

**Agreement No. C4420.D(C)-99**

**Modifications to MTRC Mong Kok Station  
Entrances C3 and C4**

**PROJECT PROFILE**

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## **PROJECT PROFILE**

### **1. BASIC INFORMATION**

#### **1.1 Project Title**

1.1.1 Modifications to MTRC Mong Kok Station Entrances C3 and C4.

#### **1.2 Purpose and Nature of the Project**

1.2.1 The purpose of the project is to improve the existing Mong Kok Station in order to cater for the increase in entrance demand generated by the Urban Renewal Authority (URA) new development, namely the K2 Redevelopment, to the west of the Station.

1.2.2 The general nature of works comprises demolishing the existing entrance C3 and establishing a new underground entrance connected to the URA K2 development site. The new entrance would traverse underneath Portland Street and Argyle Street leading to the Station. The project site has an area of approximately 200 m<sup>2</sup> with a subway of approximately 40 m long connecting the Mong Kok Station with URA's K2 development. This project would take approximately 20 months to complete (see Table 2.1 below).

#### **1.3 Name of Project Proponent**

1.3.1 MTR Corporation Limited  
MTR Tower  
Telford Plaza  
Kowloon Bay  
Hong Kong

#### **1.4 Location and Scale of Project**

1.4.1 The proposed project work will be carried out in the existing Mong Kok Station underneath Portland Street and Argyle Street. The location of the Project site is shown in Figure 1.1. As the figure shows, the Project is of small scale. Most of the works would be underground.

#### **1.5 Number and Types of Designated Projects to be Covered by the Project Profile**

1.5.1 In accordance with Section 9(2)(g) of the Environmental Impact Assessment Ordinance (EIAO), the captioned Project is an exempted designated project as the Station had been in operation before the Ordinance came into effect on 1 April 1998. However, since the proposed works involve physical alternation to the existing Station and may cause adverse construction noise impact if mitigation measures are not in place, it shall be considered as a project constituting a material change to an exempted designated project under Schedule 2 of Environmental Impact Assessment Ordinance (Cap. 499). Hence, the procedures under the EIAO should be followed and an environmental permit is required prior to the commencement of the modification works.

## 1.6 Name and Telephone Number of Contact Person(s)

1.6.1 All queries regarding the project can be addressed to:

Dr. Glenn Frommer MTR Tower, Telford Plaza, Kowloon Bay, Hong Kong.  
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E-mail: pgrigg@mtr.com.hk

## 2. OUTLINE OF PLANNING AND IMPLEMENTATION PROGRAMME

### 2.1 Responsibilities of Parties

2.1.1 MTR Corporation Limited (MTRC) is the Project Proponent with overall responsibility for the planning, design, construction and operation of the Project. Maunsell Environmental Management Consultants Limited (MEMCL) was commissioned by MTRC to be the environmental consultant. The MTRC's Environmental Manager will provide the interface between the environmental and station design teams to ensure appropriate designs, and that construction methods and their mitigation measures are properly identified and included in the construction documentation. The proposed works will be implemented by Contractor(s) to be appointed by MTRC at subsequent stages.

### 2.2 Project Time Table

2.2.1 Construction of the proposed works is scheduled to commence in March 2003, for completion in October 2004. The tentative implementation programme is shown in Table 2.1.

**Table 2.1 Preliminary Schedule of Works**

Construction Stage	Activities	Duration	
Stage 1	Site establishment	March 03 – April 03	(2 months)
Stage 2	Demolition of existing entrance C3 structure	May 03	(1 month)
Stage 3	Drainage works / Utilities diversions	June 03 – July 03	(2 months)
Stage 4	Temporary works and road decking	August 03 – January 04	(6 months)
Stage 5	Excavation for subway (works underground)	February 04	(1 month)
Stage 6	Construction of subway (works underground)	March 04 – June 04	(4 months)
Stage 7	Backfill and reinstatement	July 04 – October 04	(4 months)

## **2.3 Interactions with Other Projects**

- 2.3.1 The infrastructure works for the adjacent URA K2 development will be completed and that only light duty construction works will still be in progress by the time the Project starts. Cumulative construction impacts on the sensitive receivers in the vicinity of the Project site are therefore considered to be negligible.

## **3. MAJOR ELEMENTS OF THE SURROUNDING ENVIRONMENT**

- 3.1.1 The Project site is located in an urban area of Mong Kok. Its surrounding area consists of highly populated residential buildings and numerous high-rise commercial properties along Argyle Street and Portland Street. Commercial buildings to the north and east of the Project site include Hong Kong & Shanghai Bank Building, Mong Kok Commercial Centre and Hang Seng Bank Branch Mong Kok Building. Most of the residential dwellings which are considered as sensitive receivers are located to the north and west of the proposed Project site.
- 3.1.2 The major noise source in the study area is dominated by road traffic noise from Argyle Street, Portland Street and some local access roads. The existing ambient air quality is also influenced by emissions from such high volume of traffic in and near the study area.

