KINGSFORD ENVIRONMENTAL (H.K.) LTD.

Consultancy Engineering & Contracting

CONTRACT NO. DE/2005/03

SUPPLY AND INSTALLATION OF ELECTRICAL AND MECHANICAL EQUIPMENT FOR EXPANSION OF SHEK WU HUI SEWAGE TREATMENT WORKS

ENVIRONMENTAL MONITORING AND AUDIT

MONTHLY EM&A REPORT NO. 5

OCTOBER 2006

for

The Biwater Man Lee Limited

Submitted by

Kingsford Environmental (H.K.) Ltd.

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Mr. Stanley Lau

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Title	Name	No. of Copies	
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E&M Contractor (The Biwater Man Lee Limited)	Mr. W. S. Lui	1	
Independent Environmental Checker (CH2M HILL Hong Kong Limited)	Mr. David Yeung	1	

EXECUTIVE SUMMARY

This is the fifth monthly Environmental Monitoring and Audit (EM&A) Report for the Drainage Services Department Contract No. DE/2005/03 entitled "Supply and Installation of Electrical and Mechanical Equipment for Expansion of Shek Wu Hui Sewage Treatment Works". This report contains the results of the environmental monitoring for verification of mitigation implementation conducted by the Environmental Team (ET) of the E&M Contractor as required in the contract.

For the environmental monitoring activities, Action and Limit (A/L) Levels are defined levels of impact recorded which represent levels at which a prescribed response is required. Action Limit is an indication of a deteriorating ambient environment for which appropriate remedial actions are likely to be necessary to prevent environmental quality from falling outside the Limit Levels. If these are exceeded, construction works should not be preceded without appropriate remedial action, including critical review of the methods. Baseline monitoring was conducted by the Civil Contractor in November 2005 (Report No. 01284R0012).

The work activities this month consisted of installation of E&M equipment at pH Control System and excavation work for the connection of electricity supplies to the E&M Contractor's site office. In addition, testing and commissioning of E&M equipment at Final Sedimentation Tank No. 7 was conducted. Note that Final Sedimentation Tank No. 7 was handover to DSD for operation on 6 October 2006.

Site inspections by an Environmental Team were carried out on 3, 4, 10, 17, 24 and 31 of October 2006 with the representatives of the Engineer.

No deficiency was found during the site inspections for October 2006. Work activities and mitigation measures were in compliance with the environmental protection regulations, contract requirement and environmental permit.

The monthly EM&A meeting was held on 6 October 2006 with all of the parties (DSD, Civil and E&M contractors, ETs, and the IEC) involved.

There was no complaint received or notification of summons or successful prosecution during October 2006.

There was no reporting change during the reporting month.

The planned activities for November 2006 – January 2007 as regards E&M equipment are mainly the installation and T&C (if required) for the pH Control System.

1 Introduction

This is the fifth monthly Environmental Monitoring and Audit (EM&A) Report for the Drainage Services Department Contract No. DE/2005/03 entitled "Supply and Installation of Electrical and Mechanical Equipment for Expansion of Shek Wu Hui Sewage Treatment Works". The report was prepared by the Environmental Team, Kingsford Environmental (H.K.) Ltd., of the E&M Contractor, Biwater Man Lee Limited. This report is submitted to the Client, the Drainage Services Department, and her Independent Environmental Checker, CH2M HILL Hong Kong Limited, for the project. In addition, this report is to be submitted to EPD in accordance with the requirement of the environmental permit (EP218-2005) and EM&A manual of the project.

This report only presents the results of the environmental auditing of the project activities regarding the E&M equipment installation conducted in the month of October 2006. The auditing works include regular site inspections for verification of the mitigation measures implementation as recommended in the EM&A Manual and as detailed in the Project Profile for the project.

The contact information for the key personnel is updated in Appendix 1.

The job nature of the E&M contractor is mainly for installation of E&M equipment, all hand-held's breakers, bulldozer, concrete lorry mixer, dump truck and hand-held's poker, vibratory would not be used so that the impact from noise and dust would be low. Also, the distance to the nearest sensitive receivers is large. Therefore, the potential environmental impact imposed to the sensitive receivers would be low. Routine environmental monitoring would be considered when deficiency is found or complaint is received.

The sensitive receivers, locations of monitoring and control stations, action and limited levels and event/action plan are shown in Appendix 2.

2 Work Activities during the Month

The work activities this month consisted of installation of E&M equipment at pH Control System and excavation work for the connection of electricity supplies to the E&M Contractor's site office. In addition, testing and commissioning of E&M equipment at Final Sedimentation Tank No. 7 was conducted. Note that Final Sedimentation Tank No. 7 was handover to DSD for operation on 6 October 2006.

The activities and dates of occurrence of each activity are summarized below in Table 1. The Construction Programme is shown in Appendix 3.

Contract No. DE/2005/03 Revision: B Rev. Date: 7/11/06

Table 1: Work Activities for October 2006

Final Sedimentation Tank No. 7					
Testing and commissioning of E&M equipment 27 Sep '06 – 6 Oct '06					
pH Control System					
Installation of E&M equipment 18 Jun '06 – 30 Nov					
Site Office					
Excavation work for the connection of electricity supplies	28 Oct '06 and 31 Oct '06				

^{*} Scheduled dates only for completion of the activities.

3 Status of Environmental Protection

Air Quality

Appropriate mitigation measures for the activities are in place. Plastic covers with stakes/weights are readily available and used for covering of exposed material for control of dust. Water spray is available for dust suppression, if necessary.

Water Quality

The plastic covers for exposed soil, etc. are available for minimization of silt in the run-off water during rainstorms, if necessary. Note that wastewater generated from the off-site project office was collected in a storage tank and tanker-away regularly by a licensed collector.

Anti-mosquito preventive measures, e.g. regular removal of stagnant water (if possible) and/or spraying larvicide (if necessary) at any site area, are taken for mosquito control and prevention, particularly for control of Dengue Fever and Japanese Encephalitis diseases.

Noise

Plants with low noise emittance are preferred and are operated/maintained to reduce noise. In this reporting month, work was carried out during normal working hours (7am – 7pm Monday to Saturday) or otherwise specified in the contract. In the event of a schedule change such that construction work would be performed during the restricted hours (11pm – 7am and during general public holidays including Sundays), a Construction Noise Permit would be required.

Waste / Chemical Management

The construction waste materials are preferred to be removed promptly from the site. Recyclable hard inert C&D materials should be taken to a public filling area (the fill bank at WENT landfill at Nim Wan) whereas the non-inert C&D waste should be disposed of to NENT landfill at Ta Kwu Ling or other disposal site approved by the control authority. Note that the inert C&D materials should be reduced, reused and recycled if possible, before disposal. Any substance identified as chemical waste would be disposed of properly by a licensed collector. A trip ticket system for the disposal of C&D waste should be conducted as required by the Waste Management Plan. Rubbish bins are provided on-site for collecting general refuses as necessary. The general refuse would be removed regularly and disposed to landfills by a licensed collector. A proper record of each waste disposal, including the new bar-coded disposal delivery form, would be kept to verify proper handling and disposal.

The status of permits and licenses is summarized in Table 2.

Table 2: Status of Permits and Licenses

Description	Permit No.	Valid Period		Ref.	Status
		From	То		
Environmental Permit	EP-218/2005	16/06/05	End of Project	PS1.39*	Granted

^{*} Particular Specification of Contract No. DE/2005/03

The implementation status of mitigation measures from EM&A Manual is attached in Appendix 4.

4 Site Inspections

For this month, site inspections by an ET technician were carried out on 3, 4, 10, 17, 24 and 31 of October 2006 with the representatives of the Engineer.

The site locations inspected were marked on a site layout plan and the location code was recorded on the checklist. The site layout plan is shown in Appendix 5.

The work activities this month consisted of installation of E&M equipment at pH Control System and excavation work for the connection of electricity supplies to the E&M Contractor's site office. In addition, testing and commissioning of E&M equipment at Final Sedimentation Tank No. 7 was conducted. Note that Final Sedimentation Tank No. 7 was handover to DSD for operation on 6 October 2006.

