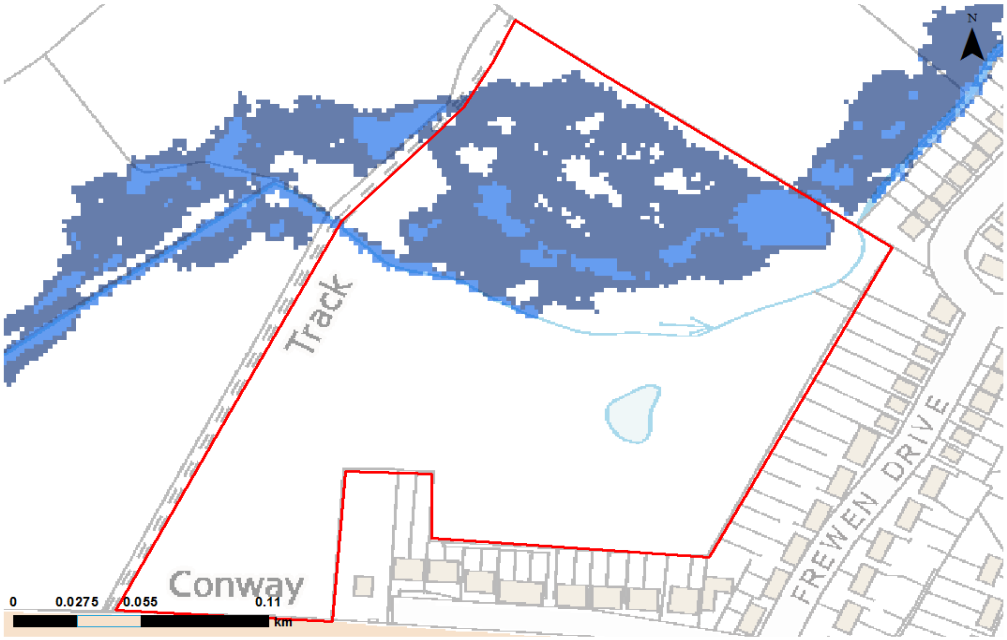
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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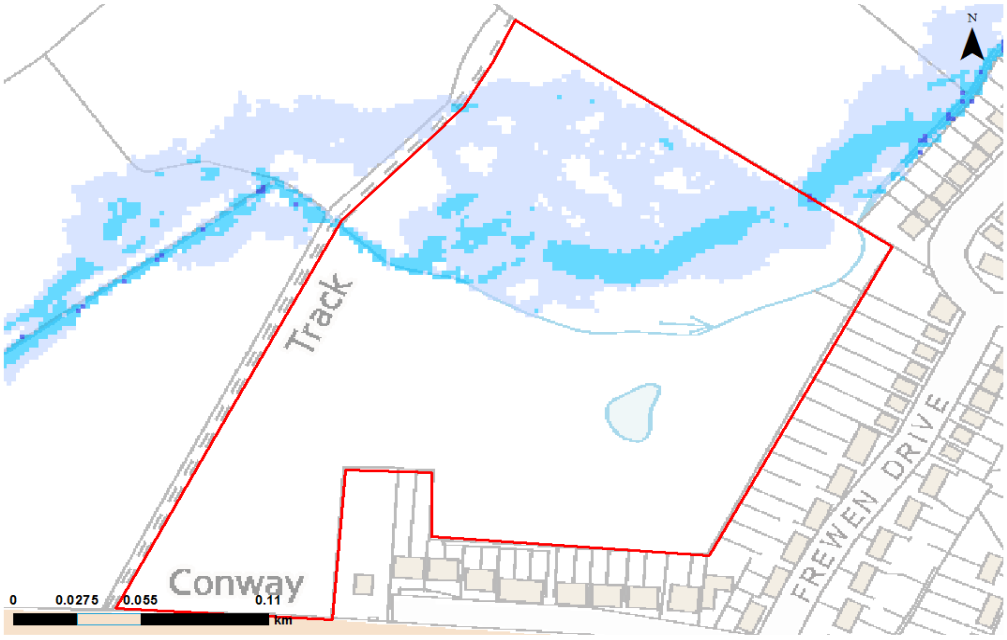
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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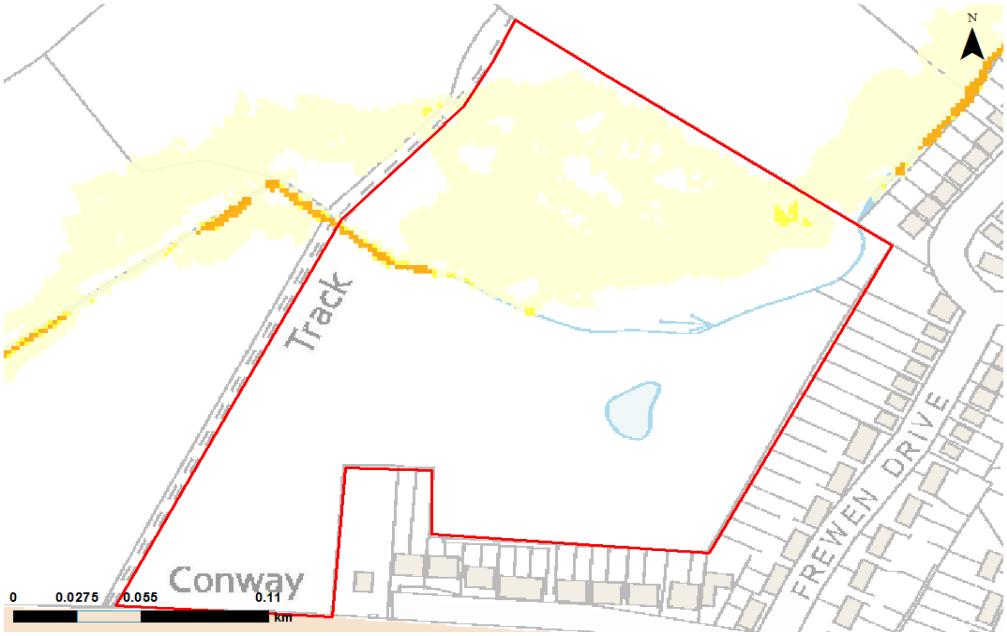
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	0.5 - 1.0	1.0 - 2.0
			> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows through the northern part of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Mapping suggests that permeable paving is unlikely to be suitable due to the slope of the assessment area and the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		Mapping suggests that the assessment area may be too steep to allow 'above ground' detention features to be used at this development.
Filtration		Mapping suggests that there may be steep slopes within the assessment area, however, filtration features may be suitable provided assessment area slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

SAP013				
OSNGR: 448343 293671	Area: 8.23ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 14.2%	**FZ3a** 5%	**FZ2** 1.6%	**FZ1** 79.3%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

