

CS CONSULTING
GROUP

CS CONSULTING GROUP

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South Dublin County Council
County Hall, Tallaght,
Dublin 24
D24 A3XC

Sent By: Email

Job Ref: D098

A – GF/NB

Date: 24-Feb-23

RE: Additional Information Response in relation to Planning Reference SD22A/0286 at Main Street, Newcastle, Dublin:

Item 2(a)

Items 4(b), (e), (g)

Items 7(2), (3), (5), (6), (7), (8)

Items 11(i), (ii), (iii), (iv), (v), (vi), (vii), (viii), (ix)

Items 14(1), (2), (3), (4), (5)

Item 15

INTRODUCTION

This additional information response document has been prepared by Cronin & Sutton Consulting Engineers (CS Consulting) on behalf of the applicant Deane and Deane Ltd in relation to Planning Reference SD22A/0286 at Main Street, Newcastle, Dublin.

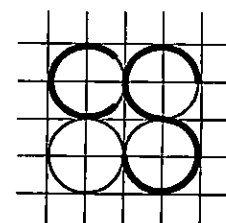
This document addresses engineering related items of the request for additional information issued on the 18th of August 2022 by South Dublin County Council (SDCC) in respect of the above development application.

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ITEM 7(7) OF THE REQUEST FOR ADDITIONAL INFORMATION

The applicant is requested to submit a traffic assessment detailing the results of analysis of the existing road network capacity, to ensure the development is under the threshold for further analysis. And an analysis detailing the junction capacity of the Newcastle Glebe/Peamount Road junction, the junction at Main Street/Peamount Road and the Junction of Athgoe Road/R405, the analysis should include any recent developments to the south of Main Street Newcastle.

IN RESPONSE TO ITEM 7(7) OF THE AI REQUEST:

The accompanying **Traffic Impact Assessment** report (**NCA-CSC-ZZ-XX-RP-C-0006**) provides a detailed assessment of the proposed development's vehicular trip generation and distribution, as well as operational analysis of the 3no. requested junctions under both Do-Nothing and Do-Something scenarios.

ITEM 7(8) OF THE REQUEST FOR ADDITIONAL INFORMATION

The applicant is requested to submit a layout plan indicating a segregated cycling along the proposed link street, in accordance with the National Cycle Manual. The applicant is requested to confirm with Cycle South Dublin any connections to proposed infrastructure in the area.

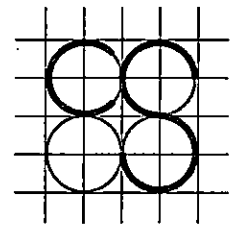
IN RESPONSE TO ITEM 7(8) OF THE AI REQUEST:

Refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0016** and **NCA-CSC-ZZ-SI-DR-C-0017** for details of the proposed development's internal layout, including bicycle facilities. Raised off-road cycle tracks are provided through the development, between Main Street and Newcastle Glebe, in accordance with LAP objectives. The proposed arrangement takes on board the recommendations of the independent Road Safety Audit carried out for the scheme.

ITEM 11 OF THE REQUEST FOR ADDITIONAL INFORMATION

SuDS have four pillars: attenuation, water quality treatment, amenity and biodiversity. The proposals are lacking in source control such as further bioretention, SuDS street trees, swales, channel rills that can be used for multifunctional benefit including attenuation. There are only three SuDS tree pits and one small bioretention area. Street trees should be provided and they should all have bioretention SuDS tree pits that attenuate water.

The proposed attenuation basin and primary swale requires the removal of existing townland boundary hedgerow and trees earmarked for retention in Newcastle LAP (Peamount Neighbourhood). These are important routes for foraging and commuting bats. The existing ditch



identified in the ecological report should be investigated for use in sustainable drainage measures, as required by the Newcastle Local Area Plan.

