

LRD Planning Amendment

Beach Road Apartments, Sandymount, Dublin 4

**Infrastructure Design Report including Surface Water
Management Plan**

September 2024

Document Control

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1 Introduction

This report is provided in support of a planning amendment, planning retention application as part of an LRD application for a development previously approved under SHD ABP-310299-21.

The development is substantially equivalent to the original application and the development description should be taken from architectural documentation. The development includes a multi-storey apartment development with basement parking, ancillary internal uses, and external substation.

This report deals specifically with the surface water drainage, foul water drainage and watermain design for this application. This report has been prepared in compliance with the “*Greater Dublin Regional Code of Practice for Drainage Works*”, and the “*Irish Water Code of Practice for Wastewater Infrastructure*”.

The layout of the proposed planning amendments is detailed in a series of drawings by Plus Architecture accompanying this application.

2 Consultation

PUNCH have provided formal section 247 consultation documentation to Dublin City Council for their review outline the proposed changes. Further consultation has progressed with Dublin City Drainage Department and there has been no objection to the proposed amendments. Please refer Appendix E for correspondence records.

3 Foul Water Drainage Design

3.1 Existing Foul Water Drainage

There are no public foul or combined sewers located in Beach Road. There is a combined sewer falling in an easterly direction along Church Avenue to the north of the site, however it has been confirmed with Dublin City Council Drainage Department that this is a trunk sewer, and therefore it shall not be possible to connect into it.

A 225mm diameter public combined sewer is located on Cranfield Place. This sewer falls in westerly direction along Cranfield Place, where it connects into a 300mm combined sewer on Irishtown Road.

A 300mm diameter public combined sewer is located on Church Avenue, which runs east to west, towards a combined sewer on Irishtown Road. Refer to Figure 1 for the existing record drawings obtained from Dublin City Council. Surveys and correspondence from the original planning application has confirmed that this is an existing combined sewer.



Figure 1: Existing Drainage & Water Mains Surrounding the Site

3.2 Proposed Foul Water Drainage

Foul water drainage has been designed using WinDes MicroDrainage software in accordance with the DOE's "Recommendations for Site Development Works for Housing Areas". The foul loading has been calculated in accordance with "Wastewater Treatment Manuals: Treatment Systems for Small Communities, Business, Leisure Centres and Hotels" published by the EPA and "Design Recommendations for Multi-storey and Underground Car Parks" published by the Institution of Structural Engineers. The

design foul flow generated for the proposed development is based on a water usage of 180litres/person/day for residents.

Table 1: Calculation of Peak Daily Flow

Category	Quantity	Flow	Daily Flow (l/day)	DWF (l/s)	Design Flow (6DWF) (l/s)
Residential	168 no. bed spaces	165l/person/day	27,720	0.321	1.925
TOTAL			27,720	0.321	1.925

As shown in Table 1, the total daily foul loading for the proposed development is circa 28m³. The dry weather flow has been calculated as 0.3 l/s. The sewers are designed for a peak flow of 6 times dry weather flow (DWF).

3.2.1 Proposed Foul Water Drainage System

It is proposed that the foul water from the proposed development shall be discharged by gravity to the 300mm diameter public combined sewer located on Church Avenue. The proposed foul water drainage system has been designed in accordance with the “*Irish Water Code of Practice for Wastewater Infrastructure*” and “*Greater Dublin Regional Code of Practice for Drainage Works*”.

The proposed system shall incorporate a final outfall manhole with an interceptor trap, located northern boundary of the site.

Suitable wastewater drainage points will be installed in the bin storage area for cleaning and disinfecting purposes. These drainage points will connect to the drainage network located at basement level. The surface water generated in the basement shall be passed through an oil interceptor, and subsequently shall be pumped to the gravity foul drainage system via a foul pumping station, in line with the requirement in “*Greater Dublin Regional Code of Practice for Drainage Works*”. An interceptor trap and non-return valve shall be provided immediately upstream of this connection, as detailed in Section 3.3.1.

Please refer to PUNCH Drawing No’s 222207-PUNCH-PA-XX-DR-C-0100 for details of the proposed foul water drainage system. Please refer to Appendix B for detailed calculations related to the foul water drainage system.

3.2.2 Summary of Foul Drainage Changes

There have been slight changes to the arrangement of proposed drainage to account for detailed survey of existing services and to allow for co-ordination of internal services. There is no increase in the quantum of wastewater flow to the public drainage network and the proposed connection location is agreed with Uisce Eireann.

3.2.3 Uisce Eireann - Wastewater

A connection agreement has been obtained for the development and works are progressing to allow connection.

4 Surface Water Drainage Design

4.1 Existing Surface Water Drainage

A 300mm diameter public combined sewer is located on Church Avenue, which falls in a westerly direction towards Irishtown Road.

A 225mm diameter public surface water sewer is located on Beach Road, which falls in a northerly direction and connects to the aforementioned 300mm diameter public combined sewer located on Church Avenue.

A 225mm diameter public surface water sewer is located on Cranfield Place, which falls in a westerly direction and connects to the aforementioned 225mm diameter public combined sewer located on Cranfield Place.

4.2 Existing Site

The site of the proposed development is currently used for commercial purposes, specifically a Maxol filling station (and associated forecourt retail operations) and a Renault car dealership. All building structures that currently occupy the site shall be demolished to facilitate the proposed residential development. The surface finish on site is predominantly macadam and concrete slab. Surface water run-off from the site at present is collected by a number of drainage systems, before discharging (un-attenuated) to the public surface water and combined sewers on Church Avenue and on Cranfield Place.

4.3 Proposed Surface Water Drainage

The proposed surface water drainage system has been designed using Causeway Flow software in accordance with the Department of Environment and Local Government's guidance document - *"Recommendations for Site Development Works for Housing Areas"*, with guidance taken from the *"Greater Dublin Strategic Drainage Study"* (GDSDS) and CIRIA Publications C644 - *"Building Greener"*.

The drainage system has been designed with the aim of providing a sustainable drainage solution ensuring, in so far as feasible, that the development has a minimal impact on the existing public surface water sewer system. This is achieved with the incorporation of Sustainable urban Drainage Systems (SuDS) such as green roofs and an attenuation system.

All surface water run-off from roof areas and hardstanding areas shall be collected in an underslung gravity pipe network in the basement. Surface water collected by the drainage system shall be attenuated in an attenuation tank which caters for a 1:100 year return period storm event, plus 20% climate change, as discussed in Section 3.3.1. It is proposed to connect the drainage system to the existing public 300mm diameter combined sewer located on Church Avenue, to the north of the site.

A non-return valve is proposed to be fitted at the outfall point to the public sewer to prevent surface water entering from the public sewer into the system during surcharged conditions.

Please refer to Appendix D for detailed calculations related to proposed surface water drainage, and PUNCH Drawing No. 222207-PUNCH-PA-XX-DR-C-0100 for details of the proposed surface water drainage system.

4.3.1 Below Basement Slab Surface Water Drainage

The proposed development includes the provision of a basement carpark which shall provide 79 no. car parking spaces. A relatively small volume of water could potentially be deposited from cars entering the basement, resulting from snow or ice melt. With reference to the Institution of Structural Engineers'

publication - “Design Recommendations for Multi-storey and Underground Car Parks”, the quantity of water from this source is likely to be about 2 litres per parking space per parked vehicle. Allowing for 3 cars per parking space per day, the volume of water deposited by cars is calculated to be 0.48m³ per day. The total area of ventilation openings and open ramp area is circa 180m². To treat this surface water, it is proposed to provide a class 2 by-pass oil interceptor with a nominal size, NS = 3 in accordance with the Pollution Prevention guidelines - PPG3 (April 2006).

The surface water from the basement shall be collected via a series of channel drains. The collected surface water shall pass through the class 2 oil interceptor, and shall subsequently be pumped to the foul drainage outfall manhole, in accordance with “Greater Dublin Regional Code of Practice for Drainage Works”.

4.3.2 Attenuation Storage

It is proposed to attenuate all surface water collected via the drainage network using an attenuation tank located at basement level. Forward flow from the site shall be restricted to 2l/s.

Due to the location of the attenuation tank below ground level, it shall not be possible to achieve a gravity connection. The underslung surface water drainage shall be routed to the attenuation tank via gravity, and shall then be pumped to the last private manhole at a flow rate of 2l/s. It shall then be discharged to the public combined sewer via gravity.

The attenuation tank has been sized to attenuate the 1:100 year return period storm event, plus 20% climate change. Using Causeway Flow software, the required attenuation storage volume has been calculated as 196 m³. It should be noted that the calculated storage requirement is conservative, as it has been assumed in the calculation that the entire site shall be hard standing, although in fact there shall be landscaped areas, and green roofs located within the site.

Please refer to Appendix E for calculations and details of the proposed attenuation system. Please refer to PUNCH Drawing No. 222207-PUNCH- PA -XX-DR-C-0100 and 222207-PUNCH-PA-XX-DR-C-0510 for details of the proposed attenuation tank.

4.3.3 Green Roofs

It is proposed to provide a large extent of green roofs within the development. These shall be provided at roof level in the form of sedum green roofs, and also at ground floor level on the podium in the form of courtyards and tree/shrub planted areas. Green roofs are widely recognised as an effective SuDS solution and an important tool in mitigating the adverse effects of development on rainfall run-off and for managing urban flood risk.

The build-up for all proposed green roofs shall primarily comprise the following:

- Grass/mulch with planting
- A topsoil substrate (depth dependent on the green roof type) on
- 100mm depth drainage mat.

It is proposed to use Intensive and Extensive green roofs which are defined as follows:

- A. Intensive Green Roofs: These are typically landscaped environments with high amenity benefits, which include lawns, planters or trees and are usually accessible.
Topsoil Substrate Depth: Groundcover planting/lawns = 325mm depth, tree mounds/raised planters = minimum 750mm depth.
- B. Extensive Green Roof: These are typically areas containing vegetation such as sedums and small grasses, which require less maintenance than other green roof types, and no permanent irrigation system.

Topsoil Substrate Depth: 80mm

The external areas at ground floor level include the proposed courtyards as well as other green areas with tree/shrub planted areas throughout the ground floor/podium level. Landscaped areas located above the basement shall be designed as intensive green roofs.

There shall be an extensive sedum green roof provided at roof level, covering in excess of 56% of the roof area at roof level (5th floor). The overall site coverage for green roofs and soft landscaped areas is circa 56% of the total site area.

Green roofs have been designed taking guidance from CIRIA Publications C644 - “Building Greener” and C697 - “The SUDS Manual”. Research in the UK (Kellagher and Lauchlan, 2005, CIRIA, 2007) indicates that green roofs are effective in providing both attenuation and volume reduction in runoff for small events, but suggests that these advantages are reduced (but not completely lost) for larger events.

Table 2: Green Roof Coverage

Green Roof Type	Podium Level	Roof Level
Shrub and Herbaceous Planting, Tree Planting (Intensive)	742m ²	-
Lawn (Intensive)	196m ²	-
Sedum (Extensive)	-	1075m ²

The combination of green roof and photovoltaic panels holds advantages. Below is an extract from the Green Roof Policy Guideline Paper for Dublin prepared for DCC:

“Green roofs and photovoltaic panels are complementary technologies that improve each other’s performance. The PV functions more efficiently thanks to the cooler ambient temperatures above the green roof, and the green roof benefits from the areas of shade.”

The Optigreen “Solar Green Roof” (or similar approved) is a proprietary system of PV installation on green roofs that can be suitable for the proposed development. The Optigreen solution secures the base for the PV panels through the superimposed load of the green roof build-up, negating the need for the penetration of the roof substructure and for any additional roof sealing works. Vegetation can also grow beneath the modules. The green roof build-up for this particular solution will comprise the following (see Figure 2):

- Vegetation
- Optigreen Extensive Substrate
- Optigreen Drainage Board
- Optigreen Protection and Storage Fleece (for the purpose of protecting the roof waterproofing with separating and water storage functionality)
- Waterproofing membrane

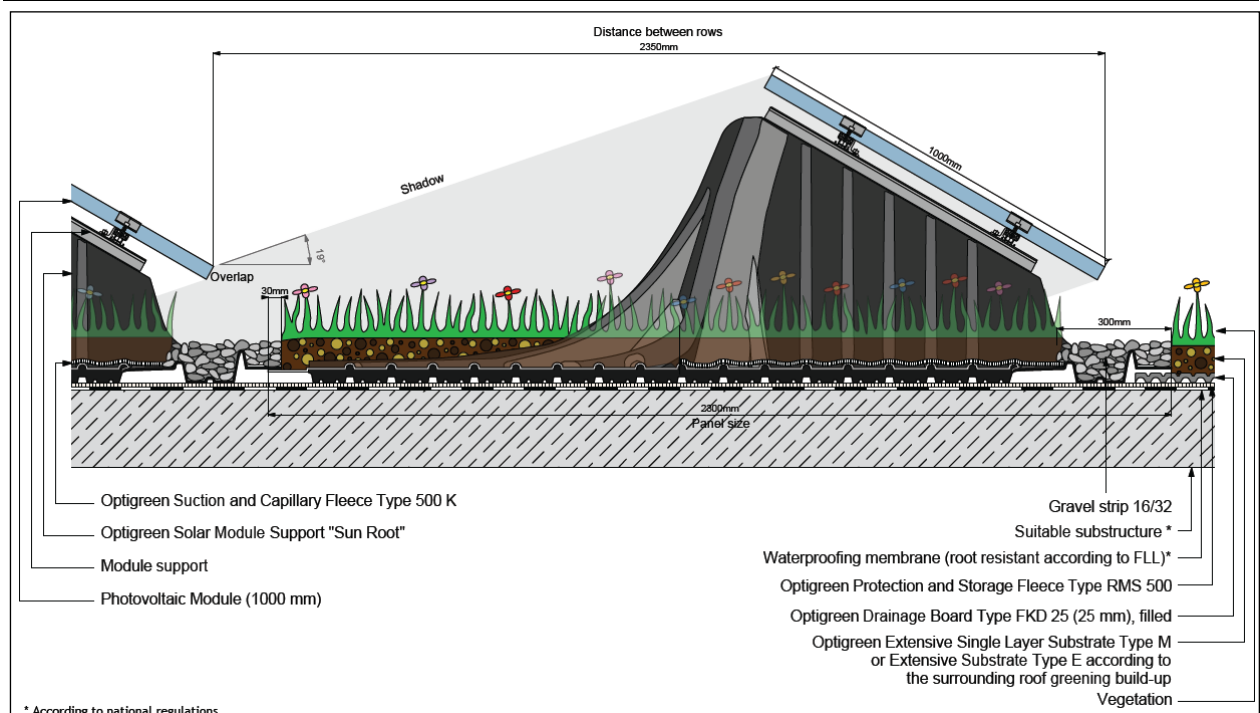


Figure 2: Optigreen "Solar Green Roof"

4.3.4 Summary of Surface Water Drainage Changes

There have been slight changes to the arrangement of proposed drainage to account for detailed survey of existing services and to allow for co-ordination of internal services. The proposed connection location is the same as that submitted at original planning application stage.