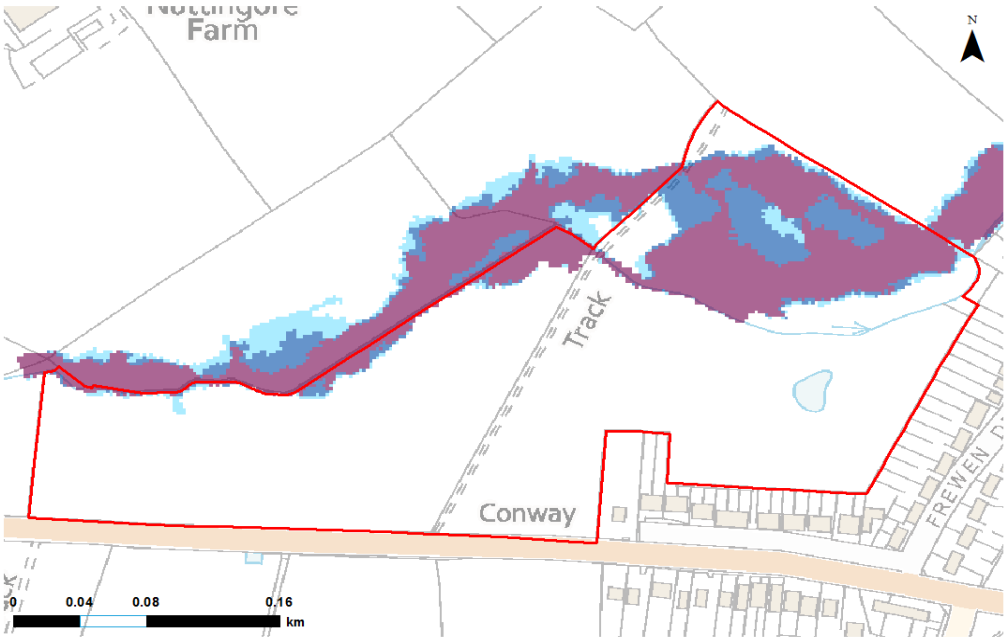
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the south of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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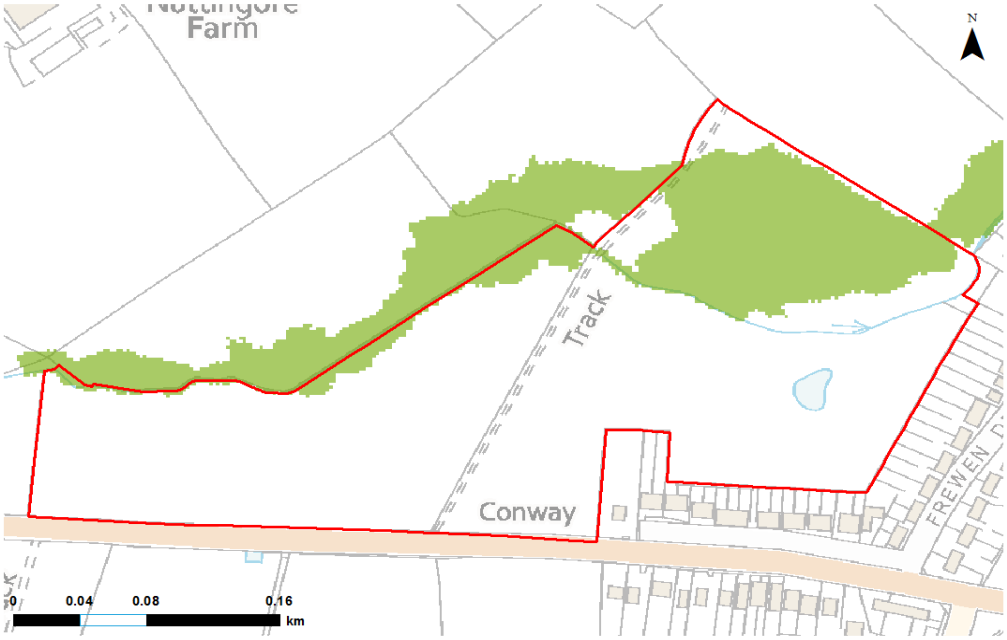
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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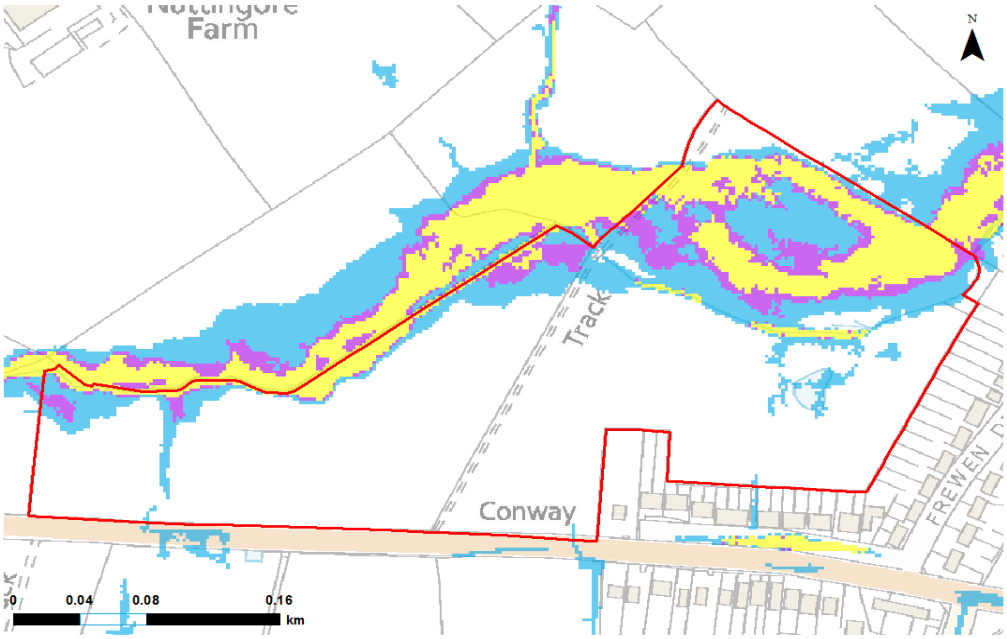
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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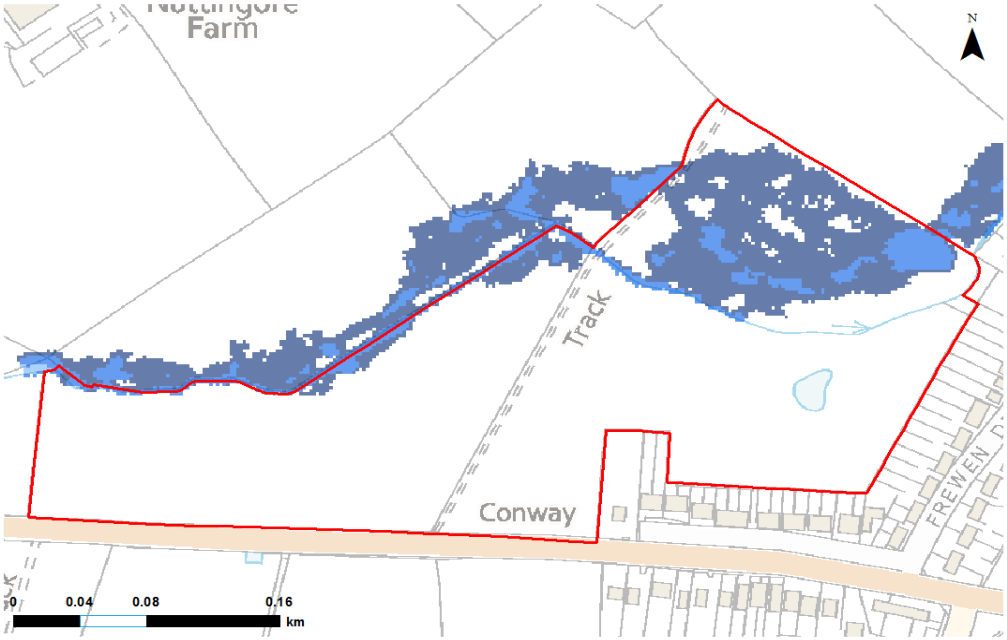
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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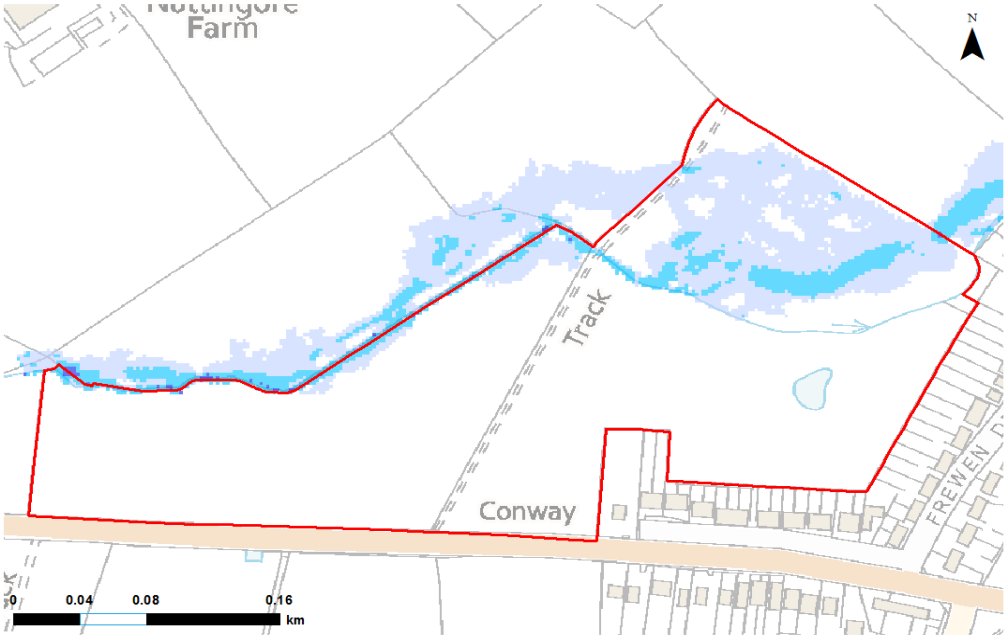
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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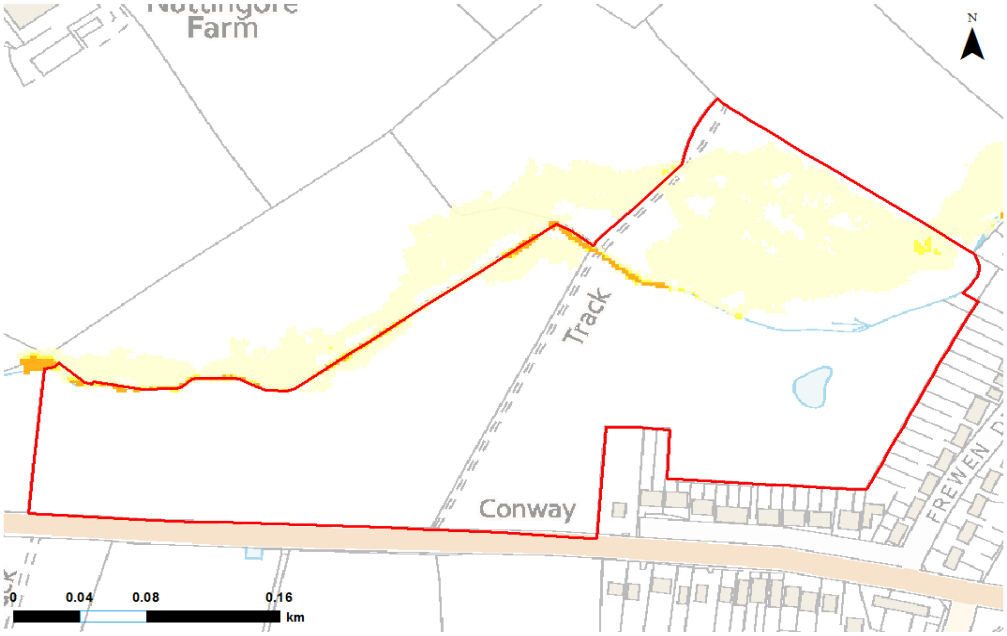
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercouse as it flows along the northern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the unnamed watercouse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

SAP014				
OSNGR: 448191 293638	Area: 3.21ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 6.4%	**FZ3a** 1.1%	**FZ2** 1.2%	**FZ1** 91.4%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

