APPENDIX 9: APPEAL RESPONSE (TRANSPORTATION) LETTER PREPARED BY CS CONSULTING

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Sent By: Email
Job Ref: R118
A - GF
Date: 9-May-24

Doc. Ref. 1NWQ-CSC-ZZ-XX-LT-C-0001-P0

RE: Appeal Response (Transportation) in relation to DCC Planning Reference 3274/24 at 1 North Wall Quay, Dublin 1, DO1 T8Y1

INTRODUCTION

This response document has been prepared by Cronin & Sutton Consulting Engineers (CS Consulting) on behalf of the applicant NWQ Devco Limited in relation to Planning Reference 3274/24 at 1 North Wall Quay, Dublin 1, DO1 T8Y1.

DCC Planning Report

This document addresses points raised by Dublin City Council's Transportation Planning Division in its interdepartmental report to the Planning & Development Department. This interdepartmental report has not been published on the DCC planning portal but the following 3no. points were reproduced in the DCC Planner's Report:

TRANSPORTATION PLANNING DIVISION POINT 1 – VEHICULAR SERVICING

"This division have concerns with the reliance on the servicing area on Clarion Quay to meet the servicing needs for a development of this scale. The applicant is requested to re-examine the proposed servicing arrangements with a view to ensuring that servicing arrangements can be carried out without impact on pedestrians and vulnerable road users alike. Whilst this division has no objection to surface level area being used on Clarion Quay for servicing, it is preferred that servicing is within the site itself, with priority given to pedestrians in this regard."

TRANSPORTATION PLANNING DIVISION POINT 2 – BICYCLE PARKING ACCESS

"There are concerns relating to the proposed access to the bicycle parking area. Access is considered unsuitable for a development of this scale with the proposed 2 no. bicycle lifts to serve almost 1000 no. spaces is not supported by this division as it will lead to a creation of queuing and waiting for cyclists. The bike lift waiting area also creates conflict with vehicles accessing the vehicle lift. It is recommended that the bicycle parking for each use on the development should all be segregated, with bicycle for office use, given the number required shall also be segregated for each of the 4 no. office blocks (A, B, C & D). There is concern with relation to the location and access arrangements to the bicycle parking area require re-examination. A cyclist once having reached basement level will be required to navigate 4 no. doorways. This layout and design is considered unacceptable to this division."

TRANSPORTATION PLANNING DIVISION POINT 3 – CAR PARKING PROVISION

"The proposal for 32 no. car parking spaces exceeds Development Plan Standards. Taking into consideration that office and retail use have no provision for car parking, the community/cultural use allows for a provision of 7 no. spaces, therefore this division has no objection therefore to the provision of 7 no. spaces in total with the omission of 25 no. car parking spaces from the development.

"Notwithstanding the rational provided, the car parking provision proposed does not accord with the Development Plan and the justification supplied by the applicant is insufficient. This division is willing to accommodate some car parking spaces, however this would need to accord with the Development Plan standards. The proposed level of 32no. spaces is unacceptable. The applicant is requested to reduce the level of spaces proposed, in particular where these are contrary to the applicable standards such as office allocation. Detailed justification is required including clarity on type of vehicles and auto tracking of access."

RESPONSE TO POINT 1

The proposed development's vehicular servicing arrangements maybe modified by condition through the provision of a loading bay enclosure off Clarion Quay, within the building curtilage. This would ensure that servicing vehicles have a clearly defined, secure area within which to stop, and prevents obstruction of the Clarion Quay carriageway and footpath. See Henry J. Lyons architectural drawing no. 1NWQ-HJL-AX-00-DR-A-0100 for details. An extract of drawing 1NWQ-HJL-AX-00-DR-A-0100 is included in Figure 1 below outlining the autotracking of a servicing vehicle entering the proposed designated service area.

The 2 number parking spaces shown on Clarion Quay in the initial planning submission maybe modified by condition to another external loading bay/set-down area for refuse collection and taxi drop off facilities, etc. We note, the refuse staging area shall be adjacent to this potential loading bay providing off road temporary parking for refuse vehicles on Clarion Quay preventing delays to other road users on Clarion Quay.

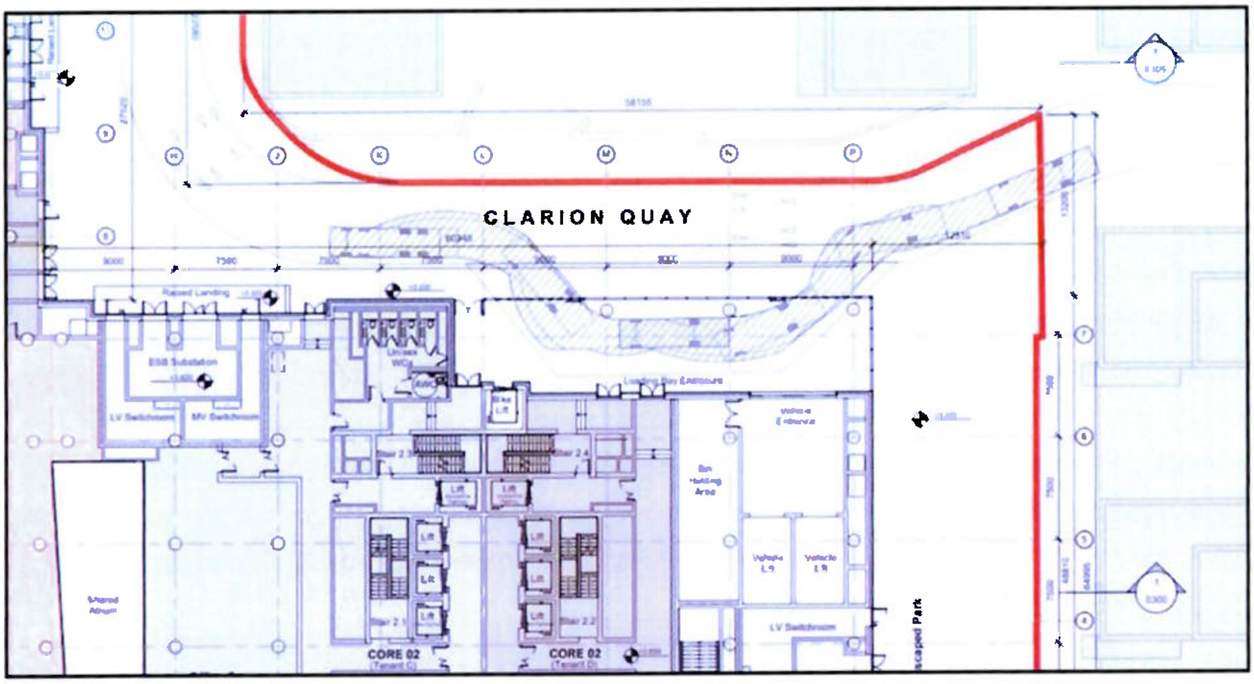

Figure 1 – Autotracking of Service Vehicle

RESPONSE TO POINT 2

In response to the concerns expressed by the DCC Transportation Planning Division, the access arrangements for the proposed development's internal bicycle parking have been comprehensively revised. An internal bicycle stair with wheeling ramp is now proposed, from surface level to basement level -1; this shall be accessed from the landscaped park at the eastern side of the building, within easy reach of both North Wall Quay and Clarion Quay.

The proposed bicycle stair shall cater for the majority of cyclists accessing the internal bicycle parking, providing more efficient access to the basement level. One proposed bicycle lift is retained, to ensure an alternative means of access for non-standard cycles (e.g. cargo bikes) in particular. This has however been relocated to a point further west on Clarion Quay, at greater remove from the proposed car lift access, reducing the risk of any conflict between waiting cyclists and entering cars. With respect to the circulation of bicycle users within the basement, any opportunities to refine the route between accessways and the bike store shall be taken at detailed design stage.

RESPONSE TO POINT 3

It is now proposed to provide 30no. car parking spaces internally at basement level within the development. Of these, 7no. spaces shall be allocated to the development's arts/community/cultural space, which accords with Dublin City Development Plan 2022–2028 standards. 20no. car parking spaces shall be reserved for the use of shared vehicles, in the form of a 'motor pool' to serve office tenants, and 3no. disabled-accessible spaces shall be provided for the use of Disabled Person's Parking Permit holders.

The 20no. 'motor pool' car parking spaces shall serve to accommodate a shared fleet of vehicles to be used by office tenants who require the use of a car for business trips during the working day. These shared vehicles shall be owned and maintained by the development's facilities management entity or by an appointed contractor and shall remain within the development overnight; they shall therefore not be used for commuting to and from the development at the beginning and end of the working day. The provision of this shared fleet and associated parking spaces shall therefore not promote car use for travel to and from the development. On the contrary, it shall allow more efficient use of cars for necessary business trips and permit those office tenants who require the use of a car during the day to commute by other modes of transport, rather than having to bring an external vehicle with them when travelling to work.

The proposed provision of 30no. car parking spaces within the development represents a reduction of 134no. car parking spaces (an 82% reduction) in comparison to the existing office building on the site.

In accordance with Dublin City Development Plan 2022–2028 requirements, 50% of the proposed car parking spaces (15no.) shall be equipped from the outset with EV charging facilities, and all other spaces shall be 'future-proofed' by the provision of ducting or cabling to allow the rapid future installation of additional charging facilities.

3rd Party Observations

A 3rd party observation was submitted by the NTA citing the following:

- Inconvenience for cycle users accessing the basement
- Capacity of cycle lifts
- Double-stacked bicycle rack use
- Car parking quantum

A high-quality bicycle storage, servicing and charging facility including end of trip facilities is proposed. A combination of storage solutions are proposed offering a variety of options for users to choose which is most suitable for there use. In combination with the responses outlined in response point 2 to the DCC planner's report, the 3rd party observations have been well considered.

Please refer to the response point 3 to the DCC planner's report with respect to vehicle parking provision.

Gordon Finn BA, BAI, MAI, MIEI, Cert RSA

Civil Engineer

for Cronin & Sutton Consulting

APPENDIX 11: LETTER FROM ARTHUR COX

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Application reference: 3274/24

13 May 2024

The Secretary
An Bord Pleanála
64 Marlborough Street
Dublin 1

Re: Dublin City Council Refusal of Permission for the Development of an Office Scheme at the Site of the CitiGroup Building, 1 North Wall Quay, D01 T8Y1 (the "Development")

Our Client: NWQ Devco Limited

Dear Sir

We refer to the refusal of permission by Dublin City Council on 16 April 2024 for the Development.

Our client wishes to appeal this refusal to An Bord Pleanála on *inter alia* the following ground:

The Dublin City Development Plan 2022 – 2028 (the "**Development Plan**") clearly provides that permission may be granted for landmark/tall buildings which meet the "exceptional circumstances" test set out therein, and where it is demonstrated that "*there is a compelling architectural and urban design rationale*" for the development. We are instructed that the application submitted by our Client demonstrates how the Development meets that test, based on expert professional technical advices from John Spain Associates. Notwithstanding this, however, it appears that Dublin City Council (the "**Council**") did not engage in any analysis or consideration in respect of the "exceptional circumstances" and whether it is met by the Development.

In this regard, the report of the Deputy Planning Officer of 16 April 2024 states that the 'notion that the development of a landmark/tall building of this scale in this location should be considered in 'exceptional circumstances' was not accepted by the Planning Authority'. It does not assess, in any material manner, the application for the Development against the exceptional circumstances criteria for a landmark/tall building.

Importantly, in determining the appeal, we note the Board is entitled to grant permission should it consider the "exceptional circumstances" test is met and "*there is a compelling architectural and urban design rationale*" for the Development. We further note that any failure on the part of the Board to engage in an analysis in respect of the "exceptional circumstances", and whether the Development meets it, would amount to a failure to take into account a relevant consideration in the context of the decision-making process.

We have highlighted below the relevant provisions relating to the "exceptional circumstances" test in the Development Plan, as set out in the application and the appeal documentation prepared by John Spain Associates, for ease of reference.

Landmark/tall buildings are noted in Section 5 of Appendix 3 of the Development Plan to be '*those that are substantially taller than their surroundings and cause a significant change to the skyline. They are typically buildings greater than 50 metres in height*'.

Provision is made in Section 5 of Appendix 3 of the Development Plan for a landmark/tall building to be developed on a site <u>not</u> expressly identified as being suitable for such development or in an Local Area Plan /Strategic Development Zone in exceptional circumstances, and where it can be demonstrated by the applicant that "*there is a compelling architectural and urban design rationale*" for the development. In such exceptional circumstances, the following criteria must be demonstrated:

- the landmark/tall building complies with all of the performance criteria set out in Table 4 [of Section 5 of Appendix 3 of the City Development Plan];
- the landmark/tall building/s will emphasise a point of particular civic of [sic] visual significance and that such a proposal will contribute in a meaningful way to the legibility of the city and contribute positively to the skyline. Any such proposal for a landmark/tall building must be supported by a detailed spatial analysis demonstrating that the design and location of the landmark/tall building is appropriate and optimal;
- the landmark/tall building will act as a strategic intervention, a catalyst for regeneration and make a significant economic or cultural contribution. The landmark/ tall building proposal must also demonstrate that it is economically viable and implementable in the lifetime of the plan;
- the landmark/tall building is located in an area with excellent high frequency, high capacity public transport accessibility and excellent pedestrian and cyclist infrastructure. The onus will be on the applicant to demonstrate the capacity of public transport and the quality of existing links between public transport and walking and cycling infrastructure and the site;
- the landmark/tall building will bring significant planning gain to the community including measures such as:
    - substantial upgrades to the public realm;
    - environmental enhancements including open space and green infrastructure to be enjoyed by residents and the wider community;
    - significant new social and community infrastructure for the benefit of the wider area; and
    - where the landmark/tall building is for residential use, the provision of a broad range of accommodation for people living in different household sizes and throughout various life cycle stages.

We are instructed that the application submitted by our Client, now the subject of this appeal, demonstrates how the Development meets the "exceptional circumstances" test and that "*there is a compelling architectural and urban design rationale*" for the development, based on expert professional advices from John Spain Associates and the Design Team. This is, of course, ultimately a matter of planning judgment for the Board.

In determining the appeal, the Board is obliged in the performance of its consenting functions to comply with the specific planning policy requirements set out in the Urban Development and Building Height Guidelines for Planning Authorities 2018, in accordance with Section 28(1C) of the Planning and Development Acts 2000 (as amended).

SPPR 1 notes that: ***<u>'[i]n accordance with Government policy to support increased building height and density in locations with good public transport accessibility, particularly town/ city cores</u>**, planning authorities shall explicitly identify, through their statutory plans, areas where increased building height will be actively pursued for both redevelopment, regeneration and infill development to secure the objectives of the National Planning Framework and Regional Spatial and Economic Strategies and shall not provide for blanket numerical **limitations on building height***'. (Emphasis added)

We are instructed that the site on which the Development the subject of this appeal is proposed is one such site.

In order to comply with SPPR 1, in making its Development Plan, the Council was obliged to *"explicitly identify, ... where increased building height will be actively pursued for both redevelopment, regeneration and infill development to secure the objectives of the National Planning Framework and Regional Spatial and Economic Strategies..."*

The Development Plan includes the Docklands Strategic Development and Regeneration Area 6 (the "**Docklands SDRA**"), which is an area identified for regeneration and increased intensity of development. Notwithstanding this, however, we are instructed that there is no evidence of any assessment having been carried out in respect of the potential of the wider Docklands SDRA (including the area immediately surrounding the subject site), outside of the two strategic development zones for North Lotts and Grand Canal Dock, and Poolbeg West (the "**SDZs**"), for increased building height and density. Instead, we are instructed that for the most part previously identified sites were simply "re-identified".

Notwithstanding that we are instructed that there is no evidence of the Council having assessed the potential for increased building height and density on the lands in the Docklands SDRA, outside of the SDZs, which include the subject lands, the Development Plan clearly provides that permission may be granted for a landmark/tall building to be developed on a site <u>not</u> expressly identified as being suitable for such development where it can be demonstrated that the "exceptional circumstances" test is met, and "*there is a compelling architectural and urban design rationale*" for the development.

Our client trusts that in determining the appeal, the Board will in accordance with Section 28(1C) of the Planning Acts apply SPPR 1; have regard to the fact that the subject site is in a location with good public transport accessibility and is in a town/ city core; and, fully engage in an analysis in respect of the "exceptional circumstances" test as set out in the Development Plan, in respect of the Development.

Yours faithfully

Arthur Cox

ARTHUR COX LLP

APPENDIX 12: ENVIRONMENTAL IMPACT ASSESSMENT REPORT – DCC RESPONSE TO REFUSAL PREPARED BY AWN CONSULTING

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Environmental Impact Assessment Report – Response to DCC Refusal

Project	1 North Wall Quay, Dublin 1
Subject	Environmental Impact Assessment Report – Response to DCC Refusal Dublin City Council Reg. Ref.: 3274/24
Date	13 May 2024
Ref.	DD/237501.0416TR01

1.0 INTRODUCTION

This report has been prepared by AWN Consulting (AWN) for NWQ Devco Ltd to respond to a refusal of grant of permission in relation to the application for a 10-year planning permission for development at a site consisting of the CitiGroup Building, 1 North Wall Quay, Dublin 1, DO1 T8Y1(Dublin City Council (DCC) Reg. Ref. 3274/24). The site is bound by North Wall Quay to the south, Commons Street to the west, Clarion Quay/Alderman Way to the north and an access ramp to the existing basement to the east. The site area is c. 0.88 ha.

This report details a response to the additional concerns raised with the Dublin City Council Planners Report dated 17-Apr-2024 (hereinafter referred to as the 'Planners Report') related to the submitted Environmental Impact Assessment Report (AWN, et. al, February 2024) (hereinafter referred to as 'the EIAR').

The report under discussion has been prepared with the input and contributions from the members of the applicants EIA team set out in Table 1.1.

Overall, the purpose of this review is to provide a comprehensive and up-to-date analysis of the project's potential impact on the environment. This will help ensure the An Bord Pleanála have the most accurate and relevant information to make informed decisions about the project.

Table 1.1 *EIA Project Team*

Volume 1	Chapter Title	Company and Consultant
	Non-Technical Summary	AWN – Input from each specialist
Volume 2	Chapter Title	Company and Consultant
Chapter 1	Introduction	AWN – David Doran
Chapter 2	Description of Proposed Development	AWN – David Doran
Chapter 3	Alternatives	AWN – David Doran
Chapter 4	Human Health and Population	AWN – Marcelle Jordaan and David Doran with specialist input from Air, Noise, Traffic
Chapter 5	Land, Soils, Geology and Hydrogeology	AWN – Luke Maguire and Marcelo Allende
Chapter 6	Hydrology	AWN – Luke Maguire and Marcelo Allende
Chapter 7	Biodiversity (Flora and Fauna)	Altemar - Bryan Deegan
Chapter 8	Air Quality	AWN – Aisling Cashell and Avril Challoner
Chapter 9	Climate	AWN – Aisling Cashell and Avril Challoner
Chapter 10	Noise and Vibration	AWN – Jennifer Harmon
Chapter 11	Archaeological, Architectural and Cultural Heritage	CRDS – Stephen Mandal
Chapter 12	Material Assets - Traffic and Transportation	CS Consulting – Gordon Finn
Chapter 13	Material Assets - Utilities	AWN – Marcelle Jordaan and David Doran
Chapter 14	Material Assets - Waste	AWN – Chonaill Bradley
Chapter 15	Interactions	AWN – Sarah Tierney
Volume 3	Chapter Title	Company and Consultant
	Landscape and Visual	City Designer – Richard Coleman
Volume 4	Title	Company and Consultant
	Appendices	AWN – Input from each specialist

2.0 CHAPTER 3 ALTERNATIVES

The following has been noted in the Planners Report:

"The Planning Authority notes however, that no alternative has been provided where a reduced scale of building was considered."

An Addendum to Chapter 3 has been included as part of this Appeal which assesses a reduced scale of building option and its relative impact on environmental receptors.

3.0 CHAPTER 4 POPULATION AND HUMAN HEALTH

As per the EIA carried out by the Local Authority, Population and Human Health is deemed to be adequately addressed in the EIAR and it has been adjudged that no significant adverse effect is likely to arise.

4.0 CHAPTER 5 LAND, SOILS, GEOLOGY AND HYDROGEOLOGY

The following has been noted in the Planners Report:

"In this regard, however, serious concerns raised by the DCC Drainage Planning and Development Control Section in relation to the Basement Impact Assessment submitted are highlighted. The submitted Basement Impact Assessment (BIA) is not considered to be acceptable as the report does not provide sufficient information on the risks associated with the basement development. In particular, the following issues have not been adequately addressed:

- *Baseline ground and groundwater conditions*
- *Impact on neighbouring structures and utilities*
- *Key hazards and risks associated with the proposed basement*
- *Basement construction sequence and interaction with existing basement structure and proposed temporary restraints*
- *Ground movement and damage assessment*
- *Impact on groundwater, including upstream and downstream of proposed basement*
- *Cumulative impact of proposed basement*
- *Mitigation measures for ground movements and groundwater impacts*

Having regard to these serious issues, it cannot be confirmed that no significant adverse effects are likely to arise. The Drainage Division have requested further information be submitted to respond to the concerns raised."

CS Consulting have updated the Basement Impact Assessment (BIA) to respond to the aforementioned concerns raised by DCC. The revised BIA is included with this appeal response.

Baseline ground and groundwater conditions

CS Consulting have stated in Section 3.0 of the updated BIA that it is not practical to carry out a site investigation at the development site at this stage. However, it is proposed to carry out a full site investigation to confirm baseline conditions and provide a factual site investigation report when the existing buildings are demolished.

Impact on neighbouring structures and utilities

CS Consulting have stated in Section 2.3, 2,4 and 2.5 of the updated BIA that a condition survey will be carried out on all structures and utilities within the zone of influence before starting work on site.

Key hazards and risks associated with the proposed basement

CS Consulting have stated he updated BIA the flood zones the proposed development site is contained within (Section 2.6 of the updated BIA), the vulnerability of groundwater body (Section 2.1.3 of the updated BIA) and the potential cumulative effect (Section 6.1 of the updated BIA).

Basement construction sequence and interaction with existing basement structure and proposed temporary restraints

CS Consulting have stated in Section 5.0 of the updated BIA, the construction sequence of the proposed development including the basement construction sequence. Interaction with existing basement structure and proposed temporary restraints are also discussed in Section 5.2 and 5.3 of the updated BIA.

Ground movement and damage assessment

CS Consulting have discussed these matters in Section 5.5 and 5.6 of the updated BIA, respectively.

Impact on groundwater, including upstream and downstream of proposed basement

CS Consulting have assessed the impacts of the proposed development on the groundwater regime in Section 4.6 of the updated BIA. CS Consulting notes, given the presence of an existing basement, a barrier to groundwater is already established and thus the additional effect on groundwater in this regard is expected to be negligible.

Cumulative impact of proposed basement

Further regarding cumulative impact of proposed basement, CS Consulting have responded to the cumulative impact of nearby basements on the groundwater regime in Section 4.7 of the updated BIA.

Mitigation Measures

The updated Basement Impact Assessment responded to the concerns of DCC Drainage Planning and Development Control Section. In addition to the mitigation and monitoring measures set out in BIA submitted with the planning application, DCC Reg. Ref. 3274/24, the following mitigation and monitoring measures as set out in BIA will be implemented including:

- Prior to the commencement of construction works (post demolition) the construction contractor will undertake a full site investigation to confirm baseline conditions and provide a factual site investigation report
- The construction contractor will conduct a condition survey which will be carried out on all structures and utilities within the zone of influence before starting work on site.Mitigation measures for ground movements and groundwater impacts, mitigation and monitoring measures have been outlined in Section 5.0 of the updated BIA.Residual Impacts Land, Soils, Geology and Hydrogeology

The proposed development will have localised impacts in terms of groundwater flow as there will be change to flow around the basement. However it can be concluded that there is no likely significant effect on the overall groundwater flow regime within the aquifer, as the basement development alone or in combination would have a localised effect only on the groundwater regime.

The mitigation measures above include for condition survey of surrounding adjacent buildings, and construction works designed to reduce ground movement for the protection of building foundations.

The Environmental Protection Agency *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (2022) define a significant effect as "An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment."

There is no potential change to the water framework directive status (quantitative or qualitative) as the construction works are temporary and mitigation measures are set out in the BIA.

It can be included from the aforementioned that the development therefore will not result in an adverse significant effect.

With the implementation of the mitigation measures set out above, the residual effect on land, soils, geology and hydrogeology during the construction phase is considered to be ***neutral, imperceptible*** and ***short-term*** and the residual effect on land, soils, geology and hydrogeology during the operational phase is considered to be ***neutral, imperceptible*** and ***long-term***.

5.0 CHAPTER 6 HYDROLOGY

The following has been noted in the Planners Report:

"The Planning Authority note the submission on the application from Uisce Eireann who have reviewed the proposal and highlight the fact that there is an existing watermain and wastewater pipe within and/or adjacent to the development site. Uisce Éireann does not permit build over of its assets and the separation distances as per Uisce Éireann's Standards Codes and Practices must be achieved. This is to ensure adequate provision of public water and wastewater services.

Uisce Éireann has requested that Further Information be sought and request the applicant engage with Uisce Éireann's Diversions team to confirm Uisce Éireanns separation distances for existing public water and wastewater infrastructure has been achieved within the development proposal designs and layouts and; assess feasibility of diversion(s) of public infrastructure, where separation distances cannot be achieved.

In addition, the DCC Drainage Planning and Development Control Section have raised concerns regarding adequate surface water management. In accordance with policy SI23 of the Dublin City Development Plan 2022-2028, the DCC requirement for green roof coverage is 50% intensive or 70% extensive. Given the small provision of green/blue roof, additional Sustainable Drainage Systems (SuDS) measures such as rainwater harvesting should be incorporated. In the proposed public realm areas, it is recommended that a more comprehensive use of SuDS is required for the management of surface water, providing an integrated approach with the landscaping proposals.

Having regard to this, it cannot be confirmed that no significant adverse effects are likely to arise until such time as any further information submitted in response to the request is assessed."

CS Consulting have prepared a response to Uisce Éireann's concerns as part of the 1st Party appeal documentation.

Uisce Éireann separation distances for existing public water and wastewater infrastructure

Regarding an existing watermain and wastewater pipe within and/or adjacent to the development site, a visual inspection of Clarion Quay and discussions with the existing building operators the existing UE watermain is located outside the building line and within the existing public footpath and carriageway of Clarion Quay. The response notes that the building line of the proposed development shall not encroach further onto Clarion Quay from the existing building line currently on-site, therefore there shall be no change from the current scenario along Clarion Quay.

Surface water management

Regarding green roof coverage, CS Consulting have noted in Response 2 of their Appeal Response (Drainage) that intensive and extensive green roofs are proposed to be maximised across the development, the building layout for which is subject to modification in line with this appeal submission. Accessible terraces are proposed to be extensively landscaped to optimise the amenity for the user while also providing SuDS and biodiversity measures. Any areas of roof proposed to serve as a traditional roof area are proposed to be clad with sedum to maximise water filtration and biodiversity. Where achieving the strict requirements of policy S123 provide a design challenge in the face of other planning and development policies, a robust holistic SuDS solution is proposed for the development and a consultation process with DCC would be welcomed to reach a satisfactory proposal.

Potential Impacts on Land, Soils, Geology and Hydrogeology

The response prepared by CS Consulting responds to the concerns of DCC Drainage Planning and Development Control Section. The information included in the response does not alter the potential impacts set out in Chapter 6 of the EIAR or the proposed associated with the planning application, DCC Reg. Ref. 3274/24, during the construction and operational phases.

Mitigation Measures

The information included in the response does not alter the mitigation and monitoring measures described in Chapter 6 of the EIAR during the construction and operational phases.

