

Kowloon-Canton Railway Corporation

# KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

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Monthly EM&A Report –  
September 2004

October 2004

Report no: EA00761/R157/1



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**Report no:** EA00761/R157/1

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

## EXECUTIVE SUMMARY

### INTRODUCTION

This Report (in HTML format) is the twenty-seventh 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](http://www.env-ere.kcrc.com).

Variation of Environmental Permit (VEP) for the alteration of noise barrier at Kwu Tung site was submitted on 4 September 2004 and the Environmental Permit No. EP-129/2002/D was issued on 30 September 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 August to 25 September 2004. The main construction activities undertaken during the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: Drilling and grouting for H-piles of San Wan Road footbridge, drilling and grouting of mini piles for retaining wall RW1 and RW5, construction of retaining wall RW1 mini pile section, construction of retaining wall RW2, construction of permanent surface drainage of ER up track;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Construction of wall and base slab at Launching Shaft area, construction of remaining tunnel wall and roof slab up track and down track of tunnel Box E and application of waterproofing at tunnel walls, construction of sump pit base slab at Box E, construction of tunnel walls, roof slab and application of waterproofing at tunnel walls Box D, construction of tunnel wall, roof slab and waterproofing Boxes C1 & B, construction of walls and waterproofing and base slab for Tunnel Box A;
- TBM Works area: Tunnel boring and lining, regular maintenance of TBM;
- East EAP (EAP 2): Rock excavation for shaft and adits;
- West EAP (EAP 5): Drilling of drainage pipe, counterwall rebar fixing, formwork erection and falsework erection;
- Future Kwu Tung Station Enabling Works Area: Cut & cover box down track roof slab construction, cut & cover box north wall construction, EAP 3 construction, Ho Sheung Heung Road utilities diversion; and
- West Approach Area: Excavation and lateral support of cofferdam at Boxes A0 & B, construction of tunnel box at TBM shaft, Boxes B & C1, construction of CTVB substructure and retaining wall, backfilling between sheetpile and tunnel box at Boxes C & C1, installing sheet pile at Box E, excavation and lateral support at Box E, and sand backfilling at Box E.

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, during this reporting month.

24-hour TSP monitoring was conducted once every six days and three sets of 1-hour TSP monitoring were conducted once every six days at the monitoring locations. There were a total of four action level exceedances on 1-hour TSP and 24-hour TSP recorded during the reporting month. The exceedances were likely due to the hazy weather during the monitoring period.

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 during the reporting month.

Water quality monitoring was conducted at the identified water quality monitoring locations. There was no exceedance recorded during the reporting month.

The excavated spoil was mainly generated from the shaft excavation at East EAP, excavation at both East Approach and West Approach Cut & Cover Tunnels and tunnel excavation using TBM. 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, and DSD Contract DC/2002/06 – Construction of the Yuen Long Bypass Floodway. 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 warning, prosecution or complaint was received during the reporting month.

There were weekly site inspections carried out by the CET Leader and an IEC monthly site audit on 16 September. The Contractor has proposed mitigation measures to rectify the environmental deficiencies or improve the environmental performance in response to the observations raised by the CET Leader during weekly site inspection and the IEC during the monthly site audit. The proposed measures include cleaning silt trap, removing waste in regularly, operating the pump properly, switching off machine when not in use, providing clear remark on waste disposal summary record sheet, consistent signing practice on trip ticket, and providing drip tray for oil drum. 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 August to 24 September 2004. During the reporting month, the major construction works included ground beam construction and ramp wall construction at P3, and column, pile cap and portal construction at W61-66.

LCC202 conducted the routine monitoring works at these monitoring locations: AM4 for air quality, and NM15 for noise in this 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 were temporarily rendered for New Boundary Bridge Crossing (NBB) construction works, the water monitoring at the River was suspended during the monitoring period. As FP1 and FP2 were maintained dry to satisfy DSD flood storage criteria 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-hour TSP monitoring were conducted once every six days at the monitoring location. There was no exceedance 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 location. There was no exceedance recorded during the reporting month.