No deficiency was found during this month. Inspection checklists are annexed in Appendix 5. Whereas all of the environmental aspects were inspected in the work areas, the most applicable descriptions are addressed below.

Air Quality

Water spraying was provided before/during the work to suppress dust generation and no dust was observed afterwards. The stockpile of concrete blocks after excavation work was covered entirely with impervious sheets and stakes to avoid dust generation.

Water Quality

Some accumulation of water was observed in the pipe trench at pH Control System in early October 2006. The accumulated water in the pipe trench at pH Control System was removed accordingly.

No surface run-off was observed during the site inspections this month. Note that the regular inspections and preventive measures for the mosquitoes are being conducted and recorded at least weekly by the Contractor.

Noise

During this month, the work activities and equipment used did not generate significant noise. In this reporting month, no work was carried out during general public holidays including Sundays.

Waste / Chemical Management

Refuse bins and waste storage/sorting area were provided for the collection of general refuse and sorting the C&D materials.

No packaging waste or construction waste was disposed of to landfill by the licensed waste collector this month.

The type and quantity of waste for final disposal during October 2006 is shown in Table 3. Note that a record of each disposal is being kept.

Table 3: Type and Quantity of Waste Disposed of in October 2006

Types of Waste	Quantity
Inert C&D Material	Nil
Non-inert C&D Waste	Nil
Chemical Waste	Nil
General Refuse*	Nominal amount

^{*} Included the site office

5 Summary of Deficiencies and Remedial Actions

There were no deficiencies noted from the site inspections of October 2006.

6 Summary of Complaints and Remedial Actions

No complaints were received in October 2006. In the event of complaints, the procedure for handling of the complaints is detailed in the EM&A Manual.

7 Summary of Summons and Prosecutions

No notification of summons and no prosecutions occurred in October 2006.

8 Monthly Environmental Auditing for the Coming Months

The planned activities for the coming three months (November 2006 – January 2007) as regards E&M equipment consists of E&M equipment installation and T&C (if required), as listed below:-

• pH control System

The anticipated environmental issues for November 2006 – January 2007 will be as follows:-

• pH control System

- The anticipated environmental issues will be related to:-
 - the waste disposal from E&M equipment installation.
 - the stagnant water, as testing/ commissioning of equipment/system will be involved.
 - the chemical handling (if any) during the T&C period.

9 Conclusions and Comments

The required weekly site inspections have been conducted. No deficiency was noted.

Appendix 1

Contact Information of Key Environmental Personnel

Contact Information for Key Personnel

Name	Title	Telephone	Fax
Mr. P. W. Lam (DSD)	Engineer's Representative	2594-7305	2827-8532
Mr. K. K. Cheung (DSD)	Engineer's Representative	2594-7338	2827-8532
Mr. W. S. Lui (BML)	Site Agent	2671-2350	2671-2351
Mr. K. H. Lau (BML)	Deputy Site Agent	2671-2350	2671-2351
Mr. S. M. Ho (BML)	Site Waste Manager/ Co-ordinator	2671-2350	2671-2351
Mr. Stanley Lau (KEL)	ET Leader	2612-2817	2614-7012
Ms. Angela Lau (KEL)	ET Site Inspector	2612-2817	2614-7012
Mr. David Yeung (CH2M)	The Independent Environmental Checker	2507-2203	2507-2293

