

TECHNICAL NOTE re. SDCC Request for Additional Information

Proposed Construction of a 7 storey hotel building over 2 basements, Site D, Liffey Valley Office Campus, Dublin 22

Register ref. no.: SD23A/0001

MMOS Consulting Engineers are undertaking the civil design and detail for planning submission. This technical note outlines our response to the SDCC's items 4, 5 & 6 relating to civil services.

Item 4.

(a) Underground attenuation tanks are not acceptable and SuDS (Sustainable Drainage Systems) must be used to attenuate surface water. The applicant is requested to submit a revised drawing in A1 size surface water attenuation using SuDS only (note: A3 size drawings are too small and difficult to read)

Examples of SuDS can be found in SDCC SuDS Guide.

(b) The SAAR value of 962mm appears high. Water services estimate SAAR for Liffey valley as 777mm. the applicant is requested to submit a report showing revised surface water attenuation calculations showing site specific Met Eireann rainfall Data and SAAR value.

(c) The applicant is requested to submit a drawing in A1 size showing the setback distance from proposed development to an existing 900mm surface water sewer south of development. There shall be a minimum setback distance of 8m to the outside diameter of existing 900mm surface water sewer.

Response;

4(a) With reference to the South Dublin County Council SUDS Explanatory, Design & Evaluation Guide we have re-evaluated our SUDS proposals and provided additional SUDS proposals to align where possible with SDCC requirements. Please refer to our revised 'Surface Water Drainage Layout' drawing 22165-MMS-ZZ-ST-DR-C-10001 rev. P03 attached in A1 format. This drawing to be read in conjunction with the Gannon & Associates Landscape Architects 'Sustainable Urban Drainage System' drawing 22193_Liffey Valley_FI_C_SUDs. Additional SUDS Source Control measures are introduced as follows;

- Permeable paving introduced within the upper Entrance Podium area (with Coarse graded sand above voided aggregate sub-base for infiltration, interception and partial storage).
- Permeable Paving increased to footpaths and paving areas on the southeast and northern sides of the Hotel building (with Coarse graded sand above voided aggregate sub-base for infiltration, interception and partial storage).
- Bio-retention areas/Rain Gardens (3no. areas) provided with stormwater controls that collect and treat stormwater runoff and with capacity for on-site retention and slow release of surface water run-off.
- Bio-retention Tree pits and associated Arborsystem Urban Tree Planting system proposed on the southeast and northern sides. This system provides interception, infiltration and storage of surface water within the bioretention root space media (c. 25% porosity) and is proposed as an alternative to below ground attenuation crate system previously indicated.

SUDS measures previously proposed are to remain, namely;

- Green Roof (extensive Green Roof for 61% of roof).
- Rainwater Harvesting System
- Petrol Interceptors for both Basement Run-off and Vehicle Entrance Podium hardstanding areas.

Below Ground Attenuation crate systems are not now proposed, replaced by in train SUDS features as outlined.

Please find attached our revised Civil Engineering Report (rev. 02) which includes revised surface water storage calculations for the proposed development. MMOS Engineers have used the INNOVYZE InfoDrainage software to analyse the revised site drainage. The software allows progressive modelling of the site and calculates how specific SUDs measures contribute to the overall onsite storage of surface water along the flow path.

- 4(b) We have re-checked the SAAR (Standard Annual Average Rainfall) value using site specific Met Eireann Rainfall data. Based on Met Eireann data for annual rainfall in Dublin we propose a revised SAAR value of 774mm and have utilised this value in our revised calculations.
- 4(c) Please refer to our revised 'Surface Water Drainage Layout' drawing 22165-MMS-ZZ-ST-DR-C-10001 rev. P03 attached in A1 format. This drawing to be read in conjunction with revised architectural layouts which show that the basement adjacent this boundary has been set back to give a minimum setback distance of 8m from the outside diameter of existing 900mm surface water sewer to both the proposed new Building face and the Basement below.