An attenuation tank is proposed. SDCC do not approve of using underground tanks as part of SuDS schemes where the full natural potential of the site to manage surface water runoff has not been explored. The following additional information is requested:

ITEM 11(i) OF THE REQUEST FOR ADDITIONAL INFORMATION

A SuDS proposal that complies with SDCC SuDS Explanatory Design an Evaluation Guide, the Newcastle LAP and SDCC County Development Plan 2022-2028.

IN RESPONSE TO ITEM 11(i) OF THE AI REQUEST:

Please refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout) and **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas), which have been updated as per discussions with SDCC and Landscape Architect. The SuDS proposal fully complies with SDCC SuDS Explanatory Design an Evaluation Guide, the Newcastle LAP and SDCC County Development Plan 2022-2028.

ITEM 11(ii) OF THE REQUEST FOR ADDITIONAL INFORMATION

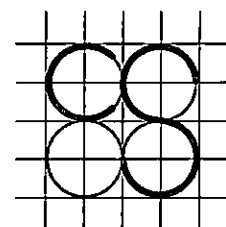
The SuDS proposals should be a collaboration between landscape architect and the drainage engineer to integrate the SuDS into the landscape design proposals providing amenity, biodiversity, water quality treatment as well as quality and attenuation.

IN RESPONSE TO ITEM 11(ii) OF THE AI REQUEST:

Please refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout) and **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas), which have been updated as per discussions with SDCC and Landscape Architect. The SuDS proposal fully complies with SDCC SuDS Explanatory Design an Evaluation Guide, the Newcastle LAP, and the SDCC County Development Plan 2022-2028.

ITEM 11(iii) OF THE REQUEST FOR ADDITIONAL INFORMATION

The proposals shall include existing and proposed flows and comply with objective GI15: Objective GI 15 That existing natural swales, ditches and hedges shall be retained to form an integral part of the overall SUDS network.



IN RESPONSE TO ITEM 11(iii) OF THE AI REQUEST

Please refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout) and **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas), which have been updated as per discussions with SDCC and Landscape Architect. The proposed design has retained existing site features where feasible.

ITEM 11(iv) OF THE REQUEST FOR ADDITIONAL INFORMATION

Details on how each SuDS component function as part of the overall treatment train.

IN RESPONSE TO ITEM 11(iv) OF THE AI REQUEST:

Please refer to CS Consulting drawing **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas), which illustrates the treatment train for all site areas in detail. The site has achieved a minimum of 2 stages of treatment along the management train for all site areas.

ITEM 11(v) OF THE REQUEST FOR ADDITIONAL INFORMATION

Swales should be used for attenuation not just for conveyance of overland flow.

IN RESPONSE TO ITEM 11(v) OF THE AI REQUEST:

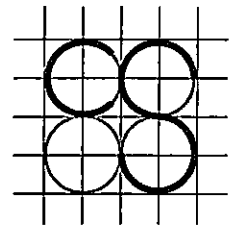
Swales have been designed to provide storage through the use of check dams to slow the flow and increase storage. Please refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout) and **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas) for further detail.

ITEM 11(vi) OF THE REQUEST FOR ADDITIONAL INFORMATION

A comprehensive SUDS Management Plan shall be submitted to demonstrate that the proposed SUDS features have reduced the rate of run off into the existing surface water drainage network. A maintenance plan shall also be included as a demonstration of how the system will function following implementation.

IN RESPONSE TO ITEM 11(vi) OF THE AI REQUEST:

Please refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout), **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas), and **NCA-CSC-ZZ-SI-DR-C-0012** (Typical SuDS Details), which demonstrate the proposed SuDS features. Please refer to CS Consulting document **NCA-CSC-ZZ-XX-RP-C-0007** (SuDS Management Plan) for maintenance plans and further information on SuDS.



ITEM 11(vii) OF THE REQUEST FOR ADDITIONAL INFORMATION

Additional natural SUDS features shall be incorporated into the proposed drainage system for the development such as SuDS Street Tree Pits, further swales, rain gardens, detention basins, filter drains, etc.

