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CONSULTING ENGINEERS

CIVIL | STRUCTURAL | PROJECT MANAGEMENT

PART 8 PLANNING SERVICES REPORT

**Including: Proposed Surface Water Design
Proposed Foul Water Design
Proposed Water Design**

**Project Reference:
Proposed Development at Farranlea Road, Cork City.**


Client: Cetti Limited

Project No.: 0567001


Design By: P.F. & M.E.

Date: April 2024



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|  <p>2 Clogheen Business Park, Blarney Road, Cork, Ireland. T: +353 (0)21 4399799 F: +353 (0)21 4399797 E: admin@rka.ie W: www.rka.ie</p> | Project Proposed Development at Farranlea Road, Cork | | | Job Ref. 0567001 | |
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| | | | | | Date April 2024 |

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| | Proposed Development at Farranlea Road, Cork | | 0567001 | | |
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| Surface Water Discharge | | | | | |
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1.0 Proposed Surface Water Discharge

Please see below aerial photo of the site showing the site.



Note the site is an infill site. There is historically a development at this location. The new site proposal includes 12 No. Apartments.


It is proposed to connect the surface water to the existing public sewer on Farranlea Road. A connection is subject to agreement with Cork City Council prior to connection to the public sewer.

All proposed drainage works are designed to comply with and be carried out in accordance with the current edition of the *Recommendations for site development works for Housing Areas* published by the *Department of Environment and Local Government*.

Drainage works also shall comply with Uisce Eireann/Local Authority requirements.

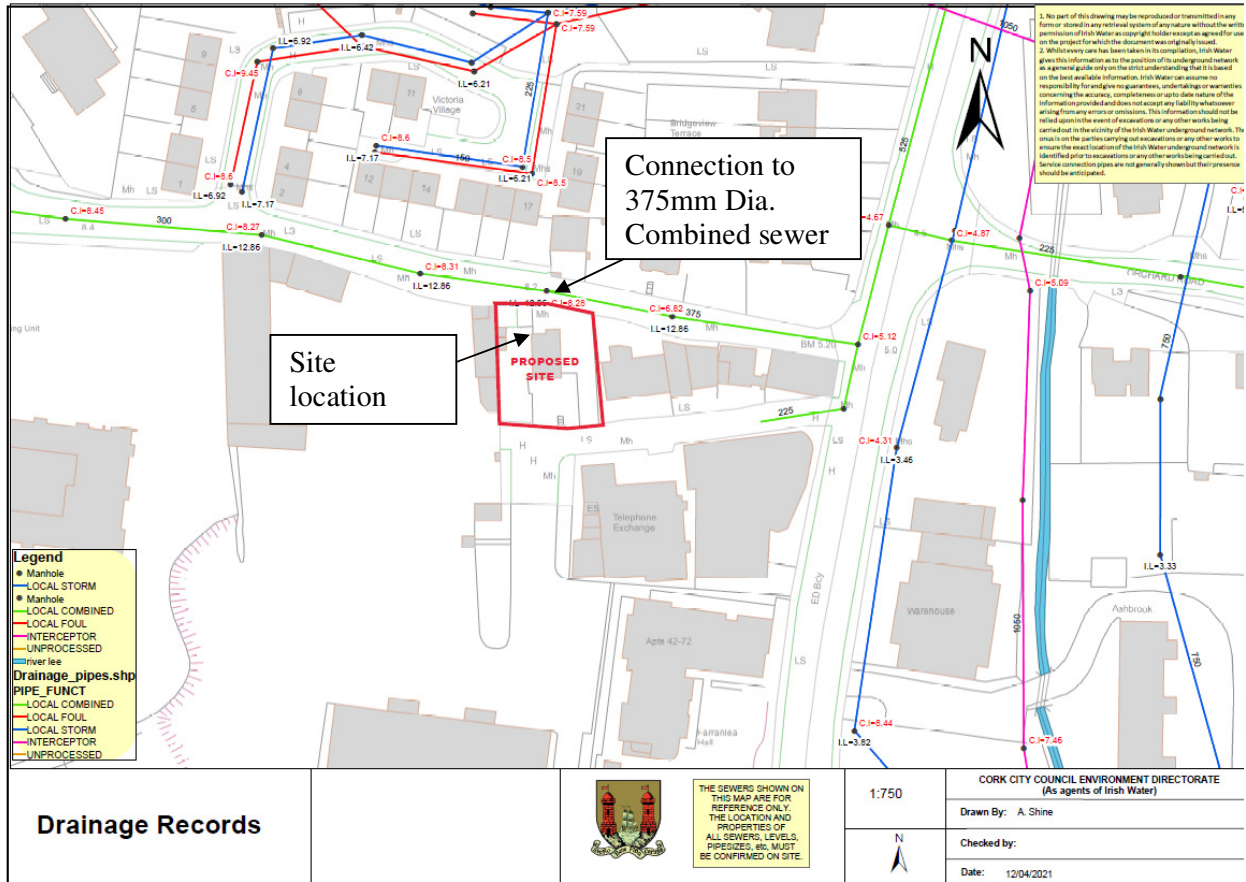
Sewers carrying domestic surface water from this proposed development shall have a sewer minimum sewer size of 225mm and the gradients are to achieve self cleansing velocities.