6no. copies of our Drainage drawings are here-in re-submitted in A1 size attached to this response. Drawing are updated to the increased Green space area being provided and with the Basement set-back from the existing 900mm diam. SW pipe also indicated, together with associated changes to our civils drainage as follows;

- 22265-MMS-ZZ-ST-DR-C-10000; Foul Water Layout Plan
- 22265-MMS-ZZ-ST-DR-C-10001; Surface Water Layout Plan
- 22265-MMS-ZZ-ST-DR-C-10002; Watermain Layout Plan
- 22265-MMS-ZZ-ST-DR-C-10003; Basement Level -2 SW Run-off & Collection GA
- 22265-MMS-ZZ-ST-DR-C-10004; Proposed Surface Water Longitudinal Sections
- 22265-MMS-ZZ-ST-DR-C-10005; Proposed Foul Water Longitudinal Sections
- 22265-MMS-ZZ-ST-DR-C-10008; Sections 1-1, 2-2 & 3-3

Item 5.

The applicant is requested to submit a Confirmation Letter of Feasibility Letter from Irish Water for proposed development in relation to both water supply and wastewater.

Response;

Please find attached a Confirmation of Feasibility letter dated 12th January 2023 from Irish Water (in response to our Pre-Connection Enquiry ref. CDS22008743). Refer to Appendix B of our Civil Engineering Report Rev. 02 for both the original Pre-connection Enquiry form and the Confirmation of Feasibility ref. CDS22008743 which was received from Irish Water on 12th Jan. 2023

Item 6

The drainage proposal does not comply with SDCC Guidelines with regards to treatment of stormwater. The applicant is requested to provide additional Information showing a natural SUDs system complying with SDCC Guidance, which should not include underground attenuation tanks. In addition to attenuating water there should be a clear treatment train and water is to be used for amenity and biodiversity purposes. Please consider use of blue/green roof, swales, bioretention areas, Suds tree pits, ponds etc. This will likely impact most of the green areas indicated on the landscape plan. Keeping water on the surface rather than using an underground piped system will also assist with achieving the required Green Space Factor score.

Response;

Please refer to our response to Item 4(a) above. Also refer to Gannon & Associates Landscape Architects 'Sustainable Urban Drainage System' drawing 22193_Liffey Valley_FI_C_SUDs. This drawing, in conjunction with MMOS Consulting Engineers drawing 22165-MMS-ZZ-ST-DR-C-10001 rev. P03, indicate the Treatment and Management train of SUDs measures proposed with regards to the surface water run-off from the site.

As previously stated the following SUDs measures are utilised in this proposal;

- Permeable paving introduced within the upper Entrance Podium area (with Coarse graded sand above voided aggregate sub-base for infiltration, interception and partial storage).

- Permeable Paving increased to footpaths and paving areas on the southeast and northern sides of the Hotel building (with Coarse graded sand above voided aggregate sub-base for infiltration, interception and partial storage).
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Below Ground Attenuation crate systems are **not** now proposed, replaced by in train SUDS features as outlined above.

Please find attached our revised Civil Engineering Report (rev. 02) which includes revised surface water storage calculations for the proposed development. MMOS Engineers have used the INNOVYZE InfoDrainage software to analyse the revised site drainage. The software allows progressive modelling of the site and calculates how specific SUDs measures contribute to the overall onsite storage of surface water along the flow path.

CONFIRMATION OF FEASIBILITY

Denis O'Sullivan
MMOS Consulting Engineer
51 Bracken Road
Sandyford
Dublin 18
Co. Dublin

12 January 2023

Uisce Éireann
Bosca OP448
Oifig Sheachadta n.
Cathrach Theas
Cathair Chorcaí

Irish Water
PO Box 448,
South City
Delivery Office
Cork City.

www.water.ie

Our Ref: CDS22008743 Pre-Connection Enquiry
Block D Site, Liffey Valley Office Campus, Dublin 22, Dublin

Dear Applicant/Agent,

We have completed the review of the Pre-Connection Enquiry.

Irish Water has reviewed the pre-connection enquiry in relation to a Water & Wastewater connection for a Business Connection of 1 unit(s) at Block D Site, Liffey Valley Office Campus, Dublin 22, Dublin, (the **Development**).