The extent of green roof provided is the same as that proposed at original planning application stage. Optigreen is not proposed and was not a defined proposal in the original planning application.

The arrangement of the proposed attenuation tank has been changed compared to the original planning application, however the proposed volume is the same as that originally submitted and the discharge rate from the system is the same (2l/s). On this basis there is no substantive change to the proposed surface water drainage design.

Please refer to the below documentation:

222207-PUNCH-XX-XX-DR-C-0100 Drainage Layout

222207-PUNCH-XX-XX-DR-C-0510 Attenuation Tank Detail

5 Watermain Design

5.1 Existing Water Infrastructure

A 150mm/200mm nominal diameter watermain is located on Beach Road. It is anticipated that this asset will be utilised to serve the proposed development. The existing site has a connection from this watermain as illustrated in the Irish Water record drawing (Figure 1). Please refer to Appendix A for Irish Water Record drawings illustrating the existing watermain arrangement.

5.2 Proposed Potable & Firefighting Water Supply

It is proposed to serve the development with a 180mm OD PE100 SDR100 (150mm internal diameter) connection from the existing 150/200mm nominal diameter cast iron watermain on Beach Road in order to provide potable and firefighting water to the proposed development. A bulk water meter shall be provided at the site boundary on this road. The watermain layout has been designed in accordance with "*Irish Water Code of Practice for Water Infrastructure*". All watermains are to be constructed in accordance with Irish Water and the Local Authority's requirements.

There are 4 no. existing hydrants located on Beach Road, and 2 no. located on Church Avenue which can serve the proposed development. Dry riser inlets are to be in accordance with the fire engineers design.

Please refer to PUNCH Drawing No. 222207-PUNCH-XX-XX-DR-C-0300 for details of the proposed watermain layout.

5.2.1 Uisce Eireann - Wastewater

A connection agreement has been obtained for the development and works are progressing to allow connection.

5.2.2 Summary of Water Supply Drainage Changes

There have been slight changes to the arrangement of proposed drainage to account for detailed survey of existing services and to allow for co-ordination of internal services. The proposed connection location is agreed with Uisce Eireann.

Please refer to PUNCH Drawing No. 222207-PUNCH-XX-XX-DR-C-0300 for details of the proposed watermain layout.

Appendix A Public Utility Record Drawings









Appendix B Foul Water Sewer Design

Design Settings

Frequency of use (kDU)	0.00	Minimum Velocity (m/s)	0.75
Flow per dwelling per day (l/day)	446	Connection Type	Level Soffits
Domestic Flow (l/s/ha)	0.0	Minimum Backdrop Height (m)	0.000
Industrial Flow (l/s/ha)	0.0	Preferred Cover Depth (m)	1.200
Additional Flow (%)	0	Include Intermediate Ground	✓

Nodes

Name	Dwellings	Cover Level (m)	Manhole Type	Easting (m)	Northing (m)	Depth (m)
F1-1	112	2.609	Adoptable	718481.417	733445.287	2.119
CS 2		2.350	Adoptable	718479.269	733451.524	1.904
F1-0		3.120	Adoptable	718470.351	733434.069	2.520
FJ 1		3.300		718471.899	733426.816	1.150
FJ 2		3.000		718486.240	733445.836	2.478

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
1.000	FJ 1	F1-0	7.416	1.500	2.150	1.965	0.185	40.0	225
1.001	F1-0	F1-1	15.758	1.500	0.600	0.495	0.105	150.1	225
2.000	FJ 2	F1-1	4.854	1.500	0.522	0.490	0.032	151.7	225
1.002	F1-1	CS 2	6.597	1.500	0.490	0.446	0.044	149.9	225

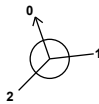
Name	Pro Vel @ 1/3 Q (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Dwellings (ha)	Σ Units (ha)	Σ Add Inflow (ha)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.000	1.818	72.3	0.0	0.925	0.930	0.000	0	0.0	0.0	0	0.000
1.001	0.000	0.936	37.2	0.0	2.295	1.889	0.000	0	0.0	0.0	0	0.000
2.000	0.000	0.931	37.0	0.0	2.253	1.894	0.000	0	0.0	0.0	0	0.000
1.002	0.234	0.936	37.2	0.6	1.894	1.679	0.000	112	0.0	0.0	20	0.336

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	7.416	40.0	225	Circular	3.300	2.150	0.925	3.120	1.965	0.930
1.001	15.758	150.1	225	Circular	3.120	0.600	2.295	2.609	0.495	1.889
2.000	4.854	151.7	225	Circular	3.000	0.522	2.253	2.609	0.490	1.894
1.002	6.597	149.9	225	Circular	2.609	0.490	1.894	2.350	0.446	1.679

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	FJ 1		Junction		F1-0	1200	Manhole	Adoptable
1.001	F1-0	1200	Manhole	Adoptable	F1-1	1200	Manhole	Adoptable
2.000	FJ 2		Junction		F1-1	1200	Manhole	Adoptable
1.002	F1-1	1200	Manhole	Adoptable	CS 2	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
F1-1	718481.417	733445.287	2.609	2.119	1200		1	2.000	0.490	225
						2	1.001	0.495	225	
						0	1.002	0.490	225	
CS 2	718479.269	733451.524	2.350	1.904	1200		1	1.002	0.446	225
F1-0	718470.351	733434.069	3.120	2.520	1200		1	1.000	1.965	225
						0	1.001	0.600	225	
FJ 1	718471.899	733426.816	3.300	1.150						
							0	1.000	2.150	225
FJ 2	718486.240	733445.836	3.000	2.478						
							0	2.000	0.522	225

Appendix C Surface Water Sewer Design including Attenuation

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	5	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	Scotland and Ireland	Connection Type	Level Soffits
M5-60 (mm)	16.400	Minimum Backdrop Height (m)	0.200
Ratio-R	0.280	Preferred Cover Depth (m)	0.160
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	4.00	Enforce best practice design rules	x

Nodes

Name	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
SIC 2-1		-0.403	600	718518.142	733386.618	0.460
SIC 4-0	4.00	-0.383	600	718506.280	733389.662	0.310
SIC 5-1		-0.384	600	718491.753	733394.604	0.502
SIC 6-1	4.00	-0.383	600	718468.870	733415.144	0.369
PI		-0.393	1200	718500.246	733413.861	1.621
SIC 6-2		-0.380	600	718483.494	733425.528	0.497
SIC 1-1		-0.345	600	718536.553	733386.054	0.414
SIC 1-2		-0.396	600	718526.439	733386.293	0.430
SIC 1-3		-0.385	600	718520.017	733391.050	0.510
SIC 1-5		-0.387	600	718505.068	733407.199	0.654
SIC 2-0	4.00	-0.428	600	718523.505	733380.706	0.382
PUMP		-0.387	1200	718497.887	733416.343	1.813
21	4.00	2.150		718483.203	733441.622	1.425
21_OUT		2.150		718481.784	733444.641	1.447
SIC 3-0	4.00	-0.345	600	718526.446	733396.301	0.310
SIC 7-0	4.00	-0.400	600	718485.201	733434.805	0.205
SIC 7-1		-0.380	600	718489.034	733430.728	0.262
SIC 1-0	4.00	-0.345	600	718542.501	733381.679	0.365
SIC 1-4		-0.395	600	718514.188	733397.180	0.556
SIC 5-0	4.00	-0.380	600	718481.266	733402.081	0.420
SIC 6-4		-0.405	600	718500.664	733410.266	0.632
SMH 1-6		-0.390	600	718502.239	733411.758	1.505
SIC 6-3		-0.407	600	718488.162	733425.016	0.501
SIC E-1		-0.421	600	718476.887	733422.650	0.404
SIC E-2		-0.380	600	718480.711	733422.865	0.471
1	4.00		1200	718513.504	733416.922	
2			1200	718478.373	733438.621	

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
SIC 1-0	SIC 1-0	SIC 1-1	7.384	0.600	-0.710	-0.759	0.049	150.7	150	4.15	50.0
SIC 1-1	SIC 1-1	SIC 1-2	10.117	0.600	-0.759	-0.826	0.067	151.0	150	4.36	50.0
SIC 1-2	SIC 1-2	SIC 1-3	7.992	0.600	-0.826	-0.879	0.053	150.8	150	4.52	50.0
SIC 2-0	SIC 2-0	SIC 2-1	7.982	0.600	-0.810	-0.863	0.053	150.6	150	4.16	50.0
SIC 2-1	SIC 2-1	SIC 1-3	4.812	0.600	-0.863	-0.895	0.032	150.4	150	4.26	50.0
SIC 3-0	SIC 3-0	SIC 1-3	8.301	0.600	-0.655	-0.710	0.055	150.9	150	4.17	50.0
SIC 1-3	SIC 1-3	SIC 1-4	8.459	0.600	-0.895	-0.951	0.056	151.1	150	4.69	50.0
SIC 4-0	SIC 4-0	SIC 1-4	10.911	0.600	-0.693	-0.766	0.073	149.5	150	4.22	50.0
SIC 1-4	SIC 1-4	SIC 1-5	13.548	0.600	-0.951	-1.041	0.090	150.5	150	4.97	50.0
SIC 5-0	SIC 5-0	SIC 5-1	12.880	0.600	-0.800	-0.886	0.086	149.8	150	4.26	50.0
SIC 5-1	SIC 5-1	SIC 1-5	18.328	0.600	-0.886	-1.041	0.155	118.2	150	4.59	50.0
SIC 1-5	SIC 1-5	SMH 1-6	5.365	0.600	-1.041	-1.077	0.036	149.0	150	5.08	50.0
1.001	SIC 6-1	SIC E-1	10.982	0.600	-0.752	-0.825	0.073	150.4	150	4.22	50.0
SIC E-1	SIC E-1	SIC E-2	3.830	0.600	-0.825	-0.851	0.026	147.3	150	4.30	50.0
1.003	SIC E-2	SIC 6-2	3.852	0.600	-0.851	-0.877	0.026	148.2	150	4.38	50.0
1.004	SIC 6-2	SIC 6-3	4.696	0.600	-0.877	-0.908	0.031	151.5	150	4.48	50.0
2.000	SIC 7-0	SIC 7-1	5.596	0.600	-0.605	-0.642	0.037	151.2	150	4.11	50.0
SIC 7-1	SIC 7-1	SIC 6-3	5.778	0.600	-0.642	-0.681	0.039	148.2	150	4.23	50.0
SIC 6-3	SIC 6-3	SIC 6-4	19.336	0.600	-0.908	-1.037	0.129	149.9	150	4.87	50.0
SIC 6-4	SIC 6-4	SMH 1-6	2.169	0.600	-1.037	-1.051	0.014	155.0	150	4.91	50.0
SMH 1-6	SMH 1-6	PI	2.897	0.600	-1.895	-1.914	0.019	152.5	150	5.14	50.0
PI	PI	PUMP	3.424	0.600	-2.014	-2.200	0.186	18.4	150	5.16	50.0
21	21	21_OUT	3.336	0.600	0.725	0.703	0.022	151.6	150	4.07	50.0
8.000	1	2	41.292	0.600	-0.100	-0.794	0.694	59.5	100	4.69	50.0

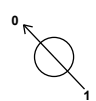
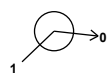
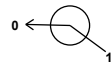
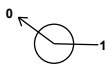
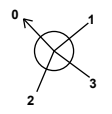
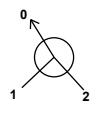
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
SIC 1-0	0.816	14.4	0.0	0.215	0.264	0.000	0.0	0	0.000
SIC 1-1	0.815	14.4	0.0	0.264	0.280	0.000	0.0	0	0.000
SIC 1-2	0.816	14.4	0.0	0.280	0.344	0.000	0.0	0	0.000
SIC 2-0	0.816	14.4	0.0	0.232	0.310	0.000	0.0	0	0.000
SIC 2-1	0.817	14.4	0.0	0.310	0.360	0.000	0.0	0	0.000
SIC 3-0	0.815	14.4	0.0	0.160	0.175	0.000	0.0	0	0.000
SIC 1-3	0.815	14.4	0.0	0.360	0.406	0.000	0.0	0	0.000
SIC 4-0	0.819	14.5	0.0	0.160	0.221	0.000	0.0	0	0.000
SIC 1-4	0.817	14.4	0.0	0.406	0.504	0.000	0.0	0	0.000
SIC 5-0	0.819	14.5	0.0	0.270	0.352	0.000	0.0	0	0.000
SIC 5-1	0.923	16.3	0.0	0.352	0.504	0.000	0.0	0	0.000
SIC 1-5	0.821	14.5	0.0	0.504	0.537	0.000	0.0	0	0.000
1.001	0.817	14.4	0.0	0.219	0.254	0.000	0.0	0	0.000
SIC E-1	0.826	14.6	0.0	0.254	0.321	0.000	0.0	0	0.000
1.003	0.823	14.5	0.0	0.321	0.347	0.000	0.0	0	0.000
1.004	0.814	14.4	0.0	0.347	0.351	0.000	0.0	0	0.000
2.000	0.815	14.4	0.0	0.055	0.112	0.000	0.0	0	0.000
SIC 7-1	0.823	14.5	0.0	0.112	0.124	0.000	0.0	0	0.000
SIC 6-3	0.818	14.5	0.0	0.351	0.482	0.000	0.0	0	0.000
SIC 6-4	0.805	14.2	0.0	0.482	0.511	0.000	0.0	0	0.000
SMH 1-6	0.811	14.3	0.0	1.355	1.371	0.000	0.0	0	0.000
PI	2.358	41.7	0.0	1.471	1.663	0.000	0.0	0	0.000
21	0.814	14.4	0.0	1.275	1.297	0.000	0.0	0	0.000
8.000	1.000	7.9	0.0			0.000	0.0	0	0.000

