

DRAINAGE SERVICES DEPARTMENT (DSD) CONTRACT NO. DC/2005/02

CONSTRUCTION OF SEWERS, RISING MAINS & SEWAGE PUMPING STATION AT KAM TIN, NAM SANG WAI AND AU TAU IN YUEN LONG

14th Monthly Construction Phase EM&A Report for May 2007 (Designated Elements)

PREPARED FOR

Leader Civil Engineering Corporation Ltd

Quality Index

Date	Reference No.	
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Executive Summary

- ES.01 Leader Civil Engineering Corporation Ltd (the Contractor) has been awarded the DSD Contract DC/2005/02 Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long (the Project). The Project requires an Environmental Monitoring and Audit (EM&A) program to be implemented by an Environmental Team (ET) throughout the contract period in compliance with the requirements as stated in the project Environmental Permit (EP-220/2005) and the project's Updated EM&A (Designated Elements) Manual.
- ES.02 This is the 14th Monthly Construction Phase EM&A Report (May 2007, Report No. 14) reporting the environmental impact monitoring and audit (EM&A) conducted from 01 to 31 May 2007. The EM&A program in May 2007 were covered air quality, noise and waste management.

Breach of Action and Limit (AL) Levels

ES.03 No Action/Limit Level exceedance was recorded in this reporting month. All the monitoring results were complied with standard.

Complaint Log

ES.04 No environmental complaint was received in this reporting month.

Notification of Any Summons and Successful Prosecution

ES.05 There was no environmental summon or prosecution in this reporting month.

Reporting Changes

ES.06 There are no changes to be reported in this reporting month.

Future Key Issues

ES.07 Construction activities to be undertaken in June 2007 include bore hole at Sha Po pumping station (P2), excavation and piling at Nam Sang Wai pumping station (P3), sheeting piling, excavation, pipe laying, backfilling, concreting and extract sheet pile at Nam Sang Wai Road (S4) and Pok Wai South Road (S5 & S6). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.



1.0 BASIC PROJECT INFORMATION

- 1.01 Leader Civil Engineering Corporation Ltd (the Contractor) has been awarded the DSD Contract DC/2005/02 Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long (the Project). The Project is part of the Yuen Long and Kam Tin Sewerage and Sewage Disposal (YLKTSSD) Scheme. A site layout map showing the site boundary and the work areas is shown in **Annex A**.
- 1.02 This 14th Monthly Construction Phase EM&A Report (May 2007, Report No. 14) summarizes the impact monitoring results and audit findings in the reporting month from 01 to 31 May 2007.

Project Organization

1.03 The organization chart and lines of communication with respect to the on-site environmental management and monitoring program are shown in **Annex B**.

Construction Program of the Reporting Period

1.04 A construction program showing the construction work undertaken in this reporting month was shown in **Annex C**. Environmental mitigation measures implemented are shown in **Table 2-1**.

Management Structure

1.05 The management structure of the Project is shown in **Annex B**.

Works Undertaken in the Reporting Period

1.06 The construction works undertaken during the reporting month under the Environmental Permit (EP-220/2005) were shown as follows:

Kam Tin Pumping Station (P1)

Excavation

Sha Po Pumping Station (P2)

Bore hole

Nam Sang Wai Pumping Station (P3)

• Pipe laying

Nam Sang Wai Road (S4)

- Sheet piling
- Excavation
- Pipe laying
- Backfilling
- Concreting
- Pipe jacking
- Grounting
- Extract sheet pile



Pok Wai South Road (S5 and S6)

- Sheet piling
- Excavation
- Pipe laying
- Backfilling
- Concreting
- Extract sheet pile

2.0 ENVIRONMENTAL STATUS

Work Undertaken in the Reporting Period with Illustrations

2.01 A summary of the work undertaken in this reporting month with illustrations and environmental mitigation measures implemented is shown in **Table 2-1**.

