Our Case Number: ABP-314724-22

Planning Authority Reference Number:

Your Reference: OPW 1 Georges Quay and others

An Bord Pleanála

Downey Planning
29 Merrion Square
Dublin 2
D02 RW64

Date: 24 January 2023

Re: Railway (Metrolink - Estuary to Charlemont via Dublin Airport) Order [2022]
Metrolink. Estuary through Swords, Dublin Airport, Ballymun, Glasnevin and City Centre to Charlemont, Co. Dublin

Dear Sir / Madam,

An Bord Pleanála has received your recent submission and oral hearing request in relation to the above-mentioned proposed Railway Order and will take it into consideration in its determination of the matter.

The Board will revert to you in due course with regard to the matter.

The Board has absolute discretion to hold an oral hearing in respect of any application before it, in accordance with section 218 of the Planning and Development Act 2000, as amended. Accordingly, the Board will inform you on this matter in due course.

Please be advised that copies of all submissions/observations received in relation to the application will be made available for public inspection at the offices of the relevant County Council(s) and at the offices of An Bord Pleanála when they have been processed by the Board.

More detailed information in relation to strategic infrastructure development can be viewed on the Board's website: www.pleanala.ie.

If you have any queries in the meantime, please contact the undersigned. Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

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64 Sráid Maoilbhríde
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64 Marlborough Street
Dublin 1
D01 V902

Yours faithfully,

pp EM

Niamh Thornton
Executive Officer
Direct Line: 01-8737247

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Dublin 1
D01 V902

OPW Oifig na nOibreacha Poiblí Office of Public Works

16th January 2023

An Bord Pleanála
64 Marlborough Street
Dublin 1
D01 V902

Re: Railway (Metrolink–Estuary to Charlemont via Dublin Airport) Order 2022 – Submissions by the Commissioners of Public Works in Ireland

To whom it may concern,

The Commissioners of Public Works in Ireland (hereinafter, The Office of Public Works (OPW)), wish to express their overall support for the Metrolink project and welcome the economic, social and tourism benefits of this major transport infrastructure to the city of Dublin.

The OPW is presenting individual submissions for consideration by An Bord Pleanála, as part of the Railway (Metrolink–Estuary to Charlemont via Dublin Airport) Order 2022 process. This cover letter forms part of the overall submission(s) and introduces observations relating to properties owned, controlled, or for which the OPW has a responsibility, along the proposed railway route.

Any issues raised in these submissions stem from the statutory role and responsibility of the Commissioners of Public Works to ensure the protection and preservation of critical State properties, historic/national monuments and the continuity of State business throughout the project.

The OPW wishes to acknowledge the positive engagement between officials from TII and the OPW over the past number of years. However, we note that there are a number of outstanding matters relating to the construction and operation phases of Metrolink which they would wish to have addressed as part of the confirmation process. While specific issues have been identified in the submissions prepared by Downey Planning,

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who have been retained as consultants advising the OPW, this covering letter sets out some, more general comments for consideration by An Bord Pleanála.

It should be noted that the submissions now made are based on the information provided at this consultation phase. Critical aspects of this project relating to physical construction methodologies have not yet been determined and, therefore, a full analysis of any impacts on properties is not possible. In that regard, submissions are only possible and limited to the information that has been made available at this juncture.

Legal Requirements

As noted above, the OPW is supportive of the Metrolink project. However, this is subject to all statutory requirements being complied with, in light of the Commissioners' duties under the Commissioners of Public Works (Functions and Powers) Act 1996 and other Acts.

Apart from that broad statutory provision, there are two specific statutory provisions to draw to the Bord's attention.

First, s.15 of the St Stephen's Green (Dublin) Act 1877 (the "**1877 Act**") provides that the Commissioners of Public Works shall maintain St. Stephen's Green as an ornamental park or pleasure ground for the recreation or enjoyment of the public and may erect any lodges or ornamental buildings or indeed provide ornamental fountains or waterworks.

This is subject to s.116 of the Dublin Transport Act 2008 (the "**2008 Act**") which dis-applies s.15 of the 1877 Act

A. to anything done for the purposes of surveys and inspections under s.36 of the Transport (Railway Infrastructure) Act 2001 (the "**2001 Act**"),
B. to any railway works (within the meaning of s.2 of the 2001 Act) carried out on or under Saint Stephen's Green pursuant to a railway order under s.43 of the 2001 Act, or
C. to restrict the operation of a railway, light railway or metro (within the meaning of s.2 of the 2001 Act) on or under Saint Stephen's Green.

While the OPW is of the view that this section is broad enough to capture the elements of construction and operation of the Metrolink project, insofar as it potentially affects or impacts on St. Stephen's Green, it only dis-applies s.15 of the 1877 Act in those particular circumstances and does not repeal same. Therefore, the confirmation of the Railway Order should ensure that the proposed Metrolink project properly falls into one or more of the criteria in s.116 of the 2008 Act.

Secondly, the Commissioners of Public Works are of the view that the requirements in the National Monuments Act 1930, as amended, would have to be complied with, irrespective of the confirmation of the Railway Order and that a Ministerial consent or consents will have to be obtained by TII where there is potential demolition of a national monument.

There is a further consideration that s.14D of the 1930 Act was inserted by the European Union (Environmental Impact Assessment of Proposed Demolition of National Monuments) Regulations 2012 (S.I. No.249/2012) (the "**2012 Regulations**") to give effect to the Environmental Impact Assessment ("**EIA**") Directive. The 2012 Regulations require the carrying out of an EIA where a decision to grant consent under s.14(2)(a) of the 1930 Act, or to issue directions under s.14A(4)(d) of that Act, would result in the demolition of a national monument. Thus, where the Minister is considering whether or not to grant a consent or issue directions, as the case may be, and it appears to the Minister that the granting of the consent or the issuing of the directions, as the case may be, would result in the demolition of a national monument but the applicant has not submitted an environmental impact statement ("**EIS**") (now an environmental impact assessment report ("**EIAR**")) to the Minister, the Minister is obliged to call for an EIAR to be submitted.

In particular, given the scale of loss of foliage at Saint Stephen's Green Park (which is a designated national monument), the proposed project could be deemed to amount to the destruction of part of a national monument and therefore a Ministerial consent will be required under the National Monuments legislation. While this will be required in any event, it is recommended that an express condition be attached to the railway order and have proposed some suggested wording later in this submission.

Staged Assessments

In the Railway Order application, the EIAR refers to Stage 3 assessments for certain properties of historical significance, cultural or monument status or protected structures. This will be a critical factor for the OPW and a requirement for detailed consultation in relation to the design development phase of the project. It is not possible at this stage to assess or fully comprehend the extent of the impacts on sensitive and historic properties. Therefore, it is imperative that the OPW is afforded an opportunity to input into this critical stage in the process, to protect such significant structures and ensure the success of the project overall for the State. Accordingly, it is recommended that the Bord exercises its power under s.43 of the Transport (Railway Infrastructure Act 2001) and attach a condition to the confirmation of the railway order which requires TII to consult with, (and provide and agree method statements), the OPW in advance of works being carried out. The proposed wording is set out later in this submission.

Appendix B: relevant correspondence between OPW and TII

- **"Re: Metrolink - Emerging Preferred Route"** – Suzanne Angley (Metrolink Stakeholder Communications Coordinator) to Chairman's Office, 21st March 2018 (by registered post)
- **"Re: Metrolink"** - Aidan Foley (Project Director, Metrolink, Transport Infrastructure Ireland) to Caoimhe Allman (Assistant Principal Officer, Property Management – Owned Properties), 28th May 2018
- "**Re: Observations of the Commissioners of Public Works in Ireland regarding the proposed MetroLink route (Emerging Preferred Route)**" - Caoimhe Allman (Assistant Principal, Property Management, Office of Public Works) to Aidan Foley (Project Director, MetroLink, Transport Infrastructure Ireland), 9th July 2018
- **"Re: Metrolink (Emerging Preferred Route)"** - Aidan Foley (Project Director, Metrolink, Transport Infrastructure Ireland) to Caoimhe Allman (Assistant Principal Officer, Property Management – Owned Properties), 8th August 2018
- "**Re: Observations of the Commissioners of Public Works regarding the proposed MetroLink route**" – Catherine Eddery (Principal Officer, Property Management – Owned Properties) to Aidan Foley (Project Director, Metrolink, Transport Infrastructure Ireland), 20th December 2018
- **"FW: Metrolink - OPW high level obs from Paul Tighe"** – Catherine Eddery (Principal Officer, Property Management – Owned Properties) to Aidan Foley (Project Director, Metrolink, Transport Infrastructure Ireland), 17th January 2019
- "**Re: Observations of the Commissioners of Public Works regarding the proposed MetroLink station at St. Stephen's Green"** - Catherine Eddery (Principal Officer, Property Management – Owned Properties) to Aidan Foley (Project Director, Metrolink, Transport Infrastructure Ireland), 5th April 2019
- **"Re: Proposed Metrolink Station at St. Stephen's Green" -** Aidan Foley (Project Director, Metrolink, Transport Infrastructure Ireland) to Catherine Eddery (Principal Officer, Property Management – Owned Properties), 9th August 2019
- **"St. Stephen's Green"** – John McMahon (Commissioner, OPW) to Michael Nolan (CEO, Transport Infrastructure Ireland), 10th June 2020
- **"Re: Metrolink Proposals for St. Stephen's Green"** – John McMahon (Commissioner, OPW to Michael Nolan (CEO, Transport Infrastructure Ireland), 20th June 2020

Appendix C: relevant meetings between OPW and TII

- **"OPW Presentation"** – 3rd May 2018
- **"TII presentation"** – 14th December 2018 (attended by Chairman)
- **"TII presentation in response to OPW concerns"** – 18th January 2019
- **"OPW St Stephen's Green Meeting"** – 22nd May 2019
- **"St. Stephen's Green"** – 12th September 2019
- **"TII MetroLink project update to OPW"** – 5th June 2020
- **"Project Update to: Office of Public Works (OPW)"** – 31st May 2021
- **"Project Update to: Office of Public Works (OPW)"** – 15th September 2022

Appendix D – Ground Movement Assessment

The following sets out the requirements for assessing the impact of ground movement resulting from underground construction, such as tunnelling, embedded wall installation, and excavation for station boxes, together with requirements for monitoring and the close out.

The Designer shall investigate the potential for ground movement associated with the design and possible construction:

a) to assess risk of building damage by identifying those zones where the implementation of the design is likely to cause ground movements which will result in risk of Damage Category 2 'Slight' being exceeded (see Table 1) or where damage exceeds the agreed tolerable limits. To assess the risks of such degrees of damage occurring and either investigate alternative designs or advise interfacing Designers that alternatives need to be considered and modify the design as necessary. To undertake an assessment of the potential consequences where there is a significant likelihood that Risk of Damage Category 2 'Slight' will be exceeded or where damage exceeds the agreed tolerable limits and identify specifically what the risks are. Design protective measures where necessary to mitigate against the risk of damage exceeding Risk of Damage Category 2 or where damage exceeds the agreed tolerable limits;
b) to demonstrate that the environmental effects of excavation induced ground movements have been considered and taken account of in the design;
c) to assess the risk of damage to utilities and to design mitigation measures in agreement with the utility owner;
d) to assess the effects of excavation to existing above-ground and underground infrastructure and to design suitable mitigation measures;
e) to indicate where property may require demolition or structural modification;
f) to enable the preparation of contingency plans to deal with residual risks.

Stage 1 – Scoping

Schedules and plans shall be prepared to identify all assets assessed to experience ground movement exceeding 1mm using conservative parameters.

Stage 2 – Initial Assessment

The designer shall carry out initial assessment calculations using simple empirically calibrated methods and moderately conservative parameters to classify the risk of damage to assets. For masonry building structures the risk should be classified in accordance with Table 1. For non-masonry buildings and infrastructure the level of risk should be determined by ensuring that deformations do not exceed tolerable values determined in consultation with the asset owner.

A schedule and plans of predicted damage shall be prepared, along with outline trigger levels.

The assessment calculations shall be based on record drawings, where available and an inspection for assessment. Assets estimated to be a risk of damage greater than Category 2 'Slight' or where damage exceeds the agreed tolerable limits require further detailed assessment at Stage 3.

Table 1 - Building damage classification

Damage Category	Description of degree of damage+	Description of typical and likely forms of repair for typical masonry buildings	Approx. crack width* (mm)	Max. tensile strain %
0	Negligible	Hairline cracks		<0.05
1	Very slight	Fine cracks easily treated during normal redecoration. Perhaps isolated slight fracture in building. Cracks in exterior visible upon close inspection	0.1 to 1.0	0.05 to 0.075
2	Slight	Cracks easily filled. Redecoration probably required. Several slight fractures inside building. Exterior cracks visible; some repainting may be required for weather tightness. Doors and windows may stick slightly	1 to 5	0.075 to 0.15
3	Moderate	Cracks may require cutting out and patching. Recurrent cracks can be masked by suitable linings. Tuck pointing and possible replacement of a small amount of exterior brickwork may be required. Doors and windows sticking. Utility services may be interrupted. Weather tightness often impaired	5 to 15 or a number of cracks greater than 3	0.15 to 0.3
4	Severe	Extensive repair involving removal and	15 to 25 but also	> 0.3

		replacement of walls especially over door and windows required. Window and door frames distorted. Floor slopes noticeably. Walls lean or bulge noticeably. Some loss of bearing in beams. Utility services disrupted	depends on number of cracks	
5	Very severe	Major repair required involving partial or complete reconstruction. Beams lose bearing, walls lean badly and required shoring. Windows broken by distortion. Danger of instability	Usually > 25 but depends on No. of cracks	
+ In assessing the degree of damage, account must be taken of its location in the building or structure. * Crack width is only one aspect of damage and should not be used on its own as a direct measure of it. Burland, J.P. and Wroth, C.P., Settlement of Buildings and Associated Damage, Proceedings of a Conference on the Settlement of Structures, Cambridge, 1974, pp 611 – 54 and 764 – 810;				

The heritage value of a Listed or Protected Building should be considered during the initial assessment by reviewing the sensitivity of the building structure and of any particular features together with the initial assessment calculations. The heritage assessment examines the following:

a) the sensitivity of the building / structure to ground movements and its ability to tolerate movement without significant distress. The potential for interaction with adjacent buildings / structures is also considered. A score within the range of 0-2 should be allocated to the building/structure in accordance with the criteria setout in Table 2;
b) the sensitivity to movement of particular features within the building / structure and how they might respond to ground movements. A score within the range of 0-2 should be allocated to the building in accordance with the criteria set out in Table 2.

The scores for each of the two categories (a) and (b) should be combined and added to the category determined in Stage 2 to inform the decision making process. In general,

Listed Buildings which score a total of 3 or higher should be subject to further assessment as part of the Stage 3 – Detailed Assessment. Buildings that score a total of 2 or less are predicted to suffer a degree of damage which may be easily repairable using standard conservation based techniques and hence no protective measures for the building's particular features should be required. However, ultimately the professional judgement of engineering and historic building specialists should be used to determine whether additional analysis is required.

Table 2: Scoring for Sensitivity Assessment of Listed Buildings

Criteria		
Score	**a) Sensitivity of the structure to ground movements and interaction with adjacent buildings**	**b) Sensitivity to movement of particular features within the building**
0	Masonry building with lime mortar not surrounded by other buildings. Uniform facades with no particular large openings.	No particular sensitive features
1	Buildings of delicate structural form or buildings sandwiched between modern framed buildings which are much stiffer, perhaps with one or more significant openings.	Brittle finishes, e.g. tight-jointed masonry, which are susceptible to small movements and difficult to repair.
2	Buildings which, by their structural form, will tend to concentrate all their movements in one location.	Finishes which if damaged will have a significant effect on the heritage of the building, e.g. cracks through frescos.

Stage 3 - Detailed Assessment, Mitigation Design and Monitoring Plans

The Designer shall carry out detailed assessments of structures that will be affected by the works so that any monitoring works and mitigation works can be designed and implemented.

For structures at risk of exceeding Damage Risk Category 2 'Slight' or where damage exceeds the agreed tolerable limits the designer shall undertake a detailed assessment (more rigorous) to determine:

a) the influence of the structure and its foundations on the predicted ground movements (soil/structure interaction).
b) the volume loss at which the risk of damage to the structure (or any sensitive finishes/features) is 'slight' or better;
c) whether this volume loss may be achieved by the proposed excavation design/control measures;
d) any special control measures required to reduce the predicted damage to acceptable levels (i.e. Risk Category 2 'slight' damage category and below or below the agreed tolerable limits) such as significantly higher face pressures with EPBM tunnelling and the practicality of these;
e) the amount of ground movement that the structure (and or any sensitive finishes/features) can accommodate without exceeding Damage Risk Category 2 or where damage exceeds the agreed tolerable limits;
f) the level of residual risk if intrusive mitigation measures are not implemented.

The detailed assessments should include a number of iterations to determine how the risk of damage to a building may be reduced. Asset-specific empirical models shall be prepared successively using moderately conservative and best estimate parameters. If after these iterations the use of empirical methods do not reduce the risk of building damage to acceptable levels (i.e. Damage Category 2 'slight' damage category and below or below the agreed tolerable limits), the damage assessment shall be refined by increasing the sophistication of the analysis with the aim of reducing the risk of asset damage to acceptable levels and to eliminate the asset from further assessment.

If the risk of damage cannot be shown to be reduced by detailed assessment to acceptable levels, then mitigation measures shall be designed. The primary means of settlement mitigation shall be practical measures to control ground movement by good design and construction practice. This could include staged excavation sequences within sprayed concrete lining (SCL) works, ground treatment, face stabilisation, spiling / face dowels, increasing face pressure when using a tunnel boring machine (TBM), adopting stiffer walls/propping for rectangular shafts etc.

In the event that physical mitigation measures are still required (i.e. to control building damage to Damage Category 2 'slight' and below or below the agreed tolerable limits), the Designer shall seek to obtain the Asset Owners approval.

The Designer shall also undertake a comparative risk assessment to demonstrate that the risks associated with installation/implementation of any intrusive mitigation measures (such as compensation grouting) are no worse than the risks associated with the base case.

The relevant Local Authority and the OPW shall be consulted on the results of the Protected Building assessment reports and the proposals for protective measures, if any are required. The OPW shall also be consulted in relation to Listed or Protected Buildings where they would normally be notified or consulted on planning applications or listed building consent applications.

When considering the need and type of protective measures for Listed or Protected Buildings, due regard should be given to the sensitivity of the particular features of the building which are of architectural or historic interest and the sensitivity of the structure of the building to ground movement. Where the assessment highlights potential damage to the features of the building which it will be difficult or impossible to repair and/or if that damage will have a significant effect on its heritage value, the assessment may recommend appropriate measures to safeguard those features either in-situ or by temporary removal and storage off-site if those with relevant interest(s) in the building consent.

The form of monitoring of Listed Buildings should be determined based on the results of the assessment process.

Where repair works are necessary they will require the consent of those with relevant interest(s) in the building.

For railway track and track support structures the designer shall:

a) review the track surveys (including specifying additional surveys if required) and establish that ground movement can be accommodated without exceeding track standard operational tolerance in conjunction with the relevant Infrastructure Manager;
b) identify locations where fettling of the track is required pre construction and /or during construction to ensure the track geometry and clearances are acceptable.

The designer shall prepare plans and sections showing the zone of influence of the works that is defined by ground movements exceeding 1mm.

The designer shall develop an instrumentation and monitoring plan to validate that ground movements within the zone of influence are in accordance with design assumptions and that the infrastructure remains within acceptable limits. The designer shall ensure that there is a clear distinction between parameters measured to confirm the change in any parameter is in accordance with the design and parameters measured to limit damage to the assets. This plan shall identify the minimum period of time required to obtain base line data for each monitoring point.

Note: *A competent engineer responsible for the works shall consider those factors which may influence the monitoring data and shall determine an appropriate period and frequency for baseline monitoring. This decision making process will include an element*

of engineering judgement to account for the possible effects of any underlying environmental trends (seasonal, diurnal, tidal) in the assets under consideration.

Note: *The designer shall demonstrate that the monitoring system complies with the British Tunnelling Society Monitoring Underground Construction best practice guide.*

Note: A review of the monitoring system against the checklists provided in Appendix B of the BTS Monitoring Underground Construction best practice guide may be used as a tool to demonstrate compliance.

The detailed assessments shall define the control limits that need to be imposed on the TBM/SCL excavation in the zone of influence. The designer shall state these control measures on drawings and specifications.

The designer shall identify the critical parameters to be monitored and define the Asset Control Limits based on:

a) the ability of the asset or structure to withstand ground movement investigated
a) during the assessments carried out in Stage 2 and 3.
b) the risk to third party operations

The designer shall link the Asset Control Limits to actions within an Emergency Preparedness Plan.

The Instrumentation and Monitoring Plan and Emergency preparedness Plan shall be agreed with the relevant Asset Owner.

Stage 4 – Construction

Contingency plans shall be developed and agreed with the OPW to cover the risks posed to the OPW before commencement of the construction activity.

Contingency plans shall be implemented where the results of monitoring or inspection so indicate.

Ground movement and construction progress records shall be maintained and reported in regular reviews when construction processes are taking place within the zone of influence.

Predictions and assumptions made during design in respect of both ground movement and the effects which such ground movement will have on adjacent assets shall be verified by measurement during construction.

Stage 5 – Completion and Close-out

After ground movement has stopped, as confirmed by instrumentation and montoring, the designer shall prepare a "Completion Report". This shall include the following:

a) details of any modifications/mitigation measures to the existing structure;
b) graphs that show the ground movement and construction progress over time

a) with at least 3 months duration of readings which show no change;
b) a schedule showing actual movement compared to predicted movement;
c) a schedule of defects recording only the exceptions (changes) identified during the post construction defects survey;
d) details of any remedial works undertaken;
e) as-built records (including any temporary works remaining in situ on completion of the works).

Schedule of Defects

A schedule of defects shall be recorded prior to the start of construction for all buildings, structures, utilities and facilities and Outside Party assets predicted to experience ground movement exceeding 1mm.

OPW
Oifig na nOibreacha Poiblí
Office of Public Works

Properties: 1 George's Quay, Dublin 2

Corn Exchange, Burgh Quay, Dublin 2

Nos. 13-15 Hatch Street Lower, Dublin 2

Nos. 10-11 Leinster Street, Dublin 2

Earlsfort Terrace, Dublin 2

Parnell Street/King's Inn Street, & Loftus Lane, Dublin 1

Submission to the Draft Railway Order 2022 (MetroLink - Estuary to Charlemont via Dublin Airport)

January 2023

GZ Gall Zeidler Consultants

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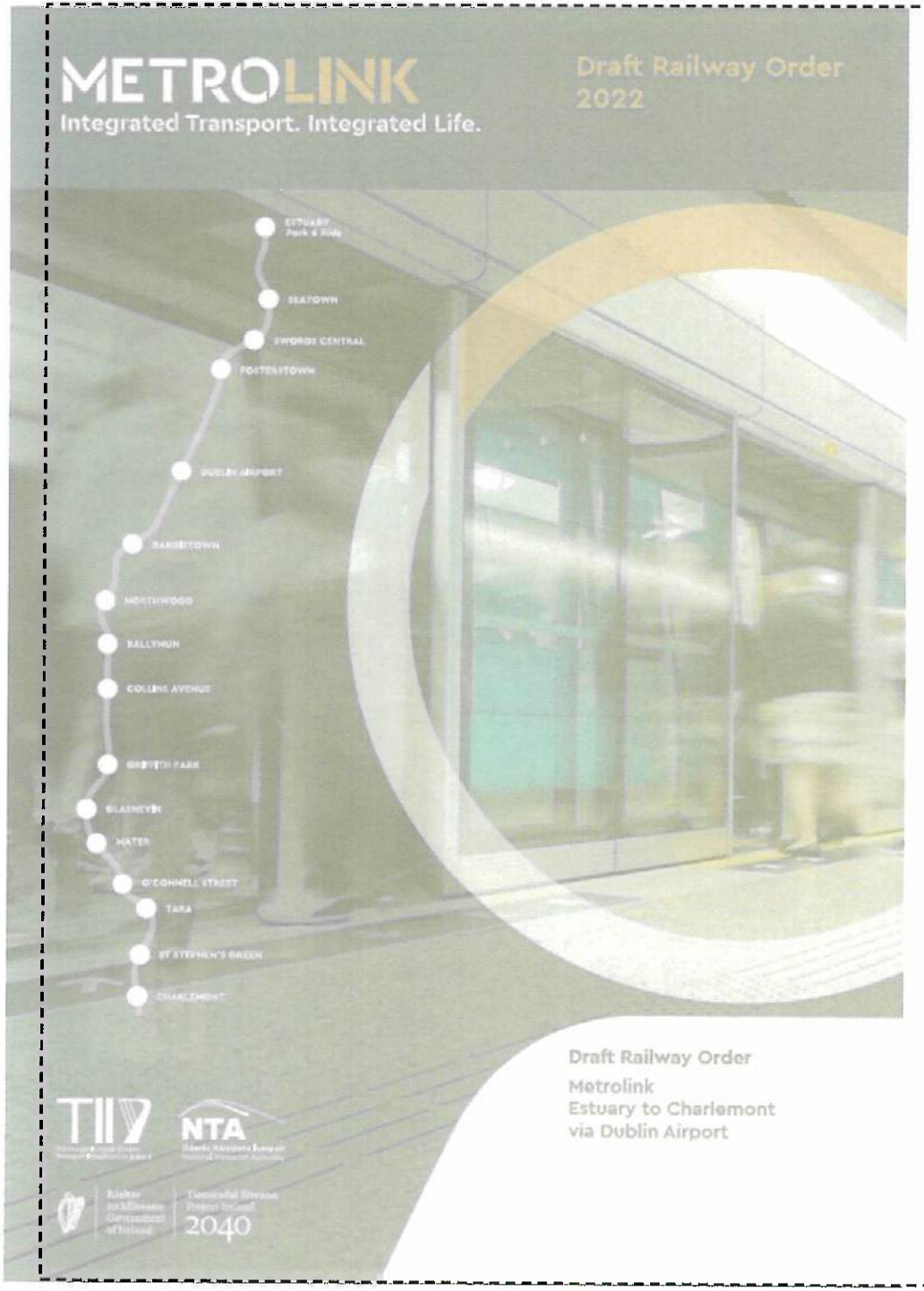


EXECUTIVE SUMMARY

With reference to the Draft Railway Order 2022 (MetroLink - Estuary to Charlemont via Dublin Airport), the Office of Public Works (OPW), OPW Headquarters, Jonathan Swift Street, Trim, Co. Meath, welcomes this strategic project and recognises the significance of its delivery to provide for a sustainable, safe, efficient, integrated, and accessible public transport service between Swords, Dublin Airport and Dublin City Centre.

