

**Consultation Response from KC,
Lead Local Flood Authority**

2022/91735 Land off, Hermitage Park, Lepton, Huddersfield, HD8 0JU

Outline application for erection of residential development

Date Responded: 11th July 2022

Responding Officer: Paul Farndale

Responding Ref:

Consultation Summary

Kirklees Flood Management & Drainage Acting as Lead Local Flood Authority requires MORE DETAILED INFORMATION IN THE FLOOD RISK ASSESSMENT in order to provide recommendations to the Local Planning Authority.

Detailed Response

Watercourse on North East Boundary

A detailed level survey and total blockage scenario in the area around this watercourse should be included in a flood risk assessment to show where water will flow overland in such an event, where it will go pre- and post-development. Weir points should be clearly identified.

The current Flood Risk Assessment suggests there is risk to site and a swale should be included to get water safely to Beldon Brook. This will require planning for this site and the wider masterplan. With layout being assessed for this application, a detailed design is required that should then be reflected on all drainage, engineering, landscaping, and constructions drawings.

An assessment of the current trash screen is also required to see if it meets current requirements given risk is to increase by building properties in the area.

Surface Water Discharge

The LLFA agrees that infiltration techniques are unsuitable for this site. OS contours suggest a steep gradient in places, and this gives concern over re-emergence at low levels. British Geological Survey Data suggests this site would have severe constraints about infiltration. This concurs with soil type reported in the FRA.

There should be no discharge to public sewer as a connection to Beldon Brook is available to the south. However, the route this should take needs to be master planned through other allocated areas in the Local Plan. How the drainage of these other areas interacts with a 'spine system' requires some thought. The use of green conduits should be examined, such as swales.

We have agreed a discharge of 13.3l/s to Beldon Brook, based on an estimate of 50% hardstanding in a pre-application enquiry. Although it now appears that there is less than 50% hardstanding, we are confident that this figure is reasonable for the developed area, not double counting large independent landscaped areas which will retain its greenfield run off. A condition on drainage can finalise this figure and a detailed scheme should layout and scale be adjusted.

Land Drainage Feature

A land drainage feature located within the site has been picked up during the consultation period. This needs investigating in the FRA as a possibility of a small on site watercourse. Please contact the LLFA (Paul Farndale) for more details 01484 221000

Sustainable Drainage Systems

The LLFA disagrees with the FRA assessment on water quality as the detention basins depicted are offline. Although a detailed design of basins can be conditioned, this fundamental aspect must be address. Green conveyance routes such as swales should also be assessed for suitability and practicality for this site and the wider master plan as should the interaction of this system with potential downstream SUDS features.

Given that layout is to be determined in this application a more detailed drainage design, including pipe sizes and gradients is required to ensure that this constraint (making space for water) has been fully considered. Full microdrainage simulation and wizzard is required including entries for multiple basins which clearly show a level where there is zero attenuation, for example, depth 1.001m = 0m². The critical event must be identified.

The phasing plan for the drainage needs to be examined as part of the master planning exercise in order to construct to the outfall, a working spine system with flood and pollution prevention in mind as works in other areas are active.

Structures Under the Highway

Although online detention basins need to be incorporated into the design, the current design has depicted the location of pipework under the road network but has not sized this system. Pipes greater than 900mm diameter under adoptable highway would be considered structures and could affect section 38 adoption process making it difficult. Please contact our Structures department, Farhad Khatibi on 01484 221000 for further advice.

Flood Routing

It is expected that the road network and open space for this application is utilised for flood routing should there be blockage scenarios or exceedance events where we assume the drainage system has failed. Some work has been presented in the FRA and drawing reference 1093-007 Revision B, 'Proposed Levels Strategy', appears to suggest this is achievable. A more detailed engineering drawing showing road and footway contour levels should be submitted in the FRA. Finished floor levels are included but there is an absence of levels in open space and crucially the fall of driveways and relevant areas to demonstrate flows away from property which is required to make a full assessment given layout is to be determined yet drainage design has not sufficiently developed.

General flood routing off this site and into other areas allocated for housing in the Local Plan also needs to be shown so that the planning officer is satisfied it will not be detrimental to future applications. Flood routing should therefore form part of the masterplan focusing on road networks and open space.

Construction Phase Temporary Drainage, Flood Risk and Pollution Prevention

Risk assessments and method statements will be required to produce a master plan for phasing of construction that details a plan and narrative of mitigation measure to be included to prevent downstream flooding of land and other construction sites and pollution of local watercourses. This can be conditioned.

Section 106 Undertaking

Although the FRA states that SUDS systems will be subject to an adoption agreement, history tells us that such agreements and indeed adoptions are not guaranteed. As House of Commons Written Statement 161, now incorporated into NPPF, provides an obligation for the LPA to ensure the maintenance and management of SUDS for the life of the site, a unilateral agreement to set up a management company for the integrated spine system to drain this site right to Beldon Brook which incorporates master planning of the wider housing allocation, to maintain and manage surface water drainage system up to the date of adoption is required.

With the principle established in section 106, an itinerary and schedule of maintenance and management task, bespoke to this site, including safe access to and into attenuation systems and the maintenance thereof will be required to be submitted before development commences. Clearly a detailed design is required to assess what is require, overseen by the Principal Designer through CDM Regulations 2015. Maintenance agreements under section 106 will cease with the statutory undertaker adopts the system.

Drainage Masterplanning – HS2 and HS3 (Phased 1, 2, 3 and 4)

The submitted masterplan for drainage indicates that phase 1 drainage will be separated from that of phases 2,3 and 4. We concur that land occupying phase 1 falls toward Fenay Beck whereas all other phases fall toward Beldon Brook.

Masterplanning does show areas for SUDS is quite elevated places and a meeting is required to explain this provisional concept in more detail, i.e., what part it plays in a treatment train for phases 2,3 and 4.

Masterplanning will need to show how these phases will include water quality improvements using SUDS as conduits and attenuation. This application shows detention basins to be offline and therefore hydrocarbons will be washed through on first flush

Masterplanning needs to show how phase 2 can be developed prior to phases 3 and 4 as an integrated drainage system will be required and an outfall to Beldon Brook for phase 2 will need constructed sewerage in the other areas, i.e., a spine system will need to be constructed as a separate and earlier phase of construction for all phases to facilitate the promoted build programme.

Masterplanning needs to consider flood routing as a constraint on layout design and not be an afterthought. Exceedance events and blockage scenarios should be contemplated based on current topographical surveys. These route ultimately should avoid property curtilage and utilise pathways ultimately set aside for highway construction and open spaces. Properties should not be located at low

point or in basins. A demonstration that this has been appropriate analysed and incorporated is required.

Kirklees LLFA wish to be reconsulted when the above further information is provided, and appropriate conditions can be suggested.