

Kowloon-Canton Railway Corporation

KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

Monthly EM&A Report –
August 2003

September 2003

Report no: EA00761/R107/1



Kowloon-Canton Railway Corporation

KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

Monthly EM&A Report – August 2003

Author: Claudine Lee

Checker: Gui Yi Li

Approver: Gui Yi Li

Report no: EA00761/R107/1

Date: September 2003

This report has been prepared for Kowloon-Canton Railway Corporation in accordance with the terms and conditions of appointment for KCRC East Rail Extensions Sheung Shui to Lok Ma Chau Spur Line dated March 2001. Hyder Consulting Limited (COI number 126012) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.



Contents

Executive Summary	1
1 Introduction	5
2 IEC monthly site audits	5
2.1 Contract LDB201	5
2.2 Contract LCC202	6
2.3 Contract LCC300	7
3 Public Consultation	8

Appendix 1

LDB201 Sheung Shui to Chau Tau Tunnels Monthly EM&A Report

Appendix 2

LCC202 West Section Alignment and Associated Works Monthly EM&A Report

Appendix 3

LCC300 Lok Ma Chau Station and Associated Works Monthly EM&A Report

EXECUTIVE SUMMARY

INTRODUCTION

This Report (in HTML format) is the fourteenth Monthly EM&A Report for the Sheung Shui to Lok Ma Chau Spur Line and includes the Monthly EM&A Reports for construction contracts LDB201, LCC202 and LCC300. This Report and all monitoring data collected under the EM&A Programme are available on the KCRC East Rail Extensions Environmental Monitoring and Audit Website at www.env-ere.kcrc.com.

LDB201 Sheung Shui to Chau Tau Tunnels

The construction works for LDB201 commenced in late November. This report presents the EM&A findings in the period from 26 July to 25 August 2003. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: By-pass pipe construction for pumping station, P2 barrier construction and hoarding installation along San Wan Road, installation of movable protective frame rail, platform trimming works (KCRC Sheung Shui Station);
- Sheung Shui Launching Shaft Area: Site formation works, sheet piling work for cofferdam construction and excavation for cut and cover tunnel construction at cut and cover cofferdam (near TBM Launching Shaft), wiring and commissioning;
- TBM Works area: TBM drive fabrication, conveyer and shaft roof installation, MS plant and motor plant installation;
- East EAP (EAP 2): Diaphragm wall construction;
- West EAP (EAP 5): Retaining wall construction, noise barrier & hoarding construction, drainage system installation and backfilling;
- Future Kwu Tung Station Enabling Works Area: Shaft excavation, strut installation, construction of D-wall and break-in slurry wall, and backfilling around retaining wall; and
- West Approach Area: site clearance, site installation – hoarding, construction of perimeter drainage channel, construction of slurry wall, driven sheet piling and tree pruning.

LDB201 has undertaken the routine monitoring works at these monitoring locations: AM1, AM2 and AM3 for air quality, NM1, NM1A, NM2, NM3, NM4, NM5, NM6, NM7, NM8, NM9, NM10, NM11 and NM12 for noise, and URS, SR1, URB, RB1, UCTC and CTC1 for water quality, in this reporting month.

TSP monitoring was conducted once every six days and three sets of 1-hr TSP monitoring were conducted once every six days at the monitoring locations. No exceedance was recorded during the reporting month.

Noise monitoring of $L_{eq(30min)}$ was conducted once every six days during non-restricted hours at the identified monitoring locations. There was no exceedance recorded in the reporting month.

Water quality monitoring was conducted at the identified water quality monitoring locations. Some exceedances of dissolved oxygen, pH value, turbidity and suspended

solids were recorded during the reporting month. Further to the inspections conducted by the Contractor's ET Leader, it is likely that the potential cause of the exceedances was due to natural variation and was not related to LDB201 on site activities.

Two main kinds of waste were generated during the reporting month. These are C&D waste from West EAP and the excavated spoil from the pumping station at San Wan Road, diaphragm wall construction at East EAP, excavation works at Future Kwu Tung Station and West Extraction Shaft. These waste were disposed of to NENT Landfill, Kai Tak Public Filling Barging Point, the works area under the EPD's Project of Development and Management of NENT Landfill, DSD's project of the Construction of San Tin Eastern Main Drainage Channel and KCRC ERE LCC202 – West Section Alignment and Associated Works. All the disposal and transportation of waste were recorded under the trip ticket system.

No public complaint or notification of summons was received during the reporting month. No prosecution from EPD was received in the reporting month. One yellow notice was received on 28 July 2002 regarding the improper storage of chemicals and chemical wastes on the TBM Workshop Area. In response to the notice, proper storage area was provided and correct labelling was given to all oil drums.