With respect to the proportion of the State's property portfolio managed by the OPW, we will endeavour to share knowledge and information with Transport Infrastructure Ireland (TII) to facilitate the successful delivery of the project through a collaborative approach.

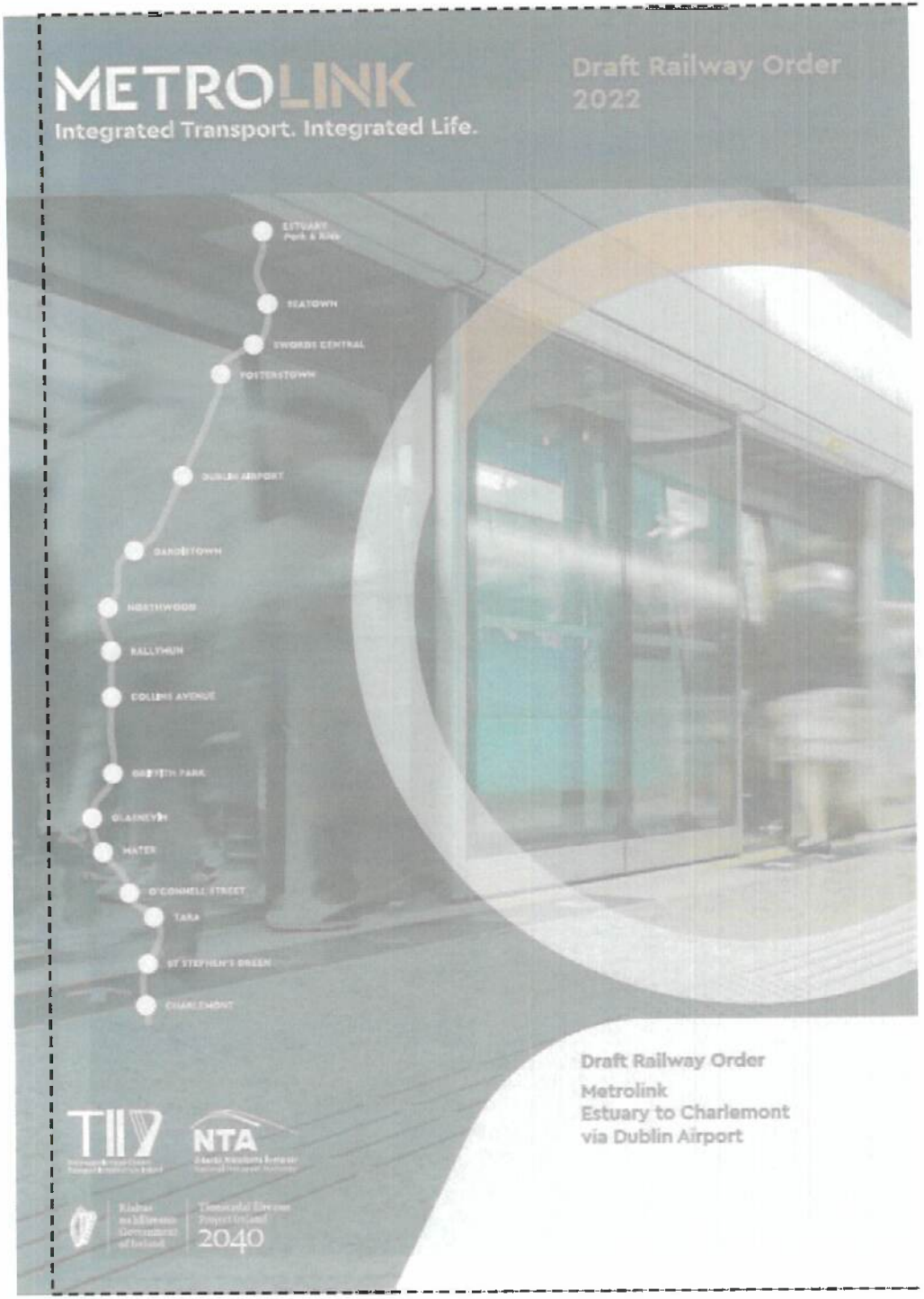
This submission has been prepared by DOWNEY in conjunction with Gall Zeidler Consultants, on behalf of The Commissioners of Public Works in Ireland (hereinafter the Office of Public Works (OPW)) and on foot of extensive consultation(s) with the OPW and its clients, which relates to the MetroLink route and the OPW properties spread out across Dublin central. This group of properties is as follows:

- *1 George's Quay, Dublin 2*
- *Corn Exchange, Burgh Quay, Dublin 2*
- *Nos. 13-15 Hatch Street Lower, Dublin 2*
- *Trinity Point, Nos. 10-11 Leinster Street, Dublin 2*
- *Earlsfort Development Centre, Earlsfort Terrace, Dublin 2*
- *INTREO Office & Parkrite Parking, Parnell Street/King's Inn Street, & Loftus Lane, Dublin 1*

With respect to these properties, the OPW is seeking:

1) To ensure no disruption to the public access of these buildings and their day-to-day uses and functions, as well as to ensure no damage to the buildings, their historical profile in terms of being listed as a Protected Structure and/or their Conservation Area setting (where applicable), resulting from the implementation of the Project.

2) To ensure pre- and post-construction surveys are carried out and that these should relate to, but not limited to, ground movement, noise and vibration, blasting and water lowering, as well as construction traffic impacts, including traffic diversions.



3) To ensure that the following specific assessments of the impacts on 1GQ, 1 George's Quay and Corn Exchange are provided, with precedents applied to ensure best industry practice:

a. Ground movement impact (Stage 2 and 3 Assessment).

b. Ground borne noise and vibration, including the application and monitoring of threshold limits, pre- and post-construction surveys.

c. The impact of blasting given the proximity of these properties to the Station.

4) To ensure acceptable levels of dewatering for construction of Tara Station are provided as there is a potential for ground water lowering, which can adversely impact 1GQ, George's Quay and Corn Exchange.

5) To ensure an assessment of traffic impact on the accessibility of 1GQ, George's Quay and Corn Exchange for both personnel and clients during construction of Tara Station due to traffic diversions.

6) Once the railway is in operation it is possible that there will be residual impacts arising from the above assessments and TII should seek assurance that a detailed evaluation will be performed.

7) To ensure no conflicts between the construction and operation of the Project and the future development of the properties.

8) Precedents are to be applied to the risk assessments, to ensure that best industry practice is used in the implementation of the Project.

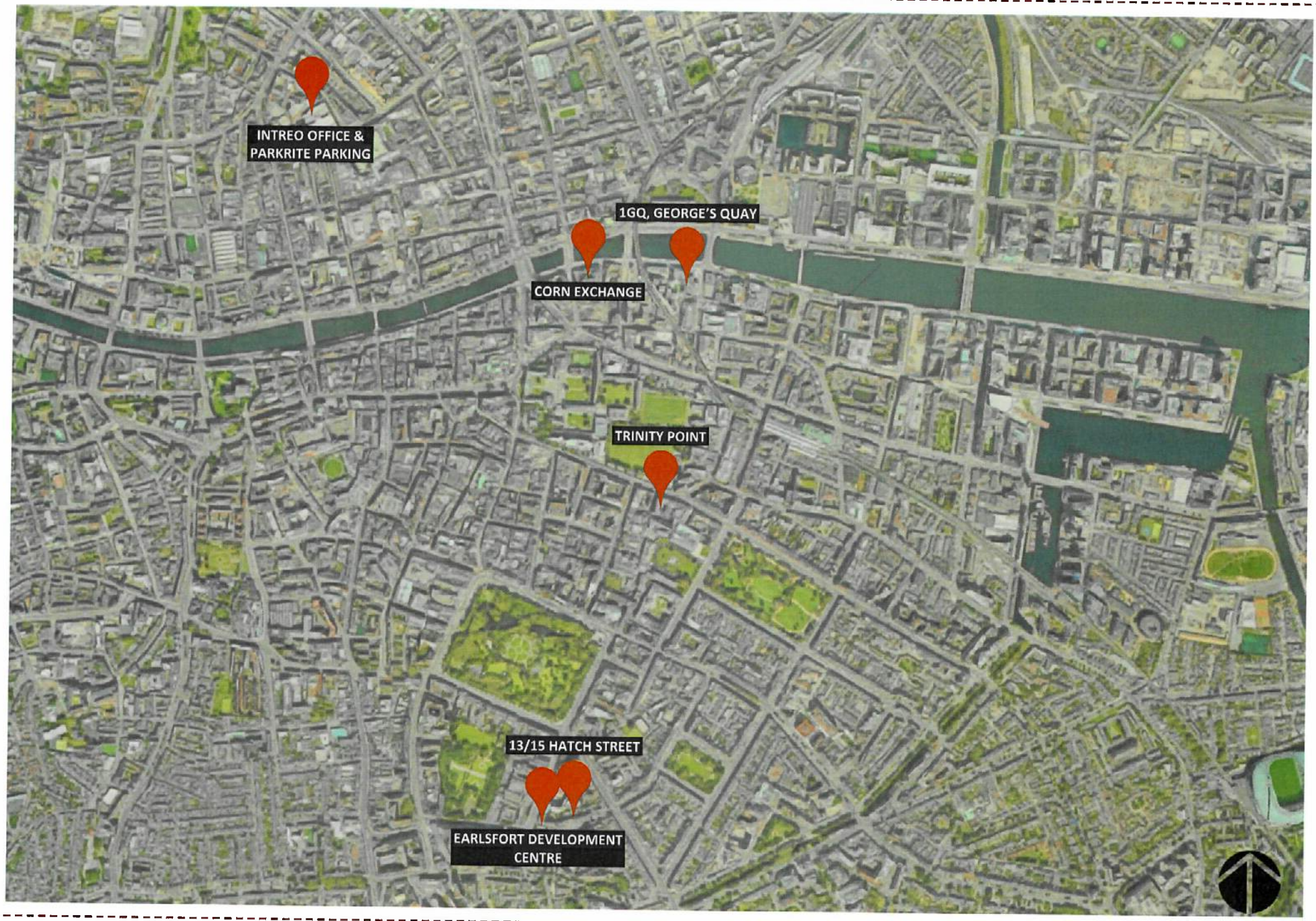

INTREO OFFICE &
PARKRITE PARKING
1GQ, GEORGE'S QUAY
CORN EXCHANGE
TRINITY POINT
13/15 HATCH STREET
EARLSFORT DEVELOPMENT
CENTRE

TABLE OF CONTENTS

This submission is made in response to the statutory review of the Draft Railway Order. Accordingly, this submission has been prepared in the context of "Draft Railway Order 2022; MetroLink - Estuary to Charlemont via Dublin Airport" which seeks to deliver the construction of a fully segregated and automated railway and metro mostly underground c. 18.8km in length with 16 stations running from north of Swords at Estuary through Swords, Dublin Airport, Ballymun, Glasnevin, and the City Centre to Charlemont. The Draft Order is currently on public display. We would respectfully request that An Bord Pleanála consider the content within this submission. DOWNEY would like to thank the Board for the opportunity to make this submission, on behalf of the Commissioners of Public Works in Ireland (hereinafter the Office of Public Works (OPW), a prescribed body for the project as advised by An Bord Pleanála.

Downey Planning Document Control			
	Name	**Date**	**Version**
Prepared by	S.M. MIPI	10/11/2022	V_01_DRAFT
	E.S. MIPI	20/11/2022	V_02_DRAFT
	E.S. MIPI	11/01/2023	V_03_DRAFT
	E.S. MIPI	13/01/2023	V_04_DRAFT
Approved by	E.B. MIPI	13/01/2023	V_04_ FINAL
	D.R. MIPI	16/01/2023	V_04_ FINAL

1.0 INTRODUCTION

This submission has been prepared by DOWNEY, Chartered Town Planners, 29 Merrion Square, D02 RW64, in conjunction with Gall Zeidler, International Consulting Engineers specialising in tunnel and underground schemes, on behalf of the Commissioners of Public Works in Ireland (hereinafter the Office of Public Works (OPW)), OPW Headquarters, Jonathan Swift St, Trim, Co Meath and on foot of extensive consultation(s) with the OPW's clients, which relates to the MetroLink route and its relationship with a collective of the OPW properties scattered across Dublin central. This group of properties is as follows:

- 1 George's Quay, Dublin 2
- Corn Exchange, Burgh Quay, Dublin 2
- Nos. 13-15 Hatch Street Lower, Dublin 2
- Trinity Point, Nos. 10-11 Leinster Street, Dublin 2
- Earlsfort Development Centre, Earlsfort Terrace, Dublin 2
- INTREO Office & Parkrite Parking, Parnell Street/King's Inn Street, & Loftus Lane, Dublin 1

With reference to the Draft Railway Order 2022 (MetroLink - Estuary to Charlemont via Dublin Airport), the OPW welcomes this strategic project and recognises the significance of its delivery to provide for a sustainable, safe, efficient, integrated, and accessible public transport service between Swords, Dublin Airport and Dublin City Centre.

2.0 THE OFFICE OF PUBLIC WORKS MANDATE

The OPW was established in 1831, by an Act of Parliament: An Act for the Extension and Promotion of Public Works in Ireland. Since then, generations have enjoyed and benefited from the OPW's specialist work on state buildings, heritage sites, national parks, and flood relief measures. The primary function of the OPW continues as a key player in the implementation of Government policy and advisory to the Minister of State in the disciplines of property (including heritage properties) and flood risk management.[1]

The OPW has a strong reputation for expert knowledge and is an important resource for Government and State Agencies on specialist and professional advice on architectural projects, estate management, historic properties, engineering services, and flood risk management. This expert knowledge is crucial in supporting decisions across Government and is vital within the MetroLink's plan making process. The OPW will endeavour to share its knowledge and provide advice to Transport Infrastructure Ireland (TII hereinafter) as part of this submission to An Bord Pleanála on the Draft Railway Order application.

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[1] *For more information, you can read the "Office of Public Works; Statement of Strategy 2021-2024" retrievable here: https://assets.gov.ie/134839/b52e1b97-bfe4-4948-9434-de0118f111bd.pdf*

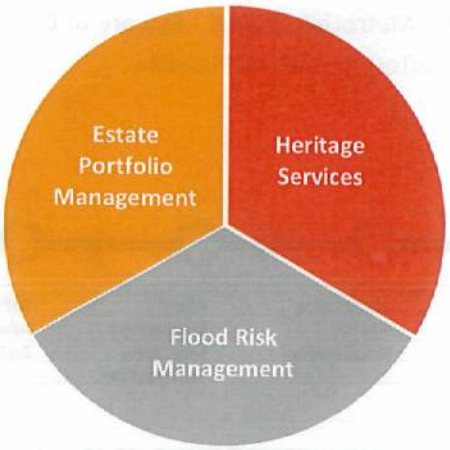

Figure 1. The OPW's Main Areas of Work

The OPW provides a shared service in the area of property management and property maintenance, incorporating architectural, engineering, valuation, quantity surveying, project management, art and facilities management and the conservation, preservation and presentation of heritage and cultural properties. The OPW is the lead agency for flood risk management in Ireland. This expertise will be maintained within the OPW's submission to support and engage with TII and the Draft Railway Order application.

The OPW manages a significant proportion of the State's property portfolio, which stands at c. 2,500 properties and which accommodate Government Departments and includes c. 700 Garda properties. A key function of the OPW is the maintenance and operation of Ireland's most iconic heritage properties, including the State's two World Heritage Sites, c. 800 National Monuments and over 2,000 hectares of gardens and parklands.

Additionally, the OPW is a key player in infrastructure delivery for the State. In relation to flood risk management, the OPW has delivered some 150 flood relief schemes under the National Development Plan 2018-2027 as part of Project Ireland 2040 and maintains some 12,000km of river channels and 800km of embankments.

The OPW considers good governance to be central to the effectiveness of its operations, and recognises its importance in discharging its statutory, administrative and policy obligations.

It is the OPW's priority to maximise the efficient use and value of the State property portfolio, minimise the extent and impact of flooding, protect and promote our national built heritage, and excel in organisational performance and service. The OPW manages a significant number of properties along the route, including a number of historical and nationally important properties.

3.0 OVERVIEW OF THE DRAFT RAILWAY ORDER

On 30th September 2022, governed by Section 37 of the Transport (Railway Infrastructure) Act 2001 (as amended and substituted) ("the 2001 Act" hereinafter) and proposed within the definition of Strategic Infrastructure Development (SID) under Section 2 of the Planning and Development Act 2000 (as amended) ("the 2000 Act" hereinafter), the National Roads Authority (operating as TII) submitted

the Draft Railway Order for the MetroLink Project - Estuary to Charlemont via Dublin Airport [2022] ("the proposed Project" hereinafter) to An Bord Pleanála.

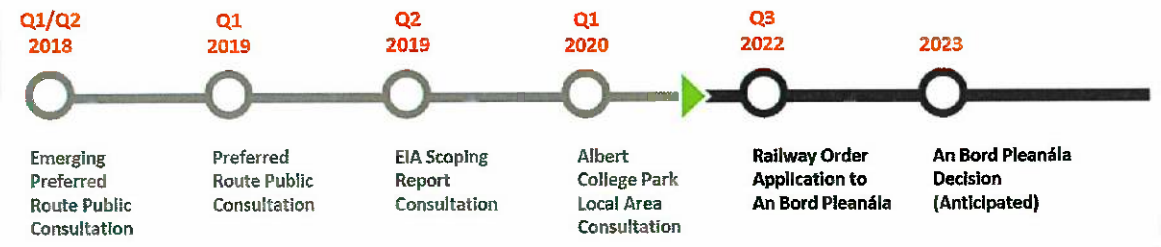

Figure 2. The Proposed Project Roadmap (extracted from Chapter 8 of EIAR enclosed with the proposed Project application)

With an objective to "*provide a sustainable, safe, efficient, integrated and accessible public transport service between Swords, Dublin Airport and Dublin City Centre*", the proposed Project seeks to deliver the construction of a fully segregated, high-capacity, and high-frequency automated railway and metro between Estuary Station and the Park and Ride facility, north of Swords via Dublin Airport to Charlemont Station, with approximately 18.8km length, which is mostly underground. The proposed Project comprises 16 new stations along the alignment, comprising of Estuary Station at surface level, four stations at Seatown, Swords Central, Fosterstown and Dardistown in retained cut, and Dublin Airport Station along with the remaining ten stations, which will be underground.

Other principal project elements include a multi-storey 3,000-space Park & Ride facility at Estuary, two viaducts, one over the Broadmeadow and Ward Rivers, and one over the M50 Motorway, an Operational Control Centre and Maintenance Depot at Dardistown, and intervention tunnels and shafts associated with Dublin Airport South Portal (DASP), located on the City Tunnel at Albert College Park, and south of Charlemont station.

The proposed Project has been designed to interchange with existing and future elements of the transport network. The key interchanges are as follows:

- Dublin Airport.
- The Western Commuter Line also known as the Maynooth Line (formerly the Midland Great Western Railway) and the South-Western Commuter Line also known as the Kildare Line (formerly Great Southern and Western Railway) at Glasnevin Station.
- The DART at Tara Station.
- Luas Lines (at O'Connell Street, St Stephen's Green and Charlemont Stations).
- The Dublin Bus network and the future BusConnects network.

Temporary elements to the proposed Project will comprise Construction Compounds, Logistics Sites, and Tunnel Boring Machine Launch Sites, which are essentially to facilitate the construction phase of the development. This encompasses 34 Construction Compounds, including 20 main Construction Compounds at each of the proposed station locations, the portal locations, and the Dardistown Depot location, as well as 14 Satellite Construction Compounds located at other locations along the alignment. Main logistics sites will be located at Estuary, near Pinnock Hill east of the R132 Swords

Bypass and north of Saint Margaret's Road at the Northwood Compound. There will be two main Tunnel Boring Machine (TBM) launch sites, with one located at DASP, which will serve the TBM boring the Airport Tunnel and the second located at the Northwood Construction Compound, which will serve the TBM boring the City Tunnel.

TII carried out numerous public consultations on the Preferred Route over an eight-week period from the 26th of March 2019 to the 21st of May 2019. Over 1,000 people attended the five public events, which were held at key locations along the route. While extensive pre-planning consultations also took place between TII and the OPW, a detailed assessment of the individual properties affected has not yet taken place. The Draft Railway Order application 2022 is a Draft Order, and should the route be approved by An Bord Pleanála, further detailed design will be submitted, which will require further consideration and approval. Factors such as the internal uses of the properties, their construction methods, age and historical importance and the effect of construction on these sensitivities has not been assessed as part of the Project thus far. Additional consideration needs to be given to the potential effects on the built environment before a route and construction method can be confirmed. The OPW reserves the right to make further commentary, pending more detailed design proposals.

The statutory consultation period commenced on the 7th of October 2022, with an initial 6-week timeframe for submissions, i.e., the closing date for submissions was the 25th of November 2022 at 5.30pm. Pursuant to Section 40(1)(b) of the Act and as stated in the public notice published on the 25th of November 2022, this consultation period was further extended to the 16th of January 2023.

4.0 A COLLECTIVE OF THE OPW PROPERTIES

4.1 1GQ, 1 GEORGE'S QUAY

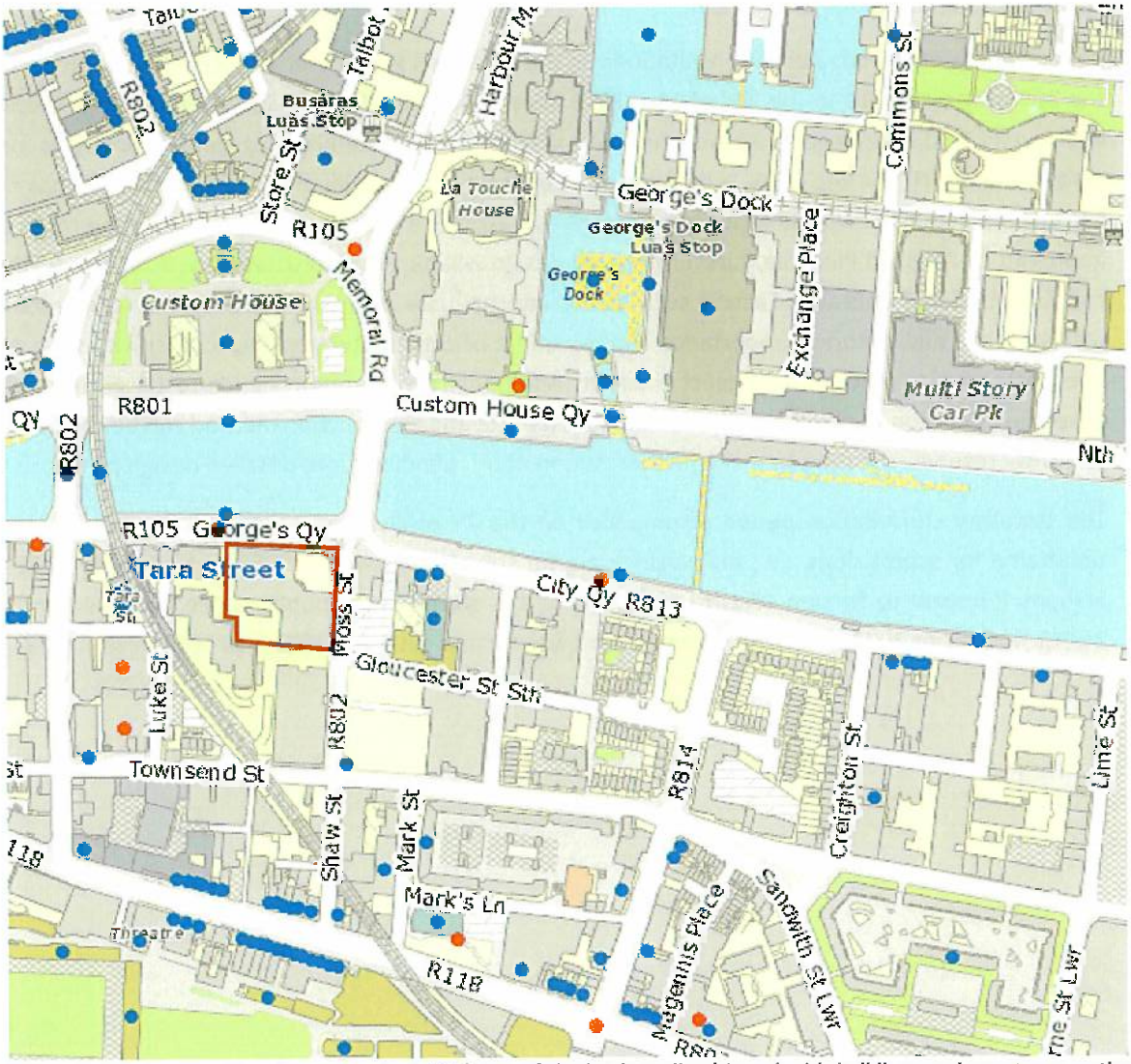

Figure 3. Site Location Map (approximate boundaries of the lands outlined in red with buildings and structures on the National Inventory of Architectural Heritage (NIAH) marked in blue (Map extract from archaeology.ie with Ordnance Survey Base-map)

4.1.1 Property Location & Description

The **1GQ** is an office that is located at 1 George's Quay, Dublin 2 (D02 Y098). It was the former home of the Ulster Bank Headquarters. It is located to the western corner of the junction of Moss Street and George's Quay, at the southern point of the Talbot Memorial Bridge.

