

Submission No.			088	
Organisation Name or Name of Submitter			Espirit Investments Limited (represented by John Spain Associates)	
Item No.	Section Ref.	Page No.	Observation Statement	TII Response
RE: SUBMISSION ON THE METROLINK ON BEHALF OF ESPRIT INVESTMENTS LIMITED IN RELATION TO PROPERTY AT TOWNSEND STREET AND SHAW STREET, 32-33 PEARSE STREET, AND 36-37 PEARSE STREET, DUBLIN 2.				
1	Site and Impacts of Metrolink	4	<p>The property is located in the city centre, Dublin 2, and therefore benefits from excellent access to existing public transport and services. It is acknowledged that the city centre location of the site necessarily means that there may be ongoing construction activity in the area at any given time.</p> <p>However, our client has serious concerns in relation to the identified noise and associated disruption contained with the Railway Order documentation. A “Significant” residual impact is identified to a neighbouring building (Dublin Fire Brigade HQ - located to the west on Townsend Street). Whilst this impact is noted as being temporary, there is no clarity or estimate provided beyond this in relation to the duration of these works.</p>	<p>The plot of land adjacent to Dublin Fire Brigade HQ currently contains no building, and so has not been assessed by TII's noise and vibration model. The building 155 Townsend Street is in a similar position in relation to the tunnel route, and so the model results for this building provide a useful indication of potential impact at this location.</p> <p>EIAR Appendix 14.5 Groundborne Noise and Vibration and Blasting Results presents the predicted noise and vibration levels during TBM Passage for various sensitive receptors. The predicted groundborne noise during TBM passage beneath the building 155 Townsend Street is 50 dB LASmax, which is above the Threshold Level of 45 dB, resulting in a significant impact for occupants of any future building that might be present for the limited duration of TBM passage. The predicted groundborne vibration during TBM passage beneath the building 155 Townsend Street is 0.269 ms-1.75 VDV (Vibration Dose Value is a parameter that combines the magnitude of vibration and the time for which it occurs) which is below the threshold of 1.6 ms-1.75 VDV for offices and commercial buildings and also below the threshold of 0.8 ms-1.75 VDV for more sensitive uses. There is therefore no significant impact for groundborne vibration expected at this location.</p> <p>Unfortunately, there are no effective methods available to reduce groundborne noise or vibration from the TBM at source, but noting that the duration of this impact will be temporary and of the order of up to two-weeks as the TBM passes. TII will undertake advanced consultation and stakeholder engagement to prepare people for the passing of the TBM and ensure the timing of these impacts are known. This is detailed in section 6.2 of EIAR Appendix A5.1 Outline CEMP.</p> <p>EIAR Chapter 13, Airborne Noise and Vibration includes an assessment of airborne noise and vibration from the construction of nearby Tara Station. Chapter 13 presents the predicted airborne noise impacts, including Table 13.66 which summarises the noise impacts from the construction of Tara Station. This includes receptor 15 on Townsend Street in the location of this plot of land where the predicted impact is Moderate to Significant and Significant to Very Significant impact during some of the work phases.</p> <p>TII's contractor(s) will prepare a Construction Noise and Vibration Management Plan (CNVMP) for the proposed Project as referred to in EIAR Appendix A5.1, Outline Construction Environmental Management Plan (CEMP). The CNVMP will be a live document and will include a full monitoring and auditing programme which will be agreed with the local authorities prior to the commencement of the Construction Phase, including predetermined monitoring trigger levels to ensure noise and vibration limits are not breached, noting that it is not possible to mitigate TBM groundborne noise and vibration at source. Table 6.2: Noise and Vibration Measures of the Outline CEMP outlines the monitoring programme requirements.</p> <p>The Transport Infrastructure Ireland (TII) Airborne Noise and Ground-borne Noise Mitigation Policy (Appendix A14.6 of EIAR Chapter 14) also sets out the construction noise insulation and temporary rehousing measures to be implemented where required.</p>
2	Site and Impacts of Metrolink	5	<p>Our client also has a concern in relation to the assessment and quantification of the impacts contained within the submitted documentation, as our client’s property (and the permitted and future buildings to be constructed thereon) has not been specifically assessed, only a neighbouring building. This is especially concerning given that the proposed alignment runs directly under our client’s property.</p> <p>The Railway Order applies for a vertical deviation of 5 metres. Whilst it is understood a deviation may be required due to detailed design or conditions encountered, the result of such a deviation in relation to the subject property is potential clashes with substructure and increased impacts arising in relation to noise, vibration and associated building damage.