Please refer to RKA Site Services Dwg No. 1002, which indicates the proposed point of connection with a 225mm branch connection to the sewer/existing manhole, on Farranlea Road.

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2.0 Proposed Foul Water Design and Discharge

12 No. Units in this development are proposed to connect to the existing sewer in the road on Farranlea Road subject to Uisce Eireann approval and agreement



Existing Drainage Records



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Please refer to RKA Drainage Layout Drawing No. 1002 PL.

Sewers carrying domestic wastewater from this proposed housing developments should be designed to carry a minimum wastewater volume of six times dry weather flows (6DWF).

Dry weather flows (DWF) is taken as 600 litres per dwelling (three persons per house and a per capita wastewater flow of 200 litres per head per day.)

Total Dry weather flow (DWF) = $12 \times 600 / 24/60/60 = 0.083 \text{ L/sec}$


Peak flow taken as 5dwf = $5 \times 0.083 = 0.42 \text{ L/sec}$

Foul Pipe Network is designed to carry a minimum wastewater volume of six times dry weather flows (6DWF).

6 DWF = $6 \times 0.083 = 0.50 \text{ L/sec}$

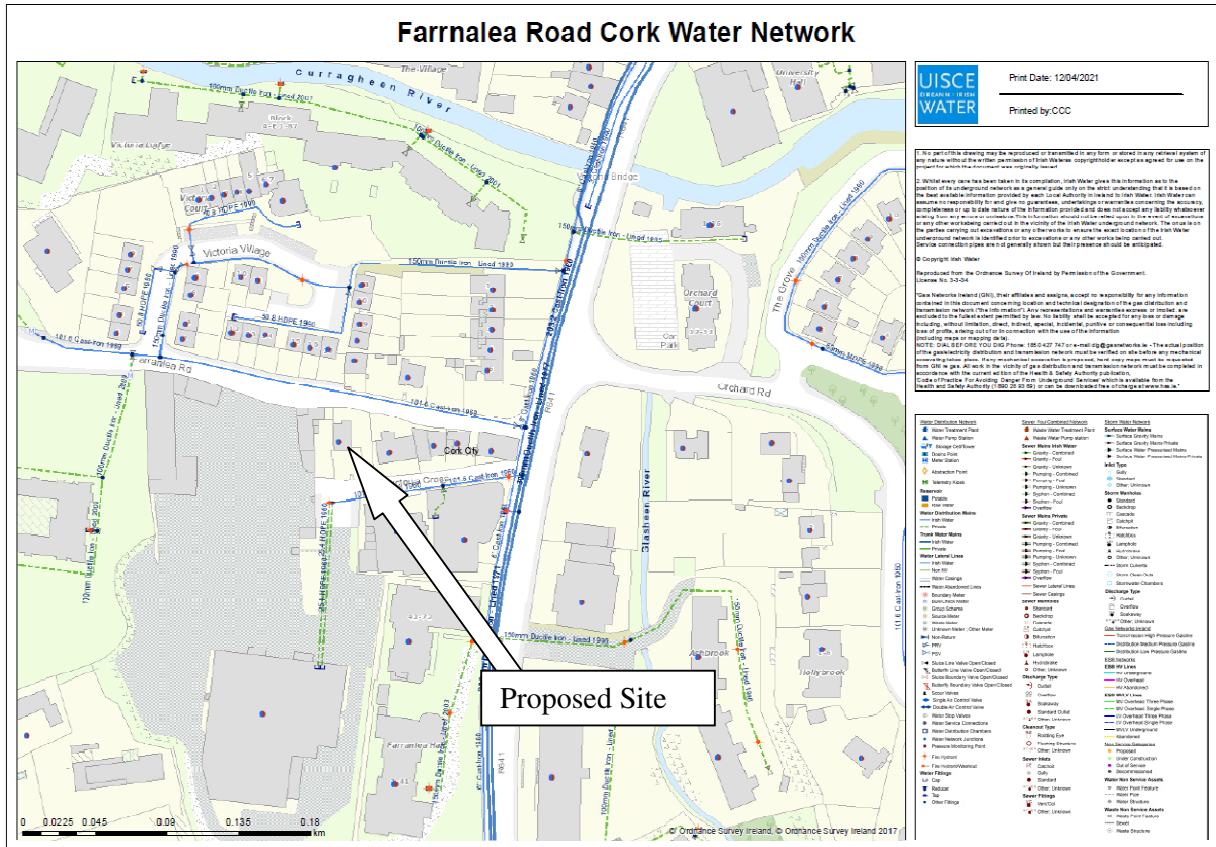
Please refer to the Code of Practice for Wastewater Infrastructure (IW-CDS-5030-03) for wastewater requirements.

See section 8 for confirmation of feasibility from Uisce Eireann for the proposed development.

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3.0 Proposed Water and Fire Fighting Supply


12 No. Units in this development are proposed to connect to the existing watermain on Farranlea Road subject to Uisce Éireann approval and agreement.



Existing Watermain Records

Please refer to RKA Proposed Watermain Drawing 1003-PL.



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The water demand includes: Average domestic daily demand in the development is established based on daily per-capita consumption, house occupancy, number of properties. For design purposes the average daily domestic demand is based on a per-capita consumption of 150 l/person/day and an average occupancy ratio of 2.7 persons per property.

12 properties: $12 \times 150 \times 2.7 = 4,860$ L/day

Total average daily demand = 4,860L/day

average daily demand per hour = $4,860/24 = 202$ litres/hour

The average day/peak week demand should be taken a 1.25 times the average daily domestic demand.

Total average day/peak demand = $4,860 \times 1.25 = 6,075$ L/day (peak demand)

Post-development peak hour water demand = $6,075/24 = 253$ litres/hour

The peak demand for sizing of the pipe network will normally be 5 times the average day, peak week demand.


