



Agreement No. NEX/1034

Tsim Sha Tsui Station Northern Subway

Executive Summary

**Revision A
September 2008**

MTR Corporation Limited

**Consultancy Agreement No. NEX/1034
Tsim Sha Tsui Station Northern Subway**

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Revision A

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1. INTRODUCTION

- 1.1.1 The title of this project is known as “Tsim Sha Tsui Station Northern Subway” (hereafter known as the Project). The Project Proponent is MTR Corporation Limited (MTRCL). ENSR Asia (HK) Limited has been commissioned to carry out an Environmental Impact Assessment Study for the proposed Project in accordance with the requirements of the Technical Memorandum on Environmental Impact Assessment Process (TM-EIA) and the study brief (Ref No. ESB-168/2007). The scopes of the EIA study include the impact assessments of construction dust, noise, water quality, waste management, landscape and visual and built heritage. The selection of subway alignment, construction methodologies, requirements of EM&A, and environmental outcomes of the Project have also been detailed in the EIA report.
- 1.1.2 The objectives of this Project is to provide passengers with a direct and accessible safe pedestrian subway in addition to the existing entrances and to relieve the existing busy northern concourse and platform areas of Tsim Sha Tsui (TST) Station by providing a new direct high-capacity corridor for effective passenger access. The location of the proposed Project is shown in **Figure 1.1**. The Project includes (a) A subway (Subway TST) from the north end of TST Station, running approximate 85m under Nathan Road to a Satellite Concourse; (b) A satellite concourse (45m approximately) underneath Nathan Road located adjacent to Tung Ying Building and the Miramar Hotel; and (c) A subway (Subway MSC) from the north end of the Satellite Concourse, running approximate 80m under Nathan Road to the Miramar Shopping Centre (MSC).
- 1.1.3 The scope of the Project involves construction and operation of (i) An underground pedestrian subway link that connects the north end of the TST Station platform with integrated entrances in the basements of the Tung Ying Building Redevelopment, Miramar Hotel and Miramar Shopping Centre; (ii) An underground satellite concourse underneath Nathan Road located adjacent to Tung Ying Building and the Miramar Hotel. The satellite concourse will relieve the existing busy northern concourse area by providing a new corridor for passenger access; and (iii) A new plant basement near existing Entrance A1 to house the station equipment relocated from the north end of TST Station for accommodating the TNS connection.
- 1.1.4 The proposed works are scheduled to commence in June 2009 with duration of approximately 35 months. The entire project is scheduled to be completed in May 2012.

2. CONSIDERATIONS FOR DESIGN OPTIONS AND CONSTRUCTION METHODS

- 2.1.1 In 2006, MTRCL commenced the planning of a new capacity enhancement scheme to relieve the northern section of the TST Station. This is known as the Tsim Sha Tsui Station Northern Subway (TNS) and is the subject of this submission.

2.1.2 The construction of the TNS subway and associated structures is expected to be difficult, given the obvious need to minimise any environmental disturbance and impacts on traffic and pedestrian, residents, commercial activities, existing Tsuen Wan Line tunnels, TST Station and the Old and Valuable Trees (OVTs). Tunnelling by mining method and cut-and-cover method are the available techniques to select from.

2.1.3 The basis for selecting the preferred scheme and the environmental factors considered are summarised below in **Table 2.1**:

Table 2.1 Summary of the Preferred Scheme

TNS Component	Scheme and Environmental Factors Considered
Subway Tunnels - Subway connecting Tsim Sha Tsui Station - Subway connecting Miramar Shopping Centre	<ul style="list-style-type: none"> • The TNS subway is the most direct and shortest link to the proposed entrances, i.e. minimise the extent of the construction works area and limit the works area to the section of Nathan Road that are mostly surrounded by hotels and commercial buildings provided with central air conditioning systems and do not rely upon openable windows for ventilation. • The subway tunnels which form of a large proportion of the project are to be constructed using tunnelling by mining method. The environmental benefits include: <ul style="list-style-type: none"> - minimal airborne noise and dust impacts on nearby sensitive receivers; - minimal impact on the traffic and pedestrians at street level during construction to reduce the chance noise generated from possible traffic back up. • The subway alignment shifts towards the east side of Nathan Road away from the row of OVTs on west footpath of Nathan Road.
Cut-and-Cover Components – Satellite Concourse, Connection Chamber, Plant Basement and Emergency Exit	<ul style="list-style-type: none"> • Above ground construction work are inevitable. Nevertheless, they are limited as far as practicable to: <ul style="list-style-type: none"> - Satellite Concourse; - Plant Basement; - Connection Chamber; and - Emergency Exit Stair. <p>Moreover, cut and cover method is adopted, i.e. majority of construction works would be carried out under road deck. Dust and airborne noise emission during construction, would be screened off by the road deck from the nearby receivers.</p>
Plant Basement and Entrance A1 Upgrade	<ul style="list-style-type: none"> • The two-level plant basement located near Entrance A1 is compact to minimise environmental impacts during the construction phase. Comparing to the single-level scheme, the works area would be largely reduced, the associated impacts, particularly construction noise and fugitive dust impacts are substantially reduced. • Relocation of the plant basement near Entrance A1 provides an opportunity to upgrade the entrance. The old entrance is over 26 years old. The new entrance with use of transparent glass would reduce bulk effect