## **4. POSSIBLE IMPACT ON THE ENVIRONMENT**

### **Construction Phase**

#### **4.1 Air Quality**

- 4.1.1 During the construction phase, dust would be generated from the demolition of existing entrance C3, excavation activities and emissions of plant exhaust on the site. However, in light of the limited number of plant required in such small scale of Project together with the adoption of noise enclosures for some powered mechanical equipment (PME), no significant air quality impact is anticipated. Besides, dust arising from various construction activities would be controlled by implementing dust suppression measures as stipulated in the Air Pollution Control (Construction Dust) Regulation, adverse construction dust impact would therefore not be expected.

#### **4.2 Construction Noise**

- 4.2.1 The use of powered mechanical equipment (PME) at various stages of construction activities is likely to generate excessive construction noise on site. In order to evaluate the construction noise impact from the Project on the noise sensitive receivers (NSRs) in the study area, two representative NSRs in the vicinity of the work site were identified with reference to the EIAO-TM, and are tabulated in Table 4.1 and depicted in Figure 4.1.

**Table 4.1 Description of Representative Noise Sensitive Receiver**

Noise Sensitive Receiver	Description	Use	Nearest Distance between NSR and Site Boundary (m)
N1	43-49A Argyle Street	Residential	22
N2	35-37A Argyle Street	Residential	34

- 4.2.2 The construction noise at the representative NSRs has been assessed in accordance with the methodology specified in the *Technical Memorandum on Noise from Construction Work Other than Percussive Piling*. A construction noise assessment report is attached in Appendix 1.
- 4.2.3 Assessment results indicated that all predicted unmitigated noise levels at the representative NSRs would exceed the daytime noise criterion of 75 dB(A) for all construction activities (Table 4.2). Noise mitigation measures are therefore required to reduce the noise to acceptable levels.

**Table 4.2 Predicted Noise Levels at Representative NSRs – Unmitigated**

Activities	L <sub>eq</sub> , dB(A) at	
	NSR N1	NSR N2
Site establishment	82	78
Demolition of existing entrance C3 structure	80	78
Drainage works / Utilities diversions	80	76
Temporary works and road decking	83	79
Excavation for subway (works underground)	82	81
Construction of subway (works underground)	77	76
Backfill and reinstatement	82	78

### 4.3 Water Quality

- 4.3.1 Potential major sources of water quality impacts may arise from the discharge of construction wastewater and site run-off into storm drains during the construction phase. However, due to the limited scale of the Project as well as the absence of water body in the vicinity of the Mong Kok Station, significant water quality impact would therefore not be anticipated. Although it is the case, mitigation measures should be implemented to control the construction site run-off which is regulated under the Water Pollution Control Ordinance and its subsidiary regulation, and to minimise the chances of introducing sediment and pollutants into the stormwater drainage system and ultimately into the Victoria Harbour.

### 4.4 Waste Management

- 4.4.1 The major types of solid waste likely to be generated from the construction works include excavated materials, construction and demolition material (C&D material), chemical wastes and general refuse. According to the above four identified waste categories, C&D material shall form the major portion of waste generated on site which involves mainly inert excavated material. The quantities of excavated materials and concrete debris would be

approximately 4,000 m<sup>3</sup> and 100 m<sup>3</sup> respectively. The quantities of other types of waste arising from the construction phase of the Project should be minimal. Since the excavated materials are mostly inert, they can be used on site for backfilling. Any surplus excavated material should then be delivered to reclamation sites or to public filling areas available at that time. As indicated in Section 5.4.1, these will be described in the Contractor's Waste Management Plan. Provided that the wastes generated from the project are properly handled, recycled as far as possible, and disposed of in accordance with relevant requirements under the Waste Disposal Ordinance and its regulations, no significant waste impact arising from the construction stage of the Project is envisaged.

### **Operation Phase**

#### **4.5 General**

4.5.1 As the proposed work is to construct a subway connecting the new MTR entrance to the URA K2 development site, the entire structure will therefore be located underground. Since no new ventilation shaft has been proposed, the operation of the proposed Project should not pose any adverse impacts on the environment and the community.