Table 2-1 Work Undertaken in the Reporting Period with Illustrations of Mitigation Measures

Location	Description of Construction Activities	Environmental Mitigation Measures	EM&A Ref.
P1 (Kam Tin Pumping Station)	Sheet pilingFooting construction	 Erect 2.4m high noise barrier hoarding around the works area at P1, P2 and P3 Remove dust and spray water at the construction access Cover the stockpiles of dusty material properly 	A1 & F6 A2 A3 A4
P2 (Sha Po Pumping Station)	Hoarding erection	 Spray water to all dusty materials immediately before loading and unloading Wash the wheels of vehicles before leaving the site 	A5
P3 (Nam Sang Wai Pumping Station)	• Pipe jacking	 Install and use power-operated cover at the dump trucks Spray water at the pavement breaking locations Spray the working area of excavation frequently Maximize the use of quiet PME on site 	A6 A7 A8 B1, B2 & F5
S4 (Nam Sang Wai Road)	Drilling and grouting	 Apply and obtain appropriate waste disposal licenses Handle, store and dispose of chemical wastes as per relevant regulations Implement trip-ticket system for waste disposal Restrict open fires and provide fire fighting equipment in the works area 	D1 D2, D3 & D4 D5 F9
S5 & S6 (Pok Wai South Road)	• Pipe jacking	 Perform weekly inspection with ET and monthly audit with IEC Conduct noise and dust monitoring as per EM&A manual during construction Provide sedimentation tanks for treating site discharge. Recycle wheel washing water and provide sedimentation tanks for treating site discharge. 	H1 I1 & I2 - -

2.02 Photographic records showing the implemented 2.4m high noise barrier at the pumping station (S3) are shown in **Annex D**.

Project Drawings

2.03 Drawings showing the work areas under EP-220/2005 and the locations of the designated monitoring stations are presented in **Annex E**.



2.04 There are four designated air quality (AM1, AM5, AM6 & AM7) and four noise monitoring stations (AM1, AM5, AM6 & AM7) under the project EP.

Station ID	Nature of Premise	Site Work Description	Station Coordinates
AM1	Site Boundary in NSW		835829 N
AWII	Site Boundary in NS W		822910 E
AM5	Site Boundary in FKH		835121 N
71113	Site Boundary in Tixii		823515 E
AM6	Site Boundary in KT		833308 N
Alvio	Site Boundary in Ki		823987 E
AM7	Site Boundary in NSW		836171 N
AIVI	AWI/ Site Boundary in NSW	Sheet piling and trench excavation.	822586 E
NM3	Village House in NSW	sheet phing and trenen excavation.	835808 N
TVIVIS	village House III 145 W		822817 E
NM4	Village House in NSW		835282 N
1 11/1-	village House III 145 W		822811 E
NM6	Village House in KT		833288 N
141410	viiiage House III K1		823999 E
NM7	Village House in FKH		835121 N
1 4171 /	village House III FIXII		823495 E

2.05 In this reporting month, the impact monitoring was carried out at four designated air and four noise monitoring stations in according to the monitoring schedule.

3.0 SUMMARY OF EM&A REQUIREMENTS

Monitoring Parameters

- 3.01 Environmental monitoring and audit requirements are set out in the Updated EM&A manual. Air quality and construction noise have been identified to be the key monitoring parameters during the impact phase for the construction of the project.
- 3.02 A summary of the impact EM&A requirements for air quality and construction noise as per the project Updated EM&A Manual are shown in **Table 3-1.**

Table 3-1 Summary of EM&A Requirements

Environmental Aspect	Monitoring Parameters
Air Quality	24-Hr TSP
Construction Noise	Leq 30min during day time 07:00 to 19:00
	Supplementary L10 and L90 for reference.

Environmental Quality Performance Limits

3.03 A summary of the Action/Limit (A/L) Levels for air quality and construction noise is shown in **Tables 3-2** and **3-3.**

Table 3-2 Action and Limit Levels for Air Quality Monitoring

Monitoring Location	Action Level (µg/m³) Lim		Limit Leve	it Level (μg/m³)	
Wontoning Docation	1-Hr TSP	24-Hr TSP	1-Hr TSP	24-Hr TSP	
AM1	391	184	500	260	
AM5	353	237	500	260	
AM6	329	183	500	260	
AM7	383	204	500	260	



Table 3-3 Action and Limit Levels for Construction Noise

Parameter			Action Level in dB(A)	Limit Level in dB(A)	
0700-1900	hrs	on	normal	When one or more documented	> 75 dB(A)
weekdays				complaints are received	> /3 dB(A)

Event and Action Plans

3.04 An Event Action Plan for air quality and construction noise has been implemented for this project. Details of the Event Action Plan are presented in **Annex F**.