Based upon the details provided we can advise the following regarding connecting to the networks;

- **Water Connection** - Feasible without infrastructure upgrade by Irish Water
- The proposed Development connects via private infrastructure. Please be advised that at connection application stage you have to provide, written confirmation from the owner of the infrastructure that you have received a legal permission to connect to and that the infrastructure is fit for purpose and has capacity to cater for the additional demand.
- **Wastewater Connection** - Feasible without infrastructure upgrade by Irish Water
- The proposed Development connects via private infrastructure. Please be advised that at connection application stage you have to provide, written confirmation from the owner of the infrastructure that you have received a legal permission to connect to and that the infrastructure is fit for purpose and has capacity to cater for the additional load.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Irish Water infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Irish Water.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the Development, a completed connection application should be submitted. The connection application is available at www.water.ie/connections/get-connected/

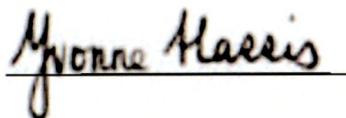
Where can you find more information?

- **Section A** - What is important to know?
- **Section B** - Details of Irish Water's Network(s)

This letter is issued to provide information about the current feasibility of the proposed connection(s) to Irish Water's network(s). This is not a connection offer and capacity in Irish Water's network(s) may only be secured by entering into a connection agreement with Irish Water.

For any further information, visit www.water.ie/connections, email newconnections@water.ie or contact 1800 278 278.

Yours sincerely,

A handwritten signature in black ink that reads "Yvonne Harris". The signature is written in a cursive style and is positioned above a horizontal line.

Yvonne Harris
Head of Customer Operations

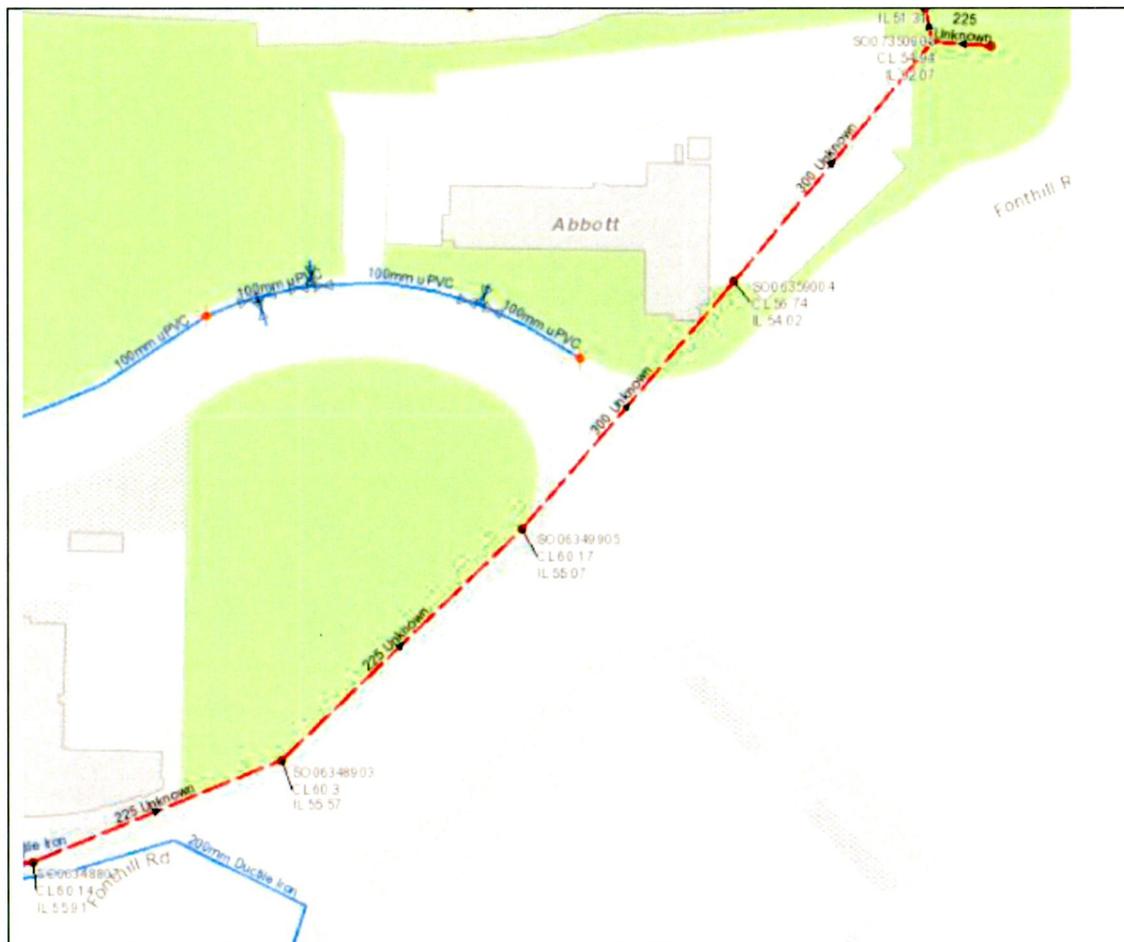
Section A - What is important to know?