Peak demand = $253 \times 5 = 1,265$ litres/hour

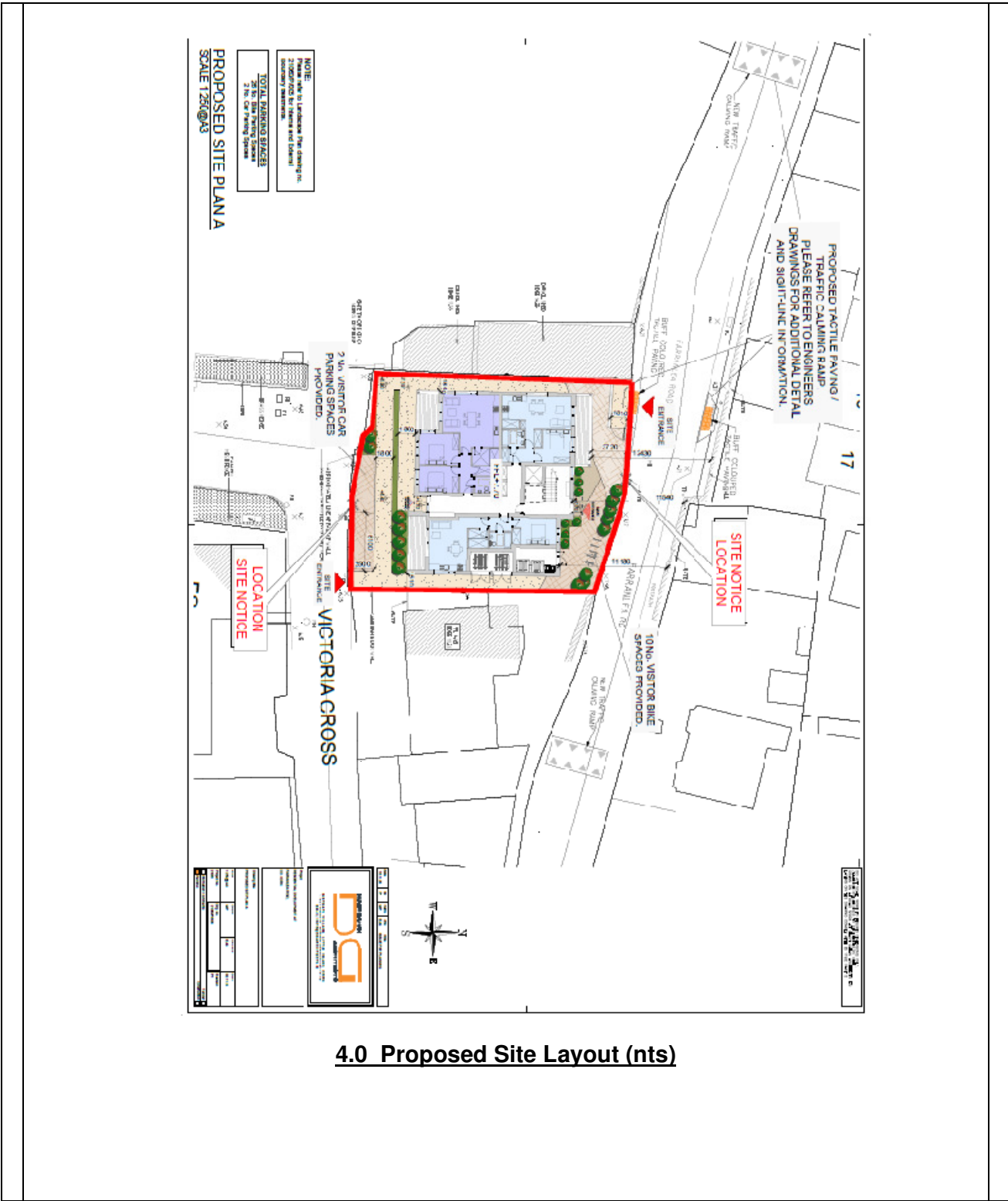
Fire Fighting Requirements:


Pressure and flow to be determined on site to meet the requirements of Uisce Éireann/Cork City Council Water and Fire Department.

The flows (l/s) and pressure (dynamic – bar) from the existing/adjacent/extended fire water main hydrants, will be tested and if required, storage and a variable speed booster pump will be installed.