IN RESPONSE TO ITEM 11(vii) OF THE AI REQUEST

Please refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout) and **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas), which have been updated as per discussions with SDCC and the Landscape Architect. The proposed development site layout has incorporated SuDS elements within the design where feasible, considering onsite constraints.

ITEM 11(viii) OF THE REQUEST FOR ADDITIONAL INFORMATION

Demonstrate how the proposed natural SUDS features will be incorporated and work within the drainage and landscape design for the proposed development.

IN RESPONSE TO ITEM 11(viii) OF THE AI REQUEST:

Please refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout) and **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas), which have been updated as per discussions with SDCC and Landscape Architect.

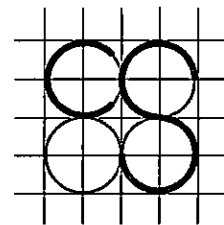
The proposal has provided SuDS features such as basins and swales along with tree pits and permeable paving which contribute to the urban greening factor. Amenity has been provided throughout through the usefulness and multi-functionality of SuDS features into the drainage and landscape design. The detention basin provided will be available for use by people when not performing as a SuDS function, permeable parking used for parking and infiltration, and bioretention areas for landscape planting.

ITEM 11(ix) OF THE REQUEST FOR ADDITIONAL INFORMATION

Provide detail of the SuDS systems that show how they work. The applicant is recommended to contact the Public Realm and Water and Drainage Department to discuss.

IN RESPONSE TO ITEM 11(ix) OF THE AI REQUEST:

Please refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout), **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas), and **NCA-CSC-ZZ-SI-DR-C-0012** (Typical SuDS Details), which have been updated as per discussions with SDCC and Landscape Architect. Brian Harkin from



SDCC and the applicant had a meeting on 12th October 2022, coming to an agreement in principle on all drainage related items.

ITEM 14(1) OF THE REQUEST FOR ADDITIONAL INFORMATION

Water services estimate that proposed attenuation of 580m³ is undersized by approximately 8%. It is unclear how much attenuation is provided by tree pits, biodiversity areas and swales for proposed development.

- The applicant is requested to submit a drawing and report to clearly show all surface water attenuation provide in m³. Show how much surface water attenuation is provide by all SuDS (Sustainable Drainage System) such as biodiversity, tree pits, Swales and all other SuDS systems in proposed development.

IN RESPONSE TO ITEM 14(1) OF THE AI REQUEST:

Please refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout) and **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas), which provide the attenuation storage volume information for the swales, bioretention, and permeable paving. Total attenuation storage provided through the site is 620m³.

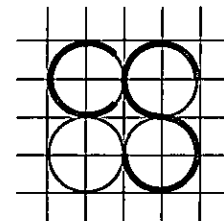
ITEM 14(2) OF THE REQUEST FOR ADDITIONAL INFORMATION

The applicant is requested to re-examine surface water discharge /outfall location, such that it does not discharge at actual pond at Glebe house.

Confirm ownership of lands where surface water network discharge pipe is located, to allow determination of need for a wayleave for South Dublin County Council.

IN RESPONSE TO ITEM 14(2) OF THE AI REQUEST:

Please see drawing **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout), which highlights that the stormwater does not discharge to the pond at Glebe house but instead a ditch adjacent to the pond. This ditch then subsequently discharges to another ditch further north. It should be noted that the pond outfalls to the same ditch.



ITEM 14(3) OF THE REQUEST FOR ADDITIONAL INFORMATION

The proposed gradients of surface water network are very steep at 1:30. The applicant is requested to review the gradients proposed Surface Water Sewers.

IN RESPONSE TO ITEM 14(3) OF THE AI REQUEST:

Stormwater sewer gradients have been reviewed but given the site constraints the storm water pipe gradients are required to have steep falls. It is worth noting that the illustrated stormwater pipe gradients are in line with the GDSDS guidance documentation.

