

Issue No. : 1  
Issue Date : February 2013  
Project No. : 944

**CONSTRUCTION OF A SECONDARY  
BOUNDARY FENCE AND NEW  
SECTION OF PRIMARY BOUNDARY  
FENCE AND BOUNDARY PATROL  
ROAD (SECTION 2 LOK MA CHAU  
CONTROL POINT TO NG TUNG  
RIVER)**

**FINAL ENVIRONMENTAL  
MONITORING & AUDIT REPORT**

Prepared By:

**ALLIED ENVIRONMENTAL CONSULTANTS LTD.**

**COMMERCIAL-IN-CONFIDENCE**

**Allied Environmental Consultants Limited**  
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Ref.: ASDBFBPREM00\_0\_0457L.13

20 February 2013

Mott MacDonald Hong Kong Limited  
20/F Two Landmark East,  
100 How Ming Street,  
Kwun Tong,  
Hong Kong

By Fax (2827 1823) and Post

Attention: Mr. James Kam / Mr. F. Y. Wong

Dear Sirs,

**Re: Environmental Permit No. EP-347/2009/A and FEP-02/347/2009/A  
Contract No. SSW306 - Section 2  
Construction of a Secondary Boundary Fence and New Section of Primary  
Boundary Fence and Boundary Patrol Road from Lok Ma Chau Control  
Point to Ng Tung River  
Final EM&A Summary Report**

Reference is made to the Environmental Team's submission of the draft Final EM&A Summary Report (Issue No. 1) by E-mail on 20 February 2013.

We are pleased to inform you that we have no further comments on the captioned report. We write to verify that the captioned submission in accordance with Condition 1.9 of EP-347/2009/A and FEP-02/347/2009/A.

Thank you for your attention and please feel free to contact the undersigned should you have any queries.

Yours faithfully,



David Yeung  
Independent Environmental Checker

c.c.	ArchSD	Attn: Mr. W. K. Yiu (CPM203) / Mr. Laurence Kwan (SPM225)	Fax: 2810 5372
	MMHK(site)	Attn: Mr. Peter Tsang	Fax: 2683 1195
	AEC (ETL)	Attn: Ms. Grace Kwok	Fax: 2815 5399
	Able	Attn: Mr. Gavin Lee	Fax: 2796 0519

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Certified by:

  
\_\_\_\_\_  
Grace M. H. Kwok  
Environmental Team Leader

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This report has been prepared by Allied Environmental Consultants Limited with all reasonable skill, care and diligence within the terms of the Agreement with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

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## **EXECUTIVE SUMMARY**

Architectural Services Department (ArchSD) has awarded the contract for the Construction of a Secondary Boundary Fence and New Section of Primary Boundary Fence and Boundary Patrol Road - Section 2 Lok Ma Chau Control Point to Ng Tung River. (hereafter referred to as the "Project") to Able Engineering Co. Ltd. ("the Contractor"). The contractor has appointed Allied Environmental Consultants Limited (AEC) as the Environmental Team (ET) to undertake Environmental Monitoring and Audit (EM&A) programme in accordance with the EM&A Manual, the Environmental Permit (EP-347/2009/A) and Further Environmental Permit (FEP-02/347/2009/A) for the Project. The site preparation works and EM&A programme commenced on 25<sup>th</sup> March 2010 and the construction works were commenced on 12<sup>th</sup> April 2010. The construction works of the Project were substantially completed in 17<sup>th</sup> December 2012.

Only minor outstanding works would be carried out in mid of March 2013 and were small scale works. No major environmental impact should be anticipated. Construction phase EM&A programme was completed on 17<sup>th</sup> December.

This is the Final Environmental Monitoring and Audit (EM&A) Summary Report and this report summarizes the EM&A works performed at the Construction of a Secondary Boundary Fence and New Section of Primary Boundary Fence and Boundary Patrol Road - Section 2 Lok Ma Chau Control Point to Ng Tung River from 25<sup>th</sup> March 2010 to 17<sup>th</sup> December 2012.

### **Environmental Monitoring Works**

#### *Noise*

No exceedance of noise level was recorded.

During the construction phase, weekly noise monitoring was undertaken at the designated location. No exceedances of Action Level and Limit Level of noise level were recorded.

The environmental monitoring data collected during the construction phase were generally well below the prediction of mitigated scenario in the approved Environmental Impact Assessment (EIA) Report and did not find any exceedances of action and limit level. It agrees with EIA predictions and the Project is environmentally acceptable.

### **Environmental Complaints and Prosecutions**

During the construction phase, no complaint, notification of summons or prosecution was received. No non-compliance for general works and no non-compliance against EP condition were recorded.

## **Site Inspections**

Mitigation measures had been implemented by the Contractor to minimize the environmental impacts due to construction activities. Site inspections carried out by ET and IEC showed that the Contractor rectified most of the problems promptly, indicating the EIA process with its recommended mitigation measures and the EM&A programme were effective in protecting the environment. As such, the environmental performance of the Contractor during the construction phase was considered satisfactory.

The monitoring results and statistics of non-compliance indicated that the EIA process with its recommended mitigation and EM&A programme were effective for protection of the environment and there was no unacceptable environmental impact posed by the Project.



## **1. PROJECT BACKGROUND**

The Frontier Closed Area (FCA) is an integral part of the package of measures for maintaining the integrity of the Hong Kong SAR's boundary with the Mainland and for combating illegal immigration and other cross-boundary criminal activities. Following a recent review, the Government has concluded that with the erection of a secondary boundary fence (SBF) along the boundary patrol road (BPR) and construction of new sections of the BPR and primary boundary fence (PBF) at certain sections along the boundary, the FCA coverage can be substantially reduced without affecting the objective of maintaining the integrity of the boundary. The PBF and SBF will be erected along the northern and southern curbs of the realigned BPR respectively to facilitate the Police in combating cross-boundary criminal activities. The reduced FCA will comprise a narrow strip of land covering the realigned BPR and areas to its north, together with the points of crossing the boundary (i.e. the Boundary Control Points and Sha Tau Kok town). Areas south of the SBF will generally be excised from the FCA. The site location plan is shown in *Figure 1*.

The proposed Secondary Boundary Fence is categorized as a Designated Project (DP) under the Environmental Impact Assessment Ordinance (EIAO) and therefore a detailed Environmental Impact Assessment (EIA- 161/2008) was conducted in year 2009.

An Environmental Permit (EP-347/2009) and a Variation of Environmental Permit (EP-347/2009/A) for the construction of the whole Project was issued by Environmental Protection Department in June 2009 and June 2010 respectively. A Further Environmental Permit (FEP-02/347/2009) and a Variation of Further Environmental Permit (FEP-02/347/2009/A) for the construction of the Project was issued in February 2010 and July 2010 respectively.

Architectural Services Department (ArchSD) as the works agent has awarded the construction contract of the Project to Able Engineering Co. Ltd. ("the Contractor"). The Contractor has appointed Allied Environmental Consultants Limited (AEC) as the Environmental Team (ET) to undertake Environmental Monitoring and Audit (EM&A) programme in accordance with the EM&A Manual under the approved EIA report, which details the EM&A requirements for the construction of the Project, the EP-347/2009/A and FEP-02/347/2009/A.

The site preparation works and EM&A programme commenced on 25<sup>th</sup> March 2010 and the construction works commenced on 12<sup>th</sup> April 2010. This is the Final Environmental Monitoring and Audit (EM&A) Summary Report and this report summarizes the EM&A works performed at the Construction of a Secondary Boundary Fence and New Section of Primary Boundary Fence and Boundary Patrol Road - Section 2 Lok Ma Chau Control Point to Ng Tung River from 25<sup>th</sup> March 2010 to 17<sup>th</sup> December 2012. Construction works were substantially completed on 17<sup>th</sup> December 2012. Construction phase EM&A programme was completed on 17<sup>th</sup> December 2012.

## 1.1 Project Organization and Contact Personnel

Key personnel and contact particulars are summarized in *Table 1*.

<b>Role</b>	<b>Department / Company</b>	<b>Names</b>	<b>Contact Number</b>	<b>Fax Number</b>
Engineer Representative	Mott McDonald Hong Kong Limited	Mr. FY Wong	2828 5740	2827 1823
		Mr. Peter Tsang	2828 5921	2827 1823
Main Contractor	Able Engineering Co., Limited	Mr. Gavin Lee	9282 8158	2676 7966
Environmental Team Leader	Allied Environmental Consultants Limited	Ms. Grace Kwok	2815 7028	2815 5399
Independent Environmental Checker	ENVIRON Hong Kong Limited	Mr. David Yeung	3743 0788	3548 6988

*Table 1 Contact Details of Key Personnel*

The organizational structure and lines of communication during the construction work with respect to environmental management is given in *Appendix A*.

**1.2 Works Undertaken during the Construction Phase**

The synopsis of work undertaken during the entire construction phase is summarized in *Table 2*.

<i>Month</i>	<i>Works Undertaken</i>
Mar 2010	<ul style="list-style-type: none"> <li>- Shrubs cleaning</li> <li>- Setting up of wheel bay</li> <li>- Setting up of site office</li> </ul>
Apr 2010	<ul style="list-style-type: none"> <li>- Excavation for footing</li> <li>- Reinforcement bar mixing, formwork &amp; concreting for footing</li> <li>- Disposal of soil</li> <li>- Backfilling trench</li> </ul>
May 2010	<ul style="list-style-type: none"> <li>- Excavation for footing</li> <li>- Reinforcement bar mixing, formwork &amp; concreting for footing</li> <li>- Disposal of soil</li> <li>- Backfilling trench</li> </ul>
Jun 2010	<ul style="list-style-type: none"> <li>- Excavation for footing</li> <li>- Reinforcement bar mixing, formwork &amp; concreting for footing</li> <li>- Disposal of soil</li> <li>- Backfilling trench</li> </ul>
Jul 2010	<ul style="list-style-type: none"> <li>- Excavation for footing</li> <li>- Reinforcement bar mixing, formwork &amp; concreting for footing</li> <li>- Disposal of soil</li> <li>- Backfilling trench</li> </ul>
Aug 2010	<ul style="list-style-type: none"> <li>- Excavation</li> <li>- Pouring blinding layer</li> <li>- Concreting for footing of SBF, PBF and Wave wall</li> <li>- Laying granular for Wave wall</li> <li>- Tree transplantation</li> </ul>
Sept 2010	<ul style="list-style-type: none"> <li>- Excavation</li> <li>- Pouring blinding layer</li> <li>- Concreting for footing of SBF, PBF and Wave wall</li> <li>- Laying granular for Wave wall</li> <li>- Tree felling</li> </ul>
Oct 2010	<ul style="list-style-type: none"> <li>- Reinforcement bar fixing</li> <li>- Formwork construction</li> <li>- Concreting for footing of SBF, PBF and Wave wall</li> </ul>
Nov 2010	<ul style="list-style-type: none"> <li>- Excavation</li> <li>- Pouring blinding layer</li> <li>- Concreting to footing of SBF, PBF &amp; Wave wall</li> <li>- Making rough surface on existing Wave wall</li> <li>- Concrete mass filling to existing Wave wall</li> <li>- Material preparation of structural steel work of PBF, SBF and Wave wall</li> <li>- Sealant caulking to SBF and PBF footing</li> <li>- Site clearance works;</li> </ul>