See Section 8 for confirmation of feasibility from Uisce Éireann for the proposed development

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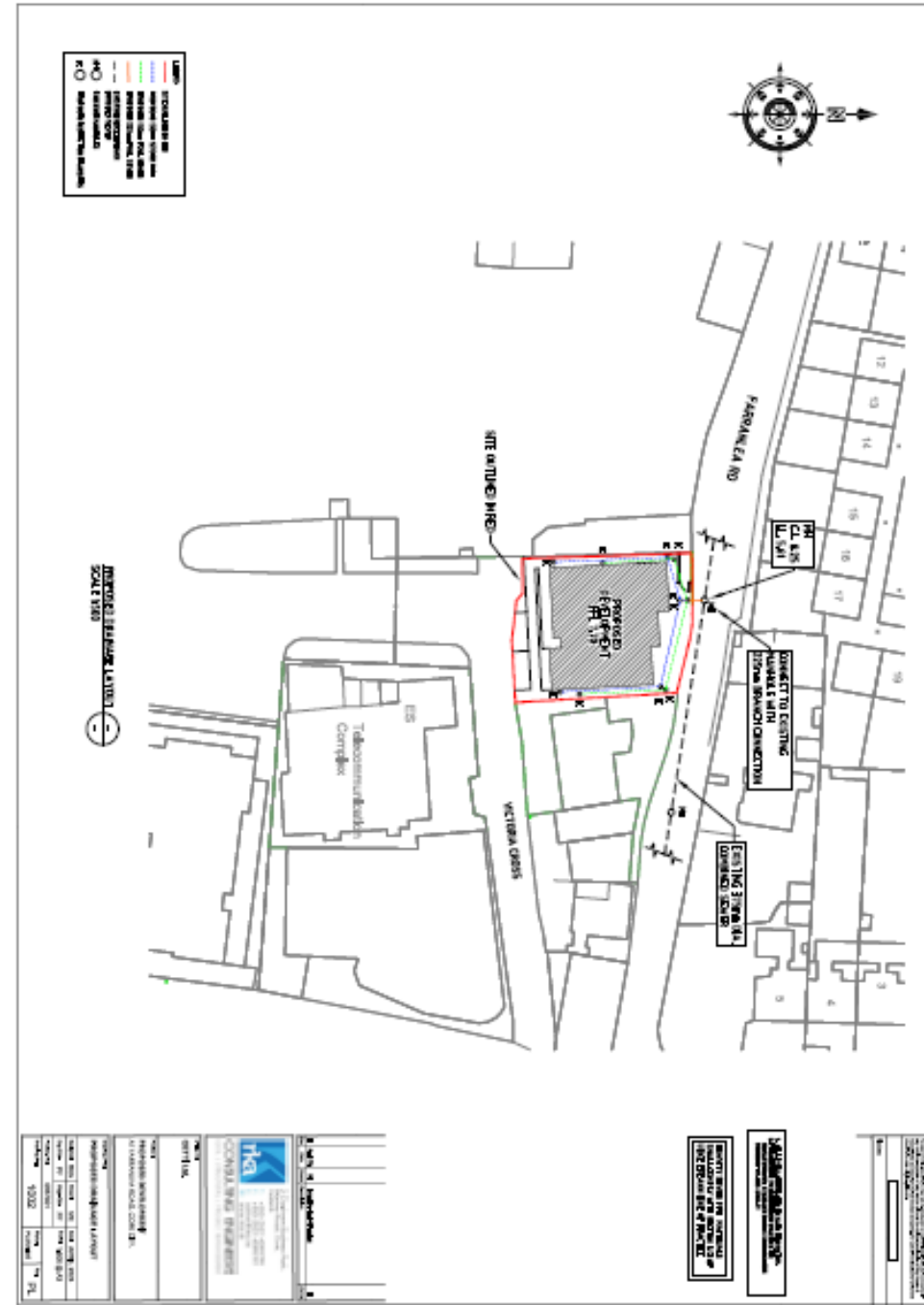
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| | Section <p style="text-align: center;">Drawings</p> | | Sheet no./rev | | |
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5.0 Historic Aerial Photo of Site (nts)

