

11072 – Coppice Road, Kidsgrove

Technical Note 3: Surface Water Drainage Review

15 September 2025

1 Introduction

- 1.1.1 Brookbanks is appointed by The Strategic Land Group (SLG), to review the surface water flood risk for a proposed development at Coppice Road, Kidsgrove.

2 Surface Water Flood Risk

2.1 Existing Flood Risk

- 2.1.1 The Environment Agency's (EA) surface water mapping illustrates (**Figure 2-1**) that there is a low to medium risk flow path through the centre of the Site, flowing east to west, with a medium to high risk of flooding along the western boundary of the Site.

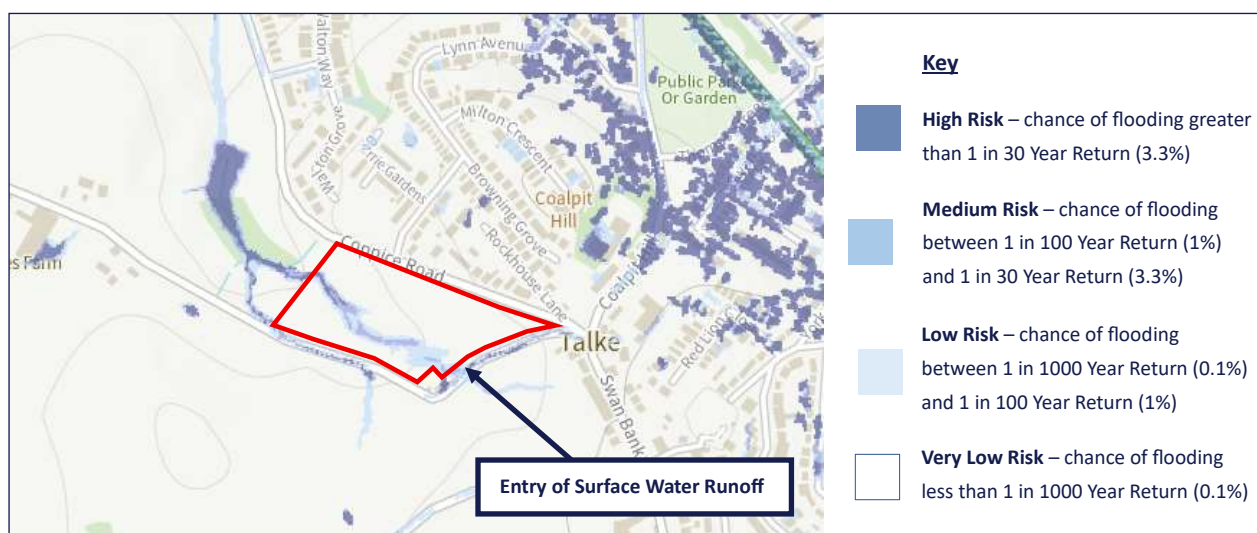


Figure 2-1: EA Long Term Flood Risk Maps – Surface Water Flood Extents between 2040 and 2060, August 2025

- 2.1.2 The risk of surface water flooding mapping is based on LiDAR survey which picks up topographical variation in the area to allow the creation of a generalised pluvial model. The modelling then identifies potential flow routes and low topographical areas in which ponding could occur. It is worth noting that this modelling and resultant mapping does not include any local drainage or culverts that might be in place.
- 2.1.3 The overall area of medium and high risk surface water flooding across the Site in the current day scenario covers 4% of the Site. However, the overall area of medium and high risk surface water flooding across the Site in the 2040 to

2060 flooding extents equates to 7.5% of the Site area; with approximately 1.5% of the Site within the 3.3% AEP and approximately 6% being within the 1% AEP within the 2040 and 2060 flooding extents.