## **5. ENVIRONMENTAL PROTECTION MEASURES TO BE INCORPORATED**

### **5.1 Air Quality**

5.1.1 In order to keep environmental nuisance to a minimum, dust mitigation measures stipulated in the Air Pollution Control (Construction Dust) Regulation would be implemented to control fugitive dust emission from the site. Most of the construction works would be underground. Relevant control measures are listed below:

#### **Construction Dust Control Measures**

- ? Tarpaulin covering of all dusty vehicle loads transported to and from the site;
- ? Provision of vehicle wheel and body washing at the exit points of the site;
- ? Routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.
- ? Due to the small size of the site and the lack of space for stockpiling, excavated materials would be hauled off almost immediately. However, should there be stockpiled excavated materials, they should be covered with tarpaulin, and should be removed off-site within 24 hours to avoid any odour nuisance arising.

### **5.2 Noise**

5.2.1 Noise emissions would be minimised by adopting good site practice, using quieter methods and selecting quieter models of plant throughout the project period. With the adoption of quiet plant with reference to BS 5228: Part 1: 1997, as detailed in Table 5.1, attenuation of total sound power levels at various construction stages ranged from 3 dB(A) to 7 dB(A) would be obtained. However, 1 – 4 dB(A) noise exceedances were still predicted at the NSRs during some construction stages (Table 5.2).

**Table 5.1 Adoption of Quiet PME in Some Construction Stages**

Construction Stage	Quiet PME Adopted
Stage 1	Lorry, excavator
Stage 3	Water pumps, Excavator
Stage 4	Piling rig, Water pumps, Lorry
Stage 5	Excavator, Crane Lorry
Stage 7	Lorry, Excavator, Compactor, roller, Concrete truck, Vibratory Poker

**Table 5.2 Predicted Noise Levels at NSRs – with Quiet Plants**

Activities	L <sub>eq</sub> , dB(A) at	
	NSR N1	NSR N2
Site establishment	79	75
Demolition of existing entrance C3 structure	80	78
Drainage works / Utilities diversions	75	72
Temporary works and road decking	80	76
Excavation for subway (works underground)	78	77
Construction of subway (works underground)	77	76
Backfill and reinstatement	75	71

5.2.2 To further alleviate the construction noise impacts, installation of silencer, movable noise barriers and noise enclosures for certain noisy equipment are adopted and are summarised in Table 5.3. Sketches of movable barrier and noise enclosure are illustrated in Figure 5.1.

**Table 5.3 Further Mitigation Measures for Different PME**

Mitigation Measures Proposed	Construction Stage	PME Adopted
Movable Barrier *	Stage 1	Breaker
	Stage 2	Hydraulic breaker, Saw cutter
	Stage 4	Piling rig, Vibrating hammer
Noise Enclosures	Stage 1	Air compressor,
	Stage 2	Generator, Air compressor
	Stage 4	Generator
Silencer	Stage 5	Ventilation fans
	Stage 6	Ventilation fans

Note: (\*) Location of the barrier subject to temporary traffic management requirement.

5.2.3 With the implementation of above proposed mitigation measures, the predicted maximum noise levels at all representative NSRs comply with the construction noise criterion, i.e. 75 dB(A) for residential premises (Table 5.4). Detailed sound power levels of PMEs under mitigated scenario and noise assessments can be found in Appendix 1. These proposed mitigation measures, namely, silenced equipment, movable barrier and noise enclosure, are



similar to those that have been successfully and effectively adopted for MTRC's modifications to the TST station.

**Table 5.4 Predicted Noise Levels at NSRs – with Quiet Plants and Further Mitigation Measures**

Activities	L <sub>eq</sub> , dB(A) at	
	NSR N1	NSR N2
Site establishment	75	71
Demolition of existing entrance C3 structure	75	74
Drainage works / Utilities diversions	75	72
Temporary works and road decking	75	72
Excavation for subway (works underground)	72	71
Construction of subway (works underground)	70	68
Backfill and reinstatement	75	71

5.2.4 Although no residual noise impact would be generated after the proposed mitigation measures are in place, construction noise control measures, as stated below, should still be incorporated into the contract document for implementation in order to minimise noise impacts during the construction phase.

**Construction Noise Control Measures**

- ? Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;
- ? Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program;
- ? Mobile plant, if any, should be sited as far from NSRs as possible;
- ? Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;
- ? Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and

**Contingency Planning**

Noise monitoring and site audits would be carried out to check on compliance with the limit level. These are described in Section 5.5. When necessary, action plans stipulated in the EM&A Manual for the 'Modifications to MTRC TST Station Environmental Impact Assessment' report (see Section 6) would be implemented and contingency measures such as the use of noise insulating materials or other quiet plants would be adopted.