Environmental Mitigation Measures

3.05 The project EIA report has recommended environmental mitigation measures to minimize potential environmental impacts arising from the construction of the project. A full list of the mitigation measures is detailed in **Annex G**.

Environmental Requirements in Contract Documents

3.06 The environmental requirements in the contract documents generally refer to the compliance of the requirements as stipulated in the project EP and the updated EM&A Manual.

4.0 IMPLEMENTATION STATUS

- 4.01 The implementation status of environmental protection and pollution control/mitigation measures as recommended in the project EIA report is summarized in **Table 2-1** and the implementation schedule as shown in **Annex G**.
- 4.02 A summary status of the permits, licences, and/or notifications on environmental protection for this Project in this reporting period is presented in **Table 4-1**.

Table 4-1 Status of Environmental Licenses and Permits

Item	Item Description	Permit Status
1	Environmental Permit No.: EP-220/2005	Issued in June 2005
2	Air Pollution Control (Construction Dust)	Notified EPD on 24 Dec 2005
3	Chemical Waste Producer Registration (No. 5213-528-L2544-08)	Registration on 27 Jan 2006
4	Water Pollution Control (Discharge License No. 1U434/1)	Issued on 08 May 2006
5	Account for Disposal of Construction Waste No. 5004959	Registration on 27 Dec 2005
6	Piling Permit (CNP No. PP-RN0036-06)	Valid (8 Dec 2006 to 03 Sep 2007)
7	Piling Permit (CNP No. PP-RN0001-07)	Valid (7 Mar 2007 to 06 Dec 2007)
8	Piling Permit (CNP No. PP-RN0004-07)	Valid (7 May 2007 to 06 Feb 2008)
9	Construction Noise Permit (CNP No. GW-RN0083-07)	Valid (8 Mar 2007 to 07 Sep 2007)
10	Construction Noise Permit (CNP No. GW-RN0118-07)	Valid (28 Mar 2007 to 27 Sep 2007)
11	Construction Noise Permit (CNP No. GW-RN0183-07)	Valid (03 May 2007 to 02 Nov 2007)



5.0 MONITORING RESULTS

MONITORING METHODOLOGY OF AIR QUALITY MONITORING

- 5.01 The 24-Hr TSP monitoring was carried out by a High volume sampler (HVS) in compliance with the updated EM&A Manual. The HVS employed complied with the PS specifications including.
 - Power supply of 220v/50 hz for 24-hour continuous operation;
 - 0.6-1.7 m³/min (20-60 SCFM) adjustable flow rate;
 - A 7-day mechanical timer for 24-hour operation;
 - An elapsed time indicator with ± 2 minutes accuracy for 24-Hr operation;
 - Minimum exposed area of 63 in²;
 - Flow control accuracy of $\pm 2.5\%$ deviation over 24-Hr operation;
 - An anodized aluminum shelter to protect the filter and sampler;
 - A motor speed-voltage control to control mass flow rate with accuracy of ±2.5% deviation over 24-hr sampling period;
 - Provision of a flow recorder for continuous monitoring;
 - Provision of a peaked roof inlet;
 - Incorporation with a manometer; and
 - An 8"x10" stainless steel filter holder to hold, seal and easy to change the filter paper.
- 5.02 The filter papers used in 24-Hr TSP monitoring were of size 8"x10" and provided by a local HOKLAS-accredited laboratory, ALS Techichem Pty (HK) Limited (HOKLAS No. 66). The filters papers after measurements were returned to the laboratory for the required treatment and analysis. In house QA/QC procedures for all monitoring practices to ensure the validity of monitoring data. Blank filters samples were collected and delivered to the HOKLAS-accredited laboratory for QA/QC check.
- 5.03 The meteorological information during the reporting period was obtained from Lau Fau Shan Station of the Hong Kong Observatory (HKO).

