

Consultation Response from KC Lead Local Flood Authority		
2019/93444 land at former, Batley & District Cottage Hospital, Transvaal Terrace, Carlinghow Hill, Batley, WF17 0AA		
Partial demolition of existing building, alterations to convert retained building to 20 apartments and erection of 20 dwellings (within a Conservation Area)		
Date Responded: 27 November 2019	Responding Officer: Aleksandra Tomczyk	Responding Ref: 0

Summary

Kirklees Flood Management and Drainage, as the Lead Local Flood Authority (LLFA) require FURTHER INFORMATION is provided on surface water management. In the absence of this information, Kirklees LLFA OBJECT to this planning application.

Kirklees LLFA also offer the below additional information and comments.

Kirklees Records

The proposed development site slopes from approximately 90mAOD in north east, to approximately 85mAOD in south west.

Kirklees mapping shows no records of watercourses in the vicinity of site boundaries. There is however a part open/part culverted watercourse located approximately 120 metres south west of the site – Carlinghow Brook. The Brook flows in the south eastern direction along Bradford Road.

There are existing sewers in the area:

- Separate surface water and combined sewers along Transvaal Terrace (along the western site boundary); and
- Foul sewer along Carlinghow Hill (along the southern site boundary).

The proposed development site is located within Flood Zone 1, according to the Environment Agency's *Flood map for planning*. The Environment Agency's *Long term flood risk map* shows the site having between 0.1% and 1% chance of flooding from surface water each year. There appears to be a flow path from the north of the site to the south of the site, up to a depth of 300mm.

Kirklees LLFA holds no records of flooding on site or in the area. The absence of records does not mean that flooding has not occurred, but simply that Kirklees LLFA have not been made aware of flooding.

Reviewing the infiltration mapping, it appears that the area around the existing building to be retained is suitable for infiltration features. However, the area north of the building, where the applicant proposes to erect the new dwellings, is not suitable for infiltration.

Additional comments

The applicant is seeking permission to partially demolish the existing Batley & District Cottage Hospital building. Additionally, the applicant wants to convert the remainder of the Hospital building into apartments and erect an additional 20 dwellings on land adjacent to the building.

The proposed development is located in the area of Batley, with Carlinghow Hill along the southern site border and Transvaal Terrace along the west site border. In the north, the site is bounded by open fields, and in the east – by Batley Grammar School.

Flood Risk Assessment

Kirklees LLFA reviewed the *Flood Risk and Drainage Assessment* document provided (prepared by Weetwood, v1.1, dated 7 October 2019), and provide the following comments:

- Kirklees LLFA accept in principle the proposed discharge of surface water into an existing public sewer, as specified in the section 7.3.1 *Disposal of Surface Water* (p. 15).
- The Drainage Area 1 attenuation storage sizing specified in section 7.3.4 *Attenuation Storage* (p. 15) will not provide the required 63m³ of storage. An oversized storage pipe with 1.2m diameter and 55m long would provide 62.2m³ of storage in total. The applicant must re-evaluate this storage and provide revised sizing and type.

- The same section as above also specifies the attenuation storage for the Drainage Area 2 as permeable paving with sub base. This is specified as having a void ratio of 30%, which is the maximum available. Guidance states a void spacing of between 20-30% should be used for permeable paving. Kirklees LLFA suggest the applicant changes the specification of the paving to provide 20% void ratio instead, which is more likely to be feasible. Using the upper limit of 30%, the permeable paving would provide 60.4m³ of storage, while using a 20% void space would provide around 40.2m³. The difference in storage is approximately 20m³. Using this lower rate would be more suitable as it is likely that post construction, void spacing will reduce over time due to sedimentation, even with maintenance. Given that there is a known challenge in maintaining void spacing in permeable paving over time, as well as maintaining permeability, it is considered that a dedicated storage tank or similar may be a more pragmatic solution to achieve the surface water attenuation required.
Given that this is to be used for storage (with no indication of desire for infiltration), Kirklees LLFA would expect the system to be lined to prevent groundwater intrusion and sedimentation (unless it is demonstrated that infiltration is suitable). Similarly, the applicant will be required to ensure that the attenuation required is provided throughout the operation of the site, which may require significant maintenance.
- Kirklees LLFA acknowledge the permeable paving maintenance plan provided in *Table 2* (p. 17). However, the maintenance plan will need to not only clean the surface of the paving, but also ensure that the void spacing is maintained. This may require periodic removal of surface paving, washing of subbase and repacking. The applicant should make use of the *Ciria SuDS Manual*, especially sections outlining the permeable paving design, operation and maintenance.
- Considering the parking lot provides 21 parking spaces, Kirklees LLFA expect a petrol interceptor to be included in the design.
- *Appendix H – Surface Water Attenuation – Storage Volume Calculations* within the FRA submitted contain MicroDrainage output for the 1 in 100 year event + 30% climate change allowance. It is good practice to provide the 1 in 1 year and 1 in 30 year storm event outputs for review as well.

Surface Water Drainage

The applicant should review the surface water design, based on the above comments, and provide the updated proposals for review.

Kirklees LLFA expect an updated drainage layout drawing to be provided, as well as MicroDrainage outputs to satisfy 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;
- 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; and
- Simulations provided for both summer and winter profiles.