Appendix 2

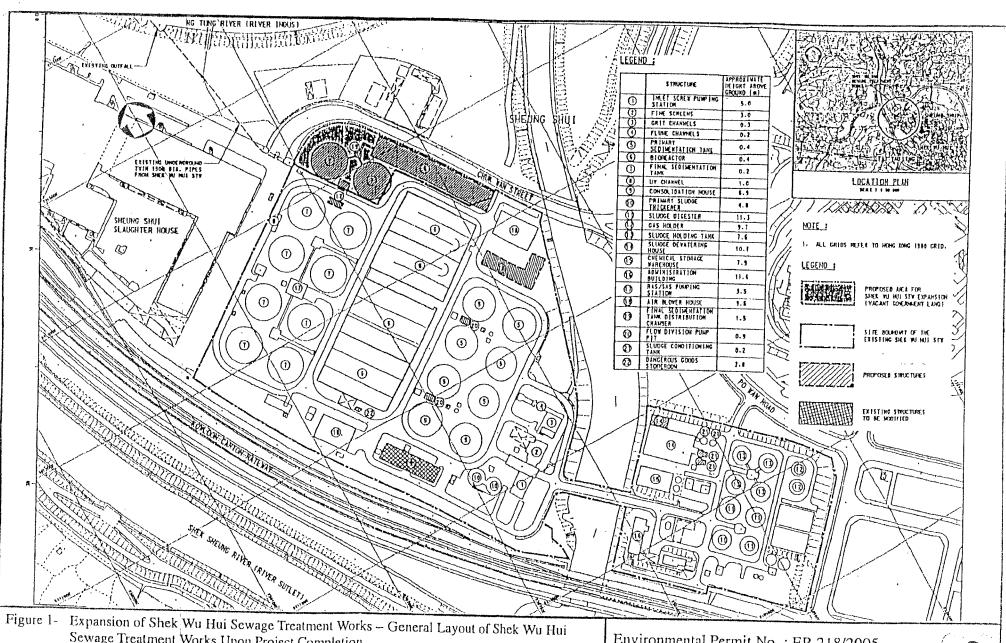
Sensitive Receivers,

Location of Monitoring and Control Station,

Action and Limited Levels

and

Event/Action Plan

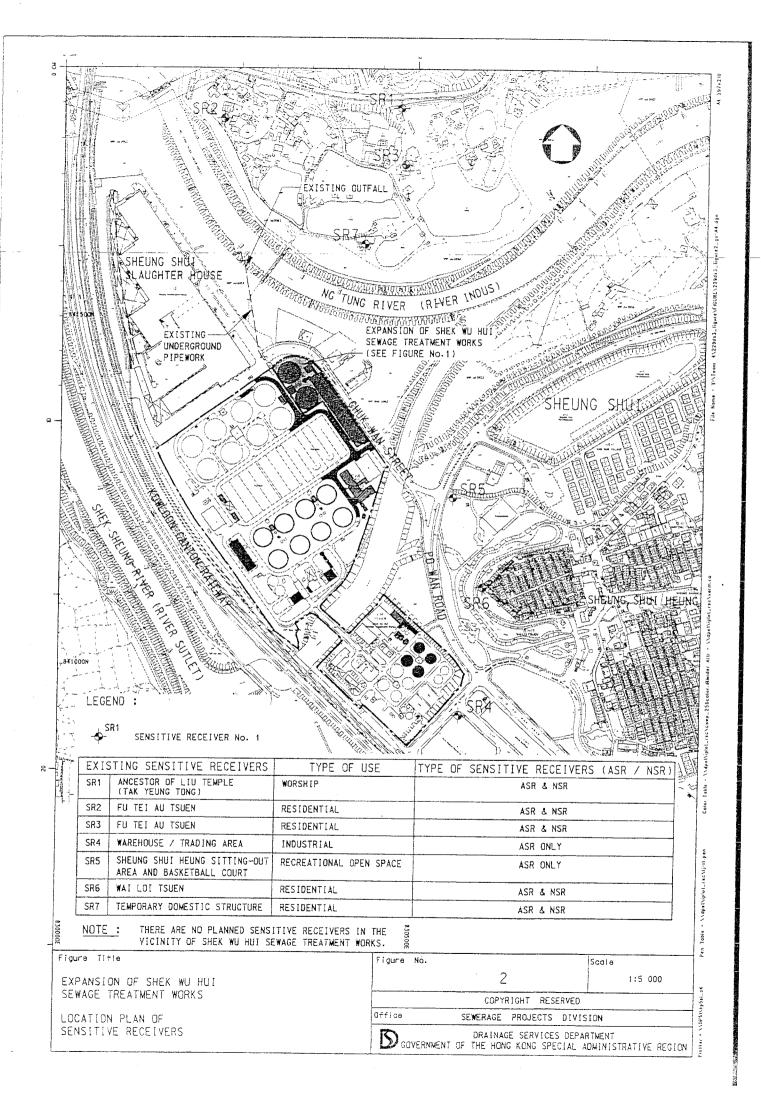


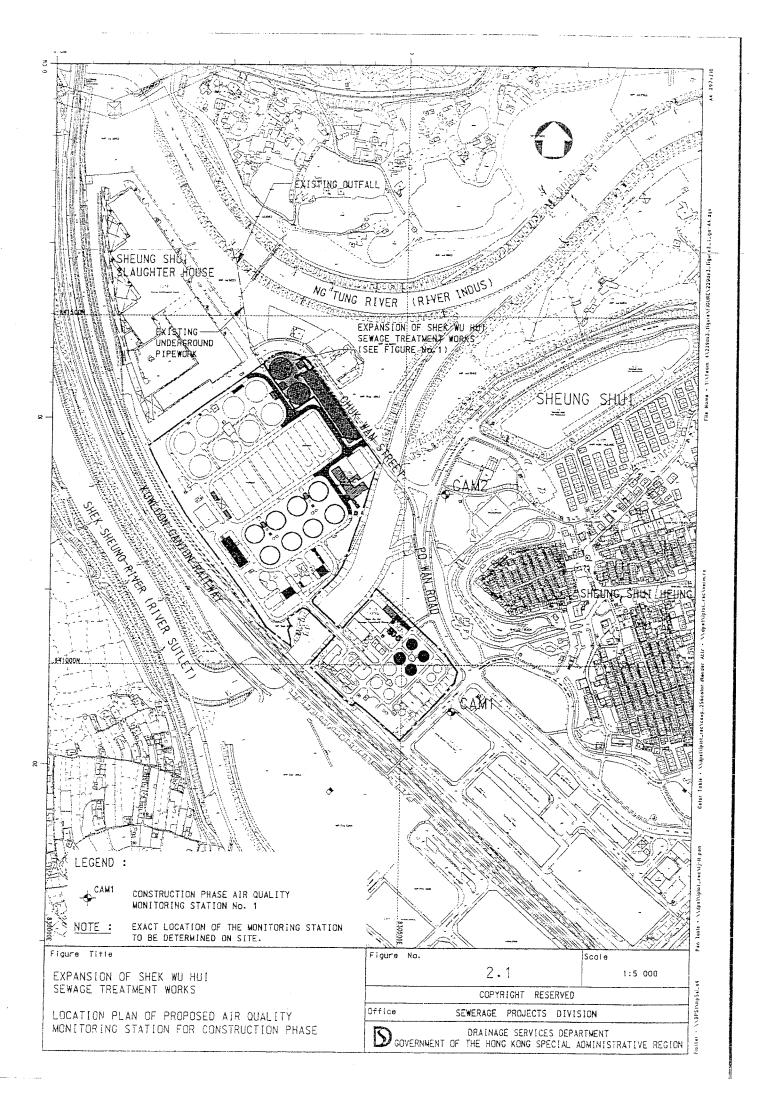
Sewage Treatment Works Upon Project Completion 石湖墟污水處理廠擴建工程-石湖墟污水處理廠於工程完成後的平面圖

Environmental Permit No.: EP-218/2005

環境許可證編號: EP-218/2005







olfactory senses to detect any odour.

- 2.6.9 The observer should bring along a log book to record the findings. The log book should be kept in the plant office where it can be inspected when necessary. The findings should include the following:
 - the prevailing weather condition;
 - the wind direction:
 - location where odour is spotted:
 - possible source of odour;
 - perceived intensity of the odour; and
 - duration of odour.
- 2.6.10 The perceived intensity is to be divided into 5 levels which are ranked in the descending order as follows:
 - Extreme
 - Strong
 - Moderate
 - Slight
 - Not detectable

2.7 Compliance Assessment

▶ 2.7.1 Action and Limit (A/L) levels that provide an appropriate framework for the interpretation of monitoring results have to be agreed between ET, IEC, EPD and the Engineer before commencement of the air quality monitoring. The air quality monitoring data shall be checked against the agreed A/L levels. Recommended A/L levels are listed in Table 2.5.

> Proposed Action and Limit Levels for Impact Monitoring Table 2.5

D.	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				
Parameter	Action Level (1)	Limit Level			
TSP	• BL ≤ 200 g m ⁻³ , AL = (BL * 1.3 + LL)/2	260 g m ⁻³			
(24 hour average)	• BL \geq 200 g m ⁻³ , AL = LL	200 g III			
TSP (1 hour average)	 BL ≤ 384 g m⁻³, AL = (BL * 1.3 + LL)/2 BL > 384 g m⁻³, AL = LL 	500 g m ⁻³			
H ₂ S (at ASRs only)	• BL ≤ 1.92 ppb, AL = (BL * 1.3 + LL)/2 • BL > 1.92 ppb, AL = LL	2.5 ppb			
Incidence of odour complaints	Any incidence of odour complaint received through the Odour Complaint Register	Two or more complaints through the Odour Complaint Register within three months			
 BL = Baseline 	: level, AL = Action level, I.I. = I imit level				

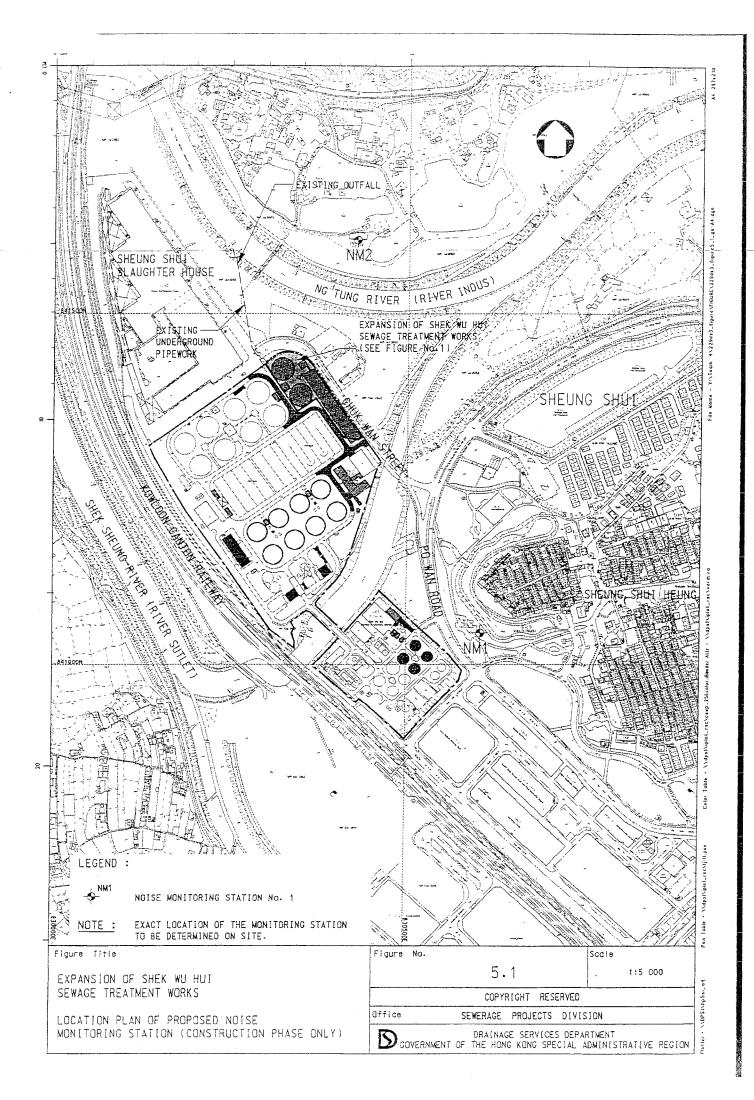
Baseline level, AL = Action level, LL = Limit level.

Event and Action Plan (EAP) for Air Quality

2.7.2 The EAP is based on the prescription of procedures and actions associated with the measurement of certain defined levels of air pollution recorded by the environmental monitoring process and the agreed A/L levels. In case TSP A/L level exceedances occur, the ET, the IEC, the Engineer and the Contractor shall observe the relevant actions of the respective EAP listed in Tables 2.6 whereas relevant sections in DSD shall be responsible for the implementation of the EAP as listed in Table 2.7 in the event of odour exceedance/complaint for construction and operational phase respectively.

