

**IN THE MATTER OF AN APPLICATION TO  
AN BORD PLEANALA**

**For Approval of the Railway (Metrolink – Estuary to Charlemont via  
Dublin Airport) Order [2022]  
ABP-314724-22**

**ORAL HEARING**

**STATEMENT OF EVIDENCE**

**on**

**Approach to monitoring, communications and risk management during  
the construction phase**

**By**

**Paul Brown**

**February 2024**

**MetroLink Oral Hearing**  
**Brief of Evidence of Paul Brown**  
**Approach to monitoring, communications and risk management during the construction phase**

**1 Qualifications and Role on the MetroLink Project**

1.1 My name is Paul Brown. I am employed as Jacob Idom's Project Director for MetroLink. I am a Chartered Civil Engineer, specialising in project and programme management, with over 30 years' experience of large-scale infrastructure programmes and projects covering both the development and delivery phases, including; HS2, Bond Street Station Upgrade, Metro North, Dublin Port Tunnel, Dartford Cable Tunnel, Singapore Deep Tunnel Sewage System, Singapore North East Line and the Jubilee Line Extension Project.

1.2 My evidence is concerned with:

1.2.1 The proposed approach to monitoring, communications, and risk management during the construction phase, including respective roles and responsibilities of contractor(s) and TII;

**2 The proposed approach to monitoring, communications, and risk management during the construction phase, including respective roles and responsibilities of contractor(s) and TII**

**2.1 Approach to Monitoring**

2.1.1 EIAR Appendix 5.1, The Construction Environmental Management Plan (CEMP) identifies:

- the minimum requirements with regards to monitoring and its implementation across all environmental criteria.
- the roles and responsibilities for developing, implementing, maintaining and monitoring environmental management.

2.1.2 TII's contractors will be required to develop and implement an Environmental Management System (EMS) that follows the principles of ISO 14001. The EMS will include an environmental policy, and operational, monitoring and auditing procedures to ensure compliance with all environmental legislation and requirements.

2.1.3 Monitoring during construction will include:

- Noise
- Vibration
- Air quality
- Groundwater level and quality
- Surface water
- Archaeology
- Waste characterisation testing
- Contamination
- Ground movements

2.1.4 TII will be responsible for monitoring compliance with the CEMP using specialists to monitor construction.

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- 2.1.5 For the duration of the contracts, the environmental performance of the contractors will be monitored through site inspections and audits. The programme for monitoring, inspections and audits will be specified in the contract and will be a combination of internal inspections and independent external audits (routine and unscheduled). To ensure works do not exceed the limits as set by the EIAR or the enforceable RO, monitoring trigger limits will be set to ensure limits are not exceeded. These will be accompanied by Monitoring Action Plans (MAP) that will be developed prior to construction detailing responses to breaches of trigger levels.
- 2.1.6 The document 'Ground Movement Monitoring Information Paper' provides further detail on how TII propose to monitor ground movements and manage the associated risk to ensure the works are constructed safely and correctly.
- 2.1.7 A key aspect of TII's approach to ground movement monitoring is the appointment of an Independent Monitoring Engineer. It is right and proper that the Contractor will control the various geotechnical processes involved in the tunnelling and excavation works and will be responsible for installing, reading and interpreting in-tunnel, in-ground and surface instrumentation and monitoring, which are required solely for these purposes.
- 2.1.8 TII will also require all relevant information that will allow TII to monitor the impacts of tunnelling and excavation on buildings and infrastructure. The Project will generate a huge amount of monitoring information, and therefore it is vital that the quantity of monitoring information received by TII does not become so voluminous that the management, interpretation and assessment of this information overtakes the objective of reviewing the critical movement data that will be used to assess whether the works are being undertaken correctly and safely.
- 2.1.9 The emphasis is on limited but key safety critical information. The information collected needs to be reliable and provided regularly on time. TII will therefore use a separate organisation, The Independent Monitoring Engineer (IME), employed by the Contractor, for installing, reading the instruments and processing the data collected during construction that is required to give TII the assurance that the works are progressing within the specified tolerance or give sufficient warning that movements are identified progressing towards the specified limits to enable corrective action to be taken.
- 2.1.10 The data collected by the IME will be made publicly available to provide the assurance that the works are progressing safely and correctly.

**2.2 Approach to Communication**

- 2.2.1 My colleague Aidan Foley has previously presented an outline of the principles that underpin the 'Stakeholder and Community Engagement Plan' and TII's commitment to leading the engagement with the community and stakeholders. Delivering MetroLink will require the active support from the community and a wide range of stakeholders, from Government to

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local businesses. While MetroLink will deliver considerable benefits to all of Dublin and Ireland, during the construction stage it will also lead to disruption.

2.2.2 The stakeholder engagement plan is designed to achieve three key objectives:

- Ensure all communications with the community and stakeholders are timely, consistent and coherent;
- To build and maintain relationships with the community and stakeholders; and
- To ensure that the Project team is a trusted source of information.



