



Proposed Student Accommodation

Prussia Street

Dublin 7

- Engineering Report





Document Control Sheet

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Client: Lyonshall Ltd.
Document Title: Engineering Report
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0	21.11.2023	NF	PB	Issued for Planning
1	15.02.2024	NF	PB	Issued for LRD Application

Review

Prepared By: Niall FitzGerald
Date: 21st November 2023
Other Contributors:
Checked by: Pat Brady



Table of Contents

1.0 Introduction

2.0 Report

Site Services

- Water Supply
- Foul Drainage
- Storm Drainage

Traffic & Transport

3.0 Appendices

Appendix A: Water Supply

Appendix B: Foul Drainage

Appendix C: Storm Water Drainage

Appendix D: Pre connection enquiry to Uisce Eireann

Confirmation of Feasibility from Uisce Eireann



1.0 Introduction

Lyonshall Development Ltd. intend to apply for planning permission for the development of a Student Accommodation Facility at Prussia Street, Dublin 7.

This facility is to be located on the site of the former IDA Centre at the west side of Prussia Street - see figure 1 below.



Figure 1 Development Site at Prussia Street, Dublin 7

The scope of the development is to comprise of the following:

The demolition of the existing structures on the site, and the construction of a large-scale residential development consisting of a Student Accommodation scheme with 373 no. student bedspaces, a café and all other ancillary site development works. The proposed development consists of 2 no. apartment blocks ranging in height from 3 to 5 storeys and a terrace of 6 no. studio units and all ancillary development works.

See Figure 2 – Proposed Development.



Figure 2 – Proposed Development

The following is an Engineering report in support of a Large Scale Residential (LRD) planning application for the above development.

This report addresses the following engineering issues:

Site Services -

- Water supply
- Foul drainage
- Storm drainage

Traffic & Transport



2.0 Report

Site Services –

i. Water Supply –

A review of the Uisce Eireann networks in the area has identified an existing water main on Prussia Street to the east of the site. It is further noted that this public network presently services the existing facilities within the subject site