Table 2.6 Event/Action Plan for Air Quality Monitoring (Construction Phase)

table 2.0 Ev	vent/Action Plan for Air Quality Mic	ACTION		
EVENT	ET	IEC	ER	CONTRACTOR
ACTION LEVEL	- Communication of the Communi	**************************************	E-MARINE AND DESCRIPTION OF A STREET AND A S	discount to accompany representative interpretative in the shadowing account of the Nation and Charles Constitution in the Charles and Cha
Exceedance for one sample	Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC and ER; Repeat measurement to confirm finding.	 Check monitoring data submitted by ET; Check Contractor's working method. 	Notify Contractor	Rectify any unacceptable practice; Amend working methods if appropriate.
Exceedance for two or more consecutive samples	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring.	Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ET on the effectiveness of the proposed remedial measures; Supervise Implementation of remedial measures.	Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented.	Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Amend proposal if appropriate.
LIMIT LEVEL				
Exceedance for one sample	Identify source, investigate the causes of exceedance and propose remedial measures; Inform Contractor, IEC, ER, and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring.	Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise implementation of remedial measures.	Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented.	1. Take inunediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source, investigate the causes of exceedance and propose remedial measures; 3. Repeat measurement to confirm findings; 4. Increase nonitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; Supervise the implementation of remedial measures.	exceedance in writing;	Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within three working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedance is abated.



5.6 Impact Monitoring for Construction Noise

- 5.6.1 Noise monitoring shall be carried out at all designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial generating activities are underway:
 - one set of measurements between 0700 and 1900 hours on normal weekdays.
- 5.6.2 If construction works are extended to include works during the hours of 1900 0700. Applicable permits under NCO shall be obtained by the Contractor.
- 5.6.3 In case of non-compliance with the construction noise criteria, more frequent monitoring, as specified in the Action Plan in **Table 5.3**, shall be carried out. This additional monitoring shall be continued until the recorded noise levels are rectified or proved to be irrelevant to the construction activities.
- 5.6.4 Before commencement of impact monitoring, the ET Leader shall inform IEC of the impact monitoring programme such that the IEC can conduct an on-site audit to ensure the accuracy of the monitoring results.

→ 5.7 Event and Action Plan (EAP) for Construction Noise

5.7.1 The Action and Limit levels for construction noise are defined in Table 5.2. Shall non-compliance of the criteria occur, action in accordance with the Action Plan in Table 5.3 shall be implemented.

Table 5.2 Action and Limit Levels for Construction Noise

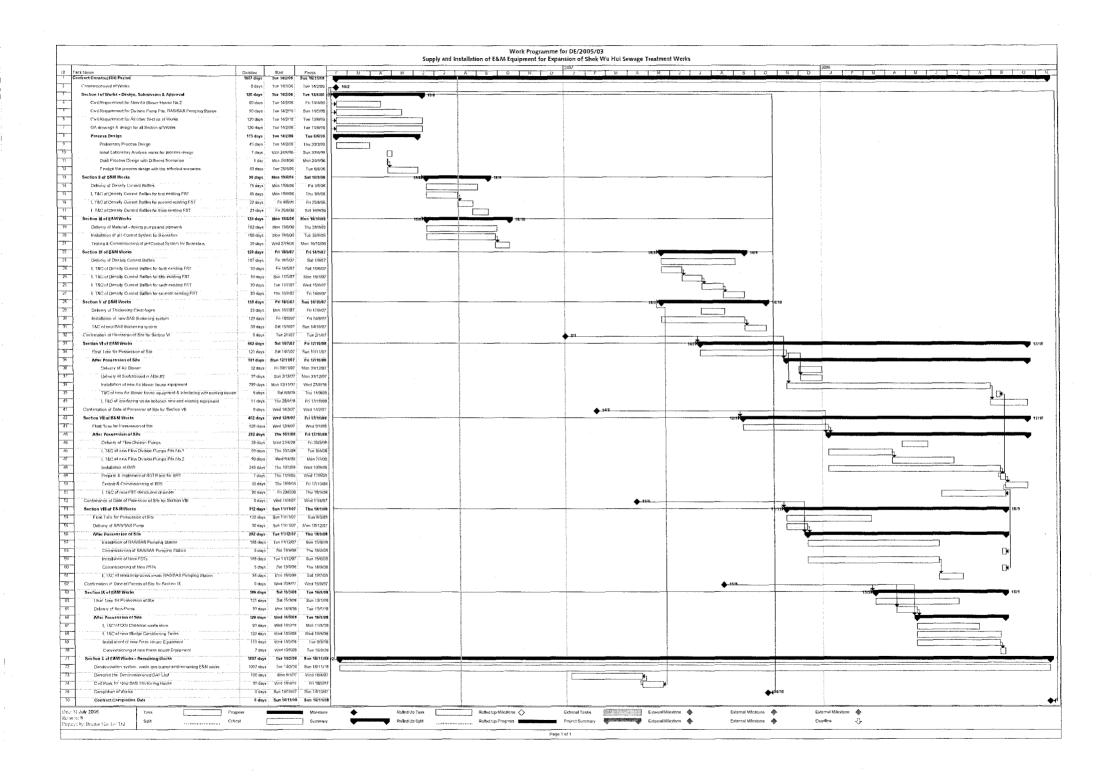
Time Land Land Levels for Construction Noise					
Time Period	Action Level	Limit Level			
0700 – 1900 hours on normal weekdays	When one documented complaint is received	75 dB(A)			

Event/Action Plan for Construction Noise

EVENT	Event/Action Plan for Construction Noise ACTION						
AND THE RESIDENCE OF THE PARTY	ET	IEC		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Action Level	 Notify IEC and ER; Carry out investigation; Report the results of investigation to the IEC, ER and Contractor; Discuss with the Contractor and formulate remedial measures; Increase monitoring frequency to check mitigation effectiveness. 	 Review the analysed results submitted by the ET; Review the proposed remedial measures by the Contractor and advise the ER accordingly; Supervise the implementation of remedial measures. 	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented.	CONTRACTOR 1. Submit noise mitigation proposals t IEC; 2. Implement noise mitigation proposals.			
Limit Level	 Identify source; Inform IEC, ER, EPD and Contractor; Repeat measurements to confirm findings; Increase monitoring frequency to check mitigation effectiveness; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Inform IEC, ER and EPD the causes and actions taken for the exceedances; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 	 Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; Supervise the implementation of remedial measures. 	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedance is abated. 			

Appendix 3

Construction Programme



Appendix 4

Environmental Requirements

and

Implementation Status

APPENDIX B IMPLEMENTATION SCHEDULE OF MITIGATION MEASURES

Implementation Schedule for Air Quality Control

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
				D	C	o	Guidelines
Annex 1 S1.7.1	Dust mitigation measures stipulated in the Air Pollution Control (Construction Dust) Regulation shall be incorporated to control dust emission from the Site. Notice shall be given to the authority prior to commencement of works.	Work sites / during construction period	Contractor		V		Air Pollution Control (Construction Dust) Regulation
Annex 1 S1.7.6 – S1.7.9	Exposed area of inlet screw pumping station excluding its inlet chamber; and sludge holding tanks should be covered, with the foul air drawn through deodourizers and discharged after treatment. Exposed area of grit channels, flume channels and effluent launder channels of primary sedimentation tanks should be covered.	SWHSTW / during design and operation stage	DSD	7			regulation

[#] The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment Works (Application No. DIR-121/2005)

^{*} D = Design, C = Construction and O = Operation

Implementation Schedule for Water Quality Control

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
Rei				D	C	o	Guidelines
Annex 2 S2.4.4	The practices outlined in Practice Note for Professional Persons on Construction Site Drainage, Professional Persons Environmental Protection Department, 1994 (ProPECC PN 1/94) including the use of sediment traps, wheel washing facilities for vehicles leaving the site, adequate maintenance of drainage systems to prevent flooding and overflow, sewage collection and treatment, and comprehensive waste management (collection, handling, transportation, disposal) procedures should be adopted to minimize the potential water quality impact from construction site runoff and various construction activities.	During the construction	Contractor		V		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
······································		1 mmg		О	C	O	Guidelines
Annex 2 S2.4.4	 Construction Runoff and Drainage At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed and internal drainage works and erosion and sedimentation control facilities implemented. Channels, earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1m³s⁻¹ a sedimentation basin of 30m³ would be required and for a flow rate of 0.5m³s⁻¹ the basin would be 150m³. The detailed design of the sand/silt traps will be undertaken by the contractor prior to the commencement of 	Work site / During the construction period	Contractor		1		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance
	 Ideally, construction works should be programmed to minimize surface excavation works during the rainy season (April to September). All exposed earth areas should be compacted and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all trafficked areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows. 						

