

**Student Residence at 139-
149 North King Street,
Dublin 7**

**Water Supply and Wastewater
Management Report – LRD
Stage 3**

September 2024

2340

Issue No. 2

CORA Consulting Engineers

Behan House, 10 Mount St. Lower

Dublin D02HT71

Tel: 01- 6611100

E: info@cora.ie



Table of Contents

1	Introduction	2
1.1	General	2
1.2	Proposed Water Services Summary	2
1.3	Reference Publications used in the production of this Report	2
2	Wastewater Discharge	3
3	Water Supply	3
	Appendix A – Wastewater Calculations	4

1 Introduction

1.1 General

This report addresses the water supply and wastewater discharge from the proposed Student Residence at 139-149 North King Street, Dublin 7

Ringline Investments Limited intend to apply for permission for development at 139-149 North King Street, Dublin 7. The development will consist of the demolition of existing structures on site, with the exception of the façade on North King Street (N) and Bow Street (E), which is a protected structure (RPS Ref. No. 8790 – north and east elevation only), which will be retained, improved and restored as part of the proposed development.

The proposal will provide a purpose-built student accommodation development in a 7-storey building over a partial existing basement with a setback at 5th floor and a further significant setback at the 6th floor level.

The proposal includes 361 no. student bedspaces, a ground level retail unit with frontage to both North King Street and Bow Street, communal facilities including a courtyard, external terrace at roof level at 5th and 6th floor and internal amenity spaces.

Stormwater management to the building shall include nature based solutions with blue roofs and a landscaped courtyards with soft & permeable systems to the external courtyard areas with adequate water storage in the subbase.

1.2 Proposed Water Services Summary

The existing light industrial units on the site are all connected to the local Uisce Eireann Assets.

The new building shall require new water and wastewater connections from the UE assets on Bow Street.

1.3 Reference Publications used in the production of this Report

Greater Dublin Strategic Drainage Study – Volumes 1 to 6
Greater Dublin Regional Code of Practice for Drainage Works – Version 6.0
Technical Guidance Documents – Part C and H
OPW National Flood Hazard Mapping
Irish Water Codes of Practice for Wastewater
Irish Water Codes of Practice for Water services.
Dublin City Development Plan 2022-2028

2 Wastewater Discharge

The total wastewater discharge from the Hotel Site is calculated using the Irish Water Codes of Practice for Waste Water based on the proposed number of bedspaces. The proposed residence is to have 361 bedspaces for the purposes of calculation the wastewater demand.

Wastewater discharge from the new building is proposed via a new connection to the 875 x 500 Brick combined Uisce Eireann Asset on Bow Street.

Details of the proposed foul drainage are detailed on CORA Drawing no. 2340/C0001.

3 Water Supply

The proposed new 67mm dia water supply will be taken from the Uisce Eireann network on Bow Street and connected to the plantroom for distribution throughout the development.

Water storage will be provided in accordance with Uisce Eireann standards with 40,000 litres provided for 24 hour storage.

There are existing fire hydrants located in Bow Street (2 No.), North King Street and Brown Street North to serve the development.

The water supply layout is shown on CORA drawing 2322/C0002.

Water demand flow rates may taken as similar to the wastewater calculation below.

Appendix A – Wastewater Calculations

361 Bedspaces

Wastewater Loading = 150 litres per person per day

Average Discharge = $150 \times 361 = 54,150$ litres

Dry weather flow (DWF) = $54,150 / (24 \times 60 \times 60) = 0.63/\text{s}$ (DWF)

Peak discharge = 6 DWF Peak = $6 \times 0.63 = 3.78$ l/s