Residual Impacts Land, Soils, Geology and Hydrogeology

Therefore, the residual effect on hydrology during the construction phase is considered to be ***neutral, imperceptible*** and ***short-term*** and the residual effect on hydrology during the operational phase is considered to be ***neutral, imperceptible*** and ***long-term***.

6.0 CHAPTER 7 BIODIVERSITY

The following has been noted in the Planners Report:

"It is stated in the EIAR that the implementation and monitoring measures set out in addition to the mitigation measures set out in the chapters relating to Land and Soils, Geology and Hydrogeology, Hydrology and Noise and Vibration that the residual effects on biodiversity during the construction phase are slight effects/negative effect/not significant/short term likely and in terms of operational they are expected to be slight effects/negative effect/not significant/long term. No significant effects are expected in relation to the operation of the proposed development.

However, as aforementioned serious concerns have been raised from the DCC Drainage Division in relation to the Basement Impact Assessment and having regard to this, it cannot be confirmed that no significant adverse effects are likely to arise with respect to local drainage conditions."

Please see section 5.0 of this document which responds to the concerns raised by DCC in relation to the Basement Impact Assessment.

The information included in the response does include additional mitigation and monitoring measures as described in Section 4.0 above.

The updated BIA responds to the concerns of DCC Drainage Planning and Development Control Section. The information included in the updated BIA does not alter the potential impacts set out in Chapter 7 of the EIAR, during the construction and operational phases.

Therefore, the residual effect on biodiversity during the construction phase is considered to be ***Slight effects / site / Negative effect / Not significant / short term / likely*** and the residual effect on biodiversity during the operational phase is considered to be ***Slight effects / site / Negative effect / Not significant / long term/likely***.

7.0 CHAPTER 8 AIR QUALITY

As per the EIA carried out by the Local Authority, Air Quality is deemed to be adequately addressed in the EIAR and it has been adjudged that no significant adverse effect is likely to arise.

8.0 CHAPTER 9 CLIMATE

The following has been noted in the Planners Report:

"It is noted however, that the Drainage Planning and Development Control Section have reviewed the SSFRA and highlight that the CFRAM flood maps indicate the site is located in Flood Zone B.

Additionally, the DCC Strategic Flood Risk Assessment states that underground offices are not permitted in this area. A revised Site Specific Flood Risk Assessment would be required in this instance.

In addition, as aforementioned the Planning Authority have concerns regarding wholescale demolition which would be contrary to Climate Action Policy CA6 of the

CDP which aims to promote and support the retrofitting and reuse of existing buildings rather than their demolition and reconstruction, where possible.

Having regard to the above, it cannot be confirmed that no significant adverse effects are likely to arise with respect to climate and flood risk."

Regarding the Flood Risk Assessment, CS Consulting have prepared a response document to respond to this specific item. The response is outlined below:

1. Following a review of the Liffey Tidal Flood Extents (appended) map, it highlights the development site in the 1 in 1000 year flood zone (0.1% Tidal AEP Event).
2. The adjacent node point (09LIFF00180) indicates a level of 3.35m AOD for the 1000 year flood event.
3. The proposed development shall have a minimum finished floor level (FFL) at ground floor of 3.65m AOD, i.e. 300mm freeboard above the 1000 year flood event.
4. This FFL level includes access points into the building that allow for further access to the lower ground floor.
5. Levels for circulation vents, lightwells etc to the lower ground floor shall be above the level of 3.65m AOD.
6. With this new FFL the development site would now be located outside of the 1000 flood zone indicated on the Liffey Tidal Flood Extents Map.
7. Therefore the site would be located within Flood Zone C.
8. We note the loss of flooding area, however compensatory storage is not required as this only relevant to fluvial flooding and not tidal flooding.
9. As the building development would then be classed as Flood Zone C, lower ground floor usages are now deemed appropriate.

Regarding the wholescale demolition concern raised by DCC, BPC Consulting Engineers have prepared a response document to specifically respond to this item. BPC outline the following within their document:

Although we understand the reasoning behind Policy CA6 and Section 15.7.1 of the Dublin City Development Plan 2022-2028, which aims to promote and support the retrofitting and reuse of existing buildings, however, there are instances where retention and/or adaptation and reuse is not the best option.

In the case of 1 North Wall Quay, the upgrades required would be extensive, very costly in both financial and carbon expenditure terms, and would not, we believe, deliver an optimum operational low carbon building. Extensive structural intervention is required to ensure the revamped structure and fabric meet current regulatory and workplace codes, as well as market requirements. For example, the replacement of the existing facades is necessary and significant intervention to the remaining concrete frame are required to provide adequate lobbies, circulation and disabled refuge space, additional and/or enlarged stairwells and provision for new plant areas.

[...] To achieve an optimum operational low carbon building, the development a new building is a more feasible option. While the construction of a new building requires additional materials, modern construction methods and materials can be chosen with an emphasis on sustainability, recycling, and reduced environmental impact. Additionally, new buildings built under the latest standards have a longer operational life partially due to being designed with future adaptability and upgrades in mind. This can result with a building which will be best in class in operational carbon emissions over the building's lifespan.

The new building at 1 NWQ is designed to exceed the latest energy efficiency standards, incorporating advanced technologies and high-performance materials to reduce energy and carbon consumption. Also, the new building will incorporate sustainable and green design principles from the start, such as passive heating and cooling, geothermal piles, green roofs, photovoltaic panels and renewable energy systems. Additionally, the new building will be designed with a focus on long-term sustainability, ensuring that they remain efficient and environmentally friendly for many years through smart data collection and analysis providing useful engagement tool for occupiers to make positive changes to support our buildings operating at net zero carbon.

The information included in the responses prepared by CS Consulting and BPC Consulting Engineers, respectively, do not alter the potential impacts, mitigation and monitoring measures, and residual impacts set out in Chapter 8 of the EIAR, during the construction and operational phases.

Therefore, the residual effect on climate during the construction phase is considered to be as reported in Chapter 9 of the EIAR and the residual effect on climate during the operational phase is considered to be ***direct, long-term, minor adverse*** and ***not significant***.

9.0 CHAPTER 10 NOISE AND VIBRATION

As per the EIA carried out by the Local Authority, Noise and Vibration is deemed to be adequately addressed in the EIAR and it has been adjudged that no significant adverse effect is likely to arise.

10.0 CHAPTER 11 ARCHAEOLOGY AND CULTURAL HERITAGE

As per the EIA carried out by the Local Authority, Archaeology and Cultural Heritage is deemed to be adequately addressed in the EIAR and it has been adjudged that no significant adverse effect is likely to arise.

11.0 CHAPTER 12 TRAFFIC AND TRANSPORTATION

The following has been noted in the Planners Report:

"The DCC Transportation Planning Division have assessed the proposal and have raised a number of serious concerns in relation to access and servicing arrangements of the development. In addition, the NTA raises concern regarding the accessibility, quality and usability of the proposed cycle parking and the extent to which the access, location, design and type of cycle parking proposed meets the objective to cater efficiently and effectively for large numbers of employees in using this mode of transport, including consideration of the extent to which car parking is required to serve the proposed development.

Having regard to these outstanding issues it cannot be confirmed that no significant adverse effects are likely to arise with respect to traffic and transportation."

Regarding the access and serving for the development, CS Consulting have prepared an Appeal Response (Transportation) document to respond to the concerns of DCC Transportation Planning Division. CS Consulting state the following within their response:

The proposed development's vehicular servicing arrangements have been modified by the provision of a loading bay enclosure off Clarion Quay, within the building curtilage. This ensures that servicing vehicles have a clearly defined, secure area within which to stop, and prevents obstruction of the Clarion Quay footpath. See Henry J. Lyons architectural drawing no. 1NWQ-HJL-AX-00-DR-A-0100 for details.

Regarding usability of proposed cycle parking, CS Consulting have prepared an Appeal Response (Transportation) document to respond to the concerns of DCC Transportation Planning Division. CS Consulting state the following within their response:

In response to the concerns expressed by the DCC Transportation Planning Division, the access arrangements for the proposed development's internal bicycle parking have been comprehensively revised. An internal bicycle stair with wheeling ramp is now proposed, from surface level to basement level -1; this shall be accessed from the landscaped park at the eastern side of the building, within easy reach of both North Wall Quay and Clarion Quay.

The proposed bicycle stair shall cater for the majority of cyclists accessing the internal bicycle parking, providing more efficient access to the basement level. One proposed bicycle lift is retained, to ensure an alternative means of access for non-standard cycles (e.g. cargo bikes) in particular. This has however been relocated to a point further west on Clarion Quay, at greater remove from the proposed car lift access, reducing the risk of any conflict between waiting cyclists and entering cars.

With respect to the circulation of bicycle users within the basement, any opportunities to refine the route between accessways and the bike store shall be taken at detailed design stage.

The response prepared by CS Consulting responds to the concerns of DCC Transportation Planning Division. The information included in the response prepared by CS Consulting does not alter the potential impacts, mitigation and monitoring measures, and residual impacts set out in Chapter 12 of the EIAR, during the construction and operational phases.

Therefore, the overall residual effect of traffic and transportation during the construction phase is considered to be ***negative, slight*** and ***short-term*** and the overall residual effect on traffic and transportation during the operational phase is considered to be ***negative, not significant*** and ***long-term***.

12.0 CHAPTER 13 WASTE MANAGEMENT

As per the EIA carried out by the Local Authority, Waste Management is deemed to be adequately addressed in the EIAR and it has been adjudged that no significant adverse effect is likely to arise.

13.0 CHAPTER 14 MATERIAL ASSETS - UTILITIES

The following has been noted in the Planners Report:

"As outlined above, concerns have been raised by Uisce Éireann and DCC Drainage Division in relation to the proposed development and the potential negative impact it may have on the surrounding environment. Having regard to these outstanding issues

it cannot be confirmed that no significant adverse effects are likely to arise with respect to utilities such as water supply and drainage."

CS Consulting have prepared a response to Uisce Éireann's concerns as part of the 1st Party appeal documentation.

Regarding an existing watermain and wastewater pipe within and/or adjacent to the development site, a visual inspection of Clarion Quay and discussions with the existing building operators the existing UE watermain is located outside the building line and within the existing public footpath and carriageway of Clarion Quay. The response notes that the new building line of the proposed development shall not encroach further onto Clarion Quay from the existing building line currently on-site, therefore there shall be no change from the current scenario along Clarion Quay.

The response from CS Consulting responds to the concerns of Uisce Éireann and DCC Drainage Division. The information included in the response from CS Consulting does not alter the potential impacts, mitigation and monitoring measures, and residual impacts set out in Chapter 14 of the EIAR, during the construction and operational phases.

Therefore, the residual effect on utilities during the construction phase is considered to be ***neutral, not significant*** and ***short-term*** and The residual effect on utilities during the operational phase is considered to be ***neutral, imperceptible*** and ***long-term***.

14.0 CUMULATIVE IMPACTS AND INTERACTIONS

The following has been noted in the Planners Report:

"As deficiencies have been identified by the Planning Authority in certain areas of the environmental assessment, the Planning Authority cannot, at this stage, conclude that the mitigation measures specified for the range of issues identified are reasonably sufficient to ensure there are no significant cumulative negative effects."

The concerns raised by DCC with respect to the Environmental Impact Assessment Report have been addressed within this document and the associated referenced material.

In regard to cumulative assessment, it is important to note that:

- No new schemes that would result in cumulative effects with the proposed development's EIAR has been identified. Please see Appendix 2.1 of the EIAR.
- There is no change to the period of time for construction and enabling as assessed in the EIAR
- There is no change to construction methods and subsequent construction emissions as assessed in the EIAR
- There is no change to operational emissions as assessed in the EIARs
- There has been no significant changes/updated to legislation and policy (national or local) which would have relevance to cumulative assessment since assessment within the EIAR

There is sufficient information within the EIAR and this appeal response to conclude that there are no significant cumulative negative effects associated with the Proposed Development.

15.0 VOLUME 3 HERITAGE TOWNSCAPE LANDSCAPE AND VISUAL IMPACT ASSESSMENT

The following has been noted in the Planners Report:

"The Planning Authority having reviewed the visual impact assessment consider that the proposed development by virtue of its height, scale, and massing would constitute an over-bearing, excessive and insensitive form of development which would likely result in serious injury to the visual amenities of the Liffey Quays a (red hatched) Conservation Area. The proposed development would therefore contravene Policy BHA9, Policy SC17, Section 15.2.2.2 and Appendix 3 Section 6.0 Guidelines for Higher Buildings in Areas of Historic Sensitivity of the Dublin City Development Plan 2022-2028, adversely impacting key views and vistas along the river corridor and the amenities of properties in the vicinity including sensitive residential. For the reasons the Planning Authority do not support the proposed development and it should be refused."

CityDesigners have prepared a *Response To Notification Of Decision To Refuse Permission* document to respond to the concerns raised by Dublin City Council, specifically in relation to the second reason in the Notification of Decision to Refuse Permission.

The information included in the *Response To Notification Of Decision To Refuse Permission* does not alter the potential impacts, mitigation and monitoring measures, and residual impacts set out in EIAR Volume 3, during the construction and operational phases.

Therefore, the residual effects on heritage, townscape, landscape and visual during the construction and operational phases are as outlined in EIAR Volume 3: Heritage, Townscape, Landscape and Visual Impact Assessment submitted .

OG

APPENDIX 13: ADDENDUM TO CHAPTER 3: ALTERNATIVES PREPARED BY AWN CONSULTING

ADDENDUM TO CHAPTER 3: ALTERNATIVES

03

CONTENTS

3.0 ADDENDUM TO ALTERNATIVES

3.1 INTRODUCTION

This Addendum to Chapter 3 (Alternatives) of the Environmental Impact Assessment Report (EIAR) has been prepared to include the proposed option for a reduced scale of development as described below.

Whilst is it a matter for An Bord Pleanála (ABP), should it be conditioned that the reduced massing option can proceed, this Addendum to Chapter 3 (Alternatives) provides information on the relative impact of the reduced massing option on environmental receptors.

3.2 ALTERNATIVE LAYOUT, SIZE AND SCALE, AND DESIGN

3.2.1 Option 3 New Build – 17 Storey Over Basement Reduced Massing

This option considers the demolition of the existing development at 1 North Wall Quay and the construction of 17-storey office building over 2 no. basement levels. This differs from the Proposed Development outlined in Chapter 2 of the EIAR by incorporating reduced massing of the upper storeys.

This option provides for the demolition of the existing building and construction of a new building ranging in height from 9 no. to 17 no. storeys over lower ground floor and double basement comprising of office accommodation, arts/community/cultural uses and a retail/café/restaurant unit. Office accommodation is provided from lower ground floor to 15th floor level, arts/community/cultural uses are provided at lower ground, ground, 1st and 16th floor level with a retail/café/restaurant unit at ground floor level. Landscaped terraces are located at 8th, 9th, 10th, 11th, 15th, 16th floor level with winter terraces located at 4th, 6th 9th floor level. Provision of a new landscaped street to the east of the building to include external arts/community/cultural uses. The double basement comprises 30 no. car parking spaces, 923 no. bicycle parking spaces and 6 no. motorbike spaces as well as shower/changing facilities and plantroom.

This option is for the establishment of 85,907 m^2 Gross Internal Area (including basement) and of 45,267 m^2 net internal area of office space.

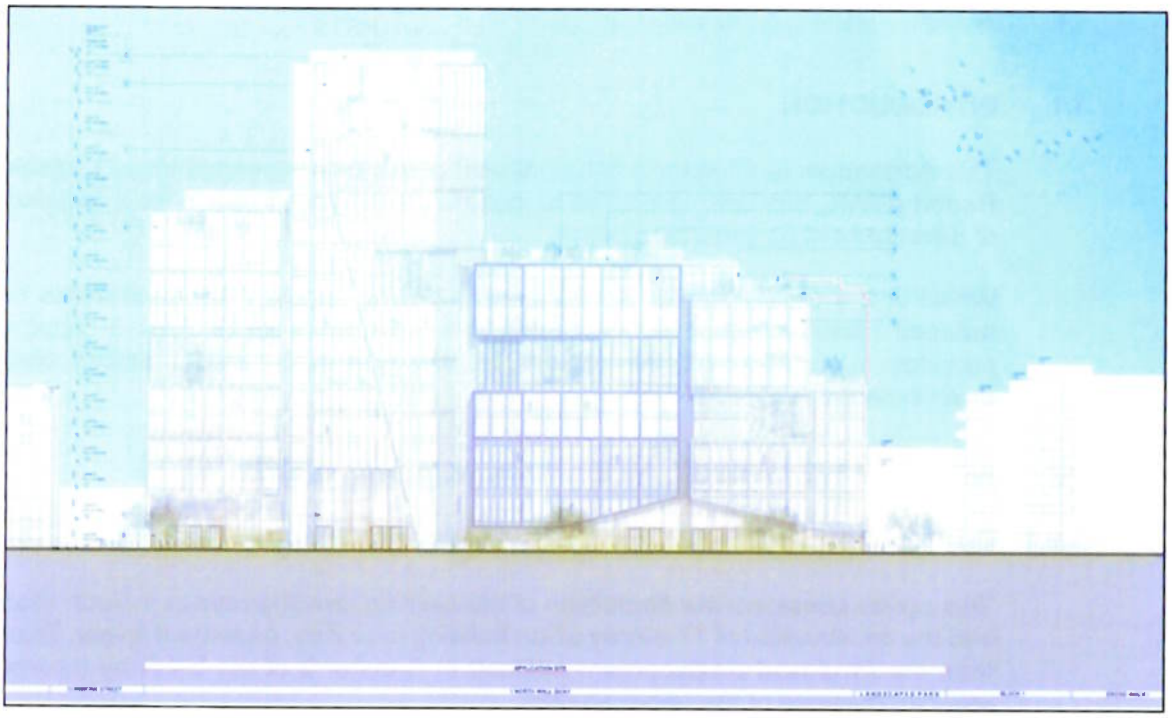

Figure 3.1 *South elevation for Reduced Massing Option, including redline illustrating reduced massing (Source: HJL Architects, Drawing Ref. 1NWQ-HJL-AX-ZZ-DR-A-0202)*

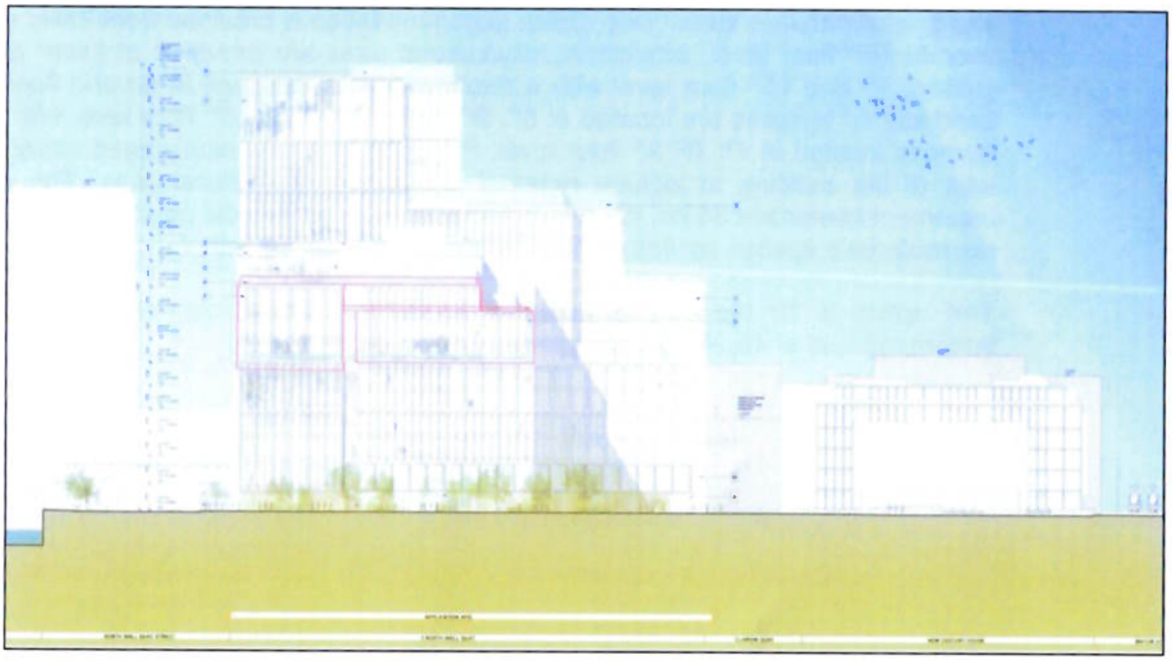

Figure 3.2 *East elevation for Reduced Massing Option, including redline illustrating reduced massing (Source: HJL Architects, Drawing Ref. 1NWQ-HJL-AX-ZZ-DR-A-0201)*

3.2.2 Option Comparison

The project team evaluated the feasibility and advantages of moving forward with the Proposed Development as detailed in Chapter 2 of the EIAR (the chosen Option 2) or the reducing massing option detailed in Section 3.2.1 above. This included reviewing the architectural plans, financial implications.

In respect of environmental effects, Table 3.1 below outlines where an option is more preferred over another and where the preference in neutral.

Table 3.1 *Summary of route preference for each environmental factor*

Environmental Factor	Phase	Option 2	Option 3
Human Health and Populations	Demolition and Construction		
	Operational		
Land, Soils, Geology and Hydrogeology	Demolition and Construction		
	Operational		
Hydrology	Demolition and Construction		
	Operational		
Biodiversity	Demolition and Construction		
	Operational		
Air Quality	Demolition and Construction		
	Operational		
Climate	Demolition and Construction		
	Operational		
Noise and Vibration	Demolition and Construction		
	Operational		
Archaeology and Cultural Heritage	Demolition and Construction		
	Operational		
Traffic and Transportation	Demolition and Construction		
	Operational		
Material Assets - Waste	Demolition and Construction		
	Operational		
Material Assets - Utilities	Demolition and Construction		
	Operational		
Landscape and Visual	Demolition and Construction		
	Operational		

Less Preferred (relatively greater potential environmental impact)	**Neutral** (relatively neutral potential environmental impact)	**More Preferred** (relatively lessor potential environmental impact)

Table 3.1 provides a comparative demolition and construction phases, as well as the operational phases, across various environmental factors for each design option. It directly contrasts the Chosen Development (option 2) and the Reduced Massing (Option 3) indicating a preference scale from Less Preferred (relatively greater

1 North Wall Quay EIAR Addendum

potential environmental impact) to More Preferred (relatively lessor potential environmental impact).

The likely environmental effects of the Reduced Massing (Option 3) compared to the Chosen Development (Option 2) are relatively neutral in terms of potential environmental impact. This neutrality arises because both options utilise the same site (ground floor footprint) and feature similar designs, the proposals construction, and development programmes would be the same. The only difference is the reduced size/massing of Option 3.

Due to these minor differences between the two options, the Environmental Impact Assessment Report (EIAR) prepared for the proposed Chosen Development (Option 2) is equally applicable in representing the potential, residual, and cumulative effects on the environment of the Reduced Massing (Option 3). The likely significant effects of the project on the environment, and the mitigation measures would be the identical under either Option 2 or Option 3 for all environmental factors. The residual impact on the environment would be the unchanged for all environmental factors with the exception of Landscape and Visual, and Climate.

The Reduced Massing (Option 3) would have a lessor impact on Landscape and Visual once the development is constructed. The Reduced Massing option has been designed to improve daylight amenity and proximity of the building to adjacent residential neighbours. BPC Consulting Engineers have provided a Daylight, Sunlight and Overshadowing Assessment which consider the effects of the Reduced Massing Option. The Reduced Massing (Option 3) is no worse than the conclusions reached in Volume 3 of the EIAR. A section through the Proposed Development and Reduced Massing option has been provided below (Drawing reference 1NWQ-HJL-AX-ZZ-DR-A-0300) to illustrate a comparison of massing in the respective options.

The Reduced Massing (Option 3) would have a lessor impact on Climate during the construction phase (embodied carbon of materials and construction activities will be the primary source of climate impacts during the construction phase). There will be a scaled reduction in embodied carbon for the Reduced Massing option the Reduced Massing (Option 3) is no worse than the conclusions reached in Chapter 9 of the EIAR.