PP #	Environmental Protection Measures	Location /	Implementation Agent	Implementation Stages *			Relevant Legislation &
Ref#		Timing		D	C	O	Guidelines
Annex 2 S2.4.4	 Construction Runoff and Drainage (Cont'd) All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. Measures should be taken to minimize the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system. Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storms events, especially for areas located near steep slopes. 	Work site / During the construction period	Contractor				ProPECC PN 1/94; WPCO, Waste Disposal Ordinance

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &	
	AND			D	C	O	Guidelines	
Annex 2 S2.4.4	 Construction Runoff and Drainage (Cont'd) All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing bay should be provided at every site exits and washwater should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheelwash bay to the public road should be paved with sufficient backfill toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. On-site drainage system should be equipped with oil interceptors to separate oil/fuel from contaminated storm water. 	Work site / During the construction period	Contractor		7		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance	
Annex 2 S2.4.4	 General Construction Activities Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearly. 	Work site / During the construction period	Contractor		1		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance	
Annex 2 S2.4.4	Sewage from Construction Workforce Sewage from construction workforce should be handled by portable chemical toilets or sewage holding tanks with the sewage regularly collected by a reputable sewage collector for disposal at, for example, SWHSTW. Sewage from on-site toilets should be diverted to and stored within sewage holding tanks for later disposal.	Work site / During the construction period	Contractor		1		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance	
Annex 2 S2.5.3 – S2.5.11	The implementation programme of the village sewerage should be monitored to achieve the target sewerage connection to communal sewers.	SWHSTW/ During the operation period	DSD			V	ProPECC PN 1/94; WPCO, Waste Disposal Ordinance	

PP	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
Ref"				a	C	O	Guidelines
Annex 2	Standby equipment will provide further safeguard on proper functioning	SWHSTW/	DSD	V		V	ProPECC PN 1/94;
S2.5.12	of all key treatment facilities e.g. standby air blowers to ensure adequate	During the				Ì ,	WPCO, Waste
	air supply for the biological treatment process and standby pumps to	design and					Disposal Ordinance
ľ	prevent any overflow of sewage due to mechanical failure of pumps. In	operation period					
	the remote case that untreated effluent is discharged, an emergency						
	contingency plan has been formulated to minimize the impact of						,
	emergency discharges and facilitate subsequent management of						
	emergency. If there is a power failure, the plant manager will start up the						
	emergency generator to provide electricity supplies for the pumps and						
	regularly monitor the quality of effluent discharge.						
Annex 2	Routine monitoring of the effluent quality from the SWHSTW should be	SWHSTW/	DSD			W	ProPECC PN 1/94;
S2.7.2	conducted in order to satisfy the conditions of the WPCO discharge	During the					WPCO, Waste
	licence.	operation period	1				Disposal Ordinance

[#] The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment Works (Application No. DIR-121/2005)

* D = Design, C = Construction and O = Operation

Implementation Schedule for Waste Management

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
				D	C	o	Guidelines
Annex 3 S3.5.1	 Waste Reduction Measures at Planning and Design Stage The levels of structures should be designed such that excavation could be minimized as far as practicable. Excavated materials generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal. Control measures recommended under the prevailing ETWB circulars should be strictly followed to ensure proper management of the C&D materials with an aim to minimize the generation of C&D material and maximize the use of inert C&D material. 	planning and design stage	DSD	V			ProPECC PN 1/94; WPCO, Waste Disposal Ordinance

PP Ref [#]	Environmental Protection Measures	Location / Implementation Agent	Implementation Stages *			Relevant Legislation &	
Ref"		Timing		D	С	O	Guidelines
Annex 3 S3.5.1	 Waste Reduction Measures at Construction Stage Measures recommended in the ETWB TCW No. 15/2003 should be followed to require the contractor to prepare and implement an enhanced Waste Management Plan (WMP) to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction. For the demolition works, the contractor shall submit a method statement for the works as part of the WMP. The Contractor shall include in the method statement the sequence of demolition and the work programme to facilitate effective recovery of reusable and/or recyclable portions of the C&D materials at the earliest stage, so as to minimise the need for subsequent sorting. Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. Separate labelled bins shall be provided to segregate aluminium cans from other general refuse generated by the work force, and to encourage collection of by individual collectors. Any unused chemicals or those with remaining functional capacity shall be recycled. Maximising the use of reusable steel formwork to reduce the amount of C&D material. Prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill. Proper storage and site practices to minimise the potential for damage or contamination of construction materials. Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. Minimize over ordering of concrete, mortars and cement grout by doing careful check before ordering. 	Work site / During the construction period	Contractor		7		ProPECC PN 1/94; WPCO, Waste Disposal Ordinance

PP Ref [#]	Environmental Protection Measures	Location / Implementation Agent	Implementation Stages *			Relevant Legislation &	
		Timing		D	С	О	Guidelines
Annex 3 S3.5.2 – S3.5.5	 Good Site Practices nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility. training of site personnel in proper waste management and chemical waste handling procedures; Provision of sufficient waste disposal points and regular collection for disposal; appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; a Waste Management Plan should be prepared and should be submitted to the Engineer for approval; and a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed. In order to monitor the disposal of C&D material at landfills and public filling facilities, as appropriate, and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements to be implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. The measures recommended in ETWB TCW No. 31/2004 should be followed. 	Work site / During the construction period	Contractor				ProPECC PN 1/94; WPCO, Waste Disposal Ordinance

PP Ref [#]	Environmental Protection Measures	Location /	Implementation Agent	Implementation Stages *			Relevant Legislation &
IXCI		Timing		D	C	O	Guidelines
Annex 3 S 3.5.6	General Refuse • General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material;	Work sites / During the construction period	Contractor		7		EIAO-TM and Noise Control Ordinance
Annex 3 S 3.5.7	 Construction and Demolition Material The C&D material generated from the site formation and demolition works should be sorted on-site into inert C&D material (that is, public fill) and C&D waste. In order to minimise the impact resulting from collection and transportation of C&D material for off-site disposal, the excavated material comprising fill material should be reused on-site as backfilling material as far as practicable. C&D waste, such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed of to landfill. A suitable area should be designated within the site for temporary stockpiling of C&D material and to facilitate the sorting process. 	Work sites / During the construction period	Contractor		√	The state of the s	EIAO-TM and Noise Control Ordinance

PP Ref [#]	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Stages *			Relevant Legislation &
ACI				D	C	o	Guidelines
Annex 3 \$ 3.5.8	When chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used. Appropriate labels should be securely attached on each chemical waste container indicating the chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed waste collector to transport and dispose of the chemical wastes in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Work sites / During the construction period	Contractor		1		EIAO-TM and Noise Control Ordinance

[#] The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment Works (Application No. DIR-121/2005)
* D = Design, C = Construction and O = Operation

