**Project Profile for**
**Tin Shui Wai Phase 4 Light Rail Extension**

## (A) Basic Information

1. Project Title

Tin Shui Wai Phase 4 Light Rail Extension

2. Purpose and Nature of the Project

Tin Shui Wai Phase 4 Light Rail Extension will link the West Rail Tin Shui Wai station and the existing Light Rail Transit (LRT) Tin Shui Wai terminus at Kingswood Villas in order to serve sub-region of Tin Shui Wai.

3. Name of Project Proponent

Kowloon Canton Railway Corporation (KCRC).

4. Description, Location and Scale of Project

The LRT extension in Tin Shui Wai will have a total route length of approximately 1.5 km and will include 4 stops, all to be located within the LRT reserve zone. The location is shown on Drawing no. SK-C-955. A new LRT stop (Stop 430) will be located under the elevated West Rail Tin Shui Wai station at Tin Fuk Road. To the south of the LRT stop is a turning loop which will connect to the existing LRT tracks at Ping Ha Road. To the north of the LRT stop, the LRT will run parallel to the Tin Fuk Road. At the Tin Fuk Road/Tin Shing Road junction, LRT will run to the north along Tin Shing Road and end at the existing terminus. There will be three stops at Tin Fuk Road (Stop 435, 450, 455).

In addition to the linkage with the existing LRT terminus, the extension will connect to the future LRT Express Line. The proposed LRT is mainly at-grade and on ballast. The only elevated section is the bridge over the Tin Fuk Road/Tin Shing Road junction.

5. History of Site

The LRT extension will be located in the LRT reserve zone adjacent to the existing roads, namely Tin Fuk Road and Tin Shing Road in Tin Shui Wai which is being developed as a new town. Land uses of Tin Shui Wai were originally fish ponds and open space with scattered villages.

6. Number and Types of Designated Projects to be Covered

The LR alignment is designated project which is classified as Category A2 under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO).

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7. Name and Telephone Number of Contact Person(s)

## (B) Outline of Planning and Implementation Programme

Technical study has been undertaken by an engineering consultant. It has been proposed that the LRT extension will be a design and build project. According to the preliminary construction programme under the technical study, detailed design will start in June 1999 and complete in June 2000. Construction will commence right after design stage and the target completion date is December 2002.

## (C) Possible Impact on the Environment

The majority of the LRT extension will be at-grade with a small section of viaduct, approximately 120 m, over the Tin Fuk Road/Tin Shing Road junction. The alignment will be within the designated LRT reserve and will be constructed generally in the form of ballasted tracks. Paved tracks will be used at existing or proposed road crossings and non-ballasted track will be used at the viaduct section. Construction of the at-grade section will involve minor excavation for construction of the subsoil drains, cable trough and footings of overhead lines. Following the earthworks, the main construction activities will be placing ballast or concrete paving, laying rail track, installation of cables and overhead lines. While construction of the viaduct section will involve construction of foundation, column and deck. These construction works will involve the use of a range of plant and machinery.

During construction of the LRT extension, the potential environmental impacts would be noise, air quality and waste impacts. The details are described below.

Noise

Use of the powered mechanical equipment may cause noise impacts on sensitive receivers near the LRT alignment. The extent of impacts will be dependent on the nature of construction works, construction duration and period of time.

Air Quality

Dust emissions during construction of the LRT alignment and stops may cause air quality impacts to the nearby sensitive receivers if uncontrolled. The main potential dust generating sources are excavation, earthworks, handling and stockpiling of excavated materials and ballast.

Waste Management

Uncontrolled management and disposal of excavated materials and construction waste, chemical wastes and general refuse could cause adverse impacts.

During the operational phase, electric trains will be used and therefore, no adverse air quality impacts are expected. The major environmental concern would be train noise impact at the nearby planned and existing noise sensitive receivers. However, this is not anticipated to be a significant issue as the New Town development has been comprehensively planned with the LRT as an integral part of the infrastructure.