Pipeline Schedule

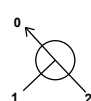
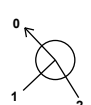
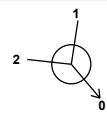
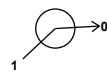
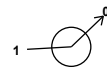
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
SIC 1-0	7.384	150.7	150	Circular	-0.345	-0.710	0.215	-0.345	-0.759	0.264
SIC 1-1	10.117	151.0	150	Circular	-0.345	-0.759	0.264	-0.396	-0.826	0.280
SIC 1-2	7.992	150.8	150	Circular	-0.396	-0.826	0.280	-0.385	-0.879	0.344
SIC 2-0	7.982	150.6	150	Circular	-0.428	-0.810	0.232	-0.403	-0.863	0.310
SIC 2-1	4.812	150.4	150	Circular	-0.403	-0.863	0.310	-0.385	-0.895	0.360
SIC 3-0	8.301	150.9	150	Circular	-0.345	-0.655	0.160	-0.385	-0.710	0.175
SIC 1-3	8.459	151.1	150	Circular	-0.385	-0.895	0.360	-0.395	-0.951	0.406
SIC 4-0	10.911	149.5	150	Circular	-0.383	-0.693	0.160	-0.395	-0.766	0.221
SIC 1-4	13.548	150.5	150	Circular	-0.395	-0.951	0.406	-0.387	-1.041	0.504
SIC 5-0	12.880	149.8	150	Circular	-0.380	-0.800	0.270	-0.384	-0.886	0.352
SIC 5-1	18.328	118.2	150	Circular	-0.384	-0.886	0.352	-0.387	-1.041	0.504
SIC 1-5	5.365	149.0	150	Circular	-0.387	-1.041	0.504	-0.390	-1.077	0.537
1.001	10.982	150.4	150	Circular	-0.383	-0.752	0.219	-0.421	-0.825	0.254
SIC E-1	3.830	147.3	150	Circular	-0.421	-0.825	0.254	-0.380	-0.851	0.321
1.003	3.852	148.2	150	Circular	-0.380	-0.851	0.321	-0.380	-0.877	0.347
1.004	4.696	151.5	150	Circular	-0.380	-0.877	0.347	-0.407	-0.908	0.351
2.000	5.596	151.2	150	Circular	-0.400	-0.605	0.055	-0.380	-0.642	0.112
SIC 7-1	5.778	148.2	150	Circular	-0.380	-0.642	0.112	-0.407	-0.681	0.124
SIC 6-3	19.336	149.9	150	Circular	-0.407	-0.908	0.351	-0.405	-1.037	0.482
SIC 6-4	2.169	155.0	150	Circular	-0.405	-1.037	0.482	-0.390	-1.051	0.511
SMH 1-6	2.897	152.5	150	Circular	-0.390	-1.895	1.355	-0.393	-1.914	1.371
PI	3.424	18.4	150	Circular	-0.393	-2.014	1.471	-0.387	-2.200	1.663
21	3.336	151.6	150	Circular	2.150	0.725	1.275	2.150	0.703	1.297
8.000	41.292	59.5	100	Circular		-0.100			-0.794	

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
SIC 1-0	SIC 1-0	600	Manhole	Adoptable	SIC 1-1	600	Manhole	Adoptable
SIC 1-1	SIC 1-1	600	Manhole	Adoptable	SIC 1-2	600	Manhole	Adoptable
SIC 1-2	SIC 1-2	600	Manhole	Adoptable	SIC 1-3	600	Manhole	Adoptable
SIC 2-0	SIC 2-0	600	Manhole	Adoptable	SIC 2-1	600	Manhole	Adoptable
SIC 2-1	SIC 2-1	600	Manhole	Adoptable	SIC 1-3	600	Manhole	Adoptable
SIC 3-0	SIC 3-0	600	Manhole	Adoptable	SIC 1-3	600	Manhole	Adoptable
SIC 1-3	SIC 1-3	600	Manhole	Adoptable	SIC 1-4	600	Manhole	Adoptable
SIC 4-0	SIC 4-0	600	Manhole	Adoptable	SIC 1-4	600	Manhole	Adoptable
SIC 1-4	SIC 1-4	600	Manhole	Adoptable	SIC 1-5	600	Manhole	Adoptable
SIC 5-0	SIC 5-0	600	Manhole	Adoptable	SIC 5-1	600	Manhole	Adoptable
SIC 5-1	SIC 5-1	600	Manhole	Adoptable	SIC 1-5	600	Manhole	Adoptable
SIC 1-5	SIC 1-5	600	Manhole	Adoptable	SMH 1-6	600	Manhole	Adoptable
1.001	SIC 6-1	600	Manhole	Adoptable	SIC E-1	600	Manhole	Adoptable
SIC E-1	SIC E-1	600	Manhole	Adoptable	SIC E-2	600	Manhole	Adoptable
1.003	SIC E-2	600	Manhole	Adoptable	SIC 6-2	600	Manhole	Adoptable
1.004	SIC 6-2	600	Manhole	Adoptable	SIC 6-3	600	Manhole	Adoptable
2.000	SIC 7-0	600	Manhole	Adoptable	SIC 7-1	600	Manhole	Adoptable
SIC 7-1	SIC 7-1	600	Manhole	Adoptable	SIC 6-3	600	Manhole	Adoptable
SIC 6-3	SIC 6-3	600	Manhole	Adoptable	SIC 6-4	600	Manhole	Adoptable
SIC 6-4	SIC 6-4	600	Manhole	Adoptable	SMH 1-6	600	Manhole	Adoptable
SMH 1-6	SMH 1-6	600	Manhole	Adoptable	PI	1200	Manhole	Adoptable
PI	PI	1200	Manhole	Adoptable	PUMP	1200	Manhole	Adoptable
21	21		Junction		21_OUT		Junction	
8.000	1	1200	Manhole	Adoptable	2	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SIC 2-1	718518.142	733386.618	-0.403	0.460	600		1 SIC 2-0	-0.863	150
						0	SIC 2-1	-0.863	150
SIC 4-0	718506.280	733389.662	-0.383	0.310	600		0 SIC 4-0	-0.693	150
SIC 5-1	718491.753	733394.604	-0.384	0.502	600		1 SIC 5-0	-0.886	150
						0	SIC 5-1	-0.886	150
SIC 6-1	718468.870	733415.144	-0.383	0.369	600		0 1.001	-0.752	150
PI	718500.246	733413.861	-0.393	1.621	1200		1 SMH 1-6	-1.914	150
						0	PI	-2.014	150
SIC 6-2	718483.494	733425.528	-0.380	0.497	600		1 1.003	-0.877	150
						0	1.004	-0.877	150
SIC 1-1	718536.553	733386.054	-0.345	0.414	600		1 SIC 1-0	-0.759	150
						0	SIC 1-1	-0.759	150
SIC 1-2	718526.439	733386.293	-0.396	0.430	600		1 SIC 1-1	-0.826	150
						0	SIC 1-2	-0.826	150
SIC 1-3	718520.017	733391.050	-0.385	0.510	600		1 SIC 3-0	-0.710	150
						2	SIC 2-1	-0.895	150
						3	SIC 1-2	-0.879	150
						0	SIC 1-3	-0.895	150
SIC 1-5	718505.068	733407.199	-0.387	0.654	600		1 SIC 5-1	-1.041	150
						2	SIC 1-4	-1.041	150
						0	SIC 1-5	-1.041	150
SIC 2-0	718523.505	733380.706	-0.428	0.382	600		0 SIC 2-0	-0.810	150
PUMP	718497.887	733416.343	-0.387	1.813	1200		1 PI	-2.200	150
21	718483.203	733441.622	2.150	1.425			0 21	0.725	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
21_OUT	718481.784	733444.641	2.150	1.447		1 	21	0.703	150
SIC 3-0	718526.446	733396.301	-0.345	0.310	600	0 	SIC 3-0	-0.655	150
SIC 7-0	718485.201	733434.805	-0.400	0.205	600	0 	2.000	-0.605	150
SIC 7-1	718489.034	733430.728	-0.380	0.262	600	1 	2.000	-0.642	150
SIC 1-0	718542.501	733381.679	-0.345	0.365	600	0 	SIC 7-1	-0.642	150
SIC 1-4	718514.188	733397.180	-0.395	0.556	600	0 1 2 	SIC 1-0 SIC 4-0 SIC 1-3	-0.710 -0.766 -0.951	150 150 150
SIC 5-0	718481.266	733402.081	-0.380	0.420	600	0 	SIC 1-4	-0.951	150
SIC 6-4	718500.664	733410.266	-0.405	0.632	600	1 0 	SIC 5-0 SIC 6-3	-0.800 -1.037	150 150
SMH 1-6	718502.239	733411.758	-0.390	1.505	600	0 1 2 	SIC 6-4 SIC 1-5	-1.051 -1.077	150 150
SIC 6-3	718488.162	733425.016	-0.407	0.501	600	1 2 0 	SMH 1-6	-1.895	150
SIC E-1	718476.887	733422.650	-0.421	0.404	600	1 0 	SIC 7-1 1.004	-0.681 -0.908	150 150
SIC E-2	718480.711	733422.865	-0.380	0.471	600	1 0 	SIC 6-3	-0.908	150
1	718513.504	733416.922			1200	0 	1.001	-0.825	150
						0 	SIC E-1	-0.825	150
						0 	SIC E-1	-0.851	150
						0 	1.003	-0.851	150
						0 	8.000	-0.100	100

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
2	718478.373	733438.621			1200	1	8.000	-0.794	100
									

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	Scotland and Ireland	Skip Steady State	x
M5-60 (mm)	16.400	Drain Down Time (mins)	10080
Ratio-R	0.280	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
100	20	0	0

Node PUMP Offline Pump Control

Flap Valve	x	Design Depth (m)	3.000	Switch off depth (m)	0.200
Loop to Node	21	Design Flow (l/s)	1.0		
Invert Level (m)	-3.000	Switch on depth (m)	0.300		

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.300	1.000	3.000	1.000

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	5	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	16.400	Minimum Backdrop Height (m)	0.200
Ratio-R	0.280	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	4.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1-0		4.00	2.675	1200	718478.614	733444.694	1.950
1_OUT (DUMMY)			2.300	1200	718477.492	733446.179	1.600
ATTENUATION	0.385		2.500		718464.271	733421.386	3.700
GF.SIC 1-4			3.000	1200	718477.054	733440.019	2.000
GF.SMH 1-5			3.060	1200	718471.118	733432.405	2.108
GF.J1			3.300		718472.615	733427.492	2.374
culv 1		4.00	3.300		718466.961	733437.746	1.790
culv 2			3.300		718467.486	733435.335	1.791
culv 3			3.300		718474.459	733436.855	1.795
SIC 1-0	0.005	4.00	2.910	450	718551.584	733378.730	0.760
SIC 1-1	0.004	4.00	2.800	450	718538.434	733393.216	0.748
SMH 1-2	0.012	4.00	2.700	1200	718514.925	733418.170	0.819
SIC 1-3	0.006	4.00	3.100	1200	718489.277	733445.168	1.000
GF.J2			2.700		718513.475	733416.963	0.838
GF.J3			3.000		718478.389	733438.600	1.600

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	SIC 1-0	SIC 1-1	19.564	0.600	2.150	2.052	0.098	199.6	150	4.46	50.0
1.001	SIC 1-1	SMH 1-2	34.284	0.600	2.052	1.881	0.171	200.5	150	5.27	50.0
1.002	SIC 1-3	SMH 1-2	37.239	0.600	2.100	1.881	0.219	170.0	150	4.81	50.0
1.003	SMH 1-2	GF.J2	1.887	0.600	1.881	1.862	0.019	99.3	150	5.30	50.0
1.004	GF.SIC 1-4	GF.SMH 1-5	9.655	0.600	1.000	0.952	0.048	201.1	225	6.17	50.0
1.005	GF.SMH 1-5	GF.J1	5.136	0.600	0.952	0.926	0.026	197.5	225	6.26	50.0
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)		
1.000	0.707	12.5	0.7	0.610	0.598	0.005	0.0	24	0.376		
1.001	0.706	12.5	1.2	0.598	0.669	0.009	0.0	31	0.440		
1.002	0.768	13.6	0.9	0.850	0.669	0.006	0.0	25	0.427		
1.003	1.008	17.8	3.7	0.669	0.688	0.027	0.0	46	0.794		
1.004	0.918	36.5	3.7	1.775	1.883	0.027	0.0	48	0.590		
1.005	0.926	36.8	3.7	1.883	2.149	0.027	0.0	48	0.596		

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
culv 1	culv 1	culv 2	2.468	0.600	1.510	1.509	0.001	2468.2	100	4.28	50.0
culv 2	culv 2	culv 3	7.137	0.600	1.509	1.505	0.004	1784.2	100	4.96	50.0
S1-0	S1-0	1_OUT (DUMMY)	1.861	0.600	0.725	0.700	0.025	74.4	225	4.02	50.0
1.004_1	GF.J3	GF.SIC 1-4	1.948	0.600	1.400	1.000	0.400	4.9	225	5.99	50.0
dummy	GF.J2	GF.J3	41.221	0.600	1.862	1.453	0.409	100.8	150	5.99	50.0

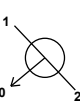
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
culv 1	0.147	1.2	0.0	1.690	1.691	0.000	0.0	0	0.000
culv 2	0.174	1.4	0.0	1.691	1.695	0.000	0.0	0	0.000
S1-0	1.517	60.3	0.0	1.725	1.375	0.000	0.0	0	0.000
1.004_1	5.968	237.3	3.7	1.375	1.775	0.027	0.0	20	2.237
dummy	1.001	17.7	3.7	0.688	1.397	0.027	0.0	46	0.788