- 2.1.4 It is worth noting that the Newcastle under Lyme Strategic Flood Risk Assessment illustrates a slightly different extent of surface water flooding (**Figure 2-2**), with the overall Site area at risk equating to 4% of the Site area; 1% of 3.3% AEP and 3% being within the 1% AEP as identified within Appendix A of the SFRA NaFRA2 addendum.

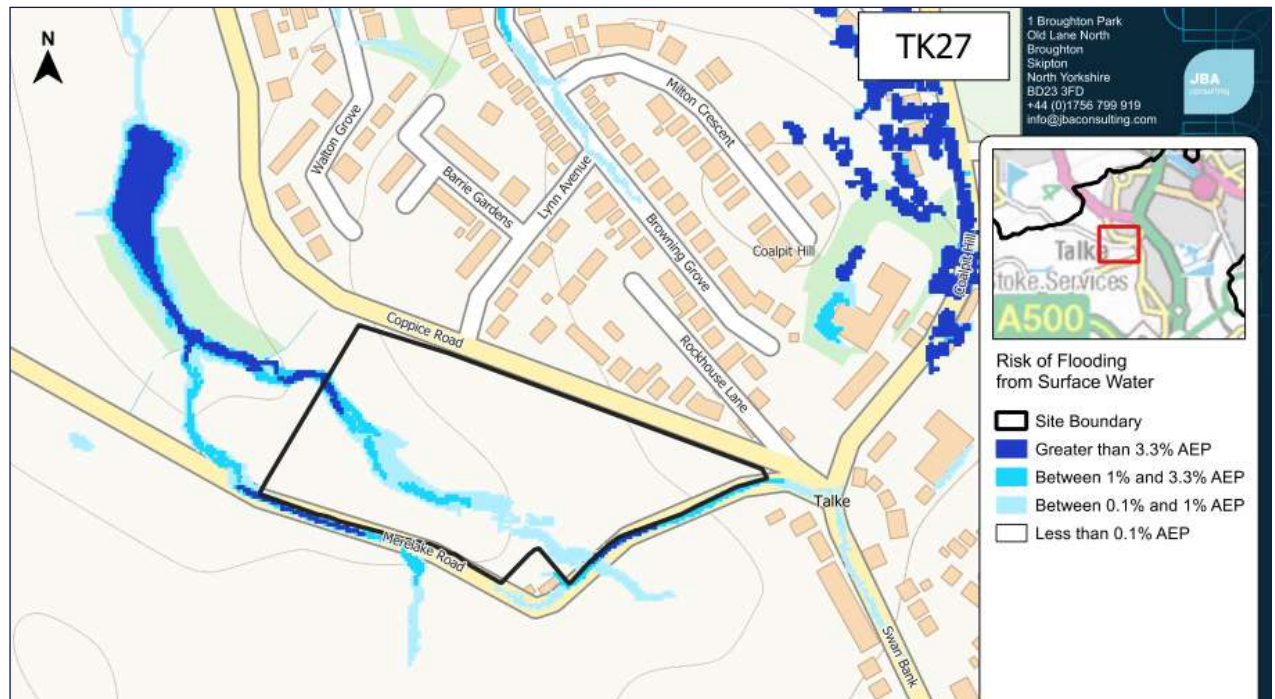


Figure 2-2: Newcastle under Lyme Strategic Flood Risk Assessment – Surface Water Flooding

- 2.1.5 The Newcastle-under-Lyme Level 2 Strategic Flood Risk Assessment: NaFRA2 Addendum, states that: *Further assessment of the potential impacts of climate change on surface water will need to be considered at the site-specific FRA stage.* The impact of climate change on surface water flooding across the Site will be assessed and addressed within the FRA that will be submitted as part of any planning application.
- 2.1.6 Despite the extents of flooding shown across the Site on the EA mapping shown in Figure 2-1, when the EA's mapping of the depths of flood risk are reviewed (**Figure 2-3 and Figure 2-4**), there is very little risk shown across the Site, with a low risk of flooding up to 20cm in the topographic low points along the western boundary and in the centre of the Site and a minor area of 30cm flooding along the western boundary. There is no flooding shown across the Site within the medium or high chance of flooding or within the higher flood depths.
- 2.1.7 We are aware that there are discrepancies in the EA's mapping following the roll out of a recent update however this issue could well be due to a different threshold being used for the graphical outputs on each map. Therefore, Site specific surface water flood modelling can be undertaken to illustrate the true extent of the flooding, which in turn will be used to determine the design layout of the Site.

