

Technical Note

ARUP

50 Ringsend Road
Dublin 4
D04 T6X0
Ireland
www.arup.com

t +353 1 233 4455
f +353 1 668 3169

Project title Parkgate Street Redevelopment

Job number

265381

cc

File reference

CE-TN001

Prepared by Kieran Dowdall, Cloragh Byrne

Date

7 November 2023

Subject Block B2 Change of Use (Office to Residential) - Arup Water and Drainage Technical Statement for Planning

Executive Summary

There is no change to the drainage and watermain strategy as agreed with DCC Drainage Division and Uisce Éireann required under this Block B2 planning amendment.

DCC Drainage Division have confirmed no objection to the surface water strategy and flood risk assessment for the permitted development, as outlined in their Drainage Report to An Bord Pleanála (ref APBSHDPAC0036/20 dated 14/01/21).

Uisce Éireann issued a Confirmation of Feasibility Statements for the permitted scheme and agreement was reached on their conditions relating to the Design Acceptance Statement. A formal Connection Application was submitted to Uisce Éireann and a Connection Offer was received in March 2023. A new Confirmation of Feasibility Statement (CDS23006543) including a revised Statement of Design Acceptance (CDS23006543) was issued by Uisce Éireann incorporating the proposed Block B2 updates on the 27th September and the 25th October 2023 respectively.

Arup drawing titled “Permitted Drainage and Watermain Layout with Block B2 Amendment” number PGATE-ARUP-ZZ-00-DR-CD-0002 Rev C11, shows the permitted drainage and watermain strategy with a new green line boundary for Block B2 proposed amendment. There is no change to the drainage and watermain strategy from the permitted scheme for this proposal.

Technical Note

265381

7 November 2023

Introduction

This technical note is intended to accompany the LRD planning application for the proposed Parkgate Street development. This application seeks to amend the granted scheme comprising of 519 residential units, internal amenity of 1,800 m², retail of 134 m², food and beverage 236 m², office (Block B2) c. 3,698 m², by way of amendments to Block B2, so as to change the use of the office element to 40 Residential units. The permitted ground floor café/restaurant is proposed to be changed to a co-working residential amenity space as well as a separate 52m² community cultural space. This note summarises details of the drainage and water strategy for the site, application history including granted COFs and related connection agreements with Uisce Éireann, and a review of reduced water and wastewater demand loads for the Block B2 change of use proposal.

Table 1: Summary of Permitted and Proposed Areas for Block B2

Permitted B2 Scheme	Proposed B2 Scheme
Office space c. 3,698 m ²	40 no. residential units c. 4,399 m ²
Café / restaurant 134 m ²	Resident's co-working space 221 m ²
Resident's co-working space 236 m ²	Residents lobby, lounge and fitness area 256 m ²

Wastewater

Wastewater discharge from the permitted Parkgate Street development shall be drained by a separate system to that of the surface water drainage system. Wastewater shall drain by gravity and discharge via 3 no. wastewater drainage outfalls to the existing 450mm sewer on the Parkgate Street, consented under An Board Pleanála ref. 306569-20 in May 2020.

Wastewater discharge for Block B2's proposed change of use from office to residential will continue to discharge through the wastewater drainage outfalls permitted as part of the consented development.

The wastewater drainage arrangements for the consented development have been approved by Uisce Éireann (formally Irish Water) and include Confirmation of Feasibility Statements (CDS19000532), dated 4th July 2019 for 584 units and 14th October 2020 for 519 units, copies of both COF's are attached. A Statement of Design Acceptance (CDS19000532), was issued by Uisce Éireann, copy attached, dated 13th December 2019. Conditions relating to Uisce Éireann

Technical Note

265381

7 November 2023

requirements were completed in July 2022 which allowed for a Connection Application to be submitted to Uisce Éireann, with a Connection Offer (CDS2200189501) issued for the consented development on 30 March 2023. A new Confirmation of Feasibility Statement (CDS23006543) including a revised Statement of Design Acceptance (CDS23006543) was issued by Uisce Éireann incorporating the proposed Block B2 updates, copies attached, dated 27th September 2023 and the 25th October 2023.

There is no change to the wastewater drainage arrangements or outfalls to the wastewater sewerage network on Parkgate Street from what was originally agreed with Uisce Éireann in July 2022.

The expected wastewater loading from the proposed Block B2 change of use from c. 3,698 m² of office use to 40 residential units, including change of use at ground floor level of restaurant/café to co-working facility, will result in a reduced daily wastewater loading of approximately 9m³/day or a 3.7% of the total average daily wastewater loading for the overall permitted development. The calculation is based on Uisce Éireann design flow figures in Appendix C, Code of Practice for Wastewater Infrastructure.

The above wastewater reduction is calculated as follows. The population estimate for the development is 2.7 persons per residential unit and 150 litres per person per day. The total number of units will increase by 40 units from 519 to 559 units incorporating Block B2's change of use proposal. The respective design flow rates for the additional 40 units is: $40 \times 2.7 = 108$ persons \times 150 = 16,200 litres / day.

