

Kowloon-Canton Railway Corporation

KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

Monthly EM&A Report –
April 2004

May 2004

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EXECUTIVE SUMMARY

INTRODUCTION

This Report (in HTML format) is the twenty-second 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.

Further to the application of Variation of Environmental Permit (VEP) in December 2003, the Environmental Permit No. EP-129/2002/B was issued on 15 January 2004.

LDB201 Sheung Shui to Chau Tau Tunnels

The construction works for LDB201 commenced in late November 2002. This Report presents the EM&A findings in the period from 26 March to 25 April 2004. The main construction activities undertaken during the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: 900mm diameter watermain diversion stage 2, ducting and trench for CLP cable diversion, hoarding between existing East Rail uptrack and WSD watermains, predrilling and driving sheetpiles for Tunnel boxes A, B & C, constructing retaining wall from Ch30+200 to Ch30+600 and site investigations for proposed footbridge;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Sheet piling work for cofferdam construction, pumping test at Box D cofferdam and excavation and strutting in Cut & Cover Tunnel Box E & D Cofferdams;
- TBM Works area: Tunnel boring and lining, and regular maintenance of TBM;
- East EAP (EAP 2): Rock excavation and installation of walers and strut;
- West EAP (EAP 5): Excavation to -0.3mPD and installation of 3rd and 4th layer of strutting;
- Future Kwu Tung Station Enabling Works Area: Cut & cover box column and middle roof slab construction, utilities diversion on Ho Sheung Heung Road; and
- West Approach Area: Extraction Shaft Excavation and lateral support, excavation and lateral support of cofferdam, installation of geotechnical instruments, sheet pile installation, construct Tunnel Box at Box A, backfilling previous Chau Tau Channel and construct substructure of Chau Tau Ventilation Building.

LDB201 conducted the routine monitoring works at these monitoring locations: AM1, AM2 and AM3 for air quality, NM1, 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.

24-hour 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 in 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. Action level exceedances of the pH value and SS were recorded at River Sutlej monitoring locations in the reporting month. The exceedance was likely due to natural variation.

The excavated spoil was mainly generated from the shaft excavation at East EAP, TBM excavation, jet grouting works at Cross Passages and excavation at both East and West Cut & Cover Tunnels. These excavated spoils were disposed of to Kai Tak Public Filling Barging Point and Tuen Mun Area 38. Some of the excavated spoils were transferred to alternative sites for reuse including the works area under the EPD's Project of Development and Management of WENT Landfill, Contract LCC300 – Lok Ma Chau Terminus and Associated Works and HY2003/06 – RPIS Minor Rural Improvement Works Package 5 Contract 5C. All the disposal and transportation of waste were recorded under the four-page trip ticket system. Delivery and arrival time of the trucks were also recorded.

No complaint, warning or prosecution was received during the reporting month.

There were weekly site inspections carried out by the CET Leader and an IEC monthly site audit on 20 April. The Contractor has proposed mitigation measures to rectify the environmental deficiencies or improve the environmental performance in response to the non-compliances and observations raised by the CET Leader during weekly site inspection and the IEC during the monthly site audit. The proposed measures include providing wheel washing facilities, cleaning of surface channels regularly, providing water sprinklers, replacing the glass window of the door, the installation of sump pit and pump, pumping away stagnant water, and providing drip tray for oil drums. 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 25 March to 24 April 2004. During the reporting month, the major construction works included pre-bored H-piling and ground beam construction at P3, bored drilling at W24-37, W45-50 and W61-66, column construction and viaduct erection at W24-37 as well as parapet erection at W55-57.

LCC202 conducted the routine monitoring works at these monitoring locations: AM4 for air quality, NM15 for noise, and USRT and STR1 for water quality, in this reporting month. As FP1 and FP2 were found dry and FP3 was already filled for reedbed construction, no water quality monitoring was conducted at these locations.

24-hour 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. There was no exceedance recorded in the 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 not undertaken at USTR and STR1 at San Tin River in the reporting month. As the section of San Tin River where the water monitoring locations are was temporarily rendered for New Boundary Bridge (NBB) construction works, the water monitoring at the River was suspended during the monitoring period.