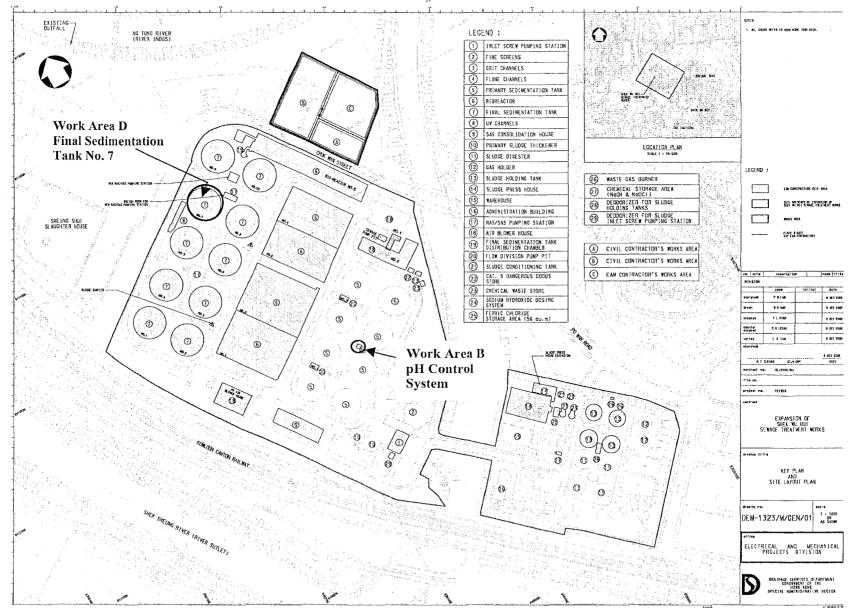
Implementation Schedule for Noise Control

PP Ref [#]	Environmental Protection Measures	Location /	Implementation Agent	Implementation Stages *			Relevant Legislation &
ACC1		Timing		D	C	o	Guidelines
Annex 4 S4.7.1	Use of quiet PME	Work sites / During the construction period	Contractor		1		EIAO-TM and Noise Control Ordinance
Annex 4 S4.7.3	 Good Site Practice Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction phase; Silencers or mufflers on construction equipment should be utilised, if found necessary, to further reduce noise, and should be properly maintained during the construction phase; Mobile plant should be sited as far away from NSRs as possible; Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; Plant known to emit noise strongly in one direction, should, where possible, be orientated so that the noise is directed away from nearby NSRs; and Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities. 	Work sites / During the construction period	Contractor		7		EIAO-TM and Noise Control Ordinance

[#] The section number in the Project Profile for Expansion of Shek Wu Hui Sewage Treatment Works (Application No. DIR-121/2005)
* D = Design, C = Construction and O = Operation

Site layout plan and Site Inspection Checklists

Shek Wu Hui STW — Expansion E&M Works EM&A Site Inspection — October 2006 Site Layout



Inspecti	on Date: <u>October</u>	3, 2006		Time:		10:	5 - 11:	<u> 20 </u>
Inspecte	ed By:	<u>/</u>			ontracto entative		S. M. Ho <u>M.S. Lui</u>	, <u>, 4 M. H</u> c.
DSD Represe	entative: <u>M. H. Y</u>	akte		Environ Team Ir	mental rspector	-:	Angela	lair.
Weathe	er							
Conditio		Fine Overc] ast [Drizzle	Rair	<u>]</u>	Storm	Hazy
Tempera	ature 28°C	Humidi	ty	60 %				
Wind	Calm L	Light Breez	e S	Strong	Di	rectior	Nie	
Ref.	Brief Description	Site	Ac	Activity Compliance		e	Action Required/	
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsi	ble Party ⁽³⁾
Air Qu	ality - Dust							į
1	Water spray	B. D			V			
2	Cover debris				1			
3	Wet & cover stockpile				✓			
4	Skip hoist				\checkmark			
5	Vehicle washing				V			
6	Clear of dusty material				V			
7	Water spray on road				V			
8	Cement bags							
9	Dusty material				1			
10	Cover belt conveyor	V			V			
Water	Quality							
11	Storm drains	B, D			\checkmark		 	
12	Sand/silt removal facilities							
13	Exposed soil surface							
14	Rainwater silt removal							
15	Open stockpiles							
16	Groundwater silt removal							

Ref.	Brief Description	Site	Activity Compliance				Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
17	Large object	B, D			$\sqrt{}$		
18	Sewage discharged	ĺ			1		
19	Fuel/chemical storage				V		
20	Storage area condition				V		
21	Clean-up actions						
Noise	Control		f		,/		
22	Comply with ordinance	B,D	-		T		
23	Working equipment & sound-reducing measures				1		
24	Equipment condition		1				
25	Well-maintained plant						
26	Intermittent use of machines/plants						
27	Noise in one direction						
28	Silencers/mufflers						
29	Away from NSRs		1				
30	Trial for equipment/sound-reducing measures				1		
Waste	Disposal						
31	Construction wastes	B , D			V		
32	Licensed waste collector	4 Confirmation					
33	Removal of construction wastes		·		✓		
34	Waste storage areas		✓				
35	Windblown litter/dust				/		
36	Waste disposal permits				V		
37	Licensed waste disposal facilities						
38	Careful design, planning & good site management						
39	Bentonite slurries				/		
40	Chemical wastes handling				<u> </u>		
41	Chemical waste storage				$\sqrt{}$		
42	Condition of chemical waste storage area	\bigvee			\checkmark		

Ref.	Brief Description	Site	Act	tivity C	omplia	Action Required/	
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	B, P			1		
44	General refuse		V				
45	Chemical waste separation				V		
46	Strictly prohibited of refuse burning						
47	Environmental Permit and other documents on-site		V				
48	Environmental Permit and license displayed		V				
49	Waste records	\downarrow	V				

44	General refuse		V				
45	Chemical waste separation			V			
46	Strictly prohibited of refuse burning						
47	Environmental Permit and other documents on-site						
48	Environmental Permit and license displayed				. 		
49	Waste records		V				
	ary/Remarks ⁽⁴⁾ major site	activities	WZFZ (observed.		-	
			÷				

- No particular observation during the site inspection.

(Note: Refer to attached site layout) Signatures **IEC** DSD Representative Name: Name: E&M Contractor Representative Environmental Team Le Name: Wir WAY SING Name: Refer to Site Inspection Checklist Attachment for complete description (Summarized EM&A Manual) of referenced mitigation measure or requirement.

Indicate exact locations as indicated (by code) on the attached site layout.

To be filled out by the environmental team.

Note actions/plans and responsible party regarding any non-dompliance in this column.

(3)

Inspection	on Date: October	4,2006		Time:		1000	10-45		
Inspecte	ed By:								
IEC:				E&M C Repres			Kenny Chan, W.S. Lev, K.H. Lau, S.H. Ho, Y. M. He		
DSD Represe	P. W. tam.	K. K. Cheung M.H. Yeven K.	w.Yesen	Enviror Team I	nmenta nspecto	l or:	Angola Lau		
Weathe	r								
Condition		Fine Overc] ast [Drizzle	Ra	iin	Storm Hazy		
Tempera	ture 26 °C	Humidi	ty	73 %	6				
Wind	Calm L	ight Breez] e \$	Strong	Γ	Direction	E		
Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Ac Yes	tivity Co	ompliar N/A	nce Unk	Action Required/ Responsible Party ⁽³⁾		
Air Qu	ality - Dust								
1	Water spray	8,0			· /	-			
2	Cover debris	ĺ			1				
3	Wet & cover stockpile				/				
4	Skip hoist				/				
5	Vehicle washing				1/				
6	Clear of dusty material				/				
7	Water spray on road								
8	Cement bags	May addition			\checkmark				
9	Dusty material	000							
10	Cover belt conveyor	· ·			/ _				
Water	Quality								
11	Storm drains	B,P			V				
12	Sand/silt removal facilities	1			✓				
13	Exposed soil surface								
14	Rainwater silt removal		/						
15	Open stockpiles								
16	Groundwater silt removal				V				

Ref.	Brief Description	Site	Ac	tivity C	omplia	nce	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
17	Large object	B, D			1		
18	Sewage discharged				/		
19	Fuel/chemical storage				/		
20	Storage area condition				1		
21	Clean-up actions	V			1		
Noise	Control						
22	Comply with ordinance	BID					
23	Working equipment & sound-reducing measures						
24	Equipment condition		/				
25	Well-maintained plant				1		
26	Intermittent use of machines/plants						
27	Noise in one direction				1		
28	Silencers/mufflers						
29	Away from NSRs					-	
30	Trial for equipment/sound-reducing measures				1		
Waste	Disposal						
31	Construction wastes	B.D					· · · · · · · · · · · · · · · · · · ·
32	Licensed waste collector	B.F			./		
33	Removal of construction wastes						
34	Waste storage areas						
35	Windblown litter/dust						
36	Waste disposal permits						
37	Licensed waste disposal facilities						
38	Careful design, planning & good site management		-				
39	Bentonite slurries						
40	Chemical wastes handling						
41	Chemical waste storage						
42	Condition of chemical waste storage area						

Ref.	Brief Description	Site	Activity Compliance			псе	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	B,D					
44	General refuse	1	/				
45	Chemical waste separation						
46	Strictly prohibited of refuse burning		V				
47	Environmental Permit and other documents on-site						
48	Environmental Permit and license displayed		1				
49	Waste records						

Summary / Re	emarks ⁽⁴⁾
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- No major site activities were observed.

