



Supplementary Questionnaire

Construction of Tunnels and Galleries

1. Title of Contract: _____

2. Site: flat hilly mountainous
 built-up area semi-built-up area open area
 Subsoil¹: sand gravel rock
 Properties: soft medium hard

¹Attach drawings and soil expertise.

Inclination of strata: _____

Is supporting structure/propping required? YES NO

If so, specify. _____

Water-bearing strata anticipated? YES NO

If so, at how many locations? _____

Estimated quantity of water: _____ m³/s

Gas-bearing strata anticipated? YES NO

3. Breakdown of values:

ITEM	VALUE (\$)
Site installations and temporary work	_____
Workshops, stores, camps, etc.	_____
Driving work	_____
Lining work	_____
Road construction, rail installation (including base)	_____
Finishing work (i.e. lighting, ventilation)	_____
Total value	_____

4. Type of underground structure:

- tunnel gallery underground chamber shaft
for road railway other (if so, specify) _____
 single tunnel double tunnel distance between tunnels: _____ m
ft

5. Technical data:

- Length: _____ m
ft Gradient: _____% Number of access tunnels: _____
Overburden: Minimum: _____ m Maximum: _____ m Average: _____ m
ft ft ft ft
 circular semi-circular horseshoe parabolic
 rectangular square other (if so, specify) _____
Height: _____ m Width: _____ m Diameter: _____ m
ft ft ft
 unlined partly lined fully lined
Specify: _____
Lining: concrete cast in situ precast brick stone steel
 other (if so, specify) _____
Lining fixed by: roof bolts rock anchors

6. Tunnelling Method:

- drilling/blasting Length: _____ m
ft
Details: _____
 shotcrete Length: _____ m
ft
Details: _____
 shield Length: _____ m
ft
Details: _____
 cut and cover Length: _____ m
ft
Details: _____

7. Dewatering:

- by gravity by pumps
Total capacity of pumps: _____ m³/s Reserve capacity of pumps: _____ m³/s
Pumps are driven: electrically by compressed air
Electric power supply: of the mains by site generator(s)
Standby generators in case of mains failure? YES NO

8. Construction schedule (unless separate sheet is attached):

Component	Execution dates, anticipated period of work (months)
Site installations and temporary work	_____
Driving work	_____
Lining work	_____
Road construction, rail installation (including base)	_____
Finishing work (i.e. lighting, ventilation)	_____

9. To what extent might the contract work be destroyed in one loss event?

10. What work will be done by subcontractors?

11. (a) Which contractors will work independently of the insured at the site or in its immediate vicinity?

(b) What work will be done by such contractors?

12. (a) Where are the offices, stores, workshops, camps, etc. located? Give details or attach drawings.

(b) Where are construction plant and equipment and construction materials stored? Give details or attach drawings.

The following questions to be answered in case of underwater tunnels only.

13. Tunnel to be constructed under:

river lake bay other

If other, specify: _____

Minimum rock overburden under body of water: _____ m
ft

Maximum depth of water: _____ m
ft

14. Tunnel constructed in situ:

Are caissons to be used? YES NO

If so, describe method: _____

Total capacity of compressors: _____ kw

Capacity of compressors on stand-by: _____ kw

15. Tunnels using prefabricated sections:

Length: _____ ^m/_{ft} Height: _____ ^m/_{ft} Width: _____ ^m/_{ft}

Maximum weight of a section: _____ t

Method of placing: self-floating by barge by crane by winch

16. Body of water used for: commercial traffic pleasure boats

17. Water and storm hazard:

monsoon tropical storms (hurricane, typhoon, cyclone)

Maximum rainfall: per month: _____ ^{mm}/_{in} per day (24 hrs): _____ ^{mm}/_{in}

per hour: _____ ^{mm}/_{in} Maximum wind velocity: _____ ^{km/h}/_{mph}

Main wind direction: _____

Maximum water level anticipated above normal: _____ ^m/_{ft}

Tidal waves anticipated? YES NO

If so, maximum height: _____ ^m/_{ft} Direction: _____ Frequency: _____

Protective measures: _____

Maximum water current velocity: _____ ^{m/s}/_{ft/s}

If tidal, maximum velocity in each direction: _____

Incoming: _____ ^{m/s}/_{ft/s} Outgoing: _____ ^{m/s}/_{ft/s}