Originally built as the headquarters of Ulster Bank, the building went through a refurbishment and renaming to "1QG" in 2017, in which it was redesigned and constructed to accommodate a five-storey glazed extension to the unit. The building complex composes of multiple heights, with the frontage of the building being 4 storeys over basement. 1GQ, 1 George's Quay is home to a number of high-profile occupiers, which include US-headquartered corporations such as PepsiCo, CBD Aviation, and a subsidiary of China Development Bank and, most recently, to the OPW.

The site is owned by Irish Life, in which the OPW has leased part of the 2nd and the entire 3rd floor of the building unit for its own employees.

4.1.2 Historical Context/Conservation Status

The context area for George's Quay is rich in architectural heritage and has numerous buildings that represent a symbolic cultural and social significance and heritage value within the area. The close proximity of George's Quay to the Custom House, Old Parliament Building and Trinity College means that there are numerous important landmarks within the area.

The area was once part of a wet landscape associated with the River Liffey and much of the surrounding lands were reclaimed within the medieval, post-medieval and modern periods. George's Quay was substantially developed during the post-medieval period and redeveloped by the Wide Streets Commission in the late 18th century.

The area contains multiple national monuments that are located within George's Quay. These include the quay walls at George's Quay, which is a protected structure (Reg. No. 50020257). The quayside frontage of 1GQ itself along 1 George's Quay is included in the designated Conservation Area within Dublin City Development Plan 2022-2028. Moreover, George's Quay itself also falls within the Zone of Archaeological Interest of the Development Plan.

Figure 4. 1GQ at 1 George's Quay, Dublin 2

4.1.3 Current Use/Uses

1GQ, 1 George's Quay is used by the OPW which has leased 3,903sqm of the office space on part of the 2nd and the entire 3rd floor, with 39 car parking and bicycle storage spaces and in the basement car park. Shared welfare office facilities are also situated at the basement level of the building. These are essential offices occupied by a State Agency as of 2021. The remainder of the building is occupied by private sector bodies.

4.1.4 Planning Context

In terms of the planning history pertaining to the subject property and the surrounding area, and as outlined in the Planner's Report of the Draft Railway Order 2022, in relation to the O'Connell Street Station to Tara Station section of the alignment:

> *"The proposed Project is in bored tunnel without surface works overhead along this part of the alignment. There are no extant planning permissions or live planning applications that are affected by the works".*

It is noted that DOWNEY have also carried out an examination of the planning history pertaining to the property subject to this submission, which determined that there is a planning application made within proximity to the site. An overview is as follows:

Reg. Ref. 4054/19 (parent permission Reg. Ref. 3794/18 – ABP.302980-18): By Order dated 7th January 2020, Dublin City Council granted permission to Tanat Limited for amendments to a previously permitted development for demolition of office building and construction of a 22-storey landmark office and hotel development with an overall gross floor area of c. 16,557sqm. The approved revised application (4054/19) would provide for an increased overall gross floor area to c. 17,992sqm which would bring the total number of beds proposed from 107 to 157 beds. It also includes an upgraded public concourse serving Tara Street Station.

In relation to the Draft Railway Order's consistency with planning policy and planning guidelines, a non-exhaustive list of planning policy and legislation at National, Regional, and Local levels, is included in Appendix 1 of this submission, the Board are invited to refer to this for further details. We would respectfully request that An Bord Pleanála ensure that TII have fully assessed the Project with regard to existing planning policy, as well as adherence to the relevant local policies and guidelines pertaining to each individual property.

DOWNEY note that this proposed Draft Railway Order is a strategic long-term development and An Bord Pleanála may consider Draft Development Plans in assessing the Project. It is also crucial to note that on foot of a granted Order and during the detailed design stage, a revision to planning policy is expected, whereby adopted plans and legislation may have to be adhered to within this stage. This may require an amendment to the Draft Railway Order and further assessment, including public consultation.

4.1.5 Potential Development of the Property

The OPW lease offices within the 1 GQ building, which is a multi-lease property. The OPW reserves the right to develop the subject property in the future, this includes property above and below ground, subject to normal planning criteria.

It is important that the development of the MetroLink does not interfere with extant planning permissions pertaining to the subject property and the right of the applicant to develop these, in advance, in tandem or post operation of the MetroLink Project.

4.2 CORN EXCHANGE

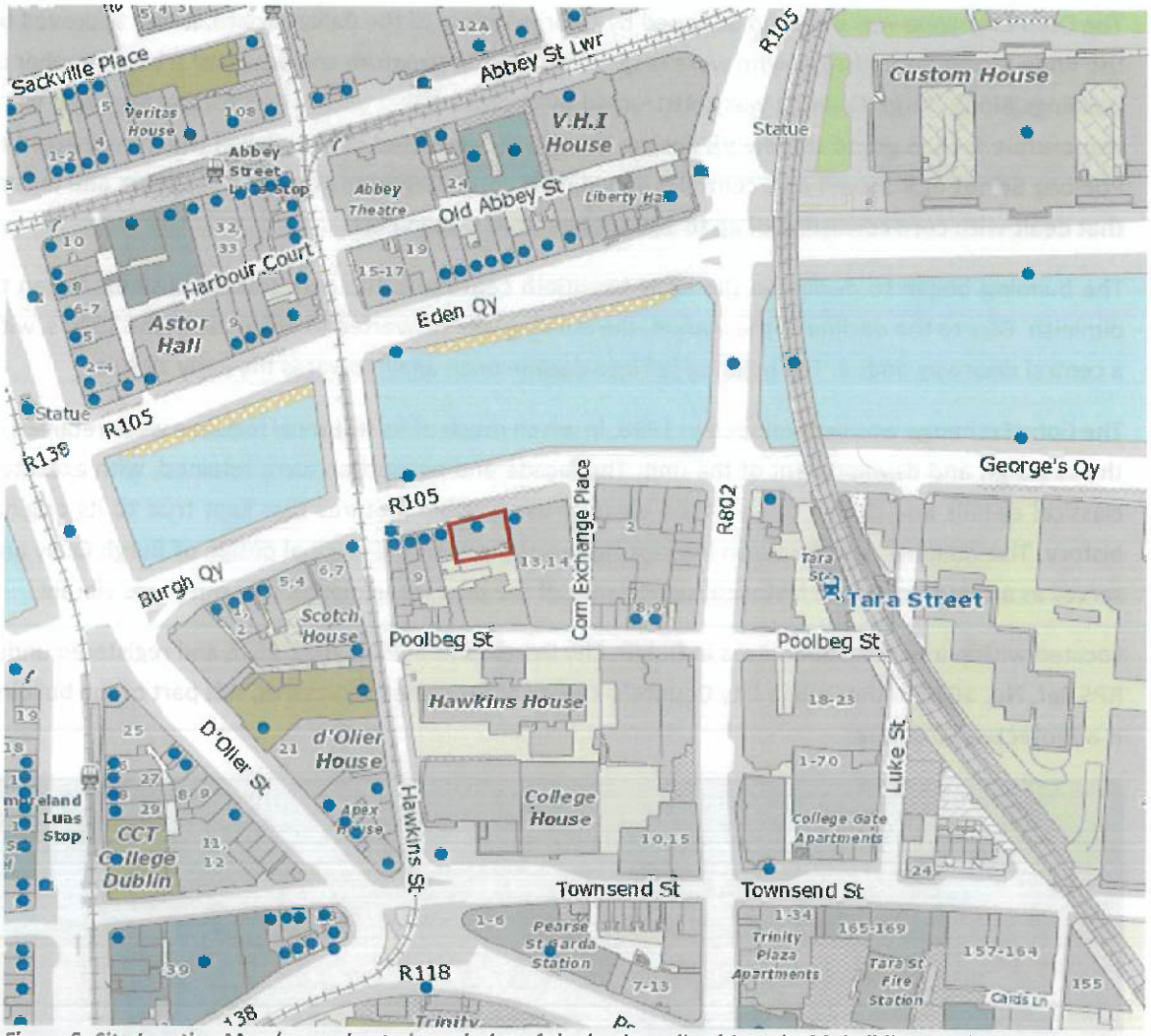

Figure 5. Site Location Map (approximate boundaries of the lands outlined in red with buildings and structures on the National Inventory of Architectural Heritage (NIAH) marked in blue (Map extract from archaeology.ie with Ordnance Survey Base-map)

4.2.1 Property Location & Description

The **Corn Exchange** is an office building block at Burgh Quay, Dublin 2. This four-storey over basement former corn exchange was built in 1816-17, with a unique exterior of historical design, which dates back to the marketing era of Dublin. The building fronts onto Burgh Quay, situated between the terraces of Georgian buildings, the Rosie Hackett Bridge and R802 Bridge.

Originally, this building consisted of a large hall that extended south to Poolbeg Street. The building was used as a market house for the centre of market exchanges. The building was re-developed in 1998 to upgrade the interior of the unit, which was in decline since the 1970's. It now serves as an important central landmark building of Burgh Quay and houses multiple offices with administrative functions.

Unit 1A of the building at Corn Exchange is held under a long lease by the OPW, which provides an essential Community Welfare Office service.

4.2.2 Historical Context/Conservation Status

The Corn Exchange was built and designed by George Halpin of the Ballast Board. It was approved by the Wide Street Commission, who were responsible for the structure and design of a large number of buildings along Burgh Quay. It was constructed by Thomas Baker and Robert McCartney, who were responsible for the grand stonework design. It originally consisted of a large hall which connected to Poolbeg Street and served as a central trade market consisting of mainly seed suppliers and millers that dealt with corn consisting of up to 130 traders from Dublin Port.

The building began to decline in the early twentieth century as the corn-trading business began to diminish. Due to the decline of the market, the building was converted to office use in the 1920's, with a central doorway added. The building fell into decline once again towards the early 1970's.

The Corn Exchange was redeveloped in 1998, in which much of its historical features were retained in the redesign and development of the unit. The façade and proportion were retained, with executed classical details and design to uplift the wear of the original features that kept true to its original history. The building now forms an interesting centrepiece to the original design of Burgh Quay and serves as a reminder of the historical significance of the port trade market that once was vibrant.

Located within a Conservation Area in Dublin City Development Plan 2022-2028 and registered under RPS Ref. No. 1022 in the Dublin City Council's Record of Protected Structures, this part of the building is a Protected Structure.

Figure 6. Corn Exchange Building

4.2.3 Current Use/Uses

This building accommodates a Community Welfare Office in c. 500sqm of office accommodation. It is an essential public service with significant foot fall from members of the public accessing the service. It is held by the OPW on a long lease.

4.2.4 Planning Context

In terms of the planning history pertaining to the subject property and the surrounding area, and as outlined in the Planner's Report of the Draft Railway Order 2022, *"The proposed Project is in bored tunnel without surface works overhead along this part of the alignment. There are no extant planning permissions or live planning applications that are affected by the works."*

It is noted that DOWNEY have also carried out an examination of the planning history pertaining to the property subject to this submission, which determined that there is no planning application made on the site or its adjacent properties.

In relation to the Draft Railway Order's consistency with planning policy and planning guidelines, a non-exhaustive list of planning policy and legislation at National, Regional, and Local levels, is included in Appendix 1 of this submission, the Board are invited to refer to this for further details. We would respectfully request that An Bord Pleanála ensure that TII has fully assessed the Project with regard to existing planning policy, as well as adherence to the relevant local policies and guidelines pertaining to each individual property.

DOWNEY note that this proposed Draft Railway Order is a strategic long-term development and An Bord Pleanála may consider Draft Development Plans in assessing the Project. It is also crucial to note that on foot of a granted Order and during the detailed design stage, a revision to planning policy is expected, whereby adopted plans and legislation may have to be adhered within this stage. This may require an amendment to the Draft Railway Order and further assessment, including public consultation.

4.2.5 Potential Development of the Property

This public office provides an essential service. While the property is held under lease, the future development of the site in consultation with the landlord should not be discounted.

4.3 13/15 HATCH STREET

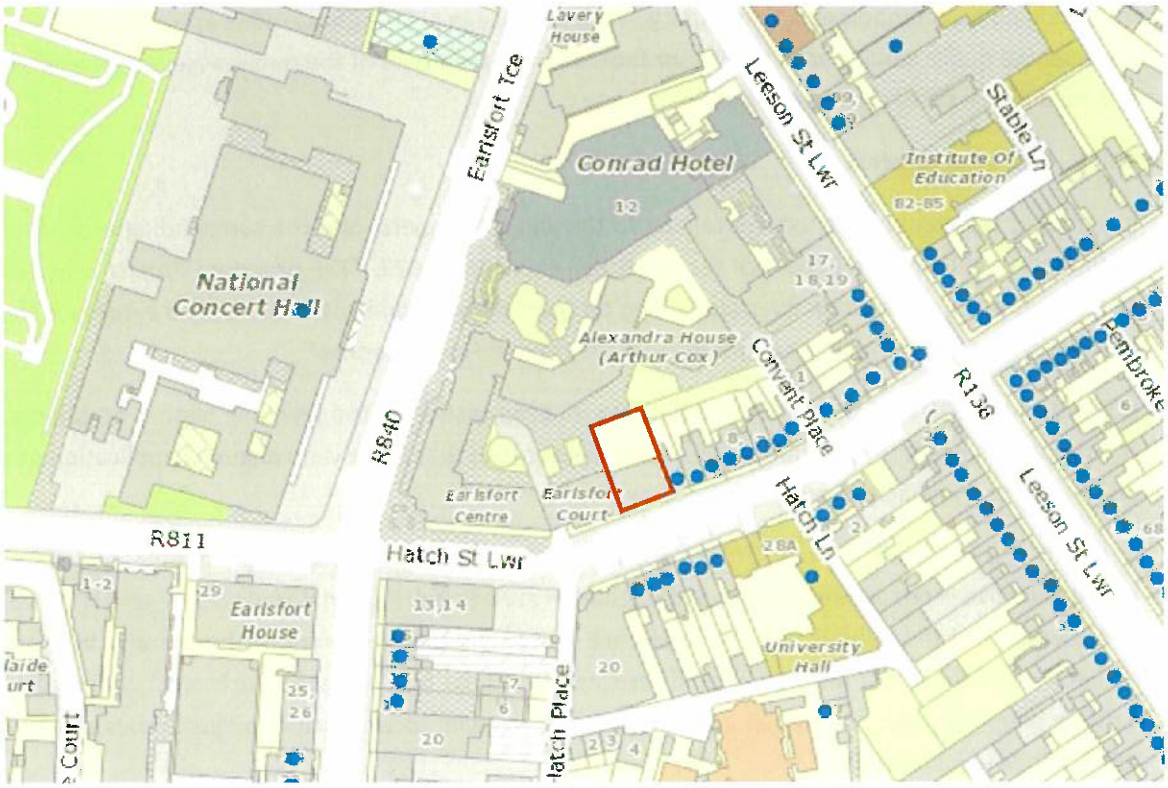

Figure 7. Site Location Map (approximate boundaries of the lands outlined in red with buildings and structures on the National Inventory of Architectural Heritage (NIAH) marked in blue (Map extract from archaeology.ie with Ordnance Survey Base-map)

4.3.1 Property Location & Description

13/15 Hatch Street are office building units at a height of 4-storeys. They are adjacent to a series of Protected Structures along a terrace of housing units on Hatch Street Lower. It is situated to the east of the Earlsfort Centre Development.

Originally built as a series of terraced townhouses in c. 1830, the terraces have been converted to office use.

13/15 Hatch Street are used to house the Office of the Ombudsman for the Defence Forces, through a leasehold which the Office of Public Works is responsible for maintaining with the landlord.

4.3.2 Historical Context/Conservation Status

Hatch Street Lower consists of typical late era Georgian houses, that have a restrained classical façade on their doorcase, fanlight, the case-iron work balconettes, and railings. The doorways represent the work of skilled artisans in this era and contributes to the overall aesthetic and character of streetscapes from this era. The series of Protected Structures on Hatch Street date from the 1790s to over the course of the first half of the nineteenth century.

The building units of Nos. 13-15 are not identified as Protected Structures, nor do they fall within a Conservation Area. However, they do share a boundary with a Georgian Conservation Area zoned building.

Figure 8. 13/15 Hatch Street

4.3.3 Current Use/Uses

13/15 Hatch Street are used as the Office of the Ombudsman for the Defence Forces, who are responsible for providing military personnel with an independent and impartial external statutory complaint investigation system.

4.3.4 Planning Context

Outlined in the Planner's Report of the Draft Railway Order 2022, "*No planning applications are affected by the tunnel alignment between St. Stephen's Green Station and Charlemont.*"

It is noted that DOWNEY have also carried out an examination of the planning history pertaining to the property subject to this submission, which determined that there is no planning application made on the site or its adjacent properties.

In relation to the Draft Railway Order's consistency with planning policy and guidance, DOWNEY have prepared a non-exhaustive list of the current schedule of planning policy at National, Regional, and Local levels, the Board are invited to refer Appendix 1 for further information in this regard. This is to ensure that TII have fully assessed the Project with regard the existing planning policy, as well as adherence to the relevant policies and guidelines pertaining to each individual property.

DOWNEY note that this proposed Draft Railway Order is a strategic long-term development and An Bord Pleanála may consider Draft Development Plans in assessing the file. It is also crucial to note that on foot of a granted permission on the Project and within the detailed design stage facilitated by Design and Build contracts, a revision to the planning policy is expected whereby adopted plans by then to be adhered within this stage.

4.4 TRINITY POINT

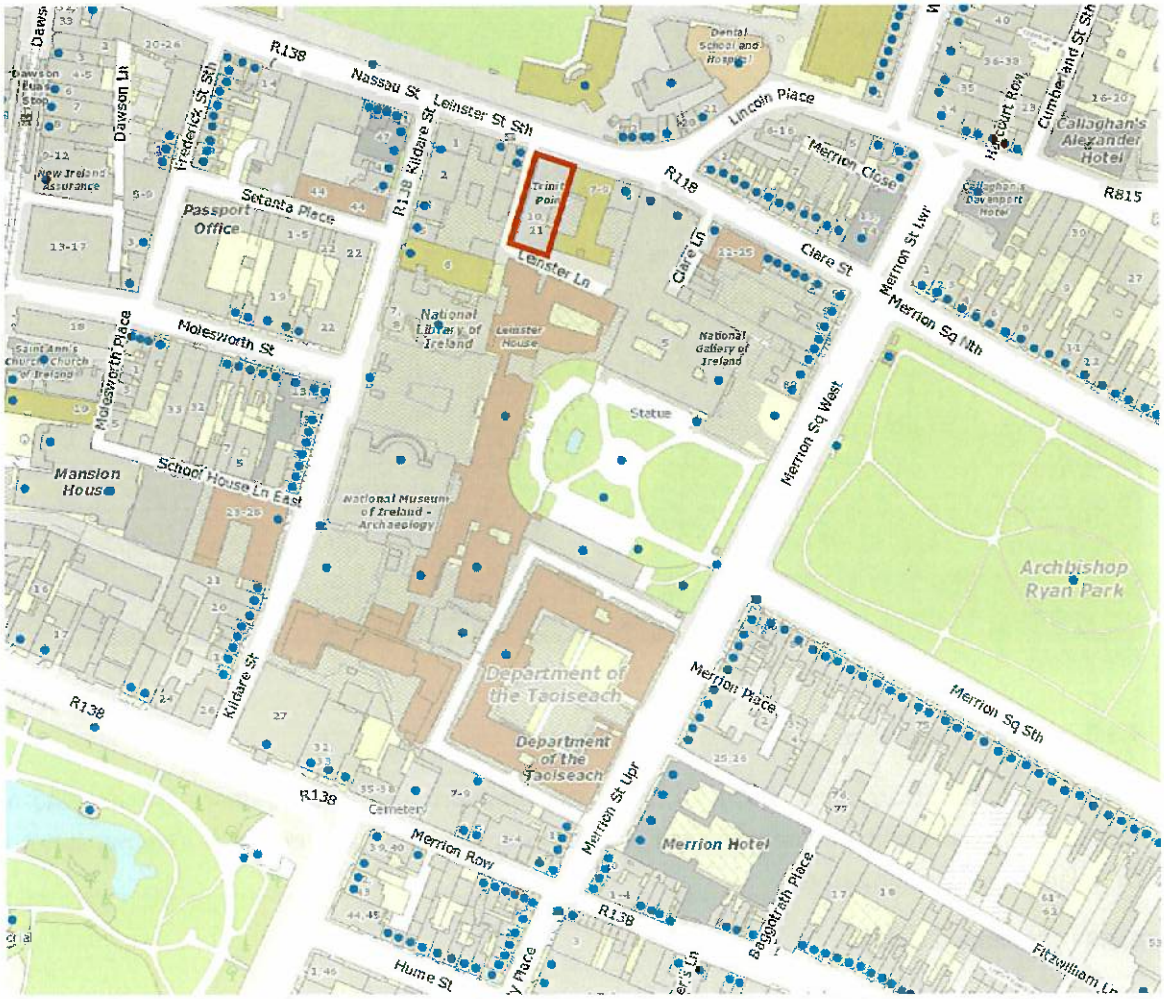

Figure 9. Site Location Map (approximate boundaries of the lands outlined in red with buildings and structures on the National Inventory of Architectural Heritage (NIAH) marked in blue (Map extract from archaeology.ie with Ordnance Survey Base-map)

4.4.1 Property Location & Description

Trinity Point is a modern, six-storey over basement office building block located on the site of the former 1960's office building at a prime location at Nos. 10-11 Leinster Street, Dublin 2. Designed by renowned architects Shay Cleary and constructed by Sisk, this prestigious office building block extends to approximately 4,060sqm. The OPW has been in occupation of the building since c. 2017, taking assignment of the preceding lease agreements.

Trinity Point is one of only a few third-generation, sustainable office buildings developed in Dublin's central business district to a specification, incorporating a twin-skin façade. The building has long served Government departments since its construction.

Currently, the Commissioners of Public Works in Ireland occupy four floors of the building under two separate continuous, long-term leases. The Department of Rural and Community Development is in occupation of the 4/5th floors, with the National Shared Service in occupation of the ground floor,

making this a strategically important office building for the Irish Government, further adding to the prestige of Trinity Point.

4.4.2 Historical Context/Conservation Status

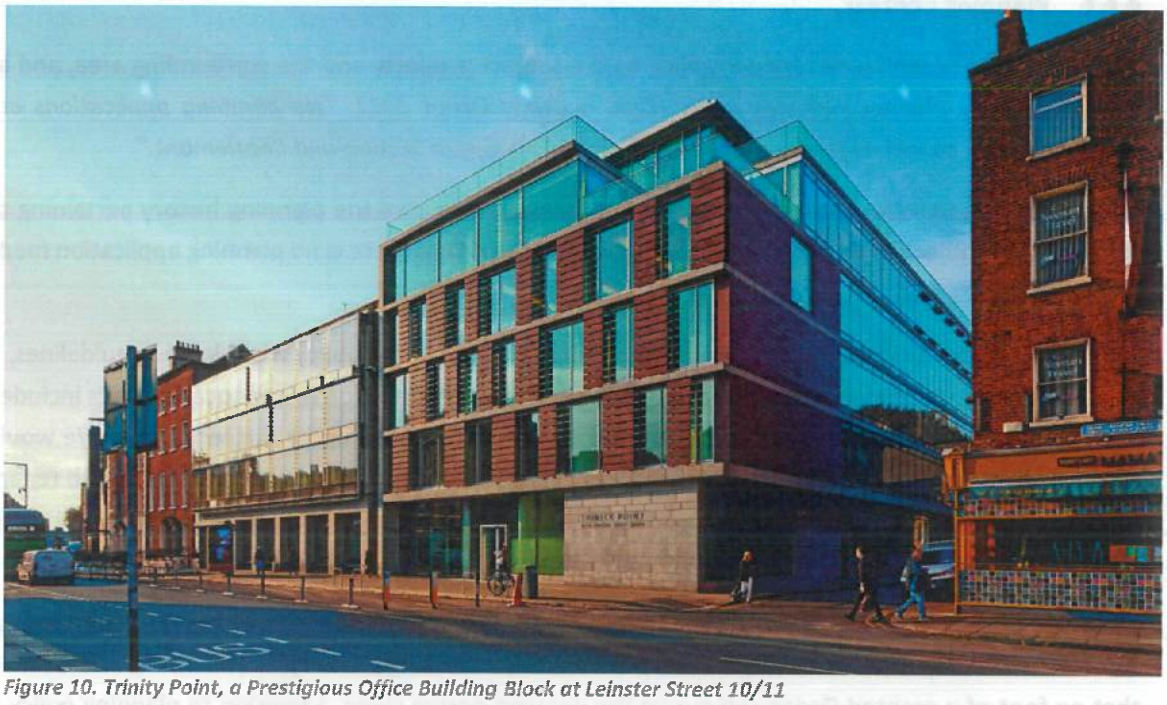

Figure 10. Trinity Point, a Prestigious Office Building Block at Leinster Street 10/11

Designed by architects Shay Cleary and built by Sisk, Trinity Point comprises a landmark six-storey over basement office building extending over 4,000sqm along with 20 secure basement car-parking spaces accessed via car lift from Leinster Lane. Developed more than a decade ago, the building occupies a prime corner site fronting on to south Leinster Street, adjacent to the National Gallery of Ireland, overlooking Trinity College Dublin and within a short walk in either direction of the Kildare Street entrance to Dáil Éireann and the Upper Merrion Street entrance to Government Buildings. Thus, as a modern office building, Trinity Point in located in a historically significant urban block, surrounded by a cluster of protected structures.

The building is noted as one of the few third-generation office buildings with sustainability at the forefront of its design, featuring a mixed mode naturally ventilated building with a double skin façade, improving environmental conditions for occupiers, while also improving efficiency from an energy cost perspective. Trinity Point is rated B3 from a Building Energy Rating (BER) perspective, placing it within the top 16% of non-domestic buildings in Ireland.

4.4.3 Current Use/Uses

The OPW has occupied a portion of Trinity Point since c. 2017, currently occupying 60% of the building under two FRI leases expiring in March 2032, while the Department of Rural and Community Development are in occupation of the 4/5th floors, with the National Shared Service in occupation of the ground floor.

Except for the parts being in the OPW use, this office building block comprises of a reception area at ground floor, a board room, offices, canteen facilities and open plan floor plates accommodating c. 177 workstations.