**Greening of Work Site**

Some works will be carried out on street level in a busy urban area. Noise mitigation measures such as hoardings, barriers and enclosures may be visually intrusive. The design of

these features would take into consideration colour schemes that are harmonious with the background so as to minimise visual impacts.

### **5.3 Water Quality**

5.3.1 In order to control surface runoff satisfactorily without adverse impact during demolition and construction, the Contractors should comply with the Water Pollution Control Ordinance (WPCO) and its subsidiary regulation. Relevant control measures are as follows:

#### **Construction Water Quality Impact Measures**

- ? The Contractors should comply with the Water Pollution Control Ordinance (WPCO) and its subsidiary regulation.
- ? The Contractors should ensure that all runoffs arising from the work site are properly collected and treated, e.g. by the use of sedimentation tank, and that the discharge standards as stipulated in WPCO are met. Any trade effluent or foul or contaminated water should not be discharged into any public sewer and stormwater drain. Site toilet facilities, if needed, should be chemical toilets or should have the foul water effluent directed to a foul sewer.
- ? The Contractor should be responsible for the design, construction, operation and maintenance of all the mitigation measures and practices specified in the Professional Persons Environmental Consultative Committee Practice Note (ProPECC PN) 1/94 "Construction Site Drainage" issued by the Director of Environmental Protection.

### **5.4 Waste Management**

5.4.1 The project is of small scale and that the amount of excavated materials is not expected to be large (see Section 4.4.1 on quantity). Due to the small size of the site, extensive stockpiling of wastes on site is unlikely, and that wastes generated on site would be hauled off soon after. Nevertheless, the proposed works would generate a variety of wastes and good practices for waste management are required. Waste management in the way of avoiding, minimising, reusing and recycling should be adopted to reduce waste generation. For instance, excavated material should be reused on site as far as possible to minimise off-site disposal. Scrap metals or abandoned equipment should be recycled if possible. The following relevant pollution control clauses which help minimise the environmental nuisance to the nearby sensitive receivers shall be included in the Construction Contract.

#### **Construction Waste Management Measures**

- ? The Contractor should comply with the Waste Disposal (Chemical Waste) (General) Regulation, the Waste Disposal Ordinance and its subsidiary regulations;

- ? The Contractor should not permit any sewage, waste water or effluent containing sand, cement, silt or any other suspended or dissolved material to flow from site onto any adjoining land or allow any waste matter which is not part of the final product from waste processing plants to be deposited anywhere within any site or onto any adjoining land.
- ? The Contractor should prepare and implement a Waste Management Plan to reduce re-use or recycle in order to keep waste arisings to a minimum and to ensure that waste is handled, transported and disposed of in a suitable manner.
- ? The construction waste generated by the Contractor on site should be transported to the designated EPD facilities. The Contractor shall use a trip ticket system for the disposal of C&D materials to any designated public filling facility and/or landfill. Independent audits of the Contractor and resident site staff from the consultant to ensure that the correct procedures are being followed at all times.
- ? The following additional control/mitigation measures are recommended to be followed by the Contractor:
  - o The Contractor should segregate different types of wastes for storing in different containers to facilitate reuse or recycling of materials and their proper disposal
  - o The Contractor should propose how he will monitor and record waste produced for agreement with MTRC
  - o The Contractor should propose a system to record the amount of wastes generated, recycled and disposed (including the amount to each disposal site)
  - o The Contractor should provide training to workers on site cleanliness and appropriate waste management procedure

## **5.5 Environmental Monitoring and Audit (EM&A) Requirements**

- 5.5.1 Although all construction impacts are short-term effects and no adverse effect would be anticipated on the environment with proposed mitigation measures in place, MTRC has taken the initiative to implement a monitoring and audit programme during the construction phase to check on the implementation of the control measures.
- 5.5.2 An EM&A programme would be implemented in the aspects of dust, noise, water quality and waste management during construction. Site inspection / audit would also be carried out. Details of the monitoring procedures, methodology and action plans as well as complaint handling procedures stipulated in the approved EM&A Manual for the '*Modifications to MTRC TST Station Environmental Impact Assessment*' would be adopted in this Project.

## **6. USE OF PREVIOUSLY APPROVED EIA REPORTS**

- 6.1.1 Reference has been made to the '*Modifications to MTRC TST Station Environmental Impact Assessment*' report, dated May 2001. Due to the similar type of modification works carried out in the TST MTR Station, sound power levels of some silenced equipment employed in

the TST Station modification works have been made reference to in the construction noise assessment of the Project. In addition to this, details of the monitoring procedures, methodology and action plans as well as complaint handling procedures stipulated in its approved EM&A Manual would also be adopted in this Project.