– See Figure 3: Existing Uisce Eireann Networks

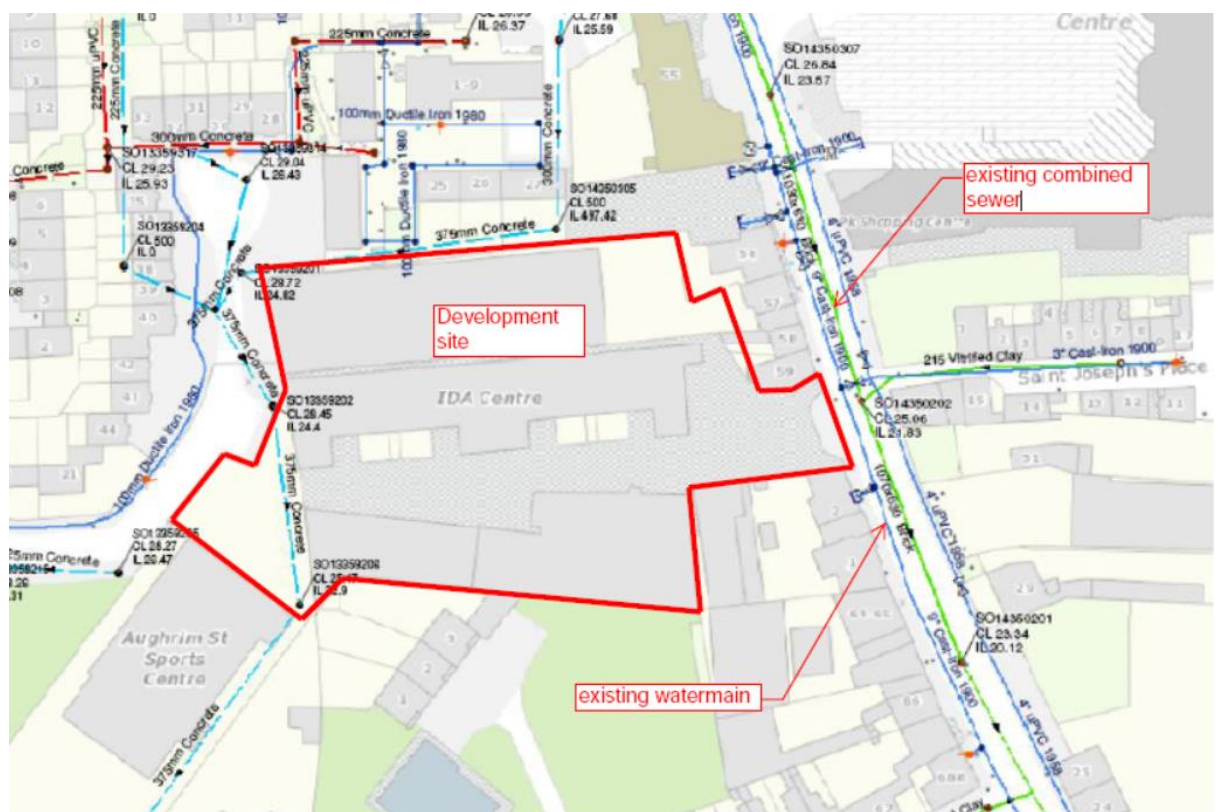


Figure 3 – Existing Uisce Eireann Networks

It is proposed that a new 100 dia. HDPE connection be taken from this main to supply both the fire and water demand for the proposed development.

For details of the above, see Appendix A: Drg. No. KC12-V1-XXX-DR-HLCE-CE-0004
Rev 1 Proposed Water Supply Layout



A pre connection enquiry (PCE) was made to Uisce Eireann on 21st December 2022 and this enquiry sought confirmation that the networks have the capacity to cater for the demand posed by the proposed development.

A Confirmation of Feasibility (CoF) in response to this enquiry was received from Uisce Eireann on 14th February 2023 and this CoF advised that the proposed connection to the Irish Water network(s) is feasible without infrastructure upgrade by Uisce Eireann.

The confirmation of feasibility (CoF) as received from Uisce Eireann commented as follows:

Irish Water has reviewed the pre-connection enquiry in relation to a Water & Wastewater connection for a Business Connection of 350 unit(s) at IDA Centre, Prussia Street, Dublin 7, 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
 - An on-site booster pump may be required for the connection due to low pressure in the area. That will be confirmed at a connection application stage.

- **Wastewater Connection**
 - Feasible without infrastructure upgrade by Irish Water
 - The Development has to incorporate Sustainable Drainage Systems/ Attenuation in the management of storm water and to reduce surface water inflow into the combined sewers. Full details of these have to be agreed with the LA Drainage Division.

See attached Appendix D: Pre connection Enquiry to Uisce Eireann

Confirmation of Feasibility (CoF) from Uisce Eireann

ii. Foul Drainage –

A review of the Uisce Eireann networks in the area has identified an existing combined sewer on Prussia Street to the east of the site. It is further noted that foul generated by the existing facility on the subject site presently discharges to this public network.

– See Figure 3: Existing Uisce Eireann Networks



It is proposed that a new connection be made to this sewer to accommodate the development.

All foul generated from the development will be collected via a gravity drainage system which will discharge to a combined sewer at the eastern boundary of the site before being discharged by gravity to the existing combined sewer on Prussia Street.

For details of the above, see Appendix B: Drg. No. KC12-V1-XXX-DR-HLCE-CE-0003 Rev 1 Proposed Foul Drainage Layout

A pre-connection enquiry (PCE) was made to Uisce Eireann on 21st December 2022, in which the above strategy was proposed. This enquiry included details of the final outfall loadings from the development to the Uisce Eireann Network.

A Confirmation of Feasibility (CoF) in response to this enquiry was received from Uisce Eireann on 14th February 2023 and this CoF advised that the proposed connection to the Uisce Eireann network(s) is feasible without infrastructure upgrade by Uisce Eireann.

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See attached Appendix D: Pre connection Enquiry to Uisce Eireann

Confirmation of Feasibility (CoF) from Uisce Eireann



iii. Surface Water Drainage –

A review of public services in the area has found that there are no public storm drainage networks to serve the development. However, the review did find that there is a combined sewer on Prussia Street to the east of the site and in the absence of a storm drainage network, it is proposed to discharge storm water generated from the site to this combined sewer.

