MAEDA

Expansion of Shek Wu Hui Sewage Treatment Works

Monthly EM&A Report No. 30

for May 2008

June 2008

Report no: 01284R0793

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Monthly EM&A Report No. 30 for May 2008

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Report no: EA01284 R0793 **Date:** June 2008

Hyder Consulting

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1 Executive Summary

The expansion of Shek Wu Hui Sewage Treatment Works (SWHSTW) aims to increase the treatment capacity of the existing SWHSTW to cope with the increasing wastewater flows and loads as a result of the population growth in the catchment area of Fanling/Sheung Shui and the committed extension of sewerage system to unsewered areas. It is considered as a project constituting a material change to an exempted designated project under Schedule 2 of EIAO. Thus, the procedures under the EIAO have been followed and an Environmental Monitoring and Audit (EM&A) Programme has to be carried out. The present report documents the outcomes of the EM&A Works undertaken during May 2008.

<u>Breaches of Action and Limit Levels</u>

Noise

No non-compliance of action/limit level was recorded at all monitoring stations for noise during the reporting month.

1-hr and 24-hr TSP

No non-compliance of action/limit level was recorded at all monitoring stations for noise during the reporting month.

<u>Complaints Log</u>

During this reporting month, no environmental complaint was received.

<u>Notifications of Any Summons and Successful Prosecutions</u>

During the reporting month, no notification of summons or successful prosecution was recorded.

<u>Reporting Changes</u>

Due to heavy rainfall, it was not possible to follow the schedule for noise monitoring in the second half of the month of May. It is stated in paragraph 5.4.2 of the EM&A Manual that "noise measurements shall not be made in fog, rain wind with a steady speed.....". Due to adverse weather conditions or lack of any noisy site activities, noise monitoring could not be rescheduled and unfortunately on 31 May 2008 noise monitoring could not be carried out for practical reasons (prior commitments of monitoring team). See section 6.5 for details of site activities and weather reports. In conclusion successful noise monitoring was only carried out in the first two weeks of the month. There were no exceedances for noise and no complaints were registered in May 2008.

Parameter	Monitoring location	Monitoring dates
Noise monitoring	San Po Street Pumping Station (CAM1a)	6 May, 16 May, 22 May*, 28 May*
	Sheung Shui Heung Floodwater Pumping Station (CAM2a)	6 May, 16 May, 22 May*, 28 May*

*Heavy rainfall

Future Key Issues

The construction activities for the coming three months will include excavation and backfilling, temporary work including installation of waling and struts, pipe works, installation of cat ladders, roofing and finishing works, structural steelwork with FRP covers, roadwork, cable ducts and cable drawpits and landscaping work.

2 Introduction

2.1 Basic Information

Shek Wu Hui Sewage Treatment Works (SWHSTW) provides treatment to the wastewater generated from Fanling/Sheung Shui areas before discharge it into Mai Po Inner Deep Bay Ramsar Site through River Indus and Shenzhen River, thus helps protecting the water quality of River Indus, Shenzhen River and Mai Po Inner Deep Bay Ramsar Site. The expansion of SWHSTW aims to expand the treatment capacity of the existing SWHSTW to cope with the increasing wastewater flows and loads as a result of the population growth in the catchment area of Fanling/Sheung Shui and the committed extension of sewerage system to unsewered areas.

In accordance with Section 9(2)(g) of the Environmental Impact Assessment Ordinance (EIAO), the SWHSTW is an exempted designated project as the existing SWHSTW has been in operation before the EIAO came into effect on 1 April 1998. However, since the proposed works involve physical expansion and alternation to the existing SWHSTW (hereafter called "the Project") and may cause adverse environmental impacts if mitigation measures are not in place, it shall be considered as a project constituting a material change to an exempted designated project under Schedule 2 of EIAO. Hence the procedures under the EIAO have been followed. A Project Profile (PP) for direct application of the EP (Application No.DIR-121/2005) was approved by Environmental Protection Department (EPD) in May 2005 and an environmental permit (EP-218/2005) was obtained prior to the commencement of the expansion works.

Drainage Services Department (DSD) awarded the civil contract of the expansion of SWHSTW to Maeda Corporation (Maeda) in September 2005. Maeda appointed Hyder Consulting Limited (HCL) as the Contractor's Environmental Team (ET) during the construction period. CH2M HILL Hong Kong Limited (formerly known as CH2M-IDC Hong Kong Limited) is the independent environmental checker (IEC). The construction contract commenced in September 2005 and the total construction period is approximately 36 months. The notified commencement date of work to the Director of EPD is 14 December 2005.

2.2 Management Structure and Project Organisation

The Engineer (DSD) is responsible for overseeing the construction works and ensuring that they are undertaken by the Contractor (Maeda) in accordance with the specifications and contractual requirements. The Contractor shall report to the Engineer. The ET is employed by the Contractor and is responsible for conducting the EM&A programme. The IEC shall advise the Engineer on the environmental issues related to the Project.

The key personnel contact names and telephone number are summarised in Table 2-1. The project organisation is shown in Appendix 1.

Party	Position	Name	Telephone number
Project Proponent - DSD	Project Manager	Raymond Lee	2594 7457
	Engineer's Representative	Freddie Tsang	2594 7459
Contractor - Maeda	Site Agent	George Cheung	9268 1918
ET - Hyder	ET Leader	Alexi Bhanja	2911 2916
IEC – CH2M HILL	IEC	Y.T. Tang	3105 8686

Table 2-1 Key Personnel Contact Names and Telephone Number for the Project

2.3 Construction Programme

Construction programme of the Project is attached in Appendix 2.

2.4 Works Undertaken during the Reporting Month

Works undertaken during the reporting month included:

-Excavation and backfilling

-Temporary work including installation of waling and struts

-Manhole/Chamber construction

-Pipe laying

-Installation of FRP covers

-Finishing work

-Road Works; and

-Cable Ducts and Cable Drawpits.

2.5 Status of Environmental Permit/ Licence

The status of the Environmental Permit/Licence for the Project is shown below.

Permit/Licence	Application Date	Date of issue	Ref. No.	Valid Until
Environmental Permit	21 May 2005	16 June 2005	EP-218/2005	End of Project
Notification was made to EPD pursuant to Section 3(1) of the Air Pollution Control (Construction Dust) Regulation (Form NA was submitted)	22 Sep 2005	N/A	N/A	End of Project
Registration as a chemical waste producer	26 Sep 2005	4 Nov 2005	WPN: 5213-624-M2446-06	End of Project

Permit/Licence	Application Date	Date of issue	Ref. No.	Valid Until
Effluent Discharge Licence	11 Nov 2005	20 Dec 2005	Licence No.: W5/1I287/1	19 Dec 2010
Application for Exemption Account for Disposal of Construction Waste	12 Dec 2005	Approved by EPD on 31 Dec 2005	Application No.: RN/00134	25 Sep 2008
Construction Noise Permit	15 Nov 2007	29 Nov 2007	GW-RN0507-07	31 May 2008

Table 2-2 Status of Permit/Licence for the Project

3 Environmental Status

3.1 Works Undertaken during the Month with Illustrations

The site has been subdivided into different Works Areas/Portions as illustrated in Appendix 3. Excavation, backfilling, pipe laying and finishing work were undertaken in Portions 1,2 & 3. Installation of waling struts, Manhole/Chamber construction and the installation of FRP covers were undertaken in Portion 1.

3.2 Project Area, Environmental Sensitive Receivers and Monitoring Locations

The site is located at the existing Shek Wu Hui Sewage Treatment Plant, next to Chuk Wan Street. The project area, environmental sensitive receivers and monitoring locations are shown in Appendix 4.

4 Brief Summary of EM&A Requirements

4.1 Monitoring Parameters

4.1.1 Air Quality

During the construction phase impact monitoring, 1-hour and 24-hour Total Suspended Particulates (TSP) levels should be measured at the selected air monitoring locations in accordance with the EM&A Manual. These two parameters are aimed to indicate the impacts of construction dust on air quality.

4.1.2 Noise

The construction noise level should be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}) for 30 minutes. $L_{eq(30\ min)}$ is used as the monitoring parameter for the period between 0700 and 1900 hours on normal weekdays. For all other time periods, three consecutive $L_{eq(5min)}$ are employed for comparison with the Noise Control Ordinance (NCO) criteria.

Other noise parameters such as L_{10} and L_{90} should also be obtained for reference.

4.2 Action and Limit Levels

4.2.1 Air Quality

The baseline monitoring results documented in the Baseline Monitoring Report for the Project (our report ref.: EA01284R0012) form the basis for derivation of the Action and Limit Levels for air quality impact monitoring. Appendix 5 shows the derived Action and Limit Levels for the Project. If the air quality criteria are exceeded due to the Project, the Event/Action Plan summarised in Table 4-3 should be triggered immediately.

4.2.2 Noise

The Action and Limit Levels for construction noise are defined in Appendix 5. If valid non-compliance of the criteria occurs, actions in accordance with the Event and Action Plan in Table 4-4 should be implemented. If construction works are undertaken during the restricted hours, a construction noise permit under NCO shall be obtained by the Contractor.

4.3 Event and Action Plans

The Event and Action Plans for air quality and noise monitoring are shown in Tables 4-3 and 4-4, respectively.

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
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	• Identify source, investigate the cause of exceedance and propose remedial measures; • Inform IEC and ER; • Advise ER on the effectiveness of the proposed remedial measures; • Repeat measurements to confirm findings; • Increase 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	• Confirm receipt of notification of exceedance in writing; • Notify Contractor; • Ensure remedial measures properly implemented.	• Submit proposals for remedial to ER within 3 working days of notification; • Implement the agreed proposals; • Amend proposal if appropriate.

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	frequency to daily; • Discuss with IEC and Contractor on remedial actions required; • If exceedance continues, arrange meeting with IEC and ER; • If exceedance stops, cease additional monitoring.	Implementation of remedial measures.		
LIMIT LEVEL				
Exceedance for one sample	• Identify source, investigate the causes of exceedance and propose remedial measures; • Inform IEC, ER, Contractor 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 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.	• Take immediate action to avoid further exceedance; • Submit proposals for remedial actions to IEC within 3 working days of notification; • Implement the agreed proposals; • Amend proposal if appropriate.
Exceedance for two or more consecutive samples	• Notify IEC, ER, Contractor and EPD; • Identify source, investigate the cause of exceedance and propose remedial measures; • Repeat measurement to confirm findings; • Increase monitoring frequency to daily; • Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; • Arrange meeting with IEC and ER to discuss the remedial actions to be taken;	• Discuss amongst ER, ET, and Contractor on the potential remedial actions; • Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly; • Supervise the implementation of remedial measures.	• Confirm receipt of notification of exceedance in writing; • Notify Contractor; • In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; • Ensure remedial measures properly implemented; • 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 ER until the exceedance is abated.

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	• Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; • If exceedance stops, cease additional monitoring.			

Table 4-3 Event/ Action Plan for Air Quality Monitoring

EVENT	Action			
	ET	IEC	ER	CONTRACTOR
Action Level	• Notify IEC and ER; • Carry out investigation; • Report the results of investigation to the IEC, ER and Contractors; • 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 measure.	• Confirm receipt of notification of failure in writing; • Notify Contractor; • Require Contractor to propose remedial measures for the analysed noise problem; • Ensure remedial measures are properly implemented.	• Submit noise mitigation proposal to IEC; • 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	• 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.	• Confirm receipt of notification of failure in writing; • Notify Contractor; • Require Contractor to propose remedial measures for the analysed noise problem; • Ensure remedial measures properly implemented; • 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.

EVENT	Action			
	ET	IEC	ER	CONTRACTOR
	results; • If exceedance stops, cease additional monitoring.			

Table 4-4 Event/ Action Plan for Noise Monitoring

4.4 Environmental Mitigation Measures and Requirements

The recommended measures for mitigating air quality, water quality, noise, waste and all other possible environmental impacts due to the construction works have been stated clearly in the EM&A Manual. The details of the measures implemented by the Contractor are shown in Appendix 6.

5 Implementation Status of Environmental Protection and Pollution Control/ Mitigation Measures

The status of the mitigation measures implemented by the Contractor is listed in Appendix 6.

6 Monitoring Results

6.1 Monitoring Methodology

6.1.1 Air Quality

1-hr and 24-hr TSP monitoring works were undertaken by the ET using high volume samplers (HVS). The sampling procedures followed the standard sampling method as set out in High Volume Method for Total Suspended Particulates, Part 50 Chapter 1 Appendix B, Title 40 of the Code of Federal Regulations of the USEPA.

During the sampling, dust laden air was drawn through a HVS fitted with a conditioned, pre-weighted filter paper, at a controlled rate. After sampling for 1 hour and 24 hours, the filter paper with retained particles was collected and returned to the laboratory for drying in a desiccator followed by accurate weighing. Respective 1-hour and 24-hour TSP levels were calculated from the ratio of the mass of particulates retained on the filter paper to the total volume of air sampled.

The HVSs were equipped with an electronic mass flow controller and calibrated against a traceable standard at regular intervals. All equipment, calibration kit and filter papers were clearly labelled.

The sampling procedures and specifications were the same for 1-hour and 24-hour baseline air quality monitoring except the sampling duration. The specifications were as follows:

- 0.6-1.7 m^3/min (20-60SCFM);
- Equipped with a timing/control device with +/- 5 minutes accuracy for 24 hours operation;
- Installed with elapsed time meter with +/- 2 minutes accuracy for 24 hours operation;
- Capable of providing a minimum exposed area of 406 cm^2 ($63in^2$);
- Flow control accuracy: +/- 2.5% deviation over 24-hr sampling period;
- Equipped with a shelter to protect the filter and sampler;
- Incorporated with an electronic mass flow rate controller or other equivalent devices;
- Equipped with a flow recorder for continuous monitoring;
- Provided with a peaked roof inlet;
- Incorporated with a manometer;
- Able to hold and seal the filter paper to the sampler housing at horizontal position;
- Easy to change the filter; and
- Capable of operating continuously for a 24-hour period.

Relevant environmental data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and other special phenomena observed and work progress of the concerned site were also recorded.

Filter papers of size 8"x10" were labelled before sampling. They were inspected clean with no pin holes and conditioned in a humidity-controlled chamber for over 24-hr and be pre-weighed before use for the sampling.

After sampling, the filter papers loaded with dust were kept in a clean and tightly sealed plastic bag, and then returned for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with a readout down to 0.1 mg. All the collected samples would be kept in a good condition for 6 months before disposal.

The weight of filter paper was measured by a HOKLAS accredited laboratory.

6.1.2 Noise

Weatherproof logging sound level meters which comply with the International Electrotechnical Commission Publication 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications were used to measure the construction noise at the designated monitoring locations. Noise parameters of the A-weighted levels L_{eq}, L_{10} and L_{90} were measured with a sampling period of 5 minutes throughout the monitoring. The average of six consecutive 5-minute readings was used to provide $L_{eq(30\ minutes)}$ for non-restricted hours. A facade correction of 3dB(A) would be applied to all free field measurements.

During the impact monitoring, information such as date, weather condition, equipment used, measurement results and major noise sources were recorded on the field data record sheet. Noise measurements would not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed would be checked with a portable wind speed meter capable of measuring wind speed in m/s. All measurements were recorded to the nearest 0.1dB(A).

6.2 Name of Laboratory, Types of Equipment Used and Calibration Details

6.2.1 Name of Laboratory

Filter papers used for air quality monitoring were sent to ALS Environmental, a HOKLAS accredited laboratory, for weighing. Other sampling and analytical works were conducted by Hyder Consulting Limited, the ET.

6.2.2 Types of Equipment Used and Calibration Details

HVS - Model GBM2000H1, manufactured by Anderson Instruments Inc., was used for TSP monitoring. It complies with the USEPA specifications in Appendix B Part 50 - Reference Method for the Determination of Suspended Particulate matter in the Atmosphere (High-Volume Method) of the Code of Federal Regulation dated July 1, 1991. Initial calibration of dust monitoring equipment was conducted upon installation and prior to commissioning. One point flow rate calibration would be carried out every two months. Five-point calibration would be carried out every six months. All the calibration data were converted into standard temperature and pressure condition.

Orific HVS Calibration Kit Serial No: 517N was used for the calibration of HVSs. Calibration of calibration kit would be carried out annually. Appendix 7 presents the monitoring equipment calibration records.

For noise monitoring, Bruel & Kjaer (B&K) Precision Integrating Sound Level Meters of Type 2238 in compliance with the International Electrotechnical Commission Publication 651: 1979 (Type 1) and 804: 1985 (Type 1) Specifications were used.

Prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustic calibrator (B&K Type 4230) generating a known sound pressure level at a known frequency. Measurements were considered as valid only if the calibration level from before and after the noise measurement agree to within 1dB. All sound level meters and calibrators would be calibrated annually. Appendix 7 presents the monitoring equipment calibration records.

Table 6-5 summarises the types of monitoring and calibration equipment.

Equipment Type	Manufacturer	Model	Serial Number/I.D.
Sound Level Meter	B&K	Type 2236	1774423
Sound Level Calibrator	B&K	Type 4231	1770806
High Volume Sampler	Anderson	GBM 2000 H1	1097
High Volume Sampler	Anderson	GBM 2000 H1	1062
Orific HVS Calibration Kit	Tisch Environmental	N/A	517N

Table 6-5 Monitoring Equipment

6.3 Parameters Monitored

Parameters monitored are described in Sections 4.1.1 and 4.1.2.

6.4 Monitoring Locations

There are two designated air quality monitoring locations identified in the EM&A Manual. Due to the access constraint, alternative monitoring locations were selected and approved by ER, IEC and EPD prior the commencement of monitoring. These alternative locations for air quality monitoring are summarised in Table 6-6 and shown in Appendix 4.

Monitoring Station ID	Name of Premises	Monitoring Location
CAM1a	San Po Street Pumping Station	Ground floor level
CAM2a	Sheung Shui Heung Floodwater Pumping Station	Ground floor level

Table 6-6 Air Quality Monitoring Locations

There are two designated noise monitoring locations identified in the EM&A Manual and their locations are described below and shown in Appendix 4.

Monitoring Station ID	Name of Premises	Monitoring Location
NM1	Wai Loi Tsuen	1.2m above ground
NM2	Temporary Domestic Structure	1.2m above ground

Table 6-7 Noise Monitoring Locations

6.5 Monitoring Date, Time, Frequency and Duration, Weather Condition and Other Factors

Monitoring frequency for 1-hr TSP and 24-hr TSP is 3 times every 6 days and once every 6 days, respectively. One set of noise measurements will be conducted between 0700 and 1900 on normal weekdays at each monitoring station on a weekly basis, when noise-generating activities are underway. Monitoring date, time and duration for noise and air quality monitoring and all other factors related to the monitoring result, such as weather condition, are listed in the following tables.

Station	Date	Time	Duration	Weather Condition
1-hr TSP				
CAM1a	6 May 2008	0925-1225	3 X 1 hour	Fine
	10 May 2008	1127-1427	3 X 1 hour	Sunny
	16 May 2008	0900-1200	3 X 1 hour	Fine
	22 May 2008	1035-1335	3 X 1 hour	Rainy
	28 May 2008	0930-1230	3 X 1 hour	Rainy
CAM2a	6 May 2008	0935-1235	3 X 1 hour	Fine
	10 May 2008	1135-1435	3 X 1 hour	Sunny
	16 May 2008	0915-1215	3 X 1 hour	Fine
	22 May 2008	1045-1350	3 X 1 hour	Rainy
	28 May 2008	0940-1240	3 X 1 hour	Rainy
24-hr TSP				
CAM1a	6 May 2008	1225-1225	24 hours	Fine
	10 May 2008	1427-1427	24 hours	Sunny
	16 May 2008	1200-1200	24 hours	Fine
	22 May 2008	1335-1335	24 hours	Rainy
	28 May 2008	1235-1235	24 hours	Rainy
CAM2a	6 May 2008	1235-1235	24 hours	Fine
	10 May 2008	1435-1435	24 hours	Sunny
	16 May 2008	1215-1215	24 hours	Fine
	22 May 2008	1350-1400	24 hours	Rainy
	28 May 2008	1245-1245	24 hours	Rainy

Table 6-8 Sampling Schedule of Air Quality Monitoring

Due to heavy rainfall, it was not possible to follow the schedule for noise monitoring in the second half of the month of May.

Station	Date	Time	Duration	Weather Condition
NM1	06 May 2008	1032-1102	30 minutes	Fine
	16 May 2008	1300-1330	30 minutes	Fine
	22 May 2008*	-	-	Rainy
	28 May 2008*	-	-	Rainy
NM2	06 May 2008	1115-1135	30 minutes	Fine
	16 May 2008	1400-1430	30 minutes	Fine
	22 May 2008*	-	-	Rainy
	28 May 2008*	-	-	Rainy

Table 6-9 Sampling Schedule of Noise Monitoring

*No results due to heavy rainfall.

It is stated in paragraph 5.4.2 of the EM&A Manual that "noise measurements shall not be made in fog, rain, wind with a steady speed.....". Due to adverse weather conditions or lack of any noisy site activities, noise monitoring could not be rescheduled and unfortunately on 31 May 2008 noise monitoring could not be carried out for practical reasons (prior commitments of monitoring team).

Table 6-10 indicates the weather conditions, site activities each day and any other relevant information on noise monitoring for the latter half of the month of May.

Day	Date	Rainfall (mm)	Noisy Site Activities	Comments
Monday	19/05/2008	27.5□	-	3rd week, scheduled monitoring day is Thursday
Tuesday	20/05/2008	29.0□	-	3rd week, scheduled monitoring day is Thursday
Wednesday	21/05/2008	1.0□	-	3rd week, scheduled monitoring day is Thursday
Thursday	22/05/2008	1.0□	use of electric breaker	wet weather meant noise sampling on scheduled day was cancelled
Friday	23/05/2008	-□	none	no noisy activities
Saturday	24/05/2008	2.0□	none	no noisy activities
Sunday	25/05/2008	24.5□	none	no noisy activities
Monday	26/05/2008	5.0□	use of electric breaker	4th week scheduled monitoring date is Wednesday
Tuesday	27/05/2008	2.5□	use of electric breaker	4th week scheduled monitoring date is Wednesday
Wednesday	28/05/2008	5.5□	use of pneumatic breaker	wet weather meant noise sampling on scheduled day was cancelled
Thursday	29/05/2008	13.5□	use of pneumatic breaker	wet weather meant that rescheduling of noise sampling was not possible
Friday	30/05/2008	8.5□	none	no noisy activities
Saturday	31/05/2008	1.5	use of electric breaker	no site technician availabe due to short notice/ prior commitments

Table 6-10 Detailed review of Noise Monitoring (19/05/2008 – 31/05/2008)

Source: Sheung Shui Automatic Weather Station (www.hko.gov.hk)
Site Activities: Site Diary for period 22/5/08 - 31/05/08 (Appendix 12)

6.6 Results and Graphical Plots of Monitoring Parameters

Air quality monitoring results of 1-hour and 24-hour TSP levels are summarised in Table 6-11 and detailed in Appendix 8. Graphical plots of the monitoring results are also provided in Appendix 8.

Station	Date	Measured Level (µg/m³)		Action/Limit Level (µg/m³)	
		1-hr TSP	24-hr TSP	1-hr TSP	24-hr TSP
CAM1a	6 May 2008	160.1	124.8	342.7/500	203.3/260
		145.7			
		131.2			
	10 May 2008	174.0	92.2		
		135.2			
		119.6			
	16 May 2008	114.8	117.5		
		202.8			
		179.9			
	22 May 2008	259.9	110.3		
		267.7			
		128.0			
	28 May 2008	177.8	79.1		
		176.1			
		177.1			
CAM2a	6 May 2008	131.1	96.3	340/500	201.6/260
		124.3			
		95.5			
	10 May 2008	131.8	72.5		
		93.2			
		102.0			
	16 May 2008	98.5	78.9		
		147.3			
		123.2			
	22 May 2008	106.2	57.7		
		145.3			
		108.4			
	28 May 2008	230.3	36.4		
		184.1			
		87.9			

Note:
(1) “Shading” indicates an exceedance of Action Level. “Bold and shading” indicates an exceedance of Limit Level.

