

**Bassetlaw Level 2
Strategic Flood
Risk Assessment
Detailed Site
Summary Tables**



Site details

Site Code	NP04
Address	Land south of Ollerton Road, Ollerton Rd, Tuxford, Newark NG22 0NJ. Grid Reference: SK 73353 70860
Area	2.9ha
Current land use	Greenfield
Proposed land use	Residential

Sources of flood risk

Location of the site within the catchment	The site is split between two river catchments; the first is the Holy Well which rises 2.1km west of Tuxford and flows in an easterly direction towards its confluence with the River Trent. The second is the Goosemoor Dyke which rises to the east of Kirton and flows in an easterly direction to its confluence with the Moorhouse Beck. Both rivers are classified as ordinary watercourses.
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Existing drainage features	The site is located near two ordinary watercourses. The first watercourse is the Holy Well which is located 225m north of the site. The second watercourse is the Goosemoor Dyke which is located 725m from the site.
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Fluvial	<p>The proportion of site at risk: FZ3b – 0% FZ3a – 0% FZ2 – 0% FZ1 – 100%</p> <p><i>The % Flood Zones quoted show the % of the site at flood risk from that particular Flood Zone/event, including the percentage of the site at flood risk at a higher risk zone, e.g. FZ2 includes the FZ3 %. FZ1 is the remaining area outside FZ2 (FZ2 + FZ1 = 100%).</i></p> <p>Available data: The Environment Agency’s Flood Zone mapping has been used in this assessment. This is based on 2D generalised modelling data.</p> <p>Flood characteristics: The site is not at risk of fluvial flooding from the Holy Well or the Goosemoor Dyke.</p>
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Coastal and Tidal	The site is not at risk of coastal or tidal flooding.
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Surface Water	<p>Proportion of site at risk (RoFfSW): 3.3% AEP – 0% Max depth 0m Max velocity 0m/s 1% AEP – 0% Max depth 0m Max velocity 0m/s 0.1% AEP – 2% Max depth <0.15m Max velocity 0.5-1m/s</p> <p><i>The % SW extents quoted show the % of the site at surface water risk from that particular event, including the percentage of the site at flood risk at a higher risk zone (e.g. 1% AEP extent includes the 3.3 % AEP extent)</i></p> <p>Description of surface water flow paths:</p>
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	The site is not at risk of surface water flooding during the 3.3% or 1% AEP events. There are two small surface water ponding areas along the site's southern boundary during the 0.1% AEP flood event due to the flat and lower-lying topography of the site (compared to the surrounding land) surface water from the flow path ponds on the site. Flood depths are shallow and are less than 0.15m.
Reservoir	The site is not shown to be at risk of reservoir flooding from the available online maps.
Canals	The site is not in proximity to the Chesterfield Canal; therefore, there is no risk of canal flooding.
Groundwater	<p>The Environment Agency's Areas Susceptible to Groundwater Flooding dataset, provided as 1km grid squares, shows an area's susceptibility to groundwater flood emergence. The following comments can be made about groundwater flood risk:</p> <ul style="list-style-type: none"> The entire site has a <25% susceptibility to groundwater flood emergence from superficial deposits. <p>This assessment does not negate the requirement that an appropriate groundwater regime assessment should be carried out at the site-specific FRA stage.</p>
Sewer	The Level 1 SFRA indicates that 14 incidences of sewer flooding have occurred in the DN22 7 postcode area.
Flood history	The Environment Agency's historic flooding map does not hold a record of flooding at the site. NCC does not have any records of flooding within 100m of the site.
Flood risk management infrastructure	
Defences	This site is not protected by any formal flood defences.
Residual risk	There is no residual risk to the site from flood risk management structures.
Emergency planning	
Flood warning	The site is not located in an Environment Agency flood warning or flood alert area.
Access and egress	<p>The site can currently be accessed from two locations, the A6075 Ollerton Road (to the north of the site) and Long Lane (to the south of the site).</p> <p>A small area of surface water ponding is present along the southern boundary of the site. However, depths are shallow enough that access to and from the site would not be affected.</p>
Climate change	
Implications for the site	<p>No detailed modelling was available for either the Goosemoor Dyke or the Holy Well. As such, Flood Zone 2 has been used as a proxy, as the upper-end climate change allowance extent is usually in a similar order of magnitude to Flood Zone 2.</p> <p>As noted above, the site is not located in Flood Zone 2; therefore, it is unlikely to be affected by climate change for either of the two watercourses.</p>
Requirements for drainage control and impact mitigation	
Broad-scale assessment of possible SuDS	<p>Geology & Soils</p> <ul style="list-style-type: none"> Geology at the site consists of: <ul style="list-style-type: none"> Bedrock- Clarborough Member- Mudstone, Clarborough Member- Siltstone. Superficial- none recorded. Soils at the site consist of: <ul style="list-style-type: none"> Slightly acid loamy and clayey soils with impeded drainage <p>SuDS</p> <ul style="list-style-type: none"> The site is considered to have very low susceptibility to groundwater flooding; this should be confirmed through additional site investigation work. Below ground development such as basements may still be susceptible to groundwater flooding. BGS data indicates that the underlying geology is Mudstone and Siltstone and is likely to be poorly draining. Any proposed use of infiltration should be supported by infiltration testing. Off-site discharge, by the SuDS hierarchy, is required to discharge surface water runoff.