A pre-connection enquiry (PCE) was made to Uisce Eireann on 21st December 2022, in which the above strategy was identified.

A Confirmation of Feasibility (CoF) in response to this enquiry was received from Uisce Eireann on 14th February 2023 and this CoF advised that the proposed connection to the Uisce Eireann network(s) is feasible without infrastructure upgrade by Uisce Eireann.

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See attached Appendix D: Pre connection Enquiry to Uisce Eireann

Confirmation of Feasibility (CoF) from Uisce Eireann



In response to the confirmation of feasibility, a storm water management plan has been developed for the site which incorporates sustainable drainage systems/attenuation, this to manage the storm water and to control the run off from the site.

This storm water management plan incorporates a sustainable drainage design (SuDS) which includes the following features:

- Blue roof/Green roof technology (>70% of flat roofs)
- Detention basins/winter gardens
- Open drainage channels
- Permeable asphalt/paving in courtyards, cycle parking areas and access roads
- Swales
- Planters

In implementing the storm water management plan for the development, the following SuDS requirements as outlined in Appendix 12 of the Dublin City Development Plan will be addressed:

3.1 SuDS Requirement 1 - Runoff Destination

The methods for utilising or releasing run-off from the development will vary as follows:

- Surface water is to be resourced as grey water for use within the development
- Rainfall shall be intercepted by means of green/blue roof technology
- Open drainage systems such as swales, winter gardens etc. shall be adopted

3.2 SuDS Requirement 2 - Hydraulic Control

The adoption of the above mentioned SuDS features shall assist in the restriction of surface run-off from the new development to 2 l/sec/ha for the 1 in 100 year rainfall event (with allowance for climate change and urban creep).

3.3 SuDS Requirement 3 - Water Quality

The SuDS techniques to be adopted will be sufficiently sized to manage and remove pollution, if applicable, thereby protecting groundwater & surface waters.



3.4 SuDS Requirement 4 - Amenity

The design and preparation of the storm water management plan has been coordinated with the Landscape Architect for the project such that the techniques/features adopted in the plan will complement and enhance the amenities planned for the development.



Raised Planters with tree & seating



Amenity Lawn

3.5 SuDS Requirement 5 - Biodiversity

The design and preparation of the storm water management plan has been coordinated with the Landscape Architect for the project such that the biodiversity potential of the development has been enhanced. SuDS Techniques/features such as green/blue roof technology, swales & winter gardens are examples of how biodiversity can be introduced to the scheme.



Outdoor shared desk



Formal Gardens



Green Blue Roof Strategy

As stated above, it is proposed to adopt a green blue roof strategy for the development with in excess of 70% coverage of the flat roofs being adopted.

In adopting the Green Blue roof strategy for the development, the following requirements of the Dublin City Council Development Plan will be addressed:

Green Blue Roof Requirement 3 - Hydraulic operation

The design of the green blue roofs are designed such that they make provision for suitably sized emergency/exceedance overflow(s).

Green Blue Roof Requirement 4 - Use

The design of the green blue roofs are designed such that they will maximise biodiversity, this design in coordination with the Landscape Architect.

Green Blue Roof Requirement 5 - Access, Operation & Maintenance

The design of the green blue roofs are designed with consideration of future requirements and in accordance with the current fire safety requirements.

In summary, a sustainable storm water management plan is to be implemented for the development. This plan will address all the SuDS Requirements as outlined in Appendix 12 of the Dublin City Council Development Plan.

For details of this plan, see Document KC12-RP-HLCE-CE-0003 Rev. 0:

Storm Water Management Report

Refer also attached Appendix C:

Drg. No. KC12-V1-XXX-DR-HLCE-CE-0006 Rev 0 Proposed Storm Water Management Plan



Traffic & Transport

i. Traffic Generation

Traffic generated from the site daily is based on 4 permanent staff members some of whom may use sustainable transport solutions. There is no on-site provision of parking for students. The start and end of semester could see an increase in private car use in the area but this is not expected to occur during peak traffic flow periods and will be managed in accordance with the submitted Student Management Plan. There is no warrant to carry out a Traffic Impact Assessment based on the outlined scenarios.

ii. Mobility Management Plan (MMP)

The Mobility Management Plan (MMP) has been prepared by MHL & Associates and is included as a separate document.

iii. Vehicle simulations

A number of vehicle simulation exercises were carried out by MHL & Associates. This exercise concluded that the development is designed such that the movement of such vehicles within the complex can be accommodated.