TNS Component	Scheme and Environmental Factors Considered
	<p>and be in compatible with the adjacent urban setting. The new facilities for the entrance include a disabled lift serving the station, street level and Kowloon Park. The accessibility/connectivity of Kowloon Park, a recreational/ leisure resource in urban Hong Kong, is effectively enhanced with the Entrance A1 upgrade in place as it significantly improves the pedestrian and disabled access to the park from the station with insubstantial level of visual impact.</p> <ul style="list-style-type: none"> • Ventilation at the plant basement utilises the existing exhaust shaft that could avoid environmental impacts arising from construction of a new vent shaft.
Emergency Exit	<ul style="list-style-type: none"> • The emergency exits are a statutory requirement for the TNS scheme. The emergency exits are located at the Satellite Concourse and at the end of Subway Miramar Shopping Centre (Subway MSC). • The emergency exit at the Satellite Concourse is routed via the Tung Ying Building Redevelopment in a dedicated route to street level. • The emergency exit at Subway MSC is situated in the planter along the east footpath at Nathan Road. The above ground structure is level with the existing planter and finished with materials similar to the adjacent planter to provide total integration. Moreover, it is well away from the OVT. As such, visual and landscape impacts are minimised.

2.1.4 Following review of the scheme options, construction methods and environmental factors, the preferred scheme for the Tsim Sha Tsui Station Northern Subway consist of :

- a) A subway (Subway TST) from the north end of TST Station, running approx 85m under Nathan Road to a Satellite Concourse;
- b) A satellite concourse (the Satellite Concourse) approx 45m underneath Nathan Road, containing ticket gates (reversible type), ticket issuing machines (TIMs), self service points, help-lines, etc. It has direct underground connections to the basements of the Miramar Hotel and of the development on the site of the former Tung Ying Building - these integrated entrances are designated Q2 and Q1 respectively. A mezzanine level in the Satellite Concourse contains electrical and ventilation plantrooms for the subway;
- c) A subway (Subway MSC) from the north end of the Satellite Concourse, running approx 80m under Nathan Road to the Miramar Shopping Centre (MSC), where an underground link connects to its basement. This integrated entrance is designated Q3;
- d) An Emergency Exit situated in the east footpath and planter of Nathan Road, outside the Miramar Shopping Centre;

- e) The fresh air ventilation and smoke exhaust ducts for TNS are integrated with the Tung Ying Redevelopment and Hotel Miramar;
- f) A two-level plant basement (Plant Basement) located below and in front of Entrance A1 to house the displaced E&M equipment from the north end of TST Station; and
- g) Entrance A1 upgrade to replace the existing concrete structure with a new transparent box reconstructed on the same site with a improved access to the station with new disabled lift serving TST concourse level, street and Kowloon Park; and escalators serving street and the existing Entrance A1 Adit.

3. IMPACT ASSESSMENT

3.1 Construction Air Quality Impact

- 3.1.1 Potential air quality impacts arising from the Project would mainly relate to dust nuisance from excavation, material handling, loading and unloading of fill materials from aboveground construction works and the cut and cover method adopted for construction of satellite concourse, connection chamber, new plant basement and emergency exit.
- 3.1.2 No exceedances of the Hong Kong Air Quality Objectives (HKAQO) criteria were predicted at air sensitive receivers in the vicinity of the construction sites. With the implementation of the dust suppression measures as stipulated in the *Air Pollution Control (Construction Dust) Regulation*, practice watering of active construction works area twice a day and good site practices, dust levels at air sensitive receivers would be minimized and comply with the HKAQO.

3.2 Noise Impact

- 3.2.1 Construction works would, if unmitigated, generate noise levels exceeding 75 dB(A) $L_{eq(30-min)}$ at noise sensitive receivers (NSRs) in close proximity to the proposed works.
- 3.2.2 Mitigation measures are recommended to reduce the noise levels to within the EIAO-TM noise criterion, including good site practices, quieter plant, silencer, movable noise barrier and decking over the excavation areas. With the recommended mitigation measures in place, noise levels at most NSRs are predicted to comply with the EIAO-TM daytime construction noise criterion and no adverse residual construction noise impact is expected. Some NSRs, including Hai Phong Mansion, Comfort Building, Burlington Arcade and south facade of Kowloon Mosque and Islamic Centre located in close proximity to the works areas, would still be exposed to noise exceedances by 1 to 4dB(A) for short term.
- 3.2.3 Whilst this impact assessment does indicate some noise exceedances for limited periods of time, even with the consideration of all practicable mitigation measures, during the actual construction period as much as practically possible will be done to reduce construction noise still further, and there will be on-going liaison with all concerned parties and site monitoring to deal with and minimise any exceedances.

3.2.4 As residual noise impact is predicted in this study, it is recommended to set up a community liaison channel to handle any public enquiry and complaint.