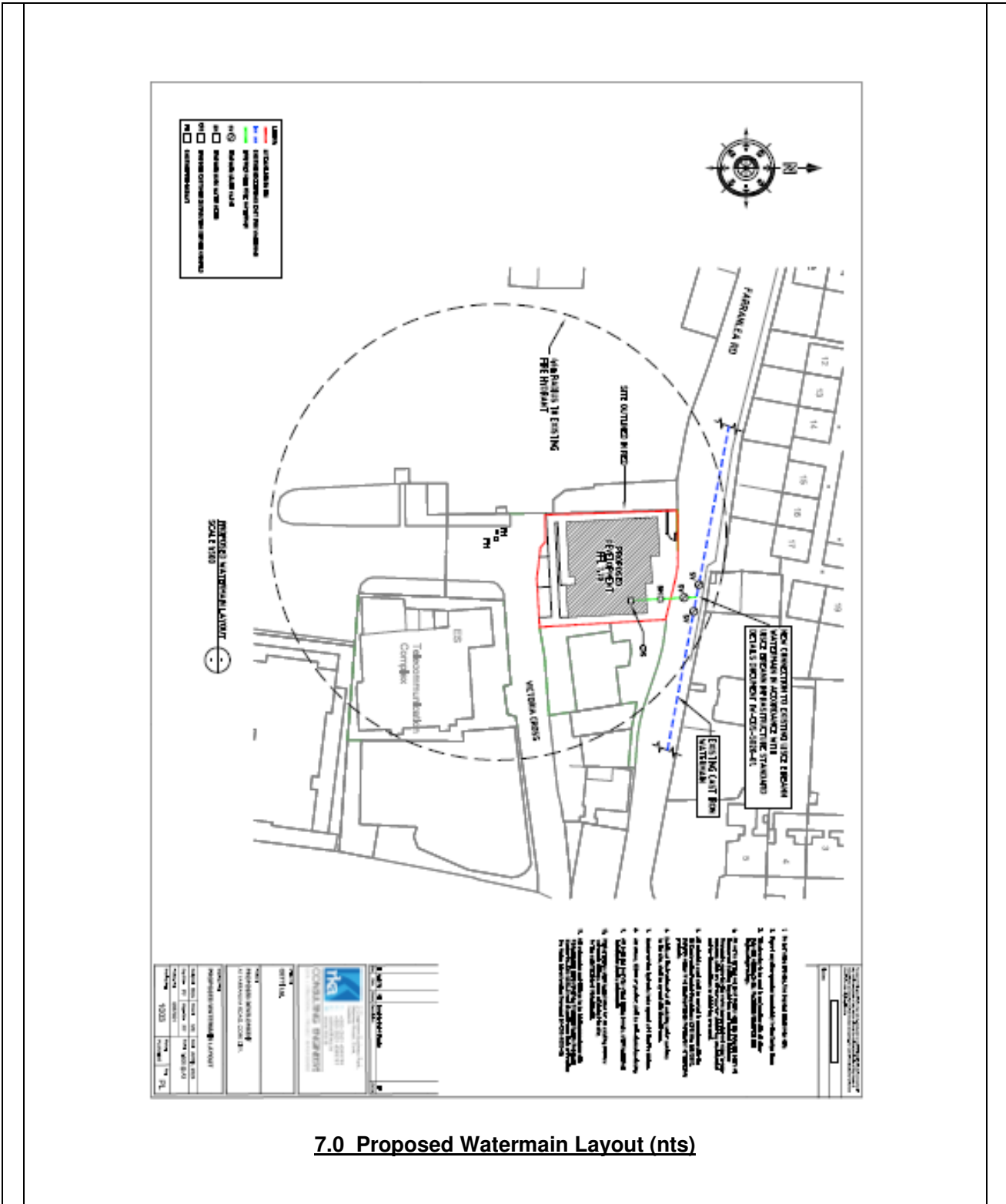


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6.0 Proposed Drainage Layout (nts)

