Submission No.	**53**
Organisation Name or Name of Submitter	**Core Capital (represented by Logical Real Estate Consulting)**

Item No.	Section Ref.	Page No.	Observation Statement	TII Response
RE: RAILWAY (METROLINK-ESTUARY TO CHARLEMONT VIA DUBLIN AIRPORT) ORDER 2022, PROPERTY: 15-18 EARLSFORT TERRACE, DUBLIN 2				
1	Submission 1	1 and 2	The subject properties (15-18 Earlsfort Terrace) comprise four mid-terraced four storey over basement period buildings. The architecture of the building's was influenced by Gothic Revival style and 17 and 18 Earlsfort Terrace are listed as Protected Structures (RPS No. 2420 & 2421) in Dublin City Council's Record of Protected Structures. The route selection including horizontal alignment, vertical alignment and depth of MetroLink below ground in the area between Chainage 18+900 and Chainage 19+100 should be reviewed by NTA / TII to satisfy themselves and to ensure that: 1. MetroLink does not cause structural damage to the foundations supporting our client's properties. 2. MetroLink does not cause structural damage to our client's properties at the basement level. 3. MetroLink does not cause damage to the historic brickwork, ornate detailing and fragile finishes of our client's properties and protected structures. 4. MetroLink provides the necessary vertical and/or horizontal clearance between the existing basements and the tunnels.	On the MetroLink Project, the approach to ground movement and building damage assessment follows the industry standard three-phased ground movement impact assessment process that is undertaken on tunnelling and underground projects around the world, that includes Channel Tunnel Rail Link (CTRL), Dublin Port Tunnel, Crossrail and High Speed 2. The MetroLink tunnel has been assessed going under these properties at the depth and on the alignment proposed and TII are satisfied that the assessed movements will not lead to structural damage to these properties. EIAR Appendix A5.17, Building Damage Report, covers the assessed impacts of construction generated ground movements and settlement on property. Table 5-2 of this report shows that the buildings have been assessed as falling within the ''Negligible damage'' category (the lowest assessed impact), an explanation for which can be found in Table 4-4 of the aforementioned report. TII can also confirm that the assessment has taken into account the presence of the basements as noted. TII does recognise the importance of the buildings listed in your submission and hence they have been designated as “special”, and hence a further Stage 3 refined assessment, despite the impact only being assessed as ‘Negligible’, will be undertaken that will take account of final design and construction methodology details most likely utilising advanced numerical modelling techniques and further surveys of the building. This commitment is detailed in section 4.5. of Appendix A5.17 Building Damage Report. The results of this refined assessment typically show that earlier assessments are conservative and overestimate the likely impact of construction generated ground movements.
2	Submission 2 (also repeated in section 'Submission 3'	2	We note that drawing ML1-JAI-EIAROUT- XX-DR-Y-13038 (a copy is attached to this submission) does not identify any potential receivers in the area of our client’s properties, therefore essentially ignoring potential damage to our client's properties.	TII would like to assure you that the potential for your client's properties to be impacted by Metrolink works has not been overlooked as evidenced by response (1) above with regards to the assessed impact of construction generated ground movements. Drawing ML1-JAI-EIA-ROUT-XX-DR-Y-13038 presents the receptors considered in the assessment of airborne noise during construction works at the overground sites, where the closest receptors are modelled. As set out by EIAR Chapter 13 Airborne Noise & Vibration, 13.2.3.1 Study Area Construction Phase, from an airborne noise and vibration aspect, the key study areas during the Construction Phase are the sensitive environments surrounding surface construction compounds. Depending on the sources in question and the local area under consideration, the study area extends out to between 50m and 300m from the proposed construction works. The buildings noted by this submission are located outside the 20 dBLamax contour line for the closest compound and therefore as a result no significant impact in terms of Airborne Noise and Vibration is predicted.
3	Submission 2	2	1. Metrolink has assessed the “Groundborne Noise from Tunnel Boring Machine” and presents its findings on drawing no. ML1-JAI-EIA-ROUT-XX-DR-Y-14009 (a copy is attached to this submission). This drawing indicates MetroLink will generate an additional 50db directly under the location of our client's properties which is unacceptable.	Appendix 14.5 Groundborne Noise and Vibration Blasting Modelling Results presents predicted groundborne noise and vibration levels during the construction and operation phase of the Project for all numbers 15-18 Earlsfort Terrace. Number 15 Earlsfort Terrace is closest to the tunnel alignment, and the prediction of groundborne noise during TBM passage for this building is 50 dB LASmax, which is above the 45 dB LASmax threshold, resulting a significant impact on the buildings operation for the limited duration of circa 2 weeks as the TBM passes. Unfortunately there are no effective methods available to reduce groundborne noise from TBMs at source and therefore the principal mitigation measure is advance consultation and engagement, to inform owners and tenants of the timing of the TBM passing to allow building occupants to prepare for the temporary elevated noise levels. As such, TII will consult with Core Capital in advance of the commencement of construction works.