4.4.4 Planning Context

In terms of the planning history pertaining to the subject property and the surrounding area, and as outlined in the Planner's Report of the Draft Railway Order 2022, *"No planning applications are affected by the tunnel alignment between St. Stephen's Green Station and Charlemont."*

It is noted that DOWNEY have also carried out an examination of the planning history pertaining to the property subject to this submission, which determined that there is no planning application made on the site or its adjacent properties.

In relation to the Draft Railway Order's consistency with planning policy and planning guidelines, a non-exhaustive list of planning policy and legislation at National, Regional, and Local levels, is included in Appendix 1 of this submission, the Board are invited to refer to this for further details. We would respectfully request that An Bord Pleanála ensure that TII have fully assessed the Project with regard to existing planning policy, as well as adherence to the relevant local policies and guidelines pertaining to each individual property.

DOWNEY note that this proposed Draft Railway Order is a strategic long-term development and An Bord Pleanála may consider Draft Development Plans in assessing the Project. It is also crucial to note that on foot of a granted Order and during the detailed design stage, a revision to planning policy is expected, whereby adopted plans and legislation may have to be adhered within this stage. This may require an amendment to the Draft Railway Order and further assessment, including public consultation.

4.4.5 Potential Development of the Property

Trinity Point is a modern fitted office building block in a prime location. The OPW currently holds a lease until 2032, which may be extended from that date. Development of the property will be in accordance with the lease terms.

4.5 EARLSFORT DEVELOPMENT CENTRE

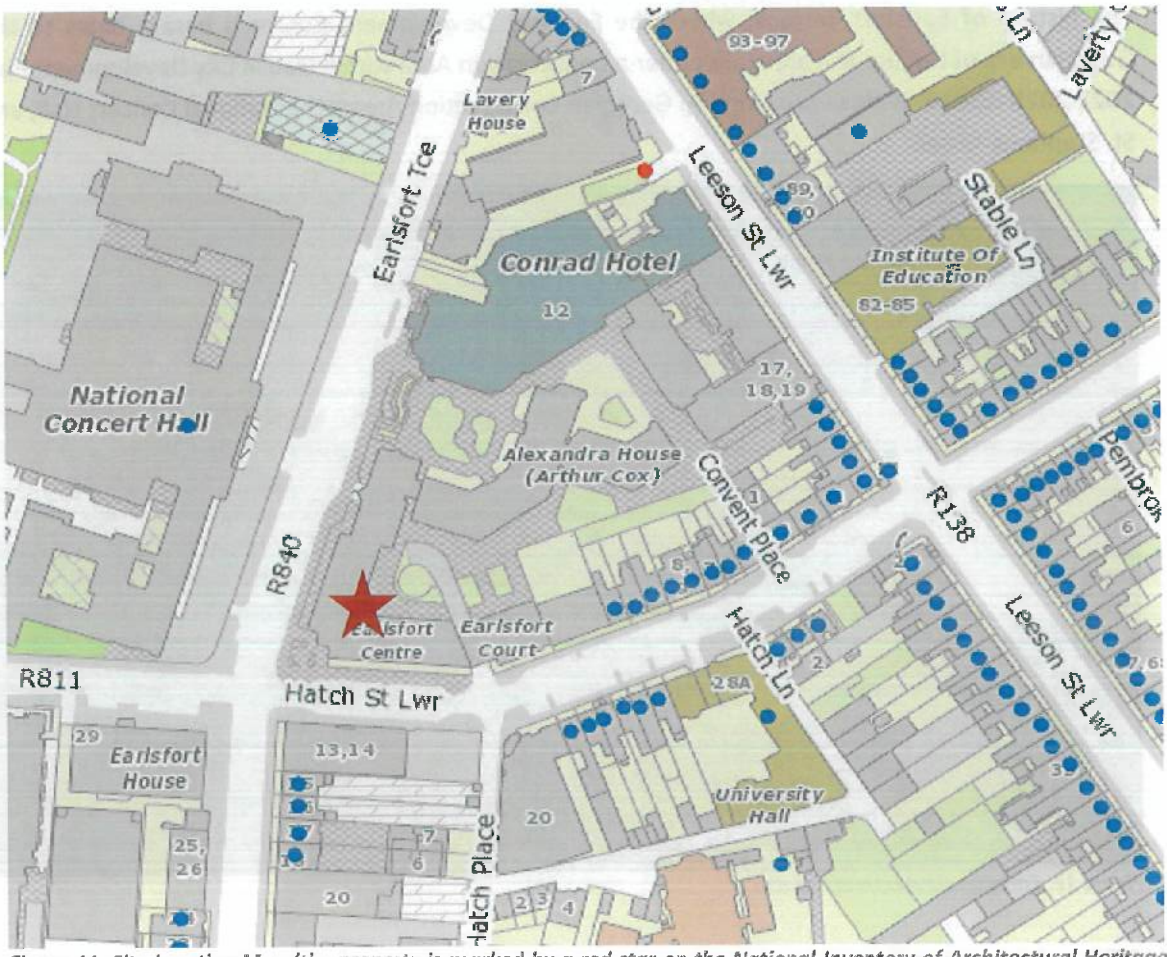

Figure 11. Site Location Map (the property is marked by a red star on the National Inventory of Architectural Heritage (NIAH) Map (Map extract from archaeology.ie with Ordnance Survey Base-map)

4.5.1 Property Location & Description

The **Earlsfort Development Centre** is located on the north-eastern side of Earlsfort Terrace and forms several blocks of office accommodation on a campus style development. Block C, where the OPW leases from, is a 5 to 7-storey over basement building, which fronts onto Hatch Street.

Originally containing Georgian houses, these were demolished between 1964 and 1971 and were replaced with a collection of modern office blocks including the Earlsfort Development Centre. Block C of the development saw redevelopment in the 2010's with the addition of one-to-two storeys to the unit to expand the floor sizes and height of the office buildings. The development is a multi-let that contains a wide range of tenants that lease office space, consisting of the Office of the Ombudsman, Commission for Public Service Appointments, Health Products Regulatory Authority, and the Embassy of South Africa.

The Development Centre is owned by Earlsfort Centre (Management) Ltd. in which the Office of Public Works currently are leasing office floors on Block C from on behalf of the Commission for Public Services Appointments.

4.5.2 Historical Context/Conservation Status

The history of Earlsfort Terrace, where the Earlsfort Development Centre is based, dates to the Georgian era of Dublin. The area falls under a Conservation Area within Dublin City Development Plan 2022-2028 due to its close proximity to Georgian Conservation Areas, the National Concert Hall, and St. Stephens Green.

Figure 12. Earlsfort Development Centre

4.5.3 Current Use/Uses

The OPW has leased space within this building for office use.

4.5.4 Planning Context

Outlined in the Planner's Report of the Draft Railway Order 2022, "*No planning applications are affected by the tunnel alignment between St. Stephen's Green Station and Charlemont.*"

It is noted that DOWNEY have also carried out an examination of the planning history pertaining to the property subject to this submission, which determined that there is a planning application made within proximity to the subject property, at the National Concert Hall, Earlsfort Terrace, Dublin 2.

However, since then a planning application was registered on the 29th of September 2022 by Dublin City Council, at the National Concert Hall, Earlsfort Terrace, Dublin 2.

Reg. Ref. 4951/22 (ABP-315358-22): By Order dated 23rd November 2022, Dublin City Council granted permission to the Commissioners of Public Works in Ireland for "the conservation and refurbishment of the existing north wing and part of the east wing of the National Concert Hall and the Real Tennis Court building and the construction of a new four storey over basement extension with a planetarium dome to the west of the north wing at the boundary of the Iveagh Gardens. The development includes the change of use of the former UCD School of Civil Engineering to the National Children's Science

Centre." Subsequently, a third-party appeal was lodged on 19th December 2022, and the application is currently under consideration by An Bord Pleanála with a decision due on the 28th of April 2023.

In relation to the Draft Railway Order's consistency with planning policy and planning guidelines, a non-exhaustive list of planning policy and legislation at National, Regional, and Local levels, is included in Appendix 1 of this submission, the Board are invited to refer to this for further details. We would respectfully request that An Bord Pleanála ensure that TII have fully assessed the Project with regard to existing planning policy, as well as adherence to the relevant local policies and guidelines pertaining to each individual property.

DOWNEY note that this proposed Draft Railway Order is a strategic long-term development and An Bord Pleanála may consider Draft Development Plans in assessing the Project. It is also crucial to note that on foot of a granted Order and during the detailed design stage, a revision to planning policy is expected, whereby adopted plans and legislation may have to be adhered within this stage. This may require an amendment to the Draft Railway Order and further assessment, including public consultation.

4.5.5 Potential Development of the Property

The OPW reserves the right to develop the subject property in the future, this includes property above and below ground, subject to normal planning criteria.

It is important that the development of the MetroLink does not interfere with extant planning permissions pertaining to the subject property and the right of the applicant to develop these, in advance, in tandem or post operation of the MetroLink Project.

4.6 INTREO OFFICE & PARKRITE PARKING

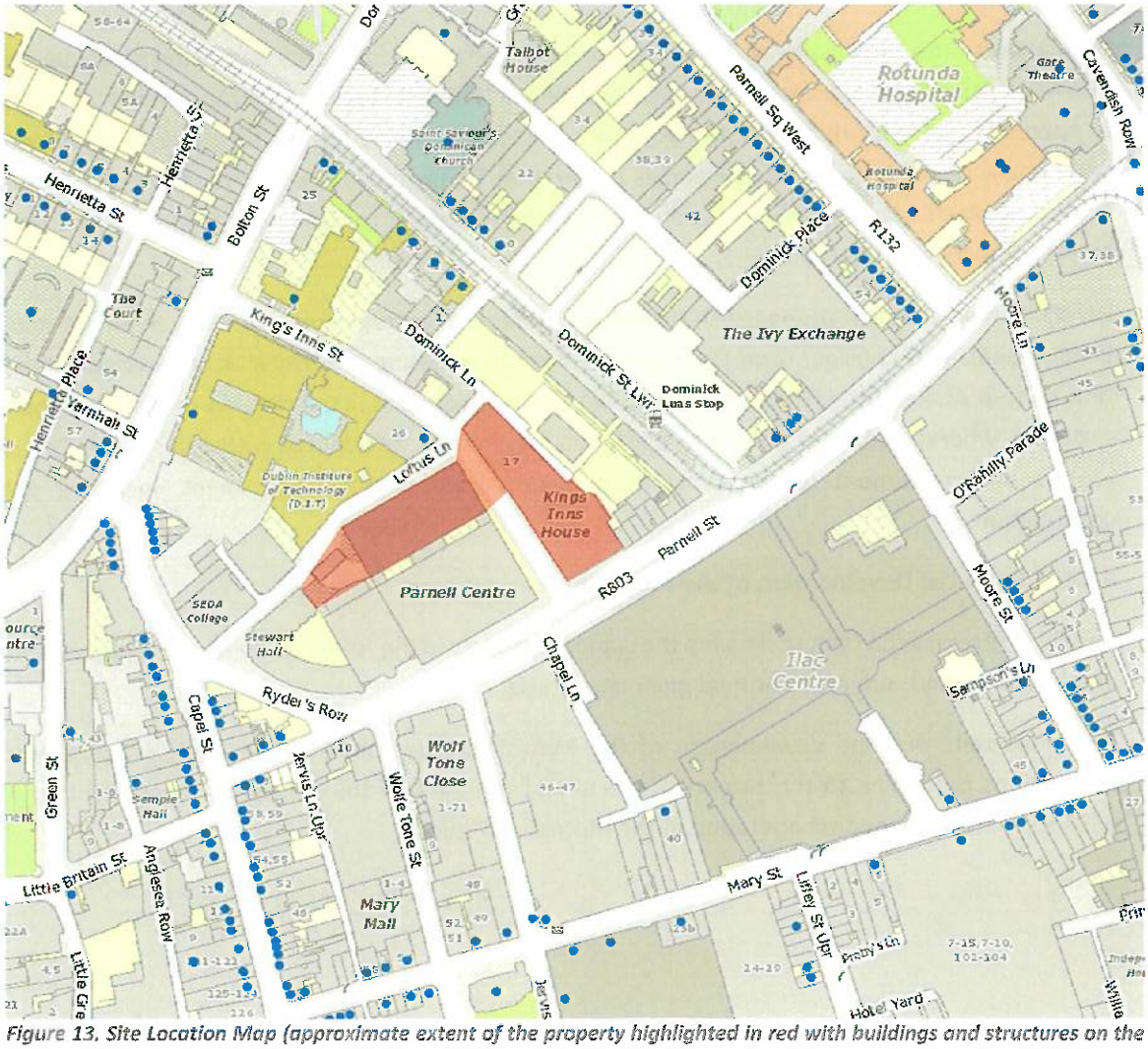

Figure 13. Site Location Map (approximate extent of the property highlighted in red with buildings and structures on the National Inventory of Architectural Heritage (NIAH) marked in blue (Map extract from archaeology.ie with Ordnance Survey Base-map)

4.6.1 Property Location & Description

The INTREO Office is situated in a leased building on the edge of Parnell Street and King's Inn Street, Rotunda, with 50 no licensed. car parking spaces accommodated by the Parkrite car parking located at Loftus Lane, a privately operated car park situated around the corner from the Cineworld Cinema complex and in close proximity to Jervis Street, Henry Street, and Capel Street.

The property facilitates multiple public services that are provided through the INTREO centre, on behalf of the Department of Social Protection. It is also home to the National Screening Service that is provided by the Health Service Executive, which is separate and distinct from the OPW tenanted areas.

The Office of Public Works are responsible for that part of the building occupied by the INTREO Office (Department of Social Protection), Parnell Street, Dublin 1. The OPW holds 50 car parking spaces by way of license, which support the operation of a number of different State occupiers in the immediate vicinity, situated to the rear of Cineworld Cinema from Parkrite Parking.

4.6.2 Historical Context/Conservation Status

There are no buildings within this vicinity that are identified as protected structures. However, a section of the site falls under the Zone of Archaeological Interest within the Dublin City Council Development Plan 2022-2028.

Figure 14. Parnell Street INTREO Office

4.6.3 Current Use/Uses

The OPW holds in excess of 50 car spaces for a number of different Departments and bodies located in the vicinity on license in this privately operated car park. The car park itself is a modern multi-storey facility forming part of the Parnell Centre which fronts onto Parnell Street and accommodates a number of retail and leisure occupiers.

4.6.4 Planning Context

In terms of the planning history pertaining to the subject property and the surrounding area, and as outlined in the Planner's Report of the Draft Railway Order 2022, "*There are no extant planning permissions or live planning applications that are affected by the works*" between Mater Station and O'Connell Street Station, where the INTREO Office and Parkrite Car Park are situated.

It is noted that DOWNEY have also carried out an examination of the planning history pertaining to the property subject to this submission, which determined that there is no planning application made on the site or its adjacent properties.

In relation to the Draft Railway Order's consistency with planning policy and planning guidelines, a non-exhaustive list of planning policy and legislation at National, Regional, and Local levels, is included in Appendix 1 of this submission, the Board are invited to refer to this for further details. We would respectfully request that An Bord Pleanála ensure that TII have fully assessed the Project with regard to existing planning policy, as well as adherence to the relevant local policies and guidelines pertaining to each individual property.

DOWNEY note that this proposed Draft Railway Order is a strategic long-term development and An Bord Pleanála may consider Draft Development Plans in assessing the Project. It is also crucial to note that on foot of a granted Order and during the detailed design stage, a revision to planning policy is expected, whereby adopted plans and legislation may have to be adhered within this stage. This may require an amendment to the Draft Railway Order and further assessment, including public consultation.

5.0 MATERIAL CONSIDERATIONS

The alignment drawing ML1-JAI-EIA-ROUT_XX-DR-Y-04025 and the Contour drawing ML1-JAI-EIA-ROUT_XX-DR-Y-21148 show different alignments. This error has resulted in deficient information within the SID application submitted under Section 2 of the Planning and Development Act 2000 (as amended), to assess the vulnerability of damage due to vibration cause by both tunnelling and operation of underground train on this section of the alignment. This affects several buildings under the management of the OPW particularly with Kildare Street, Merrion Square and St. Stephen's Green areas.

6.0 LEGAL CONSIDERATIONS

The Commissioners of Public Works would seek to enter into appropriate, property-specific legal agreements with TII, to ensure the protection of key State property and of the State's activities undertaken within those and other properties. Given the importance of such properties and activities, the Commissioners of Public Works consider it appropriate that An Bord Pleanála would make the Railway Order conditional on such legal agreements being in place between TII and the OPW. Creating such legal agreements between TII and the OPW would be possible only after TII make available the more detailed design and risk-mitigation measures for the construction and operational phases of the MetroLink project, and before any development begins. Therefore, the Commissioners of Public Works would request that this aspect be reflected in the conditions set out by An Bord Pleanála to TII, as this would provide assurances to the Commissioners of Public Works relating to future legal agreements that protect and secure State property and activities from risks associated with the construction or operations of the MetroLink.

7.0 ENGINEERING CONSIDERATIONS

This Section will cover the technical information from the engineers as it relates to this collective of properties.

7.1 General Considerations

7.1.1 1GQ, GEORGE'S QUAY

7.1.1.1 Route Alignment

Tara Station is approximately 85m southwest of this property. The alignment drawing ML1-JAI-EIA-ROUT_XX-DR-Y-05025 and the Contour drawing ML1-JAI-EIA-ROUT_XX-DR-Y-21147 show the alignment and the predicted ground movement.

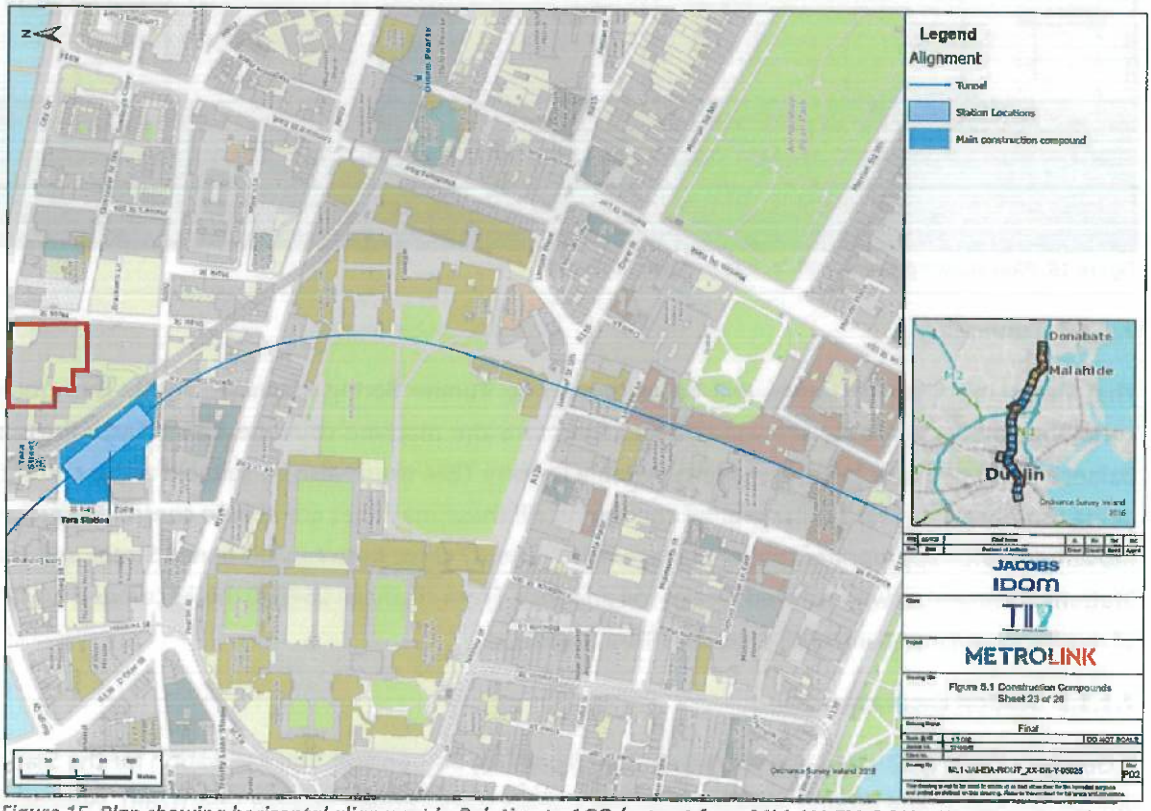

Figure 15. Plan showing horizontal alignment in Relation to 1GQ (extract from ML1-JAI-EIA-ROUT_XX-DR-Y-05025)

Adjacent to the 1GQ, the proposed MetroLink will be excavated through Argillaceous Limestone rock (CLU) underlying Weathered Rock (QTR) underlying Brown Boulder Clay (QBR), containing extensive fluvio-glacial sands and gravels. Cover to the tunnel crown is approximately 17m comprising Brown Boulder Clay. The invert will be excavated through both weathered and unweathered limestone. This will present a significant challenge to ground movement mitigation using tunnel management.

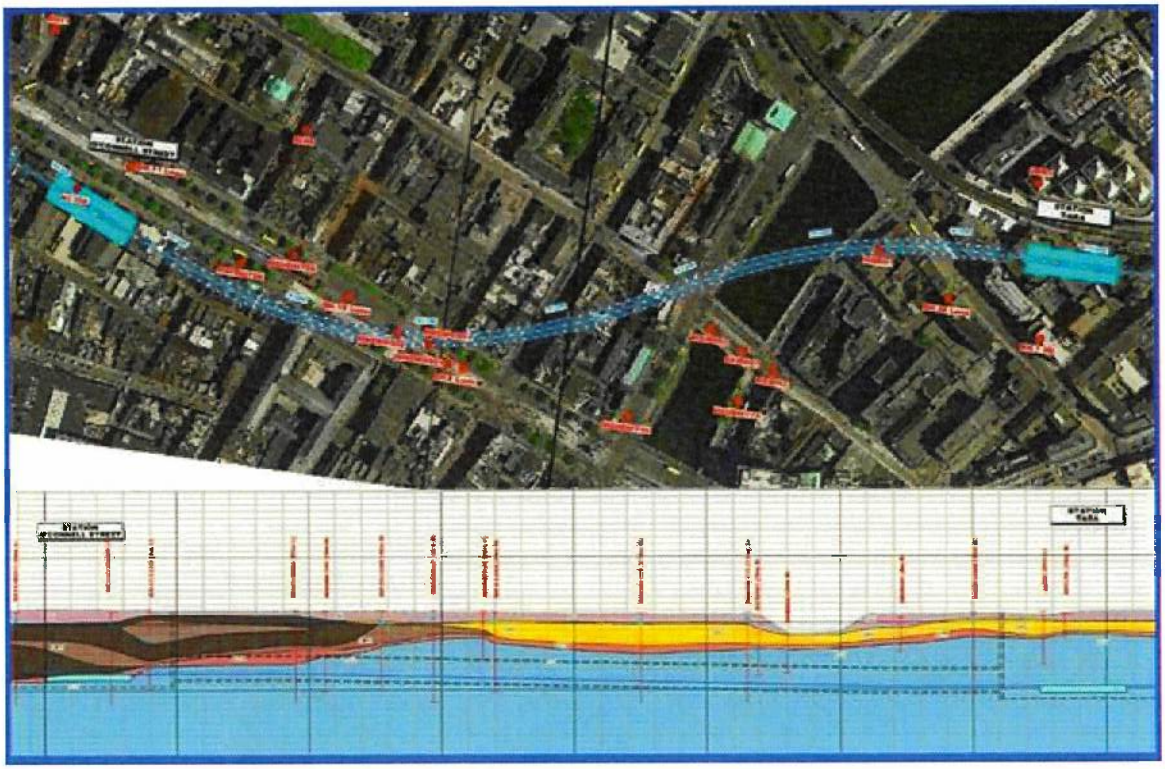

Figure 16. Plan showing Geological Section in Relation to 1GQ

7.1.1.2 Tunnelling

The MetroLink 8.5m ID tunnel will be excavated by Tunnel Boring Machine (TBM). The ground conditions along the route are variable and therefore the machine could be either Earth Pressure Balance (EPB) or Slurry (STB). A modern Variable Density TBM would also be suitable and is currently being used in the UK for similar ground conditions. All these machines are able to control the ground movement with appropriate tunnel management. The C7 drive between O'Connell Street and Tara Stations commences with a mixed face of soil and rock. From chainage 16+850 this becomes a full face of Argillaceous Limestone until it reaches Tara Station.

7.1.1.3 Station Excavation

1 George's Quay is situated approximately 85m from Tara Station Box. The excavation for the Station will be through made ground alluvial sands and gravels (QAG) Brown Boulder Clay (QBR), Weathered Rock, and Argillaceous Limestone. The excavation through the limestone will most likely include blasting but this is unlikely to affect the 1 George's Quay.

7.1.2 CORN EXCHANGE

7.1.2.1 Route Alignment

The MetroLink 8.5m ID running tunnel passes approximately 40m from the front of this building. The alignment drawing ML1-JAI-EIA-ROUT_XX-DR-Y-04026 and 04027 and the Contour drawing ML1-JAI-EIA-ROUT_XX-DR-Y-21147 show the alignment and the predicted ground movement.

