

Kowloon-Canton Railway Corporation

KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

Monthly EM&A Report –
November 2003

December 2003

Report no: EA00761/R116/1



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Author: Claudine Lee

Checker: Gui Yi Li

Approver: Gui Yi Li

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EXECUTIVE SUMMARY

INTRODUCTION

This Report (in HTML format) is the seventeenth 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 2002. This report presents the EM&A findings in the period from 26 October to 25 November 2003. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: Relocation of street light for loading bay extension at San Wan Road, remaining works between interim downtrack and existing uptrack in East Rail including removal of hoarding, construction of stage 1 retaining walls, preparation works for compensatory tree planting between East Rail downtrack and DSD Sewage Treatment Plant;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): sheet piling work for cofferdam construction;
- TBM Works area: Tunnel boring and lining, regular maintenance of TBM;
- East EAP (EAP 2): Trimming guide wall and capping beams;
- West EAP (EAP 5): Diaphragm wall construction, interface coring and toe grouting;
- Future Kwu Tung Station Enabling Works Area: Shaft excavation, strut installation, backfilling around retaining wall, final trimming of fill slope and KTU base slab construction; and
- West Approach Area: site clearance, temporary LMC road construction, temporary steel bridge construction, diaphragm wall construction and pumping test, sheet pile installation, H pile foundation of WPVB, tree felling, temporary access construction to village, excavation inside cofferdam and Chau Tau channel construction.

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. Hydrological monitoring at Gates 1, 2, 3 and 4, and water quality monitoring at LVW1, LVW2, LVW3, LVW4, LVW5, LVS1 and LVS2 in Long Valley was also monitored when TBM was passing under Long Valley.

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. There were a number of Action and Limit Levels exceedances of TSP were recorded at the monitoring locations during the reporting month. The exceedances were likely due to the poor ambient weather condition during the monitoring period. Therefore the exceedance at AM1 is unlikely due to the works of LDB201.

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 pH and SS were recorded at some of the monitoring locations in the reporting month. Further to the inspections conducted by the Contractor's ET Leader, it is likely that the cause of the exceedances was due to natural variation and was not related to LDB201 on site activities.

The excavated spoil was mainly generated from the diaphragm wall construction at East EAP, TBM excavation, excavation works at Future Kwu Tung station Box and West Cut & Cover Tunnels. These C&D waste disposed of to Kai Tak Public Filling Barging Point. The excavated spoils were transferred to alternative sites for reuse including 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, the construction of Pok Wai Drainage Channel, Housing Authority project of construction of Fanling Area 36, Phase 3 and KCRC ERE LCC202 – West Section Alignment and Associated Works. All the disposal and transportation of waste were recorded under the four-page trip ticket system.

No warning and prosecution was received during the reporting month. However a public complaint was received regarding the vibration and noise from the sheet piling works and dark smoke emission from the PME near Chau Tau Tsuen. The sub-contractor's representative has explained the details about their construction works to the villages. On the other hand, a noise measurement has been undertaken and the results were within the acceptable level. The contractor will monitor the works closely to minimise the impacts on the surrounding environment.

Weekly site inspections were carried out by the CET and an IEC monthly site audit was conducted on 19 November 2003. The Contractor has proposed mitigation measures to rectify the environmental deficiencies or improve the environmental performance in response to the non-compliance and observations raised by the contractor's ET Leader during weekly site inspection and the IEC during the monthly site audit. The proposed measures include the provision of drip trays, watering of site, cleaning up of drainage channels, and erecting clear indication 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 October to 25 November 2003. Within this reporting month, the major construction works include pre-bored H-piling at P3, pre-bore drilling at W24-37 and W40-49, bored piling at P3, column construction at W24-37, W40-49 and W50-60, as well as pile cap construction at W24-37, W40-49 and W50-57. No works has been conducted during restricted hours.

LCC202 has undertaken the routine monitoring works at these monitoring locations: AM4 for air quality, NM15 for noise, and FP1, FP2, 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 USTR and STR1 at San Tin River, and two selected fishponds, namely, FP1 and FP2. Exceedances on SS 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. Moreover the nature of the monitoring locations were substantially changed comparing with the baseline monitoring period.

There were about 1,602m³ of reusable excavated material transported from LCC202 site to LFCC007 in the reporting month. About 39 tonnes of C&D waste were produced and were delivered to NENT. General refuse was 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 27 November 2003. In response to the non-compliance and the observations raised by the ET Leader and the IEC, the Contractor has proposed mitigation measures include cleaning up of general refuse, removing sludge from wheel washing basin, removing metal waste, providing drip trays, cleaning up the oily water in drip tray, cleaning up the entire perimeter channel and sump pit, more stringent management of the sub-contractors on malpractice, directing clean discharge to final discharge point, removing stagnant water, reusing of treated water for site investigation, removing the stockpiles as soon as possible, more frequent maintenance of generator, and removing the plastic sheet from the fishpond. 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 October to 25 November 2003. During the reporting month the principal work activities include earth works, the operation of the western channel outfall, site investigation, bored piling, substructure at terminus site, tree pruning and felling, trench excavation and road diversion along EVA route. Pipe-pile work construction and installation of noise barrier along Lok Ma Chau Road were also commenced during the reporting month.