	<ul style="list-style-type: none"> The site is not located within a Groundwater Source Protection Zone, and there are no restrictions over the use of infiltration techniques about groundwater quality. The site is not located within a historic landfill site. Surface water discharge rates should not exceed the current greenfield runoff rates for the site. Opportunities to further reduce discharge rates should be considered and agreed with the LLFA. It may be possible to reduce site runoff by maximising the permeable surfaces on-site using a combination of permeable surfacing and soft landscaping techniques. The Risk of Flooding from Surface Water (RoFSW) mapping indicates surface water flow paths during the 3, 1 and 0.1% AEP event. Existing flow paths should be retained and integrated with blue-green infrastructure and public open space. If it is proposed to discharge runoff to a watercourse or sewer system, the receiving watercourse or asset's condition and capacity should be confirmed through surveys, and the discharge rate agreed with the asset owner.
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<p>Opportunities for wider sustainability benefits and integrated flood risk management</p>	<ul style="list-style-type: none"> Implementation of SuDS at the site could provide opportunities to deliver multiple benefits, including volume control, water quality, amenity and biodiversity. This could provide more comprehensive sustainability benefits to the site and surrounding area. Proposals to use SuDS techniques should be discussed with relevant stakeholders (LPA, LLFA and EA) at an early stage to understand possible constraints. Development at this site should not increase flood risk either on or off-site. The design of the surface water management proposals should consider the impacts of future climate change over the projected lifetime of the development.
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NPPF and planning implications

<p>Exception Test requirements</p>	<p>The Local Authority will need to confirm that the sequential test has been carried out. The Sequential Test will need to be passed before the Exception Test is applied.</p> <p>Residential development is classified as 'More Vulnerable'. The site is entirely within Flood Zone 1 therefore the Exception Test will not be required.</p>
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<p>Requirements and guidance for site-specific Flood Risk Assessment</p>	<p>Flood Risk Assessment:</p> <ul style="list-style-type: none"> A site-specific Flood Risk Assessment will be required at the planning application stage as the development is more than 1ha in size. All flooding sources should be considered part of a site-specific flood risk assessment. The site-specific FRA should be carried out according to the National Planning Policy Framework; Flood Risk and Coastal Change Planning Practice Guidance, Bassetlaw Council's Local Plan policies, and the Nottinghamshire County Council Lead Local Flood Authority's Statutory Consultee for Planning Guidance Document. <p>Guidance for site design and making development safe:</p> <ul style="list-style-type: none"> Surface water flow routes should be quantified as part of a site-specific FRA, including a drainage strategy, to ensure that runoff from the development is not increased by development across any surface water flow routes. A drainage strategy should help inform site layout and design to ensure no increase in runoff beyond current rates. An integrated flood risk management and sustainable drainage scheme for the site is advised. A detailed surface water flooding model using the existing drainage system, topographical and asset survey must be constructed at the FRA stage. This will determine the risk from surface water flooding further and ensure that overland flows do not overwhelm future sustainable drainage features. The site should discharge surface water at the greenfield runoff rate. Developers should refer to Nottinghamshire County Council's 'Nottinghamshire County Council's Guidance Note on the Validation Requirements for Planning Applications' and the Level 1 SFRA for information on SuDS for guidance on the information required by the LLFA from applicants to enable it to respond to planning applications.
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Key messages

<p>The development is likely to be able to proceed if:</p> <ul style="list-style-type: none"> Development is located outside of areas at risk of flooding. Space for surface water to be stored on the site is provided, and rainwater harvesting should be considered.

- Greenfield sites should discharge surface water at the original pre-development runoff rate. If this is not possible, a significant reduction in the current discharge rate should be achieved and agreed with the relevant drainage body (LLFA, IDB or Severn Trent).

Mapping Information

The key datasets used to make planning recommendations regarding this site were the Environment Agency's Flood Map for Planning and the Risk of Flooding from Surface Water map. More details regarding data used for this assessment can be found below.

Flood Zones	The Environment Agency's Flood Zone mapping has been used in this assessment.
Climate change	Climate change modelling outputs were not available for this site. Climate change has been assessed using Flood Zone 2 as a proxy for Fluvial flooding and the 0.1% AEP event as a proxy for surface water flooding.
Fluvial depth, velocity and hazard mapping	Flood depth, velocity and hazard outputs were not available.
Surface Water	The Risk of Flooding from Surface Water map has been used to define areas at risk from surface water flooding.
Surface water depth, velocity and hazard mapping	The surface water depth and hazard mapping for the 1 in 0.1% AEP event is taken from the Environment Agency's Risk of Flooding from Surface Water mapping.