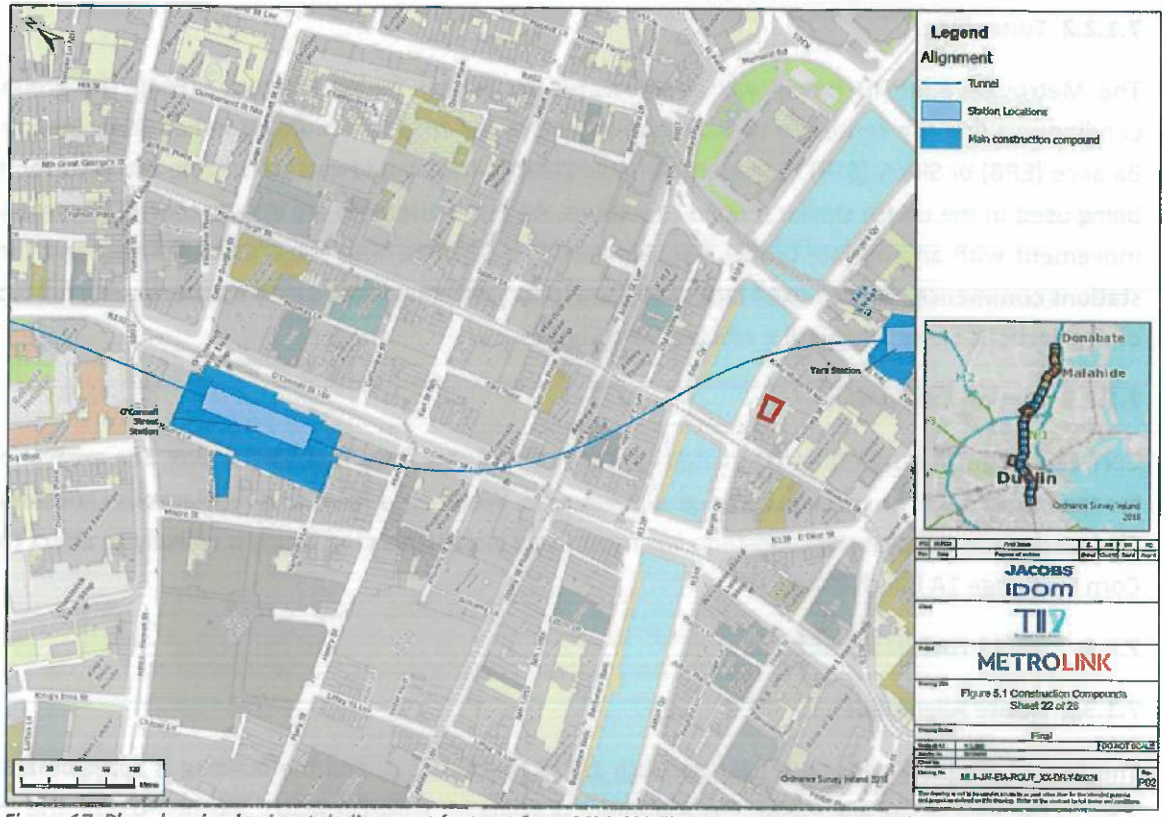

Figure 17. Plan showing horizontal alignment (extract from ML1-JAI-EIA-ROUT_XX-DR-Y-04026)

Plan showing horizontal alignment (extract from ML1-JAI-EIA-ROUT_XX-DR-Y-04018).

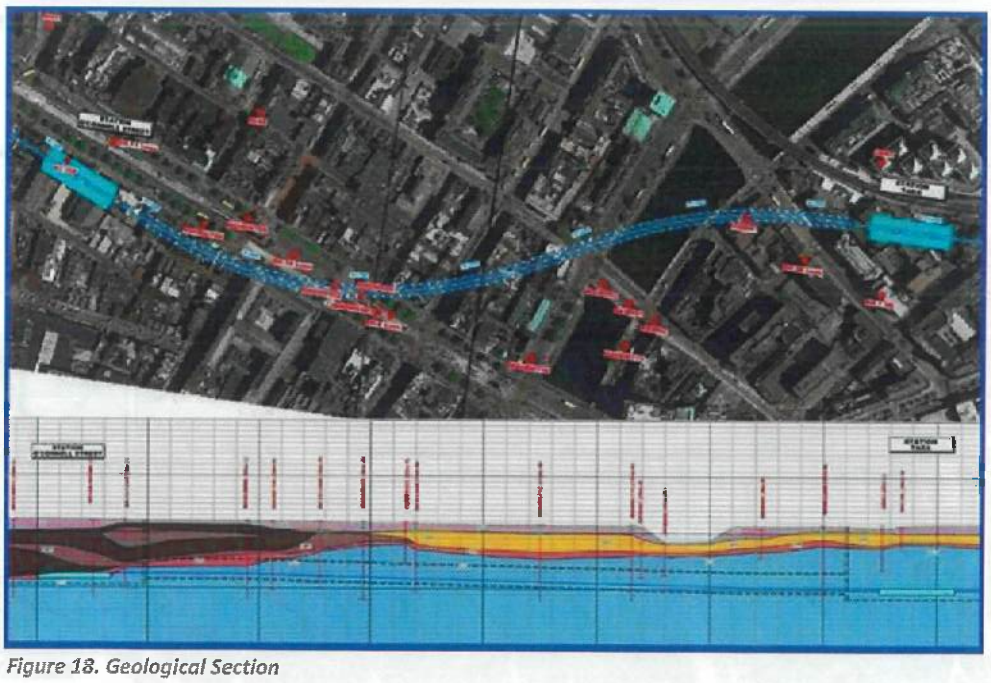

Figure 18. Geological Section

In close proximity to the Corn Exchange 1A Burgh Quay, the proposed MetroLink will be excavated through Argillaceous Limestone rock (CLU) underlying Weathered Rock (QTR) underlying Brown Boulder Clay (QBR), containing extensive fluvio-glacial sands and gravels. Cover to the tunnel crown is approximately 17m.

7.1.2.2 Tunnelling

The MetroLink 8.5m ID tunnel will be excavated by Tunnel Boring Machine (TBM). The ground conditions along the route are variable and therefore the machine could be either Earth Pressure Balance (EPB) or Slurry (STB). A modern Variable Density TBM would also be suitable and is currently being used in the UK for similar ground conditions. All these machines are able to control the ground movement with appropriate tunnel management. The C7 drive between O'Connell Street and Tara stations commences with a mixed face of soil and rock. From chainage 16+850 this becomes a full face of Argillaceous Limestone until it reaches Tara Station.

7.1.2.3 Station Excavation

Corn Exchange 1A Burgh Quay is situated approximately 125m from Tara Station Box. The excavation for the stations will be through fluvio-glacial deposits, Weathered Rock, and Argillaceous Limestone. The excavation through the Limestone will most likely include blasting which is unlikely to affect the Corn Exchange 1A Burgh Quay.

7.1.3 13/15 HATCH STREET

7.1.3.1 Route Alignment

The tunnel alignment does not pass beneath 13/15 Hatch Street, and the building is approximately 75m to the east of the alignment. The alignment drawing ML1-JAI-EIA-ROUT_XX-DR-Y-05026 and the Contour drawing ML1-JAI-EIA-ROUT_XX-DR-Y-21147 show the alignment and the predicted ground movement.

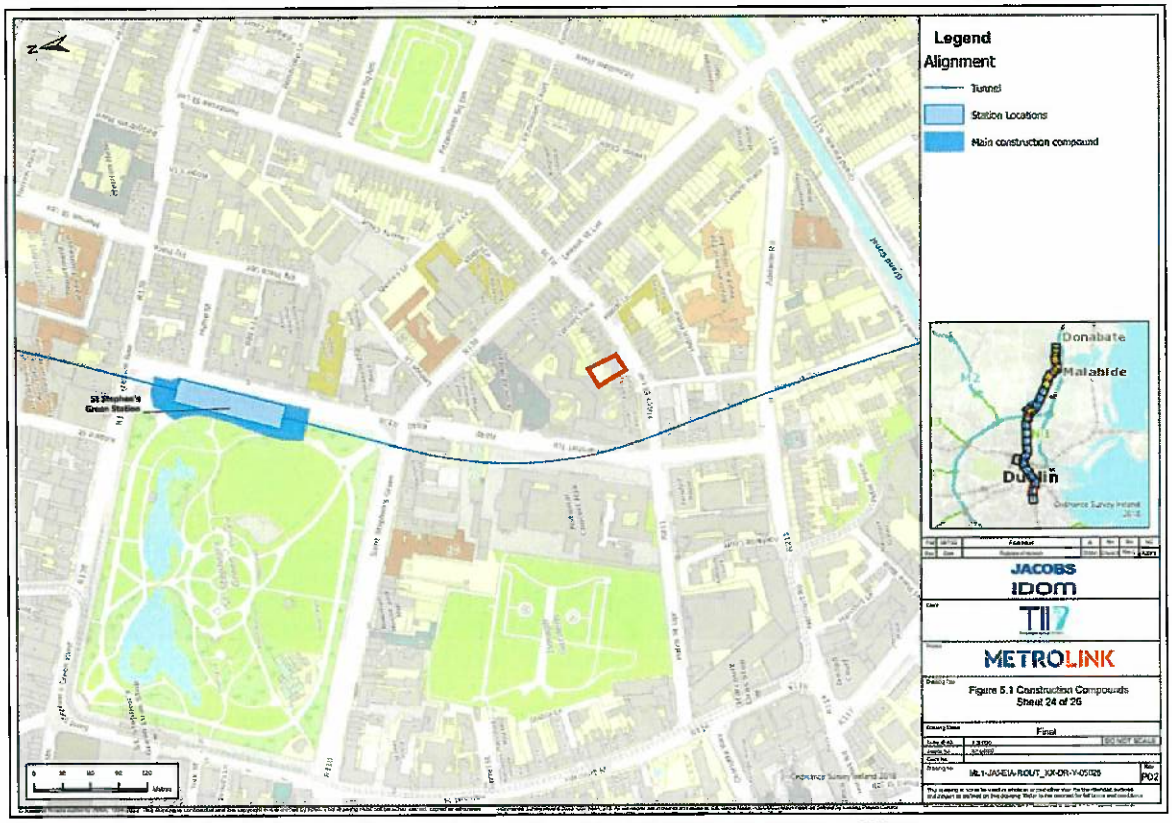

Figure 19. Plan showing horizontal alignment (extract from ML1-JAI-EIA-ROUT_XX-DR-Y-05026)

Many of the reports refer to chainages along the alignment. However, there are no plans that indicate these chainages, and this makes reviewing the Draft Railway Order and EIAR difficult.

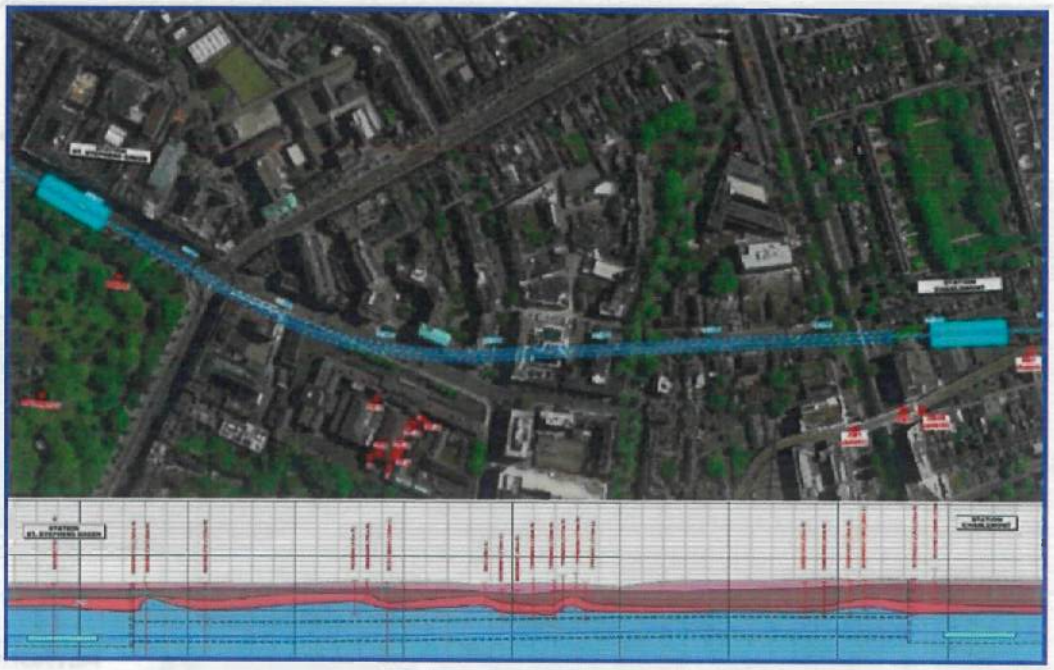

Figure 20. C9 Geological Section (ref. A5.13, Diagram 3.14: Geologic Profile for TBM Drive C9- St Stephen's Green to Charlemont)

In proximity to 13/15 Hatch Street, the proposed MetroLink 8.5m ID tunnel will be excavated through Argillaceous Limestone rock (CLU) that underlies Brown Boulder Clay (QBR), containing fluvio-glacial sands and gravels. Cover to the tunnel crown is 12m including 2m of rock cover.

7.1.3.2 Tunnelling

The MetroLink 8.5m ID tunnel will be excavated by Tunnel Boring Machine (TBM). The ground conditions along the route are variable and therefore the machine could be either Earth Pressure Balance (EPB) or Slurry (STB). A modern Variable Density TBM would also be suitable and is currently being used in the UK for similar ground conditions. All these machines can control the ground movement with appropriate tunnel management. The 710m drive between St. Stephen's Green and Charlemont stations (C9) will be entirely within the Argillaceous Limestone.

7.1.3.3 Station Excavation

The area delineated as 13/15 Hatch Street in the above plan is situated approximately 340m from St. Stephen's Green Station Box and approximately over 375m from Charlemont Station Box. The excavation for these stations is unlikely to affect 13/15 Hatch Street.

7.1.4 TRINITY POINT

7.1.4.1 Route Alignment

The tunnel alignment passes directly beneath the Trinity Point. However, there is inconsistency in the alignment between Tara Station and St. Stephen's Green. The alignment drawing ML1-JAI-EIA-

ROUT_XX-DR-Y-05025 and the Contour drawing ML1-JAI-EIA-ROUT_XX-DR-Y-21148 show different alignments.

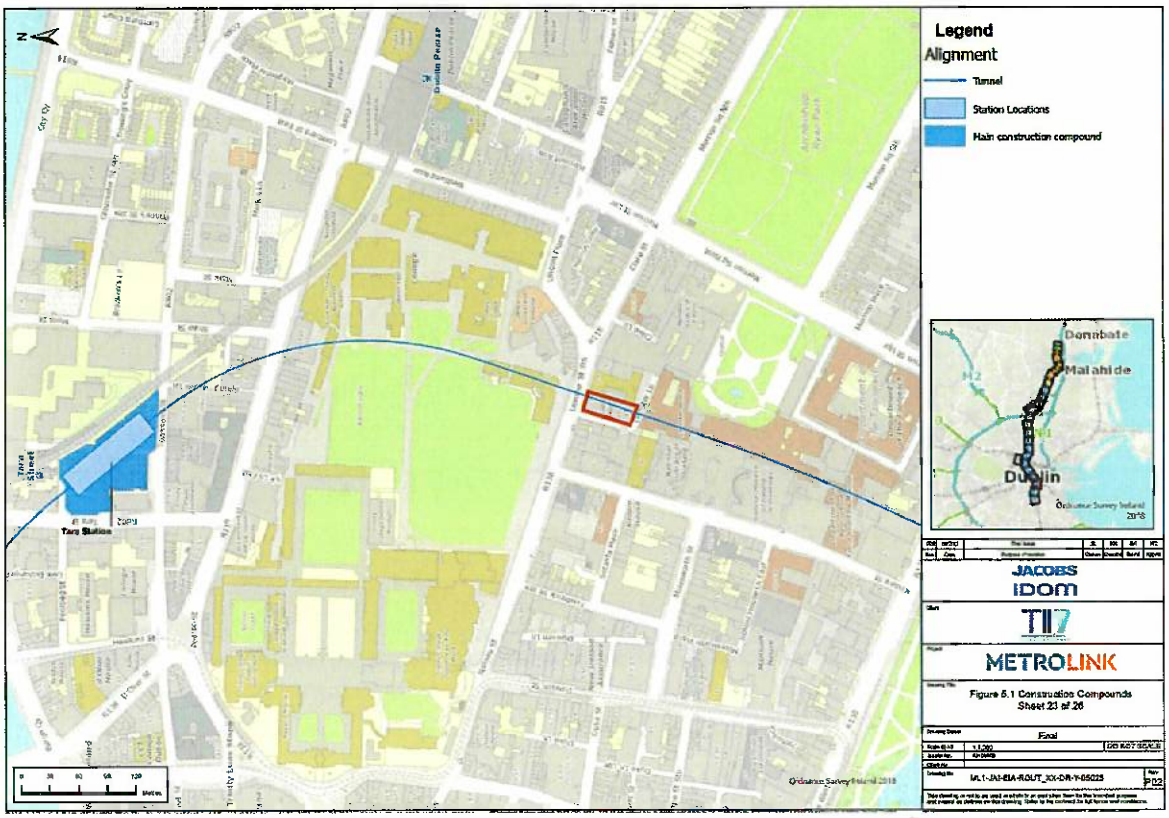

Figure 21. Plan showing horizontal alignment (extract from ML1-JAI-EIA-ROUT_XX-DR-Y-05025)

Many of the reports refer to chainages along the alignment. However, there are no plans that indicate these chainages, and this makes reviewing the Draft Railway Order and EIAR difficult.

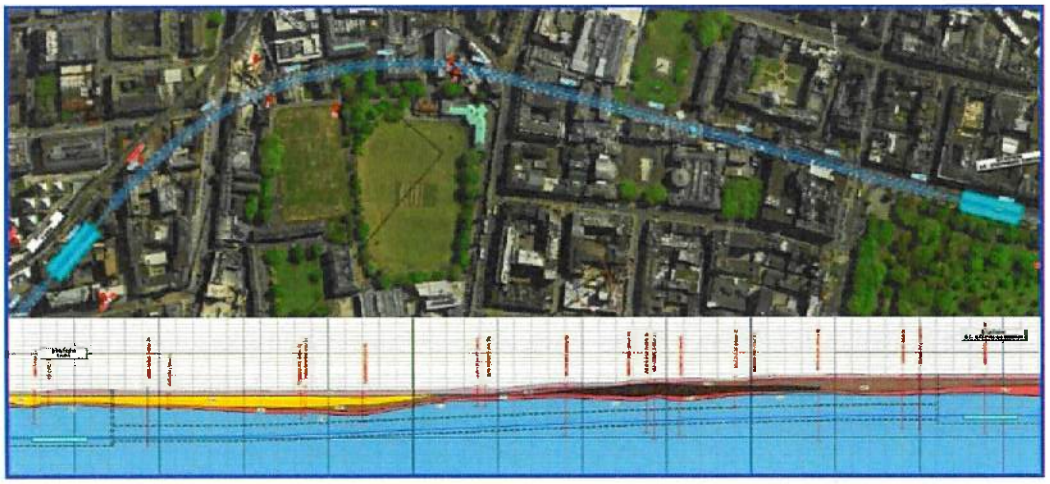

Figure 22. C8 Geological Section (ref. A5.13, Diagram 3.13: Geologic Profile for TBM Drive C8- Tara Station to St Stephen's Green)

In the proximity of Trinity Point, the proposed MetroLink 8.5m ID tunnel will be excavated through Argillaceous Limestone rock (CLU) that underlies Brown Boulder Clay (QBR), containing fluvio-glacial sands and gravels. Cover to the tunnel crown is 22.75m including 9.75m of rock cover.

7.1.2 Tunnelling

The MetroLink 8.5m ID tunnel will be excavated by Tunnel Boring Machine (TBM). The ground conditions along the route are variable and therefore the machine could be either Earth Pressure Balance (EPB) or Slurry (STB). A modern Variable Density TBM would also be suitable and is currently being used in the UK for similar ground conditions. All these machines can control the ground movement with appropriate tunnel management. The 980m drive between Tara Station and St. Stephen's Green (C8) will be entirely within the Argillaceous Limestone.

7.1.3 Station Excavation

The area delineated as Trinity Point in the above plan is situated approximately 540m from Tara Station Box and approximately 385m from St. Stephen's Green Station Box, along the chainage. The excavation for these stations is unlikely to affect Trinity Point.

7.1.5 EARLSFORT DEVELOPMENT CENTRE

7.1.5.1 Route Alignment

The tunnel alignment passes beneath the Earlsfort Centre. The alignment drawing ML1-JAI-EIA-ROUT_XX-DR-Y-05026 and the Contour drawing ML1-JAI-EIA-ROUT_XX-DR-Y-21148 show different alignments.

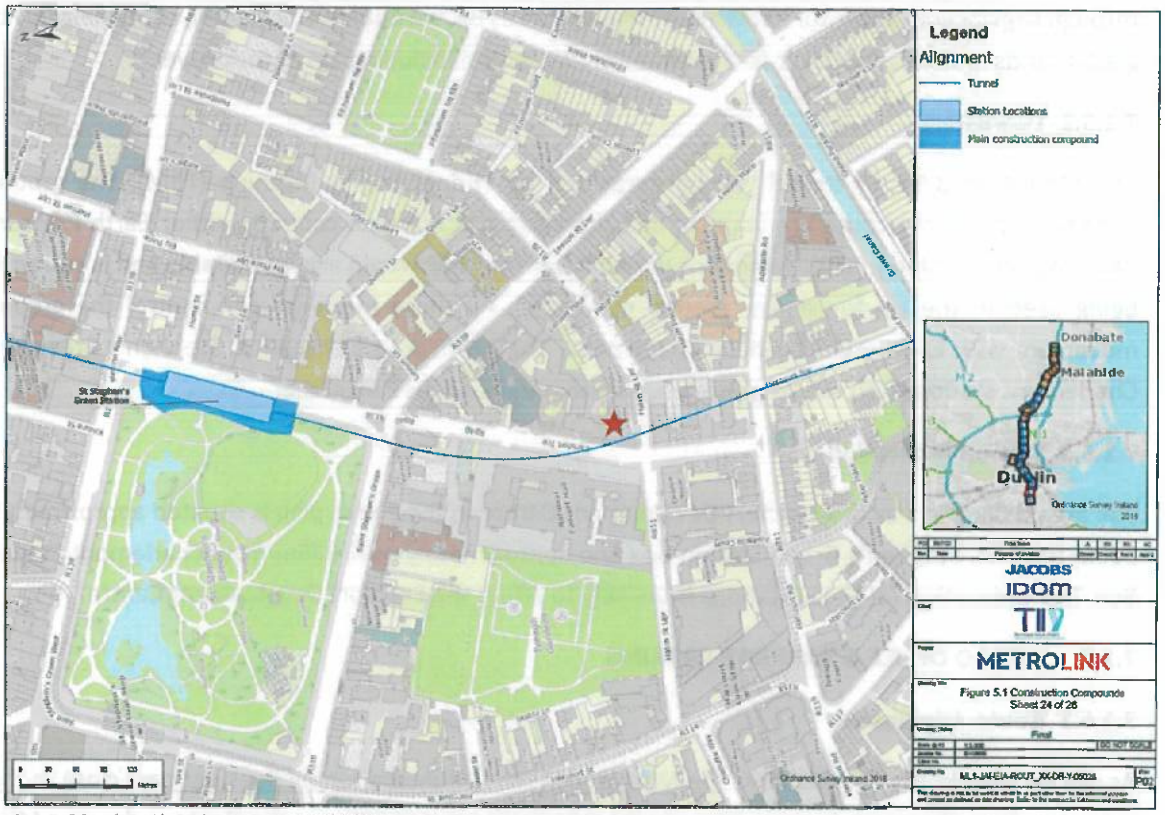

Figure 23. Plan Showing Horizontal Alignment (extract from ML1-JAI-EIA-ROUT_XX-DR-Y-05026)

Many of the reports refer to chainages along the alignment. However, there are no plans that indicate these chainages, and this makes reviewing the Draft Railway Order and EIAR difficult.

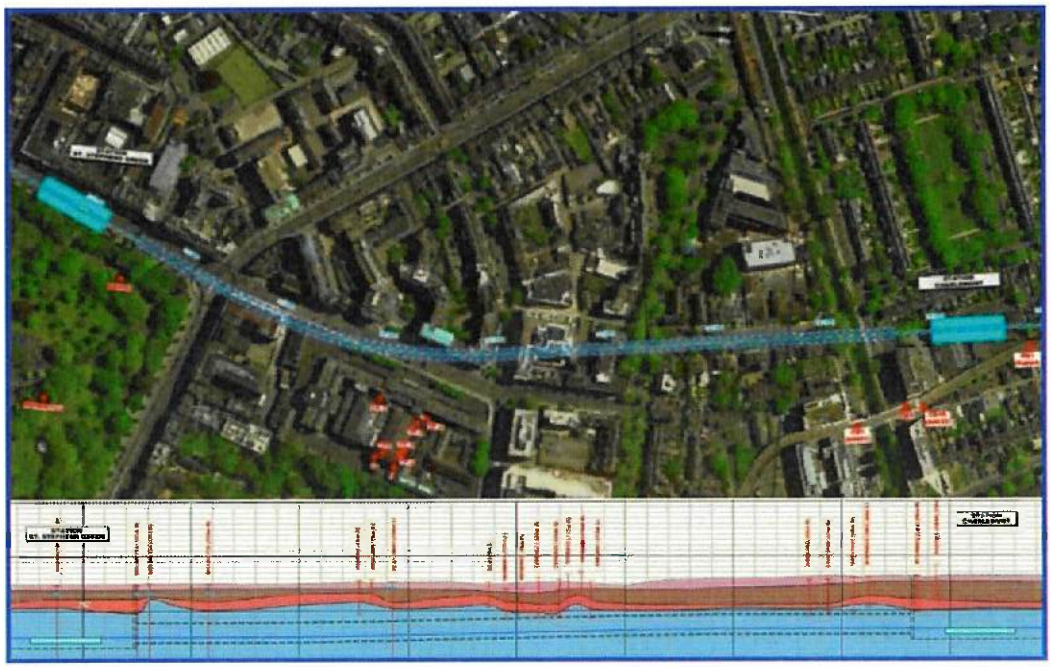

Figure 24. Geological Section ref. A5.13, Diagram 3.14: Geologic Profile for TBM Drive C9- St Stephen's Green to Charlemont

In the proximity of The Earlsfort Centre, the proposed MetroLink 8.5m ID tunnel will be excavated through Argillaceous Limestone rock (CLU) that underlies Brown Boulder Clay (QBR), containing fluvio-glacial sands and gravels. Cover to the tunnel crown is 12m including 2m of rock cover.