MONITORING METHODOLOGY OF CONSTRUCTION NOISE MONITORING

- Noise measurements were taken in terms of the A-weighted equivalent sound pressure level (Leq) measured in decibels (dB). Supplementary statistical results $(L_{10} \text{ and } L_{90})$ were also obtained for reference.
- 5.05 Hand-held sound level meters (B&K Model 2238) and associated acoustical calibrators in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specification were used for taking the baseline noise measurements.
- 5.06 Windshield was fitted in all measurements. All noise measurements were made with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq).
- 5.07 No noise measurement was made in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s.



LABORATORY AND MONITORING EQUIPMENT USED

- 5.08 A local HOKLAS-accredited laboratory, ALS Technichem (HK) Pty Ltd (HOKLAS No. 66), is responsible for the analytical testing of the 24-Hr TSP filter papers.
- 5.09 The monitoring equipment used in the impact EM&A program is presented in **Table** 5-1:

Table 5-1 Monitoring Equipment Used in Impact EM&A Program

Parameters	Monitoring Equipment				
Air Quality	24-Hr TSP	Greasby Anderson GMWS2310 High Volume Sampler			
Noise	Leq30min	B&K Type 2238			
	On-site Calibration	B&K Type 4231			

EQUIPMENT CALIBRATION

- 5.10 Initial calibration of the HVS was performed upon installation and thereafter at a six month intervals in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A). The calibration data are properly documented and the records are maintained by ET for future reference.
- 5.11 The sound level meters were calibrated using an acoustic calibrator prior to and after measurements. The meters are regularly calibrated in accordance with the manufacturer's instructions. Prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements were considered valid only if the calibration levels before and after the noise measurement agree to within 1.0 dB.
- 5.12 The renew calibration certificates of the monitoring equipment used during the impact monitoring program in this month are attached in **Annex H**.

PARAMETERS MONITORED

5.13 The environmental parameters monitoring in this reporting period were compliance with the monitoring requirements as in **Table 3-1**.

MONITORING LOCATIONS

5.14 There are four designated air quality and four noise monitoring stations under the project EP. For this reporting month, monitoring was carried out at four designated air (AM1, AM5, AM6 & AM7) and four noise (NM3, NM4, NM6 & NM7) monitoring stations. The locations of the designated monitoring stations are shown in **Table 5-2** and geographically in **Annex E**.



Table 5-2 Location of Air Quality and Construction Noise Monitoring Stations

Air Quality (4 Stations)				
AM1	Worksite boundary facing scattered house in Nam Sang Wai			
AM5	Worksite boundary facing Fung Kat Heung			
AM6	Worksite boundary facing scattered near Route 3			
AM7	Worksite boundary facing scattered house in Nam Sang Wai			
Construction	Construction Noise (4 Stations)			
NM3	Village House in Nam Sang Wai			
NM4	Village House in Nam Sang Wai			
NM6	Scattered House near Route 3			
NM7	Fung Kat Heung			

MONITORING FREQUENCY AND PERIOD

- 5.15 The impact 24-Hr TSP monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A manual. A total of 20 monitoring events were carried out in this reporting month.
- 5.16 The impact noise monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A manual. A total of 24 monitoring events were carried out in this reporting month.

MONITORING RESULTS WITH DATE AND TIME

5.17 The air quality monitoring data for this reporting period were summarized in **Table** 5-3.

Table 5-3 Summary of Air Quality Monitoring Results

Date	24-Hr TSP (μg/m³)				
	AM1	AM5	AM6	AM7	
4-May-07	64	100	37	43	
10-May-07	94	93	66	54	
16-May-07	85	106	58	54	
22-May-07	21	44	29	25	
28-May-07	24	51	32	31	
Average (Range)	58 (21–94)	79 (44–106)	44 (29–66)	41 (25–54)	

All 24-Hr TSP monitoring were preset to start at 00:00 on each monitoring date.

5.18 No Action/Limit Level exceedance was recorded in this reporting month.

^{*} Action/Limit Level exceedances were recorded.