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	<ul style="list-style-type: none"> <li>- Defect rectification</li> </ul>
Dec 2010	<ul style="list-style-type: none"> <li>- Material preparation of structural steel work of PBF, SBF and Wave wall</li> <li>- Sealant caulking to SBF and PBF footing</li> <li>- Site clearance works</li> <li>- Defect rectification</li> </ul>
Jan 2011	<ul style="list-style-type: none"> <li>- Material preparation of structural steel work of PBF, SBF and Wave wall</li> <li>- Sealant caulking to SBF and PBF footing</li> <li>- Site clearance works</li> <li>- Defect rectification</li> </ul>
Feb 2011	<ul style="list-style-type: none"> <li>- Material preparation of structural steel work of PBF, SBF and Wave wall</li> <li>- Steel post fixing to SBF and PBF</li> <li>- Sealant caulking to SBF and PBF footing</li> <li>- Site clearance works</li> <li>- Defect rectification</li> </ul>
Mar 2011	<ul style="list-style-type: none"> <li>- Material preparation of structural steel work of PBF &amp; SBF</li> <li>- Steel post fixing to SBF</li> <li>- Sealant caulking to SBF, PBF footing and Wave Wall</li> <li>- Site cleaning</li> <li>- Defect rectification</li> <li>- Concreting to SBF / PBF footing</li> <li>- Steel and Plexiglas fixing to new Wave wall</li> <li>- Backfilling to proposed patrol road</li> <li>- Concreting to footing of existing Wave wall</li> </ul>
Apr 2011	<ul style="list-style-type: none"> <li>- Concreting to SBF / PBF footing</li> <li>- Steel and Plexiglas fixing to new Wave wall</li> <li>- Backfilling to proposed patrol road</li> <li>- Primer painting to SBF post</li> <li>- Concreting to footing of existing Wave wall</li> </ul>
May 2011	<ul style="list-style-type: none"> <li>- Concreting to SBF and PBF footing including base and wall</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- U/G ducting work</li> <li>- Mass concreting to footing of existing Wave wall</li> <li>- Concreting to back slope of new Wave wall</li> </ul>
Jun 2011	<ul style="list-style-type: none"> <li>- Concreting to SBF and PBF footing including base and wall</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- U/G ducting work</li> <li>- Mass concreting to footing of existing Wave wall</li> <li>- Concreting to back slope of new Wave wall</li> </ul>
Jul 2011	<ul style="list-style-type: none"> <li>- Concreting to SBF and PBF footing including base and wall</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- U/G ducting work</li> <li>- Mass concreting to footing of existing Wave wall</li> <li>- Fixing of GMS post to PBF</li> </ul>
Aug 2011	<ul style="list-style-type: none"> <li>- Concreting to SBF and PBF footing including base and wall</li> </ul>

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	<ul style="list-style-type: none"> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- U/G ducting work</li> <li>- Mass concreting to footing of existing Wave wall</li> <li>- Fixing of GMS post to PBF</li> </ul>
Sept 2011	<ul style="list-style-type: none"> <li>- Concreting to SBF and PBF footing including base and wall</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- U/G ducting work</li> <li>- Fixing of GMS post to PBF</li> </ul>
Oct 2011	<ul style="list-style-type: none"> <li>- Concreting to SBF and PBF footing including base and wall</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- U/G ducting work</li> <li>- Fixing of GMS post to PBF</li> <li>- Concreting to Boundary patrol road</li> </ul>
Nov 2011	<ul style="list-style-type: none"> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- U/G ducting work</li> <li>- Fixing of GMS post to PBF</li> <li>- Concreting to Boundary patrol road</li> <li>- Fixing of PBF / SBF post</li> </ul>
Dec 2011	<ul style="list-style-type: none"> <li>- Fixing of PBF / SBF post</li> </ul>
Jan 2012	<ul style="list-style-type: none"> <li>- Fixing of PBF / SBF post</li> </ul>
Feb 2012	<ul style="list-style-type: none"> <li>- Fixing of PBF / SBF post</li> </ul>
Mar 2012	<ul style="list-style-type: none"> <li>- Fixing and painting of PBF / SBF post</li> <li>- Concreting to Boundary patrol road</li> <li>- U/G ducting work</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- XPM Mesh fixing to PBF fence</li> <li>- Concreting to 450 U channel</li> </ul>
Apr 2012	<ul style="list-style-type: none"> <li>- Fixing and painting of PBF / SBF post</li> <li>- Concreting to Boundary patrol road</li> <li>- U/G ducting work</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- XPM Mesh fixing to PBF fence</li> <li>- Concreting to 450 U channel</li> </ul>
May 2012	<ul style="list-style-type: none"> <li>- Fixing and painting of PBF / SBF post</li> <li>- Concreting to Boundary patrol road</li> <li>- U/G ducting work</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- XPM Mesh fixing to PBF fence</li> <li>- Concreting to 450 U channel</li> <li>- Tree planting</li> </ul>
Jun 2012	<ul style="list-style-type: none"> <li>- Fixing and painting of PBF / SBF post</li> <li>- Concreting to Boundary patrol road</li> <li>- U/G ducting work</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- XPM Mesh fixing to PBF fence</li> <li>- Concreting to 450 U channel</li> <li>- Tree planting</li> </ul>

Jul 2012	<ul style="list-style-type: none"> <li>- Fixing and painting of PBF / SBF post</li> <li>- Concreting to Boundary patrol road</li> <li>- U/G ducting work</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- XPM Mesh fixing to PBF / SBF fence</li> <li>- Concreting to 450 U channel</li> <li>- Tree planting</li> <li>- Painting to PBF / SBF post and flat bar</li> </ul>
Aug 2012	<ul style="list-style-type: none"> <li>- Fixing and painting of PBF / SBF post</li> <li>- U/G ducting work</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- XPM Mesh fixing to PBF / SBF fence</li> <li>- Tree planting</li> <li>- Painting to PBF / SBF post and flat bar</li> </ul>
Sept 2012	<ul style="list-style-type: none"> <li>- Fixing and painting of PBF / SBF post</li> <li>- U/G ducting work</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- XPM Mesh fixing to PBF / SBF fence</li> <li>- Tree planting</li> <li>- Painting to PBF / SBF post and flat bar</li> </ul>
Oct 2012	<ul style="list-style-type: none"> <li>- Fixing and painting of PBF / SBF post</li> <li>- U/G ducting work</li> <li>- Backfilling and compaction to proposed boundary patrol road</li> <li>- XPM Mesh fixing to PBF / SBF fence</li> <li>- Painting to PBF / SBF flat bar / lamp pole and bollard</li> <li>- Concreting to Boundary patrol road</li> </ul>
Nov 2012	<ul style="list-style-type: none"> <li>- XPM Mesh fixing to PBF / SBF fence</li> <li>- Painting to PBF / SBF flat bar / lamp pole and bollard</li> <li>- Mesh fixing</li> <li>- Painting to bollard</li> </ul>
Dec 2012	<ul style="list-style-type: none"> <li>- Painting to lamp pole</li> <li>- Sealant caulking</li> <li>- Defect making good</li> </ul>

*Table 2 Synopsis of Works Undertaken during the Entire Construction phase*

## 2. SUMMARY OF EM&A REQUIREMENT

Weekly site inspection is required for air quality, noise quality, water quality, waste management, ecology, cultural heritage and landscape and visual. The inspection is to ensure mitigation measures recommended in EIA and EM&A manual implemented during construction phase.

Summary of environmental mitigation measures implementation schedule for construction stage and their status for the Project construction stage are given in **Appendix B**.

For regular impact noise monitoring, the sampling frequency of at least once a week for a  $L_{eq(30mins)}$ . The action and limit levels for construction noise impact monitoring are summarized in **Table 3**.

<b>Time Period</b>	<b>Action Level</b>	<b>Limit Level</b>
Daytime (0700-1900) except general holidays and Sunday Measurements in $L_{eq(30min)}$	When one documented complaint is received.	75 dB(A)

**Table 3 Action and Limit Levels for Construction Noise Impact Monitoring**

Should non-compliance of the above Action and Limit levels occurs, actions in accordance with the Event and Action Plan in **Table 4**.

Event	Action			
	ET Leader	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> <li>1. Notify IEC and the Contractor.</li> <li>2. Carry out investigation.</li> <li>3. Report the results of investigation to IEC and the Contractor.</li> <li>4. Discuss with the Contractor and formulate remedial measures.</li> <li>5. Increase monitoring frequency to check mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review with analyzed results submitted by ET</li> <li>2. Review the proposed remedial measures by the Contractor and advise ER accordingly.</li> <li>3. Supervise the implement of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing,</li> <li>2. Notify the Contractor.</li> <li>3. Require the Contractor to propose remedial measures for the analyzed noise problem.</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC.</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Identify the source.</li> <li>2. Notify IEC, ER, EPD and the Contractor.</li> <li>3. Repeat measurement to confirm findings.</li> <li>4. Increase monitoring frequency.</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented.</li> <li>6. Inform IEC, ER and EPD to causes &amp; actions taken for the exceedances.</li> <li>7. Assess effectiveness of the Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET Leader and the Contractor on the potential remedial actions.</li> <li>2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly.</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing.</li> <li>2. Notify the Contractor.</li> <li>3. Require the Contractor to propose remedial measures for the analyzed noise problem.</li> <li>4. Ensure remedial measures are properly implemented.</li> <li>5. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abate.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance.</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification.</li> <li>3. Implement the agreed proposals.</li> <li>4. Resubmit proposals if problem still not under control.</li> <li>5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.</li> </ol>

**Table 4 Event and Action Plan**



### 3. MONITORING METHODOLOGY

#### 3.1. Noise Monitoring Procedure

Noise monitoring was conducted at the designated noise monitoring location between 0700-1900 hours using a sound level meter which complies with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). Noise instrumentation details are given in *Table 5*.