3.2.5 No adverse operational residual noise impact are envisaged if the noise emissions from the proposed fixed plant are designed to meet the maximum allowable sound power levels with appropriate noise reduction measures in place.

3.3 Construction Water Quality Impact

3.3.1 Potential sources of water quality impact associated with the construction works include site runoff and drainage; underground works, sewage from the construction workforce, and debris, refuse and liquid spillages from general construction activities.

3.3.2 With the implementation of the recommended mitigation measures, the construction works for the Project is not expected to result in unacceptable impacts on water quality.

3.4 Waste Management Implications

3.4.1 The types of wastes associated with the construction activities of the Project would include construction and demolition (C&D) materials, chemical waste and general refuse from the workforce.

3.4.2 Waste reduction measures and good site practices are recommended to minimize the potential impacts associated with the generation of wastes. Appropriate waste handling, transportation and disposal methods for all waste generated during the construction works should be implemented.

3.4.3 Provided that the waste arisings are to be handled, transported and disposed of using the recommended methods and that good site practices are to be strictly followed, adverse residual impacts are not anticipated during the construction works.

3.5 Landscape and Visual Impact

3.5.1 The Project is located in Tsim Sha Tsui district which is an urban area with mixture of commercial and residential developments. No significant impact on the planning and development control framework as the affected areas are small and the proposed development are compatible with the adjacent development framework.

3.5.2 There are approximate 30 trees affected during the construction period and none of them are OVTs. The crown and root of OVTs shall be preserved insitu. Based on preliminary tree survey information, all affected trees except 3 nos. at Haiphong Road shall be transplanted. Compensatory planting is proposed for the felled trees. A detailed tree preservation, transplanting and compensatory planting proposals will be submitted to relevant government department for approval in accordance ET WBTC no. 3/2006 separately.

3.5.3 The proposed work area belongs to Tsim Sha Tsui Organic Mixed Urban Development Landscape Character. During the construction, there will be moderate residual impact due to the temporary works. During operation, the residual impact will be insubstantial as the proposed works blend in well with the existing urban landscape character.

- 3.5.4 During construction phase, a temporary access to Kowloon Park near Entrance A1 would be provided during construction stage. There will be minimal impact on the park users and circulation to and within Kowloon Park/ Health Education Exhibition and Resource Centre. Since this impact is temporary in nature, it is considered that the residual impact is moderate.
- 3.5.5 During the operation phase, the entrance steps to Kowloon Park will be permanently narrowed by about 2m due to the new Entrance A1. The impact is considered very slight as the existing steps are over 15m wide and the pedestrians volumes using the steps to enter Kowloon Park are very low.
- 3.5.6 The residents, pedestrian, vehicle users, offices and commercial buildings around will have direct, close views of construction of the works including satellite concourse, connection chamber, reconstruction of plant basement and Entrance A1 and emergency exit. During the construction period, decorative hoardings and the use of temporary decking and by limiting the area of the work site are proposed to minimize the visual affect. There is expected to be slight to insubstantial to high rise VSRs and moderate to low level VSRs such as Nathan Road users and Kowloon Park users.
- 3.5.7 Overall, it is considered that the residual landscape and visual impacts of the proposed project are considered acceptable with mitigation measures during construction and operation.

3.6 Built Heritage Impact

- 3.6.1 A desk-based study and built heritage field survey have been conducted for the identification of impacts to built heritage resources in the project Study Area.
- 3.6.2 The Block S4 and the retaining wall of the Former Whitfield Barracks are located in close proximity to the proposed works area of the Plant Basement. Precautions shall be taken throughout the constructions stage to prevent any damage to the historical building. Temporary removal of the two granite columns (east of brick wall of modern extension of Block S4) will be required and stored securely during construction periods, and reinstated back to its original location after completion of works.
- 3.6.3 MTRCL is required to instigate an assurance system and control scheme to ensure the management of the construction works are at a standard not inferior to that required under the Building Ordinance.
- 3.6.4 There is a potential temporary visual impact from the cut-and-cover construction works which could be minimized if the recommended mitigation measures i.e. erecting of sensitively designed hoardings are implemented.
- 3.6.5 No adverse impacts to the identified resources are anticipated during the operation phase of the project.

4. ENVIRONMENTAL MONITORING AND AUDIT

- 4.1.1 An environmental monitoring and audit (EM&A) programme, prepared in accordance with the Environmental Monitoring and Audit Guidelines for Development Projects in Hong Kong, has been recommended for implementation of the Project, to check on compliance with environmental legislation and standards during Project implementation.

5. CONCLUSION

- 5.1.1 The main objectives of the Project is to provide passengers with a direct and accessible safe pedestrian subway in addition to the existing entrances and to relieve the existing busy northern concourse and platform areas of TST Station.
- 5.1.2 The EIA study has identified and assessed potential environmental impacts of the Project. All direct and indirect, as well as cumulative impacts likely to arise during construction and operation phases of the Project have been evaluated using suitable and agreed assessment methods. With the implementation of the recommended mitigation measures, the Project would be environmentally acceptable and residual noise impact is expected to be short term during the construction stage.

Figure