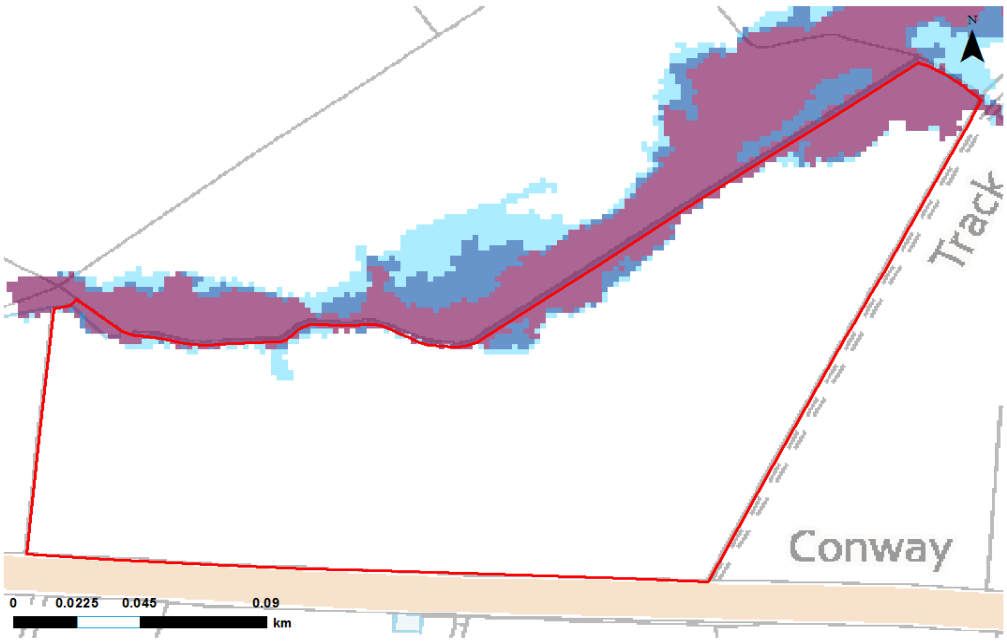
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the south of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the unnamed watercourse, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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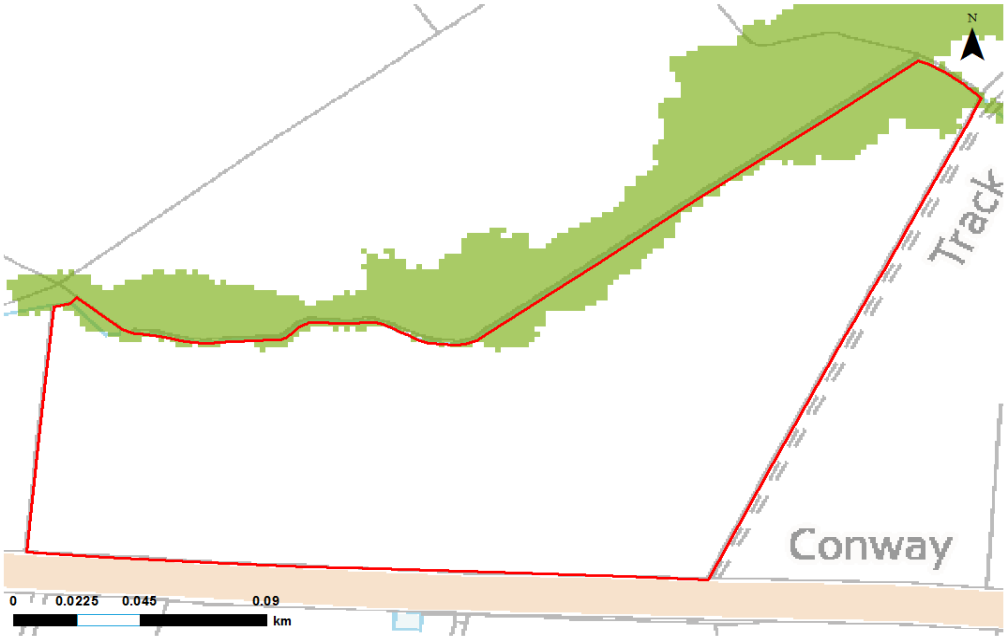
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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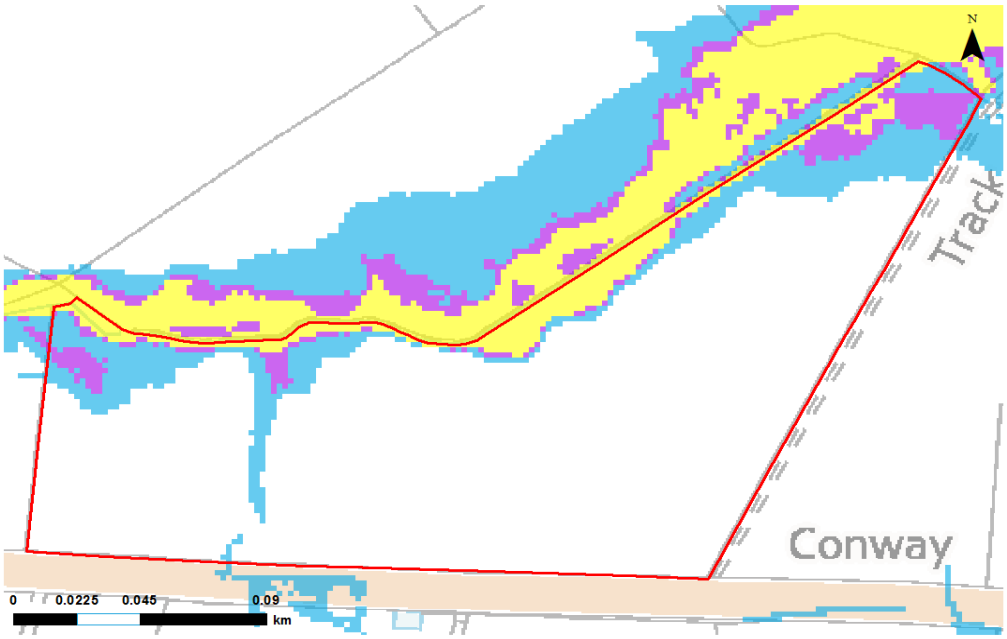
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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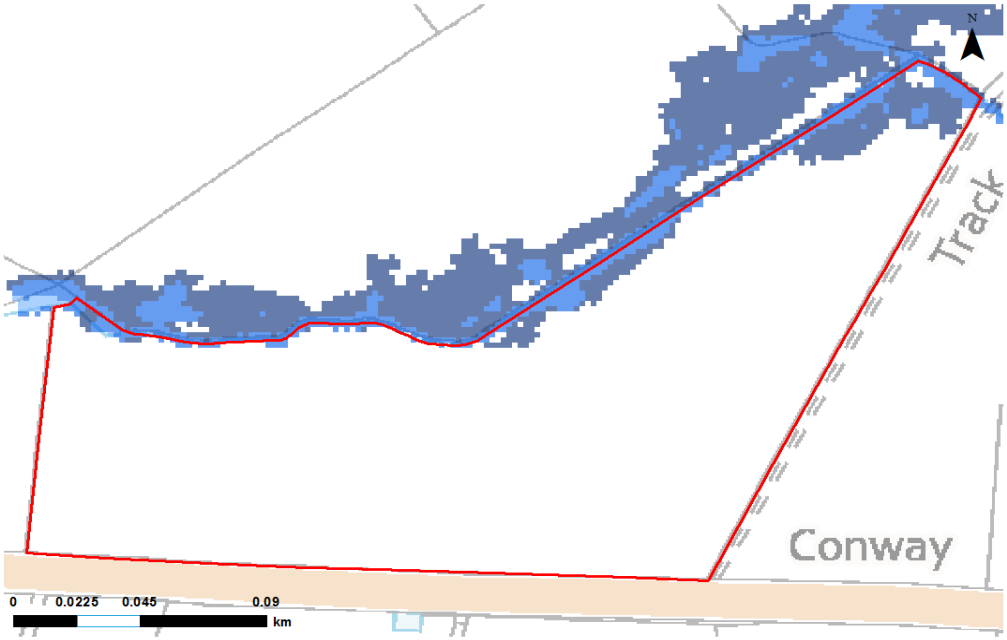
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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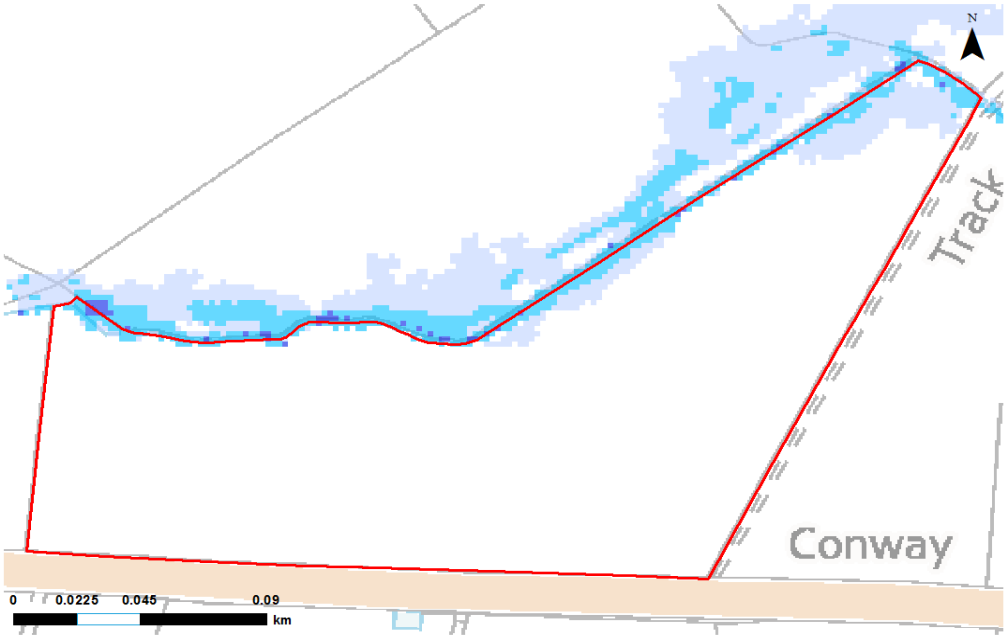
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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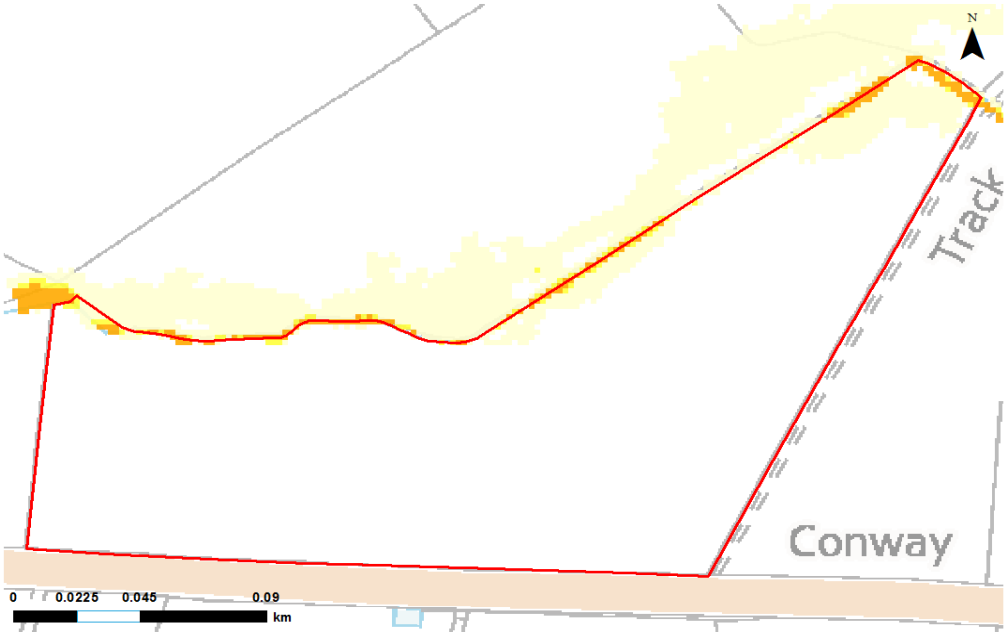
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	0.5 - 1.0	1.0 - 2.0
			> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the unnamed watercourse as it flows along the northern boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided assessment area slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the unnamed watercourse
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the the unnamed watercourse should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the unnamed watercourse to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