Manufacturer	Type/Model No.	Equipment
RION	Model NL 31	Precision Sound Level Analyser with windshield
RION	Model NC 73	Calibrator

*Table 5 Noise Monitoring Equipment*

Noise levels measurements were recorded in terms of thirty minutes A-weighted equivalent continuous sound pressure level ( $L_{eq(30mins)}$ ) on a weekly basis. The sound level meter was calibrated immediately prior to and following each noise measurement. The meter was mounted on a tripod at a height of 1.2m and the microphone was positioned at 1m away the building façade of the noise monitoring station facing the construction site. The sound level meters, including the calibrators, are verified by the manufacturer every one year to ensure they perform to the same level of accuracy as stated in the manufacturer's specifications.

Noise measurements were not made in the presence of fog, rain, and wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed was checked with a portable anemometer capable of measuring the wind speed in m/s.

#### 3.2. Noise Monitoring Programme

Noise monitoring was conducted at designated noise monitoring locations during construction phase: a village house at Village House at Ma Tso Lung (MTL01) as shown in *Figure 2*. Details of the noise monitoring stations are shown in *Table 6*.

ID	Monitoring Location	Description of Monitoring Location
MTL01	Village House at Ma Tso Lung	G/F boundary wall of Village House at Ma Tso Lung

*Table 6 Description of Noise Monitoring Location*

## **4. RESULTS**

### **4.1. Noise**

Noise monitoring results in terms of  $L_{eq(30min)}$ ,  $L_{10(30min)}$  and  $L_{90(30min)}$  were measured at the designated noise monitoring location.  $L_{10}$  and  $L_{90}$  represent sound levels that are exceeded 10% and 90% of the time respectively. Normally,  $L_{10}$  measurements can be considered as the average peak levels, whilst  $L_{90}$  levels can be considered as the average background noise levels.

No exceedance was recorded in the whole construction phase. Graphical plot of noise monitoring record in comparison with baseline data is given in *Appendix C*. Majority of noise levels recorded from March 2010 to December 2012 during impact monitoring were below the baseline noise levels. Therefore, no adverse environmental impacts to the surroundings are anticipated in view of substantial completion of the Project.

### **4.2. Weather Conditions**

Weather data of the monitoring station were recorded and *Table 7* summarized the weather conditions during the monitoring period.

<i>Date</i>	<i>Weather</i>	<i>Date</i>	<i>Weather</i>
25-Mar-10	Fine	18-Jan-11	Sunny
31-Mar-10	Fine	27-Jan-11	Sunny
9-Apr-10	Fine	1-Feb-11	Sunny
15-Apr-10	Cloudy	10-Feb-11	Sunny
22-Apr-10	Cloudy	15-Feb-11	Rainy*
27-Apr-10	Fine	22-Feb-11	Cloudy
6-May-10	Fine	3-Mar-11	Sunny
13-May-10	Fine	8-Mar-11	Cloudy
19-May-10	Cloudy	15-Mar-11	Cloudy
25-May-10	Sunny	24-Mar-11	Fine
2-Jun-10	Cloudy	31-Mar-11	Fine
8-Jun-10	Cloudy	7-Apr-11	Sunny
14-Jun-10	Fine	12-Apr-11	Sunny
24-Jun-10	Cloudy	19-Apr-11	Sunny
30-Jun-10	Sunny	27-Apr-11	Sunny
6-Jul-10	Sunny	4-May-11	Fine
13-Jul-10	Fine	13-May-11	Cloudy
20-Jul-10	Fine	19-May-11	Sunny
28-Jul-10	Cloudy	26-May-11	Sunny
3-Aug-10	Sunny	31-May-11	Fine
10-Aug-10	Sunny	8-Jun-11	Sunny
19-Aug-10	Cloudy	14-Jun-11	Sunny
25-Aug-10	Fine	21-Jun-11	Fine
31-Aug-10	Sunny	29-Jun-11	Cloudy
7-Sep-10	Sunny	7-Jul-11	Sunny
14-Sep-10	Sunny	14-Jul-11	Cloudy
24-Sep-10	Sunny	19-Jul-11	Cloudy
28-Sep-10	Sunny	26-Jul-11	Sunny
5-Oct-10	Cloudy	2-Aug-11	Sunny
13-Oct-10	Sunny	10-Aug-11	Cloudy
18-Oct-10	Fine	16-Aug-11	Sunny
25-Oct-10	Cloudy	23-Aug-11	Sunny
2-Nov-10	Sunny	30-Aug-11	Sunny
11-Nov-10	Sunny	8-Sep-11	Sunny
18-Nov-10	Sunny	14-Sep-11	Sunny
23-Nov-10	Fine	20-Sep-11	Cloudy
30-Nov-10	Sunny	27-Sep-11	Sunny
9-Dec-10	Sunny	6-Oct-11	Fine
16-Dec-10	Cloudy	11-Oct-11	Cloudy
21-Dec-10	Fine	18-Oct-11	Sunny
30-Dec-10	Sunny	25-Oct-11	Sunny
6-Jan-11	Cloudy	3-Nov-11	Sunny
11-Jan-11	Cloudy	8-Nov-11	Cloudy

<i>Date</i>	<i>Weather</i>	<i>Date</i>	<i>Weather</i>
15-Nov-11	Cloudy	7-Jun-12	Sunny
22-Nov-11	Cloudy	12-Jun-12	Cloudy
29-Nov-11	Fine	19-Jun-12	Cloudy
6-Dec-11	Sunny	26-Jun-12	Cloudy
13-Dec-11	Sunny	5-Jul-12	Cloudy
20-Dec-11	Cloudy	12-Jul-12	Sunny
29-Dec-11	Sunny	18-Jul-12	Sunny
4-Jan-12	Cloudy	24-Jul-12	Scattered Drizzle Rain
12-Jan-12	Cloudy	30-Jul-12	Sunny
17-Jan-12	Sunny	9-Aug-12	Sunny
27-Jan-12	Cloudy	15-Aug-12	Sunny
2-Feb-12	Sunny	21-Aug-12	Sunny
9-Feb-12	Cloudy	30-Aug-12	Sunny
16-Feb-12	Cloudy	5-Sep-12	Sunny
21-Feb-12	Cloudy	11-Sep-12	Sunny
28-Feb-12	Cloudy	18-Sep-12	Sunny
8-Mar-12	Cloudy	27-Sep-12	Sunny
15-Mar-12	Cloudy	4-Oct-12	Sunny
20-Mar-12	Cloudy	9-Oct-12	Sunny
27-Mar-12	Cloudy	18-Oct-12	Cloudy
3-Apr-12	Sunny	25-Oct-12	Sunny
13-Apr-12	Sunny	29-Oct-12	Cloudy
17-Apr-12	Rainy	6-Nov-12	Sunny
24-Apr-12	Cloudy	15-Nov-12	Cloudy
2-May-12	Cloudy	21-Nov-12	Cloudy
8-May-12	Sunny	27-Nov-12	Cloudy
14-May-12	Sunny	4-Dec-12	Cloudy
23-May-12	Sunny	13-Dec-12	Sunny
29-May-12	Cloudy		

\* *Measurement was conducted while rain stop*

*Table 7 Summary of Weather Conditions during the Monitoring Period*

### 4.3. Comparison of Monitoring Results

During the construction phase, the monitoring results did not show major variations due to the construction activities being carried out and weather conditions. The EM&A data was compared with the EIA predictions as summarized in *Table 8*.

<i>Parameters</i>	<i>Predicted Level in EIA Report</i>	<i>Measured Highest Level from EM&amp;A data</i>
Mitigated maximum construction noise level at MTL 01	$L_{eq(30min)}$ of 72 dB(A)	$L_{eq(30min)}$ of 63.7 dB(A)

*Table 8 Comparison of EM&A Data with EIA Prediction*

The maximum construction noise level collected during the construction phase were generally well below the prediction of mitigated scenario in the Section 3.8.6 of the approved Environmental Impact Assessment (EIA) Report and did not find any exceedances of limit level.

Majority of noise levels recorded from March 2010 to December 2012 during impact monitoring were below the baseline noise levels. Therefore, no adverse environmental impacts to the surroundings are anticipated. As the monitored parameters were far below the Limit Level under mitigation measures, the Project is considered environmentally acceptable.

## 5. WASTE MANAGEMENT STATUS

The solid waste generated from the Project included inert and non-inert C&D waste. Sorting and recycling of materials was encouraged at the site. A total of 16,935 m<sup>3</sup> of inert C&D material was disposed to Tuen Mun Area 38 Fill Bank. A total of 4,078 m<sup>3</sup> of general refuse was disposed of to NENT Landfill. No timber, metals, paper/cardboard packaging, plastics and chemical waste were generated. Summary of waste flow table throughout the construction phase of the Project is given in *Appendix D*.

Good site practice was maintained and specific procedures in dealing with different kind of wastes were followed during construction. The Contractor maintained and recorded all trip-tickets as stipulated in the Waste Management Plan (WMP) and Project EM&A Manual and made a thorough reference from the relevant Legislations and guidelines by the EPD.

## 6. NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

During the construction phase, no complaint, notification of summons or prosecution was received. No non-compliance for general works and no non-compliance against EP condition were recorded.

## **7. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES**

The Contractor implemented mitigation measures to minimize the environmental impacts due to construction activities. Summary of environmental mitigation measures implementation schedule for construction stage and their status for the Project construction stage are given in *Appendix B*.

## **8. REVIEW**

### **8.1. Review of Effectiveness and Efficiency of the Mitigation Measures**

The environmental monitoring results and findings from site inspection indicated that the construction activities in general were in compliance with the relevant environmental requirements and were environmentally acceptable. The effectiveness and efficiency of the mitigation measures were high as evidenced by no complaint, notification of summons or prosecution and non-compliance against EP condition were received.

### **8.2. Review of Environmental Monitoring Methodology and EM&A Programme**

The environmental monitoring methodologies and procedures were regularly reviewed by the ET. No modification to the existing monitoring methodology was made during the construction phase. As the monitoring results were in general below the predictions with mitigation measures in the EIA report, the EM&A programme was considered to be successfully conducted during the construction period of the Project.

## **9. CONCLUSIONS**

The site preparation works and EM&A programme commenced on 25<sup>th</sup> March 2010 and the construction works were commenced on 12<sup>th</sup> April 2010. The construction works of the Project were substantially completed in 17<sup>th</sup> December 2012.

Construction phase EM&A programme was completed on 17<sup>th</sup> December 2012. A certificate of the substantial completion of the Project is given in *Appendix E*.

Noise monitoring had been undertaken during the construction phase in accordance with the EM&A Manual. There was one monitoring stations for air quality and noise monitoring.

During the construction phase, there was no exceedance of the Limit level for noise monitoring.




During the construction phase, no complaint, notification of summons or prosecution was received. No non-compliance for general works and no non-compliance against EP condition were recorded.