Table 6-11 Air Quality Monitoring Results

Noise monitoring results are summarised in Table 6-12 and detailed in Appendix 8. Graphical plots of the monitoring results are also provided in Appendix 8. As all monitoring was conducted at free field condition, a facade correction of 3dB(A) was applied to each of the noise measurements.

Station	Date	Measured Noise Level, dB(A)			Limit Level for $L_{eq(30\ min)}$, dB(A)
		$L_{eq\ (30min)}$	$L_{10(30min)}$	$L_{90(30min)}$	
NM1	06 May 2008	59.0	60.3	55.0	75
	16 May 2008	62.6	65.4	60.1	
	22 May 2008*	-	-	-	
	28 May 2008*	-	-	-	
NM2	06 May 2008	53.8	55.1	56.1	
	16 May 2008	56.3	58.6	51.9	
	22 May 2008*	-	-	-	
	28 May 2008*	-	-	-	

Note : (1) Shaded area indicates an exceedance of Limit Level.
(2) A facade correction of 3dB(A) was applied to each of noise measurements.
*No results due to heavy rainfalls.

Table 6-12 Noise Monitoring Results

6.7 Factors Which Might Affect the Monitoring Results

Dust from other sources such as roads with the movement of heavy vehicles in the vicinity of the monitoring stations would affect the air quality monitoring results.

Due to heavy rainfall, it was not possible to follow the schedule for noise monitoring in the second half of the month of May. It is stated in paragraph 5.4.2 of the EM&A Manual that "noise measurements shall not be made in fog, rain wind with a steady speed.....". Adverse weather conditions can affect the noise monitoringresults.

6.8 QA/QC Results and Detection Limit

The quality assurance (QA) / quality control (QC) results and detection limit are shown in Appendix 9.

7 Non-compliance, Complaints, Notifications of Summons and Successful Prosecutions

7.1 Non-compliance of Action and Limit Levels

No non-compliance of Action or Limit Level was recorded for noise monitoring.

No non-compliance of Action or Limit Level was recorded for TSP monitoring.

7.2 Complaints Received

In case of an environmental complaint received, all related parties should follow the complaints response procedures specified in the EM&A Manual.

During this reporting month, no environmental complaint was received. Cumulative number of environmental complaint is shown in Appendix 10.

7.3 Notifications of Summons and Successful Prosecutions

No notification of summons or successful prosecution was recorded during the reporting month. The cumulative number of notifications of summons and successful prosecutions are shown in Appendix 10.

7.4 Review of the Reasons and Implications of Non-compliance, Complaints, Summons and Prosecutions

7.4.1 Non-compliance of Acton/Limit Level

No non-compliance was recorded during the reporting period.

7.4.2 Complaints, Summons and Prosecutions

No complaints, summons and prosecutions were recorded during the reporting period.

7.5 Site Inspection

Weekly site inspections were carried out on 7, 14, 22 and 27 May 2008. The findings of the site inspections and appropriate mitigation measures were recorded in the site inspection checklists.

The observations risen during the site inspections, corresponding recommendations and rectification status are summarised in Table 7-12.

Inspection Date	Deficiencies	Recommendation	Status	Note / Reminder
Follow-up issues	1. Stagnant water was found in site boundary, rubbish bin and safety helmet. 2. Non-inert of C&D waste at air blower house was observed.	1. The Contractor was requested to clear up immediately. 2. The Contractor was requested to clear up.	1. During site inspection on 7 May 2008, Stagnant water had been cleared up. (Closed) 2. During site inspection on 7 May 2008, C&D waste had been cleared up. (Closed)	N.A

Inspection Date	Deficiencies	Recommendation	Status	Note / Reminder
7 May 2008	1. Site runoff was observed in manhole.	1. The Contractor is requested to provide sand bags to prevent the runoff.	1. During site inspection on 14 May 2008, sand bags were observed in manhole. (Closed)	1. The Contractor was reminded to provide water spraying in site area.
14 May 2008	1. Oil drum was observed without drip tray near the air Blower house. 2. General refuse was observed in site area. 3. Soil deposit was observed without proper cover. 4. Stagnant water was observed near air Blower house and final sedimentation tank. 5. Oil leakage was observed from excavator.	1. The Contractor is requested to provide drip tray. 2. The Contractor was requested to clear up immediately. 3. The Contractor was requested to provide cover immediately. 4. The Contractor was requested to clear up immediately. 5. The Contractor was requested to provide trip drip and keep good condition of excavator.	1. During site inspection on 22 May 2008, oil drum had been relocated in a proper place. (Closed) 2. During site inspection on 22 May 2008, general refuse had been removed. (Closed) 3. During site inspection on 22 May 2008, soil deposit has been removed. (Closed) 4. The outstanding observation will be followed up in next month inspection. 5. During site inspection on 22 May 2008, proper maintenance works has been provided to the excavator, no more oil leakage was observed during the inspection. (Closed)	N/A
22 May 2008	1. Stagnant water was observed adjacent to primary sedimentation tank and excavation trench. 2. Stockpile of soil was observed at chemical waste storage house.	1. The Contractor was requested to clear up immediately. 2. The Contractor was requested to clear up and provide wetsep to prevent stagnant water flow.	1. The outstanding observation will be followed up in next month inspection. 2. The outstanding observation will be followed up in next month inspection.	N.A
27 May 2008	No additional deficiencies	No recommendations	N/A	Deficiencies 1 & 2 from 22 may 2008 remain outstanding. To be followed up in next month inspection.

Table 7-1 Summaries of Site Inspections and Recommendations

The site audit conducted by IEC was carried out on 22 May 2008 and the Contractor has undertaken appropriate actions in response to the IEC's findings. There was no outstanding issue or deficiency for the observations arising during the weekly site inspections. There was no EPD inspection carried out in May 2008.

8 Waste Management Status

According to the information provided by the Contractor, the following waste materials were generated during the reporting month:

- Inert C&D materials – 160.42 m^3, and
- General Refuse – 39 m^3.

C&D materials were disposed of at Tuen Mun Area 38 Public Fill. General refuse was collected and disposed of at NENT Landfill properly. No chemical waste was produced during the reporting month. Trip ticket system was implemented and disposal records were in order on site. The Waste Management Plan was followed.

9 Future Key Issues

The construction activities for the coming three months are summarized below:

- Excavation and backfilling
- Temporary work including installation of waling and struts
- Pipe Works
- Installation of Cat Ladders
- Roofing and Finishing works
- Structural Steelwork with FRP covers
- Roadwork
- Cable Ducts and Cable Drawpits; and
- Landscaping Works.

The upcoming EM&A schedule for the future three months is shown in Appendix 11.

10 Comments, Recommendations and Conclusions

EM&A works have been undertaken during May 2008 for the Project based on the requirements set in the EM&A Manual.

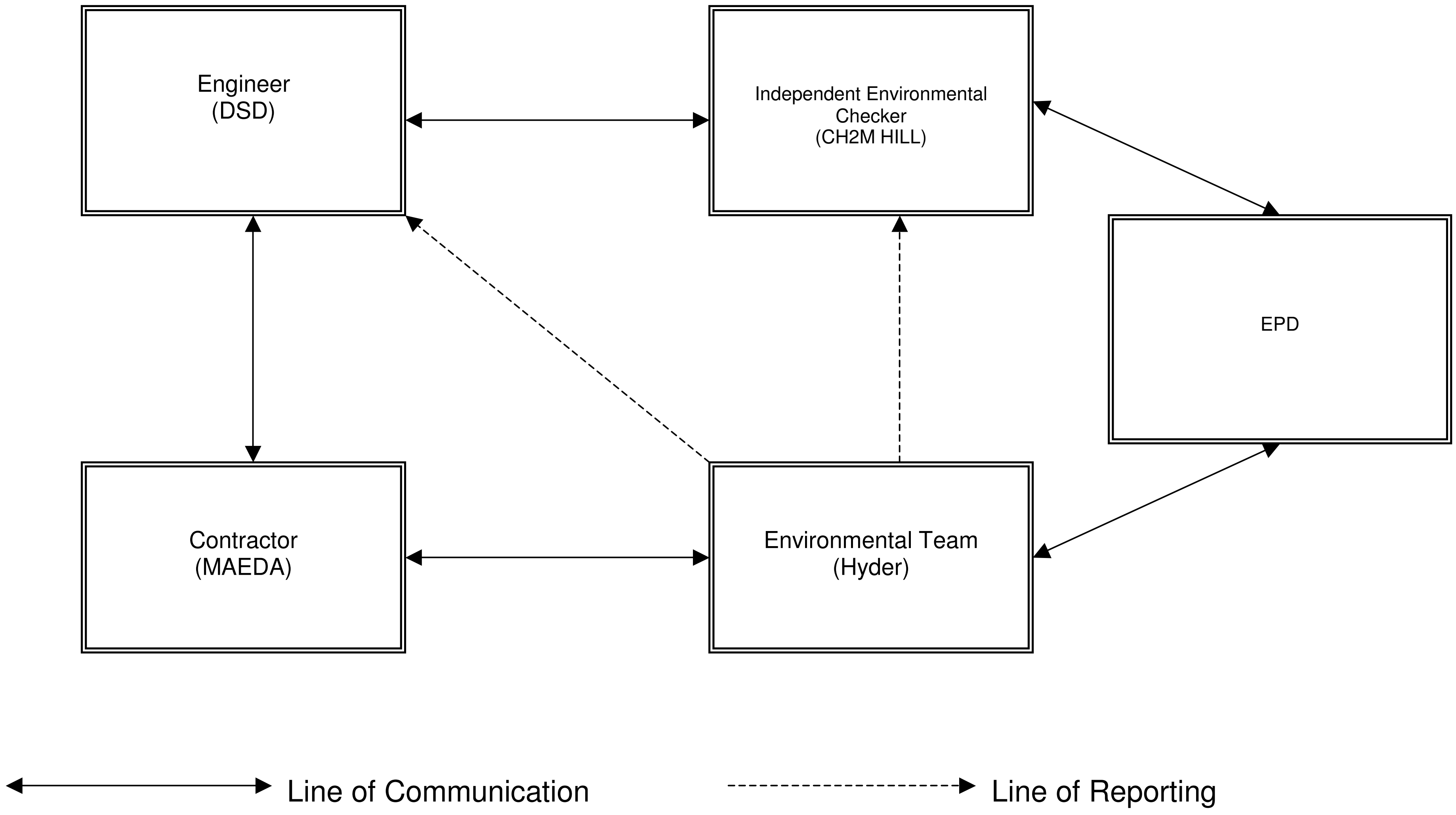
All monitoring equipments have been calibrated and all monitoring protocols have been carried out properly according to the EM&A Manual.

No compliant, notification of summons or successful prosecution was recorded during the reporting month.

Four weekly site inspections were carried out during the reporting month. In response to the observations raised by ET, the Contractor has undertaken follow-up actions to rectify the condition.

Appendix 1

Project Organization



Hyder Consulting

MAEDA

Title

Expansion of Shek Wu Hui Sewage Treatment Works – Project Organization

Date Dec 2005

Figure N.A.

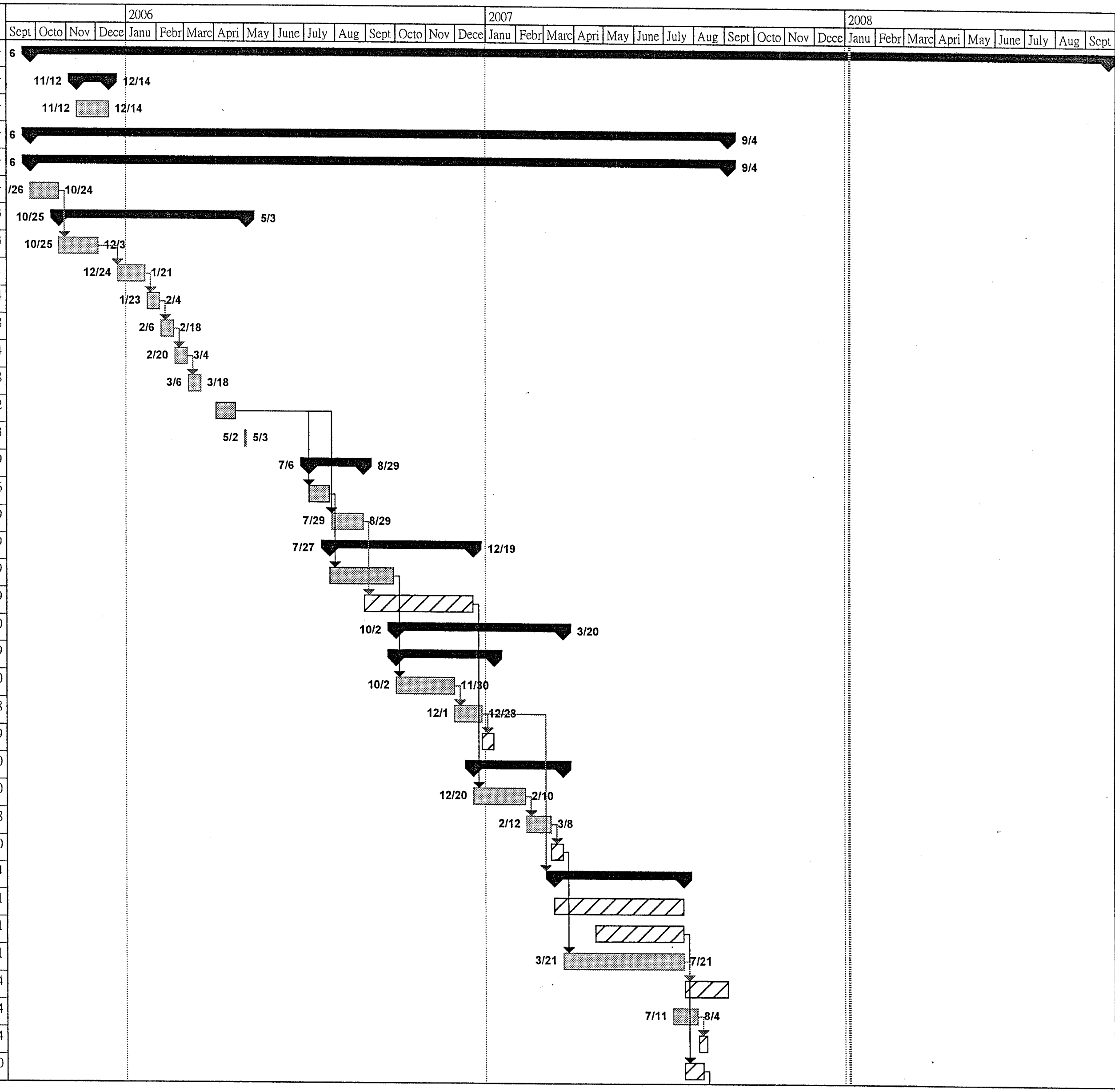
Scale NTS

Appendix 2

Construction Programme

Maeda Corporation
Contract No. DC/2005/01
Expansion of Shek Wu Hui Sewage Treatment Works and
Upgrading of Ting Kok Road Pumping Station No.5
Master Programme (Rev. 6A)

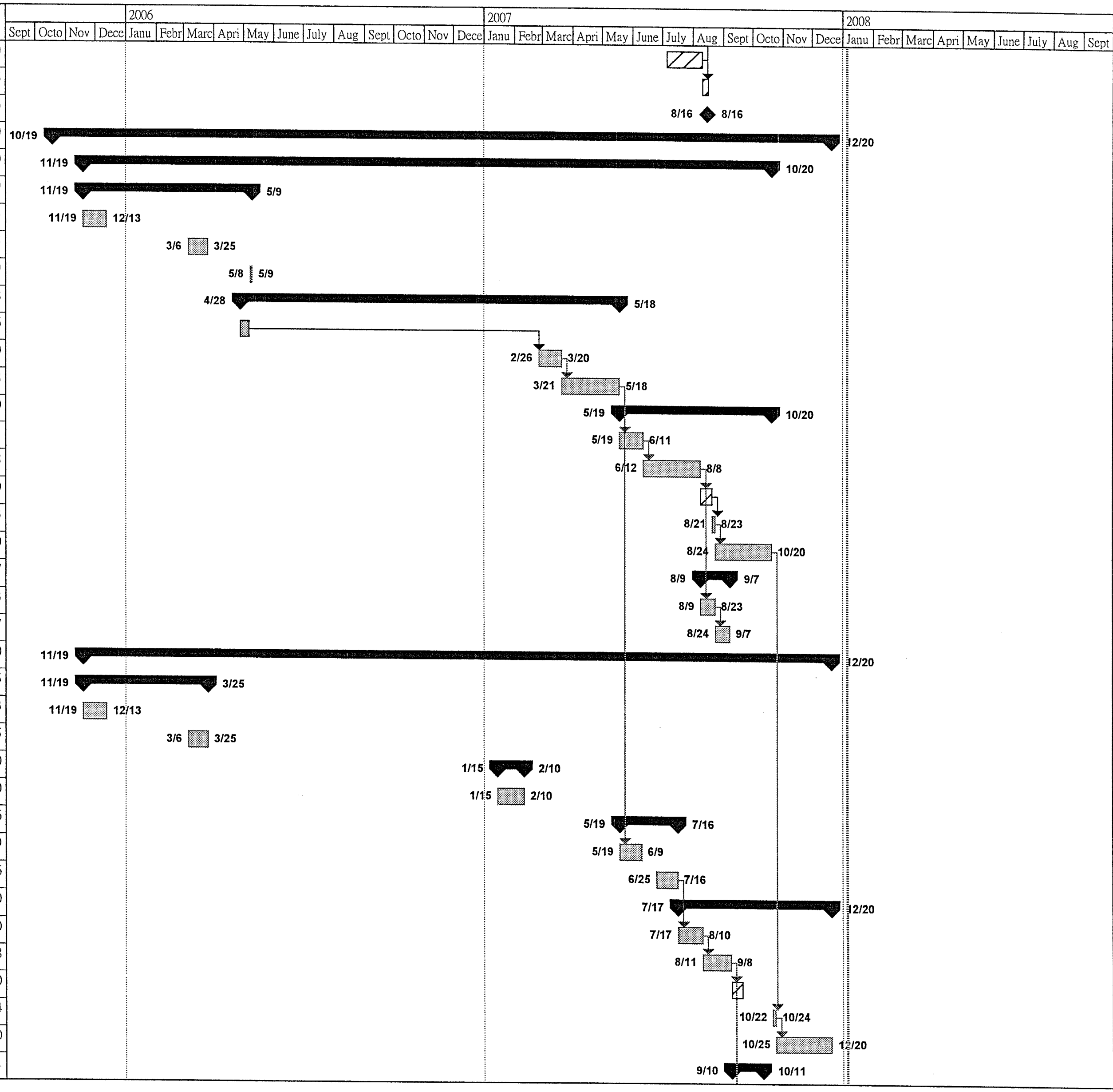
ID		Task Name	Duration	Start	Finish
1		Shek Wu Hui	942 days	Mon 05/9/26	Wed 08/9/24
2		Preliminary works	28 days	Sat 05/11/12	Wed 05/12/14
3		EM&A Baseline Monitoring	28 days	Sat 05/11/12	Wed 05/12/14
4		Section 1 of works	609 days	Mon 05/9/26	Tue 07/9/4
5		Air Blower House No.2	609 days	Mon 05/9/26	Tue 07/9/4
6		General Site Clearance & Fencing Construction	25 days	Mon 05/9/26	Mon 05/10/24
7		Foundation	164 days	Tue 05/10/25	Wed 06/5/3
8		GI works (pre-drilling & reporting)	35 days	Tue 05/10/25	Sat 05/12/3
9		Preliminary H-pile (1nos.)	24 days	Sat 05/12/24	Sat 06/1/21
10		Permanent H-pile (5nos.)	12 days	Mon 06/1/23	Sat 06/2/4
11		Permanent H-pile (5nos.)	12 days	Mon 06/2/6	Sat 06/2/18
12		Permanent H-pile (5nos.)	12 days	Mon 06/2/20	Sat 06/3/4
13		Permanent H-pile (6nos.)	12 days	Mon 06/3/6	Sat 06/3/18
14		Proof Load Test (1nos.)	18 days	Mon 06/4/3	Sat 06/4/22
15		Proof Drilling	2 days	Tue 06/5/2	Wed 06/5/3
16		Earthworks	47 days	Thu 06/7/6	Tue 06/8/29
17		Area 1	18 days	Thu 06/7/6	Wed 06/7/26
18		Area 2	27 days	Sat 06/7/29	Tue 06/8/29
19		Substructure	126 days	Thu 06/7/27	Tue 06/12/19
20		Area 1	56 days	Thu 06/7/27	Fri 06/9/29
21		Area 2	96 days	Thu 06/8/31	Tue 06/12/19
22		Superstructure	147 days	Mon 06/10/2	Tue 07/3/20
23		Area 1	87 days	Mon 06/10/2	Tue 07/1/9
24		Structural framing & slab at level +11.75mPD	52 days	Mon 06/10/2	Thu 06/11/30
25		Concrete Structure up to roof	25 days	Fri 06/12/1	Thu 06/12/28
26		Parapet Wall	10 days	Fri 06/12/29	Tue 07/1/9
27		Area 2	78 days	Wed 06/12/20	Tue 07/3/20
28		Structural framing & slab at level +11.75mPD	46 days	Wed 06/12/20	Sat 07/2/10
29		Concrete Structure up to roof	22 days	Mon 07/2/12	Thu 07/3/8
30		Parapet Wall	10 days	Fri 07/3/9	Tue 07/3/20
31		**Internal Finishes**	**114 days**	**Mon 07/3/12**	**Sat 07/7/21**
32		Area 1	114 days	Mon 07/3/12	Sat 07/7/21
33		Area 2	78 days	Mon 07/4/23	Sat 07/7/21
34		External Finishes	106 days	Wed 07/3/21	Sat 07/7/21
35		Miscellaneous (Plumbing, ABWF works)	38 days	Mon 07/7/23	Tue 07/9/4
36		Cable Ducts	22 days	Wed 07/7/11	Sat 07/8/4
37		Drainage	8 days	Mon 07/8/6	Tue 07/8/14
38		Pipeline 8	17 days	Mon 07/7/23	Fri 07/8/10



Date: Sat 08/1/5	Task	Progress	Summary	Rolled Up Critical Task	Rolled Up Progress	External Tasks
	Critical Task	Milestone	Rolled Up Task	Rolled Up Milestone	Split	Project Summary

Maeda Corporation
Contract No. DC/2005/01
Expansion of Shek Wu Hui Sewage Treatment Works and
Upgrading of Ting Kok Road Pumping Station No.5
Master Programme (Rev. 6A)