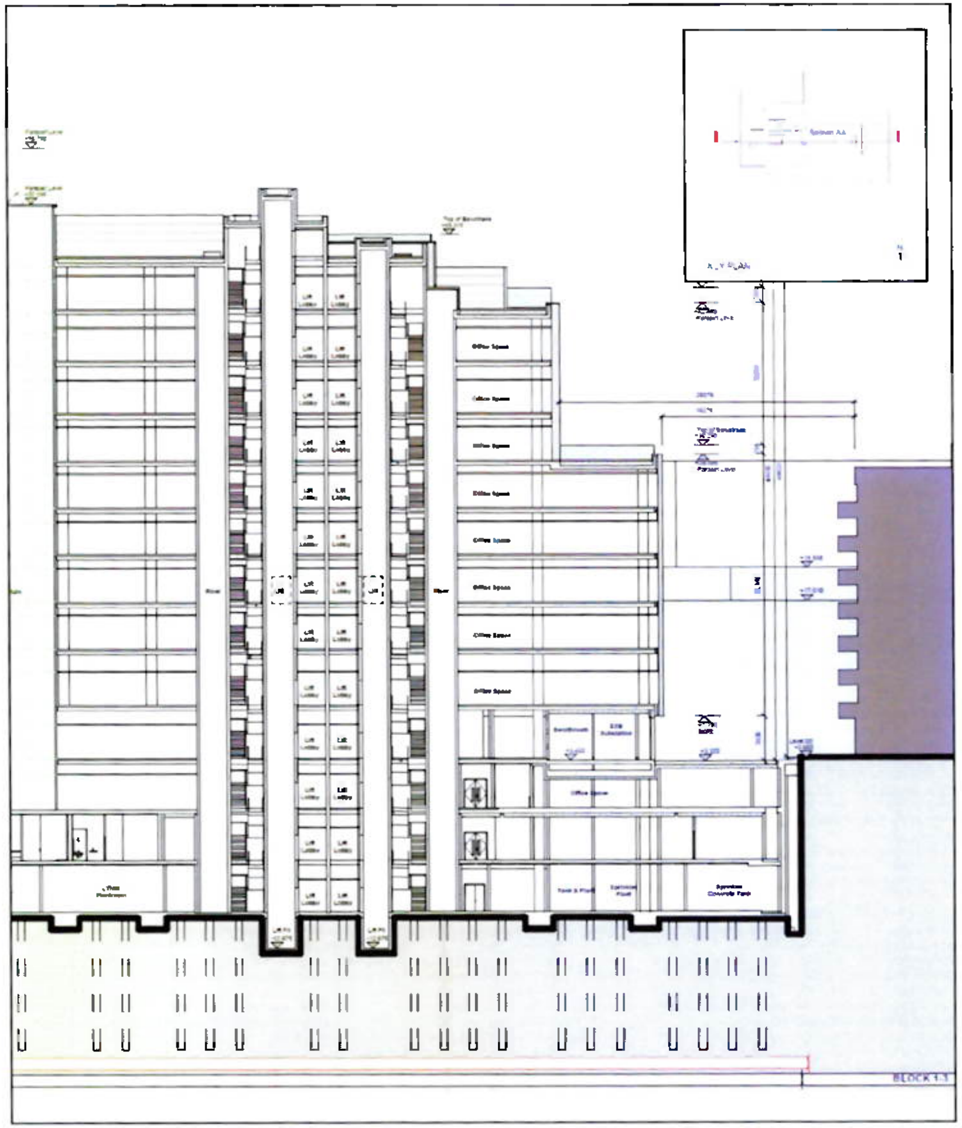

Figure 3.3 *Reduced Massing as viewed via section from Southern Elevation*

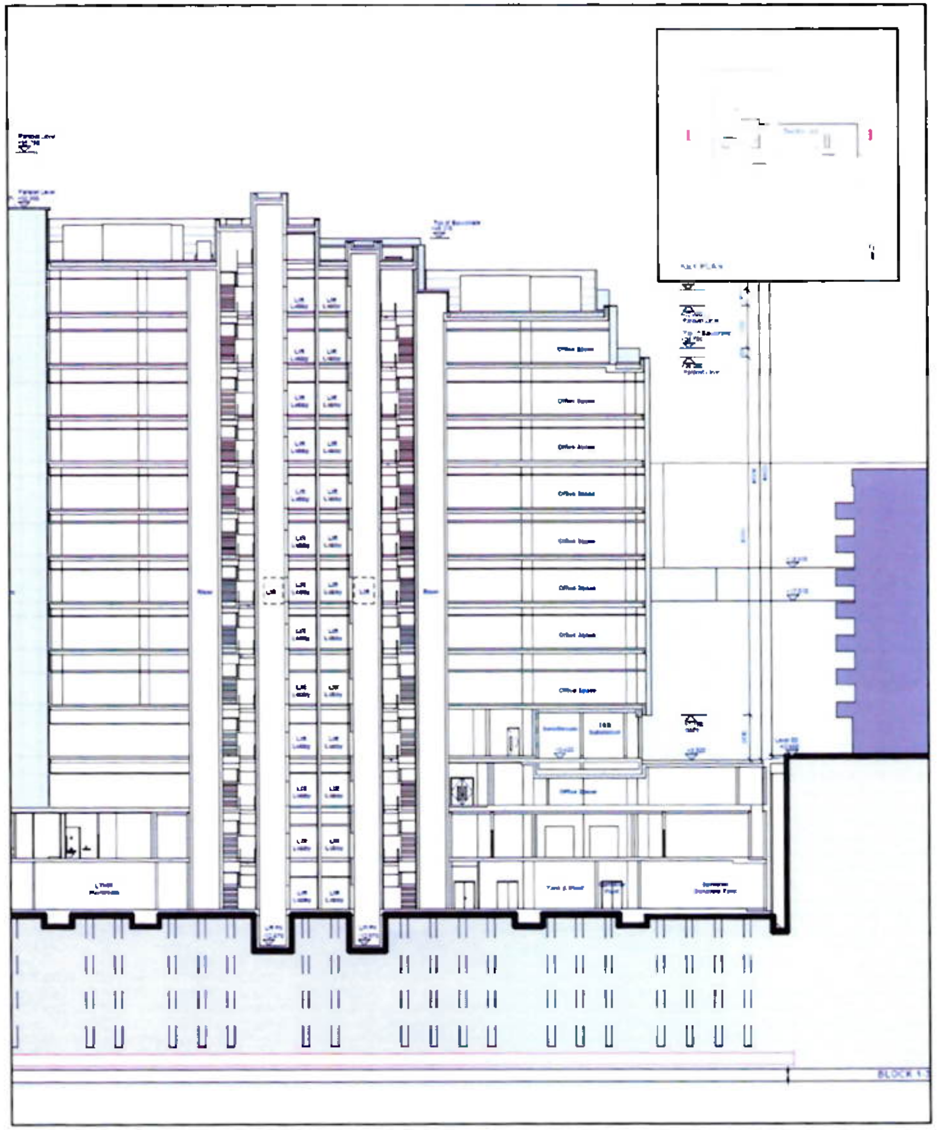

Figure 3.4 *Proposed Development as viewed via section from Southern Elevation*

Schedule of Accommodation
17 Storey New Build Option

Project Name:	One North Wall Quay
Project No:	95-1073
Client Name:	NWQ Devco Ltd
Document No:	1NWQ-HJL-AX-ZZ-SH-A-7001
Revision	P02

AN BORD PLEANÁLA
13 MAY 2024
LTR DATED ______ FROM [signature]
LDG- ______
ABP- 319719-24

Revision	Revision Type	Date	Comments
	1St PARTY APPEAL SUBMISSION	09.05.2024	

PROPOSED REDEVELOPMENT

	Gross Internal Areas (GIA)					Office Net Internal Areas (NIA)					Net:Gross Efficiency
	Office Building		Community / Arts	Retail	Combined	Tenancy A	Tenancy B	Tenancy C	Tenancy D	Combined	
	Plant / Ancillary	Office Use	5% of office NIA required								
Basement Level 2 (B2)	7,210	-	-	-	7,210	-	-	-	-	-	
Basement Level 1 (B1)	7,210	-	-	-	7,210	-	-	-	-	-	
Level LG	1,050	5,424	384	-	6,858	556	1,440	908	495	3,399	0.50
Level 00	783	4,195	557	132	5,667	492	809	711	212	2,224	0.39
Level 01	-	4,994	244	-	5,238	826	805	849	830	3,310	0.63
Level 02	-	6,289	-	-	6,289	1,079	1,430	1,061	1,018	4,588	0.73
Level 03	-	6,317	-	-	6,317	1,072	1,465	1,061	1,018	4,616	0.73
Level 04	-	6,298	-	-	6,298	1,072	1,468	1,061	996	4,597	0.73
Level 05	-	6,299	-	-	6,299	1,070	1,470	1,061	995	4,596	0.73
Level 06	-	5,255	-	-	5,255	1,069	930	1,041	443	3,483	0.66
Level 07	-	5,255	-	-	5,255	1,069	930	1,041	443	3,483	0.66
Level 08	-	5,136	-	-	5,136	1,089	931	1,061	312	3,393	0.66
Level 09	-	3,900	-	-	3,900	738	923	794	-	2,455	0.63
Level 10	-	2,623	-	-	2,623	733	919	-	-	1,652	0.63
Level 11	-	2,350	-	-	2,350	456	937	-	-	1,393	0.59
Level 12	-	966	-	-	966	-	552	-	-	552	0.57
Level 13	-	844	-	-	844	-	554	-	-	554	0.66
Level 14	-	845	-	-	845	-	553	-	-	553	0.65
Level 15	-	717	-	-	717	-	419	-	-	419	0.58
Level 16	-	-	630	-	630	-	-	-	-	-	
Total (m2)	16,253	67,707	-	132	85,907	11,321	16,535	10,649	6,762	45,267	
Total (ft2)	174,947	728,798	-	1,421	924,703	121,859	177,983	114,626	72,786	487,254	
External Community Park			556								
COMMUNITY TOTAL (M2)			2,371								

Bicycle Parking *(1 space per 75m2 office GIA)*	903
Shower Provision *(2 showers for first 500m2 + 1 shower for every additional 1000m2)*	69
Locker Provision *(1 locker per every bicycle space)*	903
DCC Community / Arts Space Requirement *5% of Office NIA*	2263

APPENDIX 10: APPEAL RESPONSE (DRAINAGE) LETTER PREPARED BY CS CONSULTING INCLUDING THE FOLLOWING APPENDICES

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CS CONSULTING GROUP

An Bord Pleanála
64 Marlborough Street
Dublin 1
D01 V902

Sent By: Email
Job Ref: R118
A - GL
Date: 9-May-24

Doc. Ref. **1NWQ-CSC-ZZ-XX-LT-C-0002**

RE: Appeal Response (Drainage) in relation to DCC Planning Reference 3274/24 at 1 North Wall Quay, Dublin 1, DO1 T8Y1

INTRODUCTION

This response document has been prepared by Cronin & Sutton Consulting Engineers (CS Consulting) on behalf of the applicant NWQ Devco Limited in relation to Planning Reference 3274/24 at 1 North Wall Quay, Dublin 1, DO1 T8Y1.

DCC Planning Report

This document addresses points raised by Dublin City Council's Drainage Planning Division in its interdepartmental report to the Planning & Development Department. This interdepartmental report has not been published on the DCC planning portal but the following points were reproduced in the DCC Planner's Report:

DRAINAGE PLANNING DIVISION POINT 1 – FLOOD RISK ASSESSMENT

"The CFRAM flood maps indicate the site is located in Flood Zone B. Additionally, the DCC Strategic Flood Risk Assessment states that underground offices are not permitted in this area. A revised Site Specific Flood Risk Assessment is required which addresses these points."

DRAINAGE PLANNING DIVISION POINT 2 – BASEMENT IMPACT ASSESSMENT

"The submitted Basement Impact Assessment (BIA) is not considered acceptable. The report does not provide sufficient information on the risks associated with the basement development. In particular, the following issues have not been adequately addressed:

- Baseline ground and groundwater conditions
- Impact on neighbouring structures and utilities
- Key hazards and risks associated with the proposed basement
- Basement construction sequence and interaction with existing basement structure and proposed temporary restraints
- Ground movement and damage assessment
- Impact on groundwater, including upstream and downstream of proposed basement
- Cumulative impact of proposed basement
- Mitigation measures for ground movements and groundwater impacts

A revised BIA is required which fully addresses the above items and those listed in the Dublin City Development Plan 2022-28 – Appendix 9 Basement Development Guidance."

DRAINAGE PLANNING DIVISION POINT 3 – SuDS

"In accordance with policy SI23 of the Dublin City Development Plan 2022- 2028, the DCC requirement for green roof coverage is 50% intensive or 70% extensive. Given the small provision of green/blue roof, additional Sustainable Drainage Systems (SuDS) measures such as rainwater harvesting shall be incorporated. In the proposed public realm areas, a more comprehensive use of SuDS is required for the management of surface water, providing an integrated approach with the landscaping proposals."

RESPONSE TO POINT 1

Please refer to the appended letter to John Spain Associates outlining the considerations of flood risk relevant to the development and the mitigating factors relating to this. Refer to **Appendix A**.

RESPONSE TO POINT 2

Please refer to the updated Basement Impact Assessment as compiled by CS Consulting in response to the DCC Planner's Report included in **Appendix B.**

The following sections within the updated BIA responds to the items raised by the DCC Drainage Planning Division;

- Baseline ground and groundwater conditions – *Section 3.0.*
- Impact on neighbouring structures and utilities – *Section 2.3, 2.4 and 2.5.*
- Key hazards and risks associated with the proposed basement – *Section 5.0.*
- Basement construction sequence and interaction with existing basement structure and proposed temporary restraints – *Section 5.0.*
- Ground movement and damage assessment – *Sections 4.5 and 5.6.*
- Impact on groundwater, including upstream and downstream of proposed basement – *Section 4.6.*
- Cumulative impact of proposed basement – *Section 4.7.*
- Mitigation measures for ground movements and groundwater impacts – *Section 5.5.*

RESPONSE TO POINT 3

Sustainable Drainage Systems (SuDS) have been proposed for application within the proposed development. Measures include:

- Extensive Green Roof in the form of sedum.
- Intensive Green Roof in the form of planted landscaping and tree planters and pits within accessible terraces and within the public realm at podium.
- Blue roof rainwater attenuation systems to substantially reduce the quantity of attenuation tank storage to be provided for the purpose of surface water management.
- Rainwater harvesting for the purpose of capturing surface water runoff from hardscaped areas for the purpose of re-use where suitable, in particular for the purpose of irrigation of planting.

It has been noted in the planner's report that the requirements of the policy *SI23 of the Dublin City Development Plan 2022- 2028* have not been met. Intensive and extensive green roofs are proposed to be maximised across the development, the building layout for which is subject to modification in line with this appeal submission. Accessible terraces are proposed to be extensively landscaped to optimise the amenity for the user while also providing SuDS and biodiversity measures. Any areas of roof proposed to serve as a traditional roof area are proposed to be clad with sedum to maximise water filtration and biodiversity. Where achieving the strict requirements of policy S123 provide a design challenge in the face of other planning and development policies such as scale and massing, daylight/ sunlight etc, a robust holistic SuDS solution is proposed for the development and a condition requiring the agreement of such details with Dublin City Council prior to commencement of development would be appropriate.

3rd Party Observations

In addition to the points raised by the DCC Drainage Division, a 3rd party observation was received from Uisce Eireann. This submission queried the position of a watermain with respect to the proposed development.

In response to this observation, please refer to the appended letter to John Spain Associates outlining mitigation against the observations. Refer to **Appendix C**.

Gary Lindsay

Gary Lindsay

Associate Director

for Cronin & Sutton Consulting

Appendix A

CS CONSULTING GROUP

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CS CONSULTING GROUP

John Spain Associates

39 Fitzwilliam Place

Dublin 2

D025 ND61

Job Ref: R118

A – GL/CT

Date: 10-May-24

RE: Dublin City Council Drainage Division Comment on Flooding in regards to the Development at 1 North Wall Quay Planning Reference: 3274/24

Dear Colleague,

Further to the recent refusal by Dublin City Council in regards to the above referenced planning application and the comment from the Drainage Division in relation to Flood Risk. we respond as follows:

Drainage Division comment:

"The CFRAM flood maps indicate the site is located in Flood Zone B. Additionally, the DCC Strategic Flood Risk Assessment states that underground offices are not permitted in this area. A revised Site Specific Flood Risk Assessment is required which addresses these points."

Response:

1. Following a review of the Liffey Tidal Flood Extents (appended) map, it highlights the development site in the 1 in 1000 year flood zone (0.1% Tidal AEP Event) and outside the 1 in 200 year flood zone (0.5% Tidal AEP Event).
2. The adjacent node point (09LIFF00180) indicates a level of 3.35m AOD for the 1000 year flood event and 3.12m AOD for the 200 year flood event.
3. The proposed development shall have a minimum finished floor level (FFL) at ground floor of 3.65m AOD, i.e. 300mm freeboard above the 1000 year flood event and 530mm freeboard above the 200 year event, as stated in the SSFRA submitted with the planning application.
4. This FFL level includes access points into the building that allow for further access to the lower ground floor.

5. Levels for circulation vents, lightwells etc to the lower ground floor shall be above the level of 3.65m AOD.
6. With this new FFL of 3.65m AOD, the development site would now be located outside of the 1000 flood zone indicated on the Liffey Tidal Flood Extents Map.
7. Therefore the site would be located within Flood Zone C.
8. As stated in the original SSFRA, submitted with the planning application, this development would be classed as less vulnerable development and as shown in the table below (Table 3 from the SSFRA) a justification test is not required.

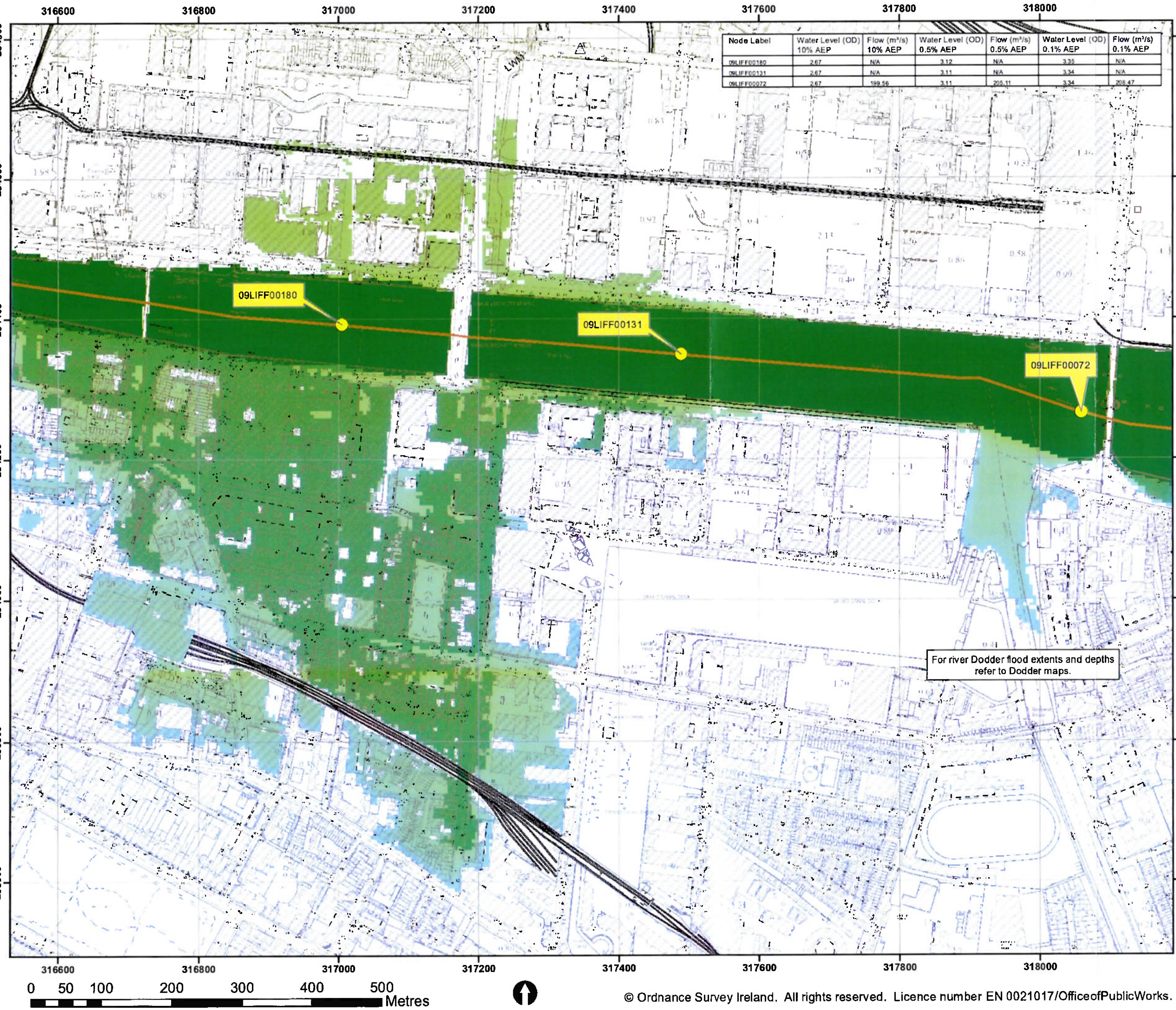
Development Category	Flood Zone A	Flood Zone B	Flood Zone C
Highly Vulnerable Development	***Justification Test Required***	***Justification Test Required***	Appropriate
Less Vulnerable Development	***Justification Test Required***	Appropriate	Appropriate
Water-compatible Development	Appropriate	Appropriate	Appropriate

9. We note the loss of flooding area, however compensatory storage is not required as this only relevant to fluvial flooding and not tidal flooding.
10. As the building development would then be classed as Flood Zone C, lower ground floor usages are now deemed appropriate in line with the Dublin City Council's "Dublin City Development Plan 2022-2028, Specific Flood Risk Assessment.

We trust the above and attached is in order, should you have any queries please do not hesitate to contact the undersigned.

Gary Lindsay

Gary Lindsay
BE CEng MIEI
Associate Director
for Cronin & Sutton Consulting



Node Label	Water Level (OD) 10% AEP	Flow (m^3/s) 10% AEP	Water Level (OD) 0.5% AEP	Flow (m^3/s) 0.5% AEP	Water Level (OD) 0.1% AEP	Flow (m^3/s) 0.1% AEP
09LIFF00180	2.67	N/A	3.12	N/A	3.35	N/A
09LIFF00131	2.67	N/A	3.11	N/A	3.34	N/A
09LIFF00072	2.67	199.56	3.11	205.11	3.34	208.47

IMPORTANT USER NOTE:
THE VIEWER OF THIS MAP SHOULD REFER TO THE DISCLAIMER, GUIDANCE NOTES AND CONDITIONS OF USE THAT ACCOMPANY THIS MAP.

Legend

- 10% Tidal AEP Event
- 0.5% Tidal AEP Event
- 0.1% Tidal AEP Event
- Modelled River Centreline
- AFA Extents
- Node Point
- Node ID Node Label

FINAL

REV:	NOTE:	DATE:
01	Amendments to Flood Extents.	05/12/16

EASTERN CFRAM

OPW

RPS

The Office of Public Works
Jonathan Swift Street
Trim
Co Meath

Elmwood House
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Map: Liffey Tidal Flood Extents

Map Type: EXTENT

Source: TIDAL

Map Area: COASTAL

Scenario: CURRENT

Drawn By : C.C. Date : 9 May 2017

Checked By : A.S. Date : 9 May 2017

Approved By : S.P. Date : 9 May 2017

Drawing No. : E09LIF_EXCCD_F1_04

Map Series : Page 4 of 8

Drawing Scale : 1:5,000 @A3

Appendix B

CS CONSULTING

GROUP

DUBLIN LONDON LIMERICK

Basement Impact Assessment

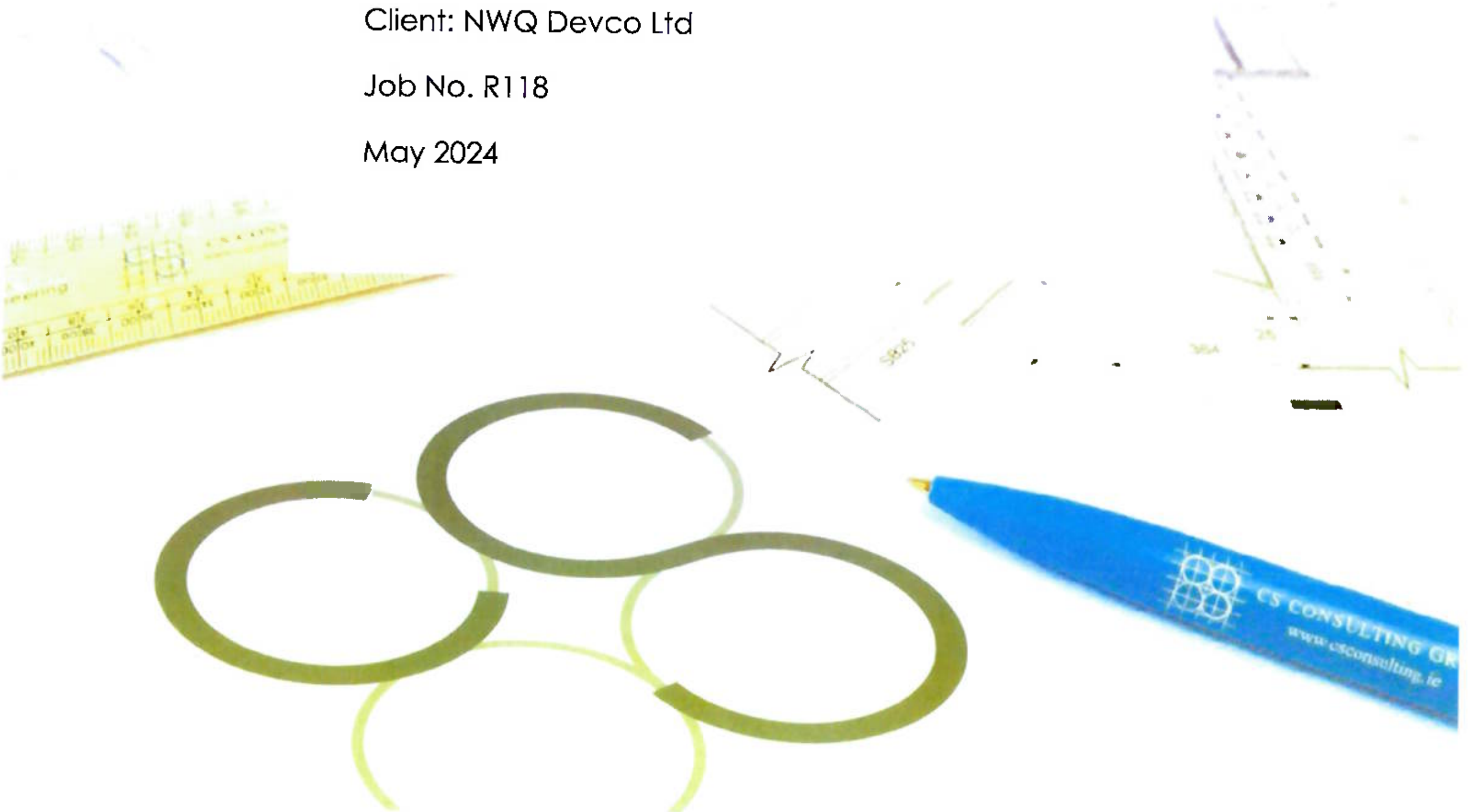
Proposed Office Development

at 1 North Wall Quay, Dublin 1

Client: NWQ Devco Ltd

Job No. R118

May 2024



BASEMENT IMPACT ASSESSMENT

PROPOSED OFFICE DEVELOPMENT, 1 NORTH WALL QUAY, DUBLIN 1

CONTENTS

File Location: Job-R118\B_DOCUMENTS\1.0 Planning\04_BIA					
BS 1192 FIELD	**1NWQ-CSC-ZZ-XX-RP-C-0004**				
Job Ref.	Author	Reviewed By	Authorised By	Issue Date	Rev. No.
R118	LJ	GL	CT	10.05.2024	P1

1.0 INTRODUCTION

1.1 Scope

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by NWQ Devco Ltd to prepare a Basement Impact Assessment report for a proposed office development at 1 North Wall Quay, Dublin 1.

In preparing this report, CS Consulting has made reference to the following:

- Dublin City Development Plan 2022–2028 (including Strategic Flood Risk Assessment)
- Dublin City Development Plan 2022-2028 – Appendix 9 (Basement Development Guidance)
- Irish Water Drainage and Water Supply Records
- Geological Survey of Ireland Maps
- Greater Dublin Strategic Drainage Study (GDSDS) 2005

The Basement Impact Assessment report is to be read in conjunction with the engineering drawings and documents submitted by CS Consulting and with all other relevant documentation submitted by other members of the project design team.

1.2 Site Location and Existing Land Use

The site of the proposed development is on Dublin's North Quays, in the eastern city centre, some 200m to the west of the Samuel Beckett Bridge and some 400m to the east of the Custom House. The area subject to this application extends to approx. 0.88ha and is within the operational area of Dublin City Council.

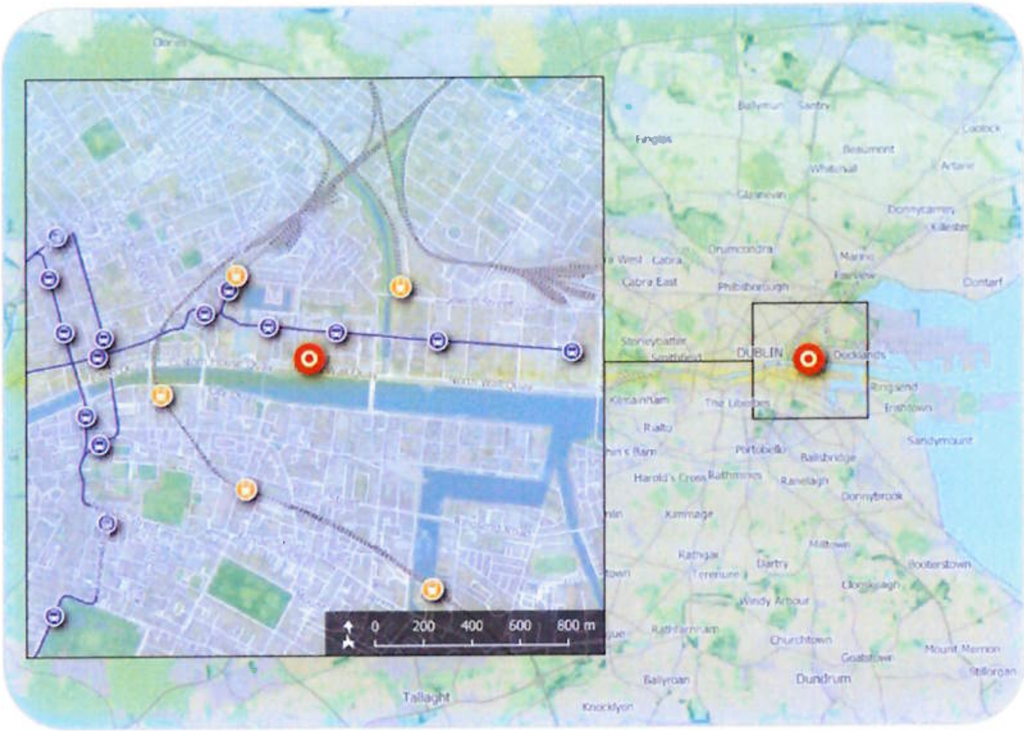


Figure 1 – Location of proposed development site

(map data and imagery: EPA, OSi, NTA, OSM Contributors. Google)

The location of the proposed development site is shown in **Figure 1** above; the extents and context of the development site are shown in more detail in **Figure 2.**

The site is bounded to the south by North Wall Quay, along a street frontage of approx. 120m, and to the west by Commons Street, along a street frontage of approx. 80m. Existing commercial and residential buildings adjoin the site to the north and east. Clarion Quay passes to the rear of the development site, within the northern boundary of the application area; this is a local access street connecting at either end to Mayor Street Lower and providing vehicular access to several buildings between Mayor Street Lower and North Wall Quay.