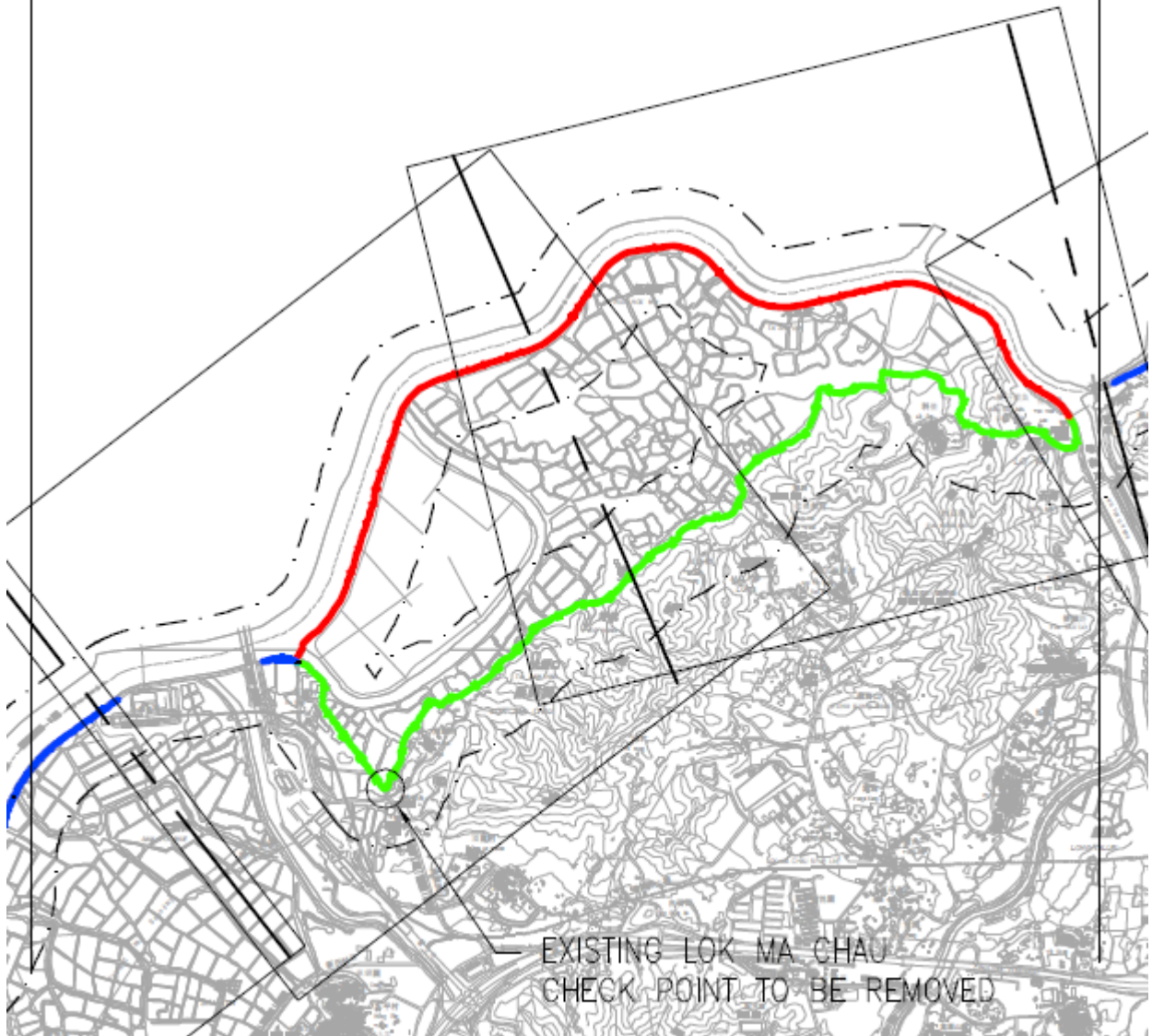
Mitigation measures had been implemented by the Contractor to minimize the environmental impacts due to construction activities. Site inspections carried out by ET showed that the Contractor rectified the problems observed and no major environmental deficiency was induced.

The environmental performance of the Contractor during the construction phase was considered satisfactory.

The monitoring results and statistics of non-compliance indicated that the EIA process with its recommended mitigation and EM&A programme were effective for protection of the environment and there was no unacceptable environmental impact posed by the Project.

# SECTION 2

-  PROPOSED SECONDARY BOUNDARY FENCE ALONG EXISTING BOUNDARY PATROL ROAD
-  PROPOSED NEW BOUNDARY PATROL ROAD WITH PRIMARY AND SECONDARY BOUNDARY FENCES
-  EXISTING BOUNDARY FENCE TO BE REMOVED



**CONSTRUCTION OF A SECONDARY BOUNDARY FENCE AND NEW SECTION OF PRIMARY BOUNDARY FENCE AND BOUNDARY PATROL ROAD (SECTION 2 LOK MA CHAU CONTROL POINT TO NG TUNG RIVER)**  
**SITE LOCATION PLAN**

Figure No. 1	Rev.: 0
Scale NTS	Date 01/13







**CONSTRUCTION OF A SECONDARY BOUNDARY FENCE AND NEW SECTION  
OF PRIMARY BOUNDARY FENCE AND BOUNDARY PATROL ROAD  
(SECTION 2 LOK MA CHAU CONTROL POINT TO NG TUNG RIVER)  
LOCATION OF NOISE MONITORING STATION**

Figure No.	Rev.:
2	0
Scale	Date
NTS	01/13

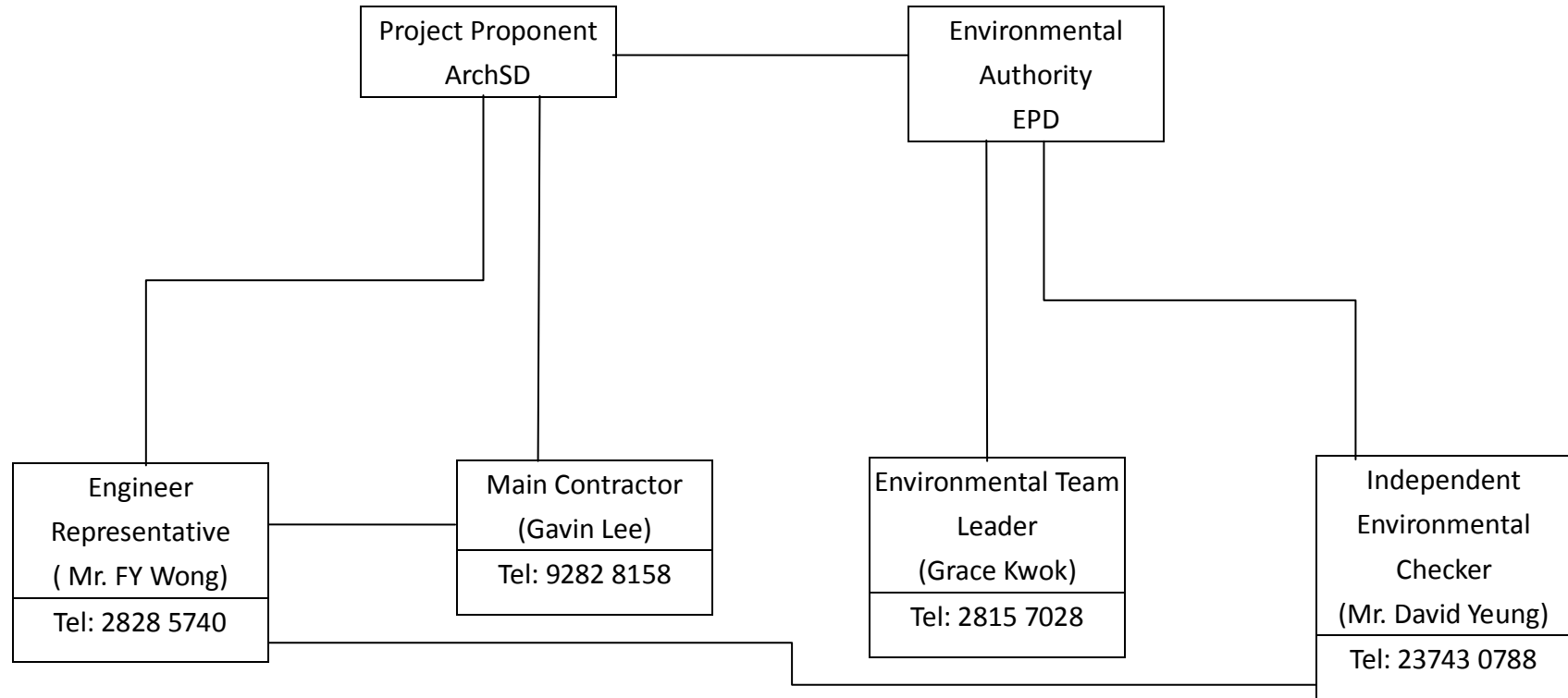


*Appendix A*

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*Organization Chart*

————— Line of communication



*Appendix B*

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*Summary of Environmental Mitigation Measures  
Implementation Schedule for Construction Stage*

## Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
<b><u>Air Quality</u></b>								
<b>During Construction</b>								
2.5.2	3.2.2	<p>The following good site practice should be implemented:</p> <ul style="list-style-type: none"> <li>any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading;</li> <li>the working area of excavation should be sprayed with water immediately before, during and immediately after the operations so as to maintain the entire surface wet;</li> <li>dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting;</li> <li>the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should paved with concrete, bituminous materials or hardcores;</li> </ul>	To minimize construction dust impact	Contractor	Construction Work Sites	During Construction	EIAO-TM, Air Pollution Control (Construction Dust) Regulation	*   *  ^  ^

Remarks:      ^      Implement mitigation measure in the reporting period;      X      Non-compliance of mitigation measure;  
                   N/A      Not Applicable in the reporting period;      \*      Not satisfactory but rectified by the contractor.

**Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
		<ul style="list-style-type: none"> <li>the portion of road leading only to a construction site that is within 30m of designated vehicle entrance or exit should be kept clear of dusty materials;</li> <li>all dusty materials should be sprayed with water prior to any loading, unloading or transfer;</li> <li>vehicle speed should be limited to 10kph except on completed access roads;</li> <li>every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> </ul>						^ * ^ ^
<b><u>Noise</u></b>								
<b>During Construction</b>								
3.8.14	4.8.1	<p>The following good site practical should be implemented:</p> <ul style="list-style-type: none"> <li>The Contractor shall adopt the Code of Practice on Good Management Practice to Prevent Violation of the Noise Control Ordinance (Chapter 400) (for Construction Industry) published by EPD;</li> <li>The Contractor shall observe and comply with the statutory and non-statutory requirements and guidelines;</li> </ul>	To mitigate construction noise impact	Contractor	Construction Work Sites	During Construction	EIAO-TM, NCO	^ ^

Remarks:      ^      Implement mitigation measure in the reporting period;      X      Non-compliance of mitigation measure;  
                   N/A      Not Applicable in the reporting period;      \*      Not satisfactory but rectified by the contractor.

**Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
		<ul style="list-style-type: none"> <li>• Before commencing any work, the Contractor shall submit to the Engineer Representative for approval the method of working, equipment and noise mitigation measures intended to be used at the site;</li> <li>• The Contractor shall devise and execute working methods to minimise the noise impact on the surrounding sensitive uses, and provide experienced personnel with suitable training to ensure that those methods are implemented;</li> <li>• Noisy equipment and noisy activities should be located as far away from the NSRs as is practical;</li> <li>• Unused equipment should be turned off. PME should be kept to a minimum and the parallel use of noisy equipment / machinery should be avoided;</li> <li>• Regular maintenance of all plant and equipment;</li> <li>• Material stockpiles and other structures should be effectively utilised as noise barriers, where practicable.</li> </ul>						<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">N/A</p>

Remarks:      ^      Implement mitigation measure in the reporting period;      X      Non-compliance of mitigation measure;  
                   N/A      Not Applicable in the reporting period;                    \*      Not satisfactory but rectified by the contractor.

**Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
3.8.1 -3.8.3	4.8.2 -4.8.3	<p>Other than good site practice, the Contractor is required to adopt Levels 1 and 2 site-specific direct mitigation measures as specified below during the construction phase.</p> <p>With construction / demolition work undertaken at a distance of 60m or less to the NSRs, below mitigation measures should be included:</p> <p><b>Level 1 – Use of Quiet Plant and Movable Noise Barrier</b></p> <ul style="list-style-type: none"> <li>• The Contractor shall obtain particular models of plant that are quieter than standards given in GW-TM.</li> <li>• Purpose-built movable noise barriers should be used to mitigate construction noise directly at sources that are not usually mobile provide that the direct line of sight to the source is blocked.</li> </ul>	To mitigate construction noise impact	Contractor	Construction work sites	During construction	EIAO-TM, NCO	N/A

Remarks:      ^      Implement mitigation measure in the reporting period;      X      Non-compliance of mitigation measure;  
                   N/A      Not Applicable in the reporting period;                    \*      Not satisfactory but rectified by the contractor.



**Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
3.8.9	4.8.4	<p>In addition to the use of quiet plant and movable noise barrier, alternative demolition method of existing boundary fence at Section 2-3 shall be used where demolition works would be undertaken at a distance of 12m or less to the NSRs. These particular mitigation measures should be included:</p> <p><b>Level 2 – Alternative Demolition Method of Existing Boundary Fence</b></p> <ul style="list-style-type: none"> <li>• The use of welder is recommended to replace the use of hand-held driller;</li> <li>• The use of hand-held breaker with movable noise barrier is recommended to replace the use of mini-robot mounted breaker; and the duration for the use of hand-held breaker is minimal as only the surface level of the footing to be broken; and</li> <li>• The removal of the footing of the existing boundary fence should be carried by concrete crusher mini-robot mounted after the surface level broken by hand-held breaker.</li> </ul>	To mitigate construction noise impact for demolition of existing boundary fence	Contractor	Construction work sites (Section 2 - 3)	Before the commencement of demolition works	EIAO-TM, NCO	^

Remarks:      ^      Implement mitigation measure in the reporting period;      X      Non-compliance of mitigation measure;  
                   N/A      Not Applicable in the reporting period;                    \*      Not satisfactory but rectified by the contractor.

## Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
<b><u>Water Quality</u></b>								
<b><u>During Construction</u></b>								
4.7.1	5.3.1	<p>Good site practices in addition to the implementation of mitigation measures would minimize the impact to the surrounding environment.</p> <p><i>General Prevention and Precaution Measures</i></p> <ul style="list-style-type: none"> <li>The site should be confined to avoid silt runoff to the site.</li> <li>No discharge of silty water into the storm drain and drainage channel within and the vicinity of the site.</li> <li>Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.</li> <li>Stockpiles to be covered by tarpaulin to avoid spreading of materials during rainstorms;</li> <li>Suitable containers shall be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;</li> </ul>	To avoid site runoff and chemical leakage	Contractor	Construction work sites	During construction	Practice Note for Professional Persons with regard to site drainage (ProPECC PN 1/94) and TM standard under the WPCO	<p>*</p> <p>^</p> <p>*</p> <p>^</p> <p>*</p> <p>*</p>

Remarks:     ^     Implement mitigation measure in the reporting period;                     X     Non-compliance of mitigation measure;  
                   N/A    Not Applicable in the reporting period;                                     \*     Not satisfactory but rectified by the contractor.

**Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
		<ul style="list-style-type: none"> <li>• Chemical waste containers shall be labelled with appropriate warning signs in English and Chinese to avoid accidents. there shall also be clear instructions showing what action to take in the event of an accidental;</li> <li>• Storage areas shall be selected at safe locations on site and adequate space shall be allocated to the storage area;</li> <li>• Any construction plant which causes pollution to the water system due to leakage of oil or fuel shall be removed off-site immediately;</li> <li>• Spillage or leakage of chemical waste to be controlled by using suitable absorbent materials;</li> <li>• Chemicals will always be stored on drip trays or in bunded areas where the volume is 110% of the stored volume;</li> <li>• Regular clearance of domestic waste generated in the temporary sanitary facilities to avoid waste water spillage.</li> <li>• Temporary sanitary facilities to be provided for on-site workers during construction.</li> </ul>						<p>*</p> <p>*</p> <p>N/A</p> <p>^</p> <p>*</p> <p>*</p> <p>^</p>

Remarks:      ^      Implement mitigation measure in the reporting period;      X      Non-compliance of mitigation measure;  
                   N/A      Not Applicable in the reporting period;                    \*      Not satisfactory but rectified by the contractor.

**Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
4.7.2 – 4.7.3	5.3.2-5.3.3	<p><b>Concreting Work</b></p> <p>A temporary drainage channel and associated facilities should be provided to collect the runoff generated and prevent concrete-contaminated water from entering watercourses. Adjustment of pH can be achieved by adding a suitable neutralising reagent to wastewater prior to discharge.</p> <p>The concreting works should be temporarily isolated with proper methods, such as</p>	To collect runoff generated and prevent concrete-contaminated water from entering watercourses	Contractor	Construction work sites	During construction	Practice Note for Professional Persons with regard to site drainage (ProPECC PN 1/94) and TM standard under the WPCO  CEDD General	^

Remarks:      ^      Implement mitigation measure in the reporting period;      X      Non-compliance of mitigation measure;  
                   N/A      Not Applicable in the reporting period;      \*      Not satisfactory but rectified by the contractor.

## Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
		by placing of sandbags or silt curtains with lead edge at bottom and properly supported props.	To prevent adverse impacts on the water quality of Lin Ma Hang Stream SSSI		Work sites of Section 3 in the proximity of Lin Ma Hang Stream SSSI		Specification- Protection of natural streams/rivers- Clause 25.09	N/A
4.7.4	5.3.4	<b>Soil Excavation and Stockpiling</b> Excavated soil which needs to be temporarily stockpiled should be stored in a specially designated area and provided with a tarpaulin cover to avoid runoff into the drainage channels.	To avoid site runoff	Contractor	Construction work Sites	During construction	Practice Note for Professional Persons with regard to site drainage (ProPECC PN 1/94) and TM standard under the WPCO	*

Remarks:        ^     Implement mitigation measure in the reporting period;  
                       N/A    Not Applicable in the reporting period;

                      X     Non-compliance of mitigation measure;  
                       \*     Not satisfactory but rectified by the contractor.

**Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
4.7.5 - 4.7.6	5.3.5-5.3.6	<p><b>Site Depot</b></p> <p>All compounds in works areas should be located on areas of hard standing with provision of drainage channels and settlement ponds where necessary to allow interception and controlled release of settled/treated water. Hard standing compounds should drain via an oil interceptor. The oil interceptor should be regularly inspected and cleaned to avoid wash-out of oil during storm conditions. A bypass should be provided to avoid overload of the interceptor's capacity. Any contractor generating waste oil or other chemicals as a result of his activities should</p>	To avoid wash-out of oil during storm conditions	Contractor	Construction work Sites	During construction	Practice Note for Professional Persons with regard to site drainage (ProPECC PN 1/94) and TM standard under the WPCO	N/A

Remarks:      ^      Implement mitigation measure in the reporting period;      X      Non-compliance of mitigation measure;  
                   N/A      Not Applicable in the reporting period;                    \*      Not satisfactory but rectified by the contractor.

## Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
		<p>register as a chemical waste producer. Disposal of the waste oil should be done by a licensed collector.</p> <p>Good housekeeping practices should be implemented to minimise careless spillage and to keep the storage and the work space in a tidy and clean condition.</p> <p>Appropriate training including safety codes and relevant manuals should be given to the personnel who regularly handle the chemicals on site.</p>						*
4.7.7	5.3.7	<p><b>Construction of Checkpoint</b></p> <p>Sewage system should be constructed to divert domestic sewage, which will be generated from the sanitary facilities provided in the new checkpoint at Shek Chung Au, to public sewer connected to government sewage treatment facilities.</p>	To avoid disposal of domestic sewage into watercourses.	Contractor	Construction work Site at Checkpoint	During construction	N/A	N/A
<b>Waste Management</b>								
<b>During Construction</b>								

Remarks:     ^     Implement mitigation measure in the reporting period;  
                   N/A    Not Applicable in the reporting period;

                  X     Non-compliance of mitigation measure;  
                   \*     Not satisfactory but rectified by the contractor.

## Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
5.6.7	6.3.6	<p><b>Site Clearance</b></p> <p>The topsoil and vegetation removed and excavated material may have to be temporarily stockpiled on-site. Control measures should be taken at the stockpiling area to prevent the generation of dust and pollution of stormwater channels, fish ponds or river channels. However, to eliminate the risk of blocking drains in the wet season, it is recommended that stockpiling of excavated materials during the wet season should be avoided as far as practicable.</p>	Prevent the generation of dust and pollution of storm water channels	Contractor	Construction work sites	During construction	Waste Disposal Ordinance (Cap.354); ETWBTC No. 15/2003, Waste Management on Construction Site	*
5.6.10 – 5.6.12	6.3.8	<p><b>Construction and Demolition Materials</b></p> <p>Careful design, planning and good site management can minimize over-ordering and generation of waste materials such as concrete mortars and cement grouts. The design of formwork should maximize the use of standard wooden panels so to achieve high reuse levels. Alternatives such as steel formwork or plastic facing should be considered to increase the potential for reuse.</p>	Minimize over-ordering and generation of waste materials	Contractor	Construction work sites	During construction	Waste Disposal Ordinance (Cap.354); ETWBTC No. 15/2003, Waste Management on Construction Site	^

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		<p>The Contractor should recycle as much of the C&amp;D materials as possible on-site. Proper segregation of waste on-site will increase the feasibility of certain components of the waste stream by the recycling contractors. Different areas of the worksite shall be designated for such segregation and storage wherever site conditions permit.</p> <p>Trip-ticket system should be employed to monitor the disposal of C&amp;D material and solid at public filling facilities and landfills, and to control fly-tipping.</p> <p>Government has established a differentiated charging scheme for the disposal of waste to landfill, construction waste sorting facilities and public fill facilities. This will provide additional incentives to reduce the volume of waste generated and to ensure proper segregation of wastes.</p>						^
5.6.13-5.6.14	6.3.9 – 6.3.13	<p><b>Chemical Waste</b></p> <p>For those processes which generate chemical waste, it may be possible to find alternatives which generate reduced quantities or even no chemical waste, or less dangerous types of chemical waste.</p>	To avoid chemical leakage	Contractor	Constructi on work sites	During construction planning	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes, Waste Disposal	^

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		<p>Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handed in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Waste as follows:</p> <p>Containers used for the storage of chemical wastes should:</p> <ul style="list-style-type: none"> <li>• be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;</li> <li>• have a capacity of less than 450 litres unless the specification have been approved by the EPD; and</li> <li>• display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations, <p>The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> <li>• be clearly labelled and used solely for the storage of chemical waste;</li> <li>• be enclosed on at least 3 sides;</li> <li>• have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area whichever is the greatest;</li> </ul> </li></ul>					(Chemical Waste) (General) Regulation	^  * *  ^  * *  ^ * *

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		<ul style="list-style-type: none"> <li>• have adequate ventilation;</li> <li>• be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary); and</li> <li>• be arranged so that incompatible materials are adequately separated.</li> </ul> <p>Disposal of chemical waste should:</p> <ul style="list-style-type: none"> <li>• be via a licensed waste collector; and</li> <li>• be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers, or</li> <li>• to be re-user of the waste, under approval from the EPD.</li> </ul>						^ ^ ^ ^ ^ ^ N/A
5.6.16	6.3.15	<p><b>General Refuse</b></p> <p>Should be stored in enclosed bins or compaction units separate from C&amp;D and chemical wastes. The Contractor should employ a reputable waste collector to remove general refuse from the site, separate from C&amp;D and chemical wastes, on a regular basis to minimise odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law.</p>	Minimise odour, pest and litter impacts	Contractor	Construction work sites	During construction	Public Health and Municipal Services Ordinance (Cap. 132)	*

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5.6.18	6.3.16	<p><b>Construction Waste Management Plan</b></p> <p>A construction waste management plan (CWMP) should be prepared and developed by the contractor to ensure proper collection, treatment and disposal of waste on site. This CWMP will also take into account the requirement to handle chemical wastes on site which will need to be managed by a licensed waste collection contractor.</p>	Waste management during construction	Contractor	Construction work sites	During construction	ETWB TCW No. 19/2005, Waste Management on Construction Sites	^
<b><u>Ecology</u></b>								
Table 6.38	7.2	<p><b>Ecological Impacts on Floral Species of Conservation Concern</b></p> <p>Erection of protective fencing to protect the plant during construction period</p>	Protect the plant during construction period	Contractor	Construction work sites	During construction	EIAO	^

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Table 6.40	7.2	<p><b>Potential Ecological Impacts on Offsite Habitats</b></p> <p>Good site practices for controlling the dust and water quality (avoid stockpiles adjacent to wetlands, covering the stockpiles with impervious sheeting, control of vehicle speed, no discharge of silty water to the rivers, streams and drainage channels);</p> <p>Clear definition of works limit to avoid impact on adjacent habitats</p>	To avoid site runoff and dust impact	Contractor	Construction work sites	During construction	EIAO / Air Pollution Control (Construction Dust) Regulation / WPCO	*

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Table 6.39-T able 6.45	7.2	<p><b>Disturbance to Wetland-Dependent Birds, Raptors, Terrestrial Birds and Egretry</b></p> <p>Good working practices include switching off unused equipment, keep minimum number of powered mechanical equipment in operation at the same period, the use of stockpiles and other structures to form noise barriers where practicable, avoidance of feeding the wildlife to cause disturbance, site confinement and proper cover of stockpiles with impervious sheeting to minimize construction noise, uncontrolled surface runoff and discharge of silts;</p> <p>Avoidance of construction works using Power Mechanical Equipments within the Wetland Conservation Area during bird migratory season (15th November – 15th March); and</p> <p>Restriction of excavation works within a 150m buffer zone from the egretry to ardeid non-breeding season (from August to February).</p>	To minimize disturbance to wildlife	Contractor	Constructi on work sites	During construction	EIAO / Air Pollution Control (Construction Dust) Regulation / WPCO	^
<b><u>Cultural Heritage</u></b>								

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8.7.1 – 8.7.4	8.1.1 - 8.1.4	An archaeological survey should be undertaken at the study areas of Pak Fu Shan and Lin Ma Hang of Section 3 after land resumption and before commencement of construction works	Assess the archaeological impact on the two identified sites of archaeological potential.	Contractor (through professional archaeologist)	The study areas of Pak Fu Shan and Lin Ma Hang of Section 3	After land resumption and before commencement of construction works	Antiquities and Monuments Ordinance / EIAO	N/A

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8.7.6	8.2.1	<p>Built Heritage Resources</p> <p>Mitigation in the form of buffer zones and safe public access have been proposed for one shrine (BF-HB1) and two graves (BF-G1 and G2)</p> <p><b>BF-HB1</b></p> <p>A buffer zone of a minimum distance of 1 metres should be established between the shrine and any construction works in close proximity. The buffer zone should be marked out by temporary fencing. Safe public access should be provided to the shrine during any construction works in close proximity.</p> <p><b>BF-G1 and BF-G2</b></p> <p>A buffer zone of a minimum distance of 1 metres should be established between the graves and any construction works in close proximity. The buffer zone should be marked out by temporary fencing. Safe public access should be provided to the graves during any construction works in close proximity.</p>	Avoid impacts to built heritage resources	Contractor	The works that are located in the vicinity of built heritage resources (BF-HB1 and BF-G1 and G2)	During Construction	EIAO	N/A

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<b><u>Landscape and Visual</u></b>								
Preservation of Existing Vegetation								
Table 7-13 CP1	Table 9-1	<ul style="list-style-type: none"> <li>To retain trees that have high amenity or ecology value and contribute most to the landscape and visual amenity of the site and its immediate environs.</li> </ul>	Preservation of Existing Vegetation	Project Landscape Architect / Contractor	Site	Throughout construction phase	TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006	^
Table 7-13 CP1	Table 9-1	<ul style="list-style-type: none"> <li>Creation of precautionary area around trees to be retained equal to half of the trees canopy diameter. Precautionary area to be fenced.</li> </ul>	To ensure the success of the tree preservation proposals.	Project Landscape Architect / Contractor	Site	Before construction phase commences	TM-EIA	^
Table 7-13 CP1	Table 9-1	<ul style="list-style-type: none"> <li>Prohibition of the storage of materials including fuel, the movement of construction vehicles, and the refuelling and washing of equipment including concrete mixers within the precautionary area.</li> </ul>	To ensure the success of the tree preservation proposals.	Project Landscape Architect / Contractor	Site	Throughout construction phase	TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006	^

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Table 7-13 CP1	Table 9-1	<ul style="list-style-type: none"> <li>Phased segmental root pruning for trees to be retained and transplanted over a suitable period (determined by species and size) prior to lifting or site formation works which affect the existing rootball of trees identified for retention. The extent of the pruning will be based on the size and the species of the tree in each case.</li> </ul>	To ensure the success of the tree preservation proposals.	Project Landscape Architect / Contractor	Site	Throughout construction phase	TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006	^
Table 7-13 CP1	Table 9-1	<ul style="list-style-type: none"> <li>Pruning of the branches of existing trees identified for transplantation and retention to be based on the principle of crown thinning maintaining their form and amenity value.</li> </ul>	To ensure the success of the tree preservation proposals.	Project Landscape Architect / Contractor	Site	Throughout construction phase	TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006	^
Table 7-13 CP1	Table 9-1	<ul style="list-style-type: none"> <li>The watering of existing vegetation particularly during periods of excavation when the water table beneath the existing vegetation is lowered.</li> </ul>	To ensure the success of the tree preservation proposals.	Project Landscape Architect / Contractor	Site	Throughout construction phase	TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006	^
Table 7-13 CP1	Table 9-1	<ul style="list-style-type: none"> <li>The rectification and repair of damaged vegetation following the construction phase to its original condition prior to the commencement of the works or replacement using specimens of the same species, size and form where appropriate to the design intention of the area affected</li> </ul>	To ensure the success of the tree preservation proposals.	Project Landscape Architect / Contractor	Site	Throughout construction phase	Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006	N/A

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Table 7-13 CP1	Table 9-1	<ul style="list-style-type: none"> <li>All works affecting the trees identified for retention and transplantation will be carefully monitored. This includes the key stages in the preparation of the trees, the implementation of protection measures and health monitoring throughout the construction period</li> </ul>	To ensure the success of the tree preservation proposals.	Project Landscape Architect / Contractor	Site	Throughout construction phase	TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006	^
Table 7-13 CP1	Table 9-1	<ul style="list-style-type: none"> <li>Detailed landscape and tree preservation proposals will be submitted to the relevant government departments for approval under the lease conditions and in accordance with ETWB TCW No. 2/2004 and WBTC No. 3/2006.</li> </ul>	To ensure the tree preservation and planting proposals are integrated with the existing landscape context and that the landscape resources are preserved where appropriate.	Project Landscape Architect / Contractor	Site	Throughout construction phase	TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006	^

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Table 7-13 CP1	Table 9-1	<ul style="list-style-type: none"> <li>The tree preservation works should be implemented by approved Landscape Contractors and inspected and approved on site by a qualified Landscape Architect. A tree protection specification would be included within the contract documents.</li> </ul>	To ensure the tree preservation and planting proposals are integrated with the existing landscape context and that the landscape resources are preserved where appropriate.	Contractor	Site	Throughout construction phase	TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006	^	
		<b>Preservation of Existing Topsoil</b>							
Table 7-13 CP2	Table 9-1	<ul style="list-style-type: none"> <li>Topsoil disturbed during the construction phase should be tested using a standard soil testing methodology and where it is found to be worthy of retention stored for re-use.</li> </ul>	To provide a viable growing medium suited to the existing conditions and reduce the need for the importation of top soil.	Contractor	Site	Throughout construction phase	TM-EIA Annex 18	^	

