

## **(ITT2B) B18 - Tunnelling Engineering**

### **Scenario**

### **Competencies**

The delivery of successful Tunnelling projects on the TfL Rail and Underground or Surface Transport network requires the following competencies as a minimum. These requirements will generally be common to both TfL Surface Transport and Rail and Underground projects, although some are more relevant to one or other of the business units. The framework applies to all stages of the project lifecycle from Outcome Definition to Handover and Suppliers should demonstrate their capabilities within each stage:

1. Verification and Validation of project requirements to ensure that it fulfils its intended purpose.
2. Working collaboratively with TfL Programme/Project Managers, Engineering, Operational liaison staff and Maintenance liaison staff throughout the Project life cycle
3. Co-ordination, integration and interface management with the other interfacing disciplines in the operational transport mode (i.e. Rail and Underground or Surface Transport).
4. Ability to develop design solutions from feasibility to detailed design and implementation.
5. Understanding of TfL Rail and Underground or Surface Transport Tunnelling requirements, standards, and assurance requirements
6. Understanding of the implementation of innovative new technology and value added initiatives that could be utilised in the delivery of successful Tunnelling projects on the TfL Rail and Underground or Surface Transport network. Including the capability to challenge traditional design approaches to deliver innovative solutions.
7. Carrying-out all necessary desk studies and site visits to assimilate all the necessary information to develop the design solution
8. Capability in Tunnelling design, ground movement and numerical analysis. Utilisation of supporting design and assessment tools e.g. Specialist Design and Ground Movement Software, BIM, CAD (e.g. Microstation) to assist the development of ground movement assessment, design solutions and drawings.
9. Capability in managing the delivery of a coordinated and buildable Tunnelling design within a transport environment; including explanation of your design checks, approve processes to deliver an assured product. Including the capability in assessing, monitoring and mitigating the effects of ground settlement arising from Tunnelling.
10. Understanding of Tunnelling construction methods so that the buildability of the design is assured, including a sound knowledge of current tunnelling construction safety initiatives and best practice. Includes the implementation of monitoring systems and mitigation

- measures to control the impact of tunnelling on interfacing infrastructure.
11. Understanding of maintenance methods applicable to Tunnelling assets so that the maintainability of the design solution is assured including a sound knowledge of current maintenance best practice applicable to the TfL Rail and Underground or Surface Transport network.
  12. Provision of design representation during the construction and handover phases to verify design intent being delivered and respond to change requests.

### Response

In no more than 2000 words contained in a maximum of 8 sides of A4 (pictures, diagrams etc. may be included in the sides of A4 limit) describe your company's capability to provide Tunnelling engineering services in the skill sets 1 to 12 described above.

### *Note:*

*Bidders must not cite examples of previous completed works within their response as this formed the basis of the SSQ evaluation and as such references to completed case studies will not be subject to evaluation.*

*Bidders are encouraged to structure their submission by clearly setting out their response against each of the competencies via specific headings for each competency; the headings will not be included in the word count limitations.*