</p>	<p>The assessed impacts of groundborne noise and vibration, and construction generated ground movements on Espirit Investment Limited properties are summarised below.</p> <p>Groundborne Noise and Vibration (EIAR Appendix 14.5 Groundborne Noise and Vibration and Blasting Results)</p> <ul style="list-style-type: none"><li>155 Townsend Street - please refer to response (1) above for construction.</li></ul> <p>During operation the predicted groundborne noise at the nearby 155 Townsend Street is 33 dB LASmax, below the threshold of 40 dB LASmax; and vibration is 0.008 ms-1.75 VV day and 0.005 ms-1.75 night, also below thresholds for residential receptors of 0.8 ms-1.75 VDV day and 0.4 ms-1.75 VDV night. As such, no adverse impacts during the railway operation are predicted.</p> <ul style="list-style-type: none"><li>15 Shaw Street: The predicted groundborne noise during TBM passage is 44 dB LASmax, which is below the threshold level of 45 dB, resulting in no significant impact for groundborne noise at this location. The predicted groundborne vibration during TBM passage is 0.191 ms-1.75 VDV which is below the threshold of 1.6 ms-1.75 VDV for offices and commercial buildings and is also below the threshold of 0.8 ms-1.75 VDV for more sensitive uses. There is therefore no significant impact for groundborne vibration expected at this location.</li></ul>

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				<p>During operation the predicted groundborne noise is 23 dB LASmax, below the threshold of 40 dB LASmax; and vibration is 0.003 ms-1.75 VV day and 0.002 ms-1.75 night, also below thresholds for residential receptors of 0.8 ms-1.75 VDV day and 0.4 ms-1.75 VDV night. As such, no adverse impacts during railway operation are predicted.</p> <p>• 33 Pearse Street: The predicted groundborne noise during TBM passage is 50 dB LASmax, which is above the Threshold Level of 45 dB, resulting in a significant impact for limited duration while the TBM passes. The predicted groundborne vibration during TBM passage is 0.27ms-1.75 VDV which is below the threshold of 1.6 ms-1.75 VDV for offices and commercial buildings, and also below the threshold of 0.8 ms-1.75 VDV for more sensitive uses. Therefore no significant impact for groundborne vibration is expected at this location.</p> <p>During operation the predicted groundborne noise is 34 dB LASmax, below the threshold of 40 dB LASmax; and vibration is 0.008 ms-1.75 VV day and 0.005 ms-1.75 night, also below the thresholds for residential receptors of 0.8 ms-1.75 VDV day and 0.4 ms-1.75 VDV night. As such, no adverse impacts during the railway operation are predicted.</p> <p>• 36/37 Pearse Street: The predicted groundborne noise during TBM passage is 49 dB LASmax, which is above the Threshold Level of 45 dB, resulting in a significant impact for limited duration while the TBM passes. The predicted groundborne vibration during TBM passage is 0.257ms-1.75 VDV which is below the threshold of 1.6 ms-1.75 VDV for offices and commercial buildings, and also below the threshold of 0.8 ms-1.75 VDV for more sensitive uses. There is therefore no significant impact for groundborne vibration expected at this location.</p> <p>During operation the predicted groundborne noise is 34 dB LASmax, below the threshold of 40 dB LASmax; and vibration is 0.008 ms-1.75 VV day and 0.005 ms-1.75 night, also below thresholds for residential receptors of 0.8 ms-1.75 VDV day and 0.4 ms-1.75 VDV night. As such, no adverse impacts during the railway operation are predicted.</p> <p>The management of TBM groundborne noise for 33 and 36/37 Pearse Street, and general construction noise and vibration will be in accordance with response (1) above.</p> <p>As explained by EIAR Chapter 14 (Ground-borne Noise and Vibration), section 14.4.2.6 Section AZ4 Northwood to Charlemont and summarised above, the predicted operational noise and vibration for these buildings will not exceed the groundborne noise and vibration thresholds, and therefore no adverse impacts during the railway operation are predicted within the area of Espirit Investments Limited properties.</p> <p>Settlement / Ground Movement Impact An assessment of the effects of ground movements and potential impacts on existing buildings has been carried out. 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 beneath 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.</p> <p>EIAR Appendix A 5.17, Building Damage Report, covers the assessed impacts of construction generated ground movements on properties. Table 5-2 outlines the results of the Phase 2a Building Damage Assessment conducted on representative buildings along the proposed tunnel alignment, including for buildings within your property (B-50 demolished - 155 Townsend Street, B-45 O'Neills Whiskey Bonders and B-46 O'Neills Town House - 36/37 Pearse Street, B-48 The School Tour Company - 32/33 Pearse Street). Tables 5-2 shows that B-45, B-46 and B48 buildings have been assessed as falling within the "Very Slight/Negligible damage" categories. B50 has been demolished. 15 Shaw Street is outside of the zone of influence and hence not impacted by settlement. The damage categories are described in section 4.3.2 of the EIAR Appendix A 5.17, Building Damage Report.</p>

