

Consultation Response from KC Lead Local Flood Authority		
2019/92378 east of, 28, Northorpe Lane, Mirfield, WF14 0QN		
Outline planning permission for erection of residential development		
Date Responded: 19 September 2019	Responding Officer: Aleksandra Tomczyk	Responding Ref: 0

Summary

Kirklees Flood Management and Drainage as the Lead Local Flood Authority acknowledge that this is an outline application with all matters reserved except for access. The applicant should be aware that any decisions fixed at this stage as part of any planning approval may have an impact on drainage arrangements in the future, therefore careful consideration should be given to what is being agreed.

No information on flood risk or surface water drainage has been provided at this stage, therefore Kirklees LLFA only provide the below COMMENTS.

Comments

The applicant is seeking permission for erection of up to 48 dwellings in Mirfield, with all matters reserved except for access.

The proposed development site is located on a slope, with approximately 15-20 metres fall from West to East. There is a rail line running along its eastern boundary. The site is located within Flood Zone 1, according to Environment Agency's *Flood map for planning*. The eastern boundary of the site shows as having a high surface water flood risk, according to the Environment Agency's *Long term flood risk mapping service*.

Based on the Indicative Site Layout drawing submitted (prepared by Acumen Designers & Architects, dated July 2019, drawing number 2600-010), back garden areas and residential buildings on plots 10-11 and 14-23, would possibly be at risk from flooding from surface water. The applicant should consider this in developing the design and making appropriate adjustments to the layout or design, to make sure that future residents are not put at risk.

Infiltration maps show that the area's underlying soils and superficial geology may be suitable for infiltration SuDS. However, due to the site topography, infiltration SuDS are not recommended due to a risk of re-emergence.

There are several watercourses in the area, as follows:

- An open watercourse/drain located east of the site, on the opposite side of the rail line;
- A culverted watercourse located west of the site, along Crossley Lane; and
- Partially open, partially culverted watercourse located north of the site, along the northern edge of Jill Lane.

Kirklees Council holds records of flooding along Jill Lane, north of the site, caused by the culverted watercourse. Kirklees LLFA do not hold records of any other flooding in the area.

Kirklees Council records show a network of sewers in the location, these are as follows:

- Combined sewer and surface water sewer along Northorpe Lane; and
- Combined sewer located north of the site (approximately 120m away).

Flood Risk Assessment

As per the *Planning Practice Guidance*, any site of 1 hectare or more must prepare a site-specific flood risk assessment as part of the planning application. However, it is good practice for all developments to investigate their flood risk/ resilience to ensure that are not vulnerable to flooding.

This document should investigate all types of flooding, what impact it would have on the development and any mitigation measures required, as well as the impact the development would have on the flood risk in the area.

The Indicative Site Layout drawing shows approximately 12 plots located in or around areas of surface water flood risk from a low to high degree. The layout should be assessed, and careful consideration given on the development layout, to minimise the risk to users of the development.

Kirklees LLFA has knowledge of presence of multiple springs on site – these must be included within the FRA with mitigation measures proposed to ensure that properties are not vulnerable to any groundwater emergence, as well as ensuring that flood risk is not increased elsewhere.

Flow routing

Kirklees LLFA expect an analysis of flow routing for the site layout to be provided, including inflows from offsite, as well as flows originating onsite. Short, intense storms may bypass road gullies and the route should avoid property curtilages where reasonably practicable, utilising roads and open spaces.

Flow routing from attenuation should also be considered, in case of exceedance event. The applicant should use *Designing for Exceedance* guidance to inform this design and safe disposal of any exceedance volumes.

Surface Water Drainage Strategy

Surface water discharge point should be assessed using the following hierarchy of preference:

- *Infiltration*
Infiltration is the preferable way of disposing of surface water from a development. However, as stated before in this response, due to the site topography and therefore risk of water re-emergence, Kirklees LLFA do not consider infiltration as a suitable way of surface water discharge.
- *Watercourse*
A number of watercourses has been listed previously in this response. Kirklees LLFA do not consider either of them a suitable way of surface water discharge, due to local topography and history of flooding.
- *Surface water sewer*
Kirklees records show a surface water sewer running along Northorpe Lane. This may not be a suitable way to dispose of surface water as it may not be possible to drain to this sewer via a gravity connection due to local topography. Pumping should only be undertaken when there is no possible alternative, pumping surface water is not deemed suitable for this site.
- *Combined sewer*
Kirklees LLFA have identified a combined sewer located approximately 120m north of the proposed site. Looking at the local topography, this would appear to be a feasible way of surface water discharge.
Due to the sewer's location, agreement might have to be reached with land owner north of the proposed site. Yorkshire Water should also be consulted if connection to this sewer is considered.

Discharge rate from all sites should be at pre-development greenfield equivalent run off rates. This rate must be calculated for only the impermeable/positively drained areas, not for the entire site.

For this application, the site appears to be greenfield, therefore Kirklees LLFA require the applicant to provide attenuation on site and discharge surface water from development at greenfield equivalent rates. To account for these restricted discharge rates, the site will be required to provide surface water attenuation features. These can take many forms, as described in the CIRIA *SuDS Manual*.

In any application to follow, Kirklees LLFA will require the applicant provide surface water drainage information. This should include the proposed discharge point, discharge rate (including associated calculations), surface water drainage layout and MicroDrainage outputs to satisfy the modern standards of design:

- No surcharging above pipe soffit for critical 1 in 1 year storm event;
- No surface water flooding for critical 1 in 30 year storm event; and
- No surface water flooding that may pose a risk to users of the proposed development or area off site for critical 1 in 100 year event + climate change;
- Simulations provided from 15 minute to 24 hour storm duration;
- Simulations provided for both summer and winter profiles.

This can include opportunities to store water in non-critical areas such as car parks or landscaped areas. This must not result in flooding to properties, evacuation routes or other critical areas that could pose risk to users of the development.

Kirklees LLFA highlight it is important that we are consulted on any application to follow.