ID	Task Name	Duration	Start	Finish
39	Pipeline 10	31 days	Fri 07/7/6	Fri 07/8/10
40	Pressure Test and CCTV	5 days	Sat 07/8/11	Thu 07/8/16
41	Key Date of the Section 1 Works	1 day	Thu 07/8/16	Thu 07/8/16
42	Section 2 of works	682 days	Wed 05/10/19	Thu 07/12/20
43	Flow Division Pump Pits No.1	602 days	Sat 05/11/19	Sat 07/10/20
44	Foundation	147 days	Sat 05/11/19	Tue 06/5/9
45	GI works (pre-drilling & reporting)	20 days	Sat 05/11/19	Tue 05/12/13
46	Permanent Mini-pile (4nos.)	18 days	Mon 06/3/6	Sat 06/3/25
47	Proof Drilling	2 days	Mon 06/5/8	Tue 06/5/9
48	Earthworks	332 days	Fri 06/4/28	Fri 07/5/18
49	Approval of Temporary Works	8 days	Fri 06/4/28	Sat 06/5/6
50	Install temporary retaining wall (steet pile)	20 days	Mon 07/2/26	Tue 07/3/20
51	Excavation & temp.supporting	51 days	Wed 07/3/21	Fri 07/5/18
52	Structure	133 days	Sat 07/5/19	Sat 07/10/20
53	Pilecaps	20 days	Sat 07/5/19	Mon 07/6/11
54	Concrete work	50 days	Tue 07/6/12	Wed 07/8/8
55	Water Tightness Test	10 days	Thu 07/8/9	Mon 07/8/20
56	Temporary Suspension and Demolition of Existing Pipe	3 days	Tue 07/8/21	Thu 07/8/23
57	Pumps & Pipe installation (by others)	50 days	Fri 07/8/24	Sat 07/10/20
58	External Works	26 days	Thu 07/8/9	Fri 07/9/7
59	Backfilling, remove temp. retaining wall	13 days	Thu 07/8/9	Thu 07/8/23
60	Installation, handrail/plate/ladder	13 days	Fri 07/8/24	Fri 07/9/7
61	Flow Division Pump Pits No.2	655 days	Sat 05/11/19	Thu 07/12/20
62	Foundation	109 days	Sat 05/11/19	Sat 06/3/25
63	GI works (pre-drilling & reporting)	20 days	Sat 05/11/19	Tue 05/12/13
64	Permanent Mini-pile (4nos.)	18 days	Mon 06/3/6	Sat 06/3/25
65	Air Main Diversion	24 days	Mon 07/1/15	Sat 07/2/10
66	Compressed Air pipe (by MAEDA)	24 days	Mon 07/1/15	Sat 07/2/10
67	Earthworks	50 days	Sat 07/5/19	Mon 07/7/16
68	Install temporary retaining wall (sheetpile)	19 days	Sat 07/5/19	Sat 07/6/9
69	Excavation & temp.supporting	19 days	Mon 07/6/25	Mon 07/7/16
70	Structure	136 days	Tue 07/7/17	Thu 07/12/20
71	Pilecaps	22 days	Tue 07/7/17	Fri 07/8/10
72	Concrete work	25 days	Sat 07/8/11	Sat 07/9/8
73	Water Tightness Test	10 days	Mon 07/9/10	Thu 07/9/20
74	Temporary Suspension and Demolition of Existing Pipe	3 days	Mon 07/10/22	Wed 07/10/24
75	Pumps & Pipe installation (by others)	50 days	Thu 07/10/25	Thu 07/12/20
76	External Works	28 days	Mon 07/9/10	Thu 07/10/11

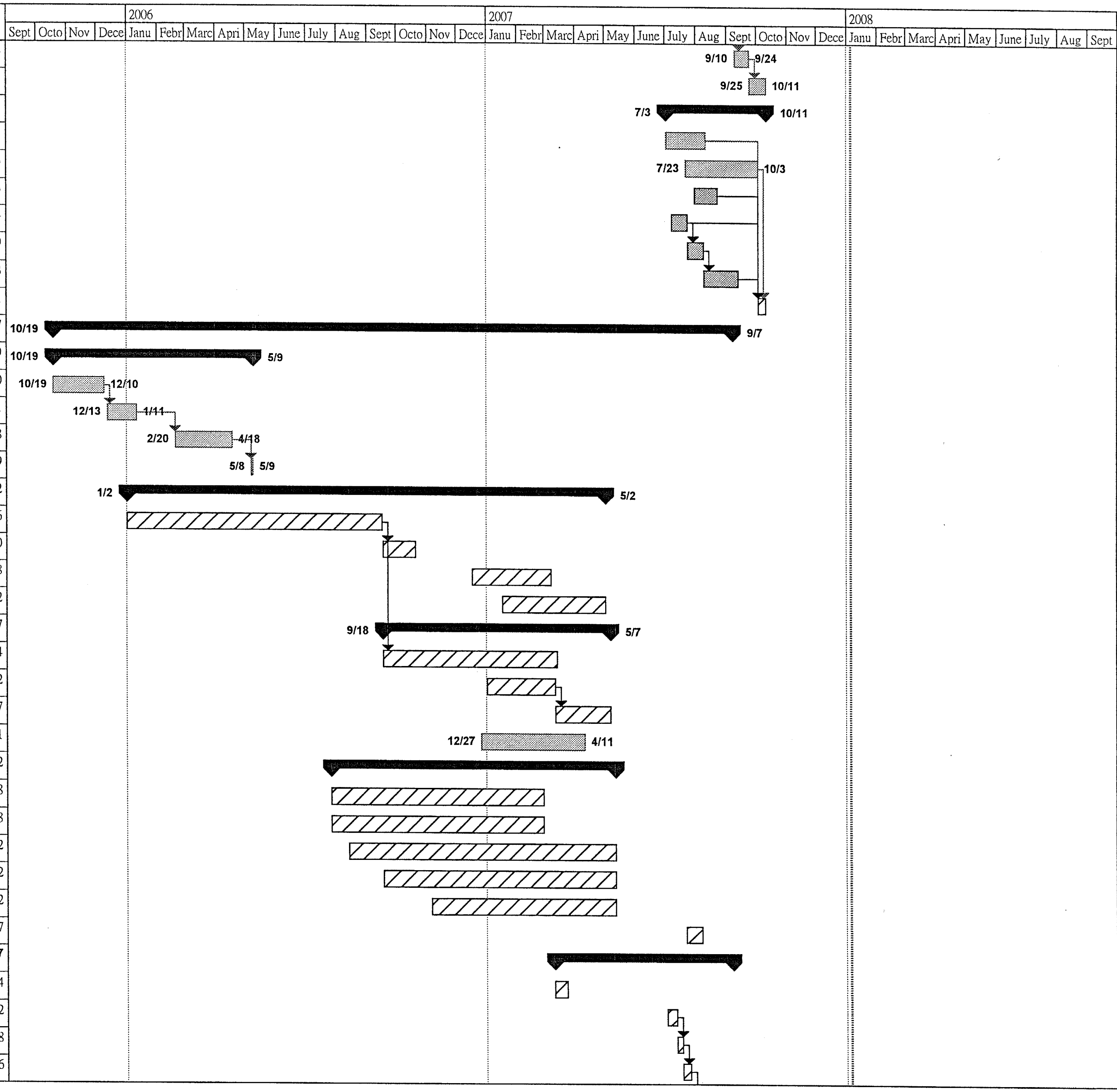


Date: Sat 08/1/5

Task | Critical Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Critical Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary

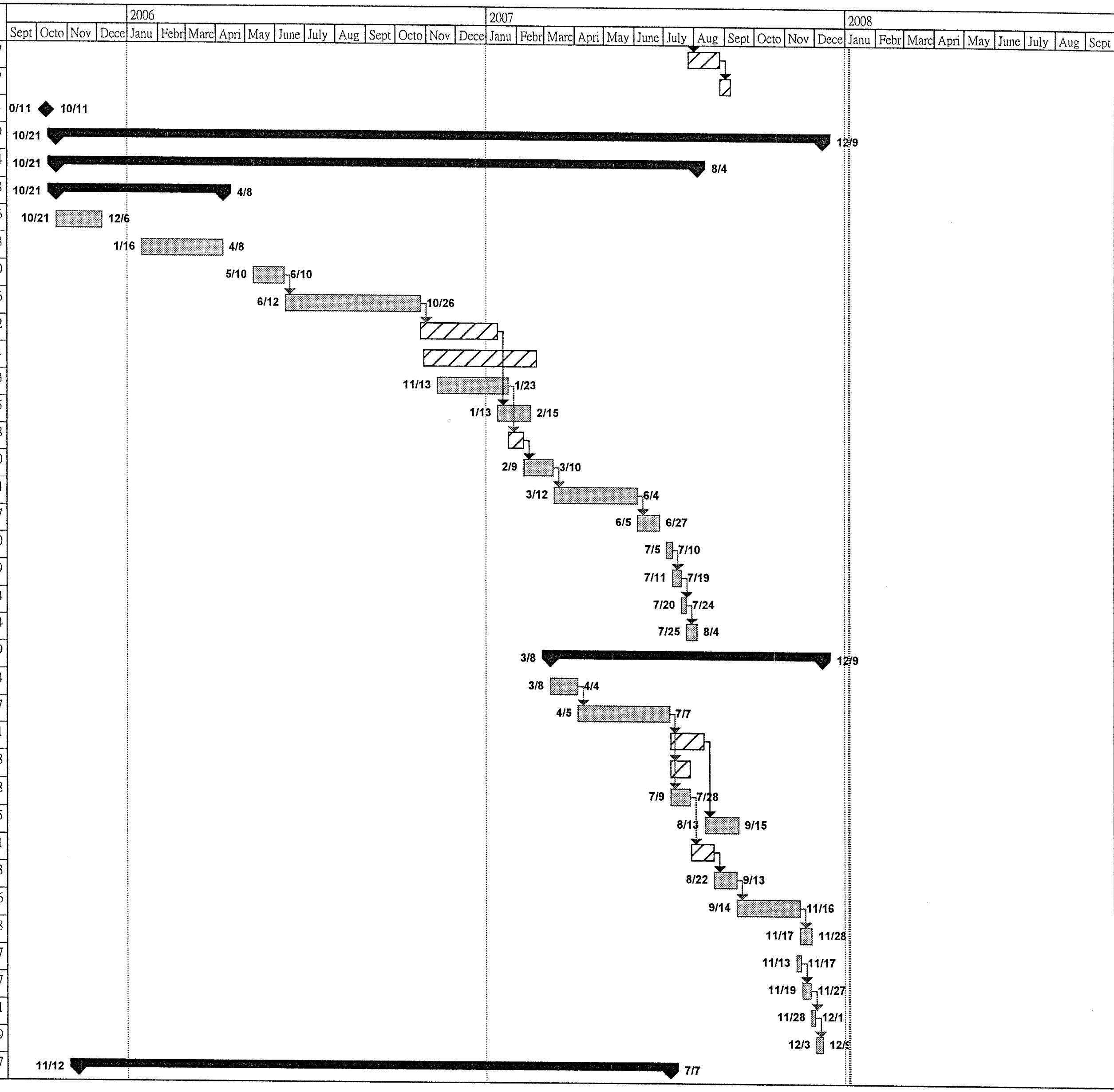
Maeda Corporation
Contract No. DC/2005/01
Expansion of Shek Wu Hui Sewage Treatment Works and
Upgrading of Ting Kok Road Pumping Station No.5
Master Programme (Rev. 6A)

ID	Task Name	Duration	Start	Finish
77	Backfilling, remove temp. retaining wall	13 days	Mon 07/9/10	Mon 07/9/24
78	Installation, handrail/plate/ladder	15 days	Tue 07/9/25	Thu 07/10/11
79	Pipeworks	87 days	Tue 07/7/3	Thu 07/10/11
80	Pipeline No. 1	35 days	Tue 07/7/3	Sat 07/8/11
81	Pipeline No. 2	63 days	Mon 07/7/23	Wed 07/10/3
82	Pipeline No. 3	20 days	Wed 07/8/1	Thu 07/8/23
83	Pipeline No. 4	14 days	Mon 07/7/9	Tue 07/7/24
84	Pipeline No. 5	14 days	Wed 07/7/25	Thu 07/8/9
85	Pipeline 14, 15 & 16	30 days	Fri 07/8/10	Thu 07/9/13
86	Pressure Test & CCTV	7 days	Thu 07/10/4	Thu 07/10/11
87	Bioreactor No.5	592 days	Wed 05/10/19	Fri 07/9/7
88	Foundation	174 days	Wed 05/10/19	Tue 06/5/9
89	GI works (pre-drilling & reporting)	45 days	Wed 05/10/19	Sat 05/12/10
90	Preliminary H-pile (1nos.)	26 days	Tue 05/12/13	Wed 06/1/11
91	Permanent H-pile (55nos.)	50 days	Mon 06/2/20	Tue 06/4/18
92	Proof Load Test (1nos.)	2 days	Mon 06/5/8	Tue 06/5/9
93	Temporary Works	418 days	Mon 06/1/2	Wed 07/5/2
94	Erection - Phase 1 (Portion A - C)	222 days	Mon 06/1/2	Sat 06/9/16
95	Erection - Phase 2 (Portion D - E)	29 days	Mon 06/9/18	Fri 06/10/20
96	Removal - waling and strut	70 days	Mon 06/12/18	Thu 07/3/8
97	Removal - sheet pile	90 days	Thu 07/1/18	Wed 07/5/2
98	Earthworks	200 days	Mon 06/9/18	Mon 07/5/7
99	Excavation to formation	154 days	Mon 06/9/18	Wed 07/3/14
100	Backfilling to +2.92mPD	60 days	Tue 07/1/2	Mon 07/3/12
101	Backfilling to +5.30mPD	48 days	Tue 07/3/13	Mon 07/5/7
102	Backfilling to FGL	91 days	Wed 06/12/27	Wed 07/4/11
103	Structures	250 days	Thu 06/7/27	Sat 07/5/12
104	Portion A	187 days	Thu 06/7/27	Wed 07/2/28
105	Portion B	187 days	Thu 06/7/27	Wed 07/2/28
106	Portion C	235 days	Mon 06/8/14	Sat 07/5/12
107	Portion D	205 days	Mon 06/9/18	Sat 07/5/12
108	Portion E	163 days	Mon 06/11/6	Sat 07/5/12
109	Water Tightness Test (Portions A - E)	14 days	Mon 07/7/23	Tue 07/8/7
110	**Portion F (Final Sed Tank Dist Chamber)**	**155 days**	**Mon 07/3/12**	**Fri 07/9/7**
111	Sheet Pile Installation	12 days	Mon 07/3/12	Sat 07/3/24
112	Excavation + Temp Works	9 days	Tue 07/7/3	Thu 07/7/12
113	Pile Head	5 days	Fri 07/7/13	Wed 07/7/18
114	Base Slab	7 days	Thu 07/7/19	Thu 07/7/26



Date: Sat 08/1/5	Task	Progress	Summary	Rolled Up Critical Task	Rolled Up Progress	External Tasks
	Critical Task	Milestone	Rolled Up Task	Rolled Up Milestone	Split	Project Summary

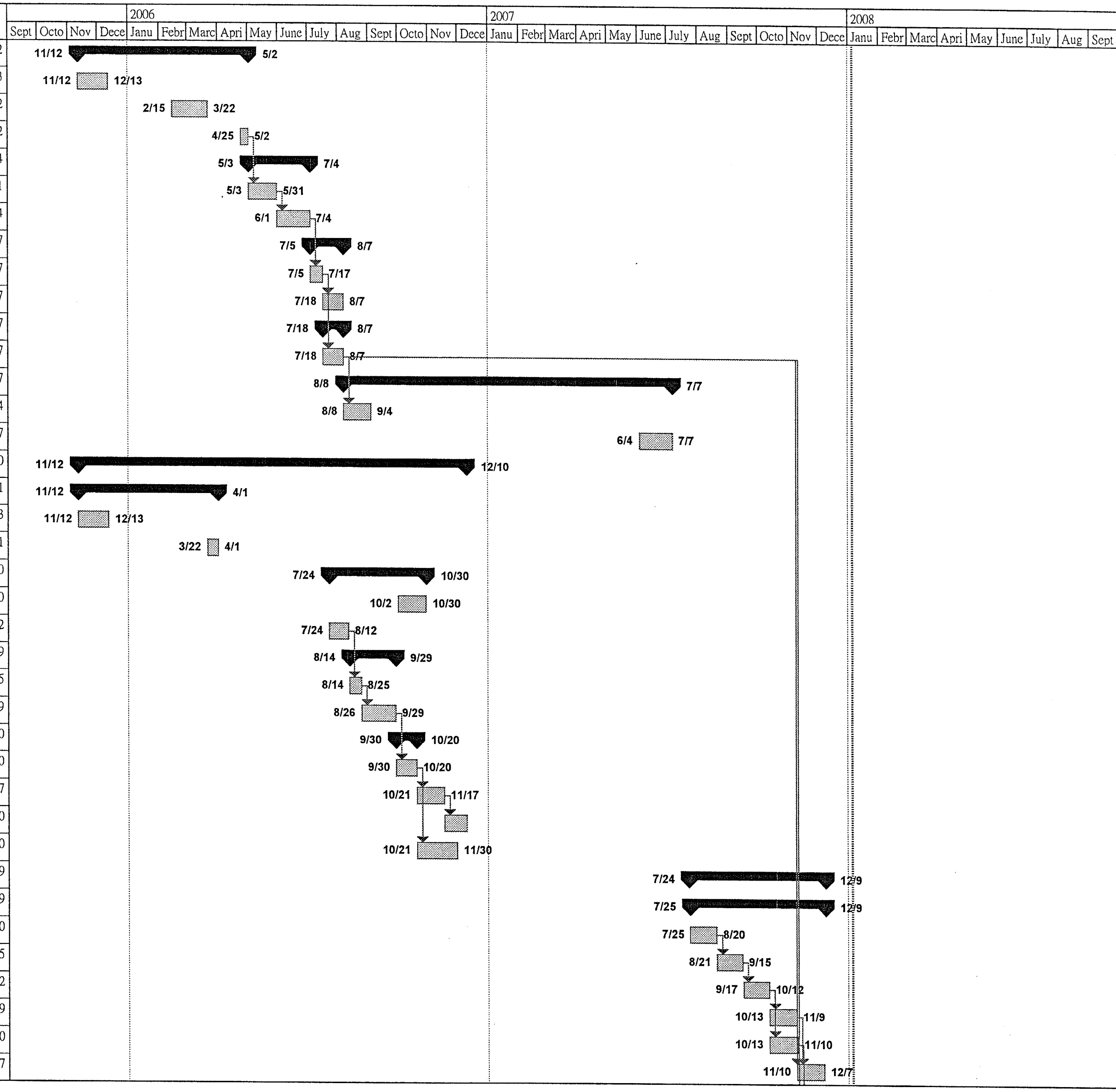
ID		Task Name	Duration	Start	Finish
115		Wall	27 days	Fri 07/7/27	Mon 07/8/27
116		Water Tightness Test	10 days	Tue 07/8/28	Fri 07/9/7
117		Key Date of the Section 2 of the Works	1 day	Tue 05/10/11	Tue 05/10/11
118		Section 3 of works	670 days	Fri 05/10/21	Sun 07/12/9
119		Final Sedimentation Tank No.9	561 days	Fri 05/10/21	Sat 07/8/4
120		Foundation	146 days	Fri 05/10/21	Sat 06/4/8
121		GI works (pre-drilling & reporting)	40 days	Fri 05/10/21	Tue 05/12/6
122		Permanent H-pile (21nos.)	72 days	Mon 06/1/16	Sat 06/4/8
123		Sheetpiling works	28 days	Wed 06/5/10	Sat 06/6/10
124		Excavation	118 days	Mon 06/6/12	Thu 06/10/26
125		Pile head (inner ground beam) (6 nos)	68 days	Fri 06/10/27	Fri 07/1/12
126		DN800 DI pipe	100 days	Mon 06/10/30	Wed 07/2/21
127		DN450 DI pipe	63 days	Mon 06/11/13	Tue 07/1/23
128		Pile head (outer ground beam) (15 nos)	29 days	Sat 07/1/13	Thu 07/2/15
129		Outer ground beam	14 days	Wed 07/1/24	Thu 07/2/8
130		Base slab	26 days	Fri 07/2/9	Sat 07/3/10
131		Wall (2 panels)	73 days	Mon 07/3/12	Mon 07/6/4
132		Water Tightness Test and Pressure Test of Pipeline	20 days	Tue 07/6/5	Wed 07/6/27
133		backfilling to +4.20mPD	5 days	Thu 07/7/5	Tue 07/7/10
134		Break and remove Row 1 ring beam	8 days	Wed 07/7/11	Thu 07/7/19
135		backfilling to +5.51mPD	4 days	Fri 07/7/20	Tue 07/7/24
136		Extract sheetpiles	10 days	Wed 07/7/25	Sat 07/8/4
137		FINAL SEDIMENTION TANK NO. 10	238 days	Thu 07/3/8	Sun 07/12/9
138		Sheetpiling works	24 days	Thu 07/3/8	Wed 07/4/4
139		Excavation	81 days	Thu 07/4/5	Sat 07/7/7
140		Pile head (inner ground beam) (6 nos)	30 days	Mon 07/7/9	Sat 07/8/11
141		DN800 DI pipe	18 days	Mon 07/7/9	Sat 07/7/28
142		DN450 DI pipe	18 days	Mon 07/7/9	Sat 07/7/28
143		Pile head (outer ground beam) (15 nos)	30 days	Mon 07/8/13	Sat 07/9/15
144		Outer ground beam	20 days	Mon 07/7/30	Tue 07/8/21
145		Base slab	20 days	Wed 07/8/22	Thu 07/9/13
146		Wall (2 panels)	55 days	Fri 07/9/14	Fri 07/11/16
147		Water Tightness Test and Pressure Test of Pipeline	10 days	Sat 07/11/17	Wed 07/11/28
148		backfilling to +4.20mPD	5 days	Tue 07/11/13	Sat 07/11/17
149		Break and remove Row 1 ring beam	8 days	Mon 07/11/19	Tue 07/11/27
150		backfilling to +5.51mPD	4 days	Wed 07/11/28	Sat 07/12/1
151		Extraction of sheetpiles	7 days	Mon 07/12/3	Sun 07/12/9
152		RAS/SAS Switch Room	518 days	Sat 05/11/12	Sat 07/7/7



Date: Sat 08/1/5				
Task	Progress	Summary	Rolled Up Critical Task	Rolled Up Progress	External Tasks
Critical Task	Milestone	Rolled Up Task	Rolled Up Milestone	Split	Project Summary

Maeda Corporation
Contract No. DC/2005/01
Expansion of Shek Wu Hui Sewage Treatment Works and
Upgrading of Ting Kok Road Pumping Station No.5
Master Programme (Rev. 6A)

ID		Task Name	Duration	Start	Finish
153		Foundation	147 days	Sat 05/11/12	Tue 06/5/2
154		GI works (pre-drilling & reporting)	26 days	Sat 05/11/12	Tue 05/12/13
155		Permanent H-pile (6nos.)	31 days	Wed 06/2/15	Wed 06/3/22
156		Proof Load Test	7 days	Tue 06/4/25	Tue 06/5/2
157		Earthworks	54 days	Wed 06/5/3	Tue 06/7/4
158		Install temporary retaining wall (sheetpile)	25 days	Wed 06/5/3	Wed 06/5/31
159		Excavation	29 days	Thu 06/6/1	Tue 06/7/4
160		Substructure	29 days	Wed 06/7/5	Mon 06/8/7
161		Pilecaps/tie beams	11 days	Wed 06/7/5	Mon 06/7/17
162		Concrete structure up to 7.40mPD	18 days	Tue 06/7/18	Mon 06/8/7
163		Superstructure	18 days	Tue 06/7/18	Mon 06/8/7
164		Concrete structure up to roof	18 days	Tue 06/7/18	Mon 06/8/7
165		Others	288 days	Tue 06/8/8	Sat 07/7/7
166		Pipeworks/plumbing& opening	24 days	Tue 06/8/8	Mon 06/9/4
167		Internal/External finishing	30 days	Mon 07/6/4	Sat 07/7/7
168		RAS/SAS Main Station	338 days	Sat 05/11/12	Sun 06/12/10
169		Foundation	121 days	Sat 05/11/12	Sat 06/4/1
170		GI works (pre-drilling & reporting)	26 days	Sat 05/11/12	Tue 05/12/13
171		Permanent H-pile (6nos.)	10 days	Wed 06/3/22	Sat 06/4/1
172		Earthworks	85 days	Mon 06/7/24	Mon 06/10/30
173		Install temporary retaining wall (sheetpile)	25 days	Mon 06/10/2	Mon 06/10/30
174		Excavation	18 days	Mon 06/7/24	Sat 06/8/12
175		Substructure	41 days	Mon 06/8/14	Fri 06/9/29
176		Pilecaps/tie beams	11 days	Mon 06/8/14	Fri 06/8/25
177		Concrete structure up to 7.40mPD	30 days	Sat 06/8/26	Fri 06/9/29
178		Superstructure	18 days	Sat 06/9/30	Fri 06/10/20
179		Concrete structure up to roof	18 days	Sat 06/9/30	Fri 06/10/20
180		Pipeworks/plumbing& opening	24 days	Sat 06/10/21	Fri 06/11/17
181		Water Tightness Test, Pressure Test of the Pipeline and CCTV in:	20 days	Sat 06/11/18	Sun 06/12/10
182		Internal/External finishing	35 days	Sat 06/10/21	Thu 06/11/30
183		External Works	120 days	Tue 07/7/24	Sun 07/12/9
184		External manholes/pits construction	119 days	Wed 07/7/25	Sun 07/12/9
185		E2A-E6A	23 days	Wed 07/7/25	Mon 07/8/20
186		E6A-E7	23 days	Tue 07/8/21	Sat 07/9/15
187		E7-E8	23 days	Mon 07/9/17	Fri 07/10/12
188		E8-E9	24 days	Sat 07/10/13	Fri 07/11/9
189		E8-E10	25 days	Sat 07/10/13	Sat 07/11/10
190		E9-E11	24 days	Sat 07/11/10	Fri 07/12/7