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				<p>Given the importance of these Pearse Street properties, they are designated as 'special buildings' which means they will be taken forward for a Phase 3 Assessment at the detailed design stage of the Project. The Phase 3 assessment will take account of final design and construction methodology details, and each building will be subject to detailed assessment on an individual basis. A detailed survey will be carried out as part of the Phase 3 assessment to provide the necessary additional information to inform this detailed analysis of how the individual elements of the building would be affected by the predicted ground movements. The method and extent of the detailed analysis will be determined on a case-by case basis and may include a more sophisticated semi-empirical or a detailed soil-structure interaction using finite element modelling methods. The results of this refined assessment typically show that earlier assessments are conservative and overestimate the likely impact of construction generated ground movements. This is detailed in section 4 of EIAR Appendix A5.17 Building Damage Report.</p> <p>The design includes for a limit of deviation which is required to allow for unforeseen obstructions and construction tolerances which may necessitate a change to the alignment. In the highly unlikely event that this were to occur, any resulting environmental impacts will comply with the limits set by the enforceable Railway Order. TII has carried out a comprehensive set of ground investigations in accordance with relevant guidelines and best practice. It has a high confidence that MetroLink can be constructed along the proposed alignment without requiring vertical or horizontal adjustment. However, in order to guard against rare and undetectable subterranean conditions that might interfere with construction, the Railway Order provides for limits of deviation (as have other railway authorisation since at least the 1840s). The impacts of potential changes within the Limits of Deviation are considered in the Wider Effects Report (Appendix A5.19).</p> <p>For assessment of the "the permitted and future buildings to be constructed thereon" referred to by this observation, please refer to response (3) below.</p>
3	Land use Zoning	6	<p>The property is zoned Z5 ‘City Centre’ under the 2022-2028 Development Plan, with an objective “<i>To consolidate and facilitate the development of the central area, and to identify, reinforce, strengthen and protect its civic design character and dignity.</i>” The Draft Development Plan further states in relation to Z5 lands that “<i>The strategy is to provide a dynamic mix of uses which interact with each other, help create a sense of community and which sustain the vitality of the inner city both by day and night.</i>”</p> <p>The subject property will be occupied by mixed-use buildings including retail and office uses, one of which has been granted permission under Reg. Ref. 4778/19 and 2877/21, and is therefore achieving the zoning objective for the property. It is important that any proposed construction works under the building are minimally disruptive and cause no damage to the structure.</p>	<p>Please refer to response (2) above that summarises the assessed impact on existing buildings, noting no structural damage is predicted. A programme of environmental monitoring will be undertaken, that will include noise, vibration and ground movement, with predetermined monitoring trigger levels set to ensure that environmental limits are not breached. Pre and post construction condition surveys, as well as baseline monitoring pre-construction of MetroLink will be undertaken, and in the event of any damage occurring that is attributed to MetroLink, TII will fund the cost and arrange for any necessary repairs. This is outlined as part of the Property Owners Protection Scheme for residential properties, for which further details can be found in Chapter 11 (Population and Land Use) section 11. 6.1.1.</p> <p>With regards to future development, Metrolink will be a catalyst for and provide opportunity for future development and regeneration. While the MetroLink Railway Order does not include for future neighbouring or overhead development, the tunnels and stations are designed to support appropriate future imposed loads.</p> <p>TII will be required to make submissions in relation to planning applications for proposed future developments on or adjacent to MetroLink and there will necessarily be some engineering constraints (such as permissible loadings) required. However MetroLink is committed to engaging with known development proposals and new development proposals as they emerge with the intent of facilitating such developments as they emerge to the maximum extent consistent with the safe operation of the proposed Project.</p> <p>Again in common with other existing rail and tunnel projects, following grant of the Railway Order and development of detailed design, TII will produce “Guidance Note for Developers” that will be the subject of bye-laws following the grant of Railway Order and which is designed to facilitate future adjacent or over-site development while protecting the integrity and safety of the MetroLink works and operations.</p> <p>Therefore at this stage TII is dealing with known development proposals on a case by case basis, TII will work with parties in the future to assist with the wider development of sites over and above stations and tunnels. In this context TII has successfully engaged with a number of developers over the last two years to accommodate development over and in proximity to the alignment and there have been no material restrictions on development subject to the implementation of agreed design and mitigation measures and it is not anticipated that MetroLink will have a material impact on the development potential of sites above and in proximity to the alignment in future.</p>