SHA003				
OSNGR: 447636 291650	Area: 4.28ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 0%	**FZ3a** 0%	**FZ2** 0.6%	**FZ1** 99.4%

Exception Test Required?

Yes, for Highly Vulnerable development in FZ2.

Potential to pass the Exception Test

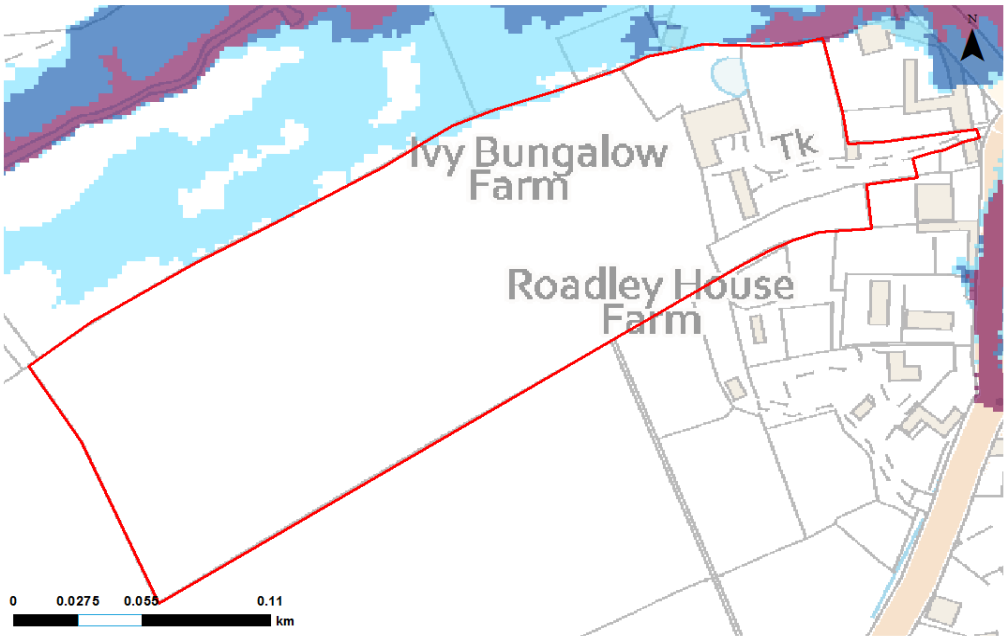
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The majority of the assessment area is within Flood Zone 1. Risks to development could be reduced by using sequential design to locate development in the south of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the Soar Brook, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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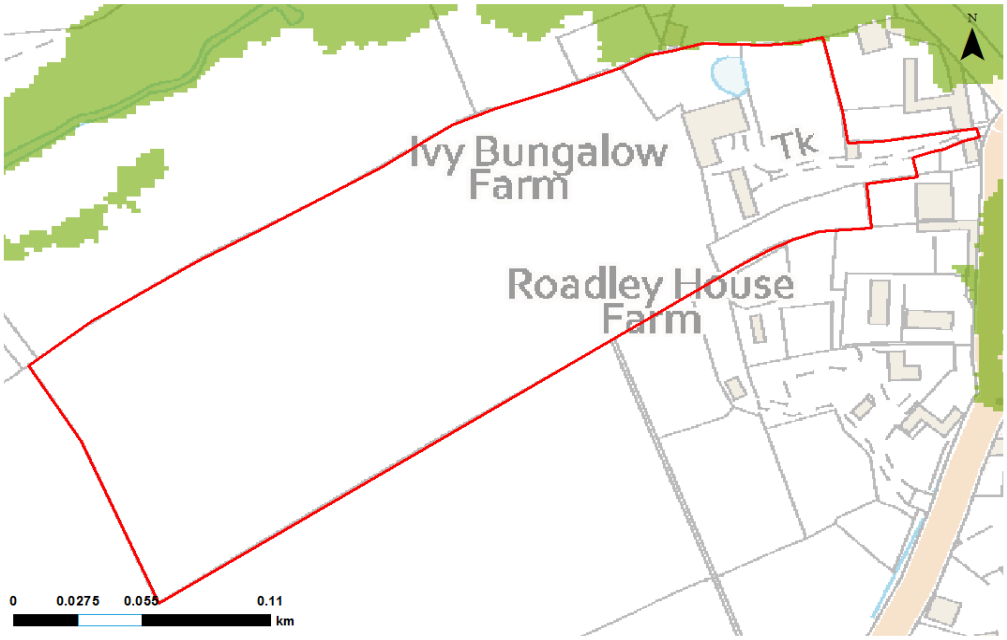
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Proposed development areas
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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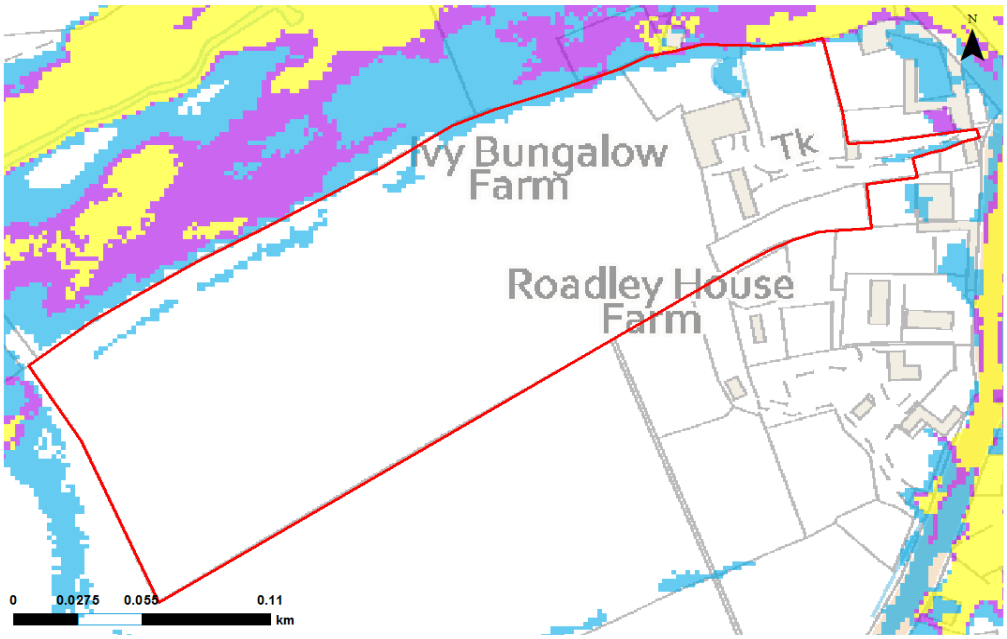
Joint SFRA boundary | Proposed development areas | Flood Zone 3 with Climate Change