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	19.564	199.6	150	Circular	2.910	2.150	0.610	2.800	2.052	0.598
1.001	34.284	200.5	150	Circular	2.800	2.052	0.598	2.700	1.881	0.669
1.002	37.239	170.0	150	Circular	3.100	2.100	0.850	2.700	1.881	0.669
1.003	1.887	99.3	150	Circular	2.700	1.881	0.669	2.700	1.862	0.688
1.004	9.655	201.1	225	Circular	3.000	1.000	1.775	3.060	0.952	1.883
1.005	5.136	197.5	225	Circular	3.060	0.952	1.883	3.300	0.926	2.149
culv 1	2.468	2468.2	100	Circular	3.300	1.510	1.690	3.300	1.509	1.691
culv 2	7.137	1784.2	100	Circular	3.300	1.509	1.691	3.300	1.505	1.695
S1-0	1.861	74.4	225	Circular	2.675	0.725	1.725	2.300	0.700	1.375
1.004_1	1.948	4.9	225	Circular	3.000	1.400	1.375	3.000	1.000	1.775
dummy	41.221	100.8	150	Circular	2.700	1.862	0.688	3.000	1.453	1.397

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	SIC 1-0	450	Manhole	Adoptable	SIC 1-1	450	Manhole	Adoptable
1.001	SIC 1-1	450	Manhole	Adoptable	SMH 1-2	1200	Manhole	Adoptable
1.002	SIC 1-3	1200	Manhole	Adoptable	SMH 1-2	1200	Manhole	Adoptable
1.003	SMH 1-2	1200	Manhole	Adoptable	GF.J2		Junction	
1.004	GF.SIC 1-4	1200	Manhole	Adoptable	GF.SMH 1-5	1200	Manhole	Adoptable
1.005	GF.SMH 1-5	1200	Manhole	Adoptable	GF.J1		Junction	
culv 1	culv 1		Junction		culv 2		Junction	
culv 2	culv 2		Junction		culv 3		Junction	
S1-0	S1-0	1200	Manhole	Adoptable	1_OUT (DUMMY)	1200	Manhole	Adoptable
1.004_1	GF.J3		Junction		GF.SIC 1-4	1200	Manhole	Adoptable
dummy	GF.J2		Junction		GF.J3		Junction	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1-0	718478.614	733444.694	2.675	1.950	1200				
						0	S1-0	0.725	225
1_OUT (DUMMY)	718477.492	733446.179	2.300	1.600	1200		1	S1-0	0.700
								0.700	225
ATTENUATION	718464.271	733421.386	2.500	3.700					
GF.SIC 1-4	718477.054	733440.019	3.000	2.000	1200		1	1.004_1	1.000
						0	1.004	1.000	225
GF.SMH 1-5	718471.118	733432.405	3.060	2.108	1200		1	1.004	0.952
						0	1.005	0.952	225
GF.J1	718472.615	733427.492	3.300	2.374			1	1.005	0.926
								0.926	225
culv 1	718466.961	733437.746	3.300	1.790			0	culv 1	1.510
									100
culv 2	718467.486	733435.335	3.300	1.791			1	culv 1	1.509
									100
						0	culv 2	1.509	100
culv 3	718474.459	733436.855	3.300	1.795			1	culv 2	1.505
									100
SIC 1-0	718551.584	733378.730	2.910	0.760	450				
						0	1.000	2.150	150
SIC 1-1	718538.434	733393.216	2.800	0.748	450		1	1.000	2.052
						0	1.001	2.052	150
SMH 1-2	718514.925	733418.170	2.700	0.819	1200		1	1.002	1.881
						2	1.001	1.881	150
						0	1.003	1.881	150
SIC 1-3	718489.277	733445.168	3.100	1.000	1200		0	1.002	2.100
									150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
GF.J2	718513.475	733416.963	2.700	0.838		1	1.003	1.862	150
						0	dummy	1.862	150
GF.J3	718478.389	733438.600	3.000	1.600		1	dummy	1.453	150
						0	1.004_1	1.400	225

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	Scotland and Ireland	Skip Steady State	x
M5-60 (mm)	16.400	Drain Down Time (mins)	10080
Ratio-R	0.280	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
100	20	0	0

Node ATTENUATION Offline Pump Control

Flap Valve	x	Design Depth (m)	2.000	Switch off depth (m)	0.200
Loop to Node	S1-0	Design Flow (l/s)	2.0		
Invert Level (m)	-1.200	Switch on depth (m)	0.300		

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.200	2.000	3.000	2.000

Node ATTENUATION Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	-1.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	855

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	60.0	0.0	3.300	60.0	0.0	3.400	1.0	0.0

Results for 100 year +20% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	S1-0	104	0.756	0.031	2.0	0.0350	0.0000	OK
480 minute winter	1_OUT (DUMMY)	104	0.728	0.028	2.0	0.0000	0.0000	OK
960 minute winter	ATTENUATION	900	2.045	3.245	12.8	201.4505	0.0000	OK
15 minute winter	GF.SIC 1-4	11	1.088	0.088	10.4	0.0994	0.0000	OK
15 minute winter	GF.SMH 1-5	11	1.036	0.084	10.4	0.0954	0.0000	OK
15 minute winter	GF.J1	12	1.006	0.080	10.2	0.0000	0.0000	OK
15 minute summer	culv 1	1	1.510	0.000	0.0	0.0000	0.0000	OK
15 minute summer	culv 2	1	1.509	0.000	0.0	0.0000	0.0000	OK
15 minute summer	culv 3	1	1.505	0.000	0.0	0.0000	0.0000	OK
15 minute winter	SIC 1-0	10	2.190	0.040	2.0	0.0116	0.0000	OK
15 minute winter	SIC 1-1	10	2.105	0.053	3.6	0.0139	0.0000	OK
15 minute winter	SMH 1-2	11	1.971	0.090	11.1	0.1278	0.0000	OK
15 minute winter	SIC 1-3	10	2.145	0.045	2.7	0.0564	0.0000	OK
15 minute winter	GF.J2	11	1.945	0.083	10.4	0.0000	0.0000	OK
15 minute winter	GF.J3	11	1.432	0.032	10.4	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1-0	S1-0	1_OUT (DUMMY)	2.0	0.656	0.033	0.0057	228.5
960 minute winter	ATTENUATION	Pump	S1-0	2.0				280.8
15 minute winter	GF.SIC 1-4	1.004	GF.SMH 1-5	10.4	0.742	0.284	0.1349	
15 minute winter	GF.SMH 1-5	1.005	GF.J1	10.2	0.781	0.278	0.0675	4.9
15 minute summer	culv 1	culv 1	culv 2	0.0	0.000	0.000	0.0000	
15 minute summer	culv 2	culv 2	culv 3	0.0	0.000	0.000	0.0000	0.0
15 minute winter	SIC 1-0	1.000	SIC 1-1	2.0	0.430	0.159	0.0923	
15 minute winter	SIC 1-1	1.001	SMH 1-2	3.4	0.418	0.275	0.2831	
15 minute winter	SMH 1-2	1.003	GF.J2	10.4	1.031	0.585	0.0197	
15 minute winter	SIC 1-3	1.002	SMH 1-2	2.7	0.359	0.196	0.2832	
15 minute winter	GF.J2	dummy	GF.J3	10.4	1.050	0.589	0.4094	
15 minute winter	GF.J3	1.004_1	GF.SIC 1-4	10.4	1.231	0.044	0.0173	

Appendix D Irish Water Connection Agreement and Associated Correspondence

Appendix 1

Letter of Acceptance

Letter of Acceptance

[to be returned to Irish Water]

Irish Water
PO Box 860
South City Delivery Office
Cork City

I/we have read, understood, accept and agree to comply in full with the terms of the Connection Offer dated 2 June 2023, the General Conditions and any Special Conditions (which together constitute the Connection Agreement).

I/we further understand and acknowledge that there shall be no intention to create any legally binding contract between me/us and Irish Water unless and until I/we have completed, signed and returned this Letter of Acceptance and paid the Connection Charge.

I/we have made payment for Connection Reference CDS2200757101 via

Electronic Funds Transfer EFT ☒
Cheque ☐

Customer address: Upper Crantford Centre, Montrose, Dublin 4

Customer's signature: 

For and on behalf of: Royalton Developments Dublin 4 Ltd.

Print full name of Customer in BLOCK letters: MICHAEL GALLAGHER

Date: 30/6/2023

Connection Reference: CDS2200757101

Mark Richardson
Punch Consulting
Carnegie House
Library Road
Dun Laoghaire
Dublin

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

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

www.water.ie

CONNECTION OFFER

To: Royalton Developments Dublin 4 Limited (Company Number 678584)
Upper Cranford Centre
Montrose
Dublin 4
Dublin

(the “**Customer**”)

Atten: Conor Delahunty

Our Ref: **CDS2200757101**

Connection Agreement – Beach Road, Sandymount, Dublin

Date: 2 June 2023

SUBJECT TO CONTRACT

Dear Applicant,

Outcome of your Connection Application - Summary

We have completed the review of your Connection Application.

Irish Water has reviewed your application for connection(s) to the Network(s). Based upon the details provided by you, Irish Water can offer you a connection(s) in accordance with the terms of this Connection Offer.

Where can you find more information?

You can find more information about the terms of your Connection Offer in this **Connection Offer letter** and enclosures. Please read this Connection Offer letter and the following enclosed documents, in particular:

- General Conditions (Appendix 2)
- Special Conditions (Appendix 3)

If you have any queries in relation to this Connection Offer, please contact our Customer Service Department at:

Telephone: 1800 278 278 or +353 1 707 2828

Email: newconnections@water.ie

Web: www.water.ie/contact-us

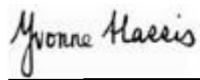
Next Steps¹ to proceed with this Connection Offer:

- Sign and return the Letter of Acceptance (see attached)
- Pay the Connection Charge (see Section 3(a) below)

You have **90 days** from the date of this Connection Offer to accept the offer.

If you wish to proceed with this Connection Offer, please complete the Next Steps listed above.

Yours sincerely



Yvonne Harris
Head of Customer Operations

¹ The purpose of this list is to draw particular attention to the key deliverables in the Connection Agreement. Developers are required to adhere to all requirements specified in the Connection Agreement.

Outcome of your Connection Application - Details

Providing a connection between the: Water Works and Wastewater Works (the “Network(s)”) AND The development located at Beach Road, Sandymount, Dublin (the “Customer's Premises”)
--

Following receipt of your application for a connection to the Network(s) (the “**Customer Application**”), Irish Water is pleased to offer you (“**You**” or the “**Customer**”), a connection between the Network(s) and the Customer's Premises, subject to and in accordance with the conditions set out in this Connection Offer (the “**Connection Offer**”), the General Conditions for a Water and/or Wastewater Connection (the “**General Conditions**”, copy attached in Appendix 2) and any Special Conditions pertaining to this connection (the “**Special Conditions**”, as may be attached in Appendix 3).

This Connection Offer is conditional upon payment of the Connection Charge and the return of the signed Letter of Acceptance (the form of which is included at Appendix 1 to this Connection Offer).

(Please note that capitalised terms not otherwise defined within this Connection Offer shall have the meaning given to them in the General Conditions)

1. Connection Agreement

We enclose a Letter of Acceptance for your consideration.

We would encourage You to read the entirety of this Connection Offer and the Connection Agreement. If You are satisfied with these and wish to proceed, please:

- sign the Letter of Acceptance and return it to **Irish Water, PO Box 860, South City Delivery Office, Cork City**. Alternatively, You can send back a scanned version of the signed Letter of Acceptance to newconnections@water.ie; and
- pay the Connection Charge in accordance with section 3 below.

You and Irish Water acknowledge that there shall be no intention to create any legally binding contract between You and Irish Water unless and until You have completed the above steps.

If, in the opinion of Irish Water, You have not returned the Letter of Acceptance or paid the Connection Charge, no contract shall come into force.

Once the signed Letter of Acceptance has been returned **and** the Connection Charge has been paid, the Connection Agreement shall become legally binding on You and Irish Water and the Connection Works can be carried out. The Connection Agreement is comprised of this Connection Offer, the General Conditions and any Special Conditions. In the event of any conflict or inconsistency between these documents, they shall apply in the following order:

- i. Special Conditions
- ii. General Conditions
- iii. Connection Offer.

Any decision by Irish Water to enter into a Connection Agreement with You is made in reliance on the information in and with Your Customer Application. If the information supplied is incorrect or incomplete, Irish Water reserves the right to apply additional Connection Charges and contract terms.

Irish Water's decision to make a Connection Offer to You is made in reliance on the information contained in and submitted with the Connection Application. If the information supplied is incorrect or found to be materially inaccurate in any way, Irish Water reserves the right to apply additional Connection Charges, to impose additional contract terms and/or take any steps in accordance with the General Conditions.

This Connection Offer is based on a high-level desk top analysis carried out by Irish Water on the feasibility of a connection for your Development. Once the Connection Offer has been accepted by You, Irish Water will begin a detailed design of the connection. If during the process of detailed design Irish Water, at its discretion, forms the opinion (acting reasonably) that either:

- A. a connection to your Development is not feasible or practicable or safe to complete; or
- B. a connection to your Development would involve the expenditure by Irish Water of monies in excess of that provided for by way of the Connection Charge,

then the Connection Agreement may be terminated by Irish Water in accordance with General Condition 18.

The Connection Agreement shall constitute the entire agreement between You and Irish Water.

Any reference in this Connection Offer to an Appendix is to an appendix to this Connection Offer.

2. Validity of Connection Offer

You have 90 days from the date of this Connection Offer to accept the Connection Offer by returning the Letter of Acceptance **and** paying the Connection Charge. Thereafter, the Connection Offer shall lapse unless otherwise agreed in writing by Irish Water.

3. Connection Charge

The Connection Charge(s) shall be determined in accordance with Irish Water's Connection Charging Policy as set out in the Water Charges Plan (which can be found at www.water.ie/connections)

The Water Connection charge is €191,296.00

The Wastewater Connection charge is €378,672.00

The Total Connection Charge is €569,968.00 (“**Connection Charge**”). A breakdown of the Connection Charge is set out in Appendix 4.