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4	Engineering Considerations	6	<p>The proposed works have been reviewed by our client’s engineer, Arup Consulting Engineers. This submission is accompanied by a Technical Note prepared by Arup that reviews the proposed construction works and requests that the Railway Order is structured so as to ensure future buildings are protected in this location. Of note in this report is that the piles to be constructed beneath the basement come within the 5m vertical upward deviation applied for as part of the Railway Order.</p> <p>The accompanying Report by Arup requests: “We expect that the requirement of deviation of the underground tunnel to be clarified by TII/Metrolink technical team at the location underside of our building, whether this is only for a possible grout injection works that would require. As part of the previous agreements, TII/Metrolink is expected to confirm that the tunnelling works should be cognisant of the as constructed underground structures.”</p>	<p>Please refer to response (2) above regards the use of vertical limits of deviation that are constrained by the presence of existing structures.</p> <p>Please refer to response (3) above that sets out how future developments above MetroLink will be dealt with.</p>
5	Concluding comments	6 & 7	<p>Our client welcomes the submission of the Railway Order and the sustainable transport benefits which would be delivered; however, construction and operational impacts should be carefully managed to minimise the effects on the landholdings in the vicinity of the proposed metro. The upward vertical deviation of 5 metres applied for in the Railway Order, if utilised would conflict with constructed piles underneath our client’s property.</p>	<p>The above responses cover the assessed environmental impacts on these buildings, how the vertical limits of deviation will be availed of where there are existing structures constraining their application, and how future developments in the vicinity of the proposed and constructed MetroLink infrastructure will be dealt with.</p>
6	Concluding comments	7	<p>Our client also reserves the right to maximise the development potential above and below ground of the lands in question. The assessment of compensation would not be limited to the content of this submission.</p>	<p>MetroLink will be a catalyst for and provide opportunity for future development and regeneration. While the MetroLink Railway Order does not include for future neighbouring or overhead development, the tunnels and stations are designed to support appropriate future imposed loads.</p> <p>TII will be required to make submissions in relation to planning applications for proposed future developments on or adjacent to MetroLink and there will necessarily be some engineering constraints (such as permissible loadings) required. However MetroLink is committed to engaging with known development proposals and new development proposals as they emerge with the intent of facilitating such developments as they emerge to the maximum extent consistent with the safe operation of the proposed Project.</p> <p>Again in common with other existing rail and tunnel projects, following grant of the Railway Order and development of detailed design, TII will produce “Guidance Note for Developers” that will be the subject of bye-laws following the grant of Railway Order and which is designed to facilitate future adjacent or over-site development while protecting the integrity and safety of the MetroLink works and operations.</p> <p>Therefore at this stage TII is dealing with known development proposals on a case by case basis, TII will work with parties in the future to assist with the wider development of sites over and above stations and tunnels. In this context TII has successfully engaged with a number of developers over the last two years to accommodate development over and in proximity to the alignment and there have been no material restrictions on development subject to the implementation of agreed design and mitigation measures and it is not anticipated that MetroLink will have a material impact on the development potential of sites above and in proximity to the alignment in future.</p> <p>Compensation for those affected by compulsory purchase will be assessed in accordance with the compensation code. For further information, please refer to: <a href="https://metrolink.ie/media/0jlpbyso/metrolink_cpoguideline_final_september-2022.pdf">https://metrolink.ie/media/0jlpbyso/metrolink_cpoguideline_final_september-2022.pdf</a></p> <p>As noted in the EIAR Planning Report, The station box at Tara Street does not restrict the potential of these development sites to deliver high intensity city centre, mixed use development, in line with the DCC zoning objective.</p>