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Table 7-13 CP2	Table 9-1	<ul style="list-style-type: none"> <li>The soil will be stockpiled to a maximum height of 2m and will be either temporarily vegetated with hydroseeded grass during construction or covered with a waterproof covering to prevent erosion.</li> </ul>	To provide a viable growing medium suited to the existing conditions and reduce the need for the importation of top soil.	Contractor	Site	Throughout construction phase	TM-EIA Annex 18	^
Table 7-13 CP2	Table 9-1	<ul style="list-style-type: none"> <li>The stockpile should be turned over on a regular basis to avoid acidification and the degradation of the organic material, and reused after completion. Alternatively, if this is not practicable, it should be considered for use elsewhere, including other projects.</li> </ul>	To provide a viable growing medium suited to the existing conditions and reduce the need for the importation of top soil.	Contractor	Site	Throughout construction phase	TM-EIA Annex 18	^
<b>Permanent and Temporary Works Areas</b>								

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Table 7-13 CP3	Table 9-1	<ul style="list-style-type: none"> <li>Where appropriate to the final design the landscape of these works areas should be restored following the completion of the construction phase.</li> </ul>	To minimise the disturbance to existing landscape resources and change of visual amenity.	Contractor	Site	Through out construction phase	TM-EIA Annex 18	N/A
Table 7-13 CP3	Table 9-1	<ul style="list-style-type: none"> <li>Construction site controls should be enforced including the storage of materials, the location and appearance of site accommodation and the careful design of site lighting to prevent light spillage.</li> </ul>	To minimise the disturbance to existing landscape resources and change of visual amenity.	Contractor	Site	Through out construction phase	TM-EIA Annex 18	^
<b>Mitigation Planting</b>								
Table 7-13 CP4	Table 9-1	<ul style="list-style-type: none"> <li>Replanting of disturbed vegetation should be undertaken at the earliest possible stage of the construction phase</li> </ul>	To minimise the disturbance to existing landscape resources and change of visual amenity.	Contractor	Site	Through out construction phase	TM-EIA Annex 18	N/A

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Table 7-13 CP4	Table 9-1	<ul style="list-style-type: none"> <li>Use of native plant species predominantly in the planting design for the buffer areas.</li> </ul>	To minimise the disturbance to existing landscape resources and change of visual amenity.	Contractor	Site	Through out construction phase	TM-EIA Annex 18	N/A
Table 7-13 CP4	Table 9-1	<ul style="list-style-type: none"> <li>The tree planting works should be implemented by approved Landscape Contractors and inspected and approved on site by a qualified Landscape Architect. A tree planting specification would be included within the contract documents.</li> </ul>	To minimise the disturbance to existing landscape resources and change of visual amenity.	Contractor	Site	Through out construction phase	TM-EIA Annex 18	^
<b>Transplantation of Existing Trees</b>								
Table 7-13 CP5	Table 9-1	<ul style="list-style-type: none"> <li>The tree transplanting works should be implemented by approved Landscape Contractors and inspected and approved on site by a qualified Landscape Architect. A tree protection / transplanting specification would be included within the contract documents.</li> </ul>	To minimise the disturbance to existing landscape resources and minimize the impacts on the visual amenity of the area.	Contractor	Site	Prior to the commencement of the proposed works	TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006	^
<b>Design of the Fence and associated Structures</b>								

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Table 7-14 OP1	Table 9-2	<ul style="list-style-type: none"> <li>Design of Boundary Fence, Boundary Patrol Road and Police Check Point – These structural elements will be designed in accordance with security requirement from Police Force and incorporate design features as part of design mitigation measures including:</li> </ul>	Responsive design to integrate the proposals into their landscape and visual context.	ArchSD	Site	Throughout design phase	TM-EIA Annex 18 and BD	^
		<ol style="list-style-type: none"> <li>Integrated design approach – the boundary fence should be integrated, as far as technically feasible, with existing built structures such as existing road, footpath and track and embankment of fishponds, river and drainage channel as part of design mitigation measures to reduce the potential cumulative impact of the proposed works. The location and orientation of the police check points should be away from landscape and visually sensitive areas such as wetland, fishpond and agricultural field.</li> </ol>						^
		<ol style="list-style-type: none"> <li>Building massing - the proposed use of simple responsive design for the built structures with a low building height profile to reduce the potential visual mass of the structure within a rural context.</li> </ol>						N/A

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		3. Treatment of built structures - the architectural design should seek to reduce the apparent visual mass of the facilities further through the use of natural materials such as wooden frame, vertical greening or other sustainable materials such as recycled plastic.						N/A
		4. Responsive building and fence finishes - In terms of the proposed finishes natural tones should be considered for the colour palette with non-reflective finishes are recommended to reduce glare effect. The use of colour blocking on the proposed fence could be used to break up the visual mass of the structure.						N/A

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		<p>5. Responsive lighting design – Aesthetic design of architectural and track lighting with following glare design measures:</p> <ul style="list-style-type: none"> <li>▪ Directional and full cut off lighting is recommended particularly for areas adjacent to existing village to minimise light spillage.</li> <li>▪ Minimise geographical spread of lighting, only applied for safety and security reasons;</li> <li>▪ Limited lighting intensity to meet the minimum safety and operation requirement; and</li> <li>▪ High-pressure sodium road lighting is recommended for more stringent light control reducing spillage and thus visual impacts.</li> </ul>						N/A
<b>Compensatory Planting Proposals</b>								
Table 7-14 OP2	Table 9-2	<ul style="list-style-type: none"> <li>• Utilise native to Hong Kong will be utilized within the buffer planting areas.</li> </ul>	Planting will serve to visually integrate the proposals within the existing landscape framework.	Contractor	Site	Throughout design phase	TM-EIA Annex 18, HKPSG and BD	N/A

Remarks:      ^      Implement mitigation measure in the reporting period;      X      Non-compliance of mitigation measure;  
                   N/A      Not Applicable in the reporting period;      \*      Not satisfactory but rectified by the contractor.

## Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve?	Status
Table 7-14  OP 2 / 3	Table 9-2	<ul style="list-style-type: none"> <li>A qualified or registered landscape architect will be involved in the design, construction supervision and monitoring, and maintenance period to oversee the implementation of the recommended landscape and visual mitigation measures including the tree preservation and landscape works on site.</li> </ul>	Provide a linkage with the existing wooded areas creating a more coherent landscape framework whilst also improving the ecological connectivity between existing and proposed woodland habitats.	Contractor	Site	Throughout design phase	TM-EIA Annex 18, HKPSG and BD	^
Table 7-14  OP 2	Table 9-2	<ul style="list-style-type: none"> <li>Tree and Shrub Planting – Given the rural nature of the proposed alignment it is recommended that the where possible tree and shrub species which are native to Hong Kong be used. In addition where possible the planting of new trees and shrubs will aim to link together existing woodland areas and small tree groups to improve the connectivity between habitats and create more coherent landscape framework. The planting of small groups of trees along the alignment of the proposed fence will serve to de-emphasise the horizontality of the fence structure and provide for better sense of visual integration with the landscape context. Where practicable vertical greening measures should also be considered on engineering structures.</li> </ul>	The planting proposal seeks to compensate for the predicted tree loss.	Contractor	Site	Throughout design phase	TM-EIA Annex 18, HKPSG and BD	N/A

Remarks:        ^     Implement mitigation measure in the reporting period;  
                       N/A    Not Applicable in the reporting period;

                      X     Non-compliance of mitigation measure;  
                       \*     Not satisfactory but rectified by the contractor.

## **Appendix B Summary of Environmental Mitigation Implementation Schedule for Construction Stage**

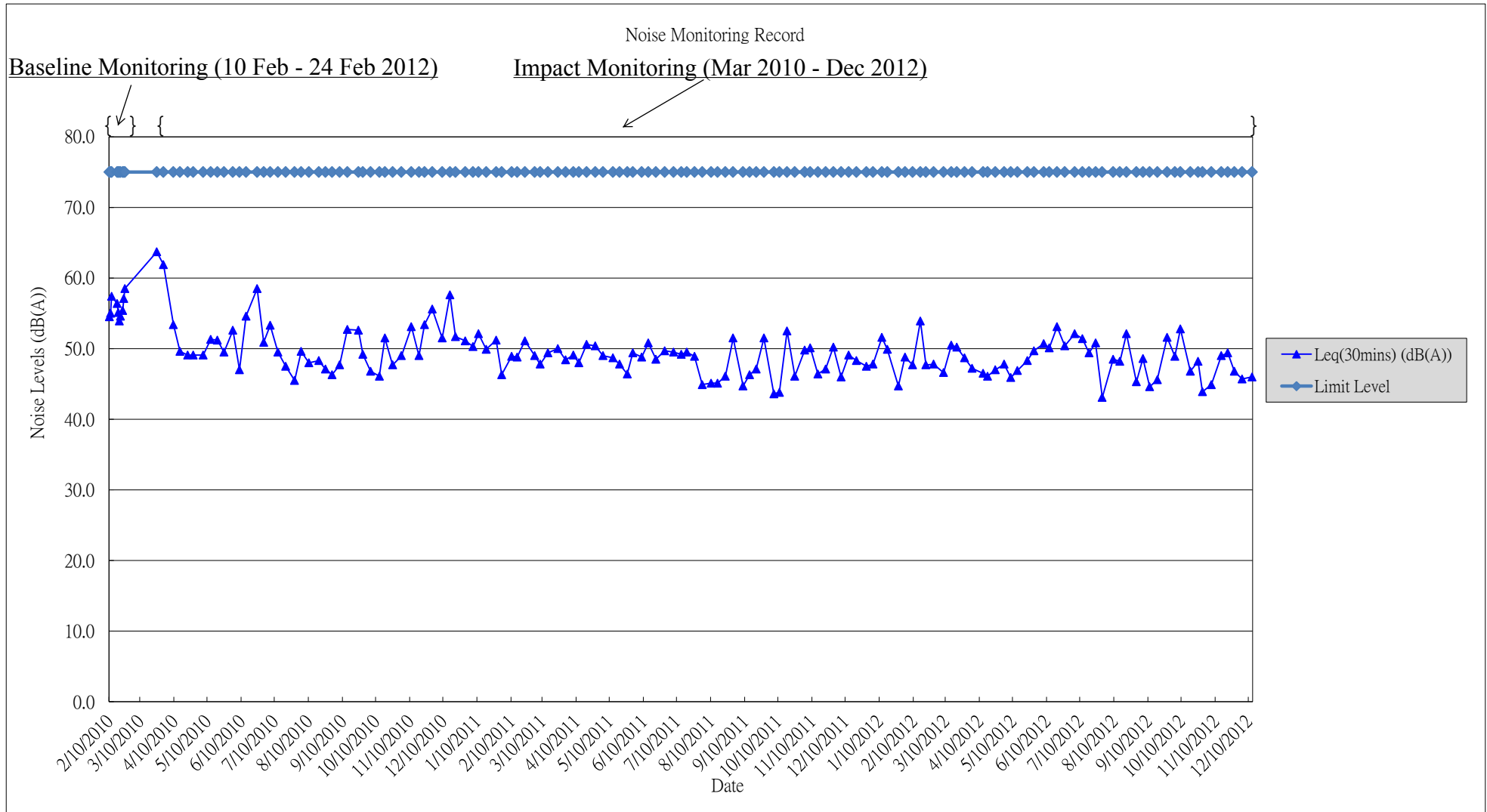
<b>EIA Ref.</b>	<b>EM&amp;A Log Ref.</b>	<b>Recommended Mitigation Measures</b>	<b>Objectives of the Recommended Measures &amp; Main Concerns to address</b>	<b>Who to implement the measure?</b>	<b>Location of the measure</b>	<b>When to implement the measure?</b>	<b>What requirements or standards for the measure to achieve?</b>	<b>Status</b>
Table 7-14  OP 3	Table 9-2	<ul style="list-style-type: none"> <li>Compensatory Planting Proposals – Given the works extent is largely limited along existing roadside embankment to minimise impact to existing village settlements and valuable landscape resources such as wetland, fishpond, stream course and existing trees, and considered the importance of tree retention within the works area, new tree planting will concentrate in selected new amenity areas along the alignment, infilling between retained and transplanted trees. The preliminary planting proposals for the proposed works include the planting of some 357 new trees utilising a combination of mature to light standard sized stock (i.e. approximately 15% of mature trees, 75% of standard trees, and 10% light standard trees). These trees will be planted in woodland clumps and small tree groups at strategic locations to de-emphasise the horizontality of the fence alignment. Based on preliminary findings the proposed planting will result in a compensatory planting ratio of 1:1 (new planting: trees recommended for felling). This compares favourably with the report's assertion that some 357 trees would be felled due to the proposed works. With the proposed preservation of existing trees, transplantation of trees in conflict with the proposals and the planting of new trees the project area will contain approximately 2000 trees. Trees forming part of the new planting will provide screening to neighbourhood villagers and will utilise species native to Hong Kong. These proposals will be subject to review at detailed design stage of the project.</li> </ul>	The planting proposal seeks to compensate for the predicted tree loss.	Contractor	Site	Throughout design phase	TM-EIA Annex 18, HKPSG and BD	N/A