## (D) Major Elements of the Surrounding Environment

The existing and planned sensitive receivers and sensitive parts of the natural environmental which might be affected by the proposed project are identified as below:

- residential properties along Tin Fuk Road and Tin Shing Road
- schools along Tin Fuk Road and Tin Shing Road

## (E) Environmental Protection Measures

Noise

Mitigation measures to minimize potential noise impacts during the construction phase will adopt the practicable approaches which are commonly used at construction works sites in Hong Kong. They are primarily:

- constructing temporary noise barriers
- selecting quiet plant and working methods
- reducing plant teams

Air Quality

To minimize potential air quality impacts during the construction phase, standard control measures listed below will be considered:

- watering work sites
- covering stockpiles or exposed soil
- careful handling and the containment or damping of dusty materials
- prompt site restoration
- vehicle washing before leaving the site
- on site vehicle speed restrictions

Waste Management

General mitigation measures to be considered to control waste issues during the construction phase are:

- general good housekeeping practices
- sorting and segregation of wastes for reuse and disposal
- observing the requirements of the disposal permits
- meeting the requirements of the Waste Disposal Ordinance

For the operational stage, noise mitigation measures as listed below will be considered,

- source control
- acoustic barriers and insulation
- buffer zones and landscaping
- application of Chapters 9 and 10 of the Hong Kong Planning Standards and Guidelines

**(F) Use of Previously Approved EIA Reports**

1. Title of Approved EIA Report

KCRC West Rail
Final Assessment Report
West Kowloon to Tuen Mun Centre
Contract No. TS900
Environmental Impact Assessment

2. Date of Approval: 23 March 1998

3. Environmental Aspects Addressed in the Approved EIA Report

The EIA study of the West Rail has identified all the potential environmental impacts, assessed the extent of impacts, and made recommendations for appropriate mitigation measures associated with construction and operation of the West Rail, its associated facilities and the associated road works. The alignment runs from West Kowloon at approximately 500 m south of the proposed Yen Chow Street station and terminates at Tuen Mun Centre station. The areas of assessment included noise, air quality, water quality, landscape and visual issues, landuse issues, archaeological and cultural issues, ecology, waste, land contamination and hazards issues.

4. Relevance of the Findings on Environmental Impacts and Recommended Mitigation Measures

Construction works for the LRT extension in Tin Shui Wai involve site clearance, earthworks, piling, column construction and beam erection which

are similar to the section of West Rail Phase 1 alignment at Tin Shui Wai, but in smaller scale. Therefore, similar environmental impacts of lesser extent are expected. The key potential environmental impacts would be noise, air quality and waste.

The findings of approved EIA report is such that the potential environmental impacts will be reduced to within the established criteria with the application of the recommended mitigation measures (see Table 1). These mitigation measures are expected to be similarly effective for the LRT extension project.

**Table 1 Light Rail Transit - List of the Relevant Sections of the West Rail EIA FAR**

| Issue | Description | Section | Page |
|---|---|---|---|
| Noise | Prediction of Impact | 8.3.2.2 | 330 |
| | Recommended Mitigation | 5.3.2.4<br>8.3.2.4 | 76<br>333 |
| Air Quality | Prediction of Impact | 8.4.1.3 | 349 |
| | Recommended Mitigation | 5.4.1.5<br>8.4.1.5 | 89<br>351 |
| Waste | Potential Sources and Prediction of Impacts | 8.10.1.1 | 397 |
| | Evaluation of Impacts | 8.10.2.1 | 400 |
| | Recommended Mitigation | 8.10.3.2 | 404 |


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| REV | DATE | BY | SUB | APP | DESCRIPTION |
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DESIGNED BY
DRAWN BY
CHECKED BY
QUANTITIES BY
DATE

KOWLOON-CANTON RAILWAY CORPORATION

WEST RAIL

APPROVED DATE

WR-LRT

TIN SHUI WAI
LRT PHASE 4 ALIGNMENT PLAN

SCALE 1:2500

DRAWING NUMBER
SK-C-955
REV

CONTRACT NO. REV. SHEET NO.