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7.0 Proposed Watermain Layout (nts)



Dan Twohig
 RKA Engineers
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 Blarney Road
 Co. Cork
 T23X70V

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

7 January 2022

Re: CDS21008921 pre-connection enquiry - Subject to contract | Contract denied

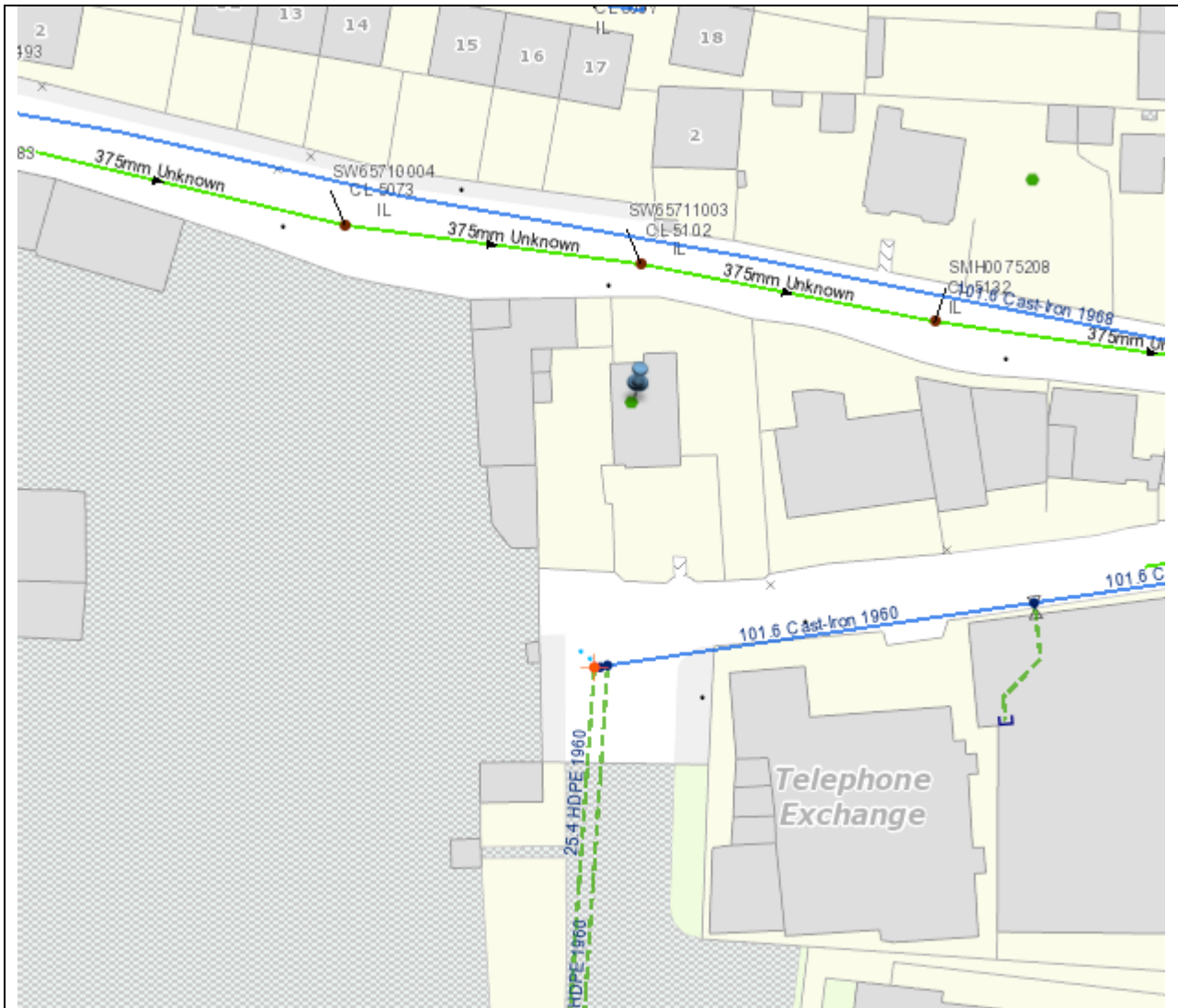
Connection for Housing Development of 15 unit(s) at Pairc Na Greine, Victoria Cross, Cork