Indicate exact locations as indicated (by code) on the attached site layout.

To be filled out by the environmental team.

Note actions/plans and responsible party regarding any non-compliance in this column.

- No particular observation during the site inspection.

	(Note: Refer to attached site layout)
Signatures	
IEC	DSD Representative
	(XU
Name:	Name: K K CHEUNG
E&M Contractor Representative	Environmental/Team Leader
Name: Ly war 41NG	Name: Cla 10:
	15thally Lain
Refer to Site Inspection Checklist Attachment f referenced mitigation measure or requirement.	or complete description (Summarized EM&A Manual) of

Inspection	on Date: <u>October</u>	10,2006		Time:		9:30	- 10:00
Inspecte	ed By:						
IEC:				E&M C Repres			W. S. Lin, Y. M. Hong, S.M. H.
DSD Represe	entative: M. H.	Yven		Enviror Team I			Angela Lau
Weathe	r						
Condition		Fine Overc] ast [) Prizzle	Ra	iin	Storm Hazy
Tempera	ture 26 °C	Humidi	ty	48 %	, 0		
Wind	Calm L	Light Breez	e S	Strong	Γ	Direction	N/E
Ref.	Brief Description	Site	Ac	tivity Co	ompliar	nce	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
Air Qu	ality - Dust						
1	Water spray	В			1	-	
2	Cover debris				1		
3	Wet & cover stockpile						
4	Skip hoist				/		·
5	Vehicle washing				V		
6	Clear of dusty material		-				
7	Water spray on road						
8	Cement bags						
9	Dusty material				1		
10	Cover belt conveyor	1			V		
Water (Quality						
11	Storm drains	В			1		
12	Sand/silt removal facilities	and the second			<u> </u>		
13	Exposed soil surface	Andrew Co.					
14	Rainwater silt removal		$\sqrt{}$				
15	Open stockpiles				1		
16	Groundwater silt						

Ref.	Brief Description	Site	Ac	tivity C	omplia	nce	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
17	Large object	В					
18	Sewage discharged				1		
19	Fuel/chemical storage				V		
20	Storage area condition				1		
21	Clean-up actions				1		
Noise	Control						
22	Comply with ordinance	В	./				
23	Working equipment & sound-reducing measures				1		
24	Equipment condition		V				
25	Well-maintained plant						
26	Intermittent use of machines/plants				1		
27	Noise in one direction				./		
28	Silencers/mufflers				./		
29	Away from NSRs				./		•
30	Trial for equipment/sound-reducing measures				1		· i
Waste	Disposal		<u> </u>		<u> </u>	<u> </u>	
31	Construction wastes	В			1		
32	Licensed waste collector						
33	Removal of construction wastes	,			1		
34	Waste storage areas						
35	Windblown litter/dust				./		
36	Waste disposal permits			,	/		
37	Licensed waste disposal facilities						
38	Careful design, planning & good site management				1		
39	Bentonite slurries						
40	Chemical wastes handling				<i></i>		
41	Chemical waste storage	The state of the s					
42	Condition of chemical waste storage area						

Ref.	Brief Description	Site	Act	ivity C	ompliar	nce	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	В			/		
44	General refuse						
45	Chemical waste separation						
46	Strictly prohibited of refuse burning						
47	Environmental Permit and other documents on-site						
48	Environmental Permit and license displayed						
49	Waste records	\downarrow	/				

Summary	/	Remarks ⁽⁴⁾	
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- No major site activities were observed.

Remark 1: Some wooter was observed in pipe trench at pH

Control System. BML was reminded to remove the water.

(Note: Refer to attached site layout)

	(Note: Note: to attached site layout)
Signatures	
IEC	DSD Representative
	Cu
Name:	Name: KK CHEUNG
E&M Contractor Representative	Environmental Team Leader
mar /-	
Name: WI WAY 41NG	Name! Stanley fan
Refer to Site Inspection Checklist Attachment for referenced mitigation measure or requirement.	or complete description (Summarized EM&A Manual) of

Indicate exact locations as indicated (by code) on the attached site layout.

To be filled out by the environmental team.

Note actions/plans and responsible party regarding any non-compliance in this column.

Page 3 of 3

Inspection	on Date: <u>October</u>	17, 2006	_ Ti	me:	1:45	-10:15
Inspecte	ed By:			&M Contract		W.S. Lei, Y. M. Hong, S.M.H
DSD Represe	entative: M.H.Y	uen		nvironmenta eam Inspect		C.P. Chan
Weathe	r					
Condition		Fine Overc] [ast Dri	zzle Ra	ain	Storm Hazy
Tempera	ture 28 °C	Humidi	ty 🗔	té %		
Wind	Calm L	Light Breez	e Str	ong	Direction	SIE
Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site Location ⁽²⁾	Activ Yes	vity Complian	nce Unk	Action Required/ Responsible Party ⁽³⁾
Air Qu	ality - Dust	1	h			
1	Water spray	В				
2	Cover debris					
3	Wet & cover stockpile					
4	Skip hoist					
5	Vehicle washing					
6	Clear of dusty material				_	
7	Water spray on road					
8	Cement bags					
9	Dusty material					
10	Cover belt conveyor	\downarrow				
Water (Quality					
11	Storm drains	В				
12	Sand/silt removal facilities	·				
13	Exposed soil surface			V		
14	Rainwater silt removal					
15	Open stockpiles					
16	Groundwater silt removal					

Ref.	Brief Description	Site	Ac	tivity C	omplia	Action Required/	
No. ⁽¹⁾ of Mitigation		Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
17	Large object	В			1		
18	Sewage discharged						
19	Fuel/chemical storage				/		
20	Storage area condition						
21	Clean-up actions	J					
Noise	Control						
22	Comply with ordinance	В					
23	Working equipment & sound-reducing measures						
24	Equipment condition						
25	Well-maintained plant			-	/		
26	Intermittent use of machines/plants				~		
27	Noise in one direction				W		
28	Silencers/mufflers						
29	Away from NSRs				./		
30	Trial for equipment/sound-reducing measures				1		
Waste	Disposal						
31	Construction wastes	В					
32	Licensed waste collector						
33	Removal of construction wastes				/		
34	Waste storage areas						
35	Windblown litter/dust				1		
36	Waste disposal permits				1		
37	Licensed waste disposal facilities						
38	Careful design, planning & good site management						
39	Bentonite slurries						
40	Chemical wastes handling				J		
41	Chemical waste storage						
42	Condition of chemical waste storage area			-			· ·

Ref.	Brief Description	Site	Activity Compliance			nce	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	В			/		
44	General refuse						
45	Chemical waste separation				1		
46	Strictly prohibited of refuse burning						
47	Environmental Permit and other documents on-site						
48	Environmental Permit and license displayed						
49	Waste records	1					

			(4)	
Summar	y / F	Rema	arks(4)	

- Installation works of E4 M equipment was observed at PH Control System.

Remark 1 = Remaral of water in pipe trench at pH Control System was observed.