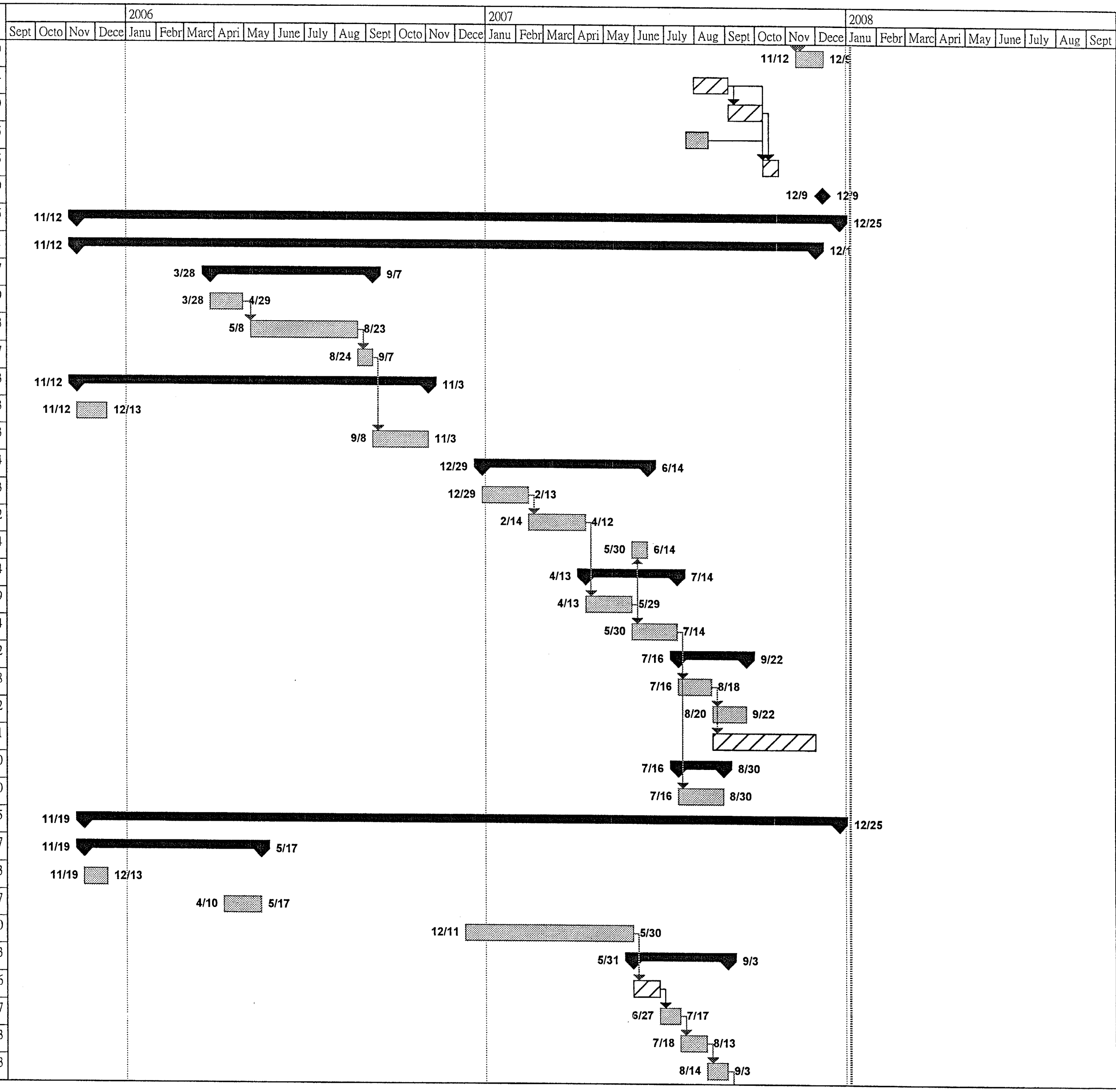


Date: Sat 08/1/5

Task | Progress | Summary | Rolled Up Critical Task | Rolled Up Progress | External Tasks
Critical Task | Milestone | Rolled Up Task | Rolled Up Milestone | Split | Project Summary

Maeda Corporation
Contract No. DC/2005/01
Expansion of Shek Wu Hui Sewage Treatment Works and
Upgrading of Ting Kok Road Pumping Station No.5
Master Programme (Rev. 6A)

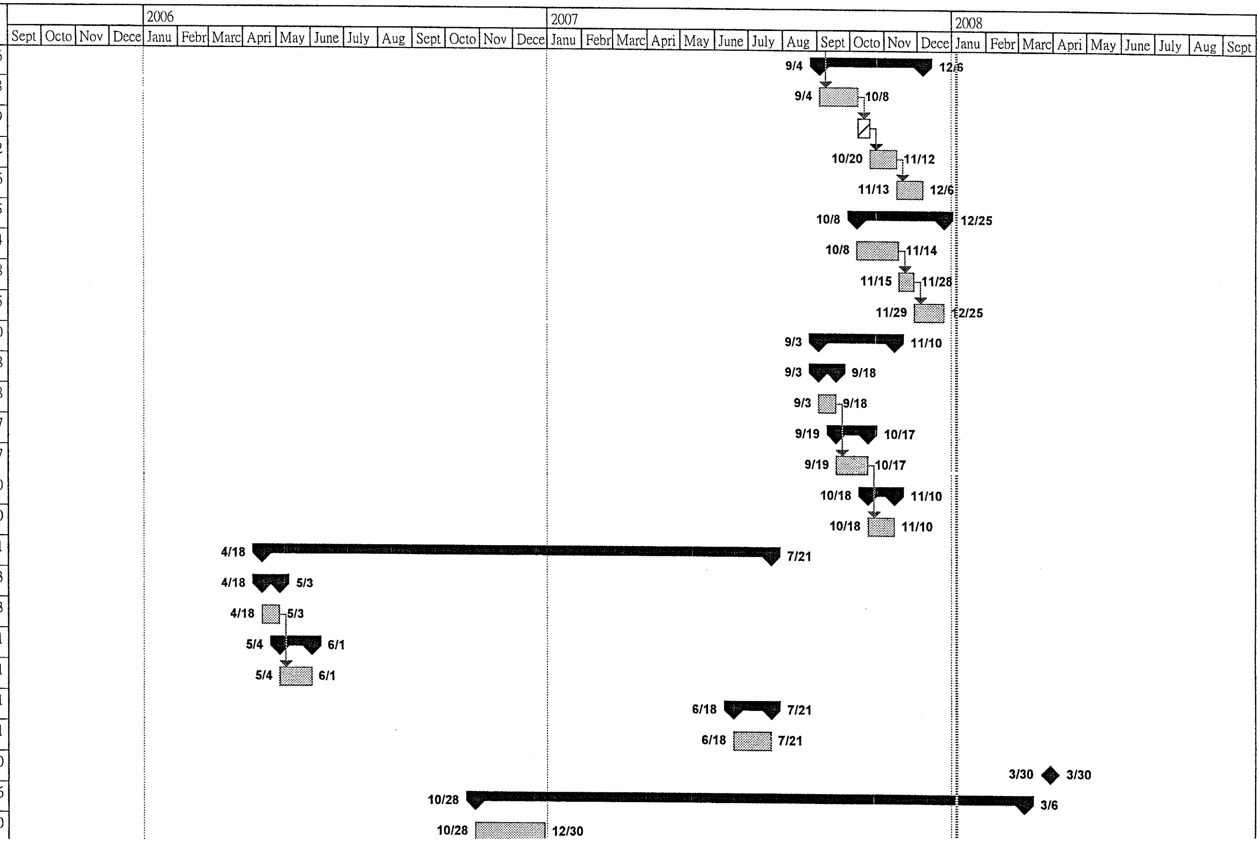
ID		Task Name	Duration	Start	Finish
191		E10-E12	25 days	Mon 07/11/12	Sun 07/12/9
192		Pipeline 6	30 days	Wed 07/8/1	Tue 07/9/4
193		Pipeline 7	30 days	Wed 07/9/5	Tue 07/10/9
194		Pipeline 9	20 days	Tue 07/7/24	Wed 07/8/15
195		Pressure Test and CCTV Inspection	14 days	Wed 07/10/10	Thu 07/10/25
196		Key Date of the Section 3 of the Works	1 day	Sun 07/12/9	Sun 07/12/9
197		Section 4 of works	665 days	Sat 05/11/12	Tue 07/12/25
198		Sludge Press House Extension	644 days	Sat 05/11/12	Sat 07/12/1
199		Relocation of FeCl3 Tank	141 days	Tue 06/3/28	Thu 06/9/7
200		Construction of Bund Wall	29 days	Tue 06/3/28	Sat 06/4/29
201		Relocation of Tank	93 days	Mon 06/5/8	Wed 06/8/23
202		Demolish the Existing Wall	13 days	Thu 06/8/24	Thu 06/9/7
203		Foundation	306 days	Sat 05/11/12	Fri 06/11/3
204		GI works (pre-drilling & reporting)	26 days	Sat 05/11/12	Tue 05/12/13
205		Permanent Mini-pile (18 nos.)	49 days	Fri 06/9/8	Fri 06/11/3
206		Earthworks	144 days	Fri 06/12/29	Thu 07/6/14
207		Excavation	40 days	Fri 06/12/29	Tue 07/2/13
208		Pilecaps, 10nos.	50 days	Wed 07/2/14	Thu 07/4/12
209		Backfill & compaction	14 days	Wed 07/5/30	Thu 07/6/14
210		Superstructure	80 days	Fri 07/4/13	Sat 07/7/14
211		Structure up to 1st floor	40 days	Fri 07/4/13	Tue 07/5/29
212		Structure up to roof	40 days	Wed 07/5/30	Sat 07/7/14
213		Internal Finishes	60 days	Mon 07/7/16	Sat 07/9/22
214		Internal finishes works & opening	30 days	Mon 07/7/16	Sat 07/8/18
215		ABWF Works	30 days	Mon 07/8/20	Sat 07/9/22
216		pipeworks & ducting	90 days	Mon 07/8/20	Sat 07/12/1
217		External Finishes	40 days	Mon 07/7/16	Thu 07/8/30
218		External finishes works	40 days	Mon 07/7/16	Thu 07/8/30
219		Sludge Conditioning Tanks No.3 & No.4	659 days	Sat 05/11/19	Tue 07/12/25
220		Foundation	154 days	Sat 05/11/19	Wed 06/5/17
221		GI works (pre-drilling & reporting)	20 days	Sat 05/11/19	Tue 05/12/13
222		Permanent Mini-pile	33 days	Mon 06/4/10	Wed 06/5/17
223		Sewage Diversion Stage I of II	147 days	Mon 06/12/11	Wed 07/5/30
224		Earthworks	82 days	Thu 07/5/31	Mon 07/9/3
225		Trial Trench	23 days	Thu 07/5/31	Tue 07/6/26
226		Temporary Works (sheetpile for SCT3 & SCT4)	18 days	Wed 07/6/27	Tue 07/7/17
227		Excavation	23 days	Wed 07/7/18	Mon 07/8/13
228		Backfill & rockfill underneath pit	18 days	Tue 07/8/14	Mon 07/9/3



Date: Sat 08/1/5	Task	Progress	Summary	Rolled Up Critical Task	Rolled Up Progress	External Tasks
	Critical Task	Milestone	Rolled Up Task	Rolled Up Milestone	Split	Project Summary

Maeda Corporation
Contract No. DC/2005/01
Expansion of Shek Wu Hui Sewage Treatment Works and
Upgrading of Ting Kok Road Pumping Station No.5
Master Programme (Rev. 6A)

ID		Task Name	Duration	Start	Finish
229		Structure	81 days	Tue 07/9/4	Thu 07/12/6
230		Concrete works	30 days	Tue 07/9/4	Mon 07/10/8
231		Water Tightness Test	10 days	Tue 07/10/9	Fri 07/10/19
232		Backfilling	20 days	Sat 07/10/20	Mon 07/11/12
233		Install handrailing/ladders/mesh etc.	21 days	Tue 07/11/13	Thu 07/12/6
234		External Works	69 days	Mon 07/10/8	Tue 07/12/25
235		Pipelaying of pipeline No.11, 12 & 13	33 days	Mon 07/10/8	Wed 07/11/14
236		Connection to existing system	12 days	Thu 07/11/15	Wed 07/11/28
237		Sump pit construction	24 days	Thu 07/11/29	Tue 07/12/25
238		Dangerous Goods (cat.5) Storeroom	60 days	Mon 07/9/3	Sat 07/11/10
239		Earthworks	14 days	Mon 07/9/3	Tue 07/9/18
240		Excavation, rockfill & Blinding	14 days	Mon 07/9/3	Tue 07/9/18
241		Superstructure	25 days	Wed 07/9/19	Wed 07/10/17
242		Structure	25 days	Wed 07/9/19	Wed 07/10/17
243		Finishing	21 days	Thu 07/10/18	Sat 07/11/10
244		Internal & external finishing	21 days	Thu 07/10/18	Sat 07/11/10
245		Chemical Waste storeroom No.1 & 2	396 days	Tue 06/4/18	Sat 07/7/21
246		Earthworks	14 days	Tue 06/4/18	Wed 06/5/3
247		Excavation, rockfill & Blinding	14 days	Tue 06/4/18	Wed 06/5/3
248		Superstructure	25 days	Thu 06/5/4	Thu 06/6/1
249		Structure	25 days	Thu 06/5/4	Thu 06/6/1
250		Finishing	30 days	Mon 07/6/18	Sat 07/7/21
251		Internal & external finishing	30 days	Mon 07/6/18	Sat 07/7/21
252		Key Date of the Section 4 of the Works	1 day	Sun 08/3/30	Sun 08/3/30
253		Section 5 of works	427 days	Sat 06/10/28	Thu 08/3/6
254		Covered Walkway of Air Blower House No.2	55 days	Sat 06/10/28	Sat 06/12/30

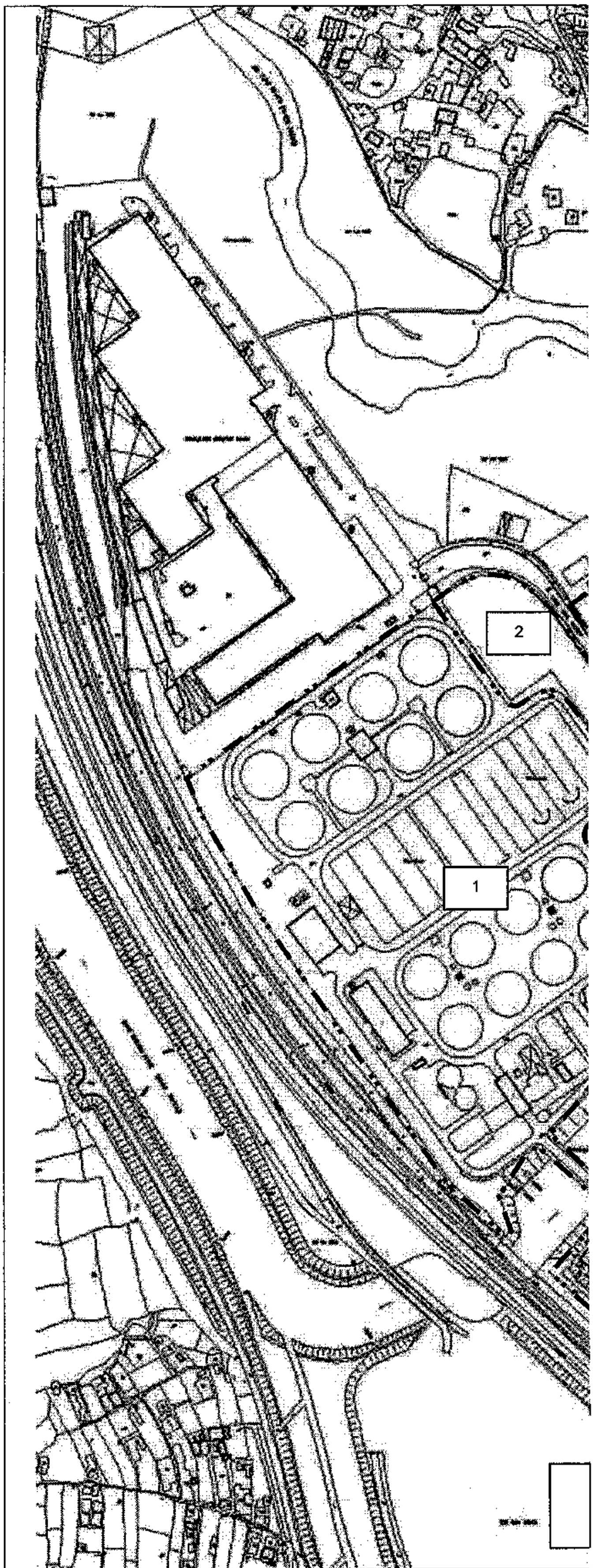


Maeda Corporation
Contract No. DC/2005/01
Expansion of Shek Wu Hui Sewage Treatment Works and
Upgrading of Ting Kok Road Pumping Station No.5
Master Programme (Rev. 6A)

ID		Task Name	Duration	Start	Finish					2006												2007												2008								
						Sept	Octo	Nov	Dece	Janu	Febr	Marc	Apri	May	June	July	Aug	Sept	Octo	Nov	Dece	Janu	Febr	Marc	Apri	May	June	July	Aug	Sept	Octo	Nov	Dece	Janu	Febr	Marc	Apri	May	June	July	Aug	Sept

Appendix 3

Location of Works

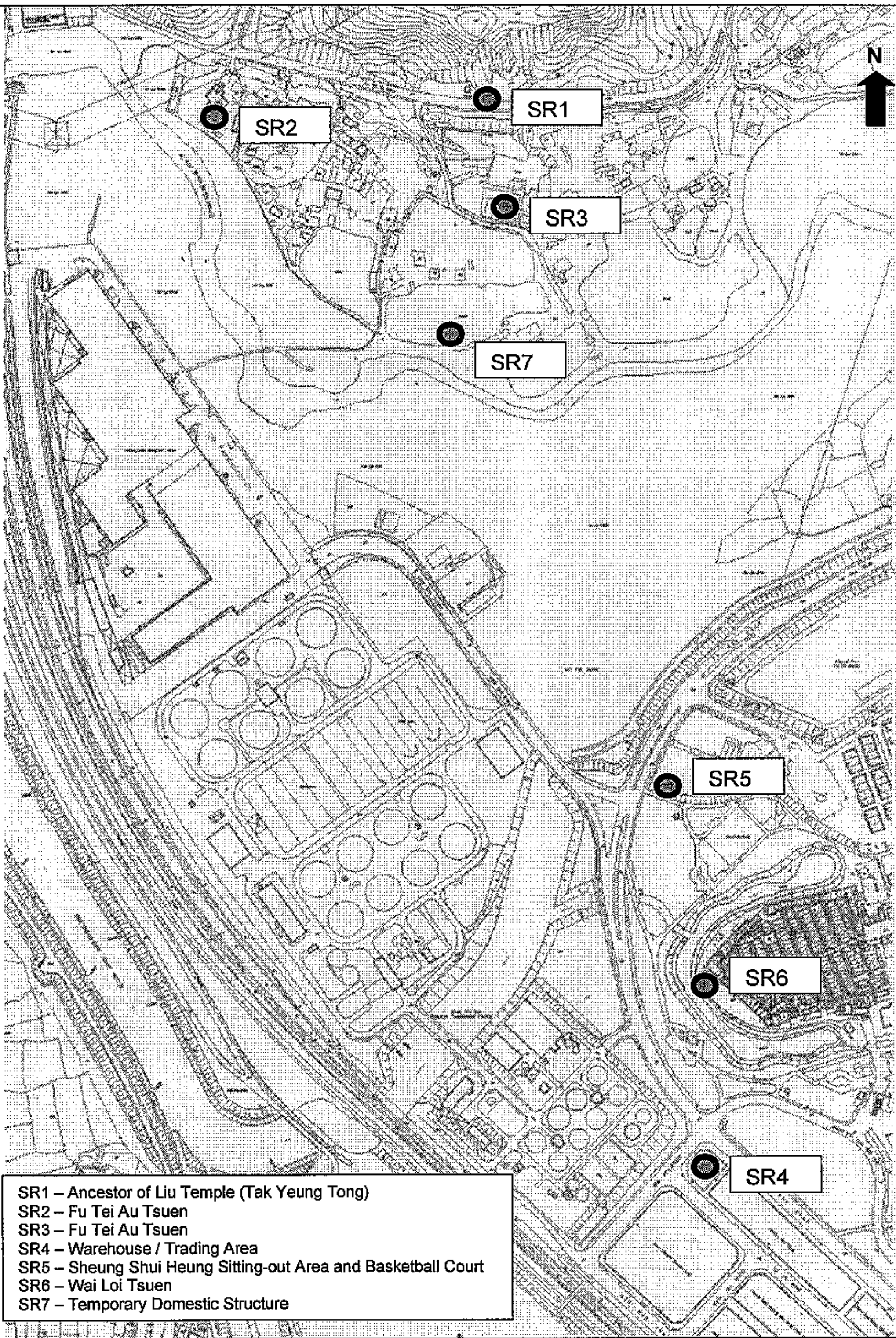


Hyder Consulting

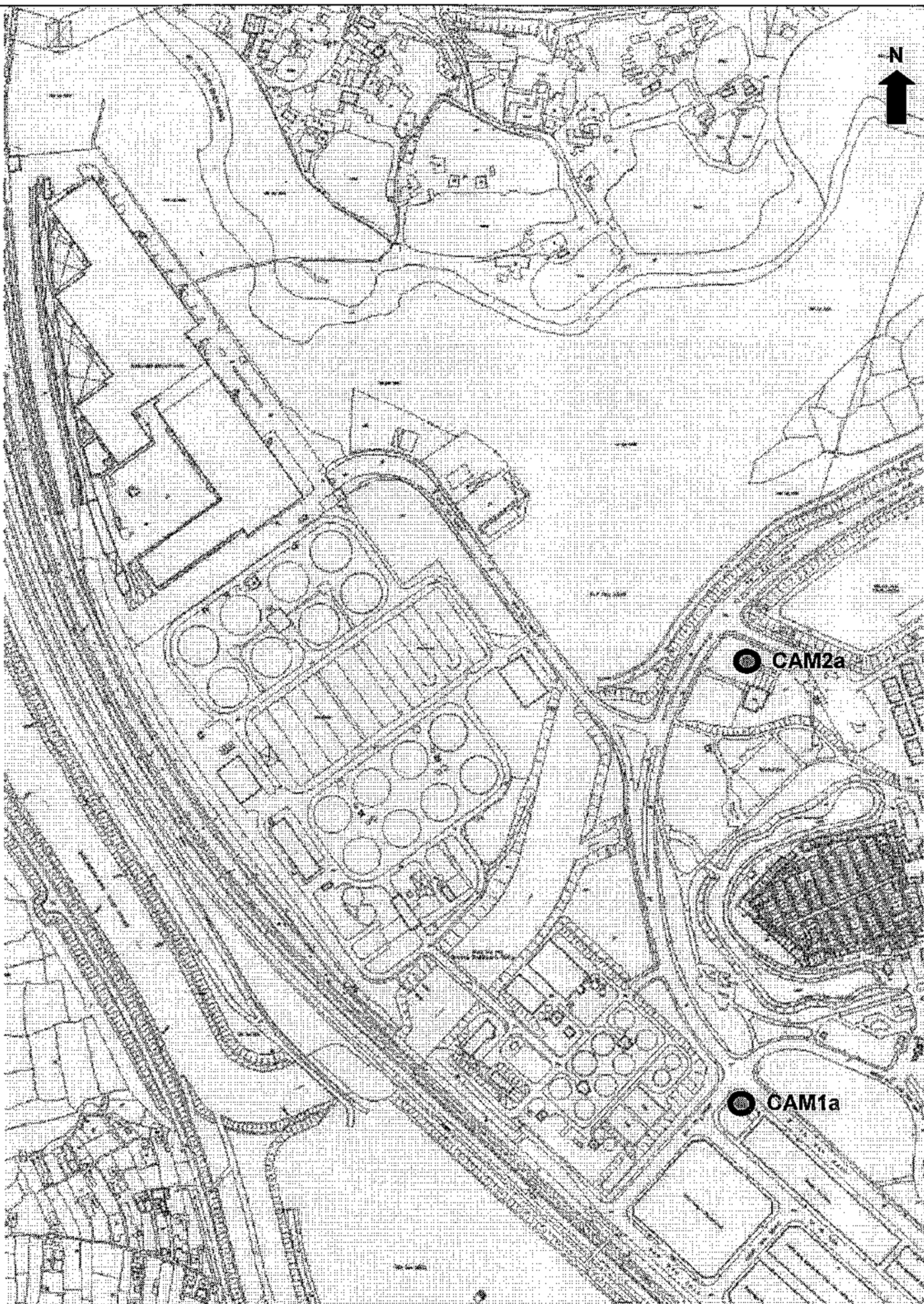
MAEDA

Title

Expansion o
Treatment
Port



Hyder Consulting	MAEDA	Title Expansion of Shek Wu Hui Sewage Treatment Works – Environmental Sensitive Receiver	Date Dec 2005 Figure N.A. Scale NTS