Remarks:        ^        Implement mitigation measure in the reporting period;        X        Non-compliance of mitigation measure;  
                       N/A        Not Applicable in the reporting period;                                \*        Not satisfactory but rectified by the contractor.

*Appendix C*

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*Summary of Noise Monitoring Record*



*Appendix D*

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*Summary of Waste Flow Table*

Contract No. / Works Order No.: - SS W 306**Monthly Summary Waste Flow Table for 2012**(year) [to be submitted not later than the 15<sup>th</sup> day of each month following reporting month]

(All quantities shall be rounded off to 3 decimal places.)

Month	Actual Quantities of Inert Construction Waste Generated Monthly				
	(a)=(b)+(c)+(d)+(e) Total Quantity Generated	(b) Broken Concrete (see Note 4)	(c) Reused in the Contract	(d) Reused in other Projects	(e) Disposed of as Public Fill
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )
Jan	0	0	0	0	0
Feb	0	0	0	0	0
Mar	0	0	0	0	0
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0
Sub-total	0	0	0	0	0
Jul	0	0	0	0	0
Aug	0.130	0	0	0	0.130
Sep	0.514	0	0	0	0.514
Oct	0.182	0	0	0	0.182
Nov	0.013	0	0	0	0.013
Dec	0.007	0	0	0	0.007
Total	0.846	0	0	0	0.846



Month	Actual Quantities of Non-inert Construction Waste Generated Monthly												
	Timber		Metals		Paper/ cardboard packaging		Plastics (see Note 3)		Chemical Waste		Other Recyclable Materials (pls. specify)		General Refuse disposed of at Landfill
	(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000m <sup>3</sup> )
	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0.013
Apr	0	0	0	0	0	0	0	0	0	0	0	0	0.007
May	0	0	0	0	0	0	0	0	0	0	0	0	0.007
Jun	0	0	0	0	0	0	0	0	0	0	0	0	0.007
Sub-total	0	0	0	0	0	0	0	0	0	0	0	0	0.034
Jul	0	0	0	0	0	0	0	0	0	0	0	0	0.013
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0.007
Sep	0	0	0	0	0	0	0	0	0	0	0	0	0.007
Oct	0	0	0	0	0	0	0	0	0	0	0	0	0.026
Nov	0	0	0	0	0	0	0	0	0	0	0	0	0.059
Dec	0	0	0	0	0	0	0	0	0	0	0	0	0.052
Total	0	0	0	0	0	0	0	0	0	0	0	0	0.198

Description of mode and details of recycling if any for the month e.g. XX kg of used timber was sent to YY site for transformation into fertilizers					

- Notes:
- (1) The performance targets are given in the Particular Specification on Environmental Management Plan.
  - (2) The waste flow table shall also include construction waste that are specified in the Contract to be imported for use at the site.
  - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
  - (4) Broken concrete for recycling into aggregates.
  - (5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m<sup>3</sup> by volume.

Contract No.: SS W306

**Monthly Summary Waste Flow Table for 2011**(year)[to be submitted not later than the 15<sup>th</sup> day of each month following reporting month]

(All quantities shall be rounded off to 3 decimal places.)

Month	Actual Quantities of Inert Construction Waste Generated Monthly					Actual Quantities of Non-inert Construction Waste Generated Monthly				
	(a)=(b)+(c)+(d)+(e)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
	Total Quantity Generated	Broken Concrete (see Note 4)	Reused in the Contract	Reused in other Projects	Disposed of as Public Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse disposed of at Landfill
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0.026
Apr	0	0	0	0	0	0	0	0	0	0.033
May	0	0	0	0	0	0	0	0	0	0.026
Jun	0	0	0	0	0	0	0	0	0	0.052
Sub-total	0	0	0	0	0	0	0	0	0	0.137
Jul	0	0	0	0	0	0	0	0	0	0.007
Aug	0	0	0	0	0	0	0	0	0	0.046
Sep	0	0	0	0	0	0	0	0	0	0.039
Oct	0	0	0	0	0	0	0	0	0	0.013
Nov	0	0	0	0	0	0	0	0	0	0.137
Dec	0	0	0	0	0	0	0	0	0	0.007
Total	0	0	0	0	0	0	0	0	0	0.386

- Notes:
- (1) The performance targets are given in the Particular Specification on Environmental Management Plan.
  - (2) The waste flow table shall also include construction waste that are specified in the Contract to be imported for use at the site.
  - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
  - (4) Broken concrete for recycling into aggregates.
  - (5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m<sup>3</sup> by volume.

Name of Department : Architectural Services Department

Contract No. : SSW306  
 Programme No. : 15 GB

**Monthly Summary Waste Flow Table for 2010** (year) [to be submitted not later than the 15<sup>th</sup> day of each month following reporting month]

(All quantities shall be rounded off to 3 decimal places.)

Month	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of C&D Wastes Generated Monthly				
	(a)=(b)+(c)+(d)+(e) Total Quantity Generated	(b) Broken Concrete (see Note 4)	(c) Reused in the Contract	(d) Reused in other Projects	(e) Disposed as Public Fill	(f) Metals	(g) Paper/ cardboard packaging	(h) Plastics (see Note 3)	(i) Chemical Waste	(j) Others, e.g. general refuse disposed at Landfill
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0.085
Apr	1.905	0	0	0	1.905	0	0	0	0	1.125
May	4.160	0	0	0	4.160	0	0	0	0	1.463
June	4.258	0	0	0	4.258	0	0	0	0	0.631
Sub-total	10.323	0	0	0	10.323	0	0	0	0	3.304
July	3.361	0	0	0	3.361	0	0	0	0	0.020
Aug	2.392	0	0	0	2.392	0	0	0	0	0.026
Sept	0	0	0	0	0	0	0	0	0	0.039
Oct	0.013	0	0	0	0.013	0	0	0	0	0.046
Nov	0	0	0	0	0	0	0	0	0	0.052
Dec	0	0	0	0	0	0	0	0	0	0.007
Total	16.089	0	0	0	16.089	0	0	0	0	3.494

- Notes: (1) The performance targets are given in the Particular Specification on Waste Management Plan, Sub-clause 2(5)(c).  
 (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.  
 (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.  
 (4) Broken concrete for recycling into aggregates.  
 (5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m<sup>3</sup> by volume.

*Appendix E*

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*Certificate of Completion*



Our ref SHC/JK/FYW/LW/KL/C216727/306/03/L-0390  
 T 2828 5757  
 E [james.kam@mottmac.com.hk](mailto:james.kam@mottmac.com.hk)  
 Your ref 23909/01/S1086

Able Engineering Company Limited  
 155 Waterloo Road  
 Kowloon Tong  
 Kowloon, Hong Kong

FAXED

**Attn: Mr. Gavin Lee**

9 January 2013  
 By Post & Fax  
 2796 0515

Dear Sirs,

**Contract No. SS W306 – Construction of a Secondary Boundary Fence and  
 New Section of Primary Boundary Fence and Boundary Patrol Road  
 from Lok Ma Chau Control Point to Ng Tung River  
 (Programme No. 15GB)  
Certificate of Completion**

In accordance with Clause 53 of the General Conditions of Contract I hereby certify that, in my opinion, the Works were substantially completed on 17 December 2012.

The Maintenance Period for the above stated Works commenced on 18 December 2012 and will expire on 17 December 2013. For tree related works, the maintenance period will be commenced upon your completion of the planting works and to be advised separately.

Yours faithfully  
 for MOTT MACDONALD HONG KONG LIMITED

James Kam

c.c. ArchSD: Mr. W.K. Yiu (CPM203)  
 Mr. Laurence Kwan (SPM225) / Mr. Francis Fok (PM254)  
 Mr. Felix Cheng (PM245/QS)  
 Ms. Jacinta Chow (SPM239/LA)  
 Mr. T.Y. Chung (CCOW/5)  
 Mr. Vincent Lee / P.H. Lo (ER/COW)  
 Mr. W.H. Wan (ER/BSI)  
 F&A: Ms. Venus Yau  
 ADI: Mr. Christopher Foot / Ms. Elsa Kwong  
 HKPF: Mr. Dustin Ng  
 Site Office: Mr. Peter Tsang (RE) / Mr. Paul Chong (PCOW) / Mr. Jack Leung (PBSI)