Submission No.	53
Organisation Name or Name of Submitter	Core Capital (represented by Logical Real Estate Consulting)

Item No.	Section Ref.	Page No.	Observation Statement	TII Response
RE: RAILWAY (METROLINK-ESTUARY TO CHARLEMONT VIA DUBLIN AIRPORT) ORDER 2022, PROPERTY: 15-18 EARLSFORT TERRACE, DUBLIN 2				
4	Submission 2	2	2. Metrolink has assessed the predicted “Settlement” and presents its findings on drawing no. ML1-JAIEIA- ROUT-XX-DR-Y-21149 (a copy is attached to this submission). This drawing indicates MetroLink will be causing a 35mm settlement directly under the location of our client's properties which is unacceptable. Settlements of this magnitude cannot be accommodated by the building's structure and could cause damage to foundations; basement; superstructure; façade and internal finishes.	Please refer to response (1) above, noting that the settlement contours referred to by the observation were used to assess the potential impact of construction generated ground movements on the properties concerned. The assessment undertaken indicates that there will be a 'negligible' impact on settlement and ground movements at this property. TII do not intend to put in place a Property Owners Protection Scheme for Commercial Properties along the MetroLink route. To protect commercial properties, TII contractors appointed to carry out the works will, with the agreement of the owners of such properties, commission chartered building surveyors to carry out a precondition survey of commercial properties. In the event that it is determined that damage has occurred, TII’s contractor will be required to commission a follow up survey to confirm the extent of the damage and confirm if the damage has been caused by MetroLink works. Where property damage is confirmed to have been caused by MetroLink works the property concerned will have recourse to MetroLink project insurances.
5	Submission 3	2	1. Metrolink has assessed the “Groundborne Noise from Operation” and presented its findings on drawing no. ML1-JAI-EIA-ROUT-XX-DR-Y-14041 (a copy is attached to this submission). This drawing indicates MetroLink will be generating an additional 35db directly under the location of our client’s properties which is unacceptable.	Appendix 14.5 Groundborne Noise and Vibration Blasting Modelling Results presents predicted groundborne noise and vibration levels during the construction and operation phase of the project for all numbers 15-18 Earlsfort Terrace. Number 15 Earlsfort Terrace is closest to the tunnel alignment, and the predictions for this building during operation are as follows: • The predicted level of groundborne noise during the railway operation for 15 Earlsfort Terrace is 36 dB LASmax, which is below the 40 dB LASmax threshold. • The predicted level of groundborne vibration during the railway operation for 15 Earlsfort Terrace is 0.01 ms-1.75, much lower than the VDV (Vibration Dose Value is a parameter that combines the magnitude of vibration and the time for which it occurs) threshold of 0.8 ms-1.75. As a result, no impact in excess of the relevant thresholds is predicted for these buildings as a result of MetroLink operation.
6	Summary	3	In summary, our client requests that the route of the proposed MetroLink tunnels are diverted away from their current proposed location (under our client’s properties) to either below the public carriageway or buildings that will not be damaged or compromised by the presence of the tunnels located under.	The alignment has been designed to connect the proposed St Stephen's Green Station to Charlemont Station. Based on the environmental impact assessment undertaken by TII there is not a need for the alignment to be adjusted, noting the predicted impact of construction generated ground movements is classed as "Negligible" (see response (1) above), and there is a only short period of temporary disturbance to building occupants in the region of 2 weeks as the TBM passes.