Surface Water Map



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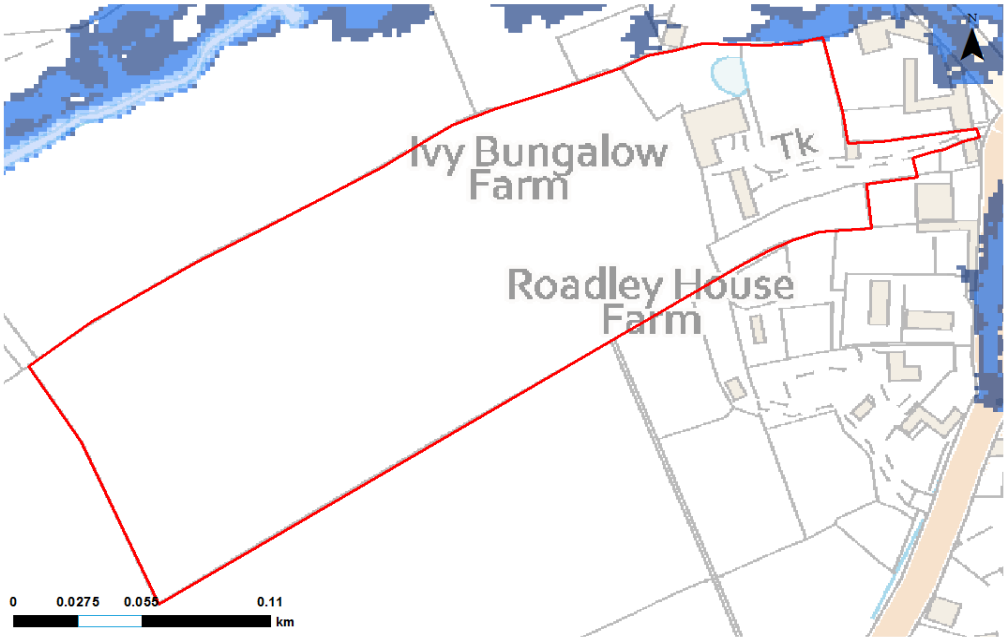
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent

Proposed development areas | uFMfSW 100-year Extent

Depth Map: 100-year



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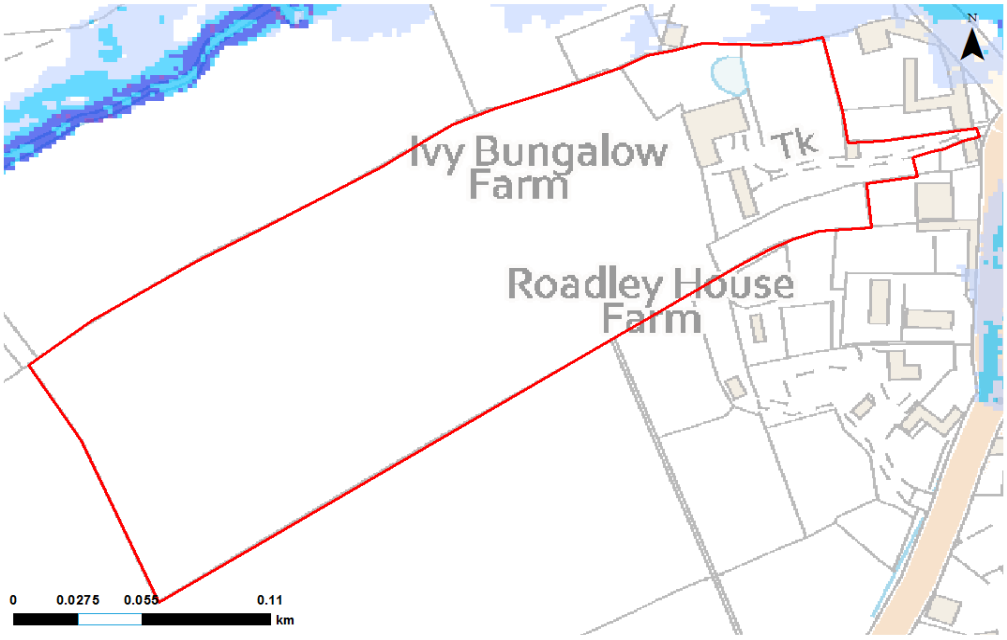
Joint SFRA boundary
Proposed development areas

Depth (m)

0 - 0.10
0.10 - 0.50
0.50 - 1.00
1.00 - 1.50
1.50 - 2.00
2.00 - 2.50
2.50 - 3.00
3.00 - 3.50
3.50 - 4.00
>4.00

Velocity Map: 100-year



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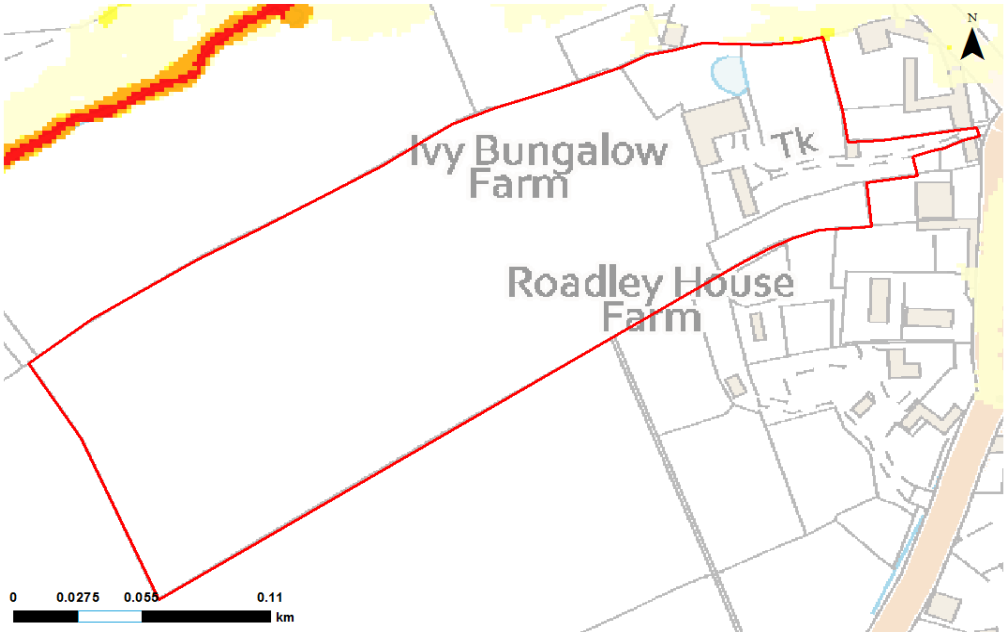
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2
0.2 - 0.5
0.5 - 1.0
1.0 - 2.0
> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area

Hazard

Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Soar Brook as it flows to the north of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the Soar Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Soar Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Soar Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

WHE003				
OSNGR: 455092 297308	Area: 23.04ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 27.6%	**FZ3a** 23.7%	**FZ2** 23.2%	**FZ1** 25.5%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

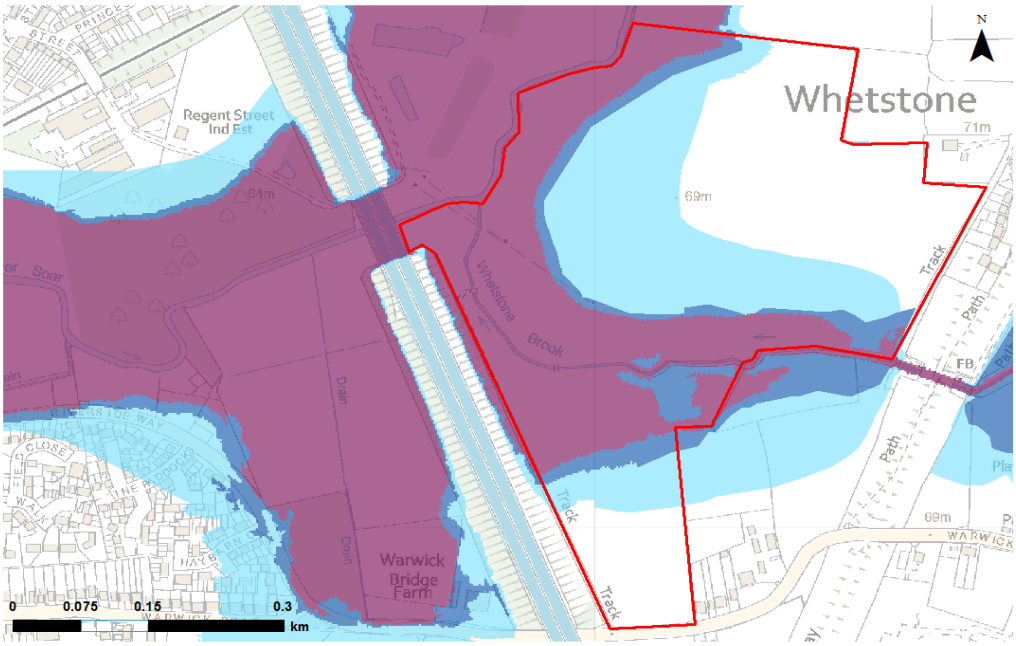
To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall.

• The flood risk to assessment area is split fairly equally between Flood Zones 3b, 3a, 2 and 1. Risks to development could be reduced by using sequential design to locate development in the northeast or south of the assessment area, outside of the Flood Zones.

• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the River Soar and the Whetstone Brook, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether housing proposals can pass the Exception Test.

• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map

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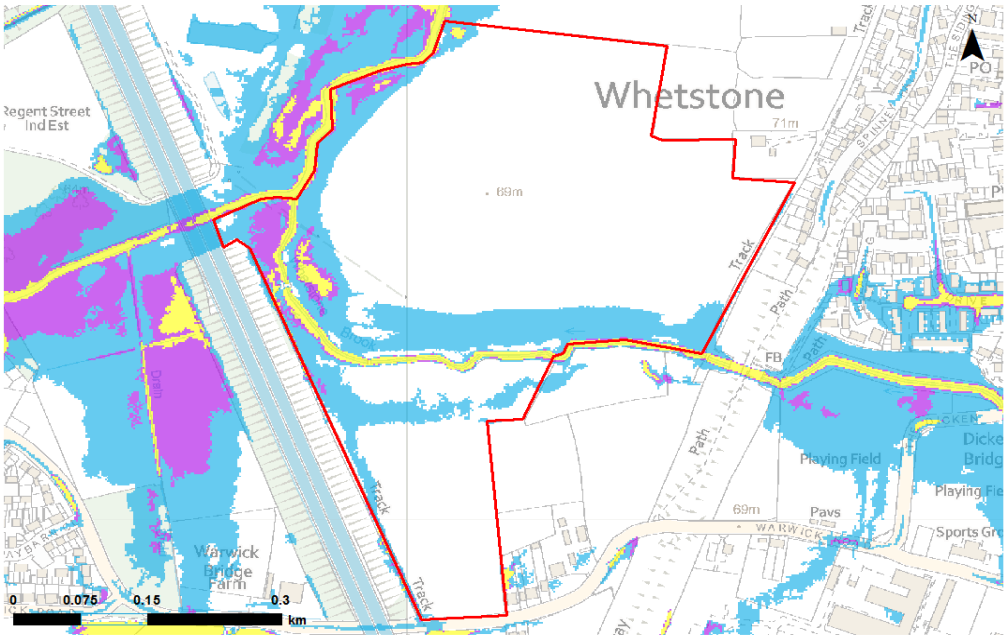
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk:
• Fluvial flood risk is from the overtopping of the River Soar as it flows along the western boundary of the assessment area and the Whetstone Brook as it flows through the centre of the assessment area.
• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is in the Upper Soar Catchment Flood Alert Area.
Access & Egress: Safe access and egress needs to be considered when locating development within the assessment area boundary.
Climate Change: • Increased storm intensities. • Increased water levels in the River Soar and the Whetstone Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the River Soar and the Whetstone Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the River Soar and the Whetstone Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding. o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

WHE014				
OSNGR: 456203 295623	Area: 2.4ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 26%	**FZ3a** 30.4%	**FZ2** 37.3%	**FZ1** 6.3%

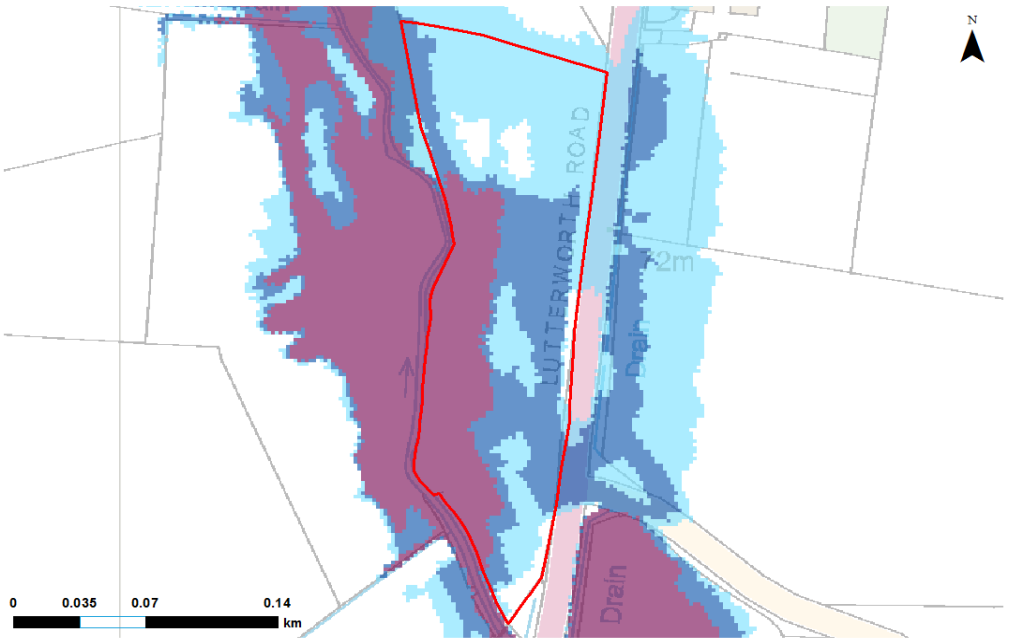
Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

• The majority of the assessment area is within Flood Zone 3a, 3b or 2. Risks to development could be reduced by using sequential design to locate more vulnerable development and essential infrastructure in the east of the assessment area, outside of Flood Zone 3a and 3b.
• The development could potentially be made safe through building design, and by meeting drainage requirements. In view of the possible flooding from the Whetstone Brook, detailed hydraulic modelling should be undertaken to determine the 1 in 100-year flood level (with and without climate change) as well as any other return periods requested by the Environment Agency. The results of this modelling will inform development design and confirm whether development proposals can pass the Exception Test.
• To avoid increasing flood risk elsewhere, surface water management techniques should be adopted (see 'SUDS & the Assessment Area' below).

Flood Zone Map



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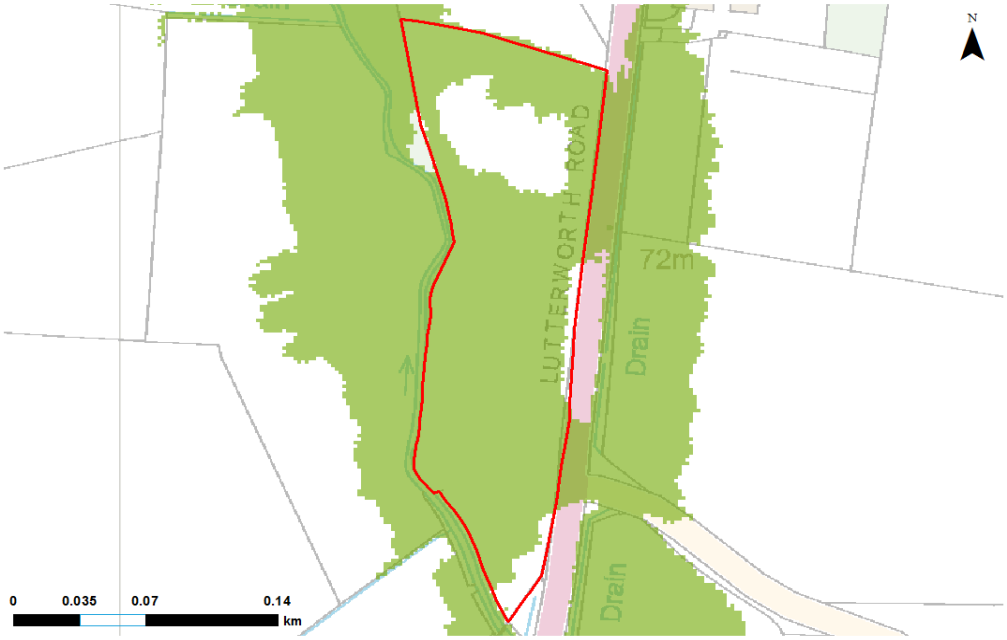
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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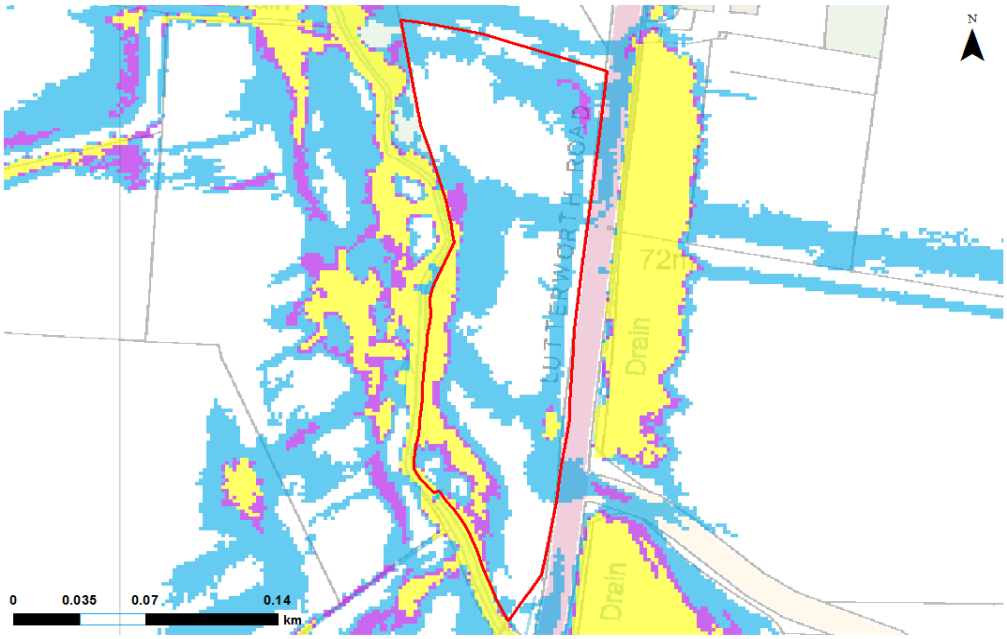
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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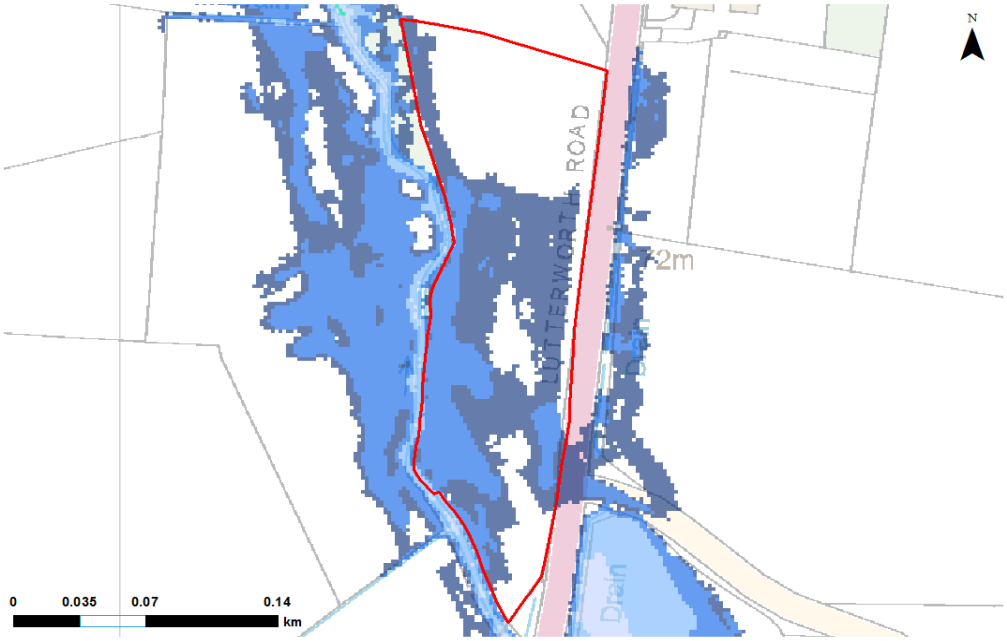
Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Depth Map: 100-year