Figure 2 – Site extents and environs
(map data and imagery: NTA, OSM Contributors, Google)

1.3 Existing Land Use and Site Characteristics

The development site is brownfield and is occupied by an existing office building (the Citigroup headquarters) which is presently still in full use. This building shall be demolished as part of the proposed development but. The River Liffey is located approx. 25m south of the development site.

The existing office building comprises 6no. storeys over a single-level basement and has a total Gross Internal Area of 34,506.2m² (a total Net Internal Area of 21,222.8m²). It includes 164no. car parking spaces at basement level, accessed via a ramp off Clarion Quay (see **Figure 3**).

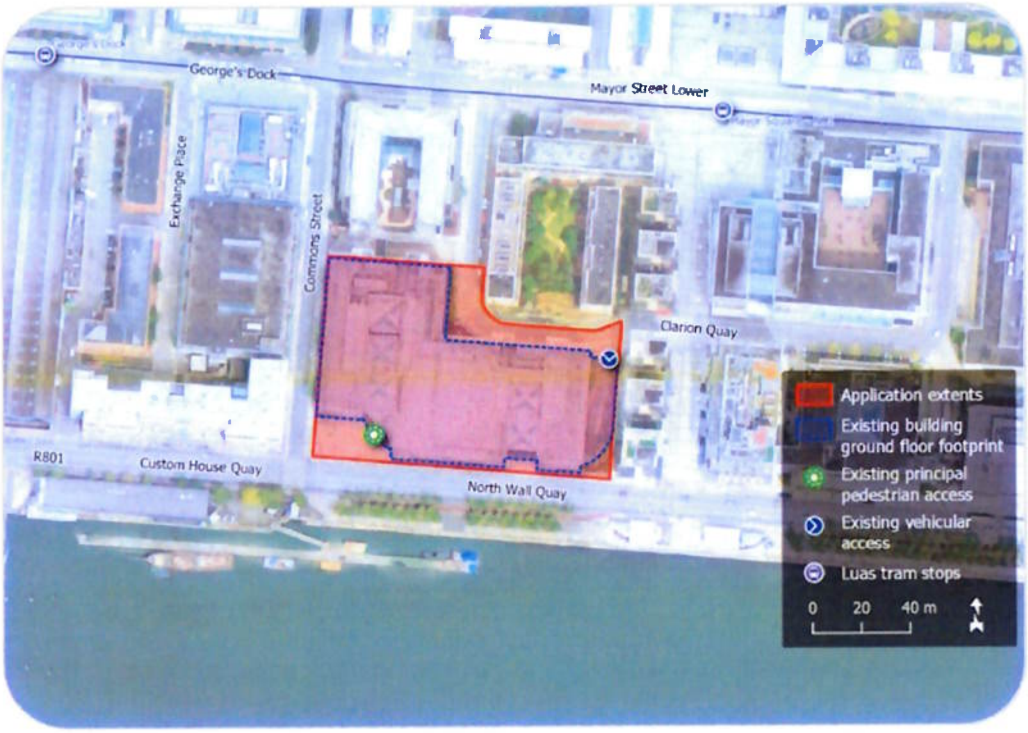


Figure 3 – Existing office building on development site
(map data and imagery: NTA, OSM Contributors, Google)

1.4 Lower Ground Floor and Basement Layouts

Refer to **Figure 4, Figure 5** and **Figure 6** below for Lower Ground Floor, and Basement Level-1 and Basement Level-2 layouts.

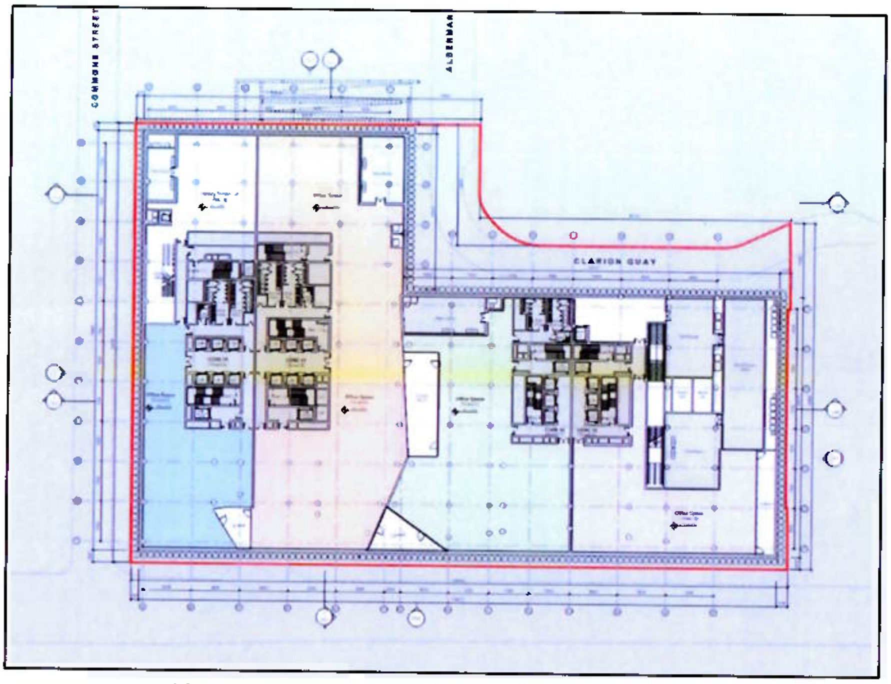


Figure 4 – Proposed Lower Ground Floor

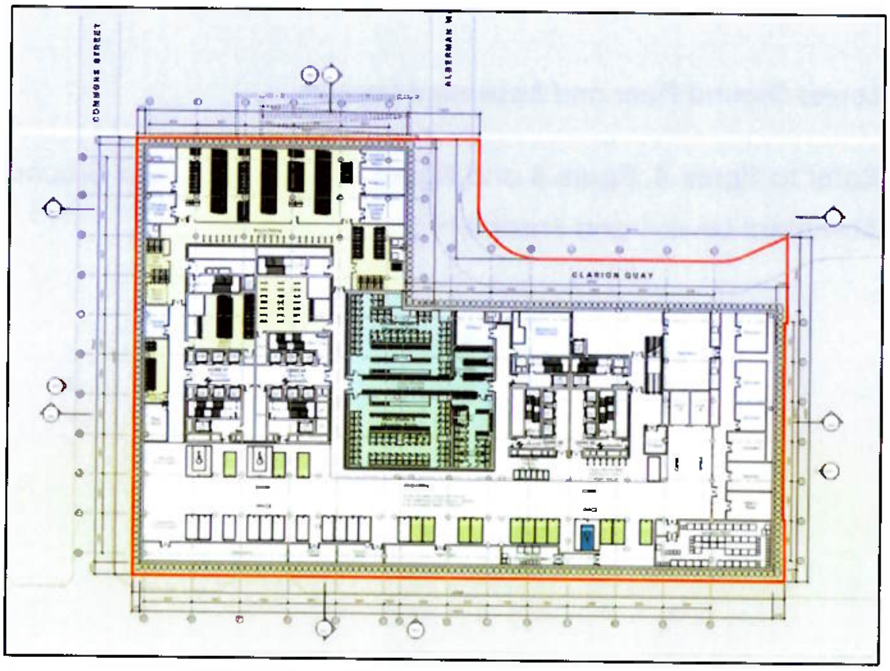


Figure 5 – Proposed Basement Level-1

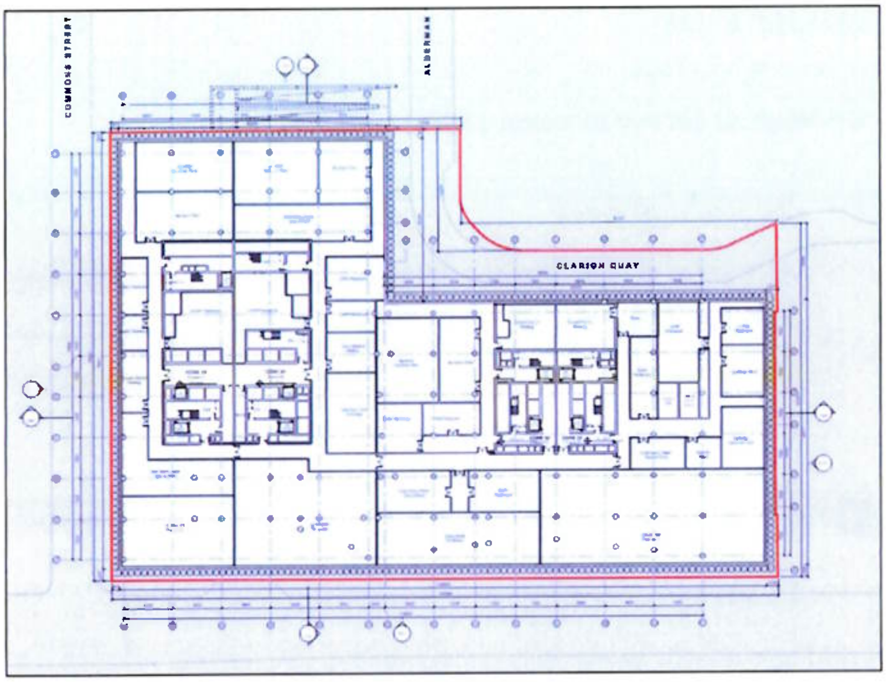


Figure 6 – Proposed Basement Level-2

It is worth noting that the existing ground levels surrounding the development site ranges between 2.80m AOD to 3.40m AOD. The existing ground level at the basement car ramp entrance location is approx. 3.0m AOD. The proposed FFL at the lower ground floor level is -0.575m AOD, and FFL's at basement levels are -5.075m AOD at Basement Level-1 and -9.575m AOD at Basement Level-2. Therefore, the depth at the lower ground floor level is approx. 3.575m, and depths at the proposed basement levels are 8.075m at Basement Level-1 and 12.575m at Basement Level-2.

1.5 Ground Conditions

A topographical survey of the site was completed by Apex Surveys.

The survey information includes contours, spot levels, road and kerb lines, existing drainage, chambers and other services within the site and along the surrounding road network. The levels are generally flat on the subject site with slight falls from approx. 2.80m AOD to 3.40m AOD.

2.0 DESKTOP STUDY

2.1 Geological Survey of Ireland (GSI) Data Set

2.1.1 Bedrock Geology

A review of the site location on the Geological Surveys database indicates that the site's bedrock is located on the LUCAN Formation. The Bedrock is described as Dark Limestone & Shale (Calp). See **Figure 7** and **Appendix A** for bedrock geology mapping.

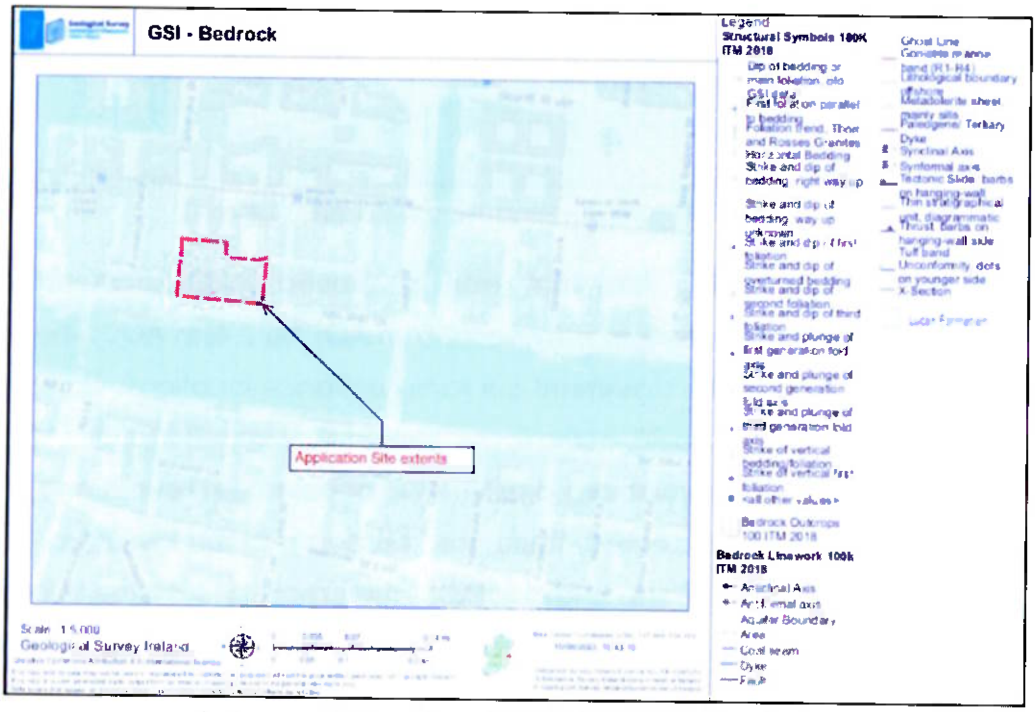


Figure 7 – Extract of Bedrock Geology Mapping
(map data and imagery: GSI, Google, QGIS)

2.1.2 Quaternary Sediments

A review of the site's location on the GSI database indicates that the sites Quaternary Sediments are based on **Urban**. See **Figure 8** and **Appendix A** for quaternary sediments geology mapping.

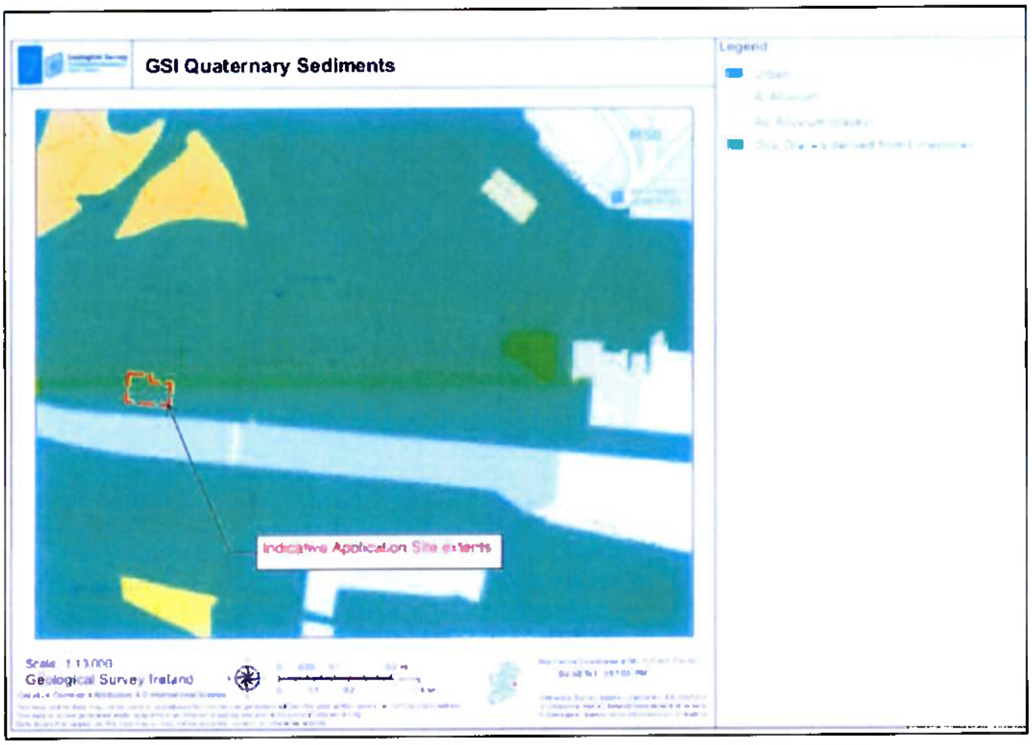


Figure 8 – Extract of Quaternary Sediments Mapping
(map data and imagery: GSI, Google, QGIS)

2.1.3 Groundwater vulnerability

According to the Geological Survey of Ireland (GSI) interactive maps, the subject site is underlain with Dark Limestone & Shale. The area is listed as overlaying a locally poor aquifer which has bedrock which is generally moderately productive for local zones. The groundwater vulnerability assessment of the site shows that the vulnerability of groundwater in the area is low. The proposed alteration to the existing site shall not increase the potential for groundwater flooding as such the risk is deemed acceptable. See **Figure 9** and **Appendix A** for groundwater vulnerability mapping.

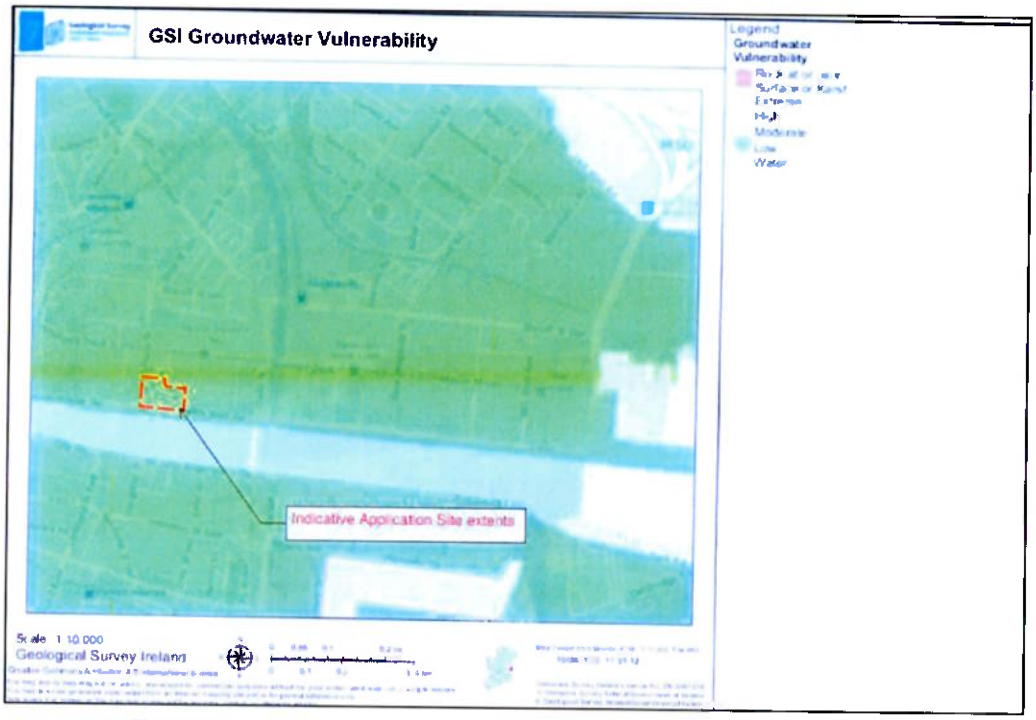


Figure 9 – Extract of Groundwater Vulnerability Mapping
(map data and imagery: GSI, Google, QGIS)

2.2 Historic Site Investigations

2no. historic Site Investigation reports have examined, details of which are given below:

1. Site Investigation report no 63173245[1], which has been extracted from Geological Survey of Ireland (GSI) website. The full extent of the proposed development site is located within the area where this site investigation was carried out.
2. Site Investigation report no 563[2], which has been extracted from Geological Survey of Ireland (GSI) website. A small section along the

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[1] Referred as SI Report 1, throughout this report
[2] Referred as SI Report 2, throughout this report

northern boundary of the proposed development site is located within the area where this site investigation was carried out.

See **Figure 10** below for the locations of the historic site investigation report sites.

Figure 10 – Location of Site Investigation Reports sites

2.3 Protected Structures

DCC's current Record of Protected Structures (Volume 4 of the 2022-2028 Dublin City Development Plan) was accessed to identify nearby protected structures in close proximity to the proposed development. See **Figure 11** for the locations of the Protected Structures.

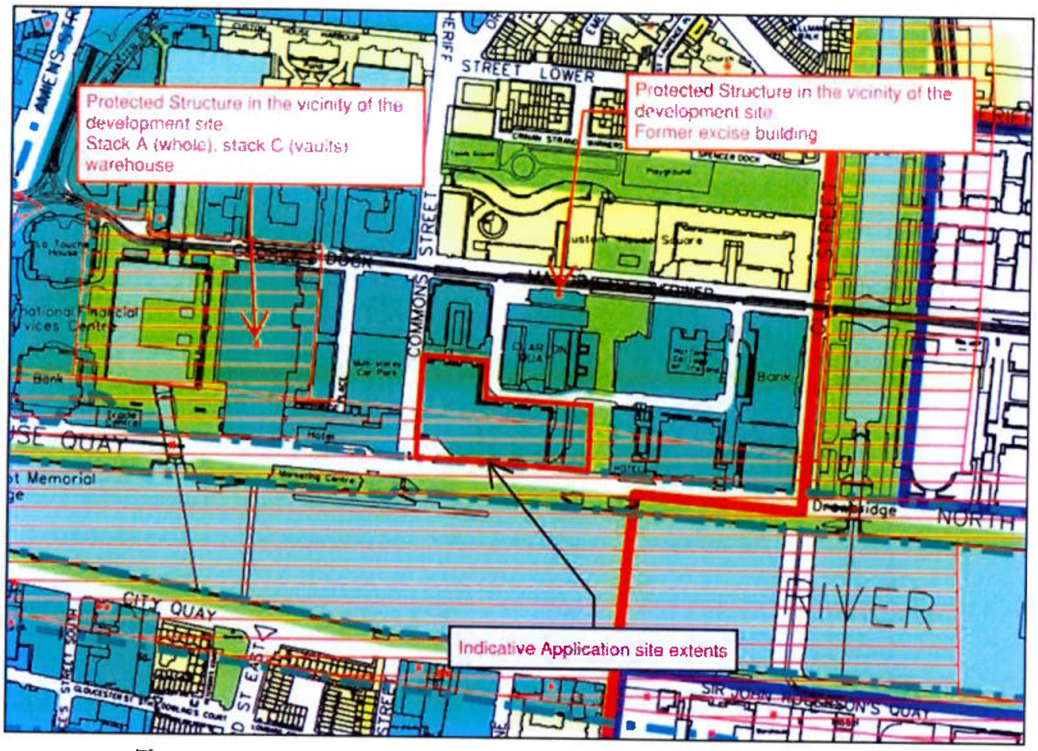


Figure 11 – Protected Structures in the vicinity of the site

(map data and imagery: DCC, OSM Contributors, Google, QGIS)

2.3.1 Impact Assessment on Protected Structures

According to DCC's records there are 2no. Protected Structures are in close proximity to the proposed development site.

1no. Protected Structure (Former Stack A (whole), Stack C (vaults)) is located approx. 200m west of the proposed basement, along North Wall Quay and the other Protected Structure (Former excise building) is located approx. 80m north of the proposed basement.

Due to the distance from the proposed development site from these protected structures, there will be no impact from the proposed basement on any of the Protected Structures as the closest Protected Structure is approx. 80m away from the proposed basement.

2.4 Adjacent Buildings and Basements

2.4.1 Existing Building and Basements

The development site currently comprises an existing commercial building.

The existing building has a basement located beneath the building, which covers the entire extent of the building. The existing basement caters for the car parking spaces for the building staff. This existing basement shall be demolished to facilitate the proposed basement layouts for the development. See **Figure 12** below.

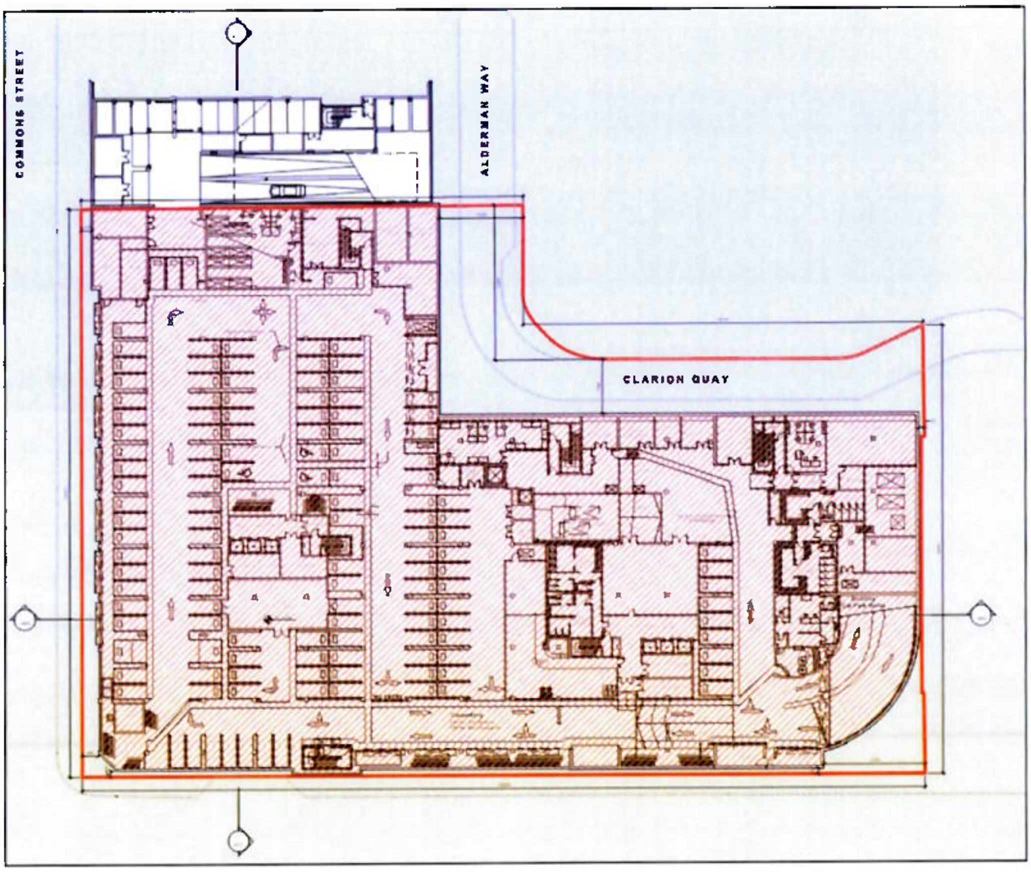


Figure 12 – Existing Basement for 1 North Wall Quay

There is an existing commercial building located to the north of the development site which is 5-storey in height and comprises of a basement. See **Figure 13.**

Figure 13 – Existing Building to the north of proposed development

The development site is bound to the east by existing commercial units on the ground floor and with residential units on the upper floors. These buildings are about 6-7 storeys in height. None of these buildings have basements. See **Figure 14.**

Figure 14 – Existing Buildings to the east of proposed development

As part of Dublin City Council 2005 report, The Greater Dublin Strategic Drainage Study, maps were collated to indicate the presence of known basements within the city. **Figure 15** is an extract from the GDSDS for the sites indicating basement locations. See **Appendix A** for the full maps. The GDSDS maps indicate an existing basement within the development site.