7.1.5.2 Tunnelling

The MetroLink 8.5m ID tunnel will be excavated by Tunnel Boring Machine (TBM). The ground conditions along the route are variable and therefore the machine could be either Earth Pressure Balance (EPB) or Slurry (STB). A modern Variable Density TBM would also be suitable and is currently being used in the UK for similar ground conditions. All these machines can control the ground movement with appropriate tunnel management. The 710m drive between St. Stephen's Green and Charlemont stations (C9) will be entirely within the Argillaceous Limestone.

7.1.5.3 Station Excavation

The area delineated as the Earlsfort Development Centre in the above plan is situated approximately 300m from St. Stephen's Green Station Box and approximately over 375m from Charlemont Station Box. The excavation for these stations is unlikely to affect the Earlsfort Development Centre.

7.1.6 INTREO OFFICE & PARKRITE PARKING

7.1.6.1 Route Alignment

As can be seen in the figure below, the MetroLink 8.5m ID running tunnel does not pass close to this property. The alignment drawing ML1-JAI-EIA-ROUT_XX-DR-Y-05023 and the Contour drawing ML1-JAI-EIA-ROUT_XX-DR-Y-21146 show the alignment and the predicted ground movement.

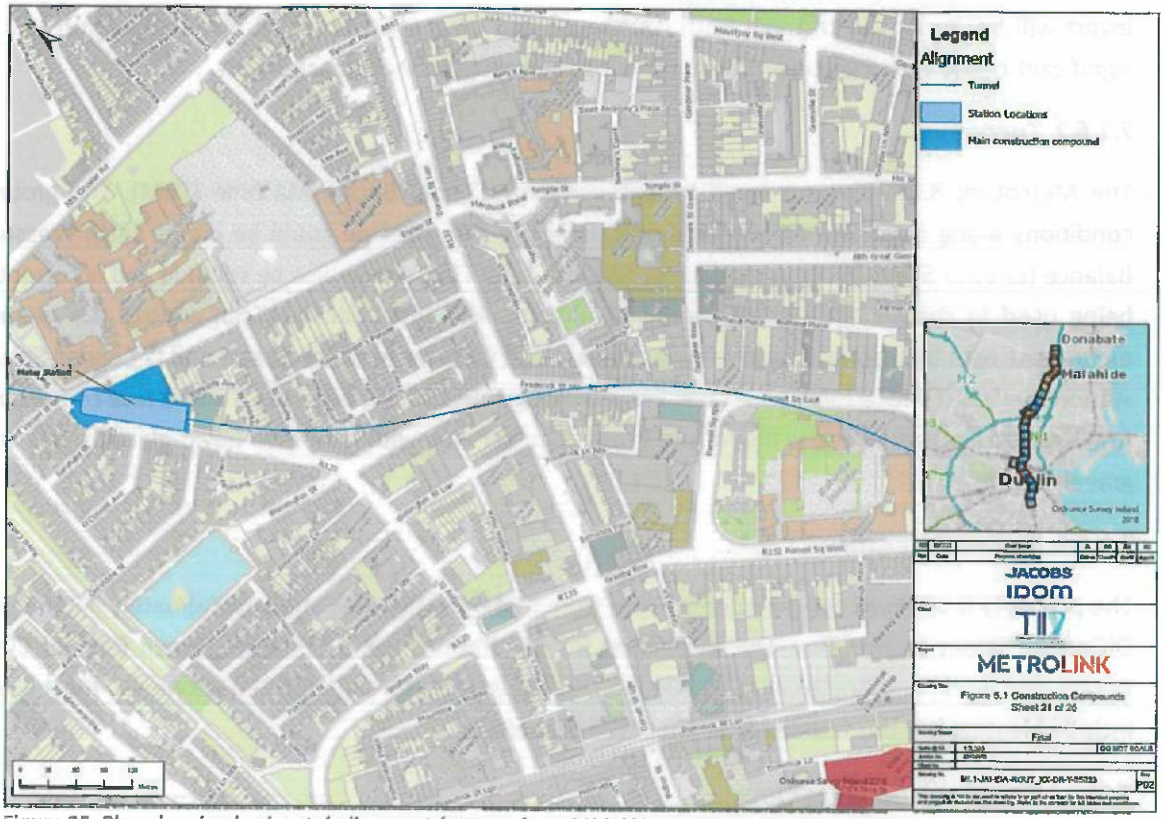

Figure 25. Plan showing horizontal alignment (extract from ML1-JAI-EIA-ROUT_XX-DR-Y-05023)

Many of the reports refer to chainages along the alignment. However, there are no plans that indicate these chainages, and this makes reviewing the Draft Railway Order and EIAR difficult.

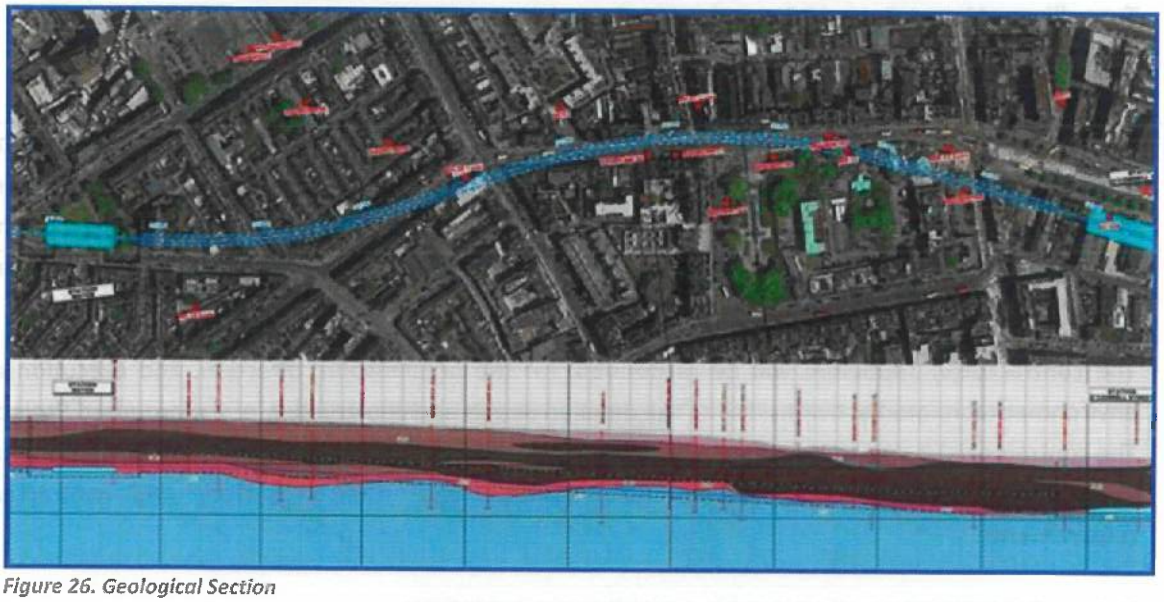

Figure 26. Geological Section

The proposed MetroLink will be excavated through Argillaceous Limestone rock (CLU) underlying Weathered Rock (QTR) underlying Brown Boulder Clay (QBR), containing extensive fluvio-glacial sands and gravels. Cover to the tunnel crown is approximately 23m comprising Brown Boulder Clay. The

invert will be excavated through both weathered and unweathered limestone. This will present a significant challenge to ground movement mitigation using tunnel management.

7.1.6.2 Tunnelling

The MetroLink 8.5m ID tunnel will be excavated by Tunnel Boring Machine (TBM). The ground conditions along the route are variable and therefore the machine could be either Earth Pressure Balance (EPB) or Slurry (STB). A modern Variable Density TBM would also be suitable and is currently being used in the UK for similar ground conditions. All these machines can control the ground movement with appropriate tunnel management. The C6 drive between Mater and O'Connell Street stations will start with a full face of rock. From chainage 16+100 this becomes a mixed face comprising Argillaceous Limestone in the invert and Brown Boulder clay with extensive fluvio-glacial sands and gravels above.

7.1.6.3 Station Excavation

The property is situated approximately 420m from Mater Station Box and approximately 340m from O'Connell Street Station Box. The excavation for the stations will be through Brown Boulder Clay, Weathered Rock, and Argillaceous Limestone. The excavation through the Limestone will most likely include blasting but this is unlikely to affect the property.

7.2 Programme Overview

Overall Project duration 9 years

Station construction 3 to 6 years

Tunnelling – Airport Tunnel 30 months, City Tunnel 45 months

7.3 Contractual Arrangement

TII intends to procure the detailed design and construction of the proposed Project using Design and Build contracts that will be divided up by geographical section and by type of works. Under this form of contract, the contractor(s) will ultimately be responsible for the final detailed design of the proposed Project and for preparing a more detailed Construction Environmental Management Plan (CEMP) for each specific package of works, as outlined in Section 1.3.

The contractor(s) appointed will be responsible for the organisation, direction, and execution of environmental related activities during the detailed design and construction of the proposed Project. The contractor(s) is required to undertake all activities in accordance with the relevant environmental requirements including the consent documentation and other regulatory and contractual requirements.

8.0 POTENTIAL IMPACTS ON THE PROPERTY

DOWNEY and Gall Zeidler have carried out a detailed examination of the property subject to this submission; and having regard to the status and current use of the property and identified constraints, the following raises concerns regarding potential impacts of the MetroLink on the property. This has been elaborated to include potential impacts during the construction and operation phases of

developing MetroLink, as well as any impediments and/or implications for future development of the property.

8.1 Monitoring

Given the public service uses within this property, we request that An Bord Pleanála attach a condition to the Draft Railway Order that ensures continuous monitoring of the property to prevent any negative impacts. Access to all properties must be agreed in advance with the OPW and its clients. It is recommended that this monitoring takes place at least 3 months in advance of the construction of the Project and at least 6 weeks post the operational stage of the MetroLink.

8.2 Security Issues

Given the nature of the State properties affected by the Project, we would respectfully refer An Bord Pleanála to Part XI of the Planning & Development Act 2000 (as amended), which states that:

> *"Development by State authorities. 181.—(1) (a) The Minister may, by regulations, provide that, except for this section F902[and sections 181A to 181C], the provisions of this Act shall not apply to any specified class or classes of development by or on behalf of a State authority where the development is, in the opinion of the Minister, in connection with or for the purposes of public safety or order, the administration of justice or national security or defence and, for so long as the regulations are in force, the provisions of this Act shall not apply to the specified class or classes of development.*
>
> *b(iii) the making available for inspection by members of the public of any specified documents, particulars, plans or other information with respect to the proposed development;"*

It is essential that security issues do not arise in the event of sensitive information being shared on the structure and operation of these properties. However, the OPW understands the importance of the detailed design stage of the Project and the wish to ensure that the detailed assessment of these properties takes place in the early stages of the design process, in conjunction with the OPW, to ensure that these buildings are not negatively impacted upon by the proposed Project. The OPW will liaise with TII and An Bord Pleanála on this matter.

All employees contracted to work on behalf of the TII on this Project, and any associated works, must adhere to the properties protocol around access, security, and safety. This applies to all persons entering or working in proximity of the property.

The day-to-day operations of the property cannot be interrupted by disruptions to any utilities.

The design and operation of the MetroLink should be in line with best international practice, in relation to anti-terrorism and security measures.

8.3 During Construction of the MetroLink

8.3.1 Ground Movement

Key points of the staged analysis for ground movements impacts on structures is provided for each property. However, an extended version of these stages has been provided in Appendix 2 enclosed with this submission, which we respectfully invite the Board to refer to.

8.3.1.1 1GQ, GEORGE'S QUAY

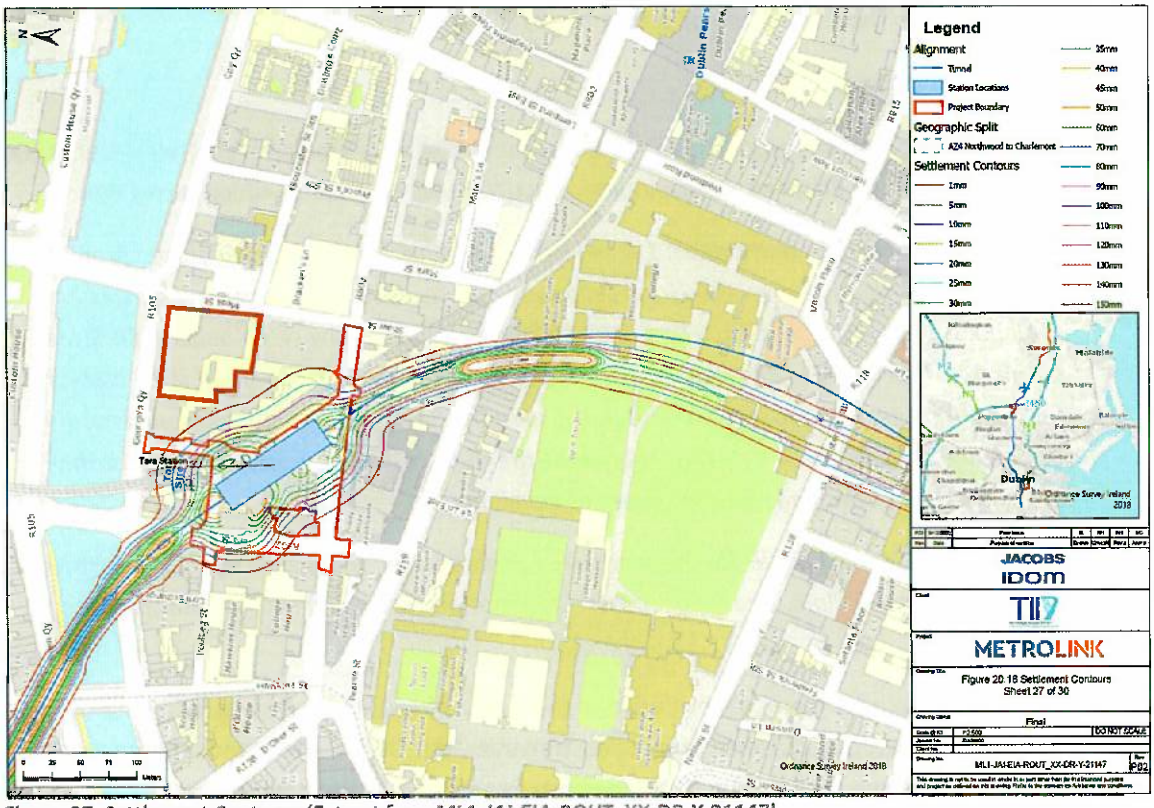

Figure 27. Settlement Contours (Extract from ML1-JAI-EIA-ROUT_XX-DR-Y-21147)

Stage 1: Defines extent of ground movement using Moderately Conservative parameters.

The extent of the zone of influence from the station excavation is defined by the 1mm contour line (Dark Red) and 1 George's Quay lies outside the zone of influence. The ground movement impact on the 1 George's Quay is not specified in the report and the OPW seeks to ensure that this building has its own assessment.

8.3.1.2 CORN EXCHANGE

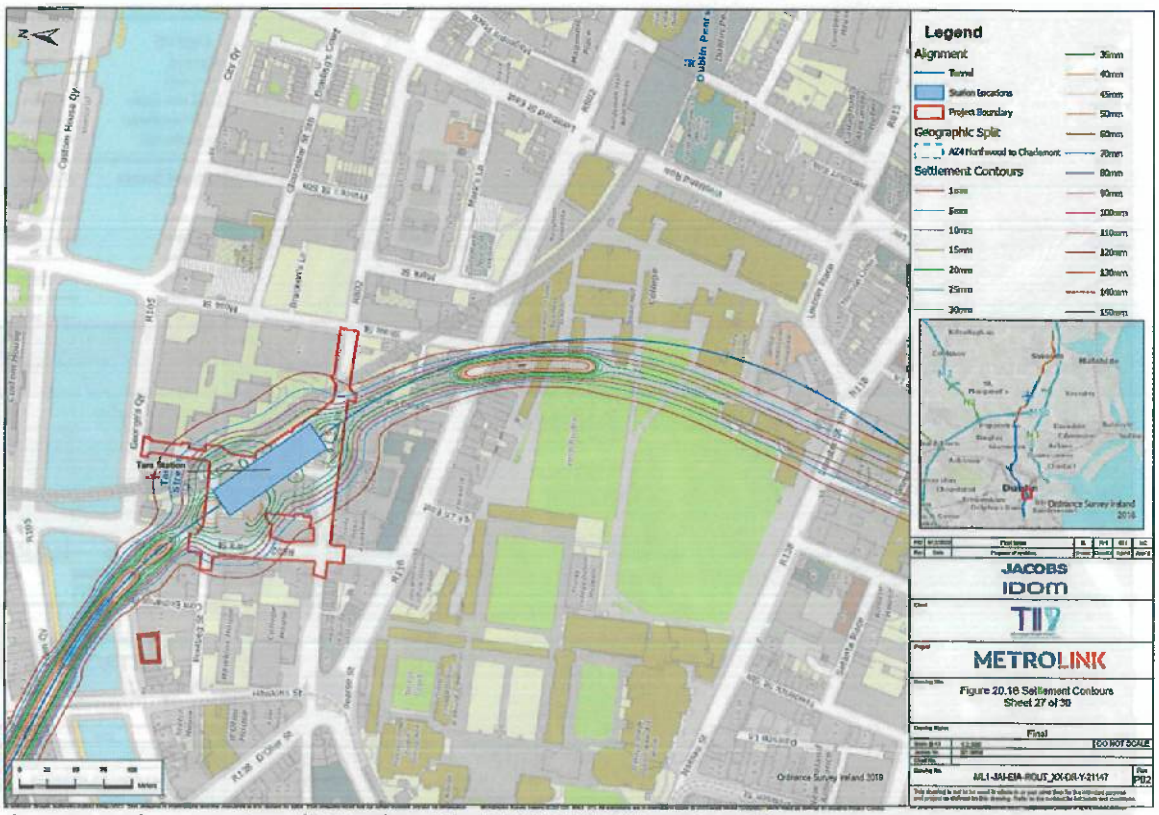

Figure 28. Settlement Contours (Extract from ML1-JAI-EIA-ROUT_XX-DR-Y-21147)

Stage 1: Defines extent of ground movement using Moderately Conservative parameters. The parameters considered by MetroLink are:

- Volume Loss, $V_s = 1.5$
- Trough Width parameter, $k = 0.3$

The Volume Loss is considered moderately conservative. However, the trough parameter is very narrow and 0.4 would be considered more conservative.

The extent of the zone of influence is defined by the 1mm contour line (Dark Red) and the Corn Exchange lies just outside the zone of influence.

The ground movement impact on the Corn Exchange is not specified in the report and the OPW requests that this building has its own assessment.

8.3.1.3 13/15 HATCH STREET

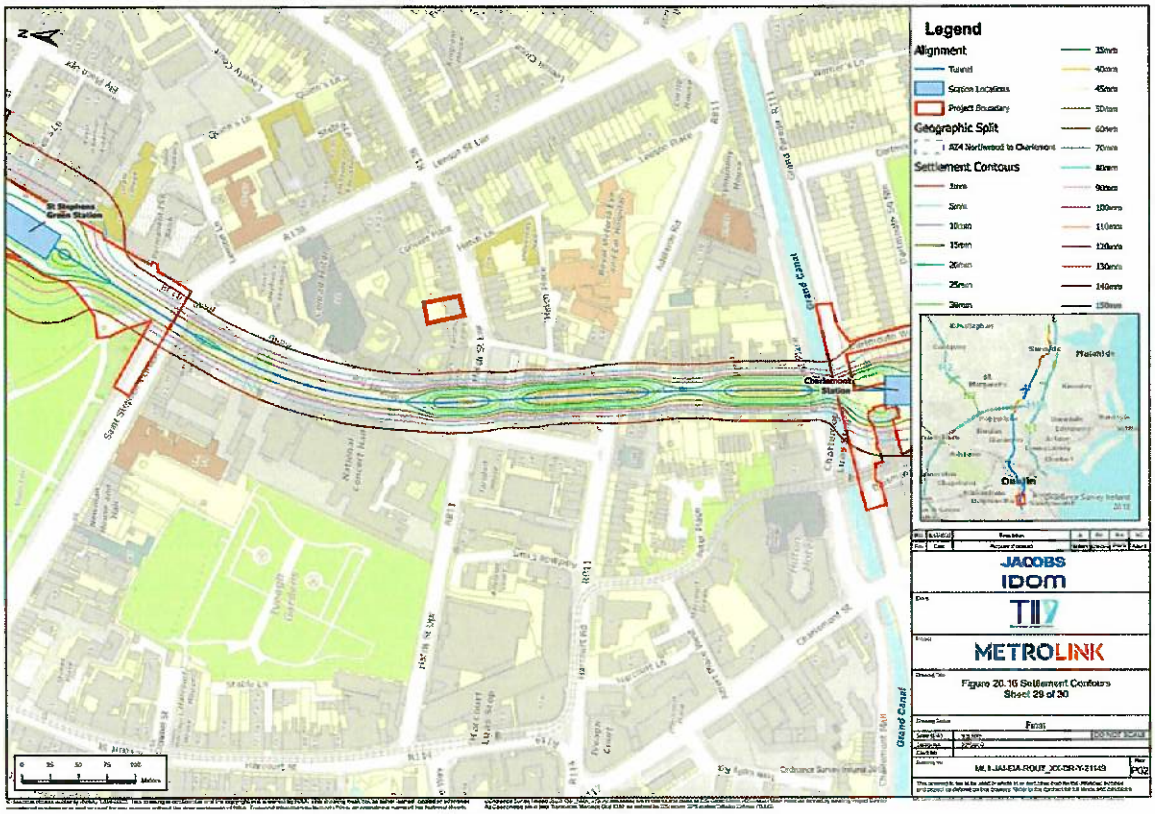

Figure 29. Settlement Contours (Extract from ML1-JAI-EIA-ROUT_XX-DR-Y-21149)

Stage 1: Defines extent of ground movement using Moderately Conservative parameters. The parameters considered by MetroLink are:

- Volume Loss, $V_s = 0.75$
- Trough Width parameter, $k = 0.4$

These are considered appropriate for defining the zone of influence.

The extent of the zone of influence is defined by the 1mm contour line (Dark Red) and 13-15 Hatch St is beyond the zone of influence of the Building Damage assessment Report.

Stage 2: Three sections were considered in the assessment. The assessment did not address the structures directly.

Stage 3: The OPW expects that a Stage 3 assessment will be carried out for 13-15 Hatch St by the Contractor appointed to construct this section of the MetroLink. The OPW expects to be consulted on the detail, scope of this assessment and programme for these assessments. It would be helpful if TII were to develop a Design Standard to ensure that all Stage 3 analyses of the OPW properties are carried out equally.

No mention of Stage 4 or 5 has been found in the Draft Railway Order or EIAR. Industry best practice as applied to London's Elizabeth Line (Crossrail) required that two further Stages in the Assessment of ground movement were undertaken during the project.

Stage 4 (Construction Stage): This stage is where any mitigation is implemented, and the monitoring of the stakeholder's infrastructure is carried out. Also, the pre-construction defect surveys are carried out prior to any excavation. The OPW requires to review the detailed proposals for mitigation and monitoring. Monitoring proposals submitted to the OPW for review should include deep level monitoring and ground water level monitoring in addition to the building and surface monitoring typically implemented. The deep level monitoring will provide valuable data relating to the rock behaviour and has been usefully employed on HS2.

The OPW will facilitate and observe the pre-construction defect surveys. It is noted that these shall be carried out by Professionally Qualified Engineers or Surveyors. The contractor(s) will coordinate pre-construction defect surveys for identified properties, liaising (in conjunction with the employer) with the building surveyor employed to carry out the surveys and maintaining a dialogue with the relevant property owners throughout the duration of the works.

Stage 5 (Close out): Once the excavation (tunnelling and station excavation) has been completed then the Contractor will want to decommission his monitoring. The OPW expects to be provided with close out reports for the monitoring of their property. As a minimum the close out report should include details of any mitigation carried out, a list of any repairs, time history graphs showing the movements monitored.

8.3.1.4 TRINITY POINT

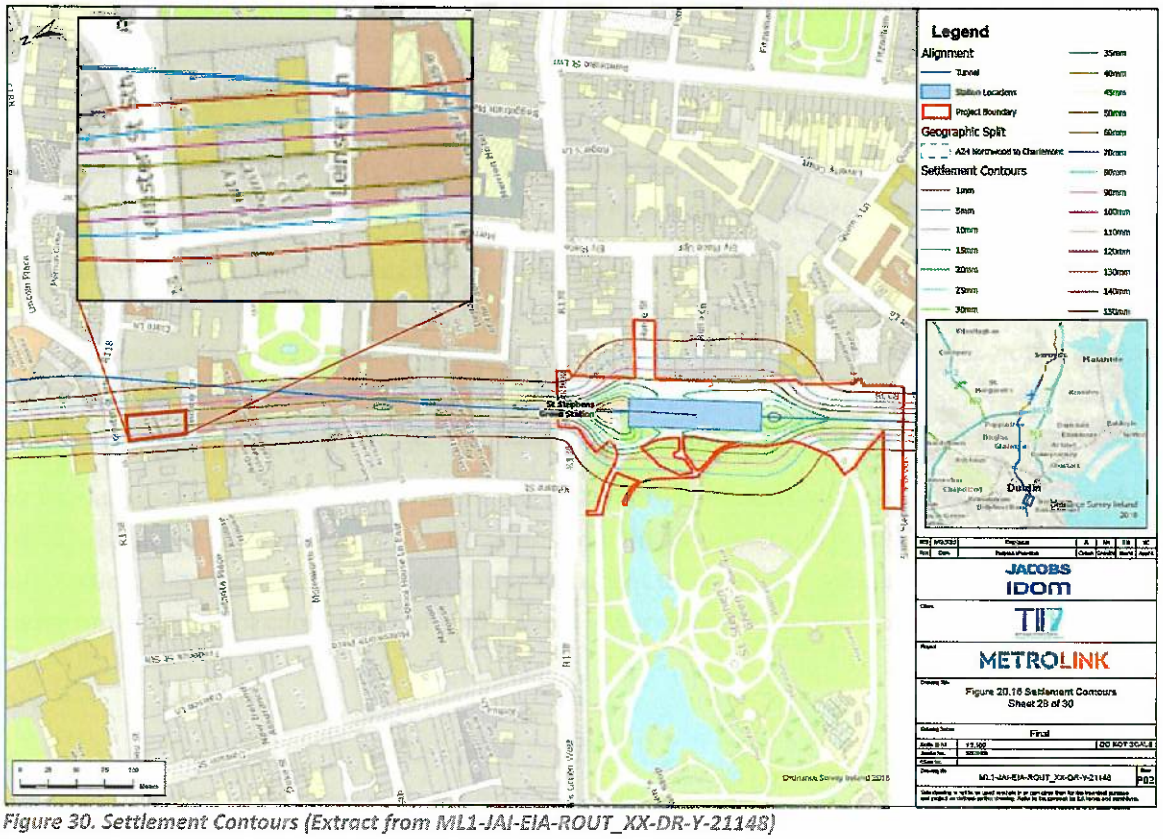

Figure 30. Settlement Contours (Extract from ML1-JAI-EIA-ROUT_XX-DR-Y-21148)

Stage 1: Defines extent of ground movement using Moderately Conservative parameters. The parameters considered by MetroLink are:

- Volume Loss, $V_s = 0.75$
- Trough Width parameter, $k = 0.4$

These are considered appropriate for defining the zone of influence.

