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E18/7232/HH/001B

18 September 2018

FAO Andrew Naylor
Avant Homes (Yorkshire)
Unit 2, Mariner Court
Peel Avenue
Wakefield
WF4 3FL

Dear Andrew,

Re: Proposed development of former St Lukes Hospital, Blackmoorfoot Road, Huddersfield

The following report supports the following applications on the named development,

1. *Reserved Matters Application for the residential development of 200 No. dwellings in pursuant of application Ref: 2016/91337; and*
2. *Full application for the residential development of 26 No. dwellings and onsite open space.*

1. Existing Drainage

The existing site comprises of a former hospital which has been demolished in recent years and forms a roughly rectangular shaped plot of land covering approximately 9.5 hectares.
There are a significant number of mature trees noted along the boundary of the site.

Existing residential properties are located to the north, east and south. To the west there is a primary school.

The site decreases in elevation from south west (c. 164m AOD) to north east (c. 140m AOD).

There are no existing public sewers located on site, however there are adopted Yorkshire Water sewers located within Blackmoorfoot Road, Nabcroft lane and Sunningdale Road which serve the existing houses surrounding the site.

Ground conditions were found to comprise of Made Ground overlying weathered sandstone. The ground has been subjected to extensive re-modelling to accommodate the former hospital building. This has resulted in deeper areas of Made Ground onsite.

2. Drainage Proposals

Due to the topography of the site, the residential part of the development is to be divided into three areas each with its own separate attenuation system and point of discharge. Refer to HHA drawing E18/7232/002 details.

A new retail / commercial area is to be constructed at the site entrance and development by a third party. This area will have a separate attenuation system to the residential development, however the proposed flow rate for retail area will be incorporated into the overall discharge rate of the entire development.

a) Foul Water

Yorkshire Water have advised the proposed foul water can discharge unrestricted to the existing 450mm diameter combined public sewer along Blackmoorfoot Road and the 300mm & 225mm diameter combined public sewer in Nabcroft Lane.

The existing levels on site should enable the proposed foul drainage to drain via a gravity system.

Area 1 – New foul water unrestricted discharge to existing 450mm combined public sewer in Blackmoorfoot Road.

Area 2 – New foul water unrestricted discharge to existing 300mm combined public sewer in Nabcroft Lane approximately 50m south of the junction to Nabcroft Rise.

Area 3 – New foul water unrestricted discharge to existing 225mm combined public sewer in Nabcroft Lane approximately 30m north of the junction to Sunningdale Road.

All connections are subject to approval from Yorkshire Water.

b) Surface Water

Due to the presence of relatively shallow sandstone on site, the use of SUDS has been investigated. However due to the following reasons, we would recommend that infiltration methods are not suitable for the surface water disposal:

1. The variable depth of Made Ground.
2. Scale of development.
3. Flooding to basements of the properties adjacent to the site reported by local land drainage authority.

The current design requirement for a new development sites from the perspective of flood risk and sustainable drainage are to design the system to accommodate the following.

i) No surcharging of any part of the system for the 1 in 2 year storm.

ii) No above ground flooding up to the 1 in 30 years storm.

iii) No flooding to property up to the 1 in 100 year storm.

iv) No discharge of surface water off site for the 100 year storm with allowances for 30% climate change.

Yorkshire Water have confirmed a maximum discharge rate of 190lit/sec to the existing 450mm public combined sewer on Blackmoorfoot Road and a maximum of 268.4lit/sec to the 225mm and 300mm public combined sewer in Nabcroft Lane for ALL storm events.

The surface water flows off-site will be controlled by a hydraulic flow control device. This would result in surface water attenuation being required for each Area of the development. Due to the topography of the site and the presence of the existing mature trees all the surface water storage will be provided entirely below ground in oversized pipes and / or tank systems.

Retail / Commercial Area – New surface water attenuation provided with a restricted flow rate to the existing 450mm combined public sewer in Blackmoorfoot Road.

Area 1 – New surface water attenuation to be provided with a restricted flow rate to existing 450mm combined public sewer in Blackmoorfoot Road.

Overall maximum discharge rate of 190lit/sec into Blackmoorfoot Road with the inclusion of the Retail Area.

Area 2 – New surface water attenuation system provided with a maximum discharge rate of 230.8lit/sec to the existing 300mm public combined sewer in Nabcroft Lane.

Area 3 – New surface water attenuation provided with a maximum discharge rate of 37.6lit/sec to the existing 225mm combined public sewer in Nabcroft lane.

Overall maximum discharge rate of 268.4lit/sec into Nabcroft Lane.

It is proposed to put forward the onsite drainage to be adopted by Yorkshire Water under a Section 104 agreement.

With the measures outlined above implemented the site will be developed in accordance with current Water Authority and Land Drainage Authority requirements. The systems can also be adopted as part of the Public Sewer systems or by the Local Authority under the new Flood and Water Management Act arrangements, once they are fully implemented.

Yours sincerely

Helen Hossanee
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