LCC300 has undertaken the routine monitoring works at these monitoring locations: AM4 for air quality, NM13, NM14 and NM15 for noise, and USRT and STR1 for water quality, in this reporting month. Due to the commencement of earth works at FP3, alternative water quality monitoring location was identified for establishing baseline condition. 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, and one downstream monitoring location STR1 at San Tin River. There were exceedances of pH value, DO and SS recorded at the monitoring locations 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 notification of summons was received during the reporting month. However one complaint was received from LCC202 contractor regarding the construction dust emission from the access road in Lok Ma Chau area. Follow-up investigation has been undertaken and the possible cause is the dust generated from the dusty materials on the adjacent works area which is not under LCC300 contract. The Contractor has reviewed the frequency and routing of the water bowser responsible for surface damping.

ET Leader and the Engineer have conducted regular site inspections and the IEC has conducted a monthly site audit on 19 November 2003 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 the provision of impervious cover to stockpiles, and recycling use of wastewater. 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 seventeenth 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 19 November for LDB201 and LCC300, and 27 November 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 19 November. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: Relocation of street light for loading bay extension at San Wan Road, remaining works between interim downtrack and existing uptrack in East Rail including removal of hoarding, construction of stage 1 retaining walls, preparation works for compensatory tree planting between East Rail downtrack and DSD Sewage Treatment Plant;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): sheet piling work for cofferdam construction;
- TBM Works area: Tunnel boring and lining, regular maintenance of TBM;
- East EAP (EAP 2): Trimming guide wall and capping beams;
- West EAP (EAP 5): Diaphragm wall construction, interface coring and toe grouting;
- Future Kwu Tung Station Enabling Works Area: Shaft excavation, strut installation, backfilling around retaining wall, final trimming of fill slope and KTU base slab construction; and

- West Approach Area: site clearance, temporary LMC road construction, temporary steel bridge construction, diaphragm wall construction and pumping test, sheet pile installation, H pile foundation of WPVB, tree felling, temporary access construction to village, excavation inside cofferdam and Chau Tau channel construction.

A non-compliance and four observations have been raised during the site audit:

Non-compliance

Box E – West Approach Area (Site entrance / exit)

1. Silty washing water was flowing into the storm drain at the opposite side of Lok Ma Chau Road.

Observations

Cut & Cover – East Approach Area

2. Drip trays were not provided to some generators.

Cut & Cover – East Approach Area and West Approach Area

3. Dusty ground was observed. More frequent watering is required.

Area B – West Approach, Kwu Tung

4. Perimeter channels were not cleaned up. More frequent removal of silt is necessary.

Area B – West Approach Area

5. There was no clear indication of contaminated area and construction materials were placed on that area.

As a result of the observation raised by the IEC, the proposed measures include the provision of drip trays, watering of site, cleaning up of drainage channels, and erecting clear indication 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 27 November. The major construction works include pre-bored H-piling at P3, pre-bore drilling at W24-37 and W40-49, bored piling at P3, column construction at W24-37, W40-49 and W50-60, as well as pile cap construction at W24-37, W40-49 and W50-57. Two non-compliances and six observations have been raised during the site audit:

Non-compliance

Area P3 – Perimeter Channel

1. The perimeter channel was silty. More frequent removal of silt is necessary.

Area near Pond 20 (FP1)

2. Washing of concrete lorry mixer was observed at non-designated washing area.

Observations

Area P3 – Perimeter Channel

3. The treated water from WetSep should be directly discharged into the water stream after checking, rather than discharging into the perimeter channel to suspend the silt at the bottom of the channel again.
4. Silty water from the sump pit for recycling use of wheel washing water was overflowing into the nearby perimeter channel. The bund to avoid overflow should be high enough and desilting of sump pit should be carried out as necessary.

W25

5. Plastic sheet (geotextile) floating on the surface of a fish pond should be removed.

W27

6. Stagnant water should be drained properly.

W36

7. Drilling water was not contained. It was flowing under uncontrolled condition.

W46 – W48

8. Stockpiles were not covered.

W50

9. Black smoke emitting from a generator was observed.

As a result of the observation raised by the IEC, the contractor proposed mitigation measures including cleaning up the entire perimeter channel and sump pit, more stringent management of the sub-contractors on malpractice, directing clean discharge to final discharge point, removing stagnant water, reusing of treated water for site investigation, removing the stockpiles as soon as possible, more frequent maintenance of generator, and removing the plastic sheet from the fishpond. 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 19 November. The major construction works include earth works, the operation of the western channel outfall, site investigation, bored piling, substructure at terminus site, tree pruning and felling, trench excavation and road diversion along EVA route. Pipe-pile work construction and installation of noise barrier along Lok Ma Chau Road

were also commenced during the reporting month. Two observations have been raised during the site audit:

Observations

CLP utilities site

1. The stockpiles next to the excavated trench were not covered. The contractor is reminded to cover the stockpiles after work every day.

EVA

2. The linkage pipes of the sedimentation tanks for bored piling works should be positioned near the top rather than in the middle or at the bottom of the tanks. Contractor is reminded to review the design and check other similar sedimentation systems. The pH adjustment should be considered if the wastewater is contaminated by concrete works.

In response to the NCs and observations raised by the IEC, the Contractor has proposed some improvement measures including the provision of impervious cover to stockpiles, and recycling use of wastewater. 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.
