

**Consultation Response from KC,
Lead Local Flood Authority**
2021/91914 rear of No 28, Northorpe Lane, Northorpe, Mirfield, WF14 0QN
Demolition of one dwelling, erection of 45 dwellings with access and associated infrastructure
**Date Responded:
04/06/2021**
**Responding Officer:
Martin Stephenson**
**Responding Ref:
0**
Drainage Summary

The proposed development is to construct new dwellings on a 1.4 ha predominantly greenfield site falling at an approximate 1 in 12 slope in an easterly direction to a raised embankment – part of a dismantled railway line (former L&NWR Heaton Lodge & Wortley Line). Flood mapping shows floodwater to a depth greater than 1.2m for the 1 in 100 storm event being retained against the railway embankment approximately 45m south of the north-easterly corner of the site.

The site is deemed unsuitable for soakage due to a significant risk to ground stability and the closest watercourse is indicated on mapping on the other side of the railway embankment north of the Working Men's Club in Eastfield Road.

The nearest public surface water sewer is located on Northorpe Lane at a higher elevation than the majority of the proposed housing and appears to be the only viable discharge point for surface water drainage. Therefore a surface water pumping station is proposed to pump the water up to the sewer (subject to YW approvals).

An offline "Carlow" type concrete storage tank is proposed (volume 442m³) with the outlet controlled by a flow control device rated at 4.5 l/s.

Detailed Drainage Comments

It is noted that the proposal is to pump surface water to the higher level sewer. Whilst the LLFA generally discourages pumping of surface water, it is noted that in this instance there are no other practical options. It is assumed the pumping station will be built to YW requirements and be offered for adoption.

It is noted that the proposed flow control device outlet diameter is stated as 93mm – this is below the LLFA's preferred minimum diameter of 100mm (but more than the absolute minimum of 75mm). In this instance, the LLFA may agree to a small increase in allowable discharge rate such that the outlet diameter is 100mm (subject to revised hydraulic calculations and LLFA confirmation).

The routing of floodwater during exceedance events (i.e. flows greater than the critical storm or due to blockage/failure of the drainage system) should be determined and should indicate no flood risk to existing or proposed housing or commercial properties. The route should avoid property curtilage and use the road network and open space to achieve a safe design. Of particular concern is the current location of floodwater over 1.2m in depth on the eastern boundary which is being retained by the existing railway embankment. The FFLs of properties in the vicinity of the should be set above the highest level of the floodwater and proof of this should be provided to the LLFA.

A temporary drainage strategy outlining the drainage arrangements for different construction phases of the project should be submitted including a plan showing the location of the attenuation storage and supporting calculations, which shall be based on the critical 1 in 5-year storm. It should be assumed that once the topsoil has been stripped that the percentage run-off will be 100 %. The maximum discharge rate, off-site, shall not exceed 2.5 litres per second, unless otherwise agreed with the LLFA. Reference should be made to industry standards, for example CIRIA C532 Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors.

A Section 106 Unilateral Undertaking to ensure maintenance and management of any accepted surface water scheme will apply to this site. As part of a Section 106 agreement the Council are required to ensure the site is managed in a safe and suitable way up until adoption by a regulatory body. This requirement should also apply to drainage on the site, during the build out a management and maintenance plan including responsible management company must be secured. This should be enforced until adoption **and continued for the life of the development if adoption fails**. Adoption can fail at any step in the development process from concept design to site inspection post construction.

The maintenance agreement (see below) should be put in place to maintain the site drainage system (including any SUDS/storage/flow control installations) following occupation of the housing units until these are adopted by Yorkshire Water to ensure the efficient operation of the system.

Section 106 – Management Company

The LPA is obligated under House of Commons Written Statement 161 to ensure the maintenance and management of sustainable drainage for the lifetime of the site. This includes the period from construction up until a date of adoption by the statutory undertaker (Yorkshire Water). There is no guarantee that systems will be adopted even if an agreement is signed to do so. It is vital therefore that an undertaking is ensured in the planning process to maintain these systems to manage flood risk. A detailed maintenance plan including access and safety is expected to be included so it can be enforced against non-compliance.

Kirklees Flood Management & Drainage as Lead Local Flood Authority (Statutory Consultee) can SUPPORT this application SUBJECT to appropriate recommended conditions as set out below provided the above comments are satisfactorily addressed in the detailed design.

Suggested Conditions

DR01 Drainage Details

Development shall not commence until a detailed design scheme detailing foul, surface water and land drainage, (including agreed discharge rates with the LLFA indirectly or directly to watercourse, attenuation for the critical 1 in 100 + 30% climate change rainfall event, attenuation construction details /design, plans and longitudinal sections, hydraulic calculations, phasing of drainage provision) has been submitted to and approved in writing by the Local Planning Authority. The scheme shall include a risk assessment and method statement, in accordance with CDM Regulations 2015, for access to and into the attenuation structure, and an itinerary of maintenance tasks with schedules. None of the dwellings shall be occupied until such approved drainage scheme has been provided on the site to serve the development or each agreed phasing of the development to which the dwellings relate and retained thereafter.

DR07 Overland Flow Routing

The development shall not commence until an assessment of the effects of 1 in 100 year storm events, with an additional allowance for climate change, blockage scenarios and exceedance events on drainage infrastructure and surface water run-off pre and post development between the development and the surrounding area (both upstream and downstream of the development), has been submitted to and approved in writing by the Local Planning Authority. No part of the development shall be brought into use (dwellings shall not be occupied) until the works comprising the approved scheme have been completed and such approved scheme shall be retained thereafter.

DR10 Construction Phase Surface Water Flood Risk and Pollution prevention plan.

Development shall not commence until a scheme, detailing temporary surface water drainage for the construction phase (after soil and vegetation/site strip) has been submitted to and approved in writing

by the Local Planning Authority. The scheme shall detail:

- phasing of the development and phasing of temporary drainage provision.
- include methods of preventing silt, debris and contaminants entering existing drainage systems and watercourses and how flooding of adjacent land is prevented.
- the strategy shall include a plan showing the location of the attenuation storage and supporting calculations, which shall be based on the critical 1 in 5-year storm. It should be assumed that once the site has been stripped that the percentage run-off will be 100 %. The maximum allowable off-site discharge rate shall not exceed 2.5 litres per second, unless otherwise agreed with the LLFA.

The temporary works shall be implemented in accordance with the approved scheme and phasing. No phase of the development shall be commenced until the temporary works approved for that phase have been completed. The approved temporary drainage scheme shall be retained until the approved permanent surface water drainage system is in place and functioning in accordance with written notification to the Local Planning Authority.