ITEM 14(4) OF THE REQUEST FOR ADDITIONAL INFORMATION

The applicant is requested to include additional SuDS to attenuate surface water and examine how underground attenuation systems can be replaced with overground SuDS attenuation systems.

IN RESPONSE TO ITEM 14(4) OF THE AI REQUEST:

Please refer to CS Consulting drawings **NCA-CSC-ZZ-SI-DR-C-0002** (Drainage Layout) and **NCA-CSC-ZZ-SI-DR-C-0011** (SuDS and Contributing Areas) which have been updated as per discussions with SDCC and Landscape Architect. The proposed development site layout has incorporated SuDS elements within the design where feasible based on-site constraints.

ITEM 14(5) OF THE REQUEST FOR ADDITIONAL INFORMATION

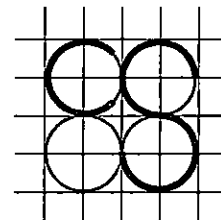
Prior to submission of additional information the applicant is requested to contact Water Services (SDCC - South Dublin County Council) and Public Realm (SDCC) to discuss revised surface water and SuDS submission.

IN RESPONSE TO ITEM 14(5) OF THE AI REQUEST:

Brian Harkin from SDCC and the applicant had a meeting on 12th October 2022, coming to an agreement in principle on all drainage related items.

ITEM 15 OF THE REQUEST FOR ADDITIONAL INFORMATION

The gradients of foul water sewers/drains are steep at gradients of 1:30 and 1:48 and do not comply with Irish Water Standards. The applicant is requested to obtain a confirmation of Feasibility Letter from Irish Water for Proposed Development.



IN RESPONSE TO ITEM 15 OF THE AI REQUEST:

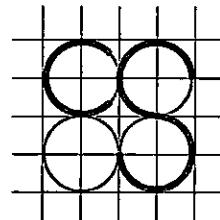
Foul water sewer gradients have been reviewed but given the site constraints the foul water pipe gradients are required to have steep falls. It is worth noting that the illustrated foul water pipe gradients are in line with the Irish Water Wastewater Code of Practice. The applicant has obtained a confirmation of feasibility letter from Irish Water dated 9th November 2021; this is provided as **Appendix A.**

Gordon Finn

Civil and Traffic Engineer

BA, BAI (Hons), MAI (St), MIEI.

for Cronin & Sufon Consulting



Appendix A

Irish Water Confirmation of Feasibility



CS Consulting / Jamie Crampton

19-22 Dame Street
Dublin 2
D02E267

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

9 November 2021

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

Re: CDS21002575 pre-connection enquiry - Subject to contract | Contract denied

www.water.ie

Connection for Housing Development of 31 units at Main Street Newcastle ED, Newcastle South Dublin, Dublin 22