(Note: Refer to attached site layout)

	(*,
Signatures	
IEC	DSD Representative
	Chh
Name:	Name: KK CHEUNG
E&M Contractor Representative	Environmental Team Leader
W2/-	
Name: Luc WAI SING	Name: Starlly form
(1) Refer to Site Inspection Chaptelist Attack would	
Refer to Site Inspection Checklist Attachment for referenced mitigation measure or requirement.	for complete description (Summarized EM&A Manual) of

Indicate exact locations as indicated (by code) on the attached site layout.

To be filled out by the environmental team.

Note actions/plans and responsible party regarding any non-compliance in this column.

Inspectio	on Date: October	24,2006	·-	Time:		(0:00	0 -10:30	
Inspecte IEC:	ed By:			E&M C Repres			W. S. Lui, Y. M. Hong, S. M. +	۵)
DSD Represe	entative: M. H.	Ywn		Enviror Team I			Angela Lan	
Weathe	r		······································					
Condition		Fine Overc] ast [Drizzle	Ra	in	Storm Hazy	
Tempera	ture 27 °C	Humidi	ty	70 %	6			
Wind	Calm I	ight Breez	e S	Strong	ם	Direction	N/E	
Ref. No. ⁽¹⁾	Brief Description	Site Location ⁽²⁾	Ac	tivity Co			Action Required/	
No.`´	of Mitigation	Location	Yes	No	N/A	Unk	Responsible Party ⁽³⁾	
Air Qu	ality - Dust							
1	Water spray	В			V			
2	Cover debris							
3	Wet & cover stockpile							
4	Skip hoist				/		·	
5	Vehicle washing							
6	Clear of dusty material							
7	Water spray on road							
8	Cement bags							
9	Dusty material							
10	Cover belt conveyor							
Water (Quality			1				
11	Storm drains	В						
12	Sand/silt removal facilities				V			
13	Exposed soil surface				/			
14	Rainwater silt removal							
15	Open stockpiles				/			
16	Groundwater silt removal							

Ref. Brief Description No. (1) of Mitigation		Site	Ac	tivity C	omplia	Action Required/	
		Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
17	Large object	В					
18	Sewage discharged						
19	Fuel/chemical storage						
20	Storage area condition						
21	Clean-up actions				/		
Noise	Control		<u> </u>	<u> </u>			
22	Comply with ordinance	В					
23	Working equipment & sound-reducing measures				1		
24	Equipment condition						
25	Well-maintained plant		-				
26	Intermittent use of machines/plants				/		
27	Noise in one direction						
28	Silencers/mufflers				1		
29	Away from NSRs				./	-	
30	Trial for equipment/sound-reducing measures				1		
Waste	Disposal						
31	Construction wastes	В			/		
32	Licensed waste collector		·		/		
33	Removal of construction wastes	-			1		
34	Waste storage areas		./				
35	Windblown litter/dust				V		
36	Waste disposal permits						
37	Licensed waste disposal facilities					-	
38	Careful design, planning & good site management						
39	Bentonite slurries				V/		
40	Chemical wastes handling						
	Chemical waste						
41	storage						

Ref.	Ref. Brief Description	Site	Act	ivity C	ice	Action Required/	
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	B			1		
44	General refuse		1				
45	Chemical waste separation				1		
46	Strictly prohibited of refuse burning		J				
47	Environmental Permit and other documents on-site		/				
48	Environmental Permit and license displayed		/				
49	Waste records		I				

S	um	ma	rv /	/ Re	mai	rks ⁽⁴⁾	

- No major site activities were observed.

- No particular observation during the site inspection.

(Note: Refer to attached site layout)

Signatures	
IEC	DSD Representative
	Chu
Name:	Name: K K CHEUNG
E&M Contractor Representative	Environmental Team Leader
W4/-	/////
Name: Lui WAI SING	Name: Starley Low
(1) Refer to Site Inspection Checklist Attachment for referenced mitigation measure or requirement.	or complete description (Summarized EM&A Manual) of

Indicate exact locations as indicated (by code) on the attached size layout.

To be filled out by the environmental team.

Note actions/plans and responsible party regarding any non-compliance in this column.

Inspection	on Date: October	31,2006	-	Time:		10:0	$0 - 10^{-3}$	3e
Inspecte	d By:						W.S. Lui	
IEC:	IEC:				ontract entativ		Y. M. Hory	J. S.M. H
DSD Represe	entative: M.H.	Ywn			nmenta nspecto		Angela	Lau
Weathe	r					,,,,		
Condition		Fine Overca] ast [Drizzle	Ra	iin	Storm	Hazy
Tempera	ture 25 °C	Humidi	ty	56 %	6			
Wind	Calm L	ight Breeze	e S	Strong	[Direction	NE	
Ref.	Brief Description	Site	Activity Compliance			Action Required/		
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsit	ole Party ⁽³⁾
Air Qu	ality - Dust							
1	Water spray	В						
2	Cover debris							
3	Wet & cover stockpile				/			
4	Skip hoist							
5	Vehicle washing							
6	Clear of dusty material							
7	Water spray on road				V			
8	Cement bags				V			
9	Dusty material				V			
10	Cover belt conveyor				V			
Water (Quality							
11	Storm drains	В			/			
12	Sand/silt removal facilities	1						
13	Exposed soil surface							
14	Rainwater silt removal	The second secon						
15	Open stockpiles	All sections and sections and sections are sections as a section of the section o			1			
16	Groundwater silt removal	\downarrow						

Ref. No. ⁽¹⁾	Brief Description of Mitigation	Site	Ac	tivity C	omplia	nce	Action Required/
		Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³
17	Large object	В			/		
18	Sewage discharged				V		
19	Fuel/chemical storage						
20	Storage area condition				V_		
21	Clean-up actions	V					
Noise	Control						
22	Comply with ordinance	В					
23	Working equipment & sound-reducing measures				1		
24	Equipment condition		/				
25	Well-maintained plant				1		
26	Intermittent use of machines/plants						
27	Noise in one direction				1		
28	Silencers/mufflers						
29	Away from NSRs						
30	Trial for equipment/sound-reducing measures				/		
Waste	Disposal						
31	Construction wastes	В			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
32	Licensed waste collector		·				
33	Removal of construction wastes	·			V		
34	Waste storage areas		/				
35	Windblown litter/dust				./		
36	Waste disposal permits						
37	Licensed waste disposal facilities		/				
38	Careful design, planning & good site management				✓		
39	Bentonite slurries						
40	Chemical wastes handling				/		
41	Chemical waste storage				\checkmark		
42	Condition of chemical waste storage area		·		\checkmark		

Ref.	Brief Description	Site	Act	ivity C	ompliar	тсе	Action Required/
No. ⁽¹⁾	of Mitigation	Location ⁽²⁾	Yes	No	N/A	Unk	Responsible Party ⁽³⁾
43	Disposal of chemical wastes	В			1		
44	General refuse		\				
45	Chemical waste separation				/		
46	Strictly prohibited of refuse burning		/				
47	Environmental Permit and other documents on-site		/				
48	Environmental Permit and license displayed		1				
49	Waste records	1					

·	wastes	В						
44	General refuse		V					
45	Chemical waste separation			/				
46	Strictly prohibited of refuse burning							
47	Environmental Permit and other documents on-site							
48	Environmental Permit and license displayed		1					
49	Waste records	V						
- N	Jo particular ob	senation	during			o attached site layout)		
Signat	tures							
IEC			DSD	DSD Representative				
	·			(kh			
Nar	me:		Nam	e. 1/	K	CHEUNG		
E&M Contractor Representative			Nam	· (
E&I	M Contractor Represen	itative		onmental	:			

oigilatures .	
IEC	DSD Representative
	Cul
Name:	Name: K CHEUNG
E&M Contractor Representative	Environmental Team Leader
W4 ~-	
Name: Lui wan SING	Name. Starley Lan
Refer to Site Inspection Checklist Attachment for referenced mitigation measure or requirement.	r complete description (Summarized EM&A Manual) o

Indicate exact locations as indicated (by code) on the attached site layout.

 $^{(4)}$ To be filled out by the environmental team.

Note actions/plans and responsible party regarding any non-compliance in this column.

Deficiency Investigations Reports

(Not Applicable)

Complaint Reports

(Not Applicable)

Summons and Prosecutions Records

(Not Applicable)

Permits

Same as in June 2006 Report