About 192m<sup>3</sup> of excavated materials were delivered to the Government public fill barging point. A total of 1,908m<sup>3</sup> of excavated materials were delivered to DSC Contract DC/2001/09 and CEDD Contract YL/53/02 and ST 77/01 for reuse. About 89m<sup>3</sup> of general refuse was collected by a licensed collector for disposal during 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 23 September. In response to the observations raised by the ET Leader and the IEC, the Contractor has proposed mitigation measures including repairing the dosing pump of the sedimentation system, intensifying desilting works, cleaning up oil spillage, removing general refuse, arranging water bowser to suppress dust emission, providing skip for general refuse, removing the stockpiles, draining stagnant water, applying larvicide and cleaning up soil on road. 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 August to 25 September 2004. During the reporting month, the principal work activities included minor earth works for surcharge maintenance in terminus and along station access road, construction of superstructure works at station and immigration hall, electrical/mechanical works and fitting-out work inside the station area, the construction of permanent sewage treatment plant and overrun rail-track, the construction of retaining structure of Ha Wan Channel bridge, trench excavation for utility works along the station access road. In accordance with the 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 September 2004. As FP3 was filled and no construction works of this contract is likely to affect San Tin River, these 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 and water quality monitoring was conducted according to the requirements in the EM&A Manual. As the water quality impact on these fishponds (FPBBL1 and FPBBL2) was found insignificant even during heavy rain, the Contractor has proposed to cease the water quality monitoring at these two fishponds. EPD has no objection and the

monitoring work will be suspended next month. The site condition will be reviewed and the monitoring work will be resumed if necessary.

24-hour TSP monitoring was conducted once every six days and three sets of 1-hour TSP monitoring were conducted once every six days at the monitoring location. One action level exceedance of 24-hour TSP was recorded during the reporting month. It was likely due to the hazy weather.

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 during the reporting month.

Water quality monitoring was conducted at the approved alternative monitoring locations. Fluctuation of pH values was recorded at the fishponds. It was likely due to the natural variation and pH conditioning undertaken by Contract LFCC-007 wetland enhancement works.

668m<sup>3</sup> of inert C&D materials were disposed of to Public Filling Barging Point at Kai Tak and 88m<sup>3</sup> of non-inert C&D materials were disposed of to NENT landfill. Recycling of used paper, and the reuse of aluminium cans and plastic bottles were implemented on site. The aluminium cans and plastic bottles were reused for capping the steel bars for the sake of safety.

No notification of summons or prosecution was received. However one verbal complaint from Highways Department was received on 10 September. The complaint was raised due to the mud accumulated at the temporary drainage outlet at station access road Area C, Chainage 1325 and eroded into the Ha Wan Channel on a rainy day. Investigation was undertaken and it was found that the incomplete concrete apron at the outlet was the cause of problem. The Contractor has implemented mitigation measures immediately and the concrete apron was established. The sub-contractor-in-charge was also reminded to maintain the channel and remove the silt regularly.

The CET Leader and the Engineer conducted regular site inspections and the IEC conducted a monthly site audit on 15 September. 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 cleaning up rubbish and silt at the kerbside, applying larvicide, removing stagnant water, providing rubbish bin and road cleaning. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

# 1 Introduction

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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-seventh 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. Non-compliances and observations issued by the IEC are based on the requirements of KCRC's Environmental Management System.

## 2 IEC monthly site audits

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IEC monthly site audits were conducted for LDB201 on 16 September, LCC202 on 23 September and LCC300 on 15 September. Special concern on the mosquito control was expressed during the site audits. All three contracts have implemented mosquito control measures and recorded the implementation status. The environmental performance of each Contract was maintained at an acceptable level in general.

### 2.1 Contract LDB201

The IEC site audit for LDB201 was undertaken on 16 September. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: Drilling and grouting for H-piles of San Wan Road footbridge, drilling and grouting of mini piles for retaining wall RW1 and RW5, construction of retaining wall RW1 mini pile section, construction of retaining wall RW2, construction of permanent surface drainage of ER up track;
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Construction of wall and base slab at Launching Shaft area, construction of remaining tunnel wall and roof slab up track and down track of tunnel Box E and application of waterproofing at tunnel walls, construction of sump pit base slab at Box E, construction of tunnel walls, roof slab and application of waterproofing at tunnel walls Box D, construction of tunnel wall, roof slab and waterproofing Boxes C1 & B, construction of walls and waterproofing and base slab for Tunnel Box A;