Payment of the Connection Charge can be made by:

- A. Cheque, made payable to “Irish Water” or
- B. Money Transfer, by EFT to the following bank account:

Allied Irish Bank, 40/41 Westmoreland Street, Dublin 2, Ireland.

Account Name	BIC	IBAN
IW AR-EFT	AIBKIE2D	IE29 AIBK 9333 8464 3085 94

Please note that You must quote the Irish Water reference number specified above in any communications and when making payment (see ‘Our Reference’ on the first page of this letter). The Connection Charge will only be deemed paid when funds have cleared in Irish Water’s bank account.

4. Connection Works

Once the Connection Offer has been validly accepted, Irish Water or its agent shall make contact with You to schedule the Connection.

5. Distribution System, Drains and Service Connection

You are responsible for providing, maintaining and renewing the Distribution System and/or Drains and Service Connection required for the provision of Water Services (see General Condition 10).

6. Cancellation by the Customer

You may cancel the proposed Connection by writing to Irish Water at the contact address set out below within fourteen (14) Business Days of returning the Letter of Acceptance:

- noting that you wish to cancel the Connection; and
- quoting the reference number set out above (see ‘Our Reference’ on the first page of this letter);

No charges will be incurred by You unless the Connection or part thereof has already been carried out with your agreement. If You cancel the Connection in accordance with this paragraph, Irish Water will refund any payment which You have already made for the proposed Connection, subject to any costs that may have already been incurred by Irish water in the provision of the Connection.

7. Queries

If You have any queries in relation to the payment of the Connection Charge or otherwise, please contact Irish Water’s Customer Service Department at:

Telephone: 1800 278 278 or +353 1 707 2828

Email: newconnections@water.ie

Web: www.water.ie/contact-us

8. Disputes

Any dispute in respect of the terms of this Connection Offer (including in relation to the Estimate of Connection Costs) may, upon your application, be referred to the Irish Water

complaints process. Details of the Irish Water Complaints Process are available on the Irish Water website.

Once a legally binding Connection Agreement is entered into, all disputes in relation to your agreement with Irish Water shall be resolved pursuant to General Condition 30.

9. Next Steps

- **Accepting the Offer:** sign and return the Letter of Acceptance and pay the Connection Charge.
- **Customer Construction Phase:** If required, Irish Water or its agent will contact You in relation to the connection assets required to facilitate your connection to the Network(s).
- **Connection to Network(s):** Irish Water or its agent will contact You to arrange a suitable time to complete the Connection Works.

Appendix 1

Letter of Acceptance

Letter of Acceptance

[to be returned to Irish Water]

Irish Water
PO Box 860
South City Delivery Office
Cork City

I/we have read, understood, accept and agree to comply in full with the terms of the Connection Offer dated 2 June 2023, the General Conditions and any Special Conditions (which together constitute the Connection Agreement).

I/we further understand and acknowledge that there shall be no intention to create any legally binding contract between me/us and Irish Water unless and until I/we have completed, signed and returned this Letter of Acceptance and paid the Connection Charge.

I/we have made payment for Connection Reference CDS2200757101 via

Electronic Funds Transfer EFT ☐
Cheque ☐

Customer address: _____

Customer's signature: _____

For and on behalf of: _____

Print full name of Customer in BLOCK letters: _____

Date: _____

Connection Reference: CDS2200757101

Letter of Acceptance

[Customer Copy]

[to be retained by Customer]

I/we have read, understood, accept and agree to comply in full with the terms of the Connection Offer dated 2 June 2023, the General Conditions and any Special Conditions (which together constitute the Connection Agreement).

I/we further understand and acknowledge that there shall be no intention to create any legally binding contract between me/us and Irish Water unless and until I/we have completed, signed and returned this Letter of Acceptance and paid the Connection Charge.

I/we have made payment for Connection Reference CDS2200757101 via

Electronic Funds Transfer EFT ☐

Cheque ☐

Customer address: _____

Customer's signature: _____

For and on behalf of: _____

Print full name of Customer in BLOCK letters: _____

Date: _____

Connection Reference: CDS2200757101

APPENDIX 2

General Conditions

IRISH WATER

General Conditions for a Water and/or Wastewater Connection

(Version 0.2)

February 2019

General Conditions for a Water and/or Wastewater Connection (the “General Conditions”)

1. Definitions: In these General Conditions the following definitions apply:

“Affiliate” of a Person means any subsidiary or holding company (within the meaning given to such expressions by the Companies Act 2014) of such Person or any subsidiary of any such holding company;

“Applicable Law” means all Acts of the Oireachtas, statutory instruments, regulations, orders and other legislative provisions which in any way relate to the Connection Agreement, including the Water Services Acts, the Building Regulations, the Construction Regulations and any code or guidance as may be issued from time to time by any Regulator or relevant industry authority. Any reference to “Applicable Law” or any enactment or statutory provision is a reference to it as it may have been, or may from time to time be amended, modified, consolidated or re-enacted;

“Building Regulations” mean the Building Control Acts 1990 to 2014 and all subordinate legislation and regulations made pursuant to the said Acts including, without limitation the Building Control Regulations 1997 to 2017 and relevant codes of practice, and any amendment, update or replacement or repeal thereof;

“Business Day” means every day other than a Saturday or Sunday or bank or public holiday in Ireland;

“Competent Authority” means any local or national or supra-national agency, authority, department, inspectorate, ministry, official or public or statutory Person (whether autonomous or not) or regulatory authority of Ireland or of the European Union which has jurisdiction over any of the Parties to the Connection Agreement and the subject matter of the Connection Agreement, including the Commission for Regulation of Utilities but excluding a court or tribunal of competent jurisdiction;

“Connection Charging Policy” means the Irish Water Connection Charging Policy which may be found at www.water.ie/connections;

“Connection Offer” means the conditional offer letter issued by Irish Water to the Customer relating to the connection of the Customer’s Premises to the Network(s) and which forms part of the Connection Agreement;

“Connection Agreement” means the agreement between the Customer and Irish Water to facilitate the connection of the Customer’s Premises to the Network(s), which shall be comprised of the Connection Offer (including the appendices thereto), the General Conditions and the Special Conditions (if any);

“Connection Charge” means the charge for connecting to the Irish Water Waterworks and/or Wastewater Works (as the case may be), as specified in the Connection Offer. The Connection Charge shall only be deemed paid when funds have cleared in Irish Water’s bank account;

“Connection Facilities” means the facilities (including the Service Connection(s)) required to be constructed and/or upgraded and installed by Irish Water in order to connect the Customer’s Pipe Work to the Network(s);

“Connection Point(s)” means a location or locations to be determined by Irish Water (which may be outside the boundary to the curtilage of the Customer’s Premises) at which the Customer’s Pipe Work is to be connected to the Waterworks (where, as specified in the Connection Offer, the Customer requires connection to the Waterworks) or the Wastewater Works (where, as specified in the Connection Offer, the Customer requires connection to the Wastewater Works) (via the Service Connection(s)). Connection Points may differ for both the Waterworks and Wastewater Works;

“Connection Works” means the permanent and temporary works and services to be performed by or on behalf of Irish Water in the acquisition, design, procurement, construction and installation of the Connection Facilities and the obtaining of permits and the tie-in and commissioning of a Connection Point(s) in accordance with the requirements of this Connection Agreement;

“Construction Regulations” means the Safety Health and Welfare at Work Act 2005, the Safety Health and Welfare at Work (General Application) Regulations 2007 to 2016 as amended, the Safety Health and Welfare at Work (Construction) Regulations 2013 as amended and any guidance requirements issued from time to time from the Health and Safety Authority;

“Customer” means the person or entity to whom the Connection Offer is addressed and who has entered into the Connection Agreement with Irish Water;

“Customer’s Pipe Work” means the pipe, relating fittings and associated accessories to be laid by the Customer within the boundary of the Customer’s Premises in accordance with Relevant Standards and Applicable Laws, , and the Distribution System (if connecting to the Waterworks) and the Drain (if connecting to the Wastewater Works), to be used to connect the Customer’s Premises at a Connection Point;

“Customer’s Premises” means the premises identified as such in the Connection Offer, including any part of any public or private building, vessel, vehicle, structure or land (whether or not there are structures on the land and whether or not the land is covered with water), and any plant or related accessories on or under such land, or any hereditament of tenure, together with any out-buildings and curtilage and which is:

- receiving Water Services; or
- specified in an application for Water Services completed by the Customer; or
- a premises deemed to be a premises by Irish Water; or
- such other premises as may be notified by the Customer to Irish Water and

accepted in writing by Irish Water from time to time, but does not include land which is a Public Road, a road which is the subject of an order under Section 11 of the Roads Act 1993 or a road which has been taken in charge by a local authority pursuant to a non-statutory local authority taking in charge scheme;

“Deed(s) of Grant of Wayleaves and Easements” means the Deed(s) of Grant of Wayleaves and Easements referred to in Clause 10 hereof;

“Dispute” means a difference or dispute between the Parties arising out of or in connection with this Connection Agreement;

“Distribution System” means a pipe and its related fittings, that is used or to be used as the case may be to convey water into or through one or more Customer’s Premises (including any related internal or external taps) excluding a Service Connection;

“Drain” means a drainage pipe, or system of such pipes and related fittings for collection of Wastewater, that is not owned by, vested in or controlled by Irish Water, and that is not a Service Connection, which is used or to be used as the case may be, to convey Wastewater from one or more Customer’s Premises or to any wastewater treatment system on a Customer’s Premises where the Wastewater is generated;

“Environment” means the environment generally, including all physical, biological and ecological aspects of the environment and:

- (a) air, including that within buildings or natural or man-made structures above or below ground;
- (b) water, including the open sea, coastal or inland waters, ground waters, aquifers, drains and sewers;
- (c) land, including the seabed or riverbed under any water as described above, and any surface land and sub-surface land; and
- (d) human and animal health, and plant life;

“Environmental Law” means any statute or common law, or other requirement having the effect of law, in Ireland relating to the Environment, including without limitation the provisions of the Water Services Acts and Local Government (Water Pollution) Acts 1977 to 2007;

“Environmental Protection Agency” means the Environmental Protection Agency established pursuant to the Environmental Protection Agency Act, 1992;

“Force Majeure” means any event not within the reasonable control of a Party and which could not have been prevented or the consequences of which could not have been prevented by a Party acting and having acted as a Reasonable and Prudent Operator and which has the effect of preventing a Party from complying with its obligations under this Connection Agreement, including:

- acts of terrorists;

- war declared or undeclared, blockade, protest, revolution, riot, insurrection, civil commotion, invasion or armed conflict;
- sabotage or acts of vandalism, criminal damage or the threat of such acts;
- extreme weather or environmental conditions including drought, extreme storms, lightning, fire, landslip, accumulation of snow or ice, natural disasters and phenomena including meteorites, the occurrence of pressure waves caused by aircraft or other aerial devices travelling at supersonic speeds, impact by aircraft, volcanic eruption, explosion including nuclear explosion, radioactive or chemical contamination or ionising radiation;
- any change of legislation, governmental order, restraint or directive having the effect of preventing or delaying the performance of any obligation hereunder;
- a strike or any other form of industrial actions by persons employed by the affected Party or by any local authority or by any contractor, subcontractor or agent of the affected Party;
- any strike which is part of a labour dispute of a national character occurring in Ireland or elsewhere;
- the act or omission of any contractor, subcontractor or supplier of either Party but only if due to an event which, but for the contractor, subcontractor or supplier not being a Party to the Connection Agreement, would have been Force Majeure;
- an outbreak of foot and mouth or any other restrictions put in place as part of a strategy to contain a communicable disease in Ireland; and
- the collapse of the euro currency;

provided that the following shall not constitute Force Majeure:

- lack of funds and/or the inability of a Party to pay; and
- mechanical or electrical breakdown or failure of machinery or plant owned or operated by either Party other than as a result of the circumstances identified above;

“Irish Water” means Irish Water (Uisce Éireann) a designated activity company incorporated in Ireland (company registration number 530363) and having its registered office at 24-26 Talbot Street, Dublin 1;

“Legal Requirement” means any Applicable Law, legislation or directive, regulation,

requirement, instruction, direction or rule of any Competent Authority binding on either or all of the Parties to this Connection Agreement and includes any modification, extension or replacement thereof then in force;

“Network(s)” means the Waterworks and/or the Wastewater Works, as applicable and specified on the face of the Connection Offer, and any related lands, which are owned by, vested in, controlled or used by Irish Water;

“PRA Compliant Map” means ordinance survey plans, suitable for registration of any Deed of Grant of Wayleaves and Easements relating to property intended to be taken in charge by the local authority and the Connection Facilities to be vested in Irish Water together with all easements relating thereto suitably identified by the relevant symbols and/or colours designated by the Property Registration Authority.