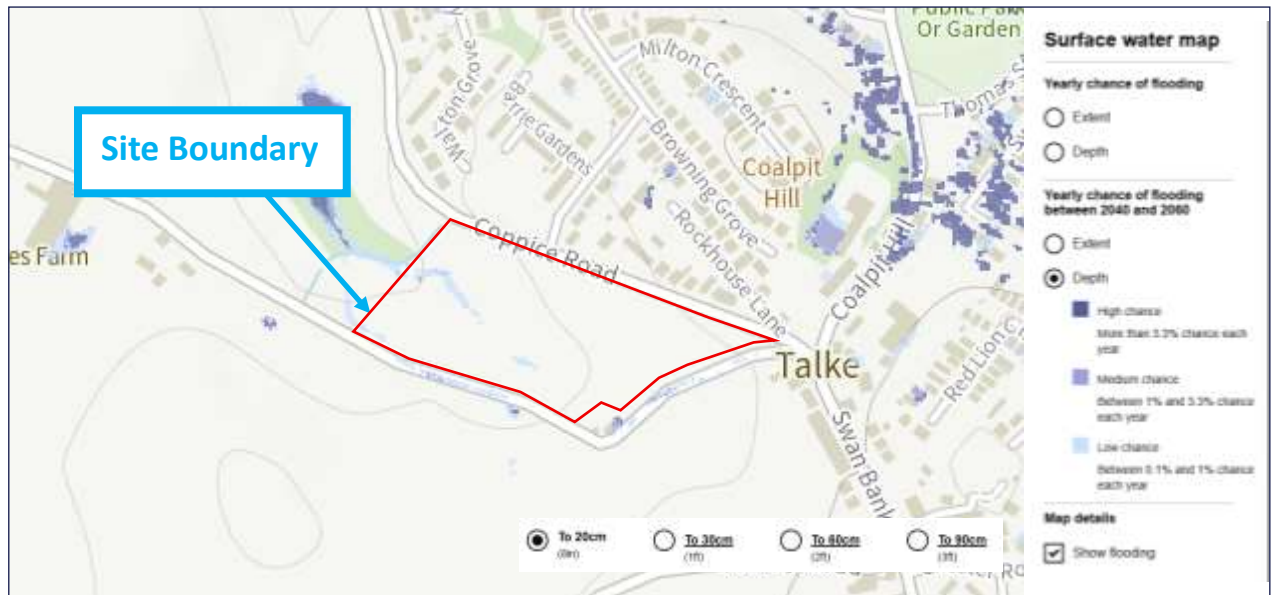


Figure 2-3: EA Long Term Flood Risk Maps – Surface Water Flood Depths (20cm) between 2040 and 2060, August 2025