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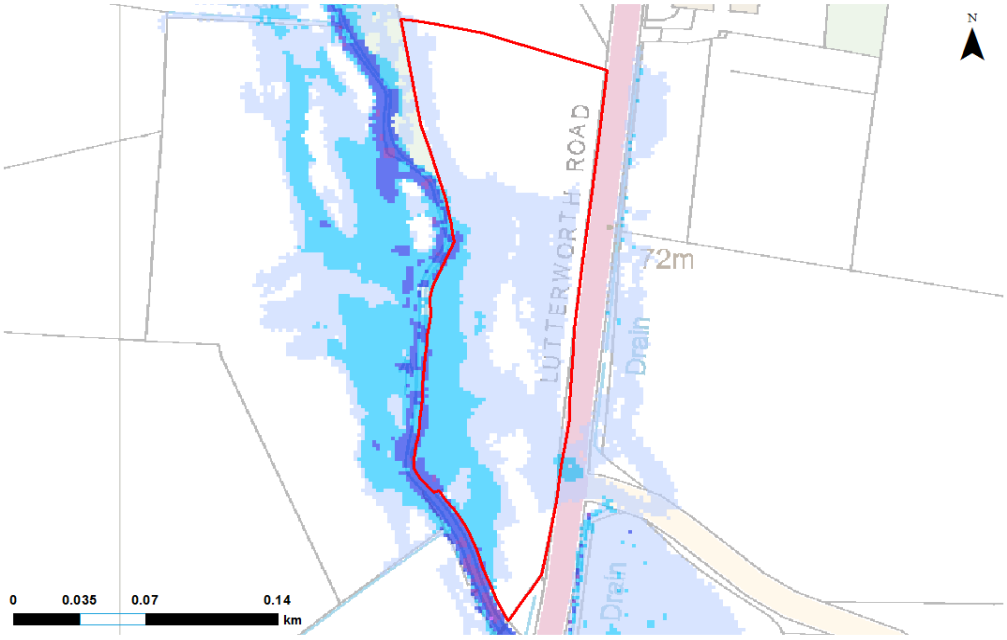
Joint SFRA boundary
Assessment area

Depth (m)

0 - 0.10	0.50 - 1.00	2.00 - 2.50	3.50 - 4.00
0.10 - 0.50	1.00 - 1.50	2.50 - 3.00	>4.00
	1.50 - 2.00	3.00 - 3.50	

Velocity Map: 100-year



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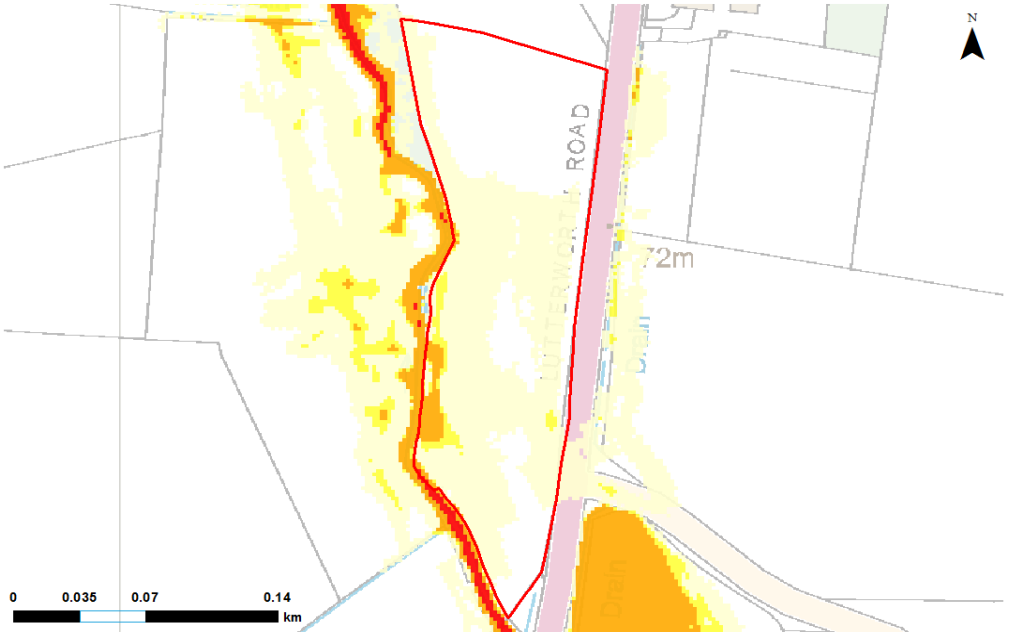
Joint SFRA boundary
Assessment area

Velocity (m/s)

0 - 0.2	0.2 - 0.5	1.0 - 2.0
	0.5 - 1.0	> 2.0

Hazard Map: 100-year



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Joint SFRA boundary
Assessment area
Hazard
Very low hazard - caution
Danger for some
Danger for most
Danger for all

Sources of Flood Risk:

• Fluvial flood risk is from the overtopping of the Whetstone Brook as it flows along the western boundary of the assessment area.

• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Infiltration may be suitable. Mapping suggests a medium risk of groundwater flooding and underlying soils may be permeable. Further site investigation should be carried out to assess potential for drainage by infiltration. If infiltration is suitable it should be avoided in areas where the depth to the water table is <1m.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This feature is probably suitable provided slopes are <5% and the depth to the water table is >1m. A liner maybe required to prevent the egress of groundwater.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.* • *The assessment area is not located within a groundwater source protection zone.*
Flood Defences: There are no flood defences at this assessment area.
Flood Warning: This assessment area is not currently covered by the Environment Agency's Flood Warning Service.
Access & Egress: The main access/egress route for the assessment area (Lutterworth Road) is shown to be partially at risk from fluvial and surface water flooding.
Climate Change: • Increased storm intensities. • Increased water levels in the Whetstone Brook.
Flood Risk Implications for Development Proposals within the Assessment Area: • At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3., or for development greater than 1ha in Flood Zone 1. • Resilience measures will be required if buildings are situated in the flood risk area. • Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development. • The peak flows on the Whetstone Brook should be considered when considering drainage. • Assessment for runoff should include allowance for climate change effects. • New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff. • Onsite attenuation schemes would need to be tested against the hydrograph of the Whetstone Brook to ensure flows are not exacerbated downstream within the catchment. • Safe access and egress would need to be demonstrated. The current main route to the assessment area (Lutterworth Road) is not at risk of flooding. • New development must seek opportunities to reduce overall level of flood risk, for example by: o Reducing volume and rate of runoff o Relocating development to zones with lower flood risk o Creating space for flooding o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy. • Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.

WHE018				
OSNGR: 455185 298416	Area: 1.93ha		Greenfield	
Flood Zone Coverage:	**FZ3b** 100%	**FZ3a** 0%	**FZ2** 0%	**FZ1** 0%

Exception Test Required?

Yes, for More Vulnerable and Essential Infrastructure development in FZ3a and for Highly Vulnerable development in FZ2.
Highly Vulnerable infrastructure should not be permitted within FZ3a and FZ3b.
More Vulnerable and Less Vulnerable Infrastructure should not be permitted within FZ3b.
Essential Infrastructure in Flood Zone 3b will require the Exception Test.