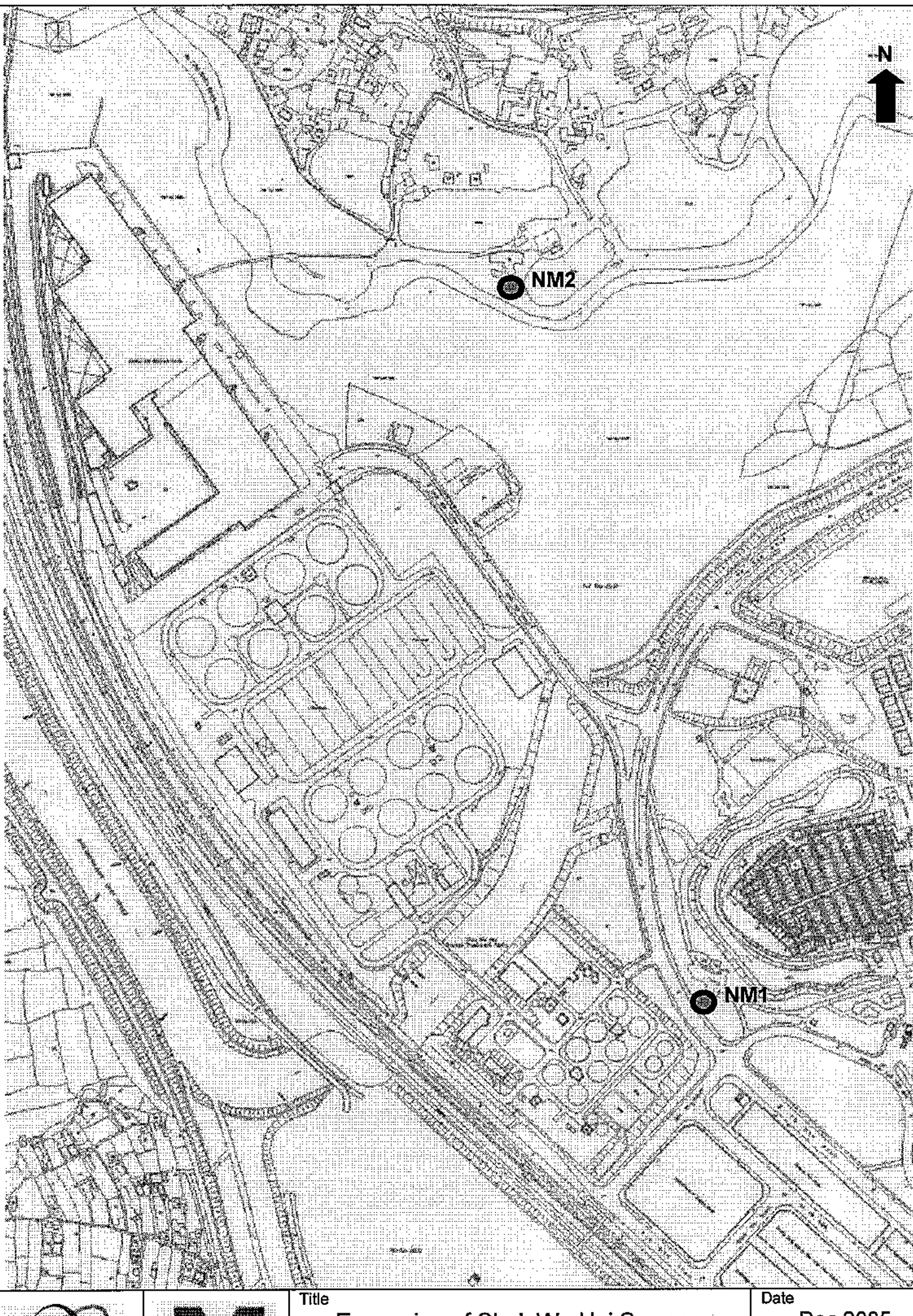


Title
Expansion of Shek Wu Hui Sewage Treatment Works – Location of Air Quality Monitoring Station

Date
Dec 2005

Figure
N.A.

Scale
NTS



Hyder Consulting	MAEDA	Title Expansion of Shek Wu Hui Sewage Treatment Works – Location of Noise Monitoring Station	Date Dec 2005 Figure N.A. Scale NTS

Appendix 5

Action and Limit Levels

Monitoring Station ID	1-hour TSP Level in ($\mu g/m^3$)		24-hour TSP Level in ($\mu g/m^3$)	
	Action Level	Limit Level	Action Level	Limit Level
CAM1a	342. 7	500	203.3	260
CAM2a	340.2		201.6	

Action and Limit Levels for Air Quality

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

Action and Limit Levels for Noise

Appendix 6

Environmental Requirements and Implementation Status

IMPLEMENTATIONS STATUS OF MITIGATION MEASURES

Implementation Status for Air Quality Control

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex I 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.	Works sites / during construction period	Contractor	Properly implemented as appropriate	N/A

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

Implementation Status for Water Quality Control

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 2 S2.4.4	The practice outlined in Practice Note for Professional Persons on Construction Site Drainage, Professional Person 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.	Works sites / During the construction period	Contractor	Properly implemented as appropriate	N/A
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 facilitates. 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 $0.1m^3s^{-1}$ a sedimentation basin of $30m^3$ would be required and for a flow rate of $0.5m^3s^{-1}$ the basin would be $150m^3$. The detailed design of the sand/silt traps will be undertaken by the contractor prior to the commencement of construction. • 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.	Works sites / During the construction period	Contractor	Properly implemented as appropriate	N/A

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 2 S2.4.4	*Construction Runoff and Drainage (Cont'd)* • 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. • 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 $50m^3$ 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.	Works sites / During the construction period	Contractor	Properly implemented as appropriate	N/A

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 2 S2.4.4	*Construction Runoff and Drainage* • 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 wash-water 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 wheel-wash 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.	Works site / During the construction period	Contractor	Properly implemented as appropriate	N/A
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 100% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearly.	Works site / During the construction period	Contractor	Properly implemented as appropriate	N/A
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.	Works site / During the construction period	Contractor	Properly implemented as appropriate	N/A

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

Implementation Status for Waste Management

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 3 S3.5.1	*Waste Reduction Measures of 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 quality 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	Properly implemented as appropriate	N/A

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
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 wast 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 prepare 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	Properly implemented as appropriate	N/A
Annex 3 S3.5.6	*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 site / During the construction period	Contractor	Properly implemented as appropriate	N/A

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 3 S3.5.7	*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 site / During the construction period	Contractor	Properly implemented as appropriate	N/A
Annex 3 S3.5.8	*Chemical Wastes* • 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 computable 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 license wast collector to transport and dispose of the chemical wastes in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Work site / During the construction period	Contractor	Properly implemented as appropriate	N/A

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

Implementation Status for Noise Control

PP Ref#	Environmental Protection Measures	Location / Timing	Implementation Agent	Implementation Status	Follow-up Action and Final Outcome
Annex 4 S4.7.1	Use of quiet PME	Work sites / During the construction period	Contractor	Properly implemented as appropriate	N/A
Annex 4 S4.7.3	*Good Site Practice* • Only well-maintained plant should be operated on-site and plant should be services 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	Properly implemented as appropriate	N/A

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

Appendix 7

Calibration Records

Annex 2 High Volume Air Sampler Calibration Worksheet

Project Title: Expansion of Shek Wu Hui Sewage Treatment Works
Monitoring Location: Sewage Pumping Station at j/o San Po Street and Po Wan Road (CAM1a)
Date: 06-May-08
Time: 9:15

Sampler Model:	GBM2000H1
Calibrator Orifice no.:	517N
Slope (m):	2.02842
Intercept (b):	-0.01789
Correction coeff. (r)	0.9998
Serial No.:	1062

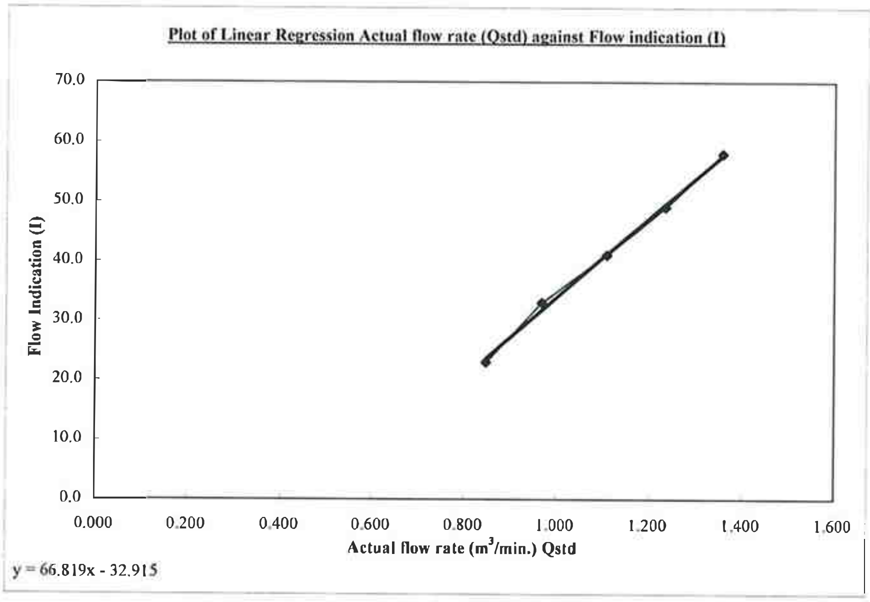
$$Flow(corrected) = \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$$

Standard pressure (mmHg) Pstd:	760.0
Standard temp. (K) Tstd:	297.18
Calibration pressure (mmHg) Pa:	757.6
Calibration temp. (K) Ta:	298.0

$$Qstd = \frac{1}{m} \times \left(\sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b\right)$$

Sample no.	Pressure Drop (H), inch	Flow (corrcted), m^3/min	Actual flow rate (Qstd), m^3/min	Flow indication (I), arbitrary
1	7.5	2.734	1.357	58.0
2	6.2	2.486	1.234	49.0
3	5.0	2.233	1.109	41.0
4	3.8	1.946	0.968	33.0
5	2.9	1.700	0.847	23.0

Correlation Coefficient : 0.9984



Remark
Qstd Range 0.6 - 1.7
1HPa = 0.750062 mmHg

Calibrated by: **Hui Chun Ming** ( ) **Date:** 06/05/08

Checked by: **Hiu Yeung Tang** ( ) **Date:** 10/05/08

Annex 2 High Volume Air Sampler Calibration Worksheet

Project Title: Expansion of Shek Wu Hui Sewage Treatment Works
Monitoring Location: Flood Balancing Pumping Station at Po Wan Road near Wai Loi Tsuen (CAM2a)
Date: 06-May-08
Time: 9:45

Sampler Model:	GBM2000H1
Calibrator Orifice no.:	517N
Slope (m):	2.02842
Intercept (b):	-0.01789
Correction coeff. (r)	0.9998
Serial No.:	1097

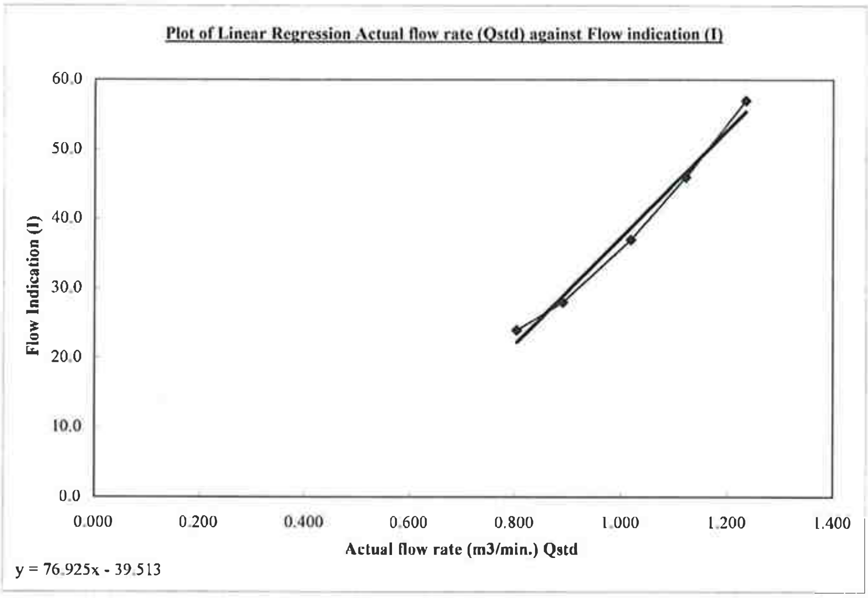
$$Flow(corrected) = \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$$

Standard pressure (mmHg) Pstd:	760.0
Standard temp. (K) Tstd:	297.18
Calibration pressure (mmHg) Pa:	757.6
Calibration temp. (K) Ta:	298.0

$$Qstd = \frac{1}{m} \times (\sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b)$$

Sample no.	Pressure Drop (H), inch	Flow (corrcted), m^3/min	Actual flow rate (Qstd), m^3/min	Flow indication (I), arbitrary
1	6.2	2.486	1.234	57.0
2	5.1	2.255	1.120	46.0
3	4.2	2.046	1.018	37.0
4	3.2	1.786	0.889	28.0
5	2.6	1.610	0.802	24.0

Correlation Coefficient : 0.9931



Remark
Qstd Range 0.6 - 1.7
1HPa = 0.750062 mmHg

Calibrated by: **Hui Chun Ming** ( ) **Date:** 06/05/08

Checked by: **Hiu Yeung Tang** ( ) **Date:** 10/05/08

TISCH ENVIROMENTAL, INC.
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513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Apr 28, 2008 Rootsmeter S/N 9833620 Ta (K) - 296
Operator Tisch Orifice I.D. - 517N Pa (mm) - 749.3

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4040	3.2	2.00
2	NA	NA	1.00	0.9940	6.4	4.00
3	NA	NA	1.00	0.8860	7.9	5.00
4	NA	NA	1.00	0.8450	8.8	5.50
5	NA	NA	1.00	0.6980	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9883	0.7039	1.4090		0.9957	0.7092	0.8889
0.9841	0.9901	1.9926		0.9915	0.9975	1.2570
0.9820	1.1084	2.2278		0.9894	1.1167	1.4054
0.9809	1.1608	2.3365		0.9882	1.1695	1.4740
0.9756	1.3977	2.8179		0.9829	1.4082	1.7777
Qstd slope (m) =		2.02953		Qa slope (m) =		1.27086
intercept (b) =		-0.01939		intercept (b) =		-0.01223
coefficient (r) =		0.99999		coefficient (r) =		0.99999
y axis = SQRT[H2O(Pa/760)(298/Ta)]				y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{[SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{[SQRT H2O(Ta/Pa)]- b}

TISCH ENVIRONMENTAL

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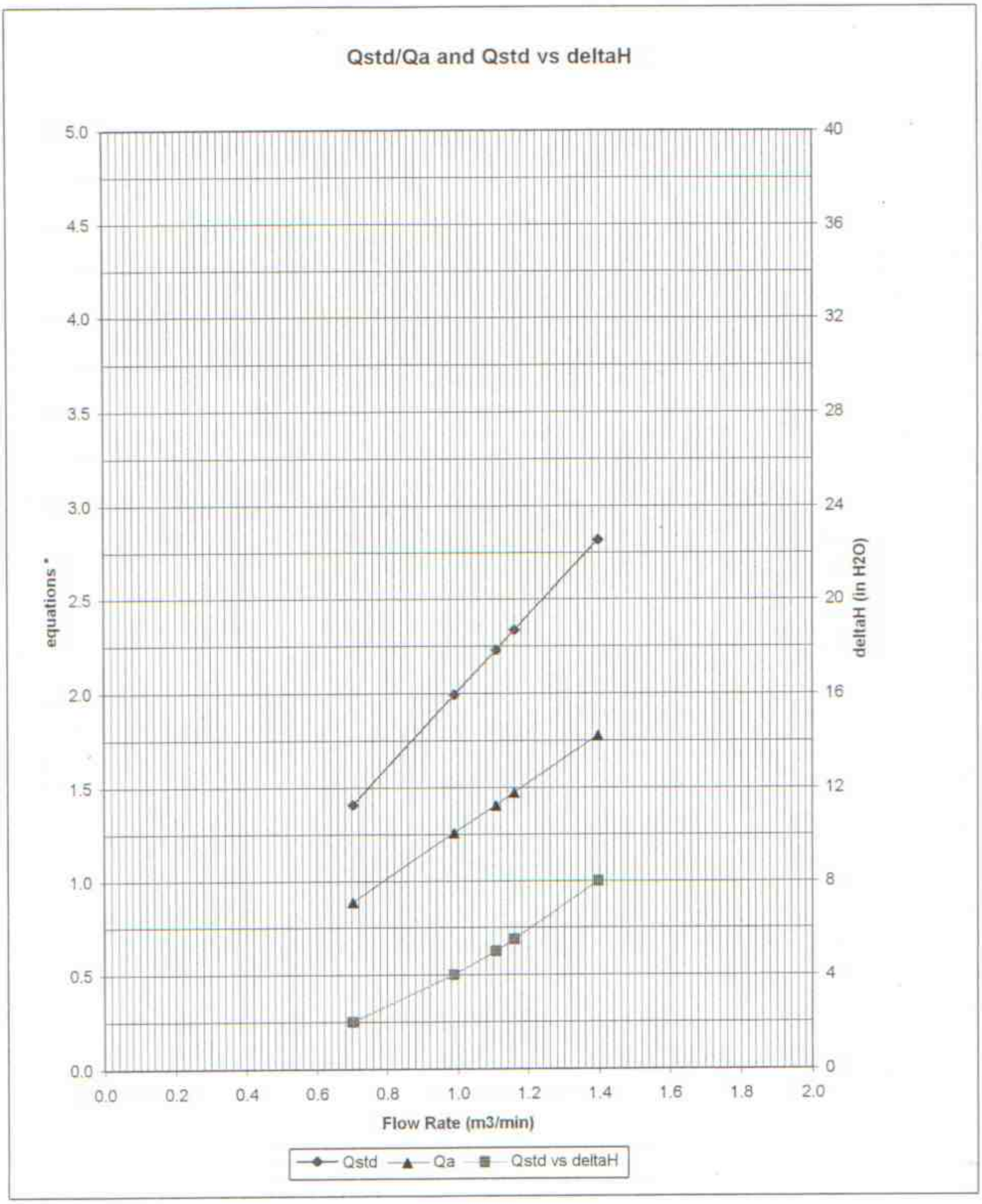
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT



#517N

* y-axis equations:

Qstd series: $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$

Qa series: $\sqrt{(\Delta H\ (Ta\ /\ Pa))}$

Hong Kong Calibration Ltd.
香 港 校 正 有限公司

Calibration Certificate

Certificate No. **80027**

Customer : Hyder Consulting Limited
Address : Room 3801., Hopewell Centre, 183 Queen's Road East, Wan Chai, Hong Kong
Order No. : Q72325 **Date of receipt :** 3-Jan-08

Item Tested

Description : Sound Level Calibrator
Manufacturer : B&K
Model : Type 4231 **Serial No.** : 1770806

Test Conditions

Date of Test : 17-Jan-08 **Supply Voltage** : --
Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.
Calibration procedure : F21, Z02.

Test Results

All results were within the IEC 942 Class 1 specification.
The results are shown in the attached page(s).

Main Test equipment used:

Equipment No.	Description	Cert. No.	Due Date	Traceable to
S014	Spectrum Analyzer	73602	7-Jul-08	NIM-PRC & SCL-HKSAR
S024	Sound Level Calibrator	71791	16-Jul-08	NIM-PRC & SCL-HKSAR
S041	Universal Counter	73453	22-Aug-08	SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).
The test results apply to the above Unit-Under-Test only

Calibrated by : P.F. Wong **Approved by :** Dorothy Cheuk

Date: 17-Jan-08

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 8801 Fax: 2425 8646

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. **72989**

Customer : Hyder Consulting Limited
Address : Room 3801., Hopewell Centre, 183 Queen's Road East, Wan Chai, Hong Kong
Order No. : Q71060
Date of receipt : 3-Jul-07

Item Tested

Description : Digital Sound Level Meter
Manufacturer : B&K
Model : Type 2236
Serial No. : 1774423

Test Conditions

Date of Test : 5-Jul-07
Ambient Temperature : (23 ± 3)°C
Supply Voltage : --
Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.
Calibration procedure : Z01.

Test Results

All results were within the IEC 651 Type 1, IEC 804 Type 1 & IEC 1260 Class 1 specification.
The results are shown in the attached page(s).