There were about 834m³ of excavated material delivered to the Government public fill barging point. About 89.28m³ of general refuse was collected by a licensed collector for disposal in the reporting month. All the disposal and transportation of waste were recorded under a trip ticket system.

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

The CET Leader carried out weekly site inspections and an IEC monthly site audit was conducted on 29 April. In response to the non-compliance and observations raised by the ET Leader and the IEC, the Contractor has proposed mitigation measures including cleaning up oily water and oil spillage, cleaning up and proper disposal of general refuse, providing drip trays for oil drums, stopping machine washing next to water stream, removing toilet door from the water discharge point, and cleaning up the piles of vegetation from the box channel. 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 2002. This report summarises the EM&A works conducted during the period from 26 March to 25 April 2004. During the reporting month, the principal work activities included earth works for reedbed and surcharge areas, construction of superstructure works at the terminus area and substructure at immigration hall, western drainage channel diversion, construction of Chau Tau Culvert, band-drain installation, bored piling, and trench excavation for utility works along the Emergency Access Road (EVA). In accordance with the new EP conditions, acoustic panels as specified in the Construction Noise Impact Assessment report under the EP should be provided. The installation of the acoustic panels was commenced in early February 2004.

LCC300 conducted the routine monitoring works at these monitoring locations: AM4 for air quality, NM13, NM14 and NM15 for noise, and two alternative water quality monitoring locations, namely, FPBBL1 and FPBBL2 for water quality, in this reporting month. As FP3 was filled and no construction works of this contract is likely affecting the San Tin River, the alternative water quality monitoring locations which are located to the south of the terminus site were identified to replace FP3, STR1 and USTR. The proposal of the alternative water quality monitoring location was accepted by EPD.

24-hour 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 in 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 approved alternative monitoring locations. The action and limit levels were under review.

A small amount of general refuse and C&D materials were generated during the reporting month. They were transferred to the landfill site by a licensed collector. Recycling of used paper was undertaken. Recyclable materials, such as completely decomposed granite (CDG) from the Kai Tak public fill area, were also used on site.

No notification of summons was received during the reporting month.

The CET Leader and the Engineer conducted regular site inspections and the IEC conducted a monthly site audit on 23 April. In response to the observations raised by the IEC during the site audit, the Contractor has instigated an action plan to rectify the inadequacies. The remedial actions included aligning sandbags along the verge of Ha Wan Channel, water spraying on dry materials, cleaning up storm drains prior to commencement, hydroseeding and covering of slope, cleaning up asphalt waste, repairing acoustic panels, compacting and flattening of stockpiles, and maintaining daily housekeeping exercise and segregation of waste properly. 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 twenty-second 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 for LDB201 on 20 April, LCC202 on 29 April and LCC300 on 23 April. 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 April. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: 900mm diameter watermain diversion stage 2, ducting and trench for CLP cable diversion, hoarding between existing East Rail uptrack and WSD watermains, predrilling and driving sheetpiles for Tunnel boxes A, B & C, constructing retaining wall from Ch30+200 to Ch30+600 and site investigations for proposed footbridge;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Sheet piling work for cofferdam construction, pumping test at Box D cofferdam and excavation and strutting in Cut & Cover Tunnel Box E & D Cofferdams;
- TBM Works area: Tunnel boring and lining, and regular maintenance of TBM;
- East EAP (EAP 2): Rock excavation and installation of walers and strut;
- West EAP (EAP 5): Excavation to –0.3mPD and installation of 3rd and 4th layer of strutting;

- Future Kwu Tung Station Enabling Works Area: Cut & cover box column and middle roof slab construction, utilities diversion on Ho Sheung Heung Road; and
- West Approach Area: Extraction Shaft Excavation and lateral support, excavation and lateral support of cofferdam, installation of geotechnical instruments, sheet pile installation, construct Tunnel Box at Box A, backfilling previous Chau Tau Channel and construct substructure of Chau Tau Ventilation Building.