2.2.3 TII's approach to communication will be open and transparent and will be designed to ensure regular liaison with the community. This will include the sharing of monitoring data at regular community forums as well as online, including how this monitoring data relates to the predefined trigger levels to demonstrate compliance.

2.2.4 Procedures will enable the timely dissemination of information to inform decision making and communications to stakeholders through relevant channels.

- To inform stakeholders of all relevant project development and works, local offices will be open along the route staffed by Local Liaison Officers.
- Local Forums for community groups and public representatives will be established.

2.2.5 MetroLink Contractors appointed will be required to adopt TII's stakeholder engagement policies and develop targeted and specific communications plans for their activities but noting that TII will be the face of MetroLink and accessible at all times. I will come back to this at the end of the presentation to explain why this should not be a concern.

## 2.3 Approach to Risk Management

2.3.1 The identification, evaluation and control of risk is fundamental to the safe effective delivery of MetroLink.

2.3.2 The scope and methodology presented in EIAR Chapter 26 is based on the provisions of the EIA Directive, Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA 2022), Chemicals Act (Control of Major Accident Hazards involving

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Dangerous Substances) Regulations 2015 ((COMAH Regulations), European Commission (2017) guidance, IEMA (2020) guidance and other published risk assessment methodologies and professional judgement (referenced in Section 28.2.2.2).

- 2.3.3 A MANDS (Major Accident and/or Natural Disaster) Risk Register has been developed which contains the reasonable worst-case scenarios identified as presenting a probabilistic risk during the Construction Phase as well as the Operational Phase of the proposed Project.
- 2.3.4 Critical construction phase risks have been identified including; ground or structure collapse, settlement, pollution, major traffic accidents by way of example and how these will be managed.
- 2.3.5 The key objective of this risk register is to identify whether additional mitigation and/or management measures are required (above those mitigation measures that have already been embedded in the current design) to manage the identified risks to the environment to be as low as reasonably practicable (ALARP). It is important to note that this assessment will typically focus on 'low likelihood but potentially high consequence events' (IEMA 2020).
- 2.3.6 TII will also operate in accordance with A Code of Practice for Risk Management of Tunnel Works, internationally recognised industry practice.
- The objective of the code is to promote and secure best practice for the minimisation and management of Risks associated with the design and construction of projects involving Tunnel Works.
  - TII will procure all subsequent design and construction contracts to be compliant with the Code. (Not limited to "Tunnel Works" only)
  - The Code will be included in procurement documents and tender evaluations will score supply chain competency to identify, evaluate and manage risk.
- 2.3.7 To deliver the Code's objective MetroLink will:-
- a. ensure that technical and management **Competence** and resources are suited to the complexity of the project
  - b. instil a risk aware culture through active and integrated **Risk Management** incorporating Digital delivery
  - c. identify and provide mitigation of Risks such that the **Likelihood** of failures is extremely remote from all reasonably foreseeable causes throughout **Construction**
  - d. ensure **Risk Assessments** are informed by sufficient site and ground information
  - e. ensure that all Contract documentation includes:
    - project requirements, reference designs and **Risk Assessments**
    - an explicit, clear allocation of **Risks**
    - **Ground Reference Conditions**
    - requirements for tender **Method Statements**

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- a clear process for change management
- f. allow tenderers sufficient time to assess **Risks**
- g. **Design Risk Assessments** will be used to ensure risk is designed out wherever feasible, not simply transferred to construction.
- h. Contractor's pre-construction works to include evidence of integrated Risk Management incl. **Risk Management Plans, Risk Registers** and **Method Statements**
- i. employ **Independent Construction Supervision** and sufficient **Instrumentation and Monitoring** to ensure that design and construction Risk Assessment assumptions are verified and validated for conditions encountered during construction.

2.3.8 To provide further assurance of TII's commitment to risk management, TII are currently operating a developed risk management process. The TII risk management plan sets out the current approach to Risk Management on the MetroLink project and covers:

- a. Governance and Control
- b. Roles and Responsibilities
- c. Risk register Hierarchy
- d. Training
- e. Project Risk Management Process
- f. Project Risk Management Interventions
- g. Assurance

2.3.9 Risks are identified, evaluated, and allocated appropriately to the party best able to manage the risk.

## 2.4 Concluding Statement

2.4.1 As I have shown there are close links between monitoring, communications and risk management and the allocated roles and responsibilities between TII and its contractors. This organisational diagram illustrates the construct of the MetroLink delivery model, with particular attention drawn to the relationship between TII's roles and responsibilities (the MetroLink Directorate and Project Delivery Partner), and the contracts that will be procured and let to deliver the MetroLink project. The MetroLink Directorate and the Project Delivery Partner i.e. TII, will provide independent construction supervision and oversight to assure the safe and correct delivery of the Project and be the point of contact for the public, and the channel through which communications will be provided.

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### Approach to monitoring, communications and risk management during the construction phase