Main Test equipment used:

Equipment No.	Description	Cert. No.	Due Date	Traceable to
S017	Multi-Function Generator	C071115	14-Mar-08	SCL-HKSAR
S024	Sound Level Calibrator	62691	19-Jul-07	NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).
The test results apply to the above Unit-Under-Test only

Calibrated by : P.F. Wong

Approved by : for Dorothy Cheuk

Date: 5-Jul-07

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 8801 Fax: 2425 8646

Appendix 8

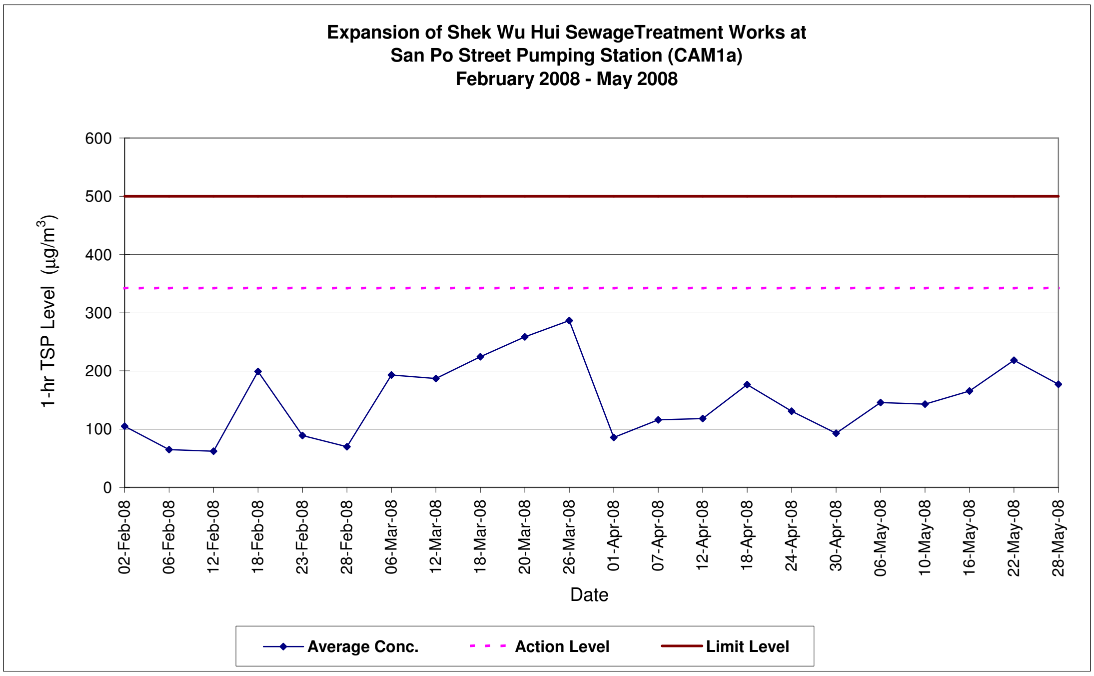
Monitoring Results and Graphical Plots

Expansion of Shek Wu Hui Sewage Treatment Works

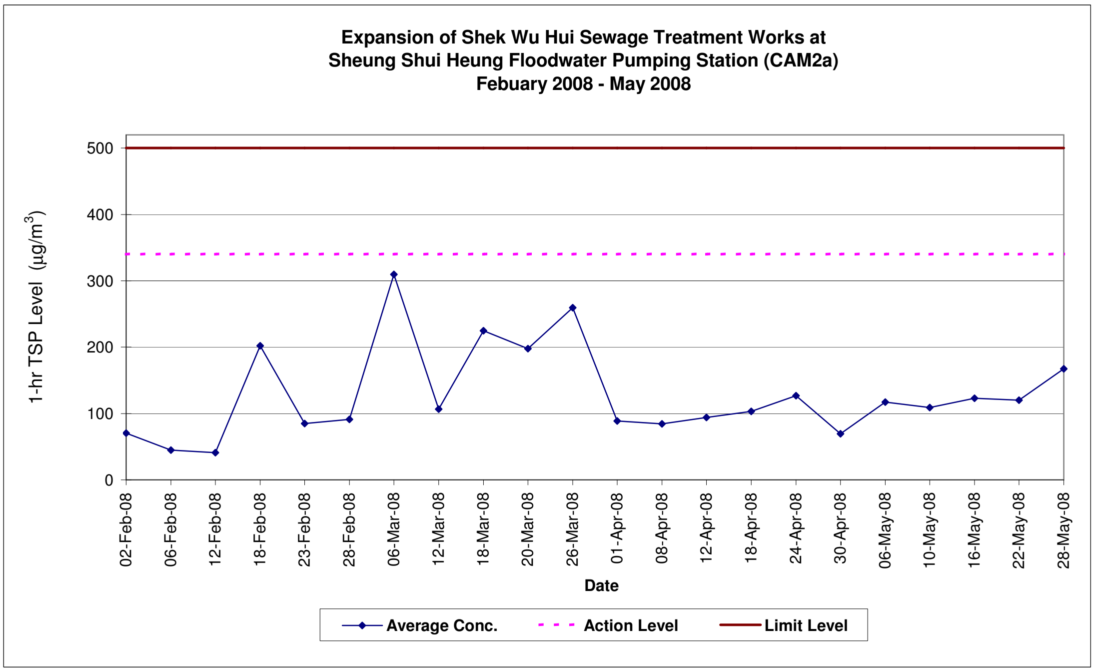
Air Quality Impact Monitoring Results (1-Hour TSP)

Location	Monitoring Date	Weather Conditions	Wind Speed with Direction (m/s)	Temp (^oC)	Timer-I	Timer-F	Time (mins)	Flow-I (CFM/ Inches)	Flow-F (CFM/ Inches)	Flow-I (m^3/min)	Flow-F (m^3/min)	Flow-avg (m^3/min)	Volume (m^3)	Weight-I (g)	Weight-f (g)	Weight-diff. (g)	1-hr TSP (ug/m^3)	Average 1-Hr TSP (ug/m^3)	Action/Limit Levels (ug/m^3)	Remark
San Po Street Pumping Station CAM1a		Fine	0.9 SE	26	617413	617521	64.8	42	42	1.04	1.04	1.04	67.48	2.7932	2.8040	0.0108	160.1			
	06-May-08	Fine	0.9 SE	26	617521	617621	60.0	42	42	1.04	1.04	1.04	62.48	2.7592	2.7683	0.0091	145.7	145.7		
		Fine	0.9 SE	26	617621	617721	60.0	42	42	1.04	1.04	1.04	62.48	2.7776	2.7858	0.0082	131.2			
		Sunny	0.7 SE	26	620083	620180	58.2	41	41	1.02	1.02	1.02	59.19	2.7529	2.7632	0.0103	174.0			
	10-May-08	Sunny	0.7 SE	26	620180	620277	58.2	41	41	1.02	1.02	1.02	59.19	2.7435	2.7515	0.0080	135.2	142.9		
		Sunny	0.7 SE	26	620277	620377	60.0	41	41	1.02	1.02	1.02	61.02	2.7478	2.7551	0.0073	119.6			
		Fine	0.4 SE	28	622769	622861	55.2	42	42	1.04	1.04	1.04	57.48	2.7852	2.7918	0.0066	114.8			
	16-May-08	Fine	0.4 SE	28	622861	622958	58.2	41	41	1.02	1.02	1.02	59.19	2.7512	2.7632	0.0120	202.8	165.8	342.7/500	
		Fine	0.4 SE	28	622958	623050	55.2	41	41	1.02	1.02	1.02	56.13	2.7459	2.7560	0.0101	179.9			
		Rainy	0.6 SE	25	625439	625539	60.0	39	39	0.97	0.97	0.97	58.09	2.8181	2.8332	0.0151	259.9			
	22-May-08	Rainy	0.6 SE	25	625539	625640	60.6	40	40	0.99	0.99	0.99	60.15	2.7778	2.7939	0.0161	267.7	218.5		
		Rainy	0.6 SE	25	625640	625741	60.6	40	40	0.99	0.99	0.99	60.15	2.7893	2.7970	0.0077	128.0			
		Rainy	0.9 SE	24	628152	628254	61.2	40	40	0.99	0.99	0.99	60.75	2.8112	2.8220	0.0108	177.8			
	28-May-08	Rainy	0.9 SE	24	628254	628356	61.2	40	40	0.99	0.99	0.99	60.75	2.7975	2.8082	0.0107	176.1	177.0		
		Rainy	0.9 SE	24	628356	628460	62.4	39	39	0.97	0.97	0.97	60.42	2.7994	2.8101	0.0107	177.1			
Sheung Shui Heung Floodwater Pumping Station CAM2a		Fine	1.5 SE	26	730660	730760	60.0	41	41	1.03	1.03	1.03	61.78	2.7920	2.8001	0.0081	131.1			
	06-May-08	Fine	1.5 SE	26	730760	730872	67.2	41	41	1.03	1.03	1.03	69.19	2.7879	2.7965	0.0086	124.3	117.0		
		Fine	1.5 SE	26	730872	730972	60.0	41	41	1.03	1.03	1.03	61.78	2.7716	2.7775	0.0059	95.5			
		Sunny	1.2 SE	26	733324	733421	58.2	41	41	1.03	1.03	1.03	59.92	2.7569	2.7648	0.0079	131.8			
	10-May-08	Sunny	1.2 SE	26	733421	733520	59.4	41	41	1.03	1.03	1.03	61.16	2.7510	2.7567	0.0057	93.2	109.0		
		Sunny	1.2 SE	26	733520	733620	60.0	41	41	1.03	1.03	1.03	61.78	2.7739	2.7802	0.0063	102.0			
		Fine	0.6 SE	28	736011	736103	55.2	41	41	1.03	1.03	1.03	56.83	2.7860	2.7916	0.0056	98.5		340/500	
	16-May-08	Fine	0.6 SE	28	736103	736203	60.0	41	41	1.03	1.03	1.03	61.78	2.7429	2.7520	0.0091	147.3	123.0		
		Fine	0.6 SE	28	736203	736295	55.2	41	41	1.03	1.03	1.03	56.83	2.7419	2.7489	0.0070	123.2			
		Rainy	1.0 SE	25	738684	738786	61.2	40	40	1.02	1.02	1.02	62.12	2.7928	2.7994	0.0066	106.2			
	22-May-08	Rainy	1.0 SE	25	738786	738890	62.4	40	40	1.02	1.02	1.02	63.34	2.7748	2.7840	0.0092	145.3	120.0		
		Rainy	1.0 SE	25	738890	738993	61.8	40	40	1.02	1.02	1.02	62.73	2.7567	2.7635	0.0068	108.4			
		Rainy	1.5 SE	24	741393	741495	61.2	40	39	1.02	1.00	1.01	61.67	2.8032	2.8174	0.0142	230.3			
	28-May-08	Rainy	1.5 SE	24	741495	741600	63.0	39	39	1.00	1.00	1.00	63.03	2.8042	2.8158	0.0116	184.1	167.4		
		Rainy	1.5 SE	24	741600	741705	63.0	38	39	0.99	1.00	0.99	62.57	2.8032	2.8087	0.0055	87.9			

"Shading" indicates an exceedance of Action Level. "Bold and shading" indicates an exceedance of Limit Level.



Expansion of Shek Wu Hui SewageTreatment Works at
San Po Street Pumping Station (CAM1a)
February 2008 - May 2008
1-hr TSP Level (µg/m3)
600
500
400
300
200
100
0
02-Feb-08
06-Feb-08
12-Feb-08
18-Feb-08
23-Feb-08
28-Feb-08
06-Mar-08
12-Mar-08
18-Mar-08
20-Mar-08
26-Mar-08
01-Apr-08
07-Apr-08
12-Apr-08
18-Apr-08
24-Apr-08
30-Apr-08
06-May-08
10-May-08
16-May-08
22-May-08
28-May-08
Date
Average Conc.
Action Level
Limit Level



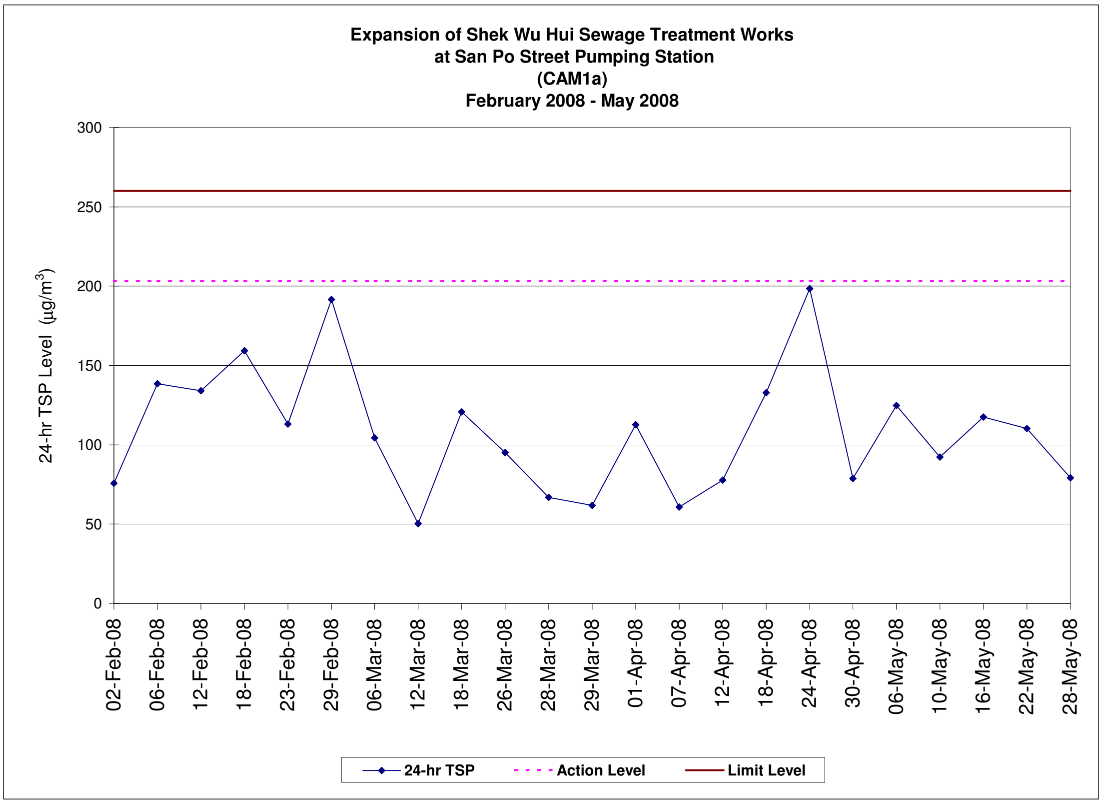
Expansion of Shek Wu Hui Sewage Treatment Works at
Sheung Shui Heung Floodwater Pumping Station (CAM2a)
Febuary 2008 - May 2008
1-hr TSP Level (µg/m3)
500
400
300
200
100
0
02-Feb-08
06-Feb-08
12-Feb-08
18-Feb-08
23-Feb-08
28-Feb-08
06-Mar-08
12-Mar-08
18-Mar-08
20-Mar-08
26-Mar-08
01-Apr-08
08-Apr-08
12-Apr-08
18-Apr-08
24-Apr-08
30-Apr-08
06-May-08
10-May-08
16-May-08
22-May-08
28-May-08
Date
Average Conc.
Action Level
Limit Level

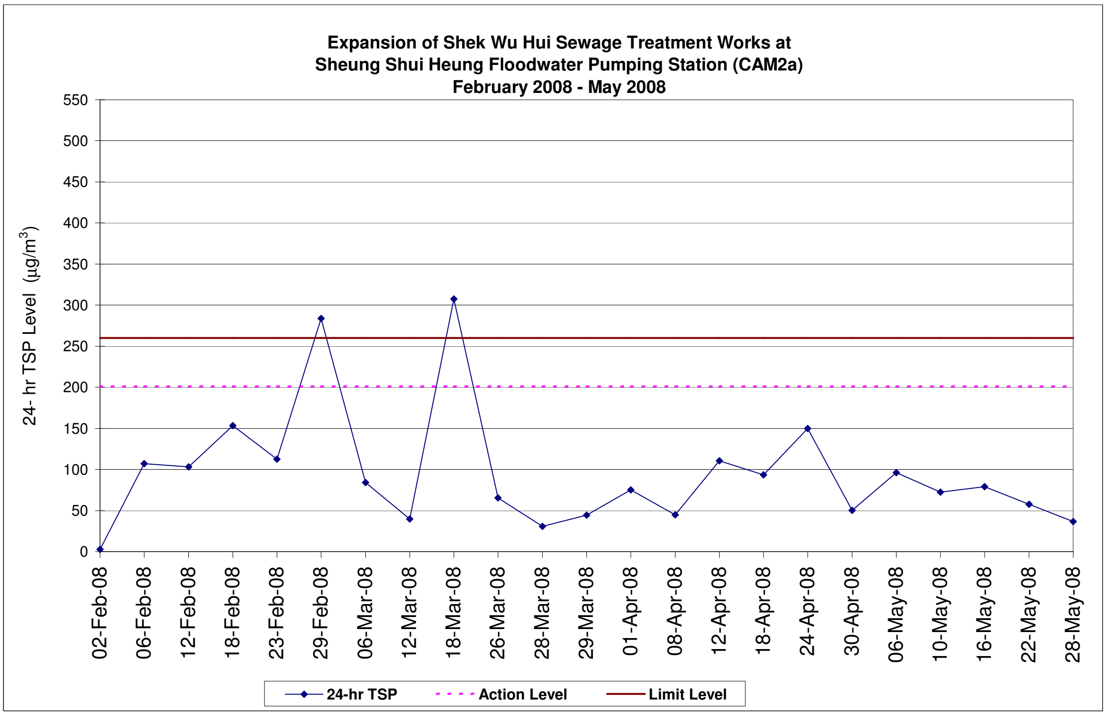
Expansion of Shek Wu Hui Sewage Treatment Works

Air Quality Impact Monitoring Results (24-Hour TSP)

Location	Monitoring Date	Weather Conditions	Wind Speed with Direction (m/s)	Temp (°C)	Pressure (mmHg)	Timer-I	Timer-F	Time (mins)	Flow-I (CFM/ Inches)	Flow-F (CFM/ Inches)	Flow-I (m^3/min)	Flow-F (m^3/min)	Flow-avg (m^3/min)	Volume (m^3)	Weight-I (g)	Weight-f (g)	Weight-diff. (g)	24-hr TSP (ug/m^3)	Action/Limit Levels (ug/m^3)	Remark
San Po Street Pumping Station CAM1a	06-May-08	Fine	0.9 SE	26	1010.1	617721	620089	1420.8	42	42	1.04	1.04	1.04	1479.47	2.7659	2.9506	0.1847	124.8	203/260	
	10-May-08	Sunny	0.7 SE	26	1008.2	620377	622760	1429.8	41	41	1.02	1.02	1.02	1454.02	2.7282	2.8622	0.1340	92.2		
	16-May-08	Fine	0.4 SE	28	1010.0	623050	625439	1433.4	41	41	1.02	1.02	1.02	1457.68	2.7566	2.9279	0.1713	117.5		
	22-May-08	Rainy	0.6 SE	25	1008.8	625741	628152	1446.6	40	40	0.99	0.99	0.99	1435.87	2.8082	2.9666	0.1584	110.3		
	28-May-08	Rainy	0.9 SE	24	1003.6	628460	630865	1443	40	39	0.99	0.97	0.98	1414.72	2.7813	2.8932	0.1119	79.1		
Sheung Shui Heung Floodwater Pumping Station CAM2a	06-May-08	Fine	1.5 SE	26	1010.1	730972	733324	1411.2	42	42	1.04	1.04	1.04	1473.58	2.7630	2.9049	0.1419	96.3	201/260	
	10-May-08	Sunny	1.2 SE	26	1008.2	733620	736020	1440	41	41	1.03	1.03	1.03	1482.63	2.7834	2.8909	0.1075	72.5		
	16-May-08	Fine	0.6 SE	28	1010.0	736295	738684	1433.4	41	41	1.03	1.03	1.03	1475.84	2.7509	2.8673	0.1164	78.9		
	22-May-08	Rainy	1.0 SE	25	1008.8	738993	741393	1440	40	39	1.02	1.00	1.01	1451.10	2.7710	2.8547	0.0837	57.7		
	28-May-08	Rainy	1.5 SE	24	1003.6	741705	744117	1447.2	40	41	1.02	1.03	1.02	1479.48	2.8034	2.8572	0.0538	36.4		

"Shading" indicates an exceedance of Action Level. "Bold and shading" indicates an exceedance of Limit Level.