Environmental permits, licences and records including the trip-ticket system were inspected. Four non-compliances and six observations were raised during the site audit:

Non-compliance

West Tunnel Approach – Box C

1. Silty discharge from sedimentation tank was observed.

West Tunnel Approach – Contamination Site

2. There was no clear indication of contamination area. Soil fell off from the stockpile nearby was observed within the contamination area.

West Tunnel Approach – Storage Yard

3. Untreated water was flowing outside the site hoarding and eventually discharged into a water stream nearby.

Cross Passage CP12a

4. No wheel washing facilities was available.

Observations

Area P3, Kwu Tung, EAP2, West Tunnel Approach – Storage Yard

5. Silt accumulation in perimeter channels was observed. Checking and cleaning up are necessary, especially after rainstorm.

Area P3, West Tunnel Approach – Storage Yard

6. Dust emission was observed during loading / unloading of soil.

West Tunnel Approach – Storage Yard

7. The glass window of the door of the chemical store was broken.

Cross Passage CP12

8. The backfall of wheel washing area was not directing water flowing backward to the site.

TBM Spoil Basin

9. Stagnant water was observed next to the spoil basin.

TBM Maintenance Area (Opposite to Spoil Basin)

10. Drip tray was not provided to oil drums.

As a result of the non-compliances and observations raised by the IEC the contractor has proposed some mitigation measures which include providing wheel washing facilities, cleaning of surface channels regularly, providing water sprinklers, replacing the glass window of the door, the installation of sump pit and pump, pumping away stagnant water, and providing drip tray for oil drums. 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 29 April 2004. The major construction works include pre-bored H-piling and ground beam construction at P3, bored drilling at W24-37, W45-50 and W61-66, column construction and viaduct erection at W24-37 as well as parapet erection at W55-57.

Environmental permits, licences and records including the trip-ticket system were inspected. One non-compliance and five observations were raised during the site audit:

Non-compliance

Pier W24 - 25

1. Silty runoff from machine washing was flowing into tributary "A".

Observations

Area P3, W36 & W50

2. Oil containers without drip tray were observed.

Area P3

3. Drip tray for oil drums was full of oily water.
4. A toilet door was placed at the discharge point.

Pier W34 (Pond 20)

5. Rubbish and cones were observed in the fish pond.

Box Channel (W25 – 26)

6. Some small piles of vegetation / soil were observed in the channel which was dry.

As a result of the observations raised by the IEC, the contractor has proposed mitigation measures including stopping machine washing next to water stream, providing drip trays for oil drums, cleaning up oily water in drip tray, removing toilet door from the water discharge point, cleaning up and proper disposal of general refuse, and cleaning up the piles of vegetation from the box channel. 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 23 April 2004. The major construction works include earth works for reedbed and surcharge areas, construction of superstructure works at the terminus area and substructure at immigration hall, western drainage channel diversion, construction of Chau Tau Culvert, band-drain installation, bored piling, and trench excavation for utility works along the Emergency Access Road (EVA).

Environmental permits, licences and records including the trip-ticket system were inspected. Four observations were raised during the site audit:

Observations

Ha Wan Channel Bridge

1. There was no sandbags / bund along the verge of Ha Wan Channel to prevent silty runoff flowing into the Channel.

Slope opposite to Lun Kee

2. The storm drains were silty. The sump pit was full of brownish water. Before the storm drains come into operation, soil and brownish water should be removed. Moreover hydroseeding should be completed as soon as possible.

Lok Ma Chau Road

3. The compaction works were dusty
4. Asphalt waste under the tree was observed.
5. The acoustic panels for PME should be repaired as soon as possible.

Terminus site

6. The stockpiles (from LDB201) were not covered.

Immigration Tower

7. Some bottles and aluminum cans were observed next to a rubbish bin.

In response to the observations raised by the IEC, the Contractor has proposed some improvement measures including aligning sandbags along the verge of Ha Wan Channel, water spraying on dry materials, cleaning up storm drains, hydroseeding and covering of slope, cleaning up asphalt waste, repairing acoustic panels, compacting and flattening of stockpiles, and maintaining daily housekeeping exercise and segregation of waste properly. The implementation and effectiveness of these measures will be assessed and verified during the next site audit.

3 Public Consultation

No public consultation was conducted in the reporting month.