Appendix A - Water Supply

- Drg. No. KC09-V1-XXX-DR-HLCE-CE-0004 Rev 1 Proposed Water Supply Layout



- LEGEND**
- NEW WATER SUPPLY NETWORK
 - X SV NEW SLUICE VALVE
 - M NEW BULK METER
 - H NEW FIRE HYDRANT

NEW WATERMAIN TO BE CONNECTED TO EXISTING LOCAL AUTHORITY I.W. WATERMAIN SUPPLY

NEW BULKMETER TO BE INSTALLED IN PROPOSED DEVELOPMENT PROPERTY BOUNDARY

PROPOSED WATERSUPPLY LAYOUT
SCALE 1:200

Location Site Map

REV	BY	CHKD	DATE	DESCRIPTION
0	KL	NF	22.11.23	ISSUED FOR INFORMATION
1	KL	NF	12.03.24	ISSUED FOR RFI RESPONSE

PROJECT PROPOSED STUDENT ACCOMODATION AT PRUSSIA STREET, STONEYBATTER			
DRG. TITLE PROPOSED WATERMAIN LAYOUT			
SCALE AS SHOWN (@ A1)	DRAWN BY SP	CHECKED BY NF	APPROVED BY NF

Horganlynch
Consulting Engineers
Tollengana, Blackrock Road, Cork.
t: +353 21 4936100
e: cork@horganlynch.ie
www.horganlynch.ie

DWG: **KC12-V1-XXX-DR-HLCE-CE-0004**

HL PROJECT REF. KC12	STATUS P1	REVISION 1
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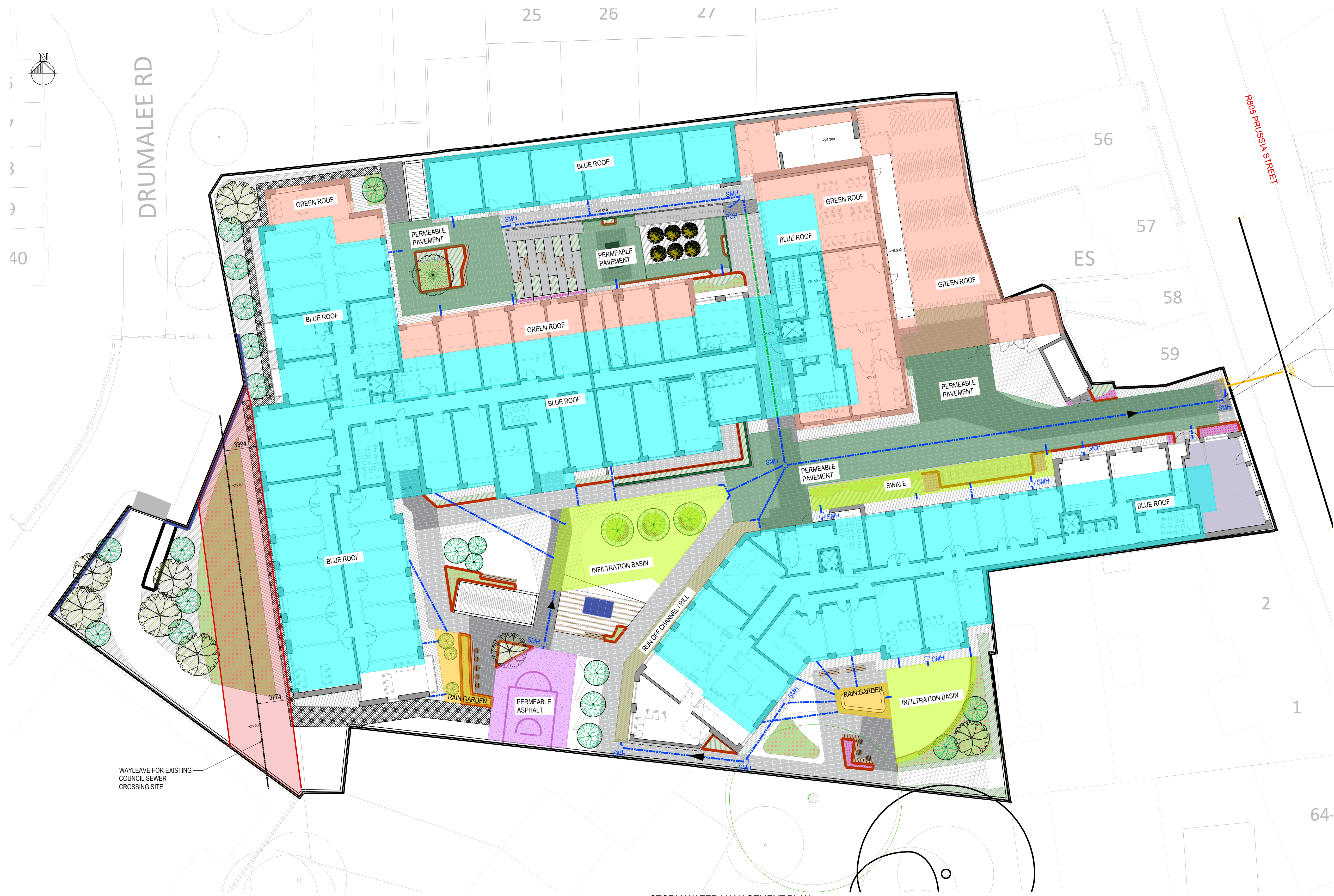
Appendix B - Foul Drainage