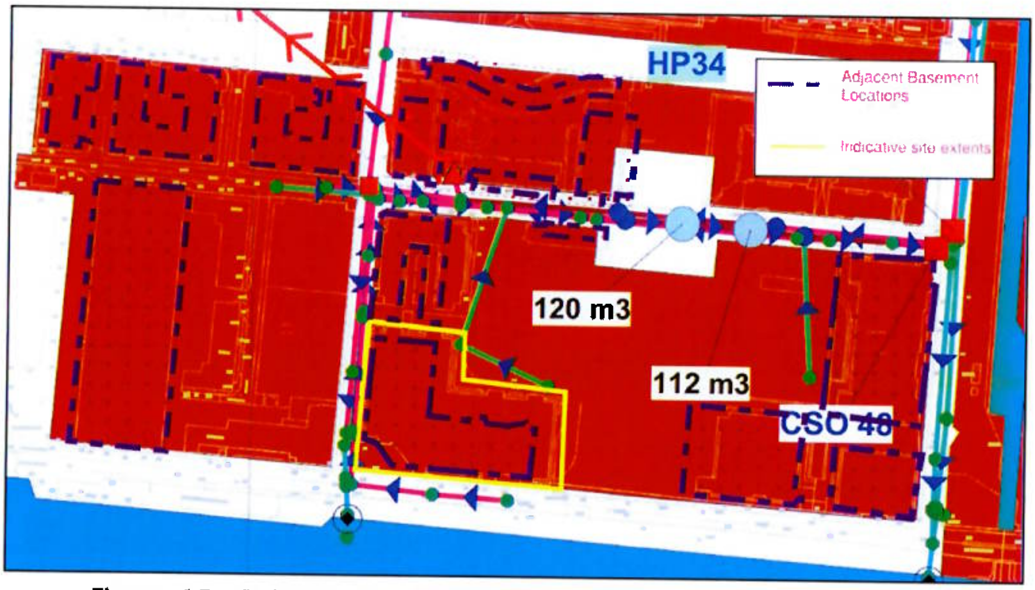


Figure 15 – Extract from GDSDS indicating basement locations

2.4.2 Proposed Basements in the vicinity of the development site

Planning permission is in place for several committed developments close to the subject site that involve basement construction, and the construction of the basement for a number of these developments is partially complete (See **Figure 16**). These include:

- The CHQ Building (formerly 'Stack A', a Protected Structure, RPS No. 2094), Custom House Quay, Dublin 1 (DCC ref. 3251/23) – 1 level basement.
- Spencer Place Development Co. Ltd. located at the junction of North Wall Quay and New Wapping Street, Spencer Dock, Dublin 1 (DCC ref. DSDZ2661/17) – 1 level basement – Partially complete.
- City Block 9, North Wall Quay and Mayor Street Upper, Dublin 1 (DCC ref. DSDZ2103/21) – 3 level basements – Partially complete.

Figure 16 – Nearby Permitted Basement Developments

(map data and imagery: DCC, Google, QGIS)

2.5 Adjacent Watercourses and Water Bodies

Figure 17 – Waterbodies in the vicinity of the subject site
(map data and imagery: Google, QGIS)

As shown in **Figure 17**, the proposed basement is located approximately 25m north of the River Liffey and approximately 260m west of the Royal Canal. The Grand Canal is also located approximately 1000m to the south-east of the proposed basement.

2.5.1 Biodiversity Impact Assessment

The proposed development shall be constructed on a brownfield site that currently accommodates commercial buildings.

It is also worth noting that the exiting brownfield site is located in a heavily urbanized part of Dublin and does not have any direct contact with any of the surface water bodies in the area. Therefore, it is deemed that the proposed basement shall have no negative impact on the biodiversity of the surrounding area.

2.5.2 Green Area and Habitat

As mentioned earlier, the proposed development site is in the heavily urbanized part of Dublin and there are very minimal green area/ soft standing areas presently available in the close proximity of the development site. Therefore, it is deemed that the proposed basement shall have no negative impact on the green areas and habitat of the surrounding area. It is also worth noting that the proposed development shall provide green roofs which shall be a betterment to the existing situation.

2.6 Flood Risk Assessment Information

As mentioned in sub-section 2.5 above, the proposed basement is located approximately 25m north of the River Liffey and approximately 260m west of the Royal Canal. The Grand Canal is also located approximately 1000m to the south-east of the proposed basement.

A review of flood risk mapping contained within the *Dublin City Development Plan* 2022–2028 Strategic Flood Risk Assessment, an extract of which is shown in **Figure 18**, shows a portion along the north-eastern boundary of the subject site to be located in **Flood Zone B**, with the remainder within **Flood Zone C.** See **Figure 18.**

Figure 18 – Extract of DCC composite flood risk mapping
(map data and imagery: DCC, Google, QGIS)

Based on the conclusions of the Site Specific Flood Risk Assessment (SSFRA), submitted under separate cover as part of this planning submission, the proposed development is deemed to be suitable for the site location.

Historical and potential flood routes have been reviewed and the likelihood of the development being subject to flooding is low, given the implementation of the mitigation measures described in the SSFRA.

3.0 SITE GROUND CONDITIONS

3.1 Site Investigations

It is not practical to carry out a site investigation at the development site at this stage. However, it is proposed to carry out a full site investigation to confirm baseline conditions and provide a factual site investigation report when the existing buildings are demolished.

However, as mentioned previously in sub-section 2.2, 2no. Site Investigation reports have examined, details of which are given below:

1. Site Investigation report no 63173245[1], which has been extracted from Geological Survey of Ireland (GSI) website. The full extent of the proposed development site is located within the area where this site investigation was carried out.
2. Site Investigation report no 563[2], which has been extracted from Geological Survey of Ireland (GSI) website. A small section along the northern boundary of the proposed development site is located within the area where this site investigation was carried out.

See **Figure 10** for the locations of the site investigation report sites.

3.2 Ground Conditions

3.2.1 <u>Ground Conditions from SI Report 1</u>

The soil profile is fairly uniform. Soft grey sandy clayey silt was found at the depths till 4.4m below ground level, underlaid by coarse clayey gravel up to a depth of 5.0m. Next there are various strata of fine to coarse sandy gravel with shell fragments and cobbles and firm black silty clay at depths of 7.7m to 12.8m.

All the boreholes ended on a very hard stratum, which was presumed to be rocks or boulders.

The groundwater was encountered at a typical depth of 4.3m below ground level.

3.2.2 Ground Conditions from SI Report 2

Typically, the ground conditions are of fill materials. The concrete surface overlies approx. 4.75m of clay gravel fill.

Compact coarse gravel with cobbles was noted below the made ground and extended to about 6.10m. Compact coarse gravel with cobbles were encountered at 6.1m.

The groundwater was encountered at a typical depth of 4.5m below ground level.

3.2.3 Summary of the existing Site Investigations

SI report 1 and SI Report 2 are attached as **Appendix B** to this report.

For this development it is not practical to carry out a site investigation at the development site at this stage. However, it is proposed to carry out a full site investigation to confirm baseline conditions and provide a factual site investigation report when the buildings are demolished.

From all the data obtained we are confident that the ground conditions as indicated in **Appendix B** are typical in the area.

3.3 Ground Water

It is not practical to carry out a site investigation at the development site at this stage, as the site is currently occupied by an existing building.

As provided for in the *Dublin City Development Plan 2022-2028*, it is envisaged that the BIA will include monitoring of seasonal groundwater levels. However, it is proposed to carry out a full site investigation to confirm baseline conditions and provide a factual site investigation report once the existing building has been demolished. This will include the establishment of ground water monitoring boreholes on site where practical, allowing for an accurate on-site record of the groundwater levels and their alteration over the construction period.

As per the site investigation report (SI Report 1) groundwater was encountered at a typical depth of 4.3m below ground level and Site investigation report (SI Report 2) indicates that groundwater was encountered at approx. 4.5m below ground level. Refer to **Appendix B** for these Site Investigation reports.

4.0 HYDROGEOLOGY

4.1 Hydrogeology of the Wider Area

The GSI mapping indicates that the proposed site is underlain by the Lucan Formation. The overall GSI aquifer classification (**Figure 19**) for this formation is Locally Important Aquifer - Bedrock which is moderately productive only in Local Zones (LI). The aquifer has no primary porosity and flow is fracture controlled.

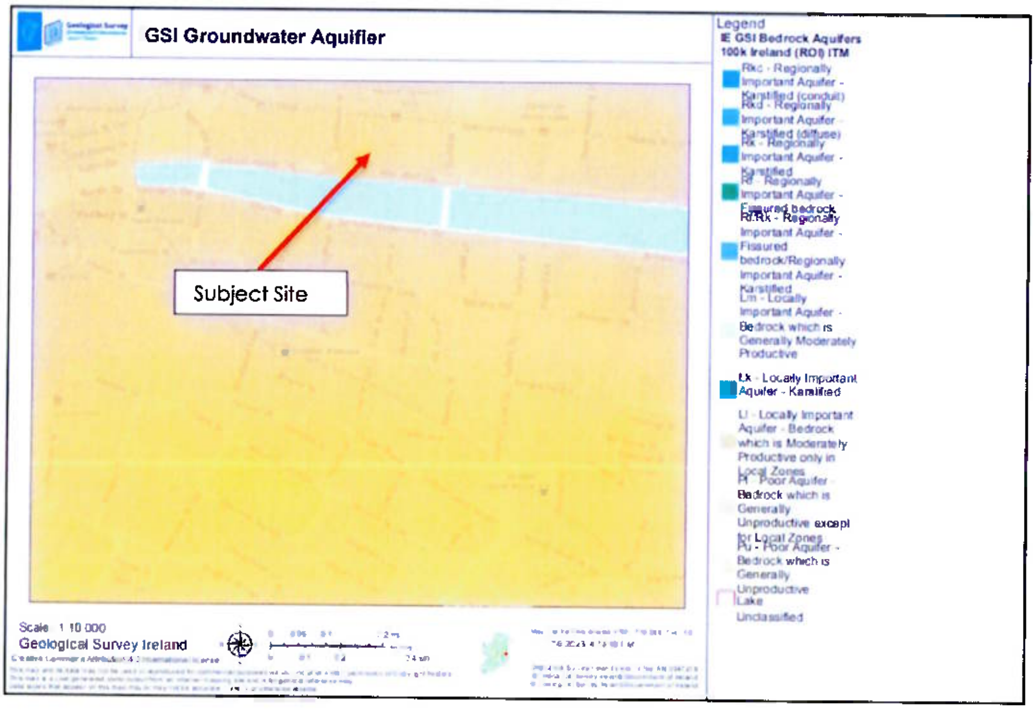


Figure 19 – Bedrock Aquifers
(map data and imagery: GSI Maps)

The underlying Groundwater Body is the Dublin Groundwater Body. This Ground Water Body is described as a poorly productive bedrock aquifer. The water quality status of this Ground Water Body is "Good", and it is not considered at risk of deterioration.

The area is served by public supply water mains, and it is unlikely that the aquifer will be developed for public water supply.

4.2 MetroLink and DART Tunnel Findings

MetroLink is a proposed mostly underground 19.4km rail route, with 16 stations on opening, between the Swords area in Fingal and Charlemont in southern Dublin city centre. Government approval of MetroLink was given under Decision Gate 1 in the Public Spending Code in July 2022, and a Railway Order application to An Bord Pleanála was submitted by Transport Infrastructure Ireland (TII) in September 2022. Dependent on the planning and procurement processes, MetroLink could commence construction during the 2020s, subject to statutory approvals will be operational in the mid-2030s.

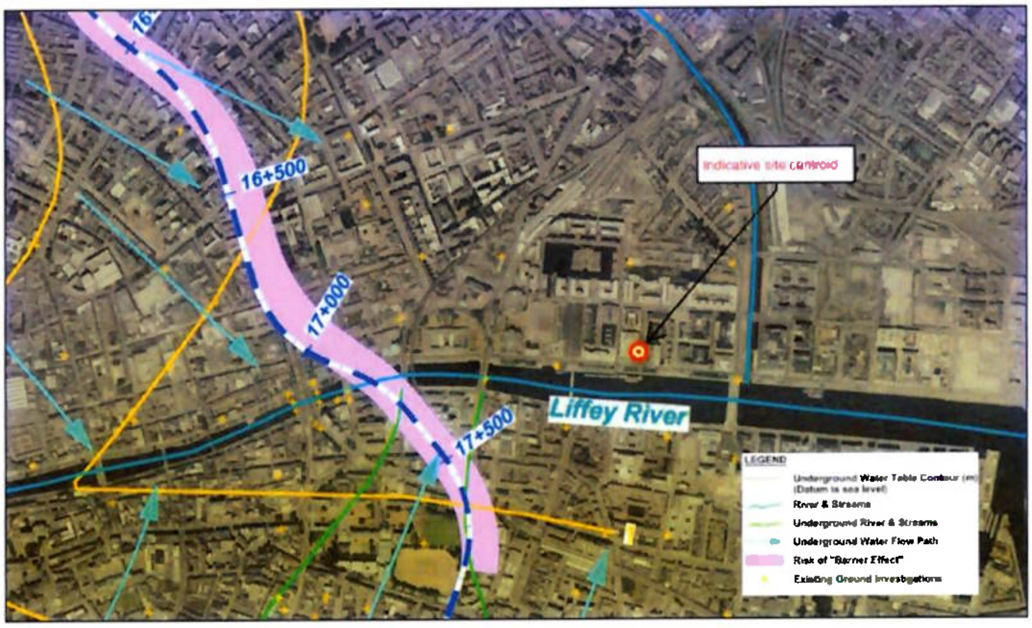


Figure 20 – Groundwater Flow Direction
(map data and imagery: MetroLink, Jacobs)

A review of MetroLink's – 'Hydrogeological Plan for MetroLink' drawing no. ML1-JAI-GEO-ROUT_XX-M2-Y-00014, sheet 2 of 2, indicates that the typical groundwater flow direction of the areas to the north of River Liffey is predominantly northwest to southeast towards River Liffey. See **Figure 20** above.

Therefore, it is considered appropriate that the groundwater flow direction in the vicinity of the development site shall also reflect the same flows as indicated in **Figure 20.**

It is also worth noting that the groundwater levels noted on **Figure 20** are generally in-line with ground water levels recorded in site investigation reports SI1 and SI2 that were undertaken in the vicinity of the proposed development site, as noted in section 3 of this report.

4.3 Groundwater Extraction/Well Data

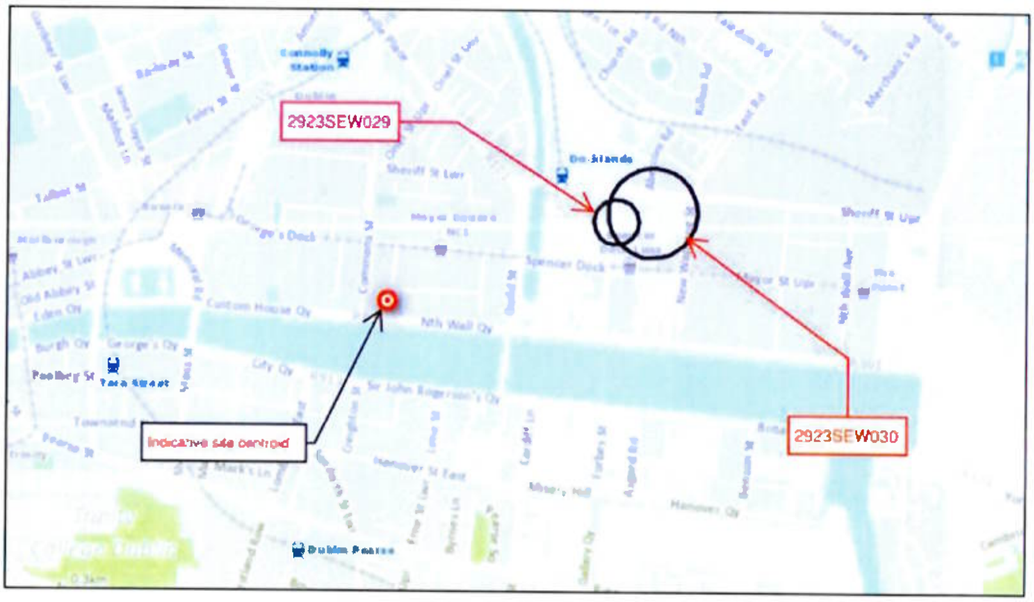


Figure 21 – Groundwater Wells and Spring locations
(map data and imagery: GSI Maps)

The GSI groundwater mapping 'Groundwater Wells and Springs' indicates that there are 2no. private well locations within approx. 630m from the subject development to the east, the closest private well being 480m to the east of the development site. Details of these private wells are given in **Table 1** below.

Table 1 – Groundwater wells

GSI Name	Townland	Well Type	Location accuracy	Depth	Use	Yield (m3d)
2923SEW029	Sheriff Street Upper	Borehole	to 100m	6.5	Other	n/a
2923SEW030	Sheriff Street Upper	Borehole	to 200m	7.8	Unknown	n/a

4.4 Karst Features

A review of the GSI online karst map was completed to determine if any localised karst features were recorded close to the site. No karst features such as caves, valleys or swallow holes were noted within the area. Therefore, there shall be no impact on the karst features.

4.5 Groundwater Levels and Flow

It is not practical to carry out a site investigation at the development site at this stage, as the site is currently occupied by an existing building. However, it is proposed to carry out a full site investigation to confirm baseline conditions and provide a factual site investigation report once the existing building has been demolished. This will include the establishment of ground water monitoring boreholes on site where practical, allowing for an accurate on-site record of the groundwater levels and their alteration over the construction period.

Site Investigation reports from the surrounding areas in the vicinity of the development site were extracted from DCC and Geological Survey of Ireland (GSI) website to examine if there will be any groundwater impacts due to the proposed basement. See **Figure 10** for the location of the undertaken site investigations.

As per the site investigation report (SI Report 1) groundwater was encountered at a typical depth of 4.3m below ground level and Site investigation report (SI Report 2) indicates that groundwater was encountered at approx. 4.5m below ground level. Refer to **Appendix B** SI Reports details.

The groundwater levels illustrated within MetroLink's – 'Hydrogeological Plan for MetroLink' drawing no. ML1-JAI-GEO-ROUT_XX-M2-Y-00014, sheet 2 of 2 (**Figure 20**) are generally in-line with the findings of SI Report 1 and SI Report 2.

4.6 Impacts of the Proposed Development on the Groundwater Regime

The proposed basement covers most of the development site extents. The existing ground level at the basement car ramp entrance location is approx. 3.0m AOD. The proposed FFL at the lower ground floor level is -0.575m AOD, and FFL's at basement levels are -5.075m AOD at Basement Level-1 and -9.575m AOD at Basement Level-2. Therefore, the depth at the lower ground floor level is approx. 3.575m, and depths at the proposed basement levels are 8.075m at Basement Level-1 and 12.575m at Basement Level-2. Refer to the proposed building sections included within **Appendix C**.

A 900mm diameter secant pile wall of depth 15m below ground level shall be installed around the perimeter of the development basement. This shall be socketed into a suitable sub-stratum, typically boulder clays which shall provide barrier to lateral groundwater ingress. The basement itself will result in an excavation depth ranging from 13.5m typically to 15m locally, below ground level.

As the proposed basements secant pile wall will be socketed in to the grey-black boulder clay this will constitute a barrier to the movement of groundwater within the footprint area that secant pile wall envelopes.

Given the presence of an existing basement, a barrier to groundwater is already established and thus the additional effect on groundwater in this regard is expected to be negligible. The impact of the proposed basement on the horizontal groundwater regime is elaborated in section 4.7 below.

For details on the construction stage groundwater monitoring, control and management refer to section 5.1 of this report.

4.7 Cumulative Impact of Nearby Basements on the Groundwater Regime

Figure 22 below illustrates previously mentioned existing and proposed basements in the vicinity of the proposed development. As it is evident from **Figure 22** the area to the west of the proposed basement includes a number of existing barriers that impact on the groundwater regime. Given that the existing groundwater regime in this area is in north-south direction as illustrated on **Figure 20**, it is understood that the predominant groundwater path is located to the east of the proposed basement as illustrated on **Figure 22** as this area is void of basement structures that would form a barrier to the lateral groundwater movement. As these paths are formed by the existing constraints it is deemed that they are already established, and construction of the proposed basement is not anticipated to have any meaningful impact on the lateral groundwater flow paths in this area.

It is also worth noting that as previously mentioned the proposed basement level-1 is completely located in the footprint of the existing basement structure that is to be demolished. In addition to the above, it is worth noting that as the groundwater movement is predominantly north-south the already established barrier to this groundwater movement will not alter significantly as the proposed basements and existing basements share a similar footprint and thus shall have no meaningful impact on the lateral groundwater flow paths in this area.

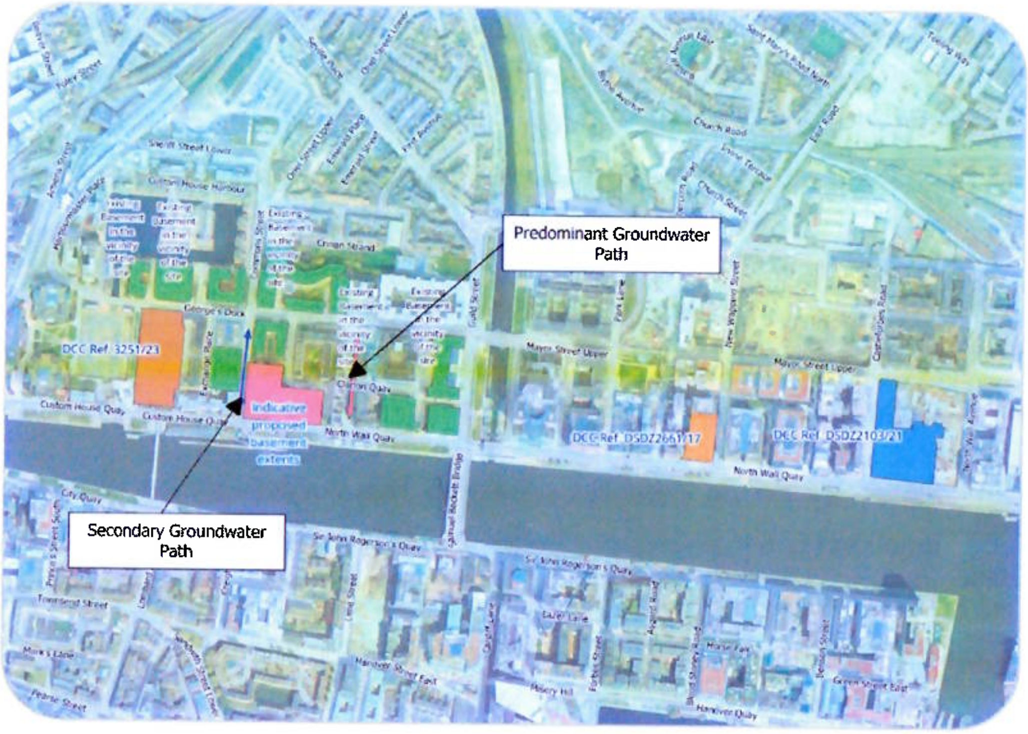


Figure 22 – Existing and Permitted Adjacent Basements
(map data and imagery: DCC, Google, QGIS)

A review of Dublin City Councils 'Appendix 9' – Basement Development Guidance, indicates that the subject site can be categorized as being 'B1'. As the proposed site has a modest basement currently is not in a continuous development block and having public roads adjacent to the site the 'B1' designation is the most appropriate.

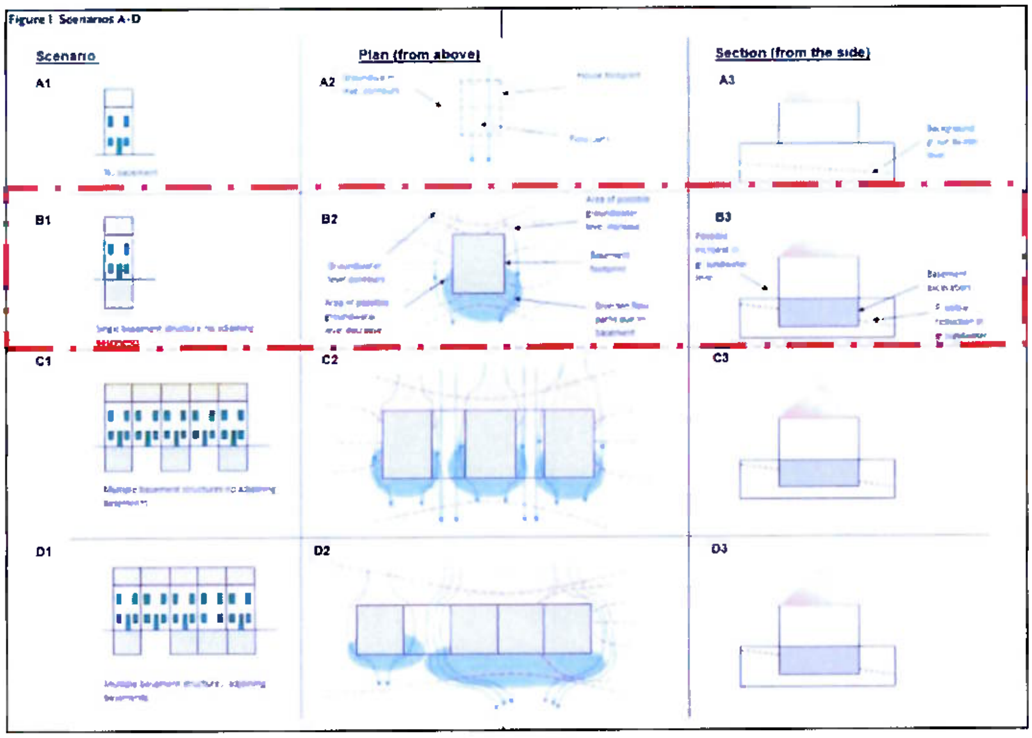


Figure 23 – Extract from Figure 1: Scenario A – DCC Development Plan – Appendix 9 – Basement Development Guidance

5.0 ENABLING WORKS AND CONSTRUCTION STAGE

5.1 Proposed Basement Design

Refer to **Figure 25 and Figure 26** for the proposed basement layout.