“Public Road” means a road over which a public right of way exists and the responsibility for the maintenance of which lies on a road authority;

“Reasonable and Prudent Operator” means a person acting in good faith with the intention of performing its contractual obligations hereunder and in so doing and who in the general conduct of its undertaking exercises that degree of skill and diligence which would reasonably and ordinarily be exercised by a skilled and experienced operator complying with Applicable Law engaged in the same type of undertaking under the same or similar circumstances and conditions and the expression **“Standard of a Reasonable and Prudent Operator”** shall be construed accordingly;

“Regulator” means, where applicable, all present and future regulatory bodies having jurisdiction over Irish Water including, but not limited to, the Commission for Regulation of Utilities, the Environmental Protection Agency, the Minister of Housing, Planning and Local Government, the Office of the Data Protection Commissioner, the Competition and Consumer Protection Commission and/or any other statutory body or regulatory authority which regulates on an on-going basis or from time to time the business or operations of Irish Water;

“Relevant Standards” means the Connections and Developer Services Standard Details and Codes of Practice published and amended from time to time by Irish Water which are applicable to the Customer’s Pipe Work and which are available on the Irish Water website (www.water.ie/Connections);

“Service Connection” means a water supply pipe or drainage pipe, together with any accessories and related fittings, extending from a Waterworks (where, as specified in the Connection Offer, the Customer requires connection to the Waterworks) or Wastewater Works (where, as specified in the Connection Offer, the Customer requires connection to the Wastewater Works) to the outer edge of the boundary to the curtilage of the Customer’s Premises and used, or to be used as the case may be, for the purpose of connecting the Customer Premises with a Waterworks and/or Wastewater Works (as the case may be), and, if used or to be used for connecting more than one such premises it shall extend to the outer edge of the boundary to the curtilage of the premises which is furthest from the said Waterworks and/or Wastewater Works (as the case may be);

“Sewage” and **“Sewage Effluent”** have the meanings assigned to them by the Local Government (Water Pollution) Acts 1977 to 2007;

“Sewers” means sewers of every description, excluding Storm Water Sewers, owned by, vested in or controlled by Irish Water, but does not include a Drain or Service Connection;

“Special Conditions” means any special conditions attached to the Connection Offer or as may be agreed from time to time;

“Storm Water” means run-off rainwater that enters any pipe;

“Storm Water Sewer” means any pipe or other conduit (a) used solely for the conveyance of Storm Water; or (b) designed or intended to be used for the conveyance of Storm Water (whether or not it is connected to a sewer by a ‘storm water overflow’ within the meaning of the Waste Water Discharge (Authorisation) Regulations 2007;

“Wastewater” means Sewage or other Sewage Effluent discharged, or to be discharged, to a Drain, Service Connection or Sewer but does not include Storm Water;

“Wastewater Works” means Sewers and their accessories, and all other associated physical elements used for collection, storage, measurement or treatment of Wastewater, and any related lands, which are owned by, vested in, controlled or used by Irish Water;

“Water Main” means water supply pipes owned by, vested in or controlled by Irish Water but does not include pipes, fittings and appliances to which the terms "Service Connection" or "Distribution System" apply;

“Water Services” means all services, including the provision of water intended for human consumption, which provide storage, measurement, treatment or distribution of surface water, ground water, and/or Wastewater collection, storage, measurement, treatment or disposal;

“Water Services Acts” means the Water Services Acts 2007 to 2017;

“Waterworks” means water sources, Water Mains and their accessories, and all other associated physical elements used for the abstraction, treatment, storage, measurement or distribution of water, and any related land, which are owned by, vested in, controlled or used by Irish Water;

“Water Supply Maintenance Point” means the point at which a Service Connection for water supply enters the boundary to the curtilage of the Customer’s Premises.

2. **Interpretation:** Unless the context otherwise requires, any reference in this Connection Agreement to:

- 2.1 any gender includes the other;
- 2.2 a statute, bye laws, regulation, delegated legislation or order is to the same as amended, modified or replaced from time to time and to any bye law, regulation, delegated legislation or order made thereunder;
- 2.3 any agreement, instrument or code is to the same as amended, novated, modified, supplemented or replaced from time to time;
- 2.4 unless otherwise specified any reference in this Connection Agreement to a "Clause" or "Appendix" is a reference to a Clause or Appendix in this Connection Agreement;
- 2.5 **"including"** means comprising but not by way of limitation to any event, class, list or category;
- 2.6 a **"Person"** shall be construed as a reference to any natural or legal person, firm, company, corporation, Government or Agency of a State or any association or partnership (whether or not having separate legal personality). A Person includes that person's legal or personal representative, permitted assigns and successors;
- 2.7 **"Party"** means a party to this Connection Agreement and **"Parties"** shall be construed accordingly;
- 2.8 the singular shall include the plural and vice versa;
- 2.9 words not otherwise defined that have well-known and generally acceptable technical or trade meanings in the water industry are used in this Connection Agreement in accordance with such recognised meanings;
- 2.10 where a word or expression is defined in this Connection Agreement, related words and expressions shall be construed accordingly;
- 2.11 headings are for ease of reference only and shall not affect its construction;
- 2.12 time shall be construed by reference to whatever time is applicable in Ireland; and
- 2.13 where a Party is required to use **"all reasonable endeavours"** that Party should explore all avenues reasonably open to it, and explore them all to the extent reasonable, but the Party is neither obliged to disregard its own commercial interests, nor required to continue trying to comply if it is clear that all further efforts would be futile; and
- 2.14 references to the "Commission for Regulation of Utilities" shall include any Competent Authority which may replace or succeed the Commission and assume its functions in relation to the regulation of the water industry in Ireland.

3. Defined Terms in Connection Offer: Terms which appear in uppercase in these General Conditions which are not otherwise defined shall have the meaning given to them in the Connection Offer.

4. Order of Precedence: In the event of inconsistency or conflict between the Connection Offer, the General Conditions and the Special Conditions, the following order of precedence will apply: (1) Special Conditions (2) General Conditions (3) Connection Offer.

5. **Regulated Entity:** Irish Water operates within a regulatory framework governed by the Regulators.

6. **New Connection:** Irish Water shall charge and the Customer has agreed to pay in full the Connection Charge notified to the Customer in the Connection Offer. Following payment by the Customer, Irish Water shall perform or procure a third party to perform its obligations under the Connection Agreement and the Customer shall perform its obligations under the Connection Agreement.

7. **Sub-contractors/Agents:** The Customer acknowledges that Irish Water may sub-contract or engage an agent to perform certain of the obligations of Irish Water pursuant to the Connection Agreement, in which case, Irish Water shall not be relieved of any obligation or liability with respect to its rights or obligations under the Connection Agreement. The Customer shall have no recourse to any such third party; the Customer's sole recourse shall be to Irish Water in accordance with the Connection Agreement.

8. **Rights and obligations under law.** Nothing in this Connection Agreement shall affect or prejudice any rights, duties or obligations of the Parties under Applicable Laws.

9. **Principal Obligations:**

9.1 Subject to the terms of this Connection Agreement, Irish Water will carry out (or procure the carrying out) of Connection Works to facilitate the connection of the Customer's Premises to the Waterworks and/or Wastewater Works as specified in the Connection Offer).

9.2 The Customer will:

9.2.1 carry out its obligations pursuant to Clause 10 to facilitate the connection of the Customer's Premises to the Waterworks and/or Wastewater Works (as the case may be and as specified in the Connection Offer);

9.2.2 comply with all Relevant Standards and Applicable Laws and obtain all necessary easements, licences, permits or authorisations that may be required in connection with the performance of its obligations and its receipt of the Water Services pursuant to this Connection Agreement.

10. **Customer's Connection Obligations:**

10.1 The Customer shall:

10.1.1 make payment to Irish Water of the Connection Charge set out in the Connection Offer;

10.1.2 in a timely manner, provide, install, test and commission within the boundary to the curtilage of the Customer's Premises all Customer Pipework necessary to connect the Customer's Premises, Distribution System (if connection is to Waterworks) and Drain(s) (if connection is to Wastewater

Works) to the Network(s) at the Connection Point(s) in accordance with Relevant Standards and Applicable Law;

10.1.3 provide safe, free and unrestricted access (which access may not be exclusive) for Irish Water and, and all parties acting on its behalf, to any land or premises of the Customer when reasonably required for the purposes of Irish Water's functions or in relation to this Connection Agreement;

10.1.4 if required by Irish Water in the Connection Offer and at the Customer's own cost, procure adequate way-leaves and easements from third party landowners for the Customer Pipe Work and the Connection Facilities (so that Irish Water and all parties acting on its behalf can establish and carry out the Connection Works) and if required by Irish Water:

10.1.4.1 deliver for approval by Irish Water the PRA Compliant Map;

10.1.4.2 where the Connection Facilities are not entirely comprised within the boundaries of the lands owned by the Customer, the Customer shall deliver to Irish Water a Deed of Grant of Wayleaves and Easements (in duplicate) for the benefit of Irish Water and the Connection Facilities, duly executed by the applicable landowner (to include without limitation a protected strip of ten metres, five metres on either side of the Connection Facilities, in respect of the full length of the Connection Facilities, unless an alternative strip width has been agreed in writing with Irish Water) TOGETHER WITH the PRA Compliant Map. The required form of Deed of Grant of Wayleaves and Easements will be provided by Irish Water on request;

10.1.4.3 irrevocably instruct its appointed solicitor to use best endeavours to stamp and register the Deed(s) of Wayleaves and Easements in the Property Registration Authority as soon as practicable at the Customer's expense and to provide notice of the relevant dealing number and evidence of such registration to Irish Water immediately following completion of registration **PROVIDED THAT** if requested by Irish Water the Customer shall consent to Irish Water taking over the registration process, and the Customer undertakes and agrees to assist Irish Water with this registration process following written request to do so;

10.1.4.4 specifically include reference and notice of the Deed(s) of Wayleaves and Easements in favour of Irish Water in any transfers, conveyances, assignment, lease and/or licence which it may have with any third party.

10.1.5 inform Irish Water, and all parties acting on its behalf, of any relevant safety precautions before entry to the Customer's Premises. Since Irish Water will not be aware of the specific hazards present on the Customer's Premises, the Customer is obliged to inform Irish Water of such hazards. The Customer must ensure that Irish Water, and all parties acting on its behalf, are either accompanied at all times by the Customer, or has been

adequately briefed as to the presence of any specific hazards, the precautions that must be taken and what to do in the event of an accident or emergency;

- 10.1.6 co-operate with and assist Irish Water, and all parties acting on its behalf;
- 10.1.7 not unreasonably interfere with or restrict the carrying out of Irish Water's obligations in accordance with this Connection Agreement;
- 10.1.8 not do or cause or permit to be done anything which causes, or could reasonably be expected to cause, damage or destruction to any part of the Connection Works or in any way interferes with its operation or materially interferes with Irish Water's (and all parties' acting on its behalf) access to same;
- 10.1.9 be solely responsible at all times for maintaining and keeping excavations and reinstatements on its property in a safe and secure condition and will indemnify and keep indemnified Irish Water, its servants, agents and contractors against all claims, demands, proceedings, damages and expenses whatsoever in respect thereof;
- 10.1.10 where there is to be a connection to the Waterworks, accept liability for the care, maintenance, renewal and repair of the Customer Pipework and the plumbing fixtures and fittings and associated pipework of the Distribution System up to the Connection Point where the Service Connection connects with the Distribution System, to ensure that such infrastructure complies at all times with Applicable Law including but not limited to European Union (Drinking Water) Regulations 2014 and any regulations that may be made under Section 54 of the Water Services Act 2007 or any bye-laws made by Irish Water. Irish Water shall accept no responsibility for the maintenance, renewal, adequacy, safety or other characteristics of such infrastructure, save that, in terms of water supply, Irish Water shall maintain and repair that part of the Service Connection extending from the Waterworks up to the Water Supply Maintenance Point;
- 10.1.11 where there is to be a connection to the Wastewater Works, accept liability for the care, maintenance, renewal and repair of the Customer Pipe Work and the plumbing fixtures and fittings and associated pipework of any Drains up to the Connection Point with the Service Connection to which those Drains are connected. Irish Water shall accept no responsibility for the maintenance, renewal, adequacy, safety or other characteristics of such infrastructure. Any Drain or Drains located within the boundary to the curtilage of the Customer's Premises and/or any system of Drains that drains more than one premises within the boundary to the curtilage of those Customer's Premises shall be the sole responsibility of the Customer; and
- 10.1.12 agree the timing of any works to be carried out by the Customer with Irish Water.

- 10.2 The Customer shall take such steps as Irish Water may notify from time to time to prevent a risk to human health or the environment, to facilitate the reasonable conservation of water, to ensure the proper and effective management of Water Services, to prevent contamination of any Waterworks (where there is to be a connection to the Waterworks), and to protect the Wastewater Works (where there is to be a connection to the Wastewater Works).
- 10.3 The Customer shall not allow discharge of rainwater runoff from roofs, paved areas or other surfaces into any Drain or Sewer, except as may be agreed in advance in writing with Irish Water.
- 10.4 During the duration of this Connection Agreement, Irish Water may specify any technical requirements or standards necessary to minimise the risk of leakage or to protect the integrity of any Waterworks or Wastewater Works.
- 10.5 For the avoidance of doubt, the Customer is prohibited from using the Service Connection and/or using any other mechanism to supply Water Services onwards to another location or premises other than the Customer's Premises notified to Irish Water by the Customer to which the Service Connection applies. Irish Water shall in no way be liable for a breach of this provision by the Customer or by any other third party, including any adverse consequences arising directly or indirectly as a result of such a breach and all costs, damages or claims arising therefrom.
- 10.6 The Customer hereby indemnifies Irish Water and its servants, agents and contractors in respect of any loss, damage or injury that may result from the laying or use of pipes within the boundary to the curtilage of the Customer's Premises. The Customer indemnifies Irish Water and its servants, agents and contractors in respect of any loss, damage or injury caused as a result of any leakage of Wastewater from Drains or Service Connections or water from the Distribution System up to the Connection Point where Service Connection connects with the Distribution System.
- 10.7 The Customer shall be solely responsible for preventing any backflow, back syphonage or blowback from the Distribution System of the Customer's Premises into the Water Main or Waterworks.
- 10.8 Where a connection is made to the Wastewater Works, Irish Water shall be entitled to take spot samples of the Wastewater discharged by the Customer for the purposes of testing compliance with the terms of this Connection Agreement and/or for general research or compliance purposes. If, in the opinion of Irish Water, the characteristics of the Customer's Wastewater are such that it is likely to produce what Irish Water determines to be a significant impact upon the Wastewater Works, then Irish Water may require the Customer to enter into a separate end-user agreement containing additional conditions in connection with the treatment of the Customer's Wastewater. The Customer acknowledges and agrees that it will, if requested to do so by Irish Water, cease discharging its Wastewater to the Network pending entry into the end-user agreement

11. Use of Water:

- 11.1 Where in the opinion of Irish Water, waste or deliberate misuse of water occurs on the Customer's Premises, Irish Water may restrict or reduce the pressure of the Water Services temporarily until satisfied that the waste or misuse has been rectified.
- 11.2 The Customer may in times of water scarcity be required to limit the use of Water for essential purposes only as prescribed by Irish Water.
- 11.3 With the exception of customers covered under the Irish Water Domestic Customer Vulnerable Code of Practice, the Customer shall be responsible for installing and maintaining sufficient storage to provide a reserve water supply if that is necessary for any special needs which the Customer has for a specific rate of flow or pressure or if, taking account of any interruption to the Water Services which might occur due to works, a burst or any other reason, a prudent customer acting reasonably in order to protect its business needs would provide such storage.
- 11.4 The Customer shall ensure so far as practicable that all water is drawn at a reasonably regular rate of flow and pressure and shall use its storage facility to reduce peak demands being made upon the Waterworks by the Customer.
- 11.5 The provisions of this Clause 11 shall survive the termination or expiry of this Connection Agreement.