Expansion of Shek Wu Hui Sewage Treatment Works
at San Po Street Pumping Station
(CAM1a)
February 2008 - May 2008
24-hr TSP Level (µg/m3)
300
250
200
150
100
50
0
02-Feb-08
06-Feb-08
12-Feb-08
18-Feb-08
23-Feb-08
29-Feb-08
06-Mar-08
12-Mar-08
18-Mar-08
26-Mar-08
28-Mar-08
29-Mar-08
01-Apr-08
07-Apr-08
12-Apr-08
18-Apr-08
24-Apr-08
30-Apr-08
06-May-08
10-May-08
16-May-08
22-May-08
28-May-08
24-hr TSP
Action Level
Limit Level

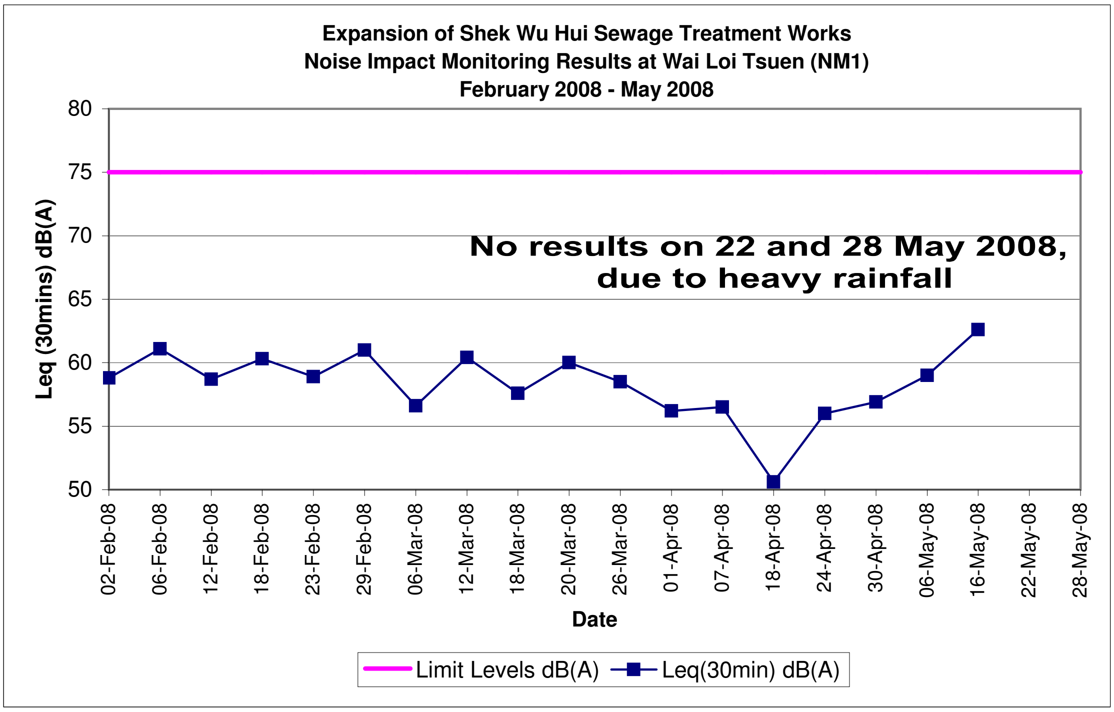

Expansion of Shek Wu Hui Sewage Treatment Works at
Sheung Shui Heung Floodwater Pumping Station (CAM2a)
February 2008 - May 2008
24- hr TSP Level (µg/m3)
550
500
450
400
350
300
250
200
150
100
50
0
02-Feb-08
06-Feb-08
12-Feb-08
18-Feb-08
23-Feb-08
29-Feb-08
06-Mar-08
12-Mar-08
18-Mar-08
26-Mar-08
28-Mar-08
29-Mar-08
01-Apr-08
08-Apr-08
12-Apr-08
18-Apr-08
24-Apr-08
30-Apr-08
06-May-08
10-May-08
16-May-08
22-May-08
28-May-08
24-hr TSP
Action Level
Limit Level

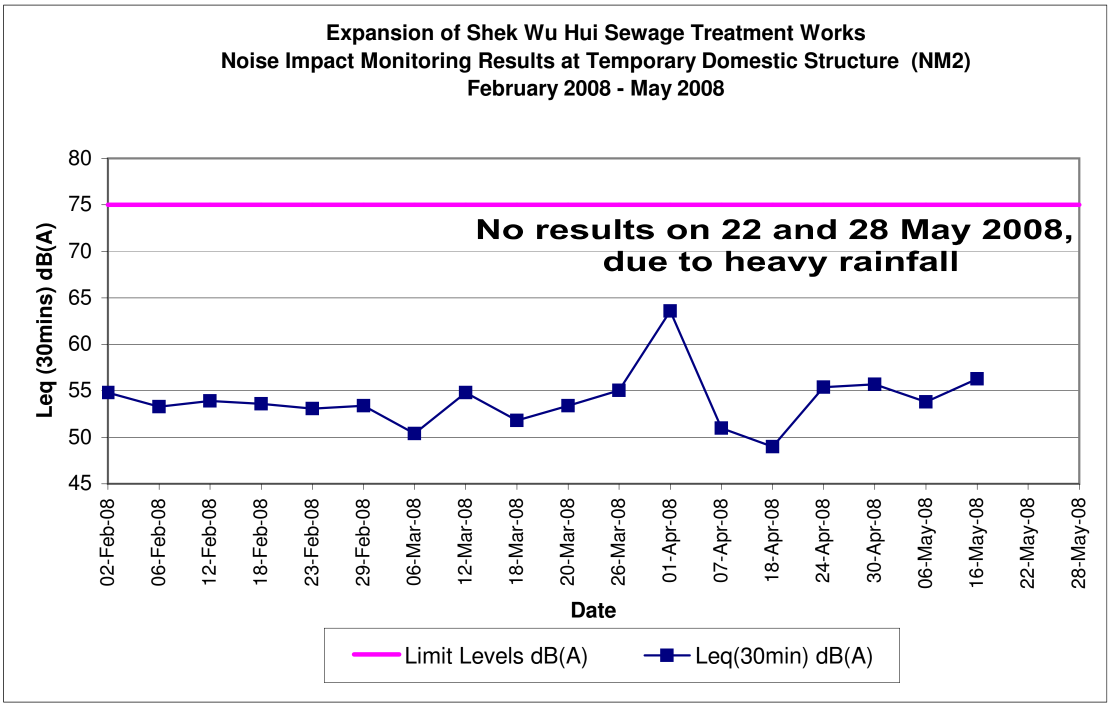
Expansion of Shek Wu Hui Sewage Treatment Works

Noise Impact Monitoring Results

Monitoring Locations	Date	Weather Conditions	Temperature (^{o}C)	Wind Speed (m/s)	Wind Direction	Start Time	End Time	Limit Levels dB(A)	$L_{eq(30min)}$ dB(A)	$L_{10(30min)}$ dB(A)	$L_{90(30min)}$ dB(A)	Remark
Wai Loi Tsuen NM1	06-May-08	Fine	26	0.9	SE	10:32	11:02	75	59.0	60.3	55.0	Road Traffic Noise, Free Field
	16-May-08	Fine	28	0.4	SE	13:00	13:30	75	62.6	65.4	60.1	Road Traffic Noise, Free Field
	22-May-08	-	-	-	-	-	-	75	-	-	-	Heavy Rainfall
	28-May-08	-	-	-	-	-	-	75	-	-	-	Heavy Rainfall
Temporary Domestic Structure NM2	06-May-08	Fine	26	1.5	SE	11:15	11:45	75	53.8	55.1	56.1	Road Traffic Noise, Free Field
	16-May-08	Fine	28	0.6	SE	14:00	14:30	75	56.3	58.6	51.9	Road Traffic Noise, Free Field
	22-May-08	-	-	-	-	-	-	75	-	-	-	Heavy Rainfall
	28-May-08	-	-	-	-	-	-	75	-	-	-	Heavy Rainfall

A façade correction of 3 dB(A) was applied to each measurement result. "Shading" indicates an Limit Level exceedance.


Expansion of Shek Wu Hui Sewage Treatment Works
Noise Impact Monitoring Results at Wai Loi Tsuen (NM1)
February 2008 - May 2008
Leq (30mins) dB(A)
80
75
70
65
60
55
50
No results on 22 and 28 May 2008,
due to heavy rainfall
02-Feb-08
06-Feb-08
12-Feb-08
18-Feb-08
23-Feb-08
29-Feb-08
06-Mar-08
12-Mar-08
18-Mar-08
20-Mar-08
26-Mar-08
01-Apr-08
07-Apr-08
18-Apr-08
24-Apr-08
30-Apr-08
06-May-08
16-May-08
22-May-08
28-May-08
Date
Limit Levels dB(A)
Leq(30min) dB(A)


Expansion of Shek Wu Hui Sewage Treatment Works
Noise Impact Monitoring Results at Temporary Domestic Structure (NM2)
February 2008 - May 2008
Leq (30mins) dB(A)
80
75
70
65
60
55
50
45
No results on 22 and 28 May 2008,
due to heavy rainfall
02-Feb-08
06-Feb-08
12-Feb-08
18-Feb-08
23-Feb-08
29-Feb-08
06-Mar-08
12-Mar-08
18-Mar-08
20-Mar-08
26-Mar-08
01-Apr-08
07-Apr-08
18-Apr-08
24-Apr-08
30-Apr-08
06-May-08
16-May-08
22-May-08
28-May-08
Date
Limit Levels dB(A)
Leq(30min) dB(A)

Appendix 9

QA/QC Results and Detection Limit

Date of issue : 10 May 2008

Client : HYDER CONSULTING LTD
Work Order HK0807164

Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: AIR

		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Analysis Description	CAS number	LOR	Units	Result	Concentration	SCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 654056)											
HK-TSP: Total Suspended Particulates	----	0.0010	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.0010	g	2.7587	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.0010	g	2.7586	----	----	----	----	----	----	----

Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: AIR

		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Analysis Description	CAS number	LOR	Units	Result	Concentration	SCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 660807)											
HK-TSP: Total Suspended Particulates	----	0.0010	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.0010	g	2.7579	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.0010	g	2.7580	----	----	----	----	----	----	----

Date of issue : **21 May 2008**

Client : HYDER CONSULTING LTD
Work Order HK0807781

Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: AIR

		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Analysis Description	CAS number	LOR	Units	Result	Concentration	SCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 663183)											
HK-TSP: Total Suspended Particulates	----	0.0010	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.0010	g	2.7580	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.0010	g	2.7575	----	----	----	----	----	----	----

Date of issue : 26 May 2008

Client : HYDER CONSULTING LTD
Work Order HK0808146

Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: AIR

		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Analysis Description	*CAS number*	*LOR*	*Units*	*Result*	*Concentration*	*SCS*	*DCS*	*Low*	*High*	*Value*	*Control Limit*
EA/ED: Physical and Aggregate Properties (QCLot: 666519)											
HK-TSP: Total Suspended Particulates	----	0.0010	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.0010	g	2.7575	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.0010	g	2.7580	----	----	----	----	----	----	----

Date of issue : 2 Jun 2008

Client : HYDER CONSULTING LTD
Work Order HK0808514

Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: AIR

Method: Analysis Description	CAS number	Method Blank (MB) Results: LOR	Units	Result	Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results: Spike Concentration	Spike Recovery (%): SCS	Spike Recovery (%): DCS	Recovery Limits (%): Low	Recovery Limits (%): High	RPDs (%): Value	RPDs (%): Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 671722)											
HK-TSP: Total Suspended Particulates	----	0.0010	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.0010	g	2.7575	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.0010	g	2.7576	----	----	----	----	----	----	----

Date of issue : 10 May 2008

Client : HYDER CONSULTING LTD
Work Order HK0807164

Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: AIR

		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Analysis Description	*CAS number*	LOR	Units	Result	Concentration	SCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 654056)											
HK-TSP: Total Suspended Particulates	----	0.0010	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.0010	g	2.7587	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.0010	g	2.7586	----	----	----	----	----	----	----

Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: AIR

		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Analysis Description	*CAS number*	*LOR*	*Units*	*Result*	*Concentration*	*SCS*	*DCS*	*Low*	*High*	*Value*	*Control Limit*
EA/ED: Physical and Aggregate Properties (QCLot: 660807)											
HK-TSP: Total Suspended Particulates	----	0.0010	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.0010	g	2.7579	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.0010	g	2.7580	----	----	----	----	----	----	----

Date of issue : **21 May 2008**

Client : HYDER CONSULTING LTD
Work Order HK0807781

Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: AIR

		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Analysis Description	*CAS number*	*LOR*	*Units*	*Result*	*Concentration*	*SCS*	*DCS*	*Low*	*High*	*Value*	*Control Limit*
EA/ED: Physical and Aggregate Properties (QCLot: 663183)											
HK-TSP: Total Suspended Particulates	----	0.0010	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.0010	g	2.7580	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.0010	g	2.7575	----	----	----	----	----	----	----

Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: AIR		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Analysis Description	*CAS number*	*LOR*	*Units*	*Result*	Concentration	SCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 666519)											
HK-TSP: Total Suspended Particulates	----	0.0010	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.0010	g	2.7575	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.0010	g	2.7580	----	----	----	----	----	----	----

Date of issue : 2 Jun 2008

Client : HYDER CONSULTING LTD
Work Order HK0808514

Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: AIR

		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Analysis Description	CAS number	LOR	Units	Result	Concentration	SCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 671722)											
HK-TSP: Total Suspended Particulates	----	0.0010	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.0010	g	2.7575	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.0010	g	2.7576	----	----	----	----	----	----	----

Appendix 10

Cumulative Statistics of Complaint, Notification of Summons and Successful Prosecution

Reporting Month	Number Received in the Reporting Month				Cumulative Number			
	Complaint	Notification of Summon	Successful Prosecution	EPD Site Inspection Record	Complaint	Notification of Summon	Successful Prosecution	EPD Site Inspection Record
May 2008	0	0	0	0	0	0	0	0 (Last in February)

Cumulative Number of Environmental Complaint

Appendix 11

Upcoming EM&A Schedule

Expansion of Shek Wu Hui Sewage Treatment Works

Impact Monitoring Programme – May 2008

Date		Air	Noise	Site Inspection
01-May-08	Thu			
02-May-08	Fri			
03-May-08	Sat			
04-May-08	Sun			
05-May-08	Mon			
06-May-08	Tue	✓	✓	
07-May-08	Wed			✓
08-May-08	Thu			
09-May-08	Fri			
10-May-08	Sat	✓		
11-May-08	Sun			
12-May-08	Mon			
13-May-08	Tue			
14-May-08	Wed			✓
15-May-08	Thu			
16-May-08	Fri	✓	✓	
17-May-08	Sat			
18-May-08	Sun			
19-May-08	Mon			
20-May-08	Tue			
21-May-08	Wed			
22-May-08	Thu	✓	✓	✓
23-May-08	Fri			
24-May-08	Sat			
25-May-08	Sun			
26-May-08	Mon			
27-May-08	Tue			✓
28-May-08	Wed	✓	✓	
29-May-08	Thu			
30-May-08	Fri			
31-May-08	Sat			

Note:

Shaded area indicates public holiday.

Air – Monitoring of three 1-hour TSP and 24-hour TSP at both CAM1a and CAM2a

Noise – Noise measurements at both CNM1 and CNM2 between 0700 and 1900 on normal weekdays

Expansion of Shek Wu Hui Sewage Treatment Works

Impact Monitoring Programme – June 2008 (Tentative)

Date		Air	Noise	Site Inspection
01-June-08	Sun			
02-June-08	Mon			
03-June-08	Tue	✓	✓	
04-June-08	Wed			✓
05-June-08	Thu			
06-June-08	Fri			
07-June-08	Sat	✓		
08-June-08	Sun			
09-June-08	Mon			
10-June-08	Tue			
11-June-08	Wed			✓
12-June-08	Thu			
13-June-08	Fri	✓	✓	
14-June-08	Sat			
15-June-08	Sun			
16-June-08	Mon			
17-June-08	Tue			
18-June-08	Wed			✓
19-June-08	Thu	✓	✓	
20-June-08	Fri			
21-June-08	Sat			
22-June-08	Sun			
23-June-08	Mon			
24-June-08	Tue			
25-June-08	Wed	✓	✓	✓
26-June-08	Thu			
27-June-08	Fri			
28-June-08	Sat			
29-June-08	Sun			
30-June-08	Mon	✓	✓	

Note:

Shaded area indicates public holiday.

Air – Monitoring of three 1-hour TSP and 24-hour TSP at both CAM1a and CAM2a

Noise – Noise measurements at both CNM1 and CNM2 between 0700 and 1900 on normal weekdays

Expansion of Shek Wu Hui Sewage Treatment Works

Impact Monitoring Programme – July 2008 (Tentative)

Date		Air	Noise	Site Inspection
01-July-08	Tue			
02-July-08	Wed			✓
03-July-08	Thu			
04-July-08	Fri			
05-July-08	Sat	✓		
06-July-08	Sun			
07-July-08	Mon			
08-July-08	Tue			
09-July-08	Wed			✓
10-July-08	Thu			
11-July-08	Fri	✓	✓	
12-July-08	Sat			
13-July-08	Sun			
14-July-08	Mon			
15-July-08	Tue			
16-July-08	Wed			✓
17-July-08	Thu	✓	✓	
18-July-08	Fri			
19-July-08	Sat			
20-July-08	Sun			
21-July-08	Mon			
22-July-08	Tue			
23-July-08	Wed	✓	✓	✓
24-July-08	Thu			
25-July-08	Fri			
26-July-08	Sat			
27-July-08	Sun			
28-July-08	Mon			
29-July-08	Tue	✓	✓	
30-July-08	Wed			✓
31-July-08	Thu			

Note:

Shaded area indicates public holiday.

Air – Monitoring of three 1-hour TSP and 24-hour TSP at both CAM1a and CAM2a

Noise – Noise measurements at both CNM1 and CNM2 between 0700 and 1900 on normal weekdays

Expansion of Shek Wu Hui Sewage Treatment Works

Impact Monitoring Programme – August 2008 (Tentative)

Date		Air	Noise	Site Inspection
01-August-08	Fri			
02-August-08	Sat			
03-August-08	Sun			
04-August-08	Mon	✓	✓	
05-August-08	Tue			
06-August-08	Wed			✓
07-August-08	Thu			
08-August-08	Fri			
09-August-08	Sat	✓		
10-August-08	Sun			
11-August-08	Mon			
12-August-08	Tue			
13-August-08	Wed			✓
14-August-08	Thu			
15-August-08	Fri	✓	✓	
16-August-08	Sat			
17-August-08	Sun			
18-August-08	Mon			
19-August-08	Tue			
20-August-08	Wed			✓
21-August-08	Thu	✓	✓	
22-August-08	Fri			
23-August-08	Sat			
24-August-08	Sun			
25-August-08	Mon			
26-August-08	Tue			
27-August-08	Wed	✓	✓	✓
28-August-08	Thu			
29-August-08	Fri			
30-August-08	Sat			
31-August-08	Sun			

Note:

Shaded area indicates public holiday.

Air – Monitoring of three 1-hour TSP and 24-hour TSP at both CAM1a and CAM2a

Noise – Noise measurements at both CNM1 and CNM2 between 0700 and 1900 on normal weekdays

Appendix 12

Site Diary (22/05/08 – 31/05/08)

Site Diary

Date 22/5/2008
Day Thursday
Rainfall

Weather and Typhoon Signals

Weather / Typhoon Signal	Hoisted	Lowered
A.M. : Rain		
P.M. : Fine		

LABOUR

Trade	Section of the Works 1	2	3	4	5	6	7	8	Whole	Supporting Site Staff	No.
Carpenter (C307)		1							1	Amah	1
Chainman (C999)					1				1	Assistant Surveyor	1
Labourer (male) (C406)		2	13	3	2				20	Contract Car Driver	3
Painter (C329)				1					1	Engineer	1
Plant operator (excavator) (C333)		1	1		2				4	Foreman	1
Plant operator (hoist) (C334)				1					1	Quantity Surveyor	1
Plasterer (C337)				1					1	Safety Officer	1
Truck driver (C349)					1				1	Site Agent	1
										Site Clerk	3
										Surveyor	1
										Technical Officer	1
										Watchman	2
Total:		4	14	6	6				30	Total:	17

PLANT

Item	On Site	Working	Idle	Idle Reason
Backhoe	1	1	0	
Bending machine	4	0	4	NR
Contract car	3	3	0	
Crane lorry	1	1	0	
Dump truck	1	1	0	
Electric breaker	1	1	0	
Mini backhoe	4	3	1	NR
Oxyacetylene cutting set	1	0	1	NR
Poker	1	1	0	
Vibrating plate	1	0	1	NR
Water pump (small)	2	1	1	

PLANT

Item	On Site	Working	Idle	Idle Reason

Brief Description of Activities Plant Labour Being Used

Section	Location	Description	Labour (AM/PM)	Plant (On Site/Working)
Section 2	Cable drawpit works	-Remove of formwork to DP71,72,73,74 boxout. -Concreting to DP71 boxout.	C307 2/0, C406 0/2	
Section 2	Drainage works	Concreting to gully GU08 & GU09	C406 1/0, C333 1/0	Backhoe 1/1
Section 3	Final Sedimentation Tank No. 10	Make good concrete surface of effluent launder	C406 1/1	
Section 3	RAS Pumping Station	Concreting to external staircase	C406 3/0	
Section 3	Roadworks	Concreting to carriageway P11 & P12A	C406 10/10, C333 1/1	Mini backhoe 1/1
Section 4	Cable drawpit works	No site activity at DP88A & pipe trench.		
Section 4	Sludge Press House Extension	- Painting (2nd coat) at G/F ceiling & beam. - Floor tiling at Staircase no.2 at G/F ~ 1/F. - Concreting to wall & soffit on ramp at 1/F.	C406 6/0, C329 1/0, C334 1/0, C337 1/1	Crane lorry 1/1, Poker 1/1
Section 5	Cable drawpit works	Disposing excavated material at DP99 ~ DP100 near SH Tank no.1.	C333 1/1, C349 1/1	Dump truck 1/1, Mini backhoe 1/1
Section 5	Drainage work	Remove FWK & backfill to DP68, Gully 06, 07 &10	C406 1/1, C333 1/1	Mini Backhoe 1/1
Section 5	Pipeline No. 13	Breaking pipe surround for fix DN150 pipe near SH Tank Distribution chamber.	C406 1/1	Electric breaker 1/1, Water pump (small) 2/1
Section 5	Works Area A & B	No site activity	C999 1/1	Contract car 3/3

Remarks

1) Dust monitoring were carried out at San Po street and Sheung Shui Heung.
2) Safety Walk

Instructions to Contractor

Comments by Contractor's Representative

Day's record and instructions checked and agreed

Signed ____________________
ER/SIOW/IOW/AIOW/WS

Signed ____________________
CONTRACTOR'S REPRESENTATIVE

Site Diary

Date	23/5/2008
Day	Friday
Rainfall	

Weather and Typhoon Signals

Weather / Typhoon Signal	Hoisted	Lowered
A.M. : Fine		
P.M. : Fine		

Brief Description of Activities Plant Labour Being Used

Section	Location	Description	Labour (AM/PM)	Plant (On Site/Working)
Section 2	Cable drawpit works	Erect formwork and concreting to precast concrete cover.	C307 2/0, C406 0/4	Poker 1/1
Section 2	Pipeline No. 9	Arc welding for pipe joint at CH9 0+04.45.	C318 1/1	
Section 3	RAS Pumping Station	Make good joint at roof slab	C406 1/1	
Section 3	Roadworks	Concreting to carriageway P12	C406 8/8, C333 1/1	Mini backhoe 1/1
Section 4	Cable drawpit works	Breaking pavement & excavation at DP87 & DP90 near FeCl3 storage area.	C333 0/1	Mini backhoe 1/1
Section 4	Pipeline No. 12	Make good formation & compaction on trench between SC Tank no.3 & no.4.	C406 1/1	Poker 1/1
Section 4	Sludge Press House Extension	Wall tiling on additional wall at G/F ~ 1/F.	C337 2/2	
Section 5	Cable drawpit works	Exc. & disposing excavated material at DP96 ~ DP100 near SH Tank no.1.	C406 2/2, C333 1/1, C349 1/1	Dump truck 1/1, Mini backhoe 1/1
Section 5	Pipeline No. 13	No site activity on trench.		
Section 5	Road work	Concreting to the base of the kerb	C406 0/3, C333 0/1	Backhoe 1/1
Section 5	Sludge Holding Tank	Painting to inner wall	C406 2/2, C334 1/1	45t rib crane 1/1
Section 5	Works Area A & B	No site activity	C999 1/1	Contract car 3/3

LABOUR

Trade	Section of the Works 1	2	3	4	5	6	7	8	Whole	Supporting Site Staff	No.
Carpenter (C307)		1							1	Amah	1
Chainman (C999)					1				1	Assistant Surveyor	1
Labourer (male) (C406)		2	9	1	6				18	Contract Car Driver	3
Plant operator (excavator) (C333)			1	1	2				4	Engineer	1
Plant operator (hoist) (C334)					1				1	Foreman	1
Plasterer (C337)				2					2	Quantity Surveyor	1
Truck driver (C349)					1				1	Safety Officer	1
Welder (C318)		1							1	Site Agent	1
										Site Clerk	3
										Surveyor	1
										Technical Officer	1
										Watchman	2
Total:		4	10	4	11				29	Total:	17

PLANT

Item	On Site	Working	Idle	Idle Reason
45t rib crane	1	1	0	
Backhoe	1	1	0	
Bending machine	4	0	4	NR
Contract car	3	3	0	
Dump truck	1	1	0	
Mini backhoe	3	3	0	
Oxyacetylene cutting set	1	0	1	NR
Poker	2	2	0	
Vibrating plate	1	0	1	NR
Water lorry	1	0	1	NR
Water pump (small)	2	0	2	NR

PLANT

Item	On Site	Working	Idle	Idle Reason

Remarks

Instructions to Contractor

Comments by Contractor's Representative

Day's record and instructions checked and agreed

Signed ____________________
ER/SIOW/IOW/AIOW/WS

Signed ____________________
CONTRACTOR'S REPRESENTATIVE

Site Diary

Date 24/5/2008
Day Saturday
Rainfall

Weather and Typhoon Signals

Weather / Typhoon Signal	Hoisted	Lowered
A.M. : Fine		
P.M. : Fine		

LABOUR

Trade	1	2	3	4	5	6	7	8	Whole
	Section of the Works								
Chainman (C999)					1				1
Labourer (male) (C406)			10	1	5				16
Painter (C329)				1					1
Plant operator (excavator) (C333)			2	1	1				4
Plant operator (hoist) (C334)					1				1
Plasterer (C337)				1					1
Truck driver (C349)					1				1
Welder (C318)		1							1
Total:		1	12	4	9				26

Supporting Site Staff	No.
Amah	1
Assistant Surveyor	1
Contract Car Driver	3
Engineer	1
Foreman	1
Quantity Surveyor	1
Safety Officer	1
Site Agent	1
Site Clerk	3
Surveyor	1
Technical Officer	1
Watchman	2
Total:	17

Brief Description of Activities Plant Labour Being Used

Section	Location	Description	Labour (AM/PM)	Plant (On Site/Working)
Section 2	Pipeline No. 9	Welding the pipe flange	C318 1/1	
Section 3	Drainage works	Raise the manhole top slab	C406 0/2	
Section 3	Final Sedimentation Tank No. 10	Make good concrete surface of effluent launder	C406 1/1	
Section 3	Roadworks	1) Concreting to carriageway P13 & P11 box out 2) Erecting formwork of box out at carriageway P11 3) Preparing the formation of fotpath near Main Station	C406 9/8, C333 2/2	Mini backhoe 2/2
Section 4	Pipeline No. 12	Backfilling typeA & typeB on pipe trench between SC Tank no.3 & no.4.	C406 1/1, C333 1/1	Mini backhoe 1/1
Section 4	Sludge Press House Extension	Wall tiling & painting(sealer & 1st coat) on additional wall at G/F ~ 1/F.	C329 1/1, C337 1/1	
Section 5	Cable drawpit works	Excavation formation & disposing material at DP96 ~ DP100 near SH Tank no.1.	C406 2/0, C333 1/0, C349 1/0	Dump truck 1/1, Mini backhoe 1/1, Water pump (small) 1/1
Section 5	Pipeline No. 13	No site activity on trench.		
Section 5	Road work	Preparation & concreting to bedding of kerb	C406 2/2	
Section 5	Sludge Conditioning Tank	Painting to inner wall	C406 2/2, C334 1/1	30t rib crane 1/1
Section 5	Works Area A & B	No site activity	C999 1/1	Contract car 3/3

PLANT

Item	On Site	Working	Idle	Idle Reason
30t rib crane	1	1	0	
Bending machine	4	0	4	NR
Contract car	3	3	0	
Dump truck	1	1	0	
Mini backhoe	4	4	0	
Oxyacetylene cutting set	1	0	1	NR
Vibrating plate	1	0	1	NR
Water lorry	1	0	1	NR
Water pump (small)	2	1	1	NR

PLANT

Item	On Site	Working	Idle	Idle Reason

Remarks

Instructions to Contractor

Comments by Contractor's Representative

Day's record and instructions checked and agreed

Signed ______________________
ER/SIOW/IOW/AIOW/WS

Signed ______________________
CONTRACTOR'S REPRESENTATIVE

Site Diary

Date 25/5/2008
Day Sunday
Rainfall

Weather and Typhoon Signals

Weather / Typhoon Signal	Hoisted	Lowered
A.M. : Fine		
P.M. : Fine		

LABOUR

Trade	Section of the Works 1	2	3	4	5	6	7	8	Whole	Supporting Site Staff	No.
										Watchman	2
Total:										Total:	2

PLANT

Item	On Site	Working	Idle	Idle Reason

PLANT

Item	On Site	Working	Idle	Idle Reason

Brief Description of Activities Plant Labour Being Used

Section	Location	Description	Labour (AM/PM)	Plant (On Site/Working)
Section 2	Pipeline No. 9	No Site Activity.		
Section 3	Final Sedimentation Tank No. 10	No Site Activity.		
Section 3	Roadworks	No Site Activity.		
Section 4	Pipeline No. 12	No Site Activity.		
Section 4	Sludge Press House Extension	No Site Activity.		
Section 5	Cable draw-pit works	No Site Activity.		
Section 5	Pipeline No. 13	No Site Activity.		
Section 5	Works Area A & B	No Site Activity.		