The extent of the zone of influence is defined by the 1mm contour line (Dark Red) and the entirety of Trinity Point is within the zone of influence of the Building Damage assessment Report.

Stage 2: Three sections were considered in the assessment. The assessment concludes that the risk of damage to Trinity Point is Category 0, Negligible. However, as a "Special building" it shall progress to Stage/Phase 3 assessment on the basis of the building's foundation being deeper than 4m.

Stage 3: The EIAR states that a Stage 3 assessment will be carried out for Trinity Point by the Contractor appointed to construct this section of the MetroLink. The OPW expects to be consulted on the detail, scope of this assessment and programme for these assessments. It would be helpful if TII were to develop a Design Standard to ensure that all Stage 3 analyses of the OPW properties are carried out equally.

No mention of Stage 4 or 5 has been found in the Draft Railway Order or EIAR. Industry best practice as applied to London's Elizabeth Line (Crossrail) required that two further Stages in the Assessment of ground movement were undertaken during the project.

Stage 4 (Construction Stage): This stage is where any mitigation is implemented, and the monitoring of the stakeholders' infrastructure is carried out. Also, the pre-construction defect surveys are carried out prior to any excavation. The OPW requires to review the detailed proposals for mitigation and monitoring. Monitoring proposals submitted to the OPW for review should include deep level monitoring and ground water level monitoring in addition to the building and surface monitoring typically implemented. The deep level monitoring will provide valuable data relating to the rock behaviour and has been usefully employed on HS2.

The OPW will facilitate and observe the pre-construction defect surveys. It is noted that these shall be carried out by Professionally Qualified Engineers or Surveyors. The contractor(s) will coordinate pre-construction defect surveys for identified properties, liaising (in conjunction with the employer) with the building surveyor employed to carry out the surveys and maintaining a dialogue with the relevant property owners throughout the duration of the works.

Stage 5 (Close out): Once the excavation (tunnelling and station excavation) has been completed then the Contractor will want to decommission his monitoring. The OPW expects to be provided with close out reports for the monitoring of their property. As a minimum the close out report should include details of any mitigation carried out, a list of any repairs, time history graphs showing the movements monitored.

8.3.1.5 EARLSFORT DEVELOPMENT CENTRE

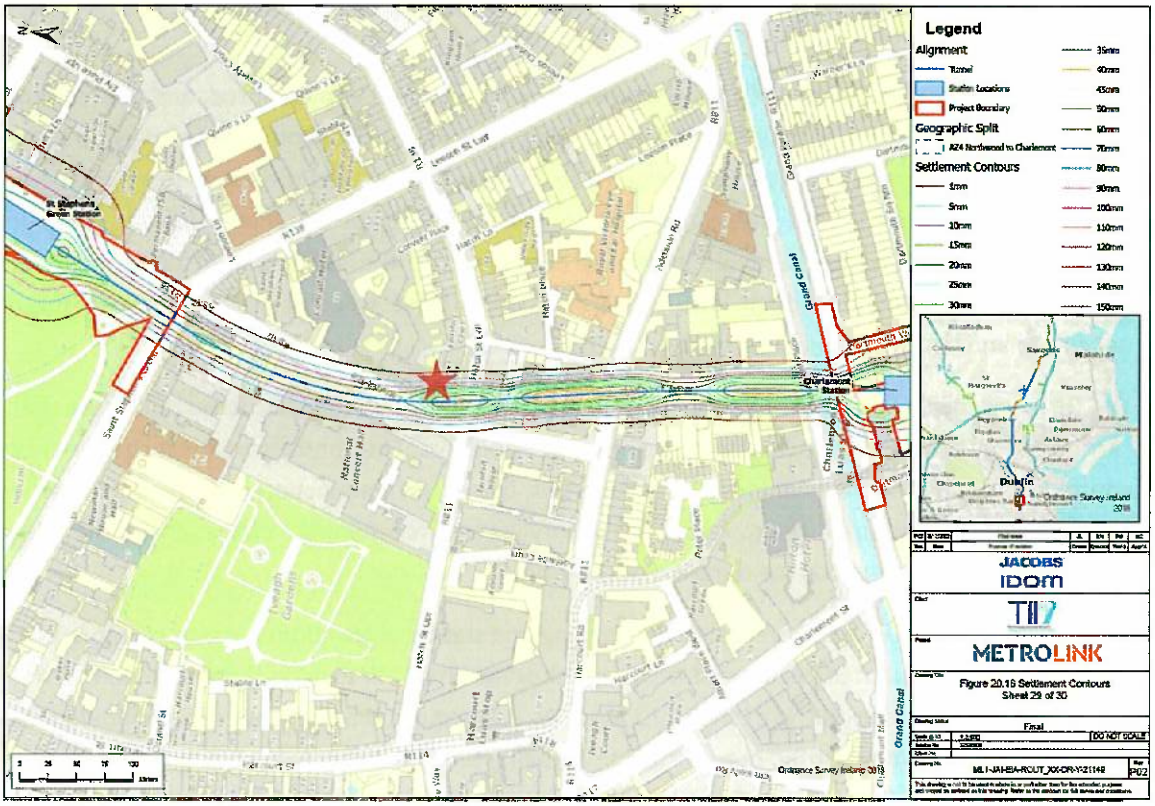

Figure 31. Settlement Contours (Extract from ML1-JAI-EIA-ROUT_XX-DR-Y-21149)

Stage 1: Defines extent of ground movement using Moderately Conservative parameters. The parameters considered by MetroLink are:

- Volume Loss, $V_s = 0.75$
- Trough Width parameter, $k = 0.4$

These are considered appropriate for defining the zone of influence.

The extent of the zone of influence is defined by the 1mm contour line (Dark Red) and ~50% of The Earlsfort Centre is within the zone of influence of the Building Damage assessment Report.

Stage 2: The assessment did not explicitly comment on the building in Table 5.2 Result of Phase 2a Building Damage Assessment – Representative Buildings. A map corresponding the Building IDs in this list to delineated buildings might aid with understanding specific buildings included or excluded from the Report's assessment.

The building should be considered a Special Building and progressed to a Phase 3 assessment if it hasn't been identified already.

Stage 3: The EIAR states that a Stage 3 assessment will be carried out for The Earlsfort Centre by the Contractor appointed to construct this section of the MetroLink. The OPW expects to be consulted on the detail, scope of this assessment and programme for these assessments. It would be helpful if TII were to develop a Design Standard to ensure that all Stage 3 analyses of the OPW properties are carried out equally.

No mention of Stage 4 or 5 has been found in the Draft Railway Order or EIAR. Industry best practice as applied to London's Elizabeth Line (Crossrail) required that two further Stages in the Assessment of ground movement were undertaken during the project.

Stage 4 (Construction Stage): This stage is where any mitigation is implemented, and the monitoring of the stakeholder's infrastructure is carried out. Also, the pre-construction defect surveys are carried out prior to any excavation. The OPW requires to review the detailed proposals for mitigation and monitoring. Monitoring proposals submitted to the OPW for review should include deep level monitoring and ground water level monitoring in addition to the building and surface monitoring typically implemented. The deep level monitoring will provide valuable data relating to the rock behaviour and has been usefully employed on HS2.

The OPW will facilitate and observe the pre-construction defect surveys. It is noted that these shall be carried out by Professionally Qualified Engineers or Surveyors. The contractor(s) will coordinate pre-construction defect surveys for identified properties, liaising (in conjunction with the employer) with the building surveyor employed to carry out the surveys and maintaining a dialogue with the relevant property owners throughout the duration of the works.

Stage 5 (Close out): Once the excavation (tunnelling and station excavation) has been completed then the Contractor will want to decommission his monitoring. The OPW expects to be provided with close out reports for the monitoring of their property. As a minimum the close out report should include details of any mitigation carried out, a list of any repairs, time history graphs showing the movements monitored.

8.3.1.6 INTREO OFFICE & PARKRITE PARKING

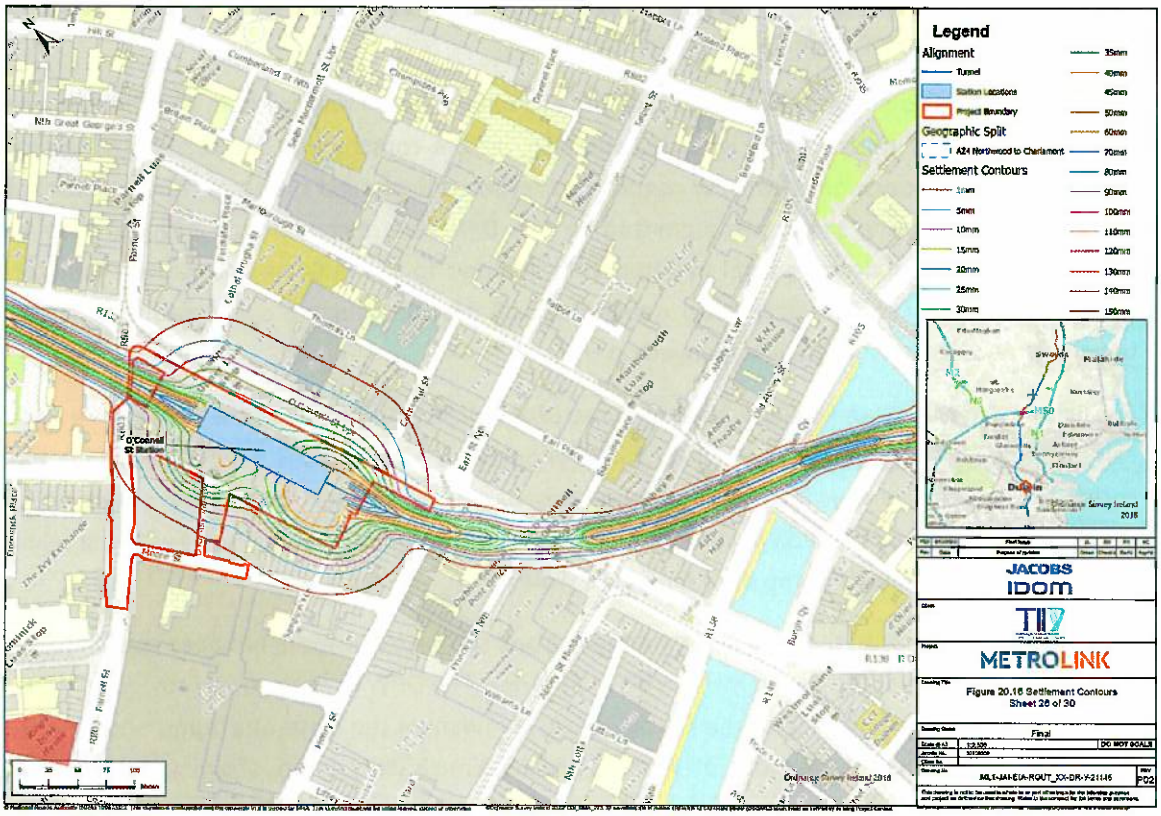

Figure 32. Settlement Contours (Extract from ML1-JAI-EIA-ROUT_XX-DR-Y-21146)

Stage 1 (Definition of Zone of Influence): Defines extent of ground movement using Moderately Conservative parameters. The parameters considered by MetroLink are:

- Volume Loss, V_s = 1.5
- Trough Width parameter, k = 0.3

The Volume Loss is considered moderately conservative however the trough parameter is very narrow and 0.4 could be considered more conservative. However, this is unlikely to change the impact of ground movement on this building. The extent of the zone of influence is defined by the 1mm contour line (Dark Red) and the property lies outside the zone of influence and is not predicted to be subject to any settlement.

8.3.2 Utilities

There is no indication that any utility diversions will be required in the vicinity of this collective of properties, including 1GQ, 1 George's Quay, Corn Exchange, 13/15 Hatch Street, Trinity Point, the Earlsfort Development Centre, and INTREO Office & Parkrite Parking.

8.3.3 Noise and Vibration

(a) Tunnelling

Outlined in the EIAR Chapter 14 Ground Borne Noise and Vibration Measures, the following identifies impacts on this collective of the OPW properties during Tunnel Boring Machine (TBM) excavation. It is noted that both noise and vibration levels provided below may last for 2 weeks, as per this Chapter.

1GQ, 1 GEORGE'S QUAY:

- Ground borne noise 50 dBA L_{Amax} (exceeding the acceptable threshold of 45 $dBL_{Amax,s}$)
- Ground borne vibration 0.275 $VDV_{db,}ms^{-1.75}$ (less than the threshold of 1.6 $VDV_{db,}ms^{-1.75}$ and therefore no significant impact is anticipated)

EIAR Table 6.2 - GNV1 states that there is no effective mitigation available and therefore the impact will be managed by detailed consultation with the building owners.

CORN EXCHANGE:

- Ground borne noise 44 dBA L_{Amax} (less than the acceptable threshold of 45 $dBL_{Amax,s}$)
- Ground borne vibration 0.203 $VDV_{db,}ms^{-1.75}$ (less than the threshold of 1.6 $VDV_{db,}ms^{-1.75}$ and therefore no significant impact is anticipated)

EIAR Table 6.2 - GNV1 states that there is no effective mitigation available and therefore the impact will be managed by detailed consultation with the building owners.

13/15 HATCH STREET:

EIAR Chapter 14 enclosed with the Project application does not identify any impact of noise and vibration on this property during TBM excavation, likely attributable to the building's distance from the anticipated tunnel alignment.

TRINITY POINT:

- Ground borne noise 48 dBA L_{Amax} (exceeding the acceptable threshold of 45 $dBL_{Amax,s}$ and therefore significant impact is anticipated)
- Ground borne vibration 0.248 $VDV_{db,}ms^{-1.75}$ (less than the threshold of 1.6 $VDV_{db,}ms^{-1.75}$ and therefore no significant impact is anticipated)

EIAR Table 6.2 - GNV1 states that there is no effective mitigation available and therefore the impact will be managed by detailed consultation with the building owners.

EARLSFORT DEVELOPMENT CENTRE:

It is noted that the EIAR Chapter 14 enclosed with the Project application did not identify impacts on this property during TBM excavation. Estimating an impacted based on similarly positioned buildings would be as follows:

- Ground borne noise 49 dBA L_{Amax} (exceeding the acceptable threshold of 45 $dBL_{Amax,s}$ and therefore significant impact is anticipated)
- Ground borne vibration 0.250 VDVdb,$ms^{-1.75}$(less than the threshold of 1.6 $VDV_{db,}ms^{-1.75}$ and therefore no significant impact is anticipated)

EIAR Table 6.2- GNV1 states that there is no effective mitigation available and therefore the impact will be managed by detailed consultation with the building owners.

INTREO OFFICE & PARKRITE PARKING:

- Ground borne noise was not calculated for this property. However, no significant impact is anticipated.
- Ground borne vibration was not calculated for this property. However, no significant impact is anticipated.

EIAR Table 6.2- GNV1 states that there is no effective mitigation available and therefore the impact will be managed by detailed consultation with the building owners. With respect to the above-mentioned, the OPW requests that a specific study is carried for the foregoing properties to determine whether ground borne noise and vibration will have any impact. Where any impact is identified then threshold limits will need be applied and monitored. Where the building is considered vulnerable to vibration induced damage EIAR Table 6.2 - ANV16. sets out requirement for pre- and post-construction surveys of these structures.

(b) Station Excavation

GNV2 states that monitoring of blasting and re-optimising the blast design (minimising the explosive charge considering the results) will be carried out as standard. A5.20 Blasting Strategy provides information on the classification of buildings and potential damage due to blasting for the station excavations. There are also calculations for estimated magnitude of the peak particle velocity (ppv) for various explosive charges. The assumption is that the lowest charge would be implemented to avoid damage.

1GQ, 1 George's Quay is located approximately 85m from Tara Station, while Corn Exchange is located c. 125m from this Station excavation and the peak particle velocity for these properties is predicted to be 1.1mm/s and 0.8mm/s respectively. The OPW requests a specific assessment of the impact of blasting on 1GQ, 1 George's Quay and Corn Exchange. 13/15 Hatch Street, Trinity Point, and Earlsfort Development Centre are located far enough away from either station excavation for the predicted peak particle velocity to be less than 1mm/s. The INTREO Office & Parkrite Parking is located 400m from O'Connell Street Station excavation and therefore the peak particle velocity is predicted to be less than 1mm/s. The OPW requests a specific assessment of the impact on this property to be carried out.

8.3.4 Work Sites

(a) Dust

Appendix A16.4 of the EIAR requires a Dust Management Plan to be produced and implemented. With regard to the distance of this collective of the OPW properties from the construction sites, as illustrated in the table below, tunnelling will not generate dust in the vicinity of these properties.

Property	Distance from Construction Sites (at least)
1GQ, GEORGE'S QUAY	60m
CORN EXCHANGE	125m
13/15 HATCH STREET	340m
TRINITY POINT	385m

Property	Distance from Construction Sites (at least)
EARLSFORT DEVELOPMENT CENTRE	300m
INTREO OFFICE & PARKRITE PARKING	320m

(b) Ground Water Control

There is the potential for ground water lowering for the construction of Tara Station to impact 1GQ, 1 George's Quay and Corn Exchange. Thus, the OPW requests that TII provides an assessment and limits that will be applied to dewatering for the construction of Tara Station.

Regarding the 13/15 Hatch Street, Trinity Point, and Earlsfort Development Centre, there is an assumption that the tunnelling will not affect the ground water above the tunnel. However, there should be a ground water monitoring scheme implemented to confirm this and a contingency plan to manage any residual risk.

In relation to INTREO Office & Parkrite Parking, the is the potential for ground water lowering for the construction of O'Connell Street Station to impact the property. Thus, the OPW requests that TII provides an assessment and limits that will be applied to dewatering for the Construction of O'Connell Street Station.

(c) Working Hours

Tunnelling: Working Hours will be 24 hours a day, 7 days a week for the tunnelling works using a 3x8hr shift pattern, with a total of 4 crews.

Station Excavation: Working Hours will be:

- Monday to Friday: 07:00 to 19:00
- Saturday: 07:00 to 13:00

It is noted that regarding Trinity Point, this property is located between Tara Street and St. Stephen's Green stations. Moreover, 13/15 Hatch Street and Earlsfort Development Centre located between St. Stephen's Green and Charlemont stations. The INTREO Office & Parkrite Parking is also located between Mater and O'Connell Street stations. The construction of these stations will generate additional lorry movements, for both deliveries and spoil removal, that TII and their contractors will need to manage to minimise impact in the vicinity.

Deliveries: It is assumed that HGV vehicle delivery times to the tunnelling sites will generally be restricted to:

- Monday to Friday: 07:00 to 19:00
- Saturday: 07:00 to 13:00

(d) Intervention Strategy

Maintenance of the TBM is crucial for efficient and safe operation this is carried out during Interventions. Mostly these are planned to avoid sensitive receptors and an approval process will be implemented to manage the locations. However, unplanned interventions will be unavoidable to deal with unexpected events.

(e) Traffic

There will be significant traffic diversions required to construct Tara Station site that may impact personnel and clients attending 1GQ, 1 George's Quay and Corn Exchange. Thus, the OPW requests to ensure that full access is maintained to these properties, including car parks, etc.

This item does not apply to 13/15 Hatch Street, Trinity Point, and Earlsfort.

In relation the INTREO Office & Parkrite Parking and its proximity to the O'Connell Street Station, there will be significant traffic management required to construct this Station site, and that may impact personnel and clients attending the property and/or using car parking at the INTERO Office & Parkrite Parking. It is noted that the Traffic Management Plan envisages that all construction traffic from O'Connell Street Station construction will be routed west along Parnell Street. Accordingly, the OPW requests that TII carry out a study to consider the impact on the Parkrite car parking at Loftus Lane.

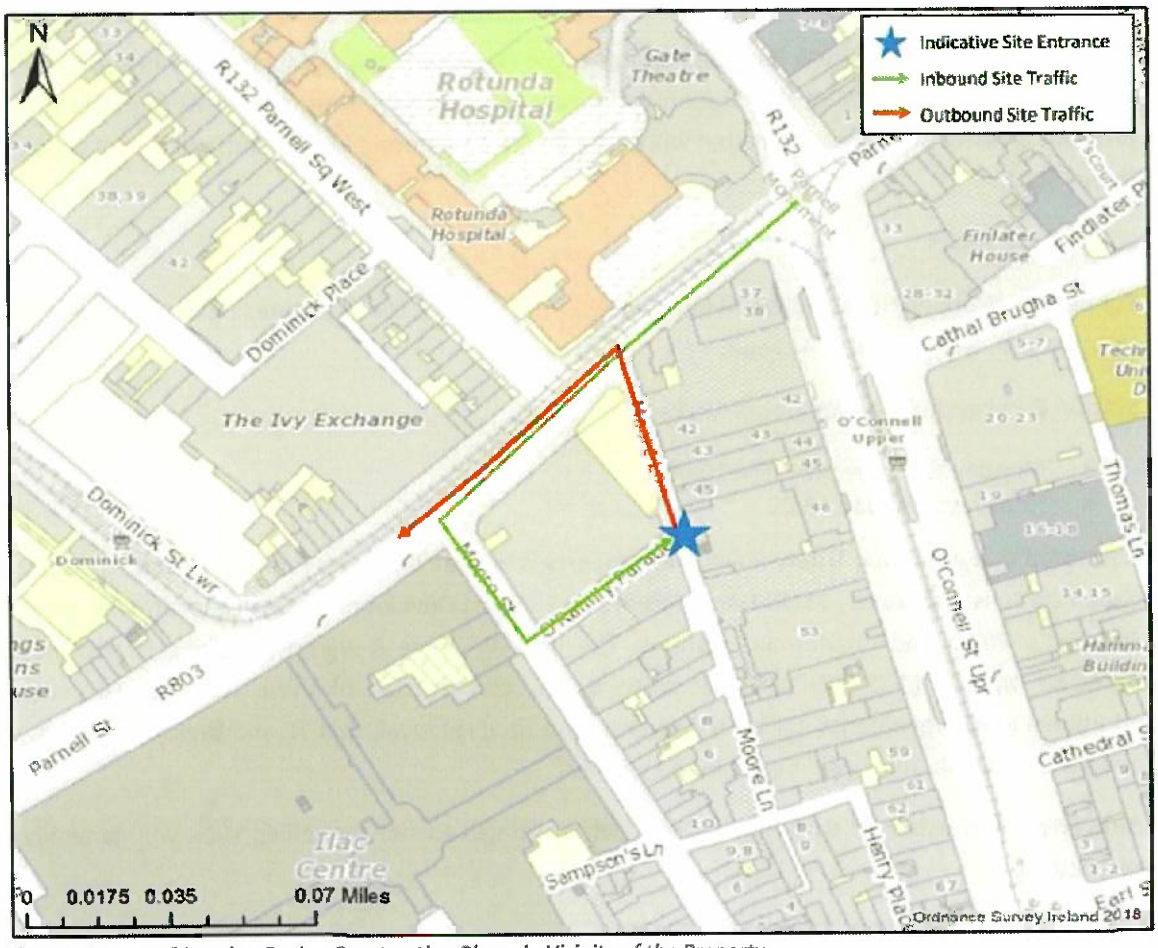

Figure 33. Route Diversion During Construction Phase in Vicinity of the Property

8.4 During Operation of the MetroLink

8.4.1 Noise and Vibration

In relation to 1GQ, 1 George's Quay and Corn Exchange, TII proposes to mitigate the noise and vibration resulting from the railway operations by installing resilient track slab to meet threshold of

40 $dB_{Lamax,s}$ and VDV = 0.8 $m/s^{1.75}$respectively. The vibration during railway operations will not impact the building fabric or structure.

In relation to 13/15 Hatch Street, Trinity Point and Earlsfort Development Centre, TII proposes to mitigate the noise and vibration resulting from the railway operations by installing floating track slab to meet thresholds of 25 dBLamax,s and VC-D respectively. EIAR Chapter 14 Table 14.47 provides some guidance on where this will be constructed but it is not clear exactly where. The OPW requests that floating track slab is installed between Chainage 17+980 and 19+000, between Chainage 17+980 and 18+400 (St. Stephen's Green Station), and between Chainage 17+980 and 18+900. This would mitigate the noise and vibration to acceptable levels under all the Government buildings, museums, and the National Concert Hall. The vibration during railway operations will not impact the building fabric or structure. In relation to INTREO Office & Parkrite Parking, TII proposes to mitigate the noise and vibration resulting from the railway operations by installing resilient track slab to meet threshold of 35 $dB_{Lamax,s}$ and VDV = 0.4 $m/s^{1.75}$respectively. The vibration during railway operations will not impact the building fabric or structure.

8.4.2 Future Development

The railway is 85m from 1GQ, 1 George's Quay, and 40m from the Corn Exchange. Therefore, the railway will not hinder future (re)development of these properties. It is likely that there will be restrictions on future sub-grade development for the Trinity Point as parts sit atop the current planned alignment. It is also likely that there will be restrictions on future sub-grade development for the Earlsfort Development Centre as one corner of the building footprint is extremely close to the current planned alignment. Provided the proposed railway alignment does not change then there will be no restriction on future development at INTREO Office & Parkrite Parking. Should the position change, the OPW reserves the right to develop the subject property in the future. This includes property above and below ground, subject to normal planning criteria.