Potential to pass the Exception Test

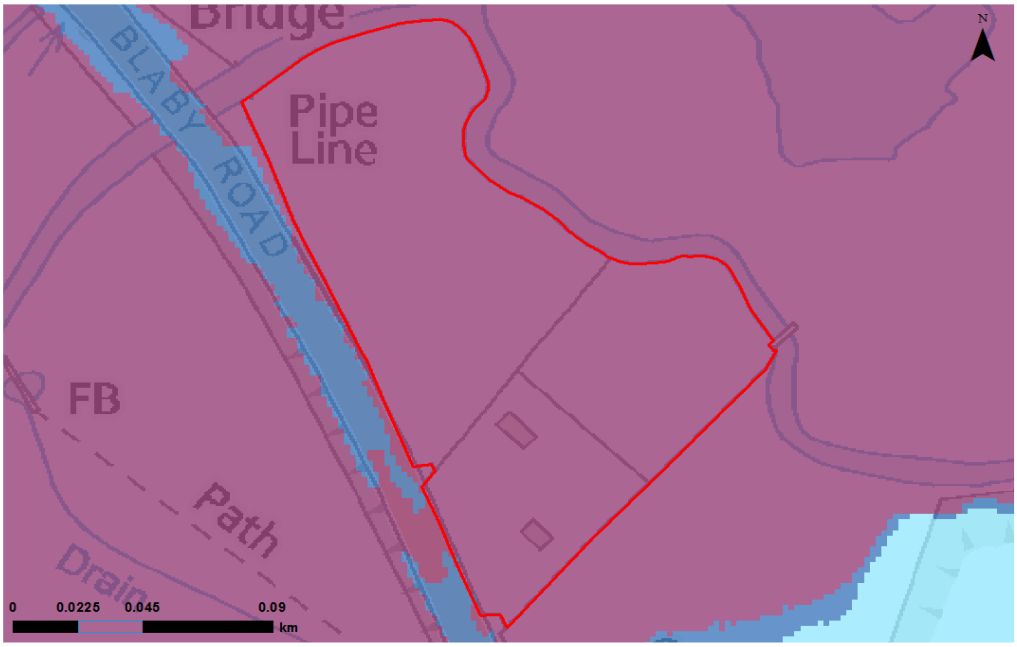
The entire assessment area is in Flood Zone 3b. To pass Part 'b' of the Exception Test, a FRA should demonstrate that: the development will be safe, will avoid increasing flood risk elsewhere, and will reduce flood risk overall. Should the Exception Test be passed, the development should be designed and constructed to remain operational and safe in times of flood. If it is in Flood Zone 3b, should it pass the Exception Test, it should be designed and constructed to:

- remain operational and safe for users in times of flood
- result in no net loss of floodplain storage
- not impede water flows and not increase flood risk elsewhere

In view of the flooding problems from the River Sence and River Soar, detailed hydraulic modelling should be undertaken. The results of this modelling will inform development design and confirm whether the assessment area proposal can pass the Exception Test. It will also inform the design and construction to ensure the NPPF requirements are met.

This assessment area is not suitable for Less Vulnerable, More Vulnerable and Highly Vulnerable development.

Flood Zone Map



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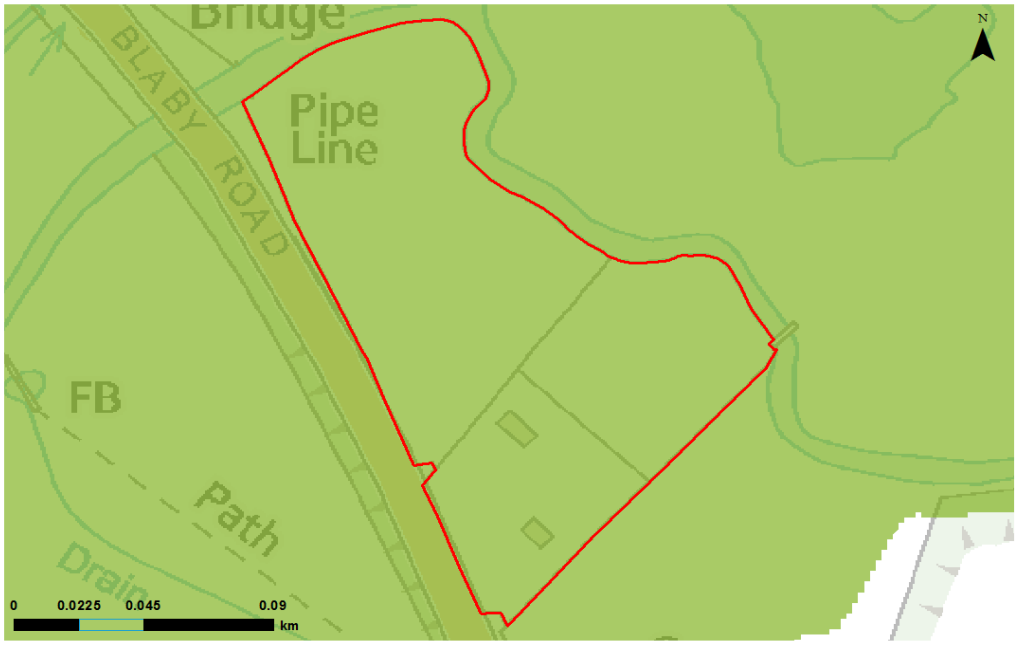
Note: Indicative flood extents have been used to represent FZ3b in certain locations. For more information please refer to section 11 in the main report.

Joint SFRA boundary
Assessment area
Flood Zone 3b
Flood Zone 3a
Flood Zone 2

Climate Change Map



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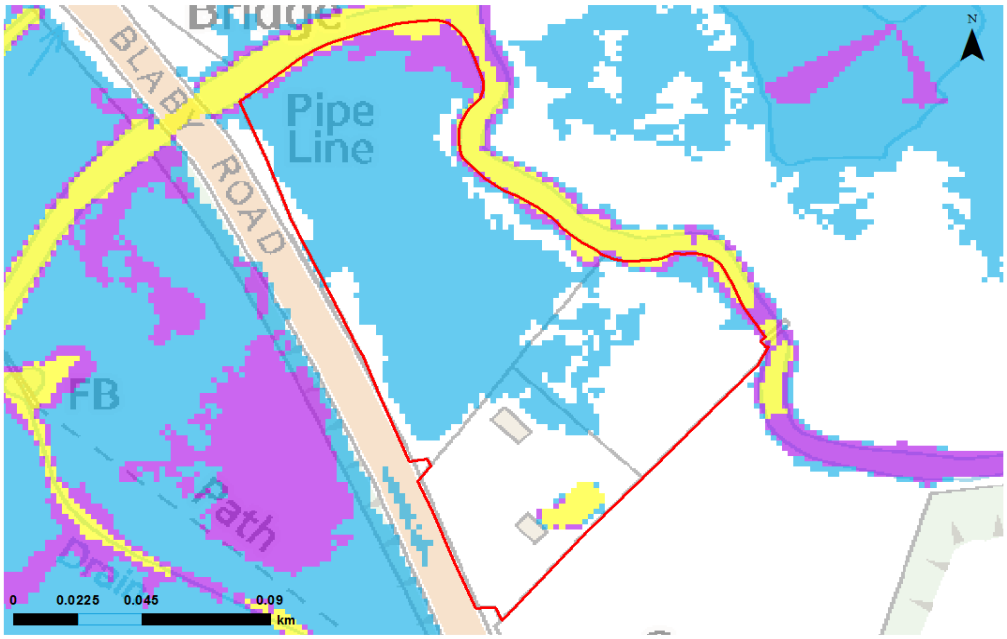
Joint SFRA boundary | Assessment area | Flood Zone 3 with Climate Change

Surface Water Map



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Joint SFRA boundary | uFMfSW 30-year Extent | uFMfSW 1,000-year Extent
Assessment area | uFMfSW 100-year Extent

Sources of Flood Risk:
• Fluvial flood risk is from the overtopping of the River Sence and River Soar as they flow along the north-eastern and north-western boundary of the assessment area.
• Further development and creation of impermeable surfaces may result in an increase of surface water flood risk.

SuDS & the Assessment Area:

SuDS Type	Suitability	Comments
Source Control		Most source control techniques are likely to be suitable. Permeable paving should use non-infiltrating systems due to the risk of groundwater flooding.
Infiltration		Mapping suggests that there is a high risk of groundwater flooding at this location, therefore it is likely infiltration techniques will not be suitable.
Detention		This option may be feasible provided slopes are < 5%. A liner maybe required to prevent the egress of groundwater.
Filtration		This option is unlikely to be suitable due to the high groundwater flood risk at the assessment area.
Conveyance		All forms of conveyance are likely to be suitable. Where the slopes are >5% features should follow contours or utilise check dams to slow flows. A liner maybe required to prevent the egress of groundwater.

• *The assessment area is not located in an area designated as a landfill site.*
• *The assessment area is not located within a groundwater source protection zone.*

Flood Defences:
There are no flood defences at this assessment area.

Flood Warning:
This assessment area is in the Upper Soar Catchment Flood Alert Area.

Access & Egress:
The main access/egress route for the assessment area (Blaby Road) is shown to be at risk from fluvial and surface water flooding.

Climate Change:
• Increased storm intensities.
• Increased water levels in the River Sence and River Soar.

Flood Risk Implications for Development Proposals within the Assessment Area:

• At the planning application stage, a site-specific flood risk assessment will be required if any development is located within Flood Zones 2 or 3, or any development greater than 1ha in Flood Zone 1.

• Resilience measures will be required if buildings are situated in the flood risk area.

• Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development.

• The peak flows on the River Sence and River Soar should be considered when considering drainage.

• Assessment for runoff should include allowance for climate change effects.

• New or re-development should adopt exemplar source control SuDS techniques to reduce the risk of frequent low impact flooding due to post-development runoff.

• Onsite attenuation schemes would need to be tested against the hydrograph of the River Sence and River Soar to ensure flows are not exacerbated downstream within the catchment.

• Safe access and egress would need to be demonstrated. The current main route to the assessment area is at risk of flooding.

• New development must seek opportunities to reduce overall level of flood risk, for example by:

o Reducing volume and rate of runoff

o Relocating development to zones with lower flood risk

o Creating space for flooding

o Green infrastructure should be considered within the mitigation measures for surface water runoff from potential development and consider using Flood Zones 2 and 3 as public open space. For guidance or updated strategies, developers should refer to The 6C's Green Infrastructure Strategy.

• Consultation with the Local Authority and the Environment Agency should be undertaken at an early stage.