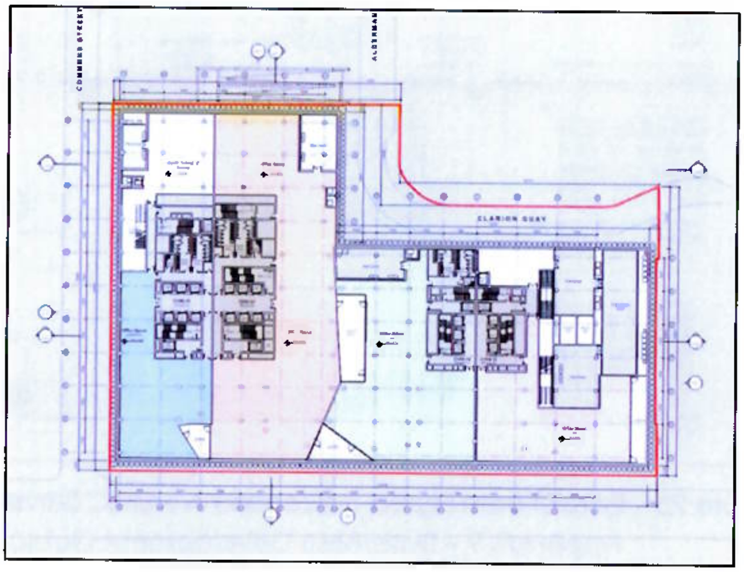


Figure 24 – Proposed Lower Ground Floor [FFL = -0.575]

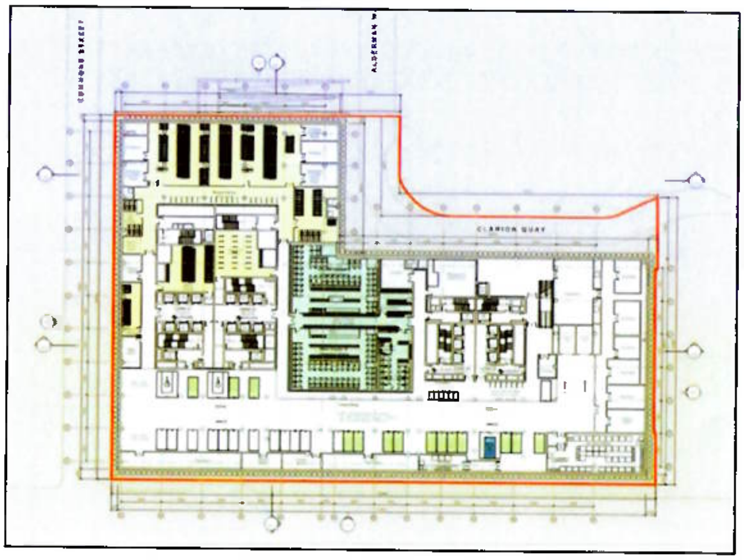


Figure 25 – Proposed -1 Basement Plan [FFL = -5.075]

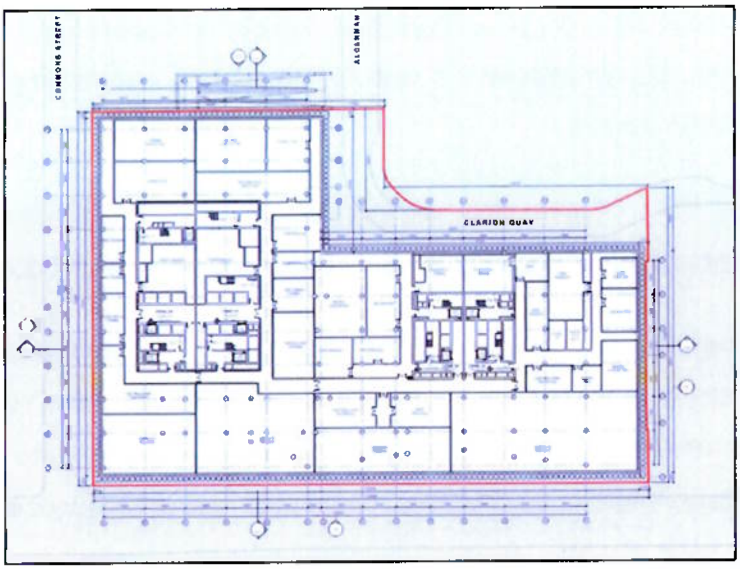


Figure 26 – Proposed -2 Basement Plan [FFL = -9.575]

It is proposed to construct two additional levels of basement beneath the proposed development, which is bound to the west by Commons Street, to the south by North Wall Quay, to the north by Clarion Quay, and to the east by existing ramped access to the existing basement beneath the proposed development. The proposed basement shall result in excavation depths of ranging from 13.5-15m below ground level.

From the site investigation reports noted in sub-sections 3.2.1 and 3.2.2 above and given the fact that the majority of the proposed development has an existing basement, it is proposed to provide piled foundation supports into the boulder clays as rock was not encountered (subject to further detail design and site investigation). In order to form the basement a 900mm diameter Secant Pile wall shall be provided around the perimeter of the basement to enable the excavation. A Reinforced Concrete liner wall shall be provided in the basement. Following the excavation of the basement, foundation piles shall be installed and reinforced concrete ground beams shall be provided to support the structure which shall span onto the foundations.

A combination of ground anchors subject to license and Internal propping systems are proposed to stabilise the piled wall during construction to specialist details.

Deflections of pile and anchor design shall be limited to ensure that movement due to lateral loads are kept to a minimum during construction.

The permanent structure for the basement shall take the form of Reinforced Concrete construction within the line of the piled walls. Reinforced concrete basement foundations on situated bearing piles shall be provided to support the superstructure. The intermediate reinforced concrete floor slabs shall provide external stability to the basement through diaphragm action in the permanent condition. The building in its permanent condition shall support to the exerted lateral load.

We note that any dewatering required shall only occur within the basement box as the Secant Pile walls which are proposed to be embedded in the boulder clay shall be of watertight concrete construction and the boulder clay is intended to form an impermeable bottom to the basement excavation.

Any prudent temporary works which will extend beyond the site boundary shall be subject to local agreements and the relevant respective licensing with any private, public, or local authority bodies.

If required, monitoring wells shall be located within the site to monitor and ensure that there is no ground water drawdown during dewatering of the inside of the basement excavation.

Water from the dewatering of the basement shall be treated and discharged to the local sewers in accordance with a licence agreement to be obtained from Dublin City Council for these works.

Monitoring of the ground water quality following treatment shall be carried out in accordance with the discharge licence conditions issued by Dublin City Council to ensure that there is no contamination leaving the site.

The secant piled wall shall ensure that if there is any contaminated material within the basement area that it is not allowed to migrate off site, thereby protecting the ground water regime.

5.2 Construction Sequence

Subject to a successful grant of planning, it is intended for the works to commence in Q4 2026. The proposed development is anticipated to be constructed over a 36-month period.

The development is proposed to be constructed in accordance with the following sequence of works:

- Set up site perimeter hoarding, maintaining existing pedestrian and traffic routes around the site.
- Site clearance/Demolition.
- Backfilling existing basement to approximately street level to act as piling platform.
- Installation of secant pile wall from existing ground level.
- Excavate locally for the installation of temporary supports to secant pile wall.
- Installation of temporary supports.
- Excavation of basement to formation level.
- Construction of internal piles, piled foundations and basement slab.
- Construction of internal RC linear wall from basement to underside of ground floor slab.
- Construction of basement slab, below ground slabs and ground floor slab.

- Removal of temporary support to the secant pile wall.

5.3 Temporary Works

A combination of ground anchors subject to license and Internal propping systems are proposed to stabilise the piled wall during construction to specialist details.

Deflections of pile and anchor design shall be limited to ensure that movement due to lateral loads are kept to a minimum during the temporary construction phase.

We note that any dewatering required shall only occur within the basement box as the Secant Pile walls which are proposed to be embedded in the boulder clay shall be of watertight concrete construction and the boulder clay is intended to form an impermeable bottom to the basement excavation.

Any prudent temporary works which will extend beyond the site boundary, such as ground anchors, shall be subject to local agreements and the relevant respective licensing with any private, public, or local authority bodies.

If required, monitoring wells shall be located within the site to monitor and ensure that there is no ground water drawdown during dewatering of the inside of the basement excavation.

Water from the dewatering of the basement shall be treated and discharged to the local sewers in accordance with a licence agreement to be obtained from Dublin City Council for these works.

Monitoring of the ground water quality following treatment shall be carried out in accordance with the discharge licence conditions issued by Dublin City Council to ensure that there is no contamination leaving the site.

The secant piled wall shall ensure that if there is any contaminated material within the basement area that it is not allowed to migrate off site, thereby protecting the ground water regime during construction.

5.4 Monitoring Summary

A full range of monitoring shall be put in place within a Construction and Demolition Management Plan which shall be submitted in full to Dublin City Council by the appointed contractor prior to the works commencing. When developing the Construction and Demolition Management Plan, references will be made to meet the requirements set out in Dublin City Councils document "*Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition*".

This plan shall include all monitoring required for noise, air quality (including dust) and vibration. Inclinometers will be installed in all secant pile walls. Movement monitoring prisms will be installed on all adjacent neighbouring buildings and boundary walls.

A full condition survey report shall be carried out prior to commencement of construction on all surrounding buildings, boundary walls, footpaths, and roads. Ground movement will be monitored throughout the construction works. Suitable monitoring measures shall be employed where prudent to neighbouring buildings, such as crack tell tales applied to the neighbouring buildings or boundary walls where existing distress is established.

5.5 Deflection and Ground Movement During Construction Stage

It is proposed that the basement will be excavated using an embedded secant pile wall. The design and certification of these temporary works, (Secant Pile Wall, supplementary sheet piling, propping, etc.) shall be carried prior to commencement of works on site with all designs, agreement limited ground movement values shared and agreed with all adjoining third-party land holders where appropriate.

An assessment of the ground movements due to the basement excavation and construction shall be assessed from any subsequent ground movement associated with the lateral deflections of the wall during excavation.

Default values with CIRIA report C760 which were derived from a number of historic case studies. These values give estimation of the ground movement associated with both the installation of the wall and subsequent deflections.

5.6 Impact Assessment

A Damage Impact Assessment of the adjoining building and boundary walls will be completed based on the classification given in section 6.4 in CIRIA report C760.

This will be carried out in conjunction with the design of the temporary works, condition surveys etc. See below extracts from C760 report.

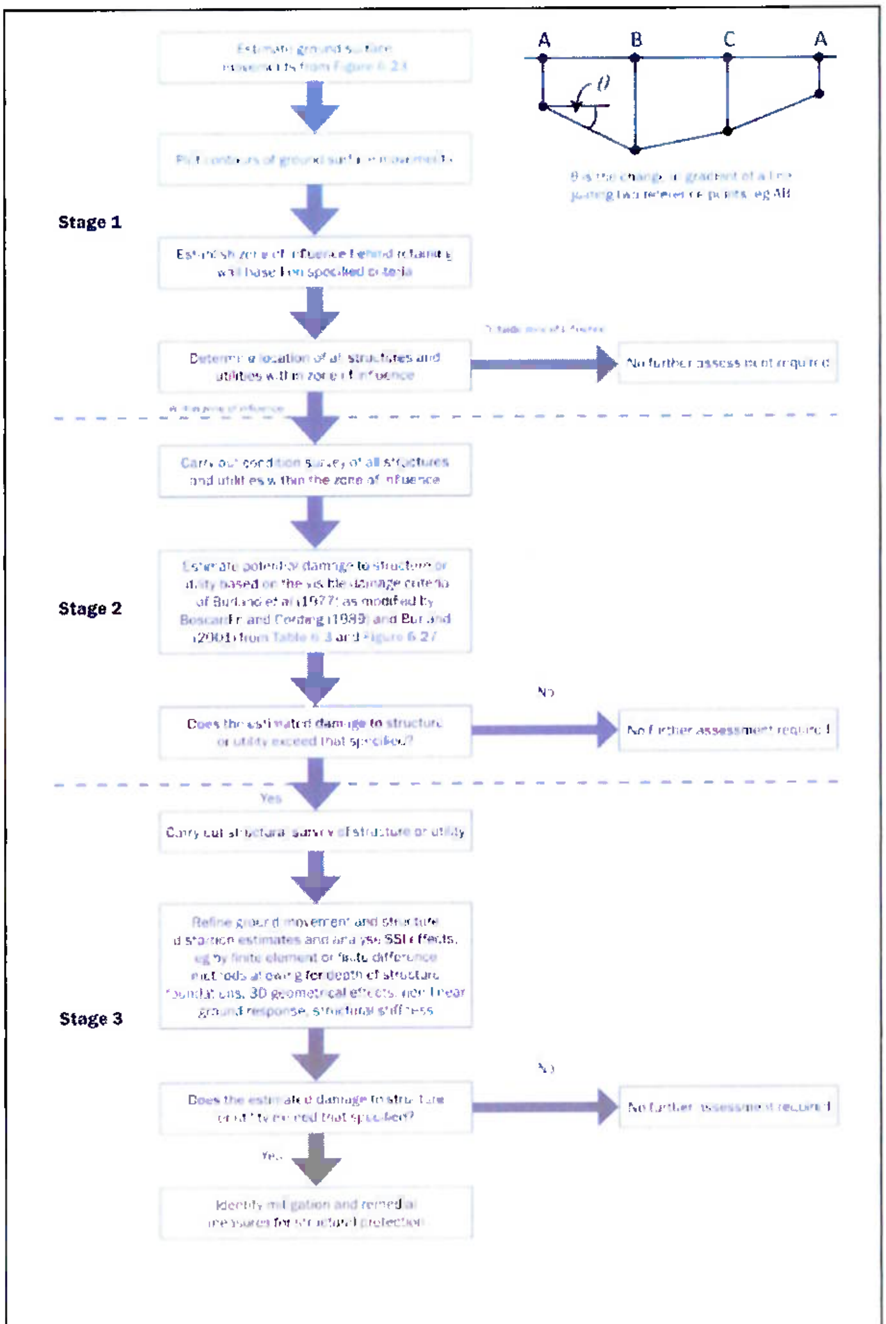


Figure 6.26 Procedure for building damage assessment

Figure 27 – Extract from C760 Report

***Stage 1**: Ground movement behind the retaining wall shall be estimated as described in section 6.2 assuming greenfield conditions, ie ignoring the presence of the building or utility and the ground above foundation level.*

Contours of ground surface movement shall be drawn and a zone of influence established based on specified settlement and distortion criteria. All structures and utilities within the zone of influence shall be identified.

Stage 2: *A condition survey shall be carried out on all structures and utilities within the zone of influence before starting work on site. The structure or utility shall be assumed to follow the ground (ie it has negligible stiffness), so the distortions and consequently may be experienced by the structure as the settlement develops over time. The method of damage assessment shall adopt the limited tensile strain approach as described by Burland et al (1977), Boscardin and Cording (1989) and Burland (2001).*

Table 6.4 Classification of visible damage to walls (after Burland et al, 1977, Boscardin and Cording, 1989, and Burland, 2001)

Category of damage	Description of typical damage (ease of repair is underlined)	Approximate crack width (mm)	Limiting tensile strain, ε_{lim} (%)
0 Negligible	Hairline cracks of less than about 0.1 mm are classed as negligible	<0.1	0.0 to 0.05
1 Very slight	**Fine cracks that can easily be treated during normal decoration.** Perhaps isolated slight fracture in building. Cracks in external brickwork visible on inspection	<1	0.05 to 0.075
2 Slight	**Cracks easily filled. Redecoration probably required.** Several slight fractures showing inside of building. Cracks are visible externally and **some repointing may be required externally** to ensure weathertightness. Doors and windows may stick slightly	<5	0.075 to 0.15
3 Moderate	**The cracks require some opening up and can be patched by a mason. Recurrent cracks can be masked by suitable lining. Repointing of external brickwork and possibly a small amount of brickwork to be replaced.** Doors and windows sticking. Service pipes may fracture. Weathertightness often impaired.	5 to 15 or a number of cracks >3	0.15 to 0.3
4 Severe	**Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows.** Windows and frames distorted, floor sloping noticeably. Walls leaning or bulging noticeably, some loss of bearing in beams. Services pipes disrupted	15 to 25, but also depends on number of cracks	>0.3
5 Very severe	**This requires a major repair involving partial or complete rebuilding.** Beams lose bearings, walls lean badly and require shoring. Windows broken with distortion. Danger of instability	Usually >25, but depends on numbers of cracks	

Notes

1. In assessing the degree of damage, account must be taken of its location in the building or structure.
2. Crack width is only one aspect of damage and should not be used on its own as a direct measure of it.

Reinforced concrete framed structures are more flexible in shear than masonry structures and are consequently less susceptible to damage. However, for the purposes of a Stage 2 assessment of potential damage, all structures should be treated as masonry structures.

Figure 28 – Extract from C760 Report

If the estimated damage category is higher than that specified, a stage 3 assessment shall be carried out.

Stage 3: *A structural survey of the structure or utility shall be carried out. Ground movement estimates shall be refined and a SSI analysis carried out allowing for the depth of the structure foundations, 3D geometrical effects, non-linear ground characteristics and structural stiffness. The response of the structure shall be assessed allowing for the actual conditions, material and form the construction comprising of the structure. The quality of workmanship in building construction can significantly affect the robustness of the building and its ability to tolerate movement.*

Coding et al (2010) observe through model testing and example that where building are assumed to be more flexible or at of varying stiffness, and especially where the bays or building unit are significantly narrower than the settlement profile, it may be more appropriate to consider angular distortions across individual building units. In this case, beam analysis as previously described may underestimate the actual damage level.

6.0 SUMMARY AND RECOMMENDATIONS

6.1 Summary

This Basement Impact Assessment has been carried out in accordance with the requirements of the Dublin City Development Plan 2022-2028, more specifically developments plan Appendix 9 - Basement Development Guidance. Its conclusions are summarised as follows:

- Proposed basement construction will have negligible impact on the surrounding protected structures.
- Damage Impact Assessment on the surrounding existing structures will be completed based on the classification given in section 6.4 in CIRIA report C760 and relevant construction stage deflection, ground movement and vibration limits and related mitigation measures have been outlined in section 5 of this report. Given these mitigation measures, the proposed basement's construction will have negligible impact on the surrounding existing structures.
- Proposed basement will have no negative impact on the biodiversity of the surrounding area.
- Proposed basement impact on the vertical groundwater movement is deemed negligible and mitigated through design of the propping/tie-back system to the temporary secant pile wall.
- Proposed basement impact on the lateral groundwater movement is deemed negligible.
- Cumulative impact of the proposed basement on the groundwater regime in the wider area has been reviewed the risk of negative cumulative impact is deemed negligible.

Given all of the above listed, the proposed developments basement is deemed to be suitable for the site location, as relevant impacts have been assessed, mitigation measures implemented where required, and as such the likelihood of the negative impact of the proposed developments basement on the surrounding area is negligible.

6.2 Recommendations

The basement impact assessment has been carried out based on information currently available.

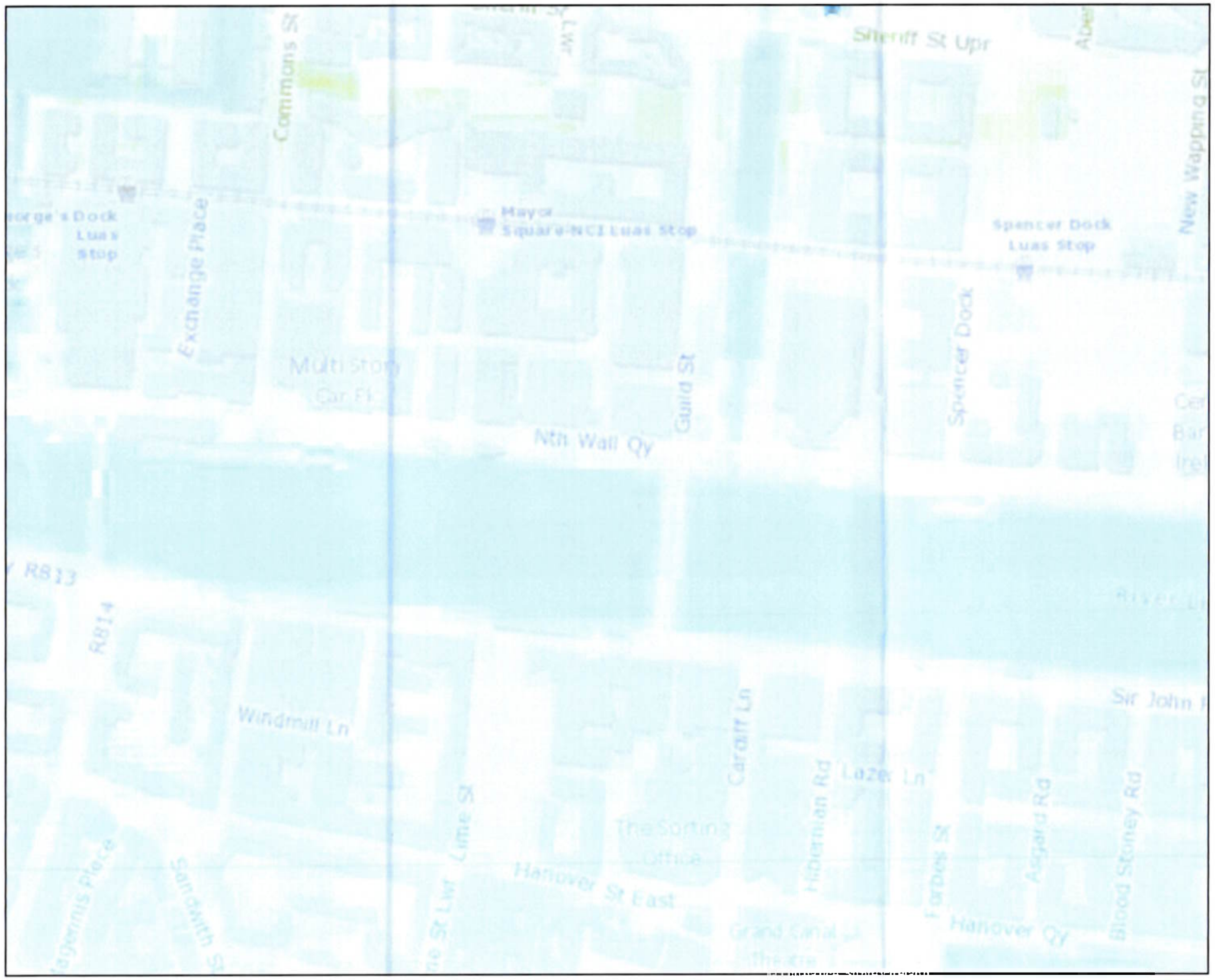
It is recommended the following investigation be carried out, and findings be included in a further revision of this report:

- Site-specific investigation to understand the ground stratigraphy, soil properties, and groundwater levels;
- Site survey on adjacent structures, and foundation levels to evaluate the conditions of these structures.

Appendix A

Geological Survey of Ireland Data Set and GDSDS Map

GSI - Bedrock



Scale: 1:5,000

Geological Survey Ireland

0 0.035 0.07 0.14 mi

0 0.05 0.1 0.2 km

Map Centre Coordinates (ITM) 717,048 734,454

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Legend

Structural Symbols 100K ITM 2018

- Dip of bedding or main foliation, old GSI data
- First foliation parallel to bedding
- Foliation trend, Thorr and Rosses Granites
- Horizontal Bedding
- Strike and dip of bedding, right way up
- Strike and dip of bedding, way up unknown
- Strike and dip of first foliation
- Strike and dip of overturned bedding
- Strike and dip of second foliation
- Strike and dip of third foliation
- Strike and plunge of first generation fold axis
- Strike and plunge of second generation fold axis
- Strike and plunge of third generation fold axis
- Strike of vertical bedding/foliation
- Strike of vertical first foliation
- <all other values>

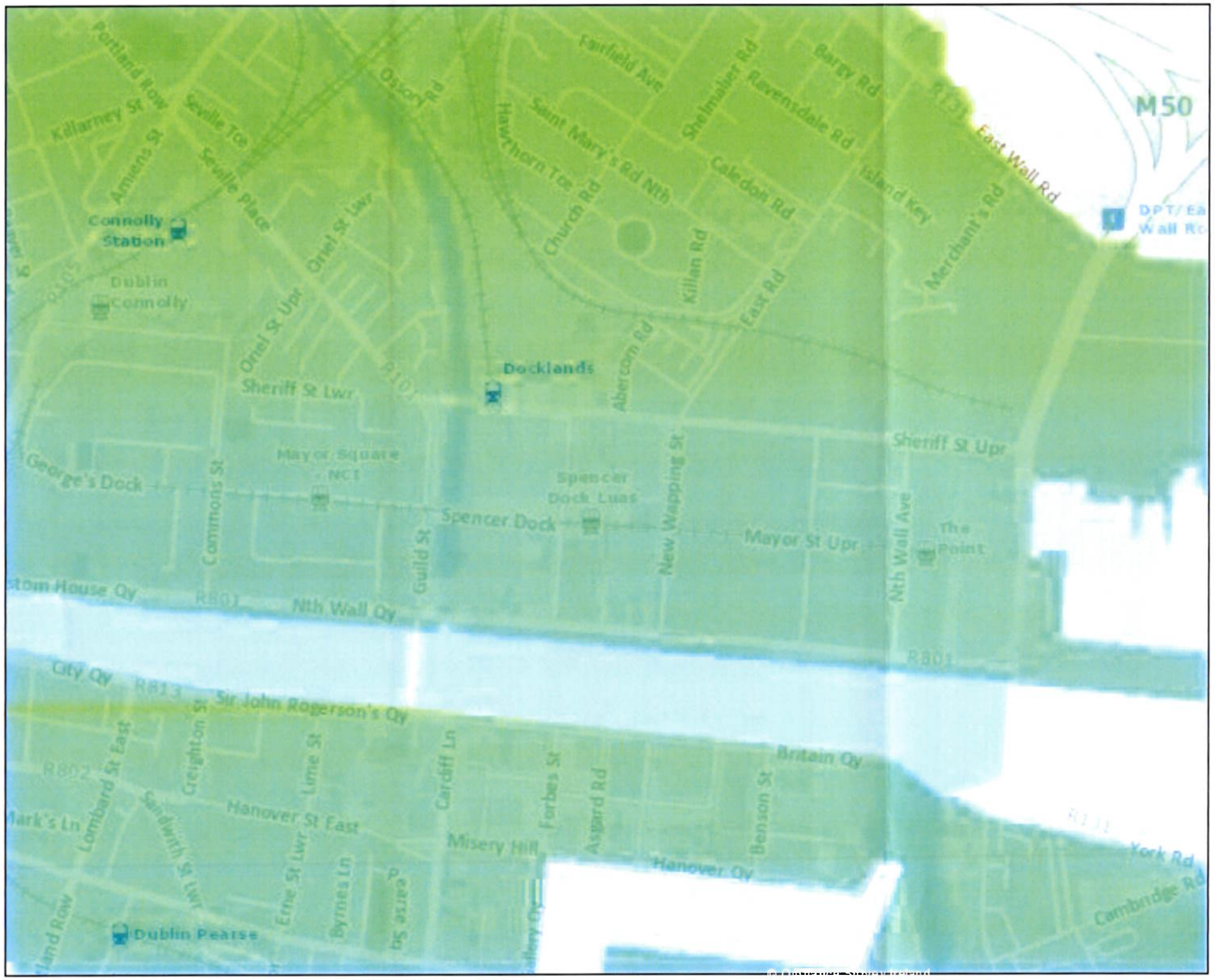
Bedrock Outcrops 100 ITM 2018

Bedrock Linework 100k ITM 2018

- Anticlinal Axis
- Antiformal axis
- Aquifer Boundary
- Area
- Coal seam
- Dyke
- Fault
- Ghost Line
- Goniatite marine band (R1-R4)
- Lithological boundary offshore
- Metadolerite sheet, mainly sills
- Paleogene/ Tertiary Dyke
- Synclinal Axis
- Synformal axis
- Tectonic Slide, barbs on hanging-wall
- Thin stratigraphical unit, diagrammatic
- Thrust, barbs on hanging-wall side
- Tuff band
- Unconformity, dots on younger side
- X-Section