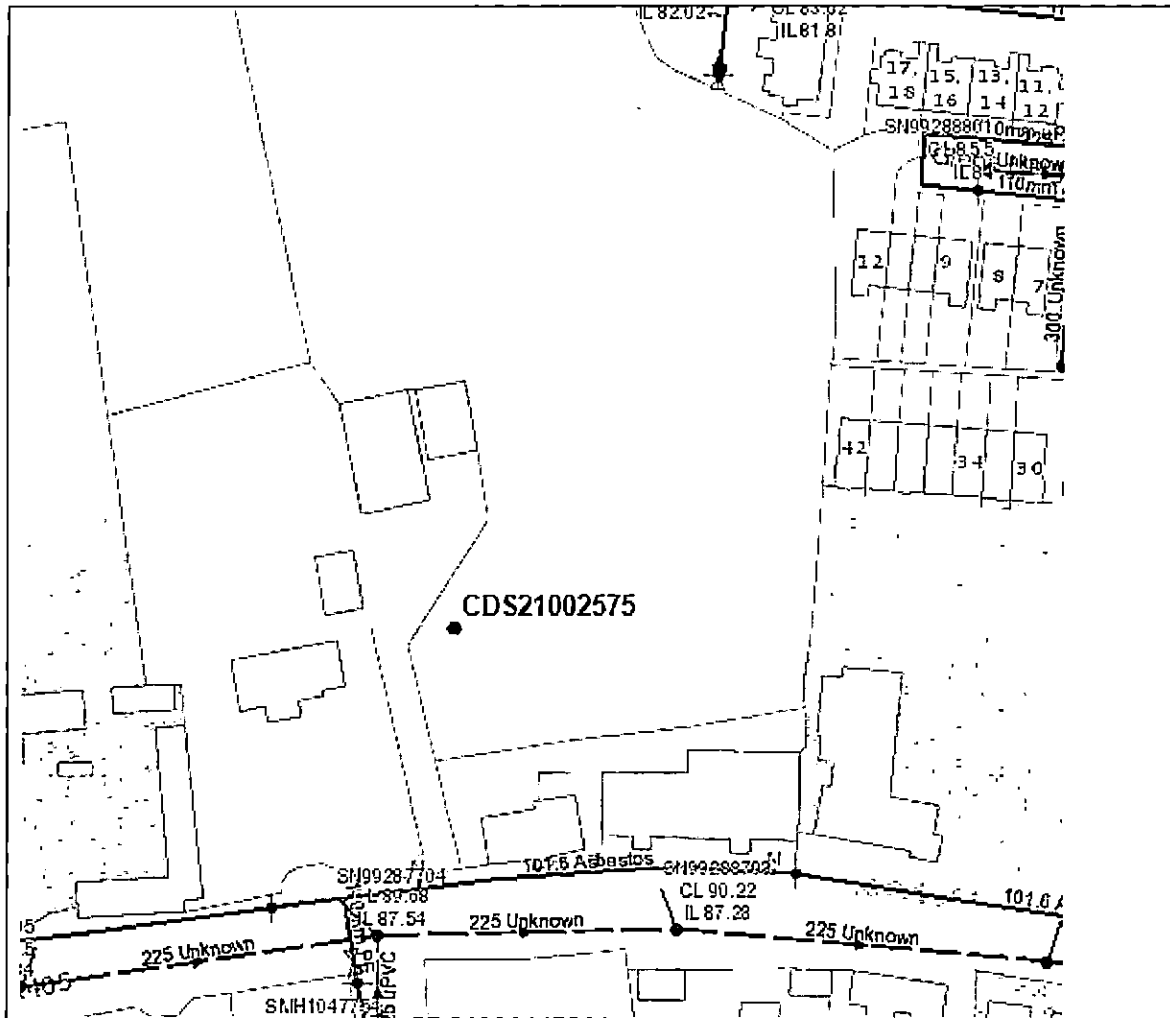
Dear Sir/Madam,

Irish Water has reviewed your pre-connection enquiry in relation to a Water & Wastewater connection at Main Street Newcastle ED, Newcastle South Dublin, Dublin 22 (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 Subject to upgrades
SITE SPECIFIC COMMENTS	
Wastewater Connection	Newcastle Local Network Reinforcement Project which is on the Irish Water Capital Investment Program has to be completed prior the connection. It is scheduled to be completed by Q4/ 2029 (subject to change). Also, Newcastle (Aylemore) PS and associated rising main have to be upgraded prior the connection. A study is currently underway to determine the capacity available at the Pumping Station. The outcome of the study will identify the required upgrades. Alternately to the two conditions, removal of storm water flow, from the local foul/combined sewer network, to facilitate the provision of capacity will be required. The flow reduction should be in a ratio of 3:1 during the 1 in 1 year design storm event. Site identification for the works has to be agreed with the Local Authority. The storm flow diversion works will be funded by the Developer.

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.

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

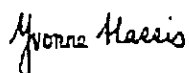
Whilst every care has been taken in its compilation Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland to Irish Water. Irish 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 Marina Byrne from the design team via email mzbyrne@water.ie For further information, visit www.water.ie/connections.

Yours sincerely,



Yvonne Harris

Head of Customer Operations