12. Time for Completion/Delays: Irish Water shall use commercially reasonable endeavours to ensure that the Connection Works are completed in a timely manner but Irish Water shall not be liable for any loss or damage suffered by the Customer in respect of delays resulting from any cause whatsoever.

13. Third Party Losses: The Customer shall indemnify Irish Water and its servants, agents and contractors, and hold Irish Water and its servants, agents and contractors harmless at all times from any and all losses of any third party incurred, suffered or sustained pursuant to this Connection Agreement, but only to the extent any such loss was not caused by Irish Water's breach of this Connection Agreement or the negligence of Irish Water in undertaking its obligations under this Connection Agreement.

14. Liability:

- 14.1 **Immunity:** Nothing in this Connection Agreement shall affect any immunity that Irish Water benefits from Applicable Law.
- 14.2 **Death or Personal Injury:** Subject to Clause 14.1 above, nothing in this Connection Agreement will exclude or limit the liability of either Party for death or personal injury resulting from the negligence of that Party or any other loss that cannot be excluded or limited under Applicable Law.
- 14.3 **Reasonable and Prudent Operator:** Subject to Clause 14.2, where the obligations of

Irish Water are performed in accordance with the Standard of a Reasonable and Prudent Operator, Irish Water shall have no liability whatsoever to the Customer in respect of this Connection Agreement.

14.4 No liability for Force Majeure: Neither Party shall be liable for any breach of this Connection Agreement directly or indirectly caused by Force Majeure.

14.5 No Liability: Neither Party shall be liable to the other Party in contract, tort, warranty, strict liability or any other legal theory for: (a) any loss of profit, revenue, use, contract (other than this Connection Agreement), opportunity, or goodwill; or (b) punitive or exemplary damages; or (c) any indirect, consequential, incidental or special damages (including punitive damages).

14.6 No implied warranties: All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from this Connection Agreement.

15. Assignment: The Customer shall not be entitled to assign the benefit or transfer the burden of this Connection Agreement without the prior written consent of Irish Water. Nothing shall prevent Irish Water from assigning the benefit or transferring the burden of this Connection Agreement to an Affiliate.

16. Sub-contractors: Either Party shall have the right to sub-contract or delegate the performance of any of its obligations or duties arising under this Connection Agreement without the prior consent of the other Party. Such subcontracting by Irish Water or the Customer of the performance of any obligations or duties under this Connection Agreement shall not relieve Irish Water or the Customer (as the case may be) from liability for performance of such obligation or duty.

17. Customer's Authority: The Customer represents and warrants to Irish Water that it has full power and authority to enter into and to exercise its rights and perform its obligations under this Connection Agreement and has obtained all authorisations and consents necessary for it to so enter, exercise rights and perform obligations and such authorisations and consents are in full force and effect.

18. Term & Termination:

18.1 This Connection Agreement shall commence upon the date that the Customer returns the Customer Acceptance Form and pays the Connection Charge (and if these occur on different days, the Connection Agreement shall commence on the later date) and shall continue in full force and effect until the Parties' respective obligations under Clause 9 have been performed in full unless it is earlier terminated in accordance with the provisions of this Connection Agreement.

18.2 The Connection Offer and this Connection Agreement is based on a high-level desk top analysis carried out by Irish Water on the feasibility of a carrying out the Connection Works for the Customer Premises. Once the Connection Offer has been accepted by You, Irish Water will begin a detailed design of the Connection Works. If during the process of detailed design Irish Water, at its discretion, forms the opinion (acting

reasonably) that either:

- A. the Connection Works are not feasible or practicable or safe to complete; or
- B. the acquisition of all rights for the laying of the Customer Pipe Work and/or the Connection Works are not possible or commercially practicable; or
- C. the Connection Works would involve the expenditure by Irish Water of monies in excess of that provided for by way of the Connection Charge,

then the Connection Agreement may be terminated by Irish Water by way of written notice to the Customer. In the event that Irish Water exercises its right to terminate the Connection Agreement on the basis of the foregoing then Irish Water shall return any Connection Charge paid by the Customer, less (if deemed appropriate by Irish Water) any outstanding costs and expenses incurred by Irish Water as at the date of termination. This provision is additional to and does not replace any other provisions relating to termination.

- 18.3 Irish Water shall be entitled to terminate this Connection Agreement by written notice to the Customer if the Customer sells the Customer Premises to a third party.
- 18.4 The Customer shall be entitled to terminate this Connection Agreement upon written notice to Irish Water within 14 days of the date of this Connection Agreement.
- 18.5 Either Party shall be entitled to terminate this Connection Agreement upon written notice to the other Party where:
 - 18.5.1 there is in any material breach by the other Party of its obligations under this Connection Agreement and the breach cannot be remedied or if it is capable of being remedied, it has not been remedied by such Party within 28 days of the issue of a notice to it by the other Party identifying the breach and requiring it to be remedied; and
 - 18.5.2 an event of Force Majeure persists for a period of 180 days or more, provided at least 14 days' notice of termination has been given in writing.
- 18.6 In the event that either Party exercises its right to terminate under this Clause before the Connection Works commence, Irish Water shall return any Connection Charge paid by the Customer, less any outstanding costs and expenses incurred by Irish Water as at the date of termination, including, but not limited to, costs of construction, and any legal or financing costs.
- 18.7 Termination of this Connection Agreement shall not prejudice or affect any right of action or remedy which shall have accrued or shall thereafter accrue to either Party under this Connection Agreement.
- 18.8 Without prejudice to Clause 18.7, in particular, the following clauses:
 - Clause 4 (Order of Precedence);
 - Clauses 10.1.1, 10.1.9, 10.1.10, 10.1.11, 10.2, 10.3, 10.5, 10.6, 10.7 and 10.8;
 - Clause 11 (Use of Water);
 - Clause 13 (Third Party Losses);
 - Clause 14 (Liability);

Clause 18 (Term and Termination);
Clause 20 (Insurance);
Clause 26 (Entire Agreement);
Clause 21 (Data Protection);
Clause 29 (Governing Law); and
Clause 30 (Disputes),

of this Connection Agreement shall continue in full force and effect and be fully binding on the Parties notwithstanding termination or expiry.

19. Notices:

- 19.1 Notices or other communications given pursuant to this Connection Agreement shall be in writing and shall be sufficiently given if delivered by hand or sent by e-mail or pre-paid registered post to the e-mail or postal address referred to below of the Party to which the notice or communication is being given or to such other address and as such Party shall communicate from time to time to the Party giving the notice or communication.
- 19.2 The Customer's address for service is as set out in the Connection Offer.
- 19.3 Any notice required or permitted to be given by the Customer shall be in writing addressed to Irish Water at Irish Water, PO Box 860, South City Delivery Office, Cork City or by email to newconnections@water.ie or such other address or electronic mail address as may be notified by the Customer to Irish Water from time to time.
- 19.4 Every notice given in accordance shall be deemed to have been received as follows:

Means of Dispatch	Deemed Received
Hand Delivery	The time of delivery.
Post	48 hours after posting (and proof that the envelope containing the notice or communication was properly addressed and sent by pre-paid registered post will be sufficient evidence that the notice or other communication has been duly served or given).
Email	Upon receipt by the addressee of the complete text in legible form.

provided that if, in accordance with the above provisions, any such notice or other communication would otherwise be deemed to be given or made outside working hours (being 9am to 5.30pm on a Business Day) such notice or other communication shall be deemed to be given or made at the start of working hours on the next Business Day.

20. Insurance:

20.1 The following insurance obligations will apply in the alternative depending on whether the Customer's Premises is a:

20.1.1 single domestic unit (see Clause 20.2 below); or

20.1.2 a small non-domestic development (where the connection to the Customer's Premises is proposed to be a 25mm water supply Service Connection and/or a 100mm Wastewater Service Connection)(see Clause 20.2 below); or

20.1.3 a development other than a single domestic unit or a small non-domestic unit (see Clause 20.3 below).

20.2 Where this Connection Agreement relates to a single domestic unit or a small non-domestic development, the Customer shall ensure that any Contractor engaged by them in relation to the Customer's Pipe Work has appropriate and adequate insurance cover in place throughout the duration of the works in relation to the matters referred to in Clause 10.

20.3 Where this Connection Agreement relates to developments other than a single domestic unit or a small non-domestic development, the Customer shall ensure that any Contractor engaged by them in relation to the Customer's Pipe Work has appropriate and adequate insurance cover in place throughout the duration of the works in relation to the matters referred to in Clauses 10. In particular, the Customer shall, within five days following a written request from Irish Water, furnish Irish Water with evidence that the insurances referred to below are being maintained by the Contractor:

20.3.1 **Employers Liability** insurance cover with a minimum indemnity limit of €13 million any one accident/occurrence unlimited in the period of insurance;

20.3.2 **Public/Products/Pollution Liability** insurance cover with a minimum indemnity limit of €6.5 million any one accident/occurrence unlimited in the period of insurance under the Public Liability and in the aggregate in respect of Products & Pollution Liability;

20.3.3 **Contractors "All Risks"** insurance for the full reinstatement value of the proposed works in respect of any one claim; and

20.3.4 **Motor** insurance cover with a minimum third party property damage limit of €6.5m for all vehicles owned, leased, rented or run (to include tool of trade use) by the Contractor in connection with the services to be provided by it.

The Insurance policies detailed in this Clause 20.3 with the exception of Motor must include a specific indemnity to Irish Water.

21. Data Protection:

21.1 It is necessary for Irish Water to collect and use personal data relating to the Customer in respect of this Connection Agreement, such as your name, address, contact details and financial information (depending on payment method). This data will be used to enable Irish Water to carry out its obligations under this Connection Agreement and manage its relationship with the Customer, such as arranging payments, visits to the Customer's Premises and scheduling construction activities. Irish Water may keep the Customer's data for a reasonable period after the Customer ceases to be supplied with

Water Services but will not keep it for any longer than is necessary and/or as required by law.

- 21.2 Irish Water may share the Customer's data with other members of the Ervia group and agents who act on behalf of Irish Water in connection with the activities referred to above. Such agents are only permitted to use the Customer's data as instructed by Irish Water. They are also required to keep the Customer's data safe and secure.
- 21.3 From time to time the Customer may speak to employees of Irish Water (or agents acting on its behalf) by telephone. To ensure that Irish Water can provide a quality service, telephone conversations with the Customer may be recorded. Irish Water will treat the recorded information as confidential and will only use it for staff training/quality control purposes, confirming details of the Customer's conversations with Irish Water or any other purposes mentioned in this notice.
- 21.4 The Customer has various rights under data privacy laws, which include the right to request a copy of his/her personal data. If the Customer wishes to avail of this right or for further information please contact Irish Water in writing at FREEPOST, Irish Water, Data Protection Officer, PO Box 6000, Talbot Street, Dublin 1 or via email to dataprotection@ervia.ie.
- 21.5 Irish Water endeavours to use appropriate technical and physical security measures to protect your personal data which is transmitted, stored or otherwise processed by Irish Water, from accidental or unlawful destruction, loss, alteration, unauthorised disclosure of, or access. Irish Water's service providers are also selected carefully and required to use appropriate protective measures.
- 21.6 As effective as modern security practices are, no physical or electronic security system is entirely secure. The transmission of information via the internet is not completely secure. Although Irish Water will do its best to protect your data, Irish Water cannot guarantee the security of your data transmitted to Irish Water's Site. Any transmission of data is at your own risk. Once Irish Water receives your data, Irish Water will use appropriate security measures to seek to prevent unauthorised access. Irish Water will continue to revise policies and implement additional security features as new technologies become available.
- 21.7 In the event that there is an interception or unauthorised access to your personal data, Irish Water will not be liable or responsible for any resulting misuse of your personal information.
- 21.8 For further information on how Irish Water treats the Personal Data of Customers when providing Water Services, please see our Privacy Notice on www.water.ie. Alternatively, please contact us at the details above for Irish Water's Privacy Notice.
- 21.9 In order to evaluate and improve our Customer's experience, we or agents on our behalf, may from time to time issue surveys to the Customer in relation to the services provided. If you do not wish to receive a survey, please let us know.

21.10 Irish Water reserves the right to change and/or update its Privacy Notice at any time in Irish Water's sole discretion. If Irish Water makes changes, Irish Water will publish same on www.water.ie.

- 22. Safety, Health and Welfare at Work (Construction) Regulations 2013:** It is acknowledged and agreed that the works carried out for, or on behalf of, the Customer in relation to the Customer's Pipe Work are entirely separate and distinct to the Connection Works carried out for and on behalf of Irish Water. The Customer shall ensure full compliance with all applicable health and safety legislation including, if necessary and applicable, the Safety, Health and Welfare at Work (Construction) Regulations 2013 in respect of the works to the Customer's Pipe Work. The Customer acknowledges that, as client, it may have certain obligations under the Safety, Health and Welfare at Work (Construction) Regulations 2013 in relation to the works to the Customer's Pipe Work and, as such, will ensure full compliance with those obligations. Irish Water shall ensure full compliance with all applicable health and safety legislation including, if necessary and applicable, the Safety, Health and Welfare at Work (Construction) Regulations 2013 in respect of the Connection Works. Irish Water acknowledges that, as client, it may have certain obligations under the Safety, Health and Welfare at Work (Construction) Regulations 2013 in relation to the Connection Work and, as such, will ensure full compliance with those obligations.
- 23. No Waiver:** No forbearance, indulgence or relaxation on the part of a Party shown or granted to the other Party shall in any way affect, diminish, restrict or prejudice the rights or powers of Irish Water or operate as or be deemed to be a waiver of any breach of conditions. None of the provisions of this Connection Agreement shall be considered waived by a Party unless such waiver is given in writing and signed by a duly authorised representative of the Party making the waiver. No such waiver shall be a waiver of any past or future default or breach nor shall such waiver constitute a modification of any term provision condition or covenant of the contract unless expressly so provided in such waiver.
- 24. Severability:** All of the provisions contained in this Connection Agreement are distinct and severable, and if any provision is held or declared to be unenforceable, illegal or void in the whole or in part by any court, regulatory authority or other Competent Authority it will, to that extent only, be deemed not to form part of this Connection Agreement and the enforceability, legality and validity of the remainder of these terms and conditions will not in any event be affected.
- 25. Force Majeure:** If either Party is by reason of Force Majeure rendered unable wholly or in part to carry out its obligations under this Connection Agreement, then upon notice in writing of such Force Majeure from the Party affected to the other Party, as soon as possible after the occurrence of the cause relied on, the Party affected shall be released from its obligations (other than the obligations to pay money) and suspended from the exercise of its rights under the Connection Agreement to the extent to which they are affected by the circumstances of Force Majeure and for the period during which those circumstances exist PROVIDED THAT the Party affected shall use all reasonable endeavours to prevent, avoid, overcome or mitigate the effects of such occurrence.
- 26. Entire Agreement:**
- 26.1 This Connection Agreement shall be the entire agreement between the Parties with respect to the subject matter and expressly excludes any warranty, condition or other undertaking implied at law or by custom and supersedes all previous agreements and

understandings between the Parties (other than as provided for in this Connection Agreement) with respect to its subject matter.