Remarks

Instructions to Contractor

Comments by Contractor's Representative

Day's record and instructions checked and agreed

Signed ______________________
ER/SIOW/IOW/AIOW/WS

Signed ______________________
CONTRACTOR'S REPRESENTATIVE

Site Diary

Date 26/5/2008
Day Monday
Rainfall

Weather and Typhoon Signals

Weather / Typhoon Signal	Hoisted	Lowered
A.M. : Fine		
P.M. : Shower		

LABOUR

Trade	Section of the Works 1	2	3	4	5	6	7	8	Whole
Chainman (C999)					1				1
Drainlayer (C314)		1							1
Labourer (male) (C406)		2	2	3	4				11
Plant operator (excavator) (C333)		2			2				4
Plasterer (C337)				2					2
Welder (C318)		1							1
Total:		6	2	5	7				20

Supporting Site Staff	No.
Amah	1
Assistsnt Surveyor	1
Contract Car Driver	3
Engineer	1
Foreman	1
Quantity Surveyor	1
Safety Officer	1
Site Agent	1
Site Clerk	3
Surveyor	1
Technical Officer	1
Watchman	2
Total:	17

PLANT

Item	On Site	Working	Idle	Idle Reason
Backhoe	4	4	0	
Bending machine	4	0	4	NR
Contract car	3	3	0	
Electric breaker	1	1	0	
Oxyacetylene cutting set	2	1	1	NR
Vibrating plate	1	0	1	NR
Water lorry	1	0	1	NR

PLANT

Item	On Site	Working	Idle	Idle Reason

Brief Description of Activities Plant Labour Being Used

Section	Location	Description	Labour (AM/PM)	Plant (On Site/Working)
Section 2	Cable drawpit works	Backfull to DP71-74 and trench.	C333 1/1	Backhoe 1/1
Section 2	Drainage works	Laying pipe, erecting formwork and concreting to pipie surround between gully GU08 & existing manhole	C406 2/2	
Section 2	Lamp pole	Backfil to lamp pole no. 55, 58, 71.	C333 1/1	Backhoe 1/1
Section 2	Pipeline No. 9	Laying pipe	C314 1/1, C318 1/1	Oxyacetylene cutting set 1/1
Section 3	Final Sedimentation Tank No. 9	Make good concrete surface of effluent launder	C406 1/1	
Section 3	Roadworks	General cleaning at carriageway P12, P13	C406 2/0	
Section 4	Pipeline No. 12	Breaking conccrete surround between SC Tank no.1 & no.2.	C406 0/1	Electric breaker 1/1
Section 4	Sludge Conditioning Tank No. 3 & No.4	General site clearance.	C406 1/0	
Section 4	Sludge Press House Extension	- Wall tiling on additional wall & column at G/F ~ 1/F. - Remove metal working platform at G/F.	C406 2/1, C337 2/2	
Section 5	Cable drawpit works	No site activity at DP96 ~ DP100.		
Section 5	Drainage work	Lay pipe, Fwk & concreting to surround (Gully Pipe 6,7,8,10)	C406 4/4, C333 1/1	Backhoe 1/1
Section 5	Pipeline No. 13	No site activity on trench.		
Section 5	Road work	Excavation to proposed level of road base	C333 1/1	Backhoe 1/1
Section 5	Works Area A & B	No site activity	C999 1/1	Contract car 3/3

Remarks

Instructions to Contractor

Comments by Contractor's Representative

Day's record and instructions checked and agreed

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ER/SIOW/IOW/AIOW/WS

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CONTRACTOR'S REPRESENTATIVE

Site Diary

Date	27/5/2008
Day	Tuesday
Rainfall	

Weather and Typhoon Signals

Weather / Typhoon Signal	Hoisted	Lowered
A.M. : Fine		
P.M. : Fine		

LABOUR

Trade	Section of the Works 1	2	3	4	5	6	7	8	Whole	Supporting Site Staff	No.
Chainman (C999)					1				1	Amah	1
Labourer (male) (C406)	1	1	1	4	9				16	Assistant Surveyor	1
Pipelayer		2		1					3	Contract Car Driver	3
Plant operator (excavator) (C333)		1			4				5	Engineer	1
Plasterer (C337)				1					1	Foreman	1
Truck driver (C349)					1				1	Quantity Surveyor	1
										Safety Officer	1
										Site Agent	1
										Site Clerk	3
										Surveyor	1
										Technical Officer	1
										Watchman	2
Total:	1	4	1	6	15				27	Total:	17

PLANT

Item	On Site	Working	Idle	Idle Reason
Backhoe	3	3	0	
Bending machine	4	0	4	NR
Contract car	3	3	0	
Dump truck	1	1	0	
Electric breaker	1	1	0	
Mini backhoe	1	1	0	
Mini-Backhoe	1	1	0	
Oxyacetylene cutting set	1	0	1	NR
Vibrating plate	2	1	1	NR
Water lorry	1	0	1	NR
Water pump (small)	3	3	0	

PLANT

Item	On Site	Working	Idle	Idle Reason

Brief Description of Activities Plant Labour Being Used

Section	Location	Description	Labour (AM/PM)	Plant (On Site/Working)
Section 1	Sewage Pump Pit	Pump water out	C406 1/1	Water pump (small) 1/1
Section 2	Drainage works	Removing formwork and backfill to pipe surround	C406 2/0, C333 1/0	Backhoe 1/1
Section 2	Pipeline No. 9	Laying DN600 M.S. pipe at CH9 0+04.45 and welding test to DN600 D.I. pipe by lab.	Pipelayer 2/2	
Section 3	Final Sedimentation Tank No. 9	Make good concrete surface of effluent launder	C406 0/1	
Section 4	Pipeline No. 12	- Breaking concrete surround between SC Tank no.1 & no.2. - Preparing works for pressure test on pit at SC Tank no.4.	C406 0/2, Pipelayer 0/1	Electric breaker 1/1
Section 4	Sludge Press House Extension	- General site clearance & remove steel scaffolding at G/F. - Wall tiling on W1 at G/F ~ 1/F.	C406 2/2, C337 1/1	
Section 5	Cable drawpit works	Excavation formation & disposing material at DP100 & cable trench near SH Tank no.1.	C406 0/2, C333 0/1, C349 0/1	Dump truck 1/1, Mini backhoe 1/1, Vibrating plate 1/1, Water pump (small) 2/2
Section 5	Drainage work	Remove FWK & backfill to gully pipe 6 7 10	C406 3/3, C333 1/1	Backhoe 1/1
Section 5	Pipeline No. 13	No site activity on trench.		
Section 5	Road work	Excavation to proposed level of subbase near ABH	C406 5/5, C333 2/2	Backhoe 1/1, Mini-Backhoe 1/1
Section 5	Works Area A & B	No site activity	C999 1/1	Contract car 3/3

Remarks

SSEMC NO:32, Labour Department attended .

Instructions to Contractor

Comments by Contractor's Representative

Day's record and instructions checked and agreed

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CONTRACTOR'S REPRESENTATIVE

Site Diary

Date	28/5/2008	**Weather and Typhoon Signals**			
Day	Wednesday	Weather / Typhoon Signal	Hoisted	Lowered	
Rainfall		A.M. : Shower			
		P.M. : Shower			

LABOUR

Trade	Section of the Works 1	2	3	4	5	6	7	8	Whole	Supporting Site Staff	No.
Carpenter (C307)					1				1	Amah	1
Chainman (C999)					1				1	Assistant Surveyor	1
Labourer (male) (C406)		2	5	7	7				21	Contract Car Driver	3
Pipelayer				1					1	Engineer	1
Plant operator (excavator) (C333)	1			1	3				5	Foreman	1
Plasterer (C337)				2					2	Quantity Surveyor	1
Truck driver (C349)					1				1	Safety Officer	1
										Site Agent	1
										Site Clerk	3
										Surveyor	1
										Technical Officer	1
										Watchman	2
Total:	1	2	5	11	13				32	Total:	17

PLANT

Item	On Site	Working	Idle	Idle Reason
Air Compressor	1	1	0	
Backhoe	3	3	0	
Bending machine	4	0	4	NR
Breaker - pneumatic	1	1	0	
Contract car	3	3	0	
Dump truck	1	1	0	
Mini backhoe	2	2	0	
Oxyacetylene cutting set	1	0	1	NR
Vibrating plate	2	0	2	NR
Water lorry	1	0	1	NR
Water pump (small)	2	1	1	

PLANT

Item	On Site	Working	Idle	Idle Reason

Brief Description of Activities Plant Labour Being Used

Section	Location	Description	Labour (AM/PM)	Plant (On Site/Working)
Section 1	Small area near entrance	Breaking existing concrete surface	C333 1/1	Backhoe 1/1
Section 2	Drainage works	Laying pipe between GU09 & existing manhole	C406 0/2	
Section 2	Pipeline No. 9	Triming to formation at P.L.9 CH9 0+04.45.	C406 2/0	
Section 3	Final Sedimentation Tank No. 10	Make good concrete surface of effluent launder	C406 1/1	
Section 3	Final Sedimentation Tank No. 9	Apply granolithic sulphate resisting cement of effluent launder	C406 4/4	
Section 4	Drainage work	- Installing S.S. hardrailing at MHK1 & MHK2. - Demolition formwork at MHK3. - Excavation for oil trap chamber near MHK1.	C406 4/2, C333 0/1	Mini backhoe 1/1
Section 4	Pipeline No. 12	- Breaking conccrete surround between SC Tank no.1 & no.2. - Preparing works for pressure test on pit at SC Tank no.3.	C406 3/3, Pipelayer 1/1	Air Compressor 1/1, Breaker - pneumatic 1/1
Section 4	Sludge Press House Extension	Wall tiling on W1 & W2 at G/F ~ 1/F.	C406 1/1, C337 2/2	
Section 5	Cable drawpit works	- Backfill typeB for blinding layer & erect formwork at DP100. - Disposing material & make good formation for cable	C307 2/0, C406 1/1, C333 0/1, C349 0/1	Dump truck 1/1, Mini backhoe 1/1, Water pump (small) 2/1
Section 5	Drainage Work	Air test to gully pipe 10	C406 1/0	
Section 5	Pipeline No. 13	No site activity on trench.		
Section 5	Primary Sedimentation Tank	Fwk to footpath around the tank	C406 2/0	
Section 5	Road work	Excavation to porposed level of sub-base & fill sub-base near ABH	C406 4/4, C333 2/2	Backhoe 2/2
Section 5	Works Area A & B	No site activity	C999 1/1	Contract car 3/3

Remarks

1) Dust monitoring were carried out at San Po street and Sheung Shui Heung.

Instructions to Contractor

Comments by Contractor's Representative

Day's record and instructions checked and agreed

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CONTRACTOR'S REPRESENTATIVE

Site Diary

Date	29/5/2008
Day	Thursday
Rainfall	

Weather and Typhoon Signals

Weather / Typhoon Signal	Hoisted	Lowered
A.M. : Rain		
Amber rainstorm	9:05	11:40
P.M. : Fine		

LABOUR

Trade	Section of the Works 1	2	3	4	5	6	7	8	Whole	Supporting Site Staff	No.
Chainman (C999)					2				2	Amah	1
Labourer (male) (C406)			5	3	2				10	Assistant Surveyor	1
Pipelayer				1					1	Contract Car Driver	3
Plant operator (excavator) (C333)					1				1	Engineer	1
Plasterer (C337)				2					2	Foreman	1
										Quantity Surveyor	1
										Safety Officer	1
										Site Agent	1
										Site Clerk	3
										Surveyor	1
										Technical Officer	1
										Watchman	2
Total:			5	6	5				16	Total:	17

Brief Description of Activities Plant Labour Being Used

Section	Location	Description	Labour (AM/PM)	Plant (On Site/Working)
Section 3	Final Sedimentation Tank No. 10	Make good concrete surface of effluent launder	C406 1/1	
Section 3	Final Sedimentation Tank No. 9	Apply granolithic sulphate resisting cement of effluent launder	C406 4/4	
Section 4	Drainage work	No site activity for oil trap chamber near MHK1.		
Section 4	Pipeline No. 12	- Breaking conccrete surround between SC Tank no.1 & no.2. - To carried out of pressure test.	C406 3/2, Pipelayer 1/1	Air Compressor 1/1, Breaker - pneumatic 1/1
Section 4	Sludge Press House Extension	Wall tiling on W1 & column at G/F ~ 1/F.	C406 1/1, C337 2/2	
Section 5	Cable drawpit works	No site activity at DP100 & cable trench near SH Tank no.1.		
Section 5	Pipeline No. 13	To carried out CCTV on pipe (half-length).	C406 0/3	
Section 5	small area near entrance gate	Breaking existing concrete ground surface	C333 1/1	Mini Backhoe 1/1
Section 5	Works Area A & B	No site activity	C999 1/1	Contract car 3/3
Section 5	Works Area A & B	No site activity	C999 1/1	Contract car 3/3

PLANT

Item	On Site	Working	Idle	Idle Reason
Air Compressor	1	1	0	
Bending machine	8	0	8	NR
Breaker - pneumatic	1	1	0	
Contract car	6	6	0	
Mini backhoe	3	1	2	NR
Oxyacetylene cutting set	1	0	1	NR
Vibrating plate	2	0	2	NR
Water lorry	2	0	2	NR
Water pump (small)	2	0	2	NR

PLANT

Item	On Site	Working	Idle	Idle Reason

Remarks

Instructions to Contractor

Comments by Contractor's Representative

Day's record and instructions checked and agreed

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CONTRACTOR'S REPRESENTATIVE

Site Diary

Date	30/5/2008
Day	Friday
Rainfall	

Weather and Typhoon Signals

Weather / Typhoon Signal	Hoisted	Lowered
A.M. : Shower		
P.M. : Shower		

LABOUR

Trade	Section of the Works 1	2	3	4	5	6	7	8	Whole
Carpenter (C307)					2				2
Chainman (C999)				1					1
Labourer (male) (C406)		1	7	6	2				16
Pipelayer		2							2
Plant operator (excavator) (C333)				1	3				4
Plant operator (hoist) (C334)				1					1
Plasterer (C337)				2					2
Total:		3	7	11	7				28

Supporting Site Staff	No.
Amah	1
Assistant Surveyor	1
Contract Car Driver	3
Engineer	1
Foreman	1
Quantity Surveyor	1
Safety Officer	1
Site Agent	1
Site Clerk	3
Surveyor	1
Techncial Officer	1
Watchman	2
Total:	17

Brief Description of Activities Plant Labour Being Used

Section	Location	Description	Labour (AM/PM)	Plant (On Site/Working)
Section 2	Drainage works	Erecting formwork of pipe surround between GU09 & existing manhole	C406 0/1	
Section 2	Pipeline No. 9	Fixing DN600 M.S. pipe and apply mastic & denso tape.	Pipelayer 2/2	
Section 3	Final Sedimentation Tank No. 10	Apply granolithic sulphate resisting cement	C406 4/4	
Section 3	Final Sedimentation Tank No. 9	Make good concrete surface of effluent launder	C406 1/0	
Section 3	RAS Pumping Station	Fill tie bolt and make good cocnrete surface at wetwell	C406 2/2	
Section 4	Cable drawpit works	Saw cut carriageway at DP81 ~ DP83	C406 0/1	Saw cut machine 1/1
Section 4	Drainage work	Installing S.S. hardrailing at MHK3.	C406 0/3	
Section 4	Pipeline No. 12	No site activity.		
Section 4	Sludge Press House Extension	- Remove steel scaffolding. - Wall tiling on column & general site clearance at G/F. - Floor tiling at staircase no.2.	C406 3/3, C333 1/0, C334 1/1, C337 2/2	Backhoe 1/1, Crane lorry 1/1
Section 4	Works Area A & B	No site activity	C999 1/1	Contract car 3/3
Section 5	Cable drawpit works	- Erect formwork & concreting DP100. - Concreting blinding layer for pipe trench near SH Tank no.1.	C307 2/2, C406 0/2, C333 0/1	Mini backhoe 1/1, Poker 1/1, Water pump (small) 2/1
Section 5	Pipeline No. 13	No site activity.		
Section 5	small area near entrance gate	Breaking existing concrete ground surface & excavation to proposed level	C406 1/1, C333 2/2	Backhoe 1/1, Mini Backhoe 1/1

PLANT

Item	On Site	Working	Idle	Idle Reason
Air Compressor	1	0	1	NR
Backhoe	2	2	0	
Bending machine	4	0	4	NR
Contract car	3	3	0	
Crane lorry	1	1	0	
Mini Backhoe	2	2	0	
Oxyacetylene cutting set	1	0	1	NR
Poker	1	1	0	
Saw cut machine	1	1	0	
Vibrating plate	2	0	2	NR
Water lorry	1	0	1	NR
Water pump (small)	2	1	1	

PLANT

Item	On Site	Working	Idle	Idle Reason

Remarks

Instructions to Contractor

Comments by Contractor's Representative

Day's record and instructions checked and agreed

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CONTRACTOR'S REPRESENTATIVE

Site Diary

Date	31/5/2008
Day	Saturday
Rainfall	

Weather and Typhoon Signals

Weather / Typhoon Signal	Hoisted	Lowered
A.M. : Fine		
P.M. : Shower		

LABOUR

Trade	1	2	3	4	5	6	7	8	Whole
Carpenter (C307)				2					2
Chainman (C999)					1				1
Labourer (male) (C406)		1	6	7	2				16
Pipelayer					1				1
Plant operator (excavator) (C333)		1		2					3
Plant operator (hoist) (C334)				1					1
Plasterer (C337)				2					2
Truck driver (C349)				1					1
Total:		2	6	15	4				27

Supporting Site Staff	No.
Amah	1
Assistant Surveyor	1
Contract Car Driver	3
Engineer	1
Foreman	1
Quantity Surveyor	1
Safety Officer	1
Site Agent	1
Site Clerk	3
Surveyor	1
Technical Officer	1
Watchman	2
Total:	17

PLANT

Item	On Site	Working	Idle	Idle Reason
Backhoe	2	2	0	
Bending machine	4	0	4	NR
Contract car	3	3	0	
Crane lorry	1	1	0	
Dump truck	1	1	0	
Electric breaker	1	1	0	
Mini backhoe	1	1	0	
Oxyacetylene cutting set	1	0	1	NR
Poker	1	1	0	
Saw cut machine	1	0	1	NR
Vibrating plate	2	1	1	NR
Water lorry	1	0	1	
Water pump (small)	2	1	1	

PLANT

Item	On Site	Working	Idle	Idle Reason

Brief Description of Activities Plant Labour Being Used

Section	Location	Description	Labour (AM/PM)	Plant (On Site/Working)
Section 2	Roadowrks & Drainage works	1) Prepare formation of kerb foundation at P7 2) Concreting to pipe surround between GU09 & existing manhole	C406 0/2, C333 0/1	Backhoe 1/1
Section 3	Final Sedimentation Tank No. 10	1) Apply granolithic sulphate resisting cement to effluent launder 2) Make good concrete surface of effluent launder	C406 5/4	
Section 3	RAS Pumping Station	Fill tie bolt and make good concrete surface at wetwell	C406 2/2	
Section 4	Between Old SPH & SPH Extension	- Excavation pipe trench at DP81 ~ DP83. - Excavation formation, fill of typeB, erect formwork & concreting DP83.	C307 2/2, C406 3/3, C333 2/2, C349 1/1	Backhoe 1/1, Dump truck 1/1, Mini backhoe 1/1, Poker 1/1, Vibrating plate 1/1
Section 4	Drainage work	Erect formwork & fix manhole cover at MHK2 & MHK3.	C406 2/2	
Section 4	Sludge Press House Extension	- Wall tiling on column & general site clearance at G/F. - Floor tiling at staircase no.2.	C406 2/2, C334 1/1, C337 2/2	Crane lorry 1/1
Section 5	Cable drawpit works	Demolition formwork at DP100.	C406 1/0	Electric breaker 1/1, Water pump (small) 2/1
Section 5	Pipeline No. 13	Preparing works for water division of DN150.	C406 0/1, Pipelayer 0/1	
Section 5	Works Area A & B	No site activity	C999 1/1	Contract car 3/3

Remarks

Instructions to Contractor

Comments by Contractor's Representative

Day's record and instructions checked and agreed

Signed ______________________
ER/SIOW/IOW/AIOW/WS

Signed ______________________
CONTRACTOR'S REPRESENTATIVE