Dear Sir/Madam,

Irish Water has reviewed your pre-connection enquiry in relation to a Water & Wastewater connection at Pairc Na Greine, Victoria Cross, Cork (the **Premises**). Based upon the details you have provided with your pre-connection enquiry and on our desk top analysis of the capacity currently available in the Irish Water network(s) as assessed by Irish Water, we wish to advise you that your proposed connection to the Irish Water network(s) can be facilitated at this moment in time.

| SERVICE | OUTCOME OF PRE-CONNECTION ENQUIRY <u>THIS IS NOT A CONNECTION OFFER. YOU MUST APPLY FOR A CONNECTION(S) TO THE IRISH WATER NETWORK(S) IF YOU WISH TO PROCEED.</u> |
|---|--|
| Water Connection | Feasible without infrastructure upgrade by Irish Water |
| Wastewater Connection | Feasible without infrastructure upgrade by Irish Water |
| SITE SPECIFIC COMMENTS | |
| Water Connection | No Comment |
| Wastewater Connection | No Comment |
| <p>The design and construction of the Water & Wastewater pipes and related infrastructure to be installed in this development shall comply with the Irish Water Connections and Developer Services Standard Details and Codes of Practice that are available on the Irish Water website. Irish Water reserves the right to supplement these requirements with Codes of Practice and these will be issued with the connection agreement.</p> | |

The map included below outlines the current Irish Water infrastructure adjacent to your site:



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

Whilst every care has been taken in its compilation Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland to Irish Water. Irish Water can assume no responsibility for and give no guarantees, undertakings or warranties concerning the accuracy, completeness or up to date nature of the information provided and does not accept any liability whatsoever arising from any errors or omissions. This information should not be relied upon in the event of excavations or any other works being carried out in the vicinity of the Irish Water underground network. The onus is on the parties carrying out excavations or any other works to ensure the exact location of the Irish Water underground network is identified prior to excavations or any other works being carried out. Service connection pipes are not generally shown but their presence should be anticipated.


General Notes:

- 1) The initial assessment referred to above is carried out taking into account water demand and wastewater discharge volumes and infrastructure details on the date of the assessment. **The availability of capacity may change at any date after this assessment.**
- 2) This feedback does not constitute a contract in whole or in part to provide a connection to any Irish Water infrastructure. All feasibility assessments are subject to the constraints of the Irish Water Capital Investment Plan.

- 3) The feedback provided is subject to a Connection Agreement/contract being signed at a later date.
- 4) A Connection Agreement will be required to commencing the connection works associated with the enquiry this can be applied for at <https://www.water.ie/connections/get-connected/>
- 5) A Connection Agreement cannot be issued until all statutory approvals are successfully in place.
- 6) Irish Water Connection Policy/ Charges can be found at <https://www.water.ie/connections/information/connection-charges/>
- 7) Please note the Confirmation of Feasibility does not extend to your fire flow requirements.
- 8) Irish Water is not responsible for the management or disposal of storm water or ground waters. You are advised to contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges
- 9) To access Irish Water Maps email datarequests@water.ie
- 10) All works to the Irish Water infrastructure, including works in the Public Space, shall have to be carried out by Irish Water.

If you have any further questions, please contact Brian Lavelle from the design team on or email brian.lavelle@water.ie For further information, visit **www.water.ie/connections**.

Yours sincerely,



Yvonne Harris

Head of Customer Operations