What is important to know?	Why is this important?
<p>Do you need a contract to connect?</p>	<ul style="list-style-type: none"> • Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Irish Water's network(s). • Before the Development can connect to Irish Water's network(s), you must submit a connection application <u>and be granted and sign</u> a connection agreement with Irish Water.
<p>When should I submit a Connection Application?</p>	<ul style="list-style-type: none"> • A connection application should only be submitted after planning permission has been granted.
<p>Where can I find information on connection charges?</p>	<ul style="list-style-type: none"> • Irish Water connection charges can be found at: https://www.water.ie/connections/information/charges/
<p>Who will carry out the connection work?</p>	<ul style="list-style-type: none"> • All works to Irish Water's network(s), including works in the public space, must be carried out by Irish Water*. <p>*Where a Developer has been granted specific permission and has been issued a connection offer for Self-Lay in the Public Road/Area, they may complete the relevant connection works</p>
<p>Fire flow Requirements</p>	<ul style="list-style-type: none"> • The Confirmation of Feasibility does not extend to fire flow requirements for the Development. Fire flow requirements are a matter for the Developer to determine. • What to do? - Contact the relevant Local Fire Authority
<p>Plan for disposal of storm water</p>	<ul style="list-style-type: none"> • The Confirmation of Feasibility does not extend to the management or disposal of storm water or ground waters. • What to do? - Contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges.
<p>Where do I find details of Irish Water's network(s)?</p>	<ul style="list-style-type: none"> • Requests for maps showing Irish Water's network(s) can be submitted to: datarequests@water.ie

<p>What are the design requirements for the connection(s)?</p>	<ul style="list-style-type: none"> • The design and construction of the Water & Wastewater pipes and related infrastructure to be installed in this Development shall comply with <i>the Irish Water Connections and Developer Services Standard Details and Codes of Practice</i>, available at www.water.ie/connections
<p>Trade Effluent Licensing</p>	<ul style="list-style-type: none"> • Any person discharging trade effluent** to a sewer, must have a Trade Effluent Licence issued pursuant to section 16 of the Local Government (Water Pollution) Act, 1977 (as amended). • More information and an application form for a Trade Effluent License can be found at the following link: https://www.water.ie/business/trade-effluent/about/ <p>**trade effluent is defined in the Local Government (Water Pollution) Act, 1977 (as amended)</p>

Section B – Details of Irish Water’s Network(s)

The map included below outlines the current Irish Water infrastructure adjacent the Development: To access Irish Water Maps email datarequests@water.ie



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Note: The information provided on the included maps as to the position of Irish Water’s underground network(s) is provided as a general guide only. The information is based on the best available information provided by each Local Authority in Ireland to Irish Water.

Whilst every care has been taken in respect of the information on Irish Water’s network(s), Irish Water assumes no responsibility for and gives no guarantees, undertakings or warranties concerning the accuracy, completeness or up to date nature of the information provided, nor does it accept any liability whatsoever arising from or out of any errors or omissions. This information should not be solely relied upon in the event of excavations or any other works being carried out in the vicinity of Irish Water’s underground network(s). The onus is on the parties carrying out excavations or any other works to ensure the exact location of Irish Water’s underground network(s) is identified prior to excavations or any other works being carried out. Service connection pipes are not generally shown but their presence should be anticipated.