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Dublin City County Council
Civic Offices,
Wood Quay,
Dublin 2.

Date: October 08th, 2018

Re: Application for Planning Permission for Main Drainage for Student Residence at Rathdown Road, Dublin 7.

Our Ref: 1822

Dear Sir/Madam,

Foul Sewer:

It is proposed to provide a 150mm diameter foul sewer pipe to serve the development. The foul water from the development is to fall by gravity to the last foul water manhole FW01. From FW01 the foul water is to flow by means of a 225mm diameter pipe via gravity down to the existing combined sewer in Rathdown Road at Marine Villas as requested by Irish Water in response to the pre connection enquiry. Irish Water have confirmed within the response to the pre connection enquiry that the proposed connection to the Irish Water network can be facilitated.

Foul water pipe sizing is derived from wastewater loadings of 180l/person/day for hotel residents. The proposed development consists of 289 beds, which generates a dry weather flow (DWF) of 0.904 l/s with a 6DWF of 5.425 l/s (capacity of a 150mm Ø pipe at a gradient of 1:225 is 32.40 litres/second).

We have liaised with Marina Zivanovic Byrne in Irish Water and a full design submission has been issued to Irish Water. We await a statement of design acceptance.

Surface Water Sewer:

The roof area of the proposed development adds up to approximately 2074m². The proposed development for a return period of 1 year would yield a runoff of approximately 31Liters/second. Surface water is to flow by gravity to manhole SW02, which contains a flow control device, limiting the flow of water to 2.00 L/s towards manhole SW01. The surface water then flows to the new public surface water sewer as part of the planning conditions from planning reference No. 4262/16 & connects to manhole TBC. SW08 located in the roadway of Rathdown Road and as agreed with Ms. Maria Treacy of Dublin City Council Drainage Division.

In relation to SuDS and in accordance with GSDS guidelines, it is proposed to provide SC-740 STORMTECH attenuation chambers for the 1:100yr storm event and a 20% increase in storage volume to allow for climate change, capable of storing 88.61m³ in volume. Additionally, the proposed attenuation chambers allow for the removal of total suspended solids and provides easy access for inspection and maintenance. To increase the process of percolation, the attenuation chambers are to be surrounded with a permeable geotextile to promote infiltration.

The proposed footpaths & any other hardstanding areas (including the access road) around the Student Residence will be of a permeable finish.

As the existing site is largely hardstanding and does not have any SUDS measures in place the existing outflow from the site is calculated to be 60.26 litres/second. Therefore, the introduction of the proposed hydrobreak limiting the flow from the site together with the proposed SuDS measures reduces the volume of rain water leaving the site and is therefore reducing strain on the public sewer in relation to capacity in storm events.

At the 28th August, 2018, ABP pre planning meeting, DCC drainage Division noted that there is pluvial flooding in the vicinity of the site and this is to be noted within the flood risk assessment. The flood risk assessment has been revised accordingly to include the noted pluvial flooding. The use of green roofs was also requested to be explored. We have reviewed the viability of incorporating green roofs within the development. Due to the proposed pitch and height of the majority of the roofs, safe maintenance of a green pitched roof would prove difficult. Green roofs are proposed to all flat roof areas within the proposed development as indicated on drawing 1822_C01. We have liaised with Ms. Niamh Fitzgerald in relation to the drainage queries raised prior to finalising our submission. Ms. Fitzgerald had no further queries or concerns.

Watermain:

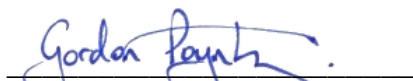
It is proposed to connect a 100mm diameter watermain pipe from the development to the existing watermain on Rathdown Road. A full design submission has been issued to Irish Water. We await a statement of design acceptance.

Swept Path Analysis:

At the 28th August, 2018, ABP pre planning meeting, DCC transportation Division raised concerns on the ability of the bin truck to adequately turn within the development. We have revised the layout of the ESB substation and the bin store to create sufficient space in order that a bin truck can successfully turn 3 movements to exit the development. Refer to drawing 1822_C04 for the revised swept path analysis.

We trust that this is in order, but should you have any queries on the foregoing, please do not hesitate to contact the undersigned.

Yours sincerely,



Mr. Gordon Poyntz B.E., C.Eng., M.I.E.I.
for Lohan & Donnelly Consulting Engineers

08th Oct 2018

Encl.		
Drainage Layout	[Dwg No. 1822-C01]	9 No. Copies
Swept Path Analysis	[Dwg No. 1822-C02]	9 No. Copies
Swept Path Analysis	[Dwg No. 1822-C03]	9 No. Copies
Swept Path Analysis	[Dwg No. 1822-C04]	9 No. Copies
Foul Water Sections (1 of 2)	[Dwg No. 1822-C05]	9 No. Copies
Foul Water Sections (2 of 2)	[Dwg No. 1822-C06]	9 No. Copies
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Design Calculations	Foul Water	9 No. Copies