26.2 The Customer acknowledges and confirms that it does not enter into this Connection Agreement in reliance on any representation, any misrepresentation, warranty or other undertaking by Irish Water not fully reflected in this Connection Agreement.

26.3 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from this Connection Agreement.

27. Amendments: This Connection Agreement may be updated at any time by Irish Water with replacement terms and conditions published on www.water.ie.

28. No Derogation from Statutory Responsibilities:

The Customer acknowledges and accepts:

28.1 their obligations and duties under the Water Services Acts in relation to the protection of human health, repair of leaks and the reasonable conservation of water and the management, consumption and use of water on or at the Customer's Premises to ensure that water is not wasted or consumed in excessive amounts;

28.2 that notwithstanding this Connection Agreement, Irish Water is not limited from exercising its powers under the Water Services Acts in relation to the Customer;

28.3 without prejudice to Clauses 10.1.10 and 10.1.11 of these General Conditions and notwithstanding the carrying out of Connection Works, the Customer Pipe Work (in terms of ownership, maintenance, repair, renewal or otherwise) will remain the sole responsibility of the Customer unless ownership is transferred to Irish Water.

29. Governing Law: The Connection Agreement shall be governed and construed in accordance with the laws of Ireland and, subject to Clause 30, the courts of Ireland shall have exclusive jurisdiction to decide disputes arising between the Customer and Irish Water.

30. Dispute Resolution:

30.1 **Notification of a Dispute:** Any Dispute between the Parties shall be resolved, if possible, by negotiation. In the event that no agreement is reached within fifteen (15) days of the date on which either Party first notified the other Party that a Dispute exists, either Party shall have the right to have the Dispute determined in accordance with Clause 30.2.

30.2 **Mediation:** The mediator is to be appointed by agreement between the Parties and, in the absence of agreement within five (5) working days of the receipt by one Party of a written notice to concur in the appointment of a mediator, by the Centre for Effective Dispute Resolution ("CEDR"). The mediation will be in Dublin and the costs of the mediation shall be shared equally between the Parties. In the event that the matter is not resolved within three (3) months of being referred to the mediator under

this Clause 30.2, then either Party may (but for the avoidance of doubt not be obliged to do so) commence court proceedings for the determination of the Dispute in question.

30.3 **Performance to Continue During Dispute:** Insofar as practicable, the Parties shall continue to implement the terms of this Connection Agreement notwithstanding the initiation of mediation or Court proceedings and any pending Dispute. No payment due to or payable by Irish Water or the Customer shall be withheld on account of a pending reference to the dispute resolution mechanism except to the extent that such payment is the subject of such dispute. However, Irish Water shall not be obliged to carry out the Connection Works unless it is in receipt of the Connection Costs.

30.4 **Survival:** The provisions of Clause 30.2 and 30.3 shall continue after the termination of this Connection Agreement where notice of the existence of the Dispute was given under Clause 30.1 prior to termination. Nothing in this Connection Agreement is intended to prejudice the referral of a dispute to the Commission for Regulation of Utilities for determination in accordance with Irish Water's Customer Handbook.

31. New Industry Structure

31.1 If, after execution of this Connection Agreement, there shall be enacted and brought into force any Legal Requirement for:

31.1.1 the further reorganisation of the water industry in Ireland or any material part of it;

31.1.2 the further facilitation of the introduction of third party interests into the affairs of the water industry in Ireland or any part of it; or

31.1.3 the amendment or variation of any policy of Irish Water or the manner in which the Network(s) and any agreements or protocols related thereto are organised;

which necessitates a variation to this Connection Agreement, the Parties shall effect such changes as are reasonably necessary so as to ensure that the operations contemplated by this Connection Agreement shall be conducted in a manner which is consistent with the effect of the new Legal Requirement and most closely reflects the intentions of the same with effect from the date thereof provided that any such amendment will be of no greater extent than is required by reason of the same.

31.2 If any variation proposed under Clause 31.1 has not been agreed by the Parties within three (3) months of it being proposed (the Parties acting as soon as reasonably practicable), either Party may refer to the Commission for Regulation of Utilities for determination and the Parties agree to abide by and to give effect to the Commission's determination, if necessary by entering into an agreement supplemental to this Connection Agreement.

APPENDIX 3

Special Conditions

Notes

SECTION 3.0 – Special Conditions pertaining to the Water/Wastewater Service Connection(s)

SECTION 3.1 - Water Service Connection(s)

1	Distance from Customer's Premises to Connection Point in metres (Service Connection).	8.00	m														
2	Diameter of Service Connection required (external diameter in mm).	150.00	mm														
3	Diameter of meter required (external diameter in mm).	100.00	mm														
4	Distance from Service Connection Point to the existing mains in metres (Mains Extension).		m														
5	Local Authority Water Services Department (Agents to Irish Water) will deliver the full connection works.																
6	Meter Chamber Details – to be installed by Developer																
	<table><tr><td colspan="2">Meter Chamber, pipework and spool piece fitted at connection stage in compliance with IW Code of Practice. The meter will be fitted by Irish Water after the connection works are complete.</td></tr><tr><td>Meter Size</td><td>100</td></tr><tr><td>Strainer Required</td><td>Not Required</td></tr><tr><td>Kiosk Requirements</td><td>If the meter/meter chamber is located in a trafficked area then a Kiosk in accordance with Standard Detail STD-W-36 will be required. Otherwise no Kiosk required.</td></tr><tr><td>Spool Piece Size</td><td>The flanged spool piece length be 250mm as per "Preferred values of L³" column of table 1 in document I.S. EN ISO 4064-4:2014. Diameter of Flange is 220mm. Dismantling Joint is required.</td></tr><tr><td>Chamber Requirements</td><td>Meter Chamber Required in accordance with Standard Detail STD-W-26A</td></tr><tr><td>Hydrant Required</td><td>Not Required</td></tr></table>			Meter Chamber, pipework and spool piece fitted at connection stage in compliance with IW Code of Practice. The meter will be fitted by Irish Water after the connection works are complete.		Meter Size	100	Strainer Required	Not Required	Kiosk Requirements	If the meter/meter chamber is located in a trafficked area then a Kiosk in accordance with Standard Detail STD-W-36 will be required. Otherwise no Kiosk required.	Spool Piece Size	The flanged spool piece length be 250mm as per "Preferred values of L ³ " column of table 1 in document I.S. EN ISO 4064-4:2014. Diameter of Flange is 220mm. Dismantling Joint is required.	Chamber Requirements	Meter Chamber Required in accordance with Standard Detail STD-W-26A	Hydrant Required	Not Required
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Chamber Requirements	Meter Chamber Required in accordance with Standard Detail STD-W-26A																
Hydrant Required	Not Required																
7	The design & construction of the new proposed water connection to be in accordance with the IW Codes of Practice and Standard Details. These are available from the IW website																
8	Once the offer has been accepted with payment and signed counterpart returned, Irish Water will commence the design of the Connection Works and obtain all relevant statutory approvals including obtaining a Road Opening Licence (ROL) to allow the Works commence. It may take some time to obtain the ROL. Once these approvals are in place and design stage is complete we will contact you 14 days in advance of the proposed connection works taking place.																

SECTION 3.2 - Wastewater Service Connection(s)

1	Distance from Customer's Premises to Connection Point in metres (Service Connection).	6.00	m
2	Diameter of Service Connection required (internal diameter in mm).	225.00	mm
3	Distance from Service Connection Point to the existing mains in metres (Mains Extension).		m

4	Irish Water will deliver the full physical connection works on the public side from its Network(s) to your property boundary.
5	The design & construction of the new proposed wastewater connection to be in accordance with the IW Codes of Practice and Standard Details. These are available from the IW website
6	No storm runoff shall drain to the public foul sewer
7	This Connection Offer is based on a high-level desk top analysis carried out by Irish Water on the feasibility of a Connection for the Premises. Once the Connection Offer has been accepted by You, Irish Water will begin a detailed design of the Connection. If during the process of detailed design Irish Water, at its discretion, forms the opinion (acting reasonably) that either: A. a Connection to the Premises is not feasible or practicable or safe to complete; or B. a Connection to the Premises would involve the expenditure by Irish Water of monies in excess of that provided for by way of the Connection Charge, then the Connection Agreement may be terminated by Irish Water by way of written notice to the Customer. In the event that Irish Water exercises its right to terminate the Connection Agreement on the basis of the foregoing then Irish Water shall return any Connection Charge paid by the Customer, less (if deemed appropriate by Irish Water) any outstanding costs and expenses incurred by Irish Water as at the date of termination. This provision is additional to and does not replace any other provisions relating to termination"
8	Once the offer has been accepted with payment and signed counterpart returned, Irish Water will commence the design of the Connection Works and obtain all relevant statutory approvals including obtaining a Road Opening Licence (ROL) to allow the Works commence. It may take some time to obtain the ROL. Once these approvals are in place and design stage is complete we will contact you 14 days in advance of the proposed connection works taking place.

APPENDIX 4

Connection Charge

Connection Charge		
Water Connection Charge		
	Standard Charge	€191,296.00
	Standard Charge – Additional Service Length	€0.00
	Quotable Charge	€0.00
	Sub total	€191,296.00
Wastewater Connection Charge		
	Standard Charge	€378,672.00
	Standard Charge – Additional Service Length	€0.00
	Quotable Charge	€0.00
	Sub total	€378,672.00
Total Connection Charge		€569,968.00

Appendix E Dublin City Council Correspondence

Mark Richardson | PUNCH

From: Niamh Fitzgerald <niamh.fitzgerald@dublincity.ie>
Sent: Friday 13 September 2024 12:51
To: Mark Richardson | PUNCH
Cc: Gareth Hyland
Subject: RE: 222207 LRD S247 meeting, Beach Rd (Former Maxol, original SHD Ref ABP-310299-21)

Hi Mark,

Following on from our earlier meeting I can confirm that the proposed amendments are acceptable in principle. The proposed drainage amendments do not appear to alter the overall surface water strategy that was previously approved.

You might check that any changes around the basement access ramp align with any recommendations from the site specific flood risk assessment, though I think you said the access levels remain unchanged.

I trust that is in order but please contact me if you have any further queries.

Regards,
Niamh

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Sent: Monday 9 September 2024 16:42
To: Gareth Hyland <gareth.hyland@dublincity.ie>; Niamh Fitzgerald <niamh.fitzgerald@dublincity.ie>
Subject: RE: 222207 LRD S247 meeting, Beach Rd (Former Maxol, original SHD Ref ABP-310299-21)

Hi Gareth

I have shared a link to a folder with our drawings and cover letter added

Niamh - in case you have not seen this please see below also.

 [2024-09-09 planning amendment s247 meeting](#)

Thanks

Mark Richardson
BA BAI CEng
Associate



Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland
t: +353 1 271 2200 m: +353 87 190 1262
w: www.punchconsulting.com
Dublin | Limerick | Cork | Galway | Glasgow
   

From: Gareth Hyland <gareth.hyland@dublincity.ie>
Sent: Monday 9 September 2024 13:36
To: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>
Subject: RE: 222207 LRD S247 meeting, Beach Rd (Former Maxol, original SHD Ref ABP-310299-21)

Hi Mark,

Sorry I never got to properly meet you earlier.

I am just look at this Beach Rd amendment proposal. The only thing I have is the Tom Phillips report that sets out all the proposed changes.

It refers regularly to associated drawings. However, I do not have these drawings.

Could you send me on all of the drawings that you have on it and I can come back to you today.

Thanks

Gareth

Gareth Hyland | Pleanálaí Feidmiúcháin Sinsearach Gníomhach

Rannán Pleanáil Iompair | Roinn Comhshaoil agus Iompair | Bloc 1, Urlár 5, Oifigí Cathartha, An Ché Adhmaid, Baile Atha Cliath 8 | D08 RF3F |

G: +353 1 222 5231 | Uimhir soghluaiste: +353 087 126 7203

Gareth.hyland@dublincity.ie | www.dublincity.ie

Gareth Hyland | Acting Senior Executive Planner

Transportation Planning | Environment & Transportation Department | Block 1, Floor 5, Civic Offices, Wood Quay, Dublin 8 | D08 RF3F |

T: +353 1 222 5231 | Mobile: +353 087 126 7203

Gareth.hyland@dublincity.ie | www.dublincity.ie

From: Mark Richardson | PUNCH <mrichardson@punchconsulting.com>

Sent: Wednesday 4 September 2024 09:55

To: Gareth Hyland <gareth.hyland@dublincity.ie>

Subject: 222207 LRD S247 meeting, Beach Rd (Former Maxol, original SHD Ref ABP-310299-21)

Hi Gareth

Thank you for your time on the phone just now.

Please let me know once you have had a chance to review the s247 documentation provided via Julie Costello of TPA, and we could discuss further.

Thanks,

Mark Richardson

BA BAI CEng

Associate



Carnegie House, Library Road, Dun Laoghaire, Co Dublin, A96 C7W7, Ireland

t: +353 1 271 2200 m: +353 87 190 1262

w: www.punchconsulting.com

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