8.4.3 Evacuation Strategy

In relation to Trinity Point, the are no planned intervention/evacuation shafts between Tara and St. Stephen's Green stations. With regard to Earlsfort Development Centre, there are no planned intervention/evacuation shafts between Tara and Charlemont stations. Also, in relation to INTREO Office & Parkrite Parking, the are no planned intervention/evacuation shafts between Mater and O'Connell Street Stations. However, it is understood that the Fire Brigade have not accepted the strategy proposed by TII. This may have an impact on the foregoing properties should any intermediate shafts be required.

8.5 Future Development

The OPW reserves the right to develop any of its portfolio of properties in the future, which includes property above and below ground, subject to normal planning criteria.

It is important that the development of the MetroLink does not interfere with extant planning permissions pertaining to the subject property and the right of the applicant to develop these, in advance, in tandem or post operation of the MetroLink Project.

9.0 CONCLUSION

This submission has been prepared by DOWNEY, Chartered Town Planners, 29 Merrion Square, D02 RW64, in conjunction with Gall Zeidler, International Consulting Engineers specialising in tunnel and underground schemes, on behalf of the Commissioners of Public Works in Ireland, OPW Headquarters, Jonathan Swift St, Trim, Co Meath and on foot of extensive consultation(s) with the OPW's clients, which relates to the MetroLink route and its relationship with a collective of the OPW properties scattered across Dublin central. This group of properties is as follows:

- 1 George's Quay, Dublin 2
- Corn Exchange, Burgh Quay, Dublin 2
- Nos. 13-15 Hatch Street Lower, Dublin 2
- Trinity Point, Nos. 10-11 Leinster Street, Dublin 2
- Earlsfort Development Centre, Earlsfort Terrace, Dublin 2
- INTREO Office & Parkrite Parking, Parnell Street/King's Inn Street, & Loftus Lane, Dublin 1

With reference to the Draft Railway Order 2022 (MetroLink - Estuary to Charlemont via Dublin Airport), the OPW welcomes this strategic project and recognises the significance of its delivery to provide for a sustainable, safe, efficient, integrated, and accessible public transport service between Swords, Dublin Airport and Dublin City Centre.

With regards to the Gall Zeidler assessment, the risk of damage from ground movement on the properties subject to this submission is suggested to be negligible. However, given the significance of the building in terms of function and use, pre- and post-construction surveys, trials, and monitoring is requested. The OPW also seeks assurance from TII that Stage 2 ground movement assessment will be carried in relation to INTREO Office & Parkrite Parking during detailed design if there are material changes to the alignment. Once the railway is in operation, it is possible that there will be noise and vibration impact and TII should seek assurance that a detailed evaluation will be performed.

With respect to these properties, the OPW is seeking:

1) To ensure no disruption to the public access of these buildings and their day-to-day uses and functions, as well as no damage to the buildings, their historical profile in terms of being listed as Protected Structure and/or their Conservation Area setting (if there is any), resulting from the implementation of the Project.

2) To ensure pre- and post-construction surveys are carried out and that these should relate to but not limited to ground movement, noise and vibration, blasting and water lowering, as well as construction traffic impacts, also including traffic diversions.

3) To ensure that the following specific assessments of the impacts on 1GQ, 1 George's Quay and Corn Exchange are provided, with precedents applied to ensure best industry practice:

    a. Ground movement impact (Stage 2 and 3 Assessment).

    b. Ground borne noise and vibration, including the application and monitoring of threshold limits, pre- and post-construction surveys.

    c. The impact of blasting given the proximity of these properties to the Station.

4) To ensure acceptable levels of dewatering for construction of Tara Station are provided as there is a potential for ground water lowering which can adversely impact the 1GQ, George's Quay and Corn Exchange.

5) To ensure an assessment of traffic impact on the accessibility of 1GQ, George's Quay and Corn Exchange for both personnel and clients during construction of Tara Station due to traffic diversions.

6) Once the railway is in operation it is possible that there will be residual impacts arising from the above assessments and TII should seek assurance that a detailed evaluation will be performed.

7) To ensure no conflicts between the construction and operation of the Project and the future development of the properties.

8) Precedents to be applied to the risk assessments to ensure utilising best industry practice within implementation of the Project.

In light of the above, DOWNEY respectfully request that An Bord Pleanála take into consideration the issues raised by the OPW when assessing the Draft Railway Order 2022 (MetroLink - Estuary to Charlemont via Dublin Airport).

APPENDIX 1: LIST OF PLANNING LEGISLATION & POLICY DOCUMENTS

This appendix provides a non-exhaustive list of planning policy, legislation, and guidelines. We would respectfully request that An Bord Pleanála ensure that TII have fully assessed the Project with regard to existing planning policy, as well as adherence to the relevant local policies and guidelines pertaining to each individual property.

DOWNEY note that this proposed Draft Railway Order is a strategic long-term development and An Bord Pleanála may consider Draft Development Plans in assessing the Project. It is also crucial to note that on foot of a granted Order and during the detailed design stage, a revision to planning policy is expected, whereby adopted plans and legislation may have to be adhered within this stage. This may require an amendment to the Draft Railway Order and further assessment, including public consultation.

Legislative Context

- **Planning and Development Act 2000 (as amended)**

The proposed Project comes within the definition of Strategic Infrastructure Development (SID) under Section 2 of the Planning and Development Act 2000 (as amended). 'Strategic Infrastructure Development' means *"any proposed railway works referred to in section 37(3) of the Transport (Railway Infrastructure) Act 2001 (as amended by the Planning and Development (Strategic Infrastructure) Act 2006."*

- **Planning and Development Regulations 2001 (S.I. No. 600 of 2001)**

The principal regulations underpinning the Planning and Development Acts are the Planning and Development Regulations 2001 (S.I. No. 600 of 2001). A number of Regulations amending the 2001 Regulations have been made, which, taken together, are collectively cited as the Planning and Development Regulations 2001 to 2022.

An unofficial consolidation of the Planning and Development Regulations 2001-2022 has been prepared for ease of reference by users and has no legal status. This can be accessed here: Planning and Development Regulations 2001-2022.

- **Directive 2014/52/EU3**

Directive 2011/92/EU, passed on 13th December 2011, pertains to the assessment of the effects of certain public and private projects on the environment as amended by Directive 2014/52/EU (hereafter referred to as the 'EIA Directive'), passed on 16th April 2014, which sets the requirements for EIA in European law. It requires EIA to be carried out for certain public and private projects listed in Annexes I and II of the EIA Directive.

The requirements of Directive 2014/52/EU were transposed into Irish law with the adoption of the S.I. No. 743/2021 - European Union (Railway Orders) (Environmental Impact Assessment) (Amendment) Regulations 2021 (hereafter referred to as the EIA Regulations), which amend the Transport (Railway Infrastructure) Act 2001 to bring it in line with Directive 2014/52/EU.

- **Transport (Railway Infrastructure) Act 2001 (as amended)**

The 2001 Act provides for a Railway Order application to be made by the Applicant to An Bord Pleanála.

> *"37(1) An application may be made to An Bord Pleanála ('the Board') for a railway order by the Dublin Transport Authority ('DTA'), the Agency, CIÉ or another person. Where any part of the proposed railway works in the application is within the functional area of the DTA the applicant (not being the DTA) must have obtained the prior written consent of the DTA for the application*
>
> *(2) An application under subsection (1) shall specify whether the application is in respect of a light railway, metro or otherwise.*
>
> *(3) An application under subsection (1) shall be made in writing in such form as the Minister may specify and shall be accompanied by—*
>
> *(a) a draft of the proposed order,*
>
> *(b) a plan of the proposed railway works, MetroLink Planning Report*
>
> *(c) in the case of an application by the Agency or a person with the consent of the Agency, a plan of any proposed commercial development of land adjacent to the proposed railway works,*
>
> *(d) a book of reference to a plan required under this subsection (indicating the identity of the owners and of the occupiers of the lands described in the plan), and*
>
> *(e) a statement of the likely effects on the environment (referred to subsequently in this Part as an 'environmental impact assessment report') of the proposed railway works, and a draft plan and book of reference shall be in such form as the Minister may specify or in a form to the like effect."*

Section 37 (4) of the 2001 Act sets out that "*The construction of railway works, the subject of an application for a railway order under this Part, shall not be undertaken unless the Board has granted an order under Section 43*".

A number of other relevant documents have also been prepared as part of the Draft Railway Order application, including the following, provided as stand-alone documents.

- Wider Effects Report; and
- Natura Impact Statement
- National Cultural Institutions Act 1997

- **The National Cultural Institutions Act**

The National Cultural Institutions Act sets the framework for which National Cultural Institutions must operate. The act provides for the establishment of Boards for the national institutions.

- **National Cultural Institutions (National Concert Hall) (Amendment) Bill 2022**

A Bill entitled an Act to provide for the transfer of certain functions, staff, property, rights and liabilities of RTÉ to the National Concert Hall; to provide for the validity and effect of acts by RTÉ and the National Concert Hall in relation to that transfer; to extend the functions of the National Concert Hall and to make certain changes to its board and, for those purposes to amend the National Cultural Institutions (National Concert Hall) Act 2015; to increase the aggregate amount of liability in respect of undertakings given for cultural objects on loan from a person resident outside the State and, for that purpose to amend the National Cultural Institutions Act 1997; to make certain changes to the objects of RTÉ and, for that purpose to amend the Broadcasting Act 2009; and to provide for related matters.

National Planning Policy Context

The key provisions of the national planning policy, including the Planning Guidelines, as it relates to the proposed project are set out. A summary list of the relevant national planning policies and planning guidelines consist of the following:

- All-Ireland Pollinator Plan 2021-2025
- Architectural Heritage Protection Guidelines for Planning Authorities
- Climate Action Plan 2023
- Guidelines for Landscape and Visual Impact Assessment
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)
- Heritage at the Heart: Heritage Council Strategy 2018-2022
- Housing for All – A New Housing Plan for Ireland
- Investing in Our Transport Future – Strategic Investment Framework for Land Transport 2015
- National Adaptation Framework 2018 accompanied with Sectoral Adaptation Plan for Transport Infrastructure 2019
- National Biodiversity Action Plan 2017-2021
- National Development Plan 2021-2030
- National Investment Framework for Transport in Ireland 2021
- National Landscape Strategy for Ireland 2015-2025
- National Planning Framework (Project Ireland 2040)
- National Sustainable Mobility Policy
- Places for People – National Policy on Architecture
- Road Safety Strategy 2021-2030
- Smarter Travel – A Sustainable Transport Future; A new Transport Policy for Ireland 2009-2020
- Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities December 2022
- The National Cycle Policy Framework 2009-2020
- The Sustainable Development Goals National Implementation Plan 2018-2020
- The White Paper, Ireland's Transition to a Low Carbon Energy Future 2015-2030

- Town Centre First
- Traffic and Transport Assessment Guideline
- Transport Access for All 2012
- Urban Development and Building Height Guidelines 2020

Regional Planning Policy Context

The key provisions of the regional planning policy as it relates to the proposed project are now set out in the following sections. A summary list of the relevant regional planning policies consists of the following:

- Draft Greater Dublin Area Cycle Network Plan 2021
- Draft Greater Dublin Area Transport Strategy 2022-2042
- Dublin Agglomeration Environmental Noise Action Plan 2018-2023
- Dublin Metropolitan Area Strategic Plan (MASP)
- Greater Dublin Area Cycle Network Plan
- Regional Spatial and Economic Strategy for the Eastern and Midland Region 2019-2031
- Transport Strategy for the Greater Dublin Area 2016-2035

Local Planning Policy Context

The key provisions of the local planning policy as it relates to the proposed project are now set out. A summary list of the relevant local planning policies consists of the following:

- Ballymun Local Area Plan 2017
- Barryspark & Crowcastle Masterplan 2019
- Dardistown LAP 2013
- Docklands Public Realm Plan
- DRAFT Fingal County Development Plan 2023-2029
- DRAFT Lissenhall East Local Area Plan
- DRAFT Scheme of Special Planning Control: O'Connell Street and Environs 2022
- DRAFT Sustainable Swords Strategy
- Dublin Airport Local Area Plan
- Dublin City and County Archaeology GIS Dataset
- Dublin City Biodiversity Action Plan 2021-2025
- Dublin City Centre – Developing the Retail Core
- Dublin City Council Climate Action Plan 2019-2024
- Dublin City Development Plan 2016-2022
- Dublin City Development Plan 2022-2028
- Dublin City Industrial Heritage Record
- Dublin City Park Strategy 2019-2022
- Dublin City Strategic Heritage Plan 2022-2028
- Estuary Central Masterplan
- Fingal County Development Plan 2017-2023

- Fostertown Masterplan 2019
- George's Quay Local Area Plan 2012 (Extended to July 2022)
- Grafton Street Quarter Public Realm Plan
- Local Environmental Improvement Plans
- Merrion Square Conservation Plan
- Moore Street and Environs Local Area Plan
- Moore Street Battlefield Site Plan
- National Concert Hall Statement of Strategy 2022-2026
- National Gallery of Ireland – Strategic Plan 2019-2023
- National Library Ireland 2022 – 2026 Strategy
- National Museum 2019 – 2022 Strategic Plan: Building Capacity, Driving Change
- Oireachtas Strategic Plan 2022-2024
- Scheme of Special Planning Control: O'Connell Street & Environs 2016
- Seatown North Masterplan
- Seatown South Masterplan
- South Fingal Transport Study 2019
- St. Stephen's Green Park Conservation Management Plan 2015-2020
- Strategic Development Regeneration Area 2: Ballymun
- Strategic Development Regeneration Area 18: National Concert Hall Quarter
- The Future of the South Georgian Core
- The Heart of Dublin – City Centre Public Realm Masterplan
- Your City Your Space – Dublin City Public Realm Strategy
- Your Swords – An Emerging City Strategic Vision 2035

APPENDIX 2: GROUND MOVEMENT ASSESSMENT

The following sets out the requirements for assessing the impact of ground movement resulting from underground construction, such as tunnelling, embedded wall installation, and excavation for station boxes, together with requirements for monitoring and the close out.

The Designer shall investigate the potential for ground movement associated with the design and possible construction:

a) To assess risk of building damage by identifying those zones where the implementation of the design is likely to cause ground movements which will result in risk of Damage Category 2 'Slight' being exceeded (see Table 1) or where damage exceeds the agreed tolerable limits. To assess the risks of such degrees of damage occurring and either investigate alternative designs or advise interfacing Designers that alternatives need to be considered and modify the design as necessary. To undertake an assessment of the potential consequences where there is a significant likelihood that Risk of Damage Category 2 'Slight' will be exceeded or where damage exceeds the agreed tolerable limits and identify specifically what the risks are. Design protective measures where necessary to mitigate against the risk of damage exceeding Risk of Damage Category 2 or where damage exceeds the agreed tolerable limits.

b) To demonstrate that the environmental effects of excavation induced ground movements have been considered and taken account of in the design.

c) To assess the risk of damage to utilities and to design mitigation measures in agreement with the utility owner.

d) To assess the effects of excavation to existing above ground and underground infrastructure and to design suitable mitigation measures.

e) To indicate where property may require demolition or structural modification.

f) To enable the preparation of contingency plans to deal with residual risks.

Stage 1 – Scoping

Schedules and plans shall be prepared to identify all assets assessed to experience ground movement exceeding 1mm using conservative parameters.

Stage 2 – Initial Assessment

The designer shall carry out initial assessment calculations using simple empirically calibrated methods and moderately conservative parameters to classify the risk of damage to assets. For masonry building structures the risk should be classified in accordance with Table 1. For non-masonry buildings and infrastructure, the level of risk should be determined by ensuring that deformations do not exceed tolerable values determined in consultation with the asset owner.

A schedule and plans of predicted damage shall be prepared, along with outline trigger levels.

The assessment calculations shall be based on record drawings, where available and an inspection for assessment. Assets estimated to be a risk of damage greater than Category 2 'Slight' or where damage exceeds the agreed tolerable limits require further detailed assessment at Stage 3.

Table 1. Building Damage Classification

Damage Category	Description of degree of damage*	Description of typical and likely forms of repair for typical masonry buildings	Approx. crack width** (mm)	Max. tensile strain %
0	Negligible	Hairline cracks		<0.05
1	Very slight	Fine cracks easily treated during normal redecoration. Perhaps isolated slight fracture in building. Cracks in exterior visible upon close inspection	0.1 to 1.0	0.05 to 0.075
2	Slight	Cracks easily filled. Redecoration probably required. Several slight fractures inside building. Exterior cracks visible; some repainting may be required for weathertightness. Doors and windows may stick slightly	1 to 5	0.075 to 0.15
3	Moderate	Cracks may require cutting out and patching. Recurrent cracks can be masked by suitable linings. Tuck pointing and possible replacement of a small amount of exterior brickwork may be required. Doors and windows sticking. Utility services may be interrupted. Weather tightness often impaired	5 to 15 or a number of cracks greater than 3	0.15 to 0.3
4	Severe	Extensive repair involving removal and replacement of walls especially over door and windows required. Window and door frames distorted. Floor slopes noticeably. Walls lean or bulge noticeably. Some loss of bearing in beams. Utility services disrupted	15 to 25 but also depends on number of cracks	> 0.3
5	Very severe	Major repair required involving partial or complete reconstruction. Beams lose bearing, walls lean badly and required shoring. Windows broken by distortion. Danger of instability	Usually > 25 but depends on No. of cracks	

** In assessing the degree of damage, account must be taken of its location in the building or structure.*

*** Crack width is only one aspect of damage and should not be used on its own as a direct measure of it. Burland, J.P. and Wroth, C.P., Settlement of Buildings and Associated Damage, Proceedings of a Conference on the Settlement of Structures, Cambridge, 1974, pp 611-54 and 764-810.*

The heritage value of a Listed or Protected Building should be considered during the initial assessment by reviewing the sensitivity of the building structure and of any particular features together with the initial assessment calculations. The heritage assessment examines the following:

a) The sensitivity of the building/structure to ground movements and its ability to tolerate movement without significant distress. The potential for interaction with adjacent buildings/ structures is also considered. A score within the range of 0-2 should be allocated to the building/structure in accordance with the criteria set out in Table 2.

b) The sensitivity to movement of particular features within the building/structure and how they might respond to ground movements. A score within the range of 0-2 should be allocated to the building in accordance with the criteria set out in Table 2.

The scores for each of the two categories (a) and (b) should be combined and added to the category determined in Stage 2 to inform the decision-making process. In general, Listed Buildings which score a total of 3 or higher should be subject to further assessment as part of the Stage 3 – Detailed Assessment. Buildings that score a total of 2 or less are predicted to suffer a degree of damage which may be easily repairable using standard conservation-based techniques and hence no protective measures for the building's particular features should be required. However, ultimately the professional judgement of engineering and historic building specialists should be used to determine whether additional analysis is required.

Table 2. Scoring for Sensitivity Assessment of Listed Buildings

Criteria		
Score	**a) Sensitivity of the structure to ground movements and interaction with adjacent buildings**	**b) Sensitivity to movement of particular features within the building**
0	Masonry building with lime mortar not surrounded by other buildings. Uniform facades with no particular large openings.	No particular sensitive features
1	Buildings of delicate structural form or buildings sandwiched between modern framed buildings which are much stiffer, perhaps with one or more significant openings.	Brittle finishes, e.g., tight-jointed masonry, which are susceptible to small movements and difficult to repair.
2	Buildings which, by their structural form, will tend to concentrate all their movements in one location.	Finishes which if damaged will have a significant effect on the heritage of the building, e.g., cracks through frescos.

Stage 3 – Detailed Assessment, Mitigation Design and Monitoring Plans

The Designer shall carry out detailed assessments of structures that will be affected by the works so that any monitoring works and mitigation works can be designed and implemented.

For structures at risk of exceeding Damage Risk Category 2 'Slight' or where damage exceeds the agreed tolerable limits the designer shall undertake a detailed assessment (more rigorous) to determine:

a) The influence of the structure and its foundations on the predicted ground movements (soil/structure interaction).

b) The volume loss at which the risk of damage to the structure (or any sensitive finishes/features) is 'slight' or better.

c) Whether this volume loss may be achieved by the proposed excavation design/control measures.

d) Any special control measures required to reduce the predicted damage to acceptable levels (i.e., Risk Category 2 'slight' damage category and below or below the agreed tolerable limits) such as significantly higher face pressures with EPBM tunnelling and the practicality of these.

e) The amount of ground movement that the structure (and or any sensitive finishes/features) can accommodate without exceeding Damage Risk Category 2 or where damage exceeds the agreed tolerable limits.

f) The level of residual risk if intrusive mitigation measures are not implemented.

The detailed assessments should include a number of iterations to determine how the risk of damage to a building may be reduced. Asset-specific empirical models shall be prepared successively using moderately conservative and best estimate parameters. If after these iterations the use of empirical methods do not reduce the risk of building damage to acceptable levels (i.e., Damage Category 2 'slight' damage category and below or below the agreed tolerable limits), the damage assessment shall be refined by increasing the sophistication of the analysis with the aim of reducing the risk of asset damage to acceptable levels and to eliminate the asset from further assessment.

If the risk of damage cannot be shown to be reduced by detailed assessment to acceptable levels, then mitigation measures shall be designed. The primary means of settlement mitigation shall be practical measures to control ground movement by good design and construction practice. This could include staged excavation sequences within Sprayed Concrete Lining (SCL) works, ground treatment, face stabilisation, spiling/face dowels, increasing face pressure when using a Tunnel Boring Machine (TBM), adopting stiffer walls/propping for rectangular shafts etc.

In the event that physical mitigation measures are still required (i.e., to control building damage to Damage Category 2 'slight' and below or below the agreed tolerable limits), the Designer shall seek to obtain the Asset Owners approval.

The Designer shall also undertake a comparative risk assessment to demonstrate that the risks associated with installation/implementation of any intrusive mitigation measures (such as compensation grouting) are no worse than the risks associated with the base case.

The relevant Local Authority and the OPW shall be consulted on the results of the Protected Building assessment reports and the proposals for protective measures, if any are required. The OPW shall also be consulted in relation to Listed or Protected Buildings where they would normally be notified or consulted on planning applications or listed building consent applications.

When considering the need and type of protective measures for Listed or Protected Buildings, due regard should be given to the sensitivity of the particular features of the building, which are of architectural or historic interest and the sensitivity of the structure of the building to ground movement. Where the assessment highlights potential damage to the features of the building, which it will be difficult or impossible to repair and/or if that damage will have a significant effect on its heritage value, the assessment may recommend appropriate measures to safeguard those features either in-situ or by temporary removal and storage off-site if those with relevant interest(s) in the building consent.

The form of monitoring of Listed Buildings should be determined based on the results of the assessment process.

Where repair works are necessary, they will require the consent of those with relevant interest(s) in the building.

For railway track and track support structures the designer shall:

a) Review the track surveys (including specifying additional surveys if required) and establish that ground movement can be accommodated without exceeding track standard operational tolerance in conjunction with the relevant Infrastructure Manager.
b) Identify locations where fettling of the track is required pre-construction and/or during construction to ensure the track geometry and clearances are acceptable.

The designer shall prepare plans and sections showing the zone of influence of the works that is defined by ground movements exceeding 1mm.

The designer shall develop an instrumentation and monitoring plan to validate that ground movements within the zone of influence are in accordance with design assumptions and that the infrastructure remains within acceptable limits. The designer shall ensure that there is a clear distinction between parameters measured to confirm the change in any parameter is in accordance with the design and parameters measured to limit damage to the assets. This plan shall identify the minimum period of time required to obtain base line data for each monitoring point.

Note: *A competent engineer responsible for the works shall consider those factors which may influence the monitoring data and shall determine an appropriate period and frequency for baseline monitoring. This decision-making process will include an element of engineering judgement to account for the possible effects of any underlying environmental trends (seasonal, diurnal, tidal) in the assets under consideration.*

Note: *The designer shall demonstrate that the monitoring system complies with the British Tunnelling Society Monitoring Underground Construction best practice guide.*

Note: *A review of the monitoring system against the checklists provided in Appendix B of the BTS Monitoring Underground Construction best practice guide may be used as a tool to demonstrate compliance.*

The detailed assessments shall define the control limits that need to be imposed on the TBM/SCL excavation in the zone of influence. The designer shall state these control measures on drawings and specifications.

The designer shall identify the critical parameters to be monitored and define the Asset Control Limits based on:

a) The ability of the asset or structure to withstand ground movement investigated.
a) During the assessments carried out in Stage 2 and 3.
b) The risk to third party operations.

The designer shall link the Asset Control Limits to actions within an Emergency Preparedness Plan.

The Instrumentation and Monitoring Plan and Emergency preparedness Plan shall be agreed with the relevant Asset Owner.

Stage 4 – Construction

Contingency plans shall be developed and agreed with the OPW to cover the risks posed to the OPW before commencement of the construction activity.

Contingency plans shall be implemented where the results of monitoring or inspection so indicate.

Ground movement and construction progress records shall be maintained and reported in regular reviews when construction processes are taking place within the zone of influence.

Predictions and assumptions made during design in respect of both ground movement and the effects which such ground movement will have on adjacent assets shall be verified by measurement during construction.

Stage 5 – Completion and Close-out

After ground movement has stopped, as confirmed by instrumentation and monitoring, the designer shall prepare a "Completion Report". This shall include the following:

a) Details of any modifications/mitigation measures to the existing structure.

b) Graphs that show the ground movement and construction progress over time.

c) With at least 3 months duration of readings which show no change.

d) A schedule showing actual movement compared to predicted movement.

e) A schedule of defects recording only the exceptions (changes) identified during the post construction defects survey.

f) Details of any remedial works undertaken.

g) As-built records (including any temporary works remaining in situ on completion of the works).

Schedule of Defects

A schedule of defects shall be recorded prior to the start of construction for all buildings, structures, utilities and facilities and Outside Party assets predicted to experience ground movement exceeding 1mm.