- Drg. No. KC09-V1-XXX-DR-HLCE-CE-0003 Rev 1 Proposed Foul Drainage Layout



Appendix C - Storm Water Drainage

Drg. No. KC12-V1-XXX-DR-HLCE-CE-0006 Rev 0 Proposed Storm Water Management Plan



HYDROBRAKE FLOW CONTROL TO LIMIT DISCHARGE TO 2 LIS FROM SITE
 CONNECT NEW STORM NETWORK TO NEW COMBINED SEWER
 NEW MANHOLE TO BE BUILT ON EXISTING COMBINED SEWER.

LEGEND

- SMH NEW COMBINED MANHOLE
- SMH STORM MANHOLE
- PCH PUMP CHAMBER MANHOLE
- NEW STORM SEWER
- NEW SUSPENDED STORM SEWER
- NEW COMBINED SEWER
- EXISTING LOCAL AUTHORITY FOUL
- CHANNEL / RILL SUDS FEATURE
- GREEN ROOF
- INFILTRATION BASIN / SWALE SUDS
- RAIN GARDEN SUDS FEATURE
- BLUE ROOF AREA
- PERMEABLE ASPHALT
- PERMEABLE PAVEMENT

WAYLEAVE FOR EXISTING COUNCIL SEWER CROSSING SITE

STORM WATER MANAGEMENT PLAN
 SCALE 1:200

REV	BY	CHKD	DATE	DESCRIPTION
0	KL	NF	12.03.24	ISSUED FOR INFORMATION

PROJECT
PROPOSED STUDENT ACCOMODATION AT PRUSSIA STREET, STONEYBATTER

DRG. TITLE
PROPOSED STORM WATER MANAGEMENT PLAN

SCALE AS SHOWN (@ A1)

DRAWN BY SP

CHECKED BY NF

APPROVED BY NF

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DWG: **KC12-V1-XXX-DR-HLCE-CE-0006**

HL PROJECT REF.	STATUS	REVISION
KC12	P1	0

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Appendix D - Confirmation of Feasibility from Uisce Eireann

CONFIRMATION OF FEASIBILITY

Niall Fitzgerald
Horgan Lynch
Tellngana
Blackrock Road
Co. Cork
T12HP7R

14 February 2023

Our Ref: CDS22008989 Pre-Connection Enquiry
IDA Centre, Prussia Street, Dublin 7, 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 350 unit(s) at IDA Centre, Prussia Street, Dublin 7, 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
 - An on-site booster pump may be required for the connection due to low pressure in the area. That will be confirmed at a connection application stage.