The removal of c. 3,698 m² of office space equates to 338 number of office staff (based on 1 person / 10m²). Using Uisce Éireann design flow figures for office usage of 75 litres/person/day, which is a figure between the minimum 50 l/h/d (office without canteen) and 100 l/h/d (office with canteen/catering facilities) on the understanding that not all staff will eat on the premises. This provides a flow rate of $338 \times 75 = 25,350$ litres/day.

The revised scheme will therefore provide a net reduction in both the overall peak discharge rate and wastewater loading of approximately 9,000 litres / day (9m³/day or a 3.7% reduction).

Water

The water supply for the site including Block B2 will be supplied from 1no. connection from the 200mm ring main on Parkgate Street proposed as part of the consented development. The proposed

Technical Note

265381

7 November 2023

150mm metered supply pipe (no change from the consented scheme) from the existing 200mm ring main will be used to supply all residential units and ancillary amenities within the development, including Block B2 with proposed change of use from office to residential and proposed change from ground floor restaurant/café to co-working space.

The water supply arrangements for the consented scheme, including supply to residential units, has been approved by Uisce Éireann (formally Irish Water) and includes Confirmation of Feasibility Statements (CDS19000532) dated 4th July 2019 for 584 residential units and 14th October 2020 for 519 units, copies of both COF's are attached. A Statement of Design Acceptance (CDS19000532) was also issued by Uisce Éireann, copy attached, dated 13th December 2019. Conditions relating to Uisce Éireann requirements were completed in July 2022 which allowed a Connection Application to be submitted to Uisce Éireann with a Connection Offer (CDS2200189501) being issued for the consented development in December 2022. A new Confirmation of Feasibility Statement (CDS23006543) including a revised Statement of Design Acceptance (CDS23006543) was issued by Uisce Éireann incorporating the proposed Block B2 updates, copies attached, dated 27th September and the 25th October 2023 respectively.

There is no change to the water supply arrangements and connections to the public network on Parkgate Street from what was originally agreed with Uisce Éireann.

The expected water supply from the proposed change of use from office to residential, will result in a reduced daily water demand of approximately 9.27m³/day or 3.83% of the total average daily water demand for the overall permitted development. The calculation is based on Uisce Éireann design flow figures from their Code of Practice for Water Infrastructure.

The above water supply reduction is calculated as follows. The population estimate is 2.7 persons per residential unit and the average daily domestic water demand is 150 litres per person per day. The total number of units will increase of 40 units from 519 to 559 units. The respective design flow rates for the additional 40 units is: $40 \times 2.7 = 108$ persons $\times 150 = 16,200$ litres / day.

As outlined above the removal of the office space c. 3,698 m² with 338 staff at 75 l/h/d with and equivalent volume of 25,350 litres/day will see an overall net reduction in both the daily water usage and peak flow rate of approximately 9,270 litres / day (9.27m³/day or 3.83% reduction).

Technical Note

265381

7 November 2023

Surface Water Drainage

Surface water run-off from the roofs of the development including Block B2 will discharge through the surface water drainage system and outfall drain to the River Liffey, permitted as part of the consented development. The surface water management plan for the consented development has been approved by Dublin City Council Drainage Division, as detailed in their reports to ABP.

There is no proposed change to the surface water management plan, as agreed with Dublin City Council Drainage Division, for the proposed change of use to Block B2.

Recent pre-planning discussions with DCC Drainage Division in July 2023 in relation to modifications to the green roof on Block B2 to accommodate changes to roof levels, have confirmed that the surface water management strategy of the approved SHD is acceptable to the Drainage Division.

There is no change to the percentage of green roof being proposed for Block B2 compared with the consented scheme.

Flood Risk Assessment

A Site-Specific Flood Risk Assessment was carried out by Arup for the Parkgate Street development in January 2020 (consented scheme). There is no change to the conclusions stated in the SSFRA incorporating the proposed amendment for Block B2 change of use from office to residential (copy of report attached for reference).

Reference Documents (attached)

- Uisce Eireann Confirmation of Feasibility CDS19000532 dated 4th July 2019
- Uisce Eireann Statement of Design Acceptance CDS19000532 dated 13th December 2019
- Uisce Eireann Confirmation of Feasibility CDS19000532 dated 14th October 2020
- Uisce Éireann with a Connection Offer CDS2200189501 issued for the consented development in March 2023
- Uisce Eireann Confirmation of Feasibility Statement CDS23006543 dated 27th September 2023

Technical Note

265381

7 November 2023

- Uisce Eireann Statement of Design Acceptance CDS23006543 dated 25th October 2023
- Arup Drawing – Permitted Drainage and Watermain Layout with Block B2 Amendment – PGATE-ARUP-ZZ-00-DR-CD-0002 Rev C11
- Arup Site Specific Flood Risk Assessment Report dated January 2020