Lucan Formation

GSI Groundwater Vulnerability



Legend

Groundwater Vulnerability

- Rock at or near Surface or Karst
- Extreme
- High
- Moderate
- Low
- Water

Scale: 1:10,000

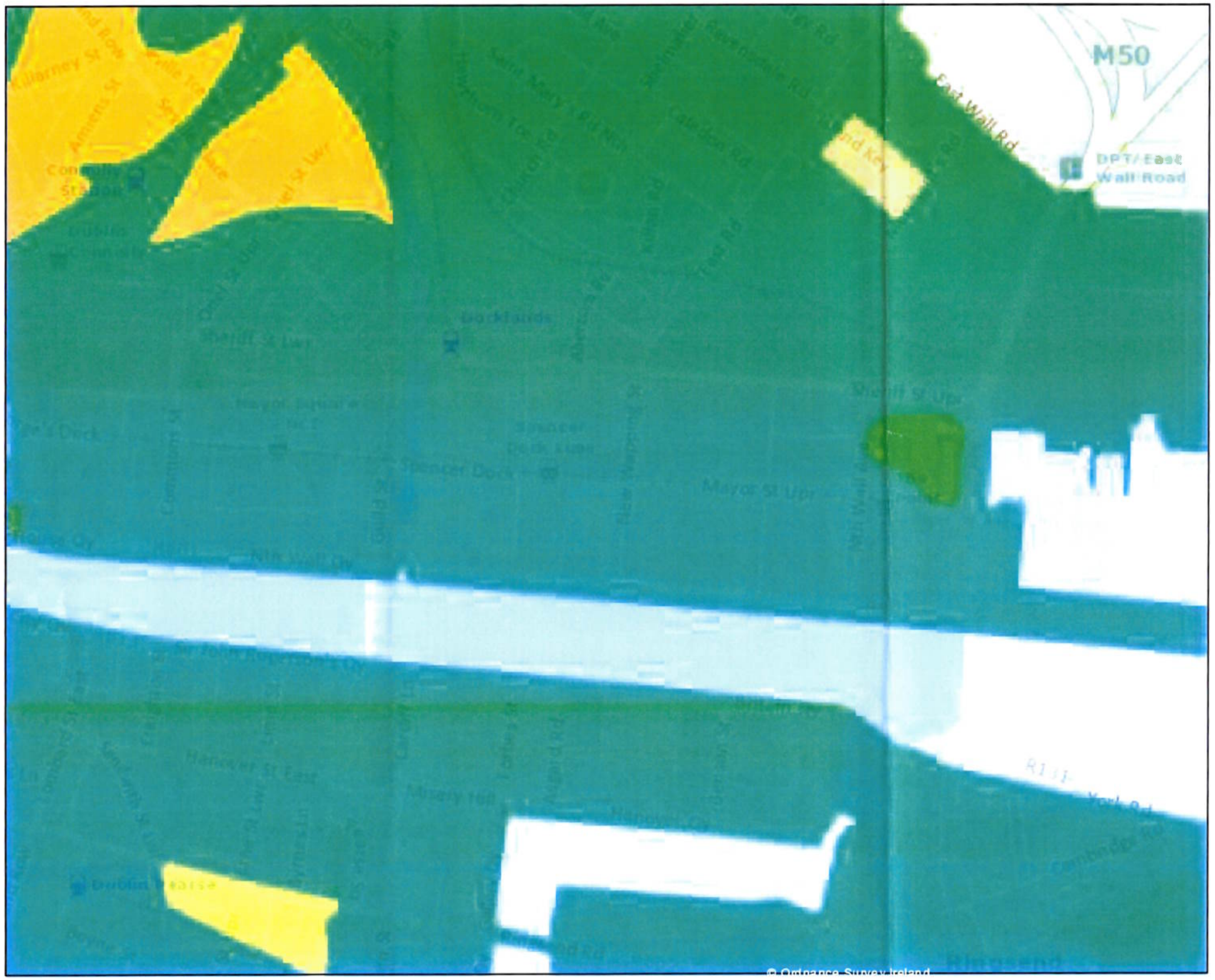
Geological Survey Ireland

Map Centre Coordinates (ITM) 717,402 734,680

15/08/2023, 17:31:12

Geological Survey
Suirbhéireacht Gheolaíochta
Ireland | Éireann

GSI Quaternary Sediments

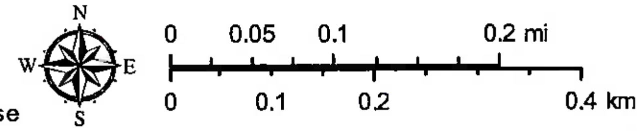


Legend

Urban	
A, Alluvium	
Ac, Alluvium (clayey)	
GLs, Gravels derived from Limestones	

Scale: 1:10,000

Geological Survey Ireland



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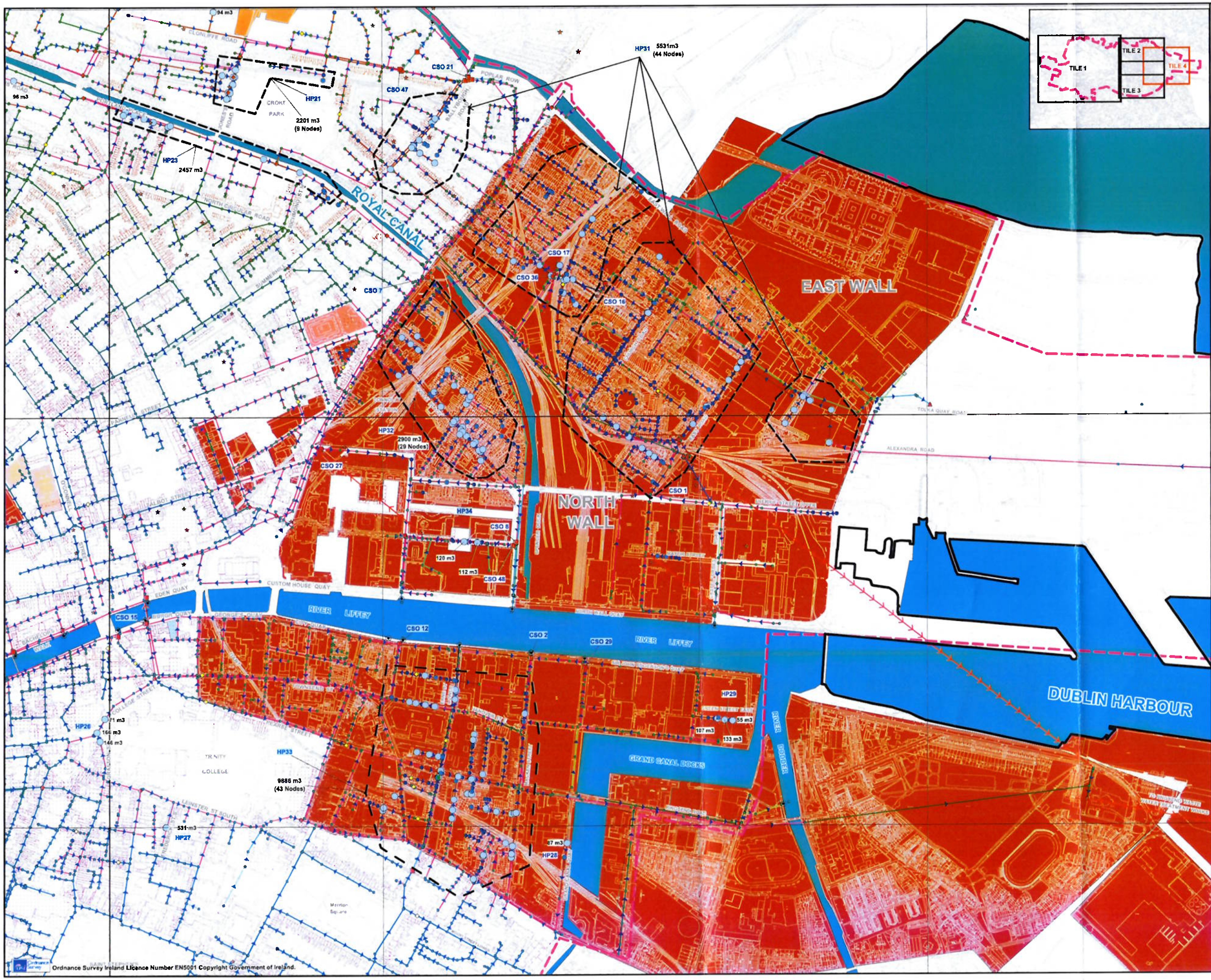


Legend

- Wastewater Treatment Works
- County Council Boundaries
- Catchment Boundary
- Rising Main (Coloured as sewer)
- Sewer not included in hydraulic model
- Direction of Flow (on sewer line)
- River/Watercourse
- Culverted River/Watercourse
- 1:1000 OS Grid Line Boundaries
- 1:5000 OS Grid Line Boundaries
- Combined Sewer Overflow
- Foul/Combined Pumping Station
- Foul/Combined Bifurcation
- Foul/Combined Apex Manhole
- Foul/Combined Flow Management Chamber
- Storm Water Overflow to Foul/Combined
- Storm Water Bifurcation
- Storm Water Apex Manhole

Flooding Performance Key

- Flooding greater than 50m3 Volume for 5yr Return Period Event (Volume m3)
- Flooding between 25m3 and 50m3 Volume for 5yr Return Period Event
- Flooding less than 25m3 Volume for 5yr Return Period Event
- Modelled Manhole does not flood for 5 year Return Period Event
- 75m3 1:5 year Foul/Combined flood volume
- 75m3 1:5 year Storm flood volume
- Historically Reported Flooding Incidents caused by Hydraulic Overloading
- Outfall

Foul/Combined Hydraulic Performance Key

- Foul/Combined Sewer floods for 30 year return period or less.
- Foul/Combined Sewer surcharges for 1 or 2 year return period events
- Foul/Combined Sewer does not surcharge for 1 or 2 year return period events and does not flood for a 30 year return period event or below. (eg 1,2,5,10,20)

Storm Hydraulic Performance Key

- Storm Sewer floods for 30 year return period or less.
- Storm Sewer surcharges for 1 or 2 year return period events
- Storm Sewer does not surcharge for 1 or 2 year return period events and does not flood for a 30 year return period event or below. (eg 1,2,5,10,20)

Area Covered by EDS/DCC Asset Survey

Important Hydraulic Considerations

- Location of Known Basements
- Zoned Residential Land
- Zoned Science/Technology Parks/Land
- Zoned Industrial Land
- Zoned Commercial Land
- Zoned Land for Mixed Development
- Recently Completed Developments

Catchment Deficiency Reference Key

- HP 1 Hydraulic Deficiency Reference No (Foul/Combined) (Not included for EDS/DCC Asset Survey area).
- CSO 1 CSO Deficiency Reference No. (Hydraulic or Environmental)
- OP 1 Operational Deficiency Reference No.

Notes

1. Results are based on assessment of sewer system under 1, 2, 5, 10, 20, 30, 50 and 100 year return period rainfall events.
2. For colour coding, flooding takes priority over surcharging.
3. Levels referenced in meters to Ordnance Survey Datum, which is Mean Sea Level at Malin Head, Co. Donegal (1970 Adjustment).

GREATER DUBLIN STRATEGIC DRAINAGE STUDY

CITY CENTRE/DOCKLANDS CATCHMENT

PHASE 3 - 2011 System Performance Assessment

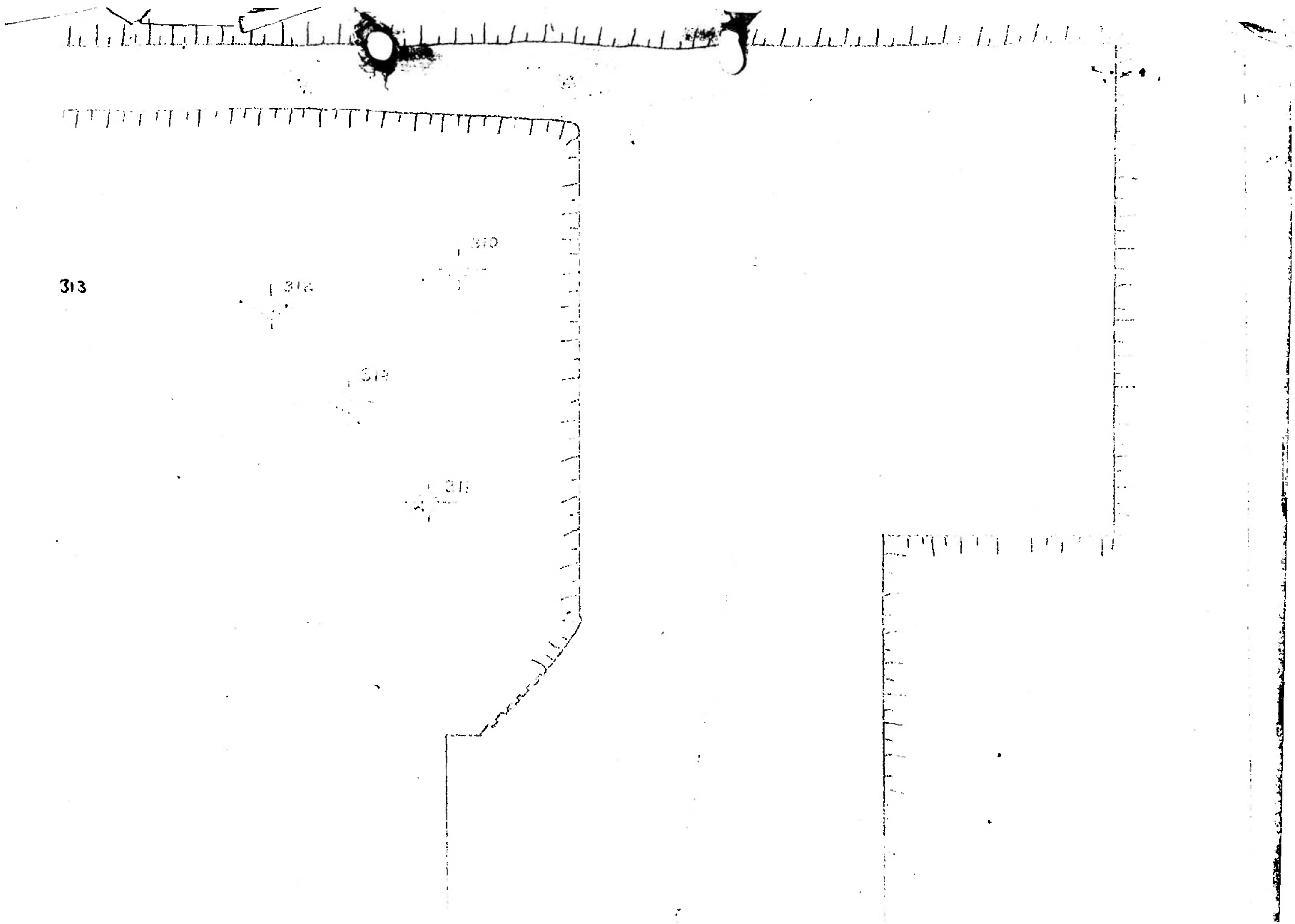
GDSDS/MAR3079/F001/P3-002_Tile4

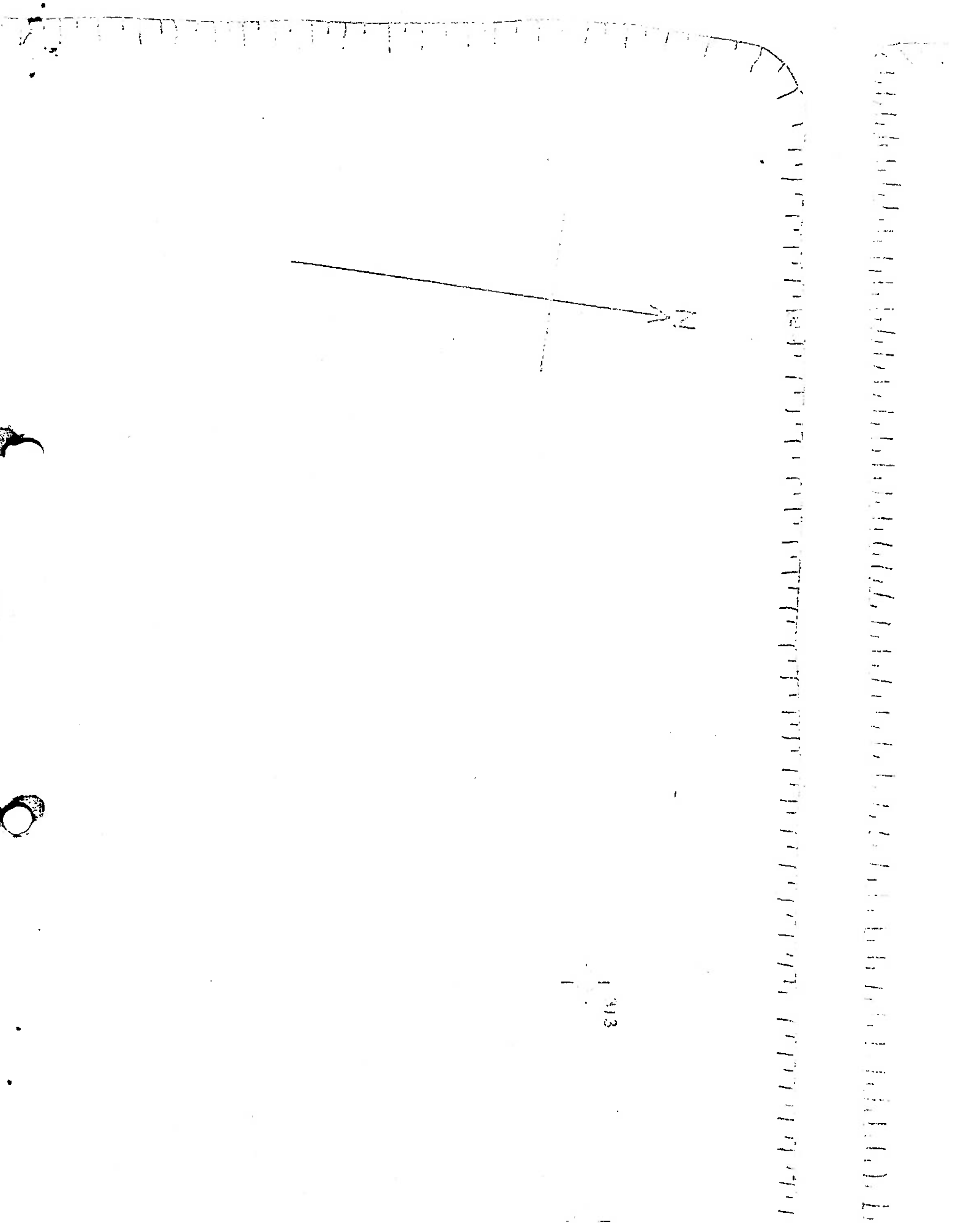
Dublin Drainage	JGA	MCB	
	MCB		
	N.T.S.		A
	7/5/04		

Appendix B

Site Investigation Reports

313

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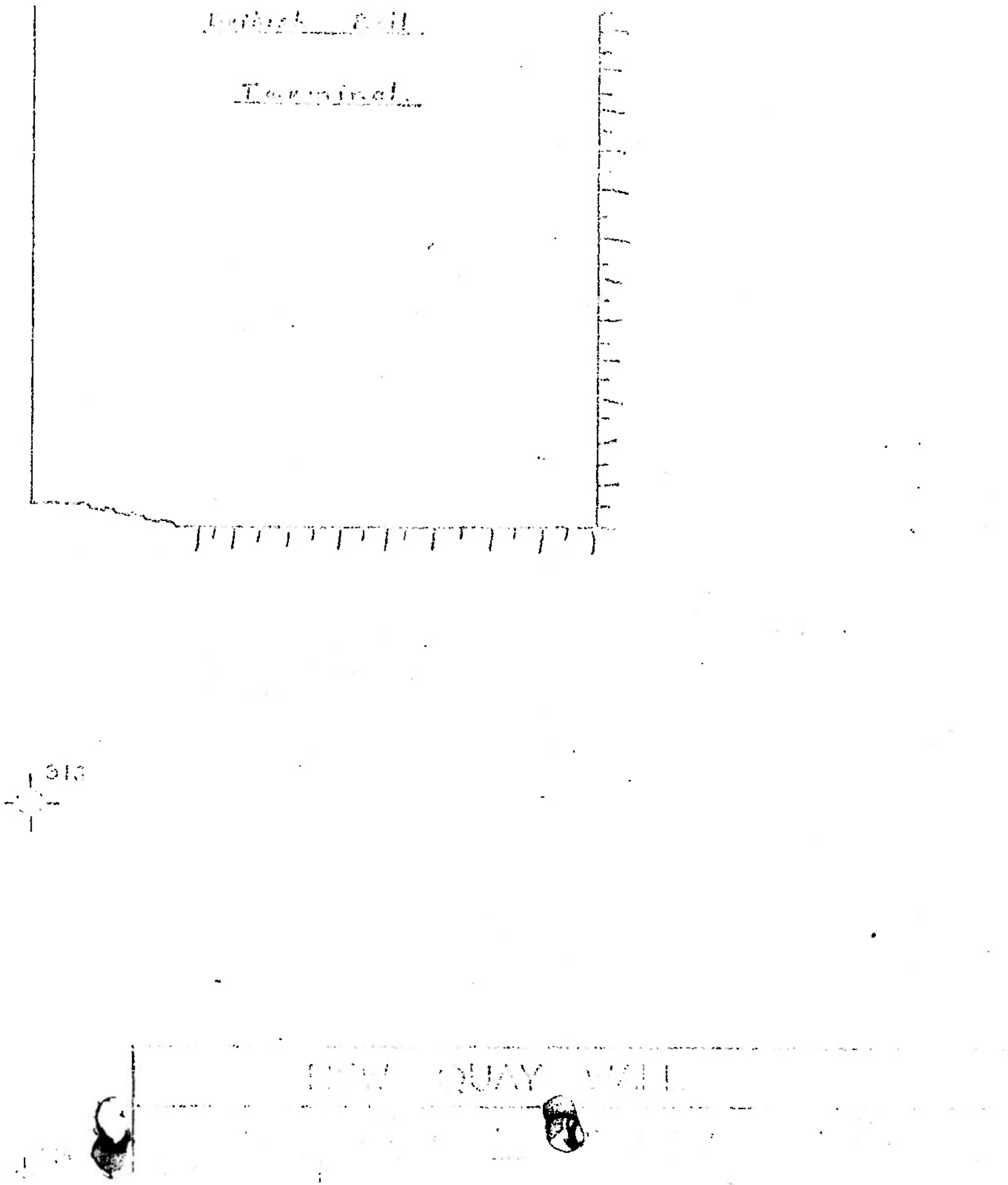
Terminal
313
QUAY

PD-0071.4.

THE CEMENTATION CO. (IRELAND) LTD.

SOIL INVESTIGATION

BORING RECORD

CONTRACT New Quay Wall — BOREHOLE No. 316

Report No. — Order No.

Bored for Dublin Port & Docks Board.

Site Address Dublin.

Boring Commenced 25.3.71. — Boring Completed 30.3.71.

Type of Boring Shell & Auger. — Diameter of Borehole [illegible] ins.

~~Ground-level~~ Bed -20.4 P.D. [illegible]

Water Struck (1) - (2) (3)

Standing Water Level -

Remarks All levels are related to bed level.

92640

25.5
20.4
45.9
-44.5

Description of Strata	Depth From	Depth To	Thickness	Samples Ref No.	Samples Type	Samples Depth
Soft grey sandy clayey silt	0			21818 [illegible] [illegible] [illegible]	J U J U	2'0" 3'0"-4'0" 6'0" [illegible]
	4.4	14'6"	14'6"			
Med. to coarse clayey gravel.	~~14'6"~~			21024 21025	J D	14'0" 15'0"
	5.0	16'6"	2'0"			
Fine to coarse sandy gravel with shell fragments & cobbles.	~~16'6"~~			21026 21027	D D	16'6" 20'0"
	7.7	25'0"	9'0"			
Firm black silty clay.	~~25'6"~~			[illegible] [illegible] 21830 [illegible]	J U J U	25'6" 26'0"-[illegible] 27'6" [illegible]
	12.1	40'0"	14'6"			
Black silty stony clay with cobbles	~~40'0"~~			[illegible] 21833 [illegible] [illegible]	J U J J	32'6" 35'0"-36'0" 37'6" 40'0"
	12.8	42'0"	2'0"			
Final level Black silty stony clay with cobbles.	~~42'0"~~			21836	D	41'0"

Standard Penetration Tests.

At 16'0" 59 blows to 12"
" 21'0" 60 " " 12"
" 42'6" 120 " " 12"

THE CEMENTATION CO. (IRELAND) LTD.

SOIL INVESTIGATION

BORING RECORD

~~626~~

CONTRACT [illegible] Quay Wall.

Report No. BOREHOLE No. 310 1310~1316

Bored for Dublin Port & Docks Board. Order No.

Site Address Dublin.

Boring Commenced 1.2.71. Boring Completed 5.2.71.

Type of Boring Shell & Auger.

Ground level − 0.8 P.D. O.D. 1.63 ·8 Diameter of Borehole 6 ins.

Water Struck (1) − (2) −.43 (3) 31 5 1.63 ·78

Standing Water Level −

Remarks All levels are related to bed level.

92633

Description of Strata	Depth From	Depth To	Thickness	Samples Ref No.	Samples Type	Samples Depth
[illegible] grey organic silt with an occasional stone.	0	3'0"	3'0"	15001	J	2'0"
Grey sandy silt with stones	0·9 ~~3'0"~~	6'0"	3'0"	15002	J	4'0"
[illegible] compact med. to coarse gravel with fine silty sand.	1·8 ~~6'0"~~	10'0"	4'0"	15003 15004	J D	6'0" 8'0"
Firmly compact fine to coarse sand.	3·0 ~~10'0"~~	13'6"	3'6"	15005 15006	J J	10'0" 12'6"
Brown silty stony clay with cobbles.	4·1 ~~13'6"~~	19'0"	5'6"	[illegible]	J U J	13'0" 14'0"–15'6" 16'0"
[illegible] black silty stony clay with cobbles.	5·7 ~~19'0"~~	31'0"	12'0"	[illegible]	[illegible]	19'0"–20'0" 21'6" 24'0"–25'6" 26'0" 29'0"–29'6" 31'0"
Rock or boulder (chiselling 6 hrs.)	9·4 ~~31'0"~~	31'6"	6"	[illegible]	J	32'0"
Final level. Rock or boulder.	9·6 ~~31'6"~~					

Standard Penetration Tests.

At 5'0" 20 blows to 12"
" 10'0"-25 " " 12"
~~" 13'6"-[illegible] " " 12"~~
" 27'0"-100 " " 12"

C—

THE CEMENTATION CO. (IRELAND) LTD.

SOIL INVESTIGATION

BORING RECORD

CONTRACT [illegible] Quay Wall. BOREHOLE No. [illegible]

Report No. Order No.

Bored for [illegible] Port & Docks Board.

Site Address Dublin.

Boring Commenced [illegible]/71. Boring Completed [illegible]/71

Type of Boring Shell & Auger. Diameter of Borehole [illegible] ins.

Ground level –0.6 [illegible]. [illegible] – 46.1 [illegible] 46.7

Water Struck (1) – (2) (3)

Standing Water Level –

Remarks Borehole was blowing back 3' between 20' & 28' [illegible].
All levels are related to [illegible].

92634

Description of Strata	Depth From	Depth To	Thickness	Samples Ref No.	Samples Type	Samples Depth
Soft grey organic silt.	0 1·8	6'0"	6'0"	19627 19628	J J	2'6" 5'0"
Medium gravel.	~~6'0"~~ 2·2	7'0"	1'0"	19618	D	6'0"
Medium to coarse sand with gravel.	~~7'0"~~ 3·0	10'0"	3'0"	19619	D	8'0"
Fairly compact fine to coarse sand with some stones	~~10'0"~~ 6·0	20'0"	10'0"	19621 19622	D D	10'0" 15'0"
Fairly compact fine to coarse sandy gravel with cobbles.	~~20'0"~~ 8·8	29'0"	9'0"	19623 1962[illegible]	D D	20'0" 25'0"
Very stiff brown silty stony clay with cobbles	~~29'0"~~ 12·4	41'0"	12'0"	[illegible] [illegible] [illegible]	J U D	2[illegible] 30'0"–32'0" 32'6"
Very stiff black silty stony clay with cobbles	~~41'0"~~ 1·3	45'0"	4'0"	[illegible]	[illegible]	[illegible] 37'0" 40'0"–41'0" 42'0"
Final level Rock or boulder (chiselling 2 hrs)	~~45'0"~~			[illegible]	[illegible]	45'6"

Standard Penetration Tests.

[illegible] 5'0" 35 blows to 12"
10'0" 41 " " 12"
[illegible] [illegible] " " [illegible]
[illegible] 39 " " 12"
[illegible] 40 " " 12"
[illegible] 75 " " [illegible]
[illegible] 65 " " [illegible] refusal.

THE CEMENTATION CO. (IRELAND) LTD.