- TBM Works area: Tunnel boring and lining, regular maintenance of TBM;
- East EAP (EAP 2): Rock excavation for shaft and adits;
- West EAP (EAP 5): Drilling of drainage pipe, counterwall rebar fixing, formwork erection and falsework erection;
- Future Kwu Tung Station Enabling Works Area: Cut & cover box down track roof slab construction, cut & cover box north wall construction, EAP 3 construction, Ho Sheung Heung Road utilities diversion; and
- West Approach Area: Excavation and lateral support of cofferdam at Boxes A0 & B, construction of tunnel box at TBM shaft, Boxes B & C1, construction of CTVB substructure and retaining wall, backfilling between sheetpile and tunnel box at Boxes C & C1, installing sheet pile at Box E, excavation and lateral support at Box E, and sand backfilling at Box E.

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

#### Observations

##### West Tunnel Approach – Area P3

1. Construction waste was observed near the site exit. Prompt removal is necessary.

##### West Tunnel Approach – Box C1

2. Stagnant water was observed. The pump was not in operation. Checking is needed.

##### West Tunnel Approach – Box B

3. The excavator operator left but the machine was idling. Switching off the machine is recommended when not in operation.

##### West Tunnel Approach – Trip Ticket System

4. A trip ticket with remark reporting that the truck driver was prosecuted by the Police. The truck driver should provide the reason of being prosecuted. Signature of site staff at disposal site was missing.

##### Kwun Tung

5. Silt trap near the KCRC Inspector office was muddy. Cleaning up is necessary.

##### Opposite TBM spoil basin

6. Drip tray was not provided for oil drums near the workshop.

As a result of the observations raised by the IEC the contractor has proposed some mitigation measures which include cleaning silt trap, removing waste in regularly, operating the pump properly, switching off machine when not in use, providing clear remark on waste disposal summary record sheet, consistent signing practice on trip ticket, and

providing drip tray for oil drum. 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 23 September 2004. The major construction works include ground beam construction and ramp wall construction at P3, and column, pile cap and portal construction at W61-66.

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

### Observations

#### W35

1. Aluminium cans and plastic bottles were found on site. Rubbish bin or skip should be provided and should be cleaned up regularly.

#### W39, 43 and 44

2. Stockpiles were not covered. Although they are stored temporarily on site, tarpaulin sheets should be used to cover the stockpiles.

#### W51 (near the noise barrier)

3. Stagnant water was observed. Filing or more frequent removal of water is recommended. Please also note the stagnant water in the pits on concrete blocks.

#### DAR access

4. Although trucks were washed within the site, the section of haul road from wheel washing to site exit was silty. Silty trails were observed on the public road.

As a result of the observations raised by the IEC, the contractor has proposed to provide skip for general refuse, remove the stockpiles, drain stagnant water, apply larvicide and clean up soil on road. 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 15 September 2004. The major construction works include minor earth works for surcharge maintenance in terminus and along station access road, construction of superstructure works at station and immigration hall, electrical/mechanical works and fitting-out work inside the station area, the construction of permanent sewage treatment plant and overrun rail-track, the construction of retaining structure of Ha Wan Channel bridge, trench excavation for utility works along the station access road.

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

#### Observations

##### Lok Ma Chau Road

1. Rubbish was found in the stagnant water next to the site boundary. The contractor is recommended to clean the rubbish.
2. The kerbside of Lok Ma Chau Road was silty. Cleaning up is necessary.

##### Station access road (Near Ch. 1375)

3. Stagnant water was observed.
4. Rubbish bin was not provided and rubbish was observed on the ground.

#### General

5. Some sections of public road (Lok Ma Chau Road), haul road and unpaved area were dry. More frequent watering is necessary.

In response to the observations raised by the IEC, the Contractor has proposed some improvement measures including cleaning up rubbish and silt at the kerbside, applying larvicide, removing stagnant water, providing rubbish bin and road cleaning. The implementation and effectiveness of these measures will be assessed and verified during the next site audit.

## 3 Public Consultation

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There was two public consultation meetings held in September 2004:

- 10<sup>th</sup> LMC Political and Public Relations Task Group Meeting on 2 September; and
  - LMC 5<sup>th</sup> Community Liaison Group (Western) Meeting on 20 September.
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