- **Wastewater Connection**
 - Feasible without infrastructure upgrade by Irish Water
 - The Development has to incorporate Sustainable Drainage Systems/ Attenuation in the management of storm water and to reduce surface water inflow into the combined sewers. Full details of these have to be agreed with the LA Drainage Division.

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/

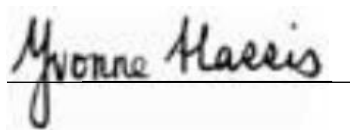
Where can you find more information?

- **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 thin horizontal line.

Yvonne Harris
Head of Customer Operations

Section A - What is important to know?

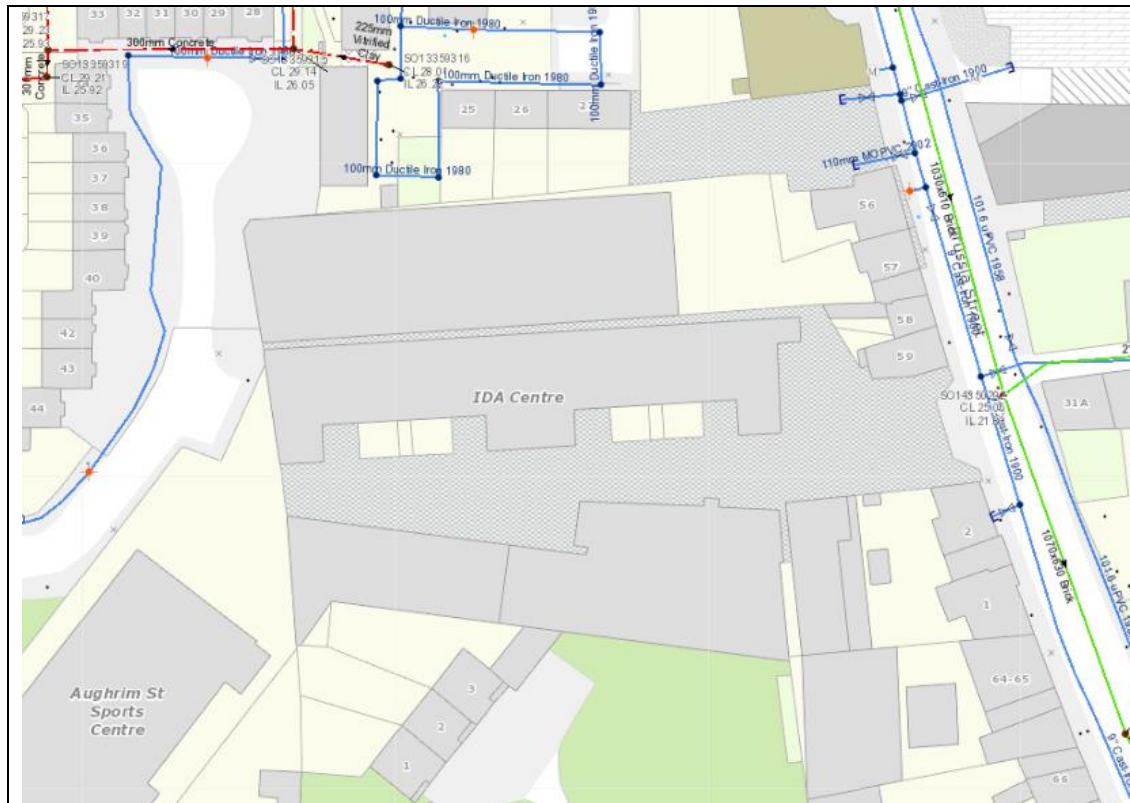
What is important to know?	Why is this important?
<p>Do you need a contract to connect?</p>	<ul style="list-style-type: none"> • Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Irish Water's network(s). • Before 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



Reproduced from the Ordnance Survey of Ireland by Permission of the Government. License No. 3-3-34

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.