Weekly site inspections were carried out by the CET and an IEC monthly site audit was conducted on 20 August 2003. The Contractor has proposed mitigation measures to rectify the environmental deficiencies or improve the environmental performance in response to the observations raised by the contractor's ET Leader during weekly site inspection and the IEC during the monthly site audit. The proposed measures include moistening the site area, pest control, clearing of grass, proper collection and treatment of surface runoff, reuse of desilted wastewater and surrounding of contaminated area. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

LCC202 West Section Alignment and Associated Works

The commencement date for LCC202 started on 26 March 2003. This report presents the EM&A works during the period from 26 July to 25 August 2003. Within this reporting month, the major construction works include drainage installation and asphalt paving at the site office area; pre-bore drilling at P3, W24-37, W40-49 as well as bored piling at W24-37, W38-39, W40-49 and W50-54.

LCC202 has undertaken the routine monitoring works at these monitoring locations: AM4 for air quality, NM15 for noise, and FP1, FP2, FP3, USRT and STR1 for water quality, in this reporting month.

TSP monitoring was conducted once every six days and three sets of 1-hr TSP monitoring were conducted once every six days at the monitoring location. No exceedance was recorded at the monitoring locations in this reporting month.

Noise monitoring of $L_{eq(30min)}$ was conducted once every six days during non-restricted hours at the identified monitoring location. There was no exceedance recorded in the reporting month.

Water monitoring was undertaken at one upstream station USTR, one downstream monitoring location STR1 at San Tin River, and three selected fishponds, namely, FP1, FP2 and FP3. Exceedances on pH value, and turbidity were recorded in this reporting month. The Contractor's ET Leader has undertaken site investigations on the cause of

the exceedances. Further to the site investigations, the exceedances are likely due to natural variation and other constructor's works conducted in the vicinity of the sampling locations.

Excavated materials generated during the reporting month were reused at the Contractor's own outlet. Non-inert C&D waste and general refuse were collected by licensed collector for disposal. All the disposal and transportation of waste were recorded under the trip ticket system.

No notification of summons and complaint was received during the reporting month.

The ET Leader has carried out weekly site inspections and an IEC monthly site audit has been conducted on 28 August 2003. In response to the non-compliance and the observations raised by the ET Leader and the IEC, the Contractor has proposed mitigation measures cleaning up of oil spillage, provision of drip trays to oil drums, cleaning up of general refuse, repairing the gaps on the noise barriers, relocation of materials near the trees, provision of treatment system for concrete washing water, replacing new sandbags for protecting the storm drain, desludging at sump pit to maintain the performance of wheel washing system, removal of stagnant water, applying larvacide, installation of additional desilting tank, and removal of oily water from drip tray. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

LCC300 Lok Ma Chau Station and Associated Works

The EM&A programme for LCC300 commenced in mid-December. This report summarises the EM&A works conducted during the period from 26 July to 25 August. During the reporting month the principal work activities include sand filling, surveying, site investigation, bored piling operations, border road diversion and tree pruning along EVA.

LCC300 has undertaken the routine monitoring works at these monitoring locations: AM4 for air quality, NM13, NM14 and NM15 for noise, and FP3, USRT and STR1 for water quality, in this reporting month. Alternative water quality monitoring locations, namely WQBBL1, WQBBL2 and WQBBL3, were identified to isolate the influence by the adjacent construction works of another contract. Preparation works for the water quality monitoring works are undertaken and actual monitoring is not started yet.

TSP monitoring was conducted once every six days and three sets of 1-hr TSP monitoring were conducted once every six days at the monitoring location. No exceedance was recorded at the monitoring locations in this reporting month.

Noise monitoring of $L_{eq(30min)}$ was conducted once every six days during non-restricted hours at the identified monitoring locations. There was no exceedance recorded in the reporting month.

Water quality monitoring was conducted at one upstream station USTR, one downstream monitoring location STR1 at San Tin River, and the selected fishponds, namely FP3. There were a number of dissolved oxygen, turbidity and pH value exceedances recorded during the reporting month. However further to the site inspection of the Contractor's ET Leader, there was no LCC300 construction activity undertaken in proximity to the monitoring locations. It is unlikely that the exceedances are related to LCC300 construction works. Natural fluctuation and the impact from adjacent contractor's works are possible causes of the exceedances.

Small amount of general refuse and C&D materials were generated during the reporting month. They were transferred to landfill by licensed collector. Garbage and general refuse were collected in a large skip on site and was transferred to landfill. Recycling of used paper is undertaken.

No complaint or notification of summons was received during the reporting month.

ET Leader and the Engineer have conducted regular site inspections and the IEC has conducted a monthly site audit on 26 August during the reporting month. In response to the observations raised by the Contractor's ET Leader the non-compliance and observations raised by the IEC, these resulted in the improvements including dark smoke control on generator for bore-piling, enhancement of silt removal from the sedimentation ponds, control of water quality, review of water collection and treatment facilities, prohibition of opening burning, stopping untreated silty discharge, daily checking on proper chemical dosage of flocculants, daily clearing of sediment, providing impermeable cover for bare ground, diverting runoff using bunds, removing unnecessary pump, and clearing of oily water from drip tray. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

1 Introduction

Hyder has been commissioned by KCRC as the IEC for the East Rail Extensions, which include the Ma On Shan to Tai Wai Rail, the Hung Hom to Tsim Sha Tsui Extension and the Lok Ma Chau Spur Line. A requirement of the Contract is for the IEC to prepare a combined EM&A Report on a monthly basis for each of the above rail lines. The combined report combines the Monthly EM&A Reports for each of the construction contracts within each rail line. This Report (in HTML format) is the fourteenth IEC Monthly EM&A Report for the Sheung Shui to Lok Ma Chau Spur Line and includes the Monthly EM&A Reports for construction contracts LDB201, LCC202 and LCC300 and a summary of the reports. It also includes a brief summary of the IEC Site Audits and information supplied by KCRC on Public Consultation activities.