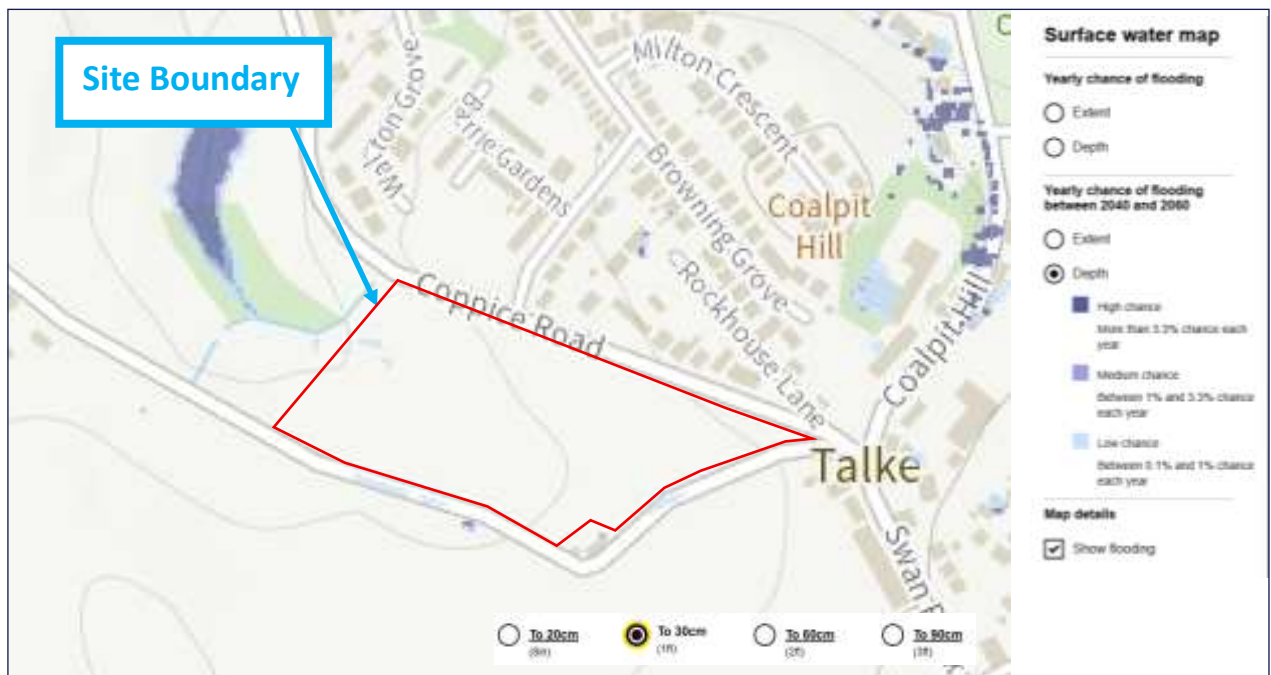


Figure 2-4: EA Long Term Flood Risk Maps – Surface Water Flood Depths (30cm) between 2040 and 2060, August 2025

- 2.1.8 The Site's risk of surface water flooding is generated by a small catchment area which includes both a small area of land to the east and the site itself.
- 2.1.9 As shown in **Figure 2-5**, at the point where surface water runoff flows from Merelake Road onto the Site, there is a break in the hedge line for vehicle access. This gap disrupts the vegetated buffer and creates a localised low point (according to the LiDAR survey data) through which surface water can flow compared to the surrounding vegetated verges, the height of which will be preventing surface water runoff from the rest of the road into the Site.
- 2.1.10 Due to the fall of the Site, any runoff shown to come from the road (on the eastern site boundary) will then follow the Site's topography in a westerly direction towards the western site boundary, as illustrated in **Figure 2-1**.



Figure 2-5: Street View Image – Looking north on Merelake Road (Google, August 2025)

- 2.1.11 In reality due to the fall of the road to the south (parallel with the site boundary) it is likely that some of the surface water flow caused by an extreme rainfall event will remain within the boundary of the Merelake road and not enter the site itself.
- 2.1.12 As the Site is developed, levels across the Site will be amended/ terraced, altering the overall Site topography and where there is a low point along the eastern boundary, a cut off ditch/land drainage system and/or development levels through appropriate open spaces can be constructed to route any runoff from the off-site road/catchment through the central open green space, which has already been designed with this exceedance route in mind.