SOIL INVESTIGATION

BORING RECORD

CONTRACT NEW QUAY WALL BOREHOLE No. 314

Report No. Order No.

Bored for Dublin Port & Docks Board

Site Address Dublin

Boring Commenced 23/2/71 Boring Completed 24/2/71

Type of Boring Shell & Auger Diameter of Borehole 6 ins.

Ground level -3.0 F.D. O.D.

Water Struck (1) – (2) (3)

Standing Water Level –

Remarks All levels are related to bed level.

92636

Description of Strata	Depth From	Depth To	Thickness	Samples Ref No.	Samples Type	Samples Depth
Grey organic silt with some stones.	0	3'0" 0·9	3'0"	21752	J	2'0"
Fairly compact coarse gravel with traces of silt.	~~3'0"~~	8'0" 2·4	5'0"	21753	D	3'0"
Fairly compact fine to coarse sand.	~~8'0"~~	14'0" 4·2	6'0"	21754 21755	J D	8'0" 13'0"
Loose fine to coarse sandy gravel with cobbles	~~14'0"~~	19'0" 5·7	5'0"	21756 21757	J D	14'0" 17'0"
Fairly coarse sandy gravel with cobbles.	~~19'0"~~	22'0" 6·6	3'0"	21758	D	19'0"
Brown silty stony clay	~~22'0"~~	24'0" 7·3	2'0"	21759 21760	J U	22'0" 22'6" -- 24'0"
Final level Brown silty stony clay.	~~24'0"~~					
STANDARD PENETRATION TESTS						
at 5'0" 25 blows to 12" at 10'0" 40 " to 12"						
at 15'0" 6 " to 12" at 20'6" 42 " to 12"						

THE CEMENTATION CO. (IRELAND) LTD.

SOIL INVESTIGATION

BORING RECORD

CONTRACT [illegible] QUAY WALL. — BOREHOLE No. 3?5 — Missing

Report No. — Order No.

Bored for Dublin Port and Docks

Site Address Dublin

Boring Commenced 2?/2/72 — Boring Completed 1/3/72

Type of Boring [illegible] and [illegible] — Diameter of Borehole ? ins.

Gr[illegible] level -20.3 P.D. O.D. -48 1.4

Water Struck (1) – (2) (3)

Standing Water Level –

Remarks All levels are related to bed level

92637

-20.3
28.0
-49.3
1.4
-48

Description of Strata	Depth From	Depth To	Thickness	Samples Ref No.	Samples Type	Samples Depth
[illegible] grey clayey silt with [illegible].	0 3.0	10'0"	10'0"			
Soft grey organic sandy silt	~~10'0"~~	14'0"	4'0"	21700	[illegible]	11'0" – 12'0"
[illegible] coarse fine to coarse sandy gravel with cobbles	4.2 ~~14'0"~~	[illegible]	15'0"	217[illegible]	D	25'0"
Firm black silty clay	8.8 ~~[illegible]'0"~~	[illegible]	13'0"	[illegible]	J	2?'0" ?'0" – 31'0" 3?'0"
Black clayey sandy silt 73, 4b	12.9 ~~[illegible]~~	43'0"	[illegible]0"	[illegible]	D U	3?'0" [illegible] – [illegible]
Very stiff black silty stony clay with cobbles.	13.1 ~~[illegible]~~	[illegible]	5'0"	[illegible]	J D D	?'6" 4?'0" 4?'0"
Rock or boulder (chiselling 3 hrs)	14.6 ~~48'0"~~	[illegible]	0"	[illegible]	[illegible]	4?' 0"
Final level Rock or boulder	14.7 ~~[illegible]~~					

at 5'0" 22 blows to 12"
at 1?'0" 17 blows to 12"
at 2?'0" 30 blows to 12"
at 2?'0" 74 blows to 12".

–48.

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SOIL INVESTIGATION

BORING RECORD

CONTRACT [illegible] quay wall. BOREHOLE No. 323

Report No. Order No.

Bored for Dublin Port & Docks Board.

Site Address Dublin.

Boring Commenced 18/2/71 Boring Completed 22/2/71.

Type of Boring Shell & Auger Diameter of Borehole 6 ins.

Ground level -0.3 P.D. O.D.

Water Struck (1) - (2) (3)

Standing Water Level -

Remarks Borehole was blowing back 3' between 15' & 24' B.G.L.
All levels are related to bed level.

92638

Description of Strata	Depth From	Depth To	Thickness	Samples Ref No.	Samples Type	Samples Depth
Soft grey organic silt	0	4'0"	4'0"	19644	J	2'0"
Fairly compact fine to coarse gravel with cobbles	~~4'0"~~ 1.2	9'0"	5'0"	19645 19646	J D	5'0" 9'0"
Fairly compact medium to coarse sand with some coarse gravel.	~~9'0"~~ 2.7	15'0"	6'0"	19647 19648	J D	10'0" 15'0"
Fairly compact fine to coarse sand & gravel.	~~15'0"~~ 4.5	21'0"	6'0"	19649 19650	J D	[illegible] 21'0"
Fairly compact fine to coarse sandy gravel with cobbles.	~~21'0"~~ 6.4	24'0"	3'0"	19651	D	24'0"
Final level. Fine to coarse sandy gravel with cobbles.	~~24'0"~~ 7.3					

Standard penetration Tests.

At 5'6" 21 blows to 12"
" 10'6" 44 " " 12"
~~" 15'6" 41 " " 12"~~
" 20'6" 31 " " 12"

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SOIL INVESTIGATION

BORING RECORD

CONTRACT New Quay Wall. BOREHOLE No. [illegible]315A

Report No. Order No. Māaj

Bored for Dublin Port & Docks Board.

Site Address Dublin

Boring Commenced 26.2.71. Boring Completed 1.3.71.

Type of Boring Shell & Auger Diameter of Borehole 8 ins.

Ground level -20 O.D.

Water Struck (1) - (2) (3)

Standing Water Level -

Remarks Borehole was abandoned at 25' due to casing having been lost.
All levels are related to bed level.

Description of Strata	Depth From	Depth To	Thickness	Samples No.	Samples Type	Samples Depth
Soft grey clayey silt with stones and thin seams of fine sand.	0	5'0"	5'0"	21761 21762	J J	2'0" 4'0"
Fine to coarse clayey gravel with occasional shell fragments	5'0"	10'0"	5'0"	21763	D	5'0"
Fairly compact fine to coarse sandy gravel with cobbles & traces of clay.	10'0"	25'0"	15'0"	21764 21765 21766 21767	D [illegible] [illegible] D	10'0" 15'0" 20'0" 25'0"
Final level. Sandy gravel with cobbles & traces of clay.	25'0"					
<u>Standard Penetration Tests.</u>						
At 10'6" 15 blows to 12" " 15'0" [illegible] " " 12" " 20'6" 42 " " 12"						

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SOIL INVESTIGATION

BORING RECORD

CONTRACT New Quay Wall

BOREHOLE No. 312

Report No.

Order No.

Bored for Dublin Port & Docks Board.

Site Address Dublin.

Boring Commenced 16.2.71.

Boring Completed 17.2.71.

Type of Boring Shell & Auger

Diameter of Borehole 8" ins.

Ground level -0.5 P.D. O.D.

Water Struck (1) – (2) (3)

Standing Water Level –

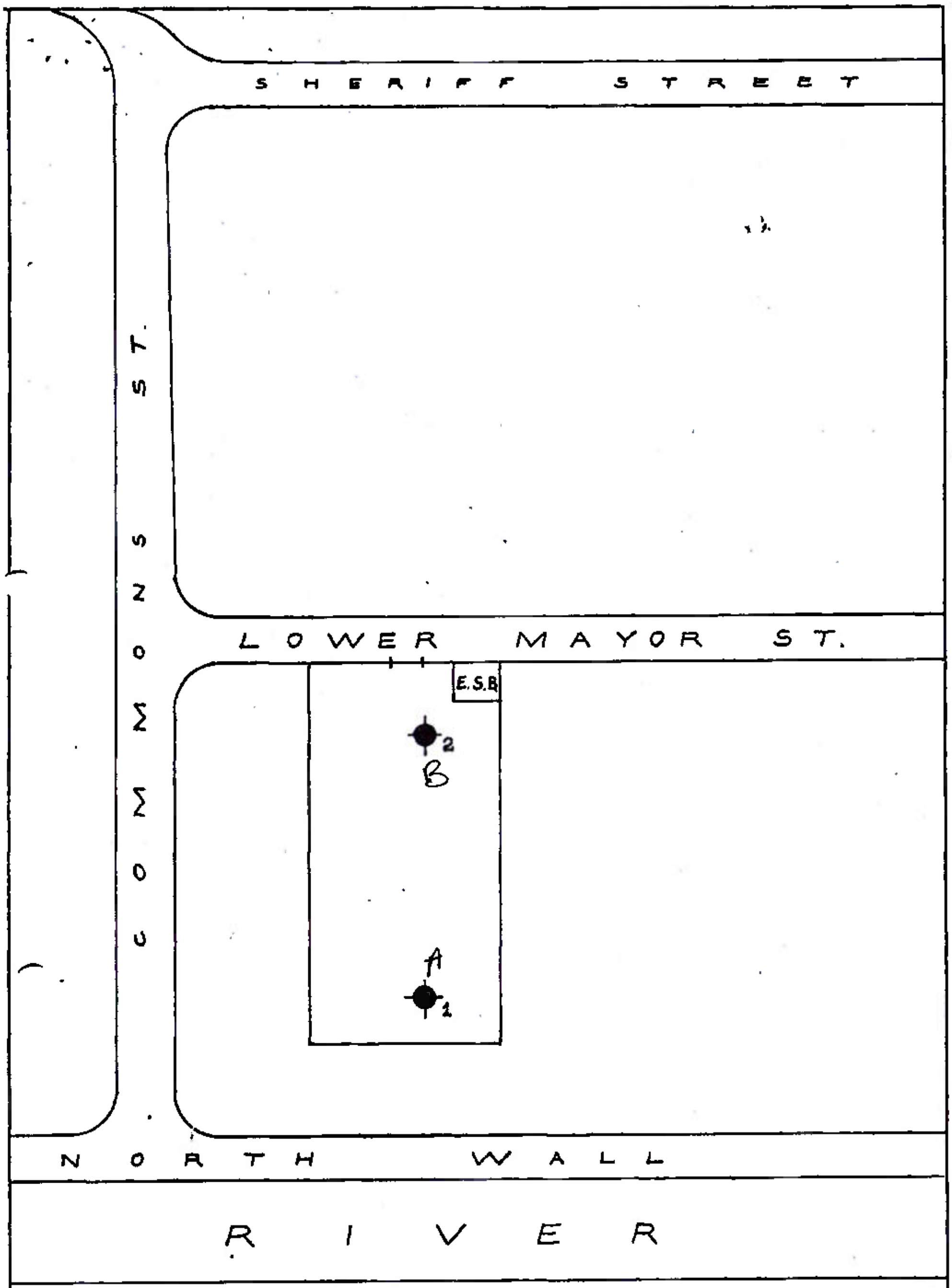
Remarks All levels are related to bed level.

92635

Description of Strata	Depth From	Depth To	Thickness	Samples Ref No.	Samples Type	Samples Depth
Soft grey organic silt with stones	0	4'0" 1.2	4'0"	19634	J	2'0"
Med. to coarse gravel	~~4'0"~~	7'0" 2.1	3'0"	19635	D	4'0"
Fairly compact med. to coarse sand with some stones.	~~7'0"~~	14'0" 4.2	7'0"	19636 19637	D J	7'0" 10'0"
Fairly compact coarse sand & gravel with some shell fragments	~~14'0"~~	17'0" 5.1	3'0"	19638	D	14'0"
Very stiff brown silty stony clay with cobbles	~~17'0"~~	23'0" 7.0	6'0"	19639 19640 19641	J U J	17'0" 20'0"-21'6" 22'0"
Final level. Brown silty stony clay with ~~cobbles~~	~~23'0"~~					

Standard Penetration Test.

At 5'0" 15 blows to 12"
" 10'0" 30 " " 12"
~~" 15'0" 33 " " 12"~~
" 23'0" 35 " " 12"



LOWER MAYOR STREET	
Site Plan & Position of Boreholes	
27/2/'69	Cementation
No Scale	9 Mount St., Crescent, Dublin.

Report # 563
Box: 27
Map No: 316 234

THE CEMENTATION CO. (IRELAND) LTD.

SOIL INVESTIGATION

BORING RECORD

IAV ID: 59647

CONTRACT Lr. Ma yor Street, BOREHOLE No. 2

Report No. Order No.

Bored for P.P. Freyer Esq.,

Site Address Lr. Mayor St. DUBLIN

Boring Commenced 31. 1. 69 Boring Completed 3. 2. 68

Type of Boring Shell and Auger Diameter of Borehole 8 ins.

Ground level 19' E O.D.

Water Struck (1) 13'0" B.G.L(2) (3)

~~Standing~~ Water Level 7'6" on completion 12.5

Remarks All levels are related to ground level.

Description of Strata	Depth From	Depth To	Thickness	Samples Ref No.	Samples Type	Samples Depth
20 Reinforced concrete 19.25	0	9"	9"			
19.25 Hardcore 15	9"	5'0"	4'3"			
15 Filling of clay gravel etc 4.5	5'0"	15'6"	10'6"	18108 18109	U J	6'6" - 8'0" 12'0"
4.5 Compact coarse gravel with cobbles 0.	15'6"	20'0"	4'6"	18110 18111	D D	17'0" 20'0"
0 Final level. Compact coarse gravel with cobbles	20'0"					
STANDARD PENETRATION TESTS						
At. 12'0" 19 blows to 12" ~~" 17'6" 46 " " "~~ " 20'6" 41 " " "						

Code: U — Undisturbed Sample D — Large Disturbed Sample J — Jar Sample W — Water Sample

Checked by: Date: Driller's Signature: Date:

This form to be returned to Head Office immediately the borehole is completed.

THE CEMENTATION CO. (IRELAND) LTD.

SOIL INVESTIGATION

BORING RECORD

Inv 10: 59646

CONTRACT Lower Mayor Street — BOREHOLE No. 1

Report No. — Order No.

Bored for P.P. Freyer Esq.,

Site Address Lr. Mayor St. Dublin.

Boring Commenced 30. 1. 69 — Boring Completed 30. 1. 69

Type of Boring Shell and Auger — Diameter of Borehole 8 ins.

Ground level 19E O.D. = 3 1 m Malin

Water Struck (1) 14'6" B.G.L. (2) (3)

~~Standing~~ Water Level on completion 12'0" B.G.L.

Remarks All levels are related to ground level.

Description of Strata	Depth From	Depth To	Thickness	Samples Ref No.	Samples Type	Samples Depth
Reinforced concrete 20 19·25	0	9"	9"			
Hardcore 19·25 17·5	9"	2'6"	1'9"			
Filling of clay, gravel etc. 17·5 5·5	2'6"	14'6"	12'0"	18104 18105	U J	5'0" - 6'6" 12'0"
Compact coarse sandy gravel with cobbles 5·5 0	14'6"	20'0"	5'6"	18106 18107	D D	16'0" 20'0"
Final level. Compact coarse sandy gravel with cobbles	20'0"					

STANDARD PENETRATION TESTS

At 11'0" - 5 blows to 12"

" 16'0" - 38 " " "

" 20'6" - 52 " " "

Report No. 563

Box No. 27

Investigation ID 59646, 59647 (2)

Code: U — Undisturbed Sample D — Large Disturbed Sample J — Jar Sample W — Water Sample

Checked by: Date: Driller's Signature: Date:

This form to be returned to Head Office immediately the borehole is completed.

Appendix C

Basement Sections

8. The Developer shall then engage directly with UE during the connection application process to ensure that the existing watermain can be retained in its current position and kept live during and post the construction stage.
9. The Developer is amenable to working with UE to provide any protection level or monitoring works during the construction period to ensure there is no distribution to the UE network during or post construction.

We trust the above and attached is in order, should you have any queries please do not hesitate to contact the undersigned.

Gary Lindsay

Gary Lindsay
BE CEng MIEI
Associate Director
for Cronin & Sutton Consulting

2. It is generally known that these records are prone to positional discrepancies and should always be verified on site for exact locations and depths etc.
3. From the above exact, the existing watermain network on Clarion Quay is shown to be located within/under the existing building.
4. From a visual inspection of Clarion Quay and discussions with the existing building operators the existing UE watermain is located outside the building line and within the existing public footpath and carriageway of Clarion Quay, see photos below:

5. We wish to confirm that based on available records and observations that no watermain traverses under the existing building or through its existing basement.
6. From the information above, we have plotted the location of this watermain along Clarion Quay, please see Drawing 1NWQ-CSC-ZZ-00-DR-C-0108. The new building line of the proposed development shall not encroach further onto Clarion Quay from the existing building line currently on-site, therefore there shall be no change from the current scenario along Clarion Quay.
7. We note there is still a level of estimation for the exact location of the watermain along Clarion Quay. Upon a favourable grant of permission, the Developer shall carry out a number of slit trenches and/or a GPR survey along the footpath and carriageway of Clarion Quay to clarify the position of the existing watermain.

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John Spain Associates
39 Fitzwilliam Place
Dublin 2
D025 ND61

Job Ref: R118
A – GL/CT
Date: 7-May-24

RE: **3rd Party Observation by Uisce Eireann (Irish Water) on Existing Infrastructure to Clarion Quay adjacent to the Development at 1 North Wall Quay Planning Reference: 3274/24**

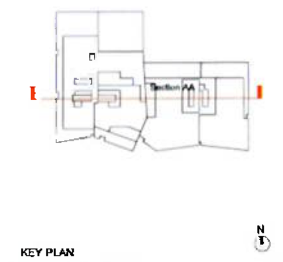
Dear Colleague,

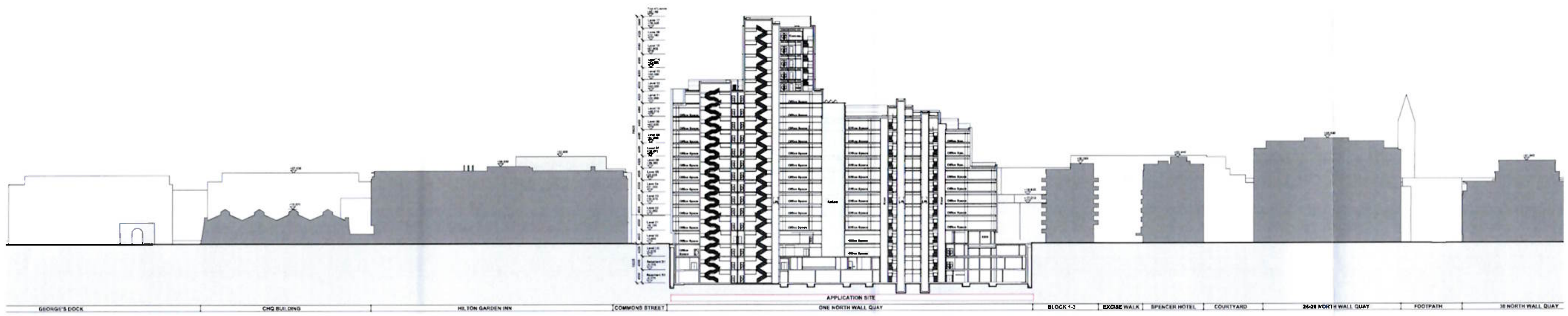
Further to the recent correspondence from Uisce Eireann formally known as Irish Water, in regards to the above referenced development and their observation in regards to their existing infrastructure on Clarion Quay we outline our comments below:

1. The Uisce Eireann (UE) watermain records indicated below are for the immediate area of the development site.

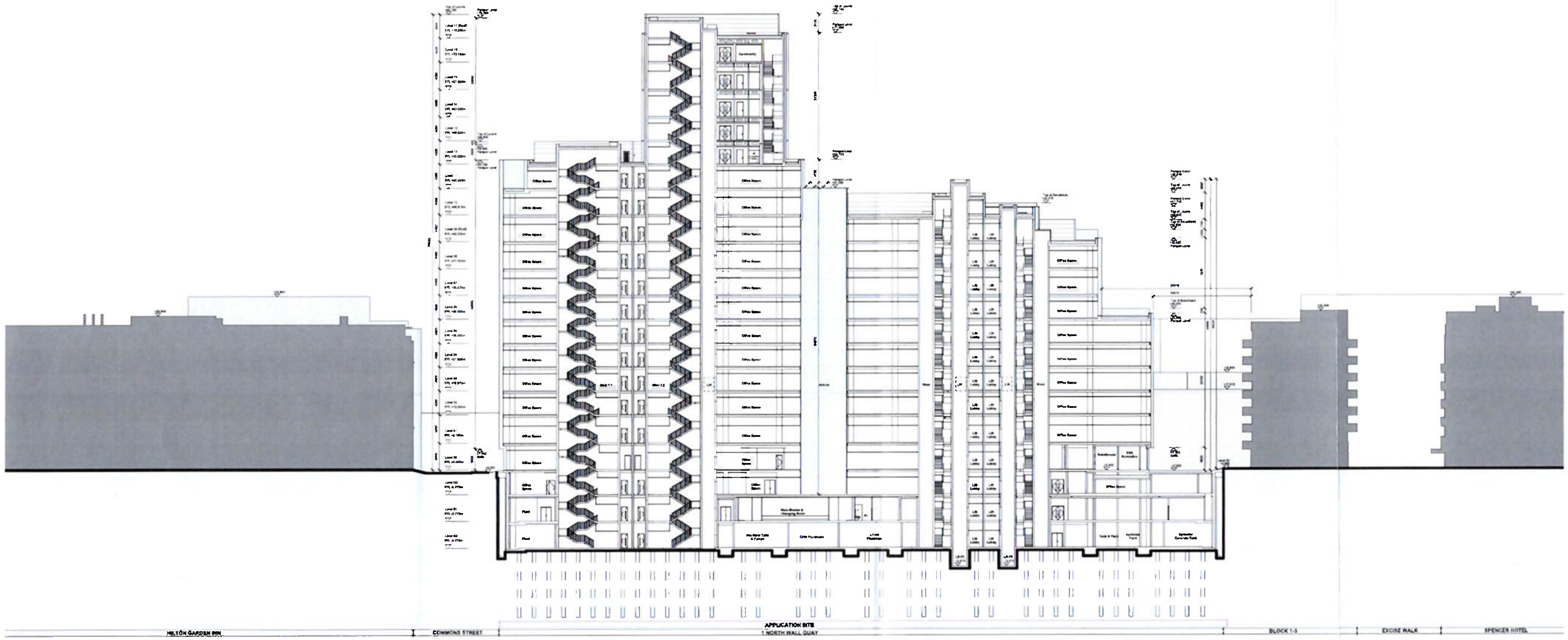
Appendix C

ALL DIMENSIONS TO BE CHECKED ON SITE
NO DIMENSIONS TO BE SCALED FROM THIS DRAWING





Contextual Section AA - Proposed
1 : 500



Section AA - Proposed
1 : 250

P02		1st Party Appeal Submission		
P01		Issued for Planning		
REV	DATE	DESCRIPTION	CKH	DRN

STATUS CODE DESCRIPTION
1st PARTY APPEAL SUBMISSION

CLIENT
NWQ Devco Ltd

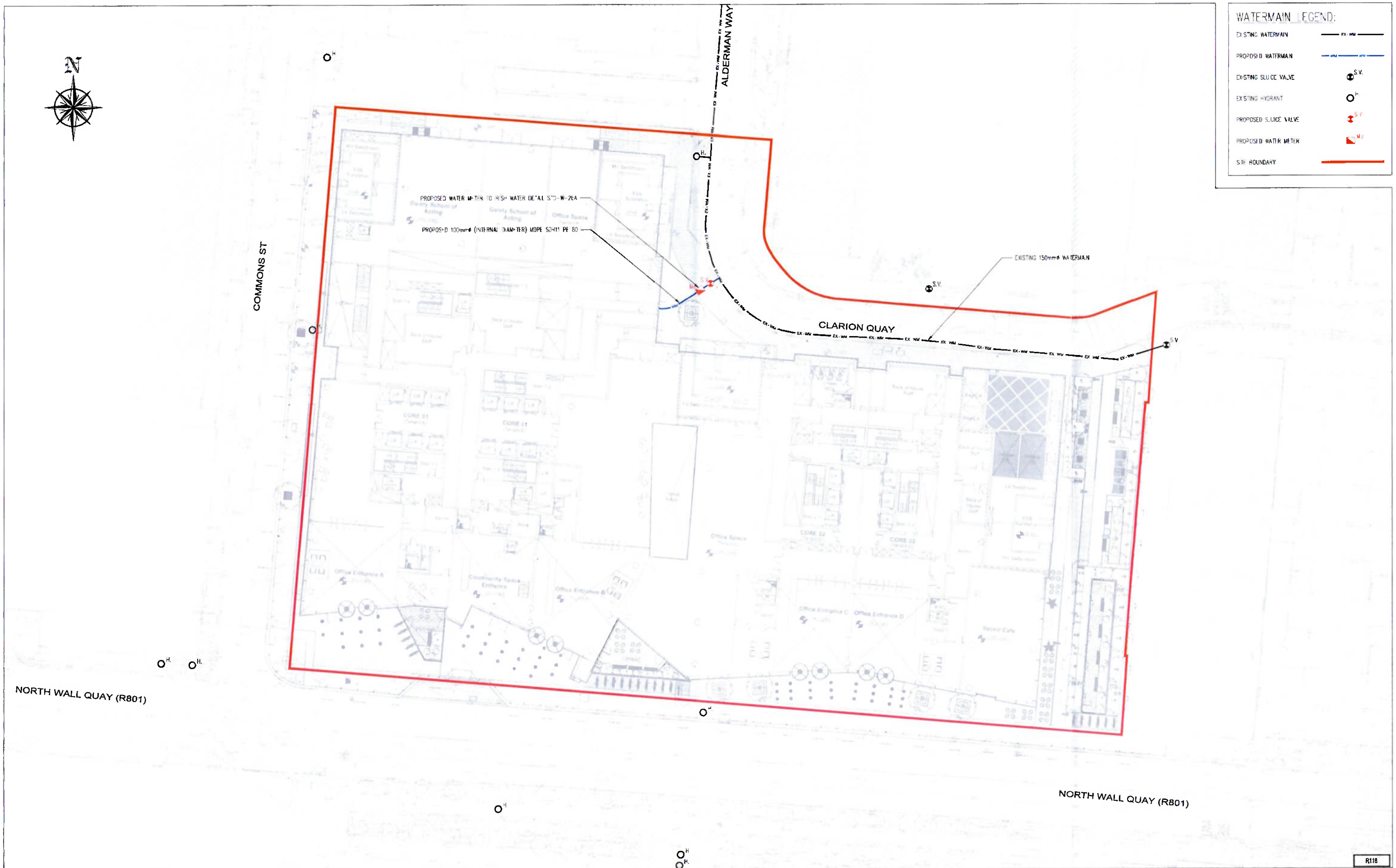
PROJECT
1 North Wall Quay, North Dock, Dublin

DRAWING
Section AA
GA & Contextual
As Proposed

SCALE@ A1
1 : 250 / 500

STATUS CODE: A1
DRAWING NUMBER: NWQ-HJL-AX-ZZ-DR-A-0300
REVISION: P32

Henry J Lyons



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NOTES

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2. This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications
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Rev. No	Date	REVISION NOTE	Drn. By	Chkd By
P0	21.02.2024	ISSUED FOR PLANNING	JS	SS

Client	NWQ Devco Limited
Project	One North Wall Quay
Title	Proposed Watermain Layout
Dwg No	1NWQ-CSC-ZZ-00-DR-C-0108

Date	Drn by	Chkd by	Apvd by	Scale	Revision
NOV 2023	JS	GF	DB	1:250@A1	P0

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