2 IEC monthly site audits

IEC monthly site audits were conducted on 20 August for LDB201, 26 August for LCC300, and 28 August for LCC202. Non-compliances and observations issued by the IEC are based on the requirements of KCRC's Environmental Management System.

2.1 Contract LDB201

The IEC site audit for LDB201 was undertaken on 20 August. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: By-pass pipe construction for pumping station, P2 barrier construction and hoarding installation along San Wan Road, installation of movable protective frame rail, platform trimming works (KCRC Sheung Shui Station);
- Sheung Shui Launching Shaft Area: Site formation works, sheet piling work for cofferdam construction and excavation for cut and cover tunnel construction at cut and cover cofferdam (near TBM Launching Shaft), wiring and commissioning;
- TBM Works area: TBM drive fabrication, conveyer and shaft roof installation, MS plant and motor plant installation;
- East EAP (EAP 2): Diaphragm wall construction;
- West EAP (EAP 5): Retaining wall construction, noise barrier & hoarding construction, drainage system installation and backfilling;
- Future Kwu Tung Station Enabling Works Area: Shaft excavation, strut installation, construction of D-wall and break-in slurry wall, and backfilling around retaining wall; and

- West Approach Area: site clearance, site installation – hoarding, construction of perimeter drainage channel, construction of slurry wall, driven sheet piling and tree pruning.

Four observations have been raised during the site audit:

Observations:

West Tunnel Approach

1. The position of the discharge pipes was near the bottom of the final sedimentation tank. The position of pipes should be near the water surface to avoid discharge of silt accumulated at the bottom of the tank. Moreover the water quality should be checked before discharge.

San Wan Road

2. The storage area was dusty when vehicles were traveling along the haul road.
3. The perimeter channel was full of silt.

Site B

4. Contaminated area should be surrounded and clearly indicated.

As a result of the observation raised by the IEC, the contractor proposed mitigation measures including moistening the site area, proper collection and treatment of surface runoff, reuse of desilted wastewater and surrounding of contaminated area. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

2.2 Contract LCC202

The IEC site audit for LCC202 was undertaken on 28 August. The major construction works drainage installation and asphalt paving at the site office area; pre-bore drilling at P3, W24-37, W40-49 as well as bored piling at W24-37, W38-39, W40-49 and W50-54. One non-compliance and three observations have been raised during the site audit:

Non-compliance

Ha Wan Tsuen

1. Runoff of concrete washing water was observed on site.

Observations

Ha Wan Tsuen

2. Oil drum without drip tray was observed.
3. Rubbish was observed under the tree near the workshop.
4. Overflow of oily water from the drip tray for a generator was observed.

As a result of the observation raised by the IEC, the contractor proposed mitigation measures including cleaning up of general refuse, provision of treatment system for concrete washing water, provision of drip tray and removal of oily water from drip tray. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

2.3 Contract LCC300

The IEC site audit was conducted on 26 August. The major construction works include sand filling, site investigation, geotechnical instrumentation, piling and minor works along EVA. Three non-compliances and four observations have been raised during the site audit:

Non-compliances

EVA Site Area

1. Silty discharge was observed discharging into a water stream from the sedimentation tank.

Old Site Office

2. Silty discharge was observed discharging into a water stream. The capacity of the sedimentation tank should be reviewed.

Main Site Area

3. The water discharge from the desilting pond (Pond 9) was very silty. The desilting process and the capacity should be reviewed to ensure the water quality is in compliance with the Effluent Discharge License requirements.

Observations

EVA Site Area

4. The bare ground at the pipe pile wall area was not adequately protected from the discharge of untreated surface runoff.

Main Site Area

5. Overflow / seepage of wastewater from the package plant should be stopped. The treatment capacity of the package plant should be reviewed.
6. The wastewater / surface runoff pumping out from the water pond (near the sand piling area) should be diverted to sedimentation system.
7. Drip tray near the final discharge point was fully of water.

In response to the NCs and observations raised by the IEC, the Contractor has proposed some improvement measures including stopping untreated silty discharge, daily checking on proper chemical dosage of flocculants, daily clearing of sediment, providing impermeable cover for bare ground, diverting runoff using bunds, removing unnecessary pump, and clearing of oily water from drip tray. The implementation and effectiveness of the measures will be assessed and verified during the next site audit.

3 Public Consultation

No public consultation was conducted in the reporting month.