2.2 Modelling of Surface Water Flood Risk

- 2.2.1 On the 14th March 2025, an appeal was allowed in respect of a site in Lancaster (Appeal Ref: APP/A2335/W/24/3350855). In that case it was identified that the SFRA plans showed the site to be at risk of future surface water flooding in all tested scenarios. However, it was demonstrated by the appellants that the Site was to be at low risk of surface water flooding and the sequential test was not required. Paragraph 78 of the decision states:

“The SFRA interactive mapping for both the RoFSW and future scenarios outputs simply predicts the extent of potential flooding for the 1 in 100-year and 1 in 30-year return period storm events. Therefore, it cannot provide a full or final assessment of risk. Risk must incorporate both the likelihood and the consequences of flood events [ID10]. The interactive mapping captures the likelihood of an event based on the probability of specific rainfall events occurring. However, it cannot determine the consequences of such an event. As a result, the application of such mapping is limited.”

- 2.2.2 Paragraph 81 of the decision states:

“I have had regard to the Appellant’s site-specific assessment [ID11] for current surface water flooding which shows the risk of such flooding is low, using the EA’s Hazard Rating. I have also considered the Appellant’s further site-specific assessment in respect of future surface water flooding which reaches a similar low risk conclusion. It is noted that the EA Hazard Rating was introduced by DEFRA and the EA in 2005 and is established and recognised as a useful reference in terms of flood risk assessment. Importantly, it is acknowledged that it brings together both the likelihood and consequences of flooding to measure overall risk. As a result, when employed in the Appellant’s site-specific

assessments, in both the current and future scenarios, the Rating of overall flood risk falls into the “very low hazard” category.”

- 2.2.3 Consistent with the approach taken for the above appeal site, a site-specific FRA will be undertaken for the development of site TK27. This will identify any areas of the proposed development that may be at risk of flooding. Where site-specific hydraulic modelling is available, this will take precedence over the mapping presented within the SFRA and the EA flood maps, which are recognised to have inherent limitations. These limitations are also identified in Paragraph 77 of the appeal decision which states that the EA’s RofSW modelling to be an inherently high-level starting point not suitable on its own for a full assessment of flood risk at a site-specific level.
- 2.2.4 The site-specific FRA and surface water modelling will build upon the information in the SFRA and the EA mapping to provide accurate flood extents and depths (which forms the basis of a hazard assessment).
- 2.2.5 Therefore, if the development proposals can illustrate that development and access routes are located within a very low risk level of surface water flooding across the site, including any areas which are currently shown in the SFRA and mapping to be at medium or high risk of surface water flooding, then these parts of the site can be developed without the sequential test being required. The same conclusion was also met in the appeal decision at the site in Lancaster, quoted above.

2.3 Surface Water Drainage Scheme

- 2.3.1 A second appeal was approved on the 27th June 2025 at a site in Faversham (Appeal Ref: APP/V2255/W/24/3350524) where one of the issues discussed/debated was surface water flooding. It was noted within the Appeal Decision that the extent of pluvial flood risk is limited, and the depth of flooding would be relatively shallow, which is a fairly typical existing situation on an agricultural field (and in that regard is similar to the site at Coppice Road). Therefore, *“Given the limited nature of the existing and future surface water flood risk, designing out the flood risk could be comfortably accommodated as part of this natural detailed design process.”*
- 2.3.2 Even if site-specific surface water modelling were to identify small areas of medium or high surface water flood risk, based on the current evidence and the nature of the surface water flood risk at this site, it is considered highly unlikely that surface water flood risk would pose a significant real-world threat. Furthermore, any such risk could almost certainly be effectively addressed during the planning application stage through the design of the detailed drainage scheme.
- 2.3.3 Therefore, while the Site is designated as 'amber' in the SFRA, the surface water flood risk is minor and largely manageable, with shallow flood depths. There is no reason why suitable mitigation measures cannot be incorporated into the detailed design of the scheme to support the proposed housing numbers. This means that parts of the site which are identified as being at risk of surface water flooding in the SFRA now may be developable at the planning application stage. These are matters which will be considered through the site-specific FRA and through a planning application.

3 Disclaimer

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