5.19 The impact noise monitoring results are summarized in **Tables 5-4** to **5-7**.

Table 5-4 Summary of Noise Monitoring Results at NM3

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected * Leq30
02-May-07	14:24	47.8	48.4	52.5	52.3	53.6	54.0	52.0	55.0
08-May-07	13:00	51.5	51.8	50.6	51.8	52.2	52.7	51.8	54.8
14-May-07	13:01	54.7	55.8	51.4	52.7	51.3	49.6	53.1	56.1
19-May-07	13:45	53.5	50.6	53.2	51.4	52.2	52.4	52.3	55.3
25-May-07	14:15	58.0	58.3	54.5	55.8	56.6	57.2	56.9	59.9
31-May-07	13:04	52.5	50.7	50.8	49.7	50.7	55.9	52.3	55.3
Limit L	evel								75

^{*} A façade correction of +3 dB(A) has been added according to acoustical principles and EPD guidelines.

Table 5-5 Summary of Noise Monitoring Results at NM4

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected * Leq30
2-May-07	13:41	55.7	57.0	58.1	57.4	53.1	62.1	58.1	61.1
8-May-07	10:34	56.1	53.5	48.6	50.3	58.6	54.4	54.8	57.8
14-May-07	10:34	63.7	67.9	67.6	69.4	68.1	67.4	67.6	70.6
19-May-07	13:08	49.4	49.1	53.6	50.6	49.7	50.3	50.7	53.7
25-May-07	13:28	58.4	57.3	57.2	56.9	57.7	60.2	58.1	61.1
31-May-07	10:42	57.4	55.4	54.0	54.9	60.0	59.9	57.6	60.6
Limit L	evel								75

^{*} A façade correction of +3 dB(A) has been added according to acoustical principles and EPD guidelines.

Table 5-6 Summary of Noise Monitoring Results at NM6

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected * Leq30
2-May-07	13:43	72.9	70.1	72.0	71.8	72.5	61.1	71.2	No
8-May-07	10:32	61.8	61.1	58.4	60.1	60.0	60.1	60.4	
14-May-07	10:30	60.3	61.2	63.0	61.8	60.9	60.3	61.4	
19-May-07	11:30	56.6	55.7	54.8	61.2	57.7	54.4	57.4	Correction
25-May-07	10:10	65.3	68.0	67.7	66.8	64.7	62.8	66.2	Required
31-May-07	14:50	64.0	61.0	64.4	58.1	63.8	60.8	62.5	
Limit L	evel								75

^{*} Noise monitoring was undertaken at the façade, correction was not necessary.

Table 5-7 Summary of Noise Monitoring Results at NM7

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected * Leq30
2-May-07	15:03	56.8	56.6	55.2	64.3	56.2	55.7	59.0	No
8-May-07	13:54	54.6	53.4	50.7	52.4	52.0	53.2	52.9	
14-May-07	13:48	62.7	56.7	54.6	56.4	53.1	54.1	57.7	Correction
19-May-07	13:56	52.4	54.6	52.0	52.6	51.8	50.3	52.5	
25-May-07	15:03	55.3	54.7	55.5	55.9	52.8	51.6	54.6	Required
31-May-07	13:57	55.3	59.3	56.5	56.5	57.1	56.3	57.0	
Limit L	evel								75

^{*} Noise monitoring was undertaken at the façade, correction was not necessary.



5.20 The monitoring schedule for the next reporting month is shown in **Table 5-8.**

Date Air Quality Noise Leg 30min 1-Jun-07 Fri 2-Jun-07 Sat 3-Jun-07 Sun 4-Jun-07 Mon 5-Jun-07 Tue 6-Jun-07 Wed 7-Jun-07 Thu 8-Jun-07 Fri 9-Jun-07 Sat 10-Jun-07 Sun 11-Jun-07 Mon 12-Jun-07 Tue 13-Jun-07 Wed 14-Jun-07 Thu 15-Jun-07 Fri 16-Jun-07 Sat 17-Jun-07 Sun 18-Jun-07 Mon 19-Jun-07 Tue 20-Jun-07 Wed 21-Jun-07 Thu 22-Jun-07 Fri 23-Jun-07 Sat 24-Jun-07 Sun 25-Jun-07 Mon 26-Jun-07 Tue 27-Jun-07 Wed 28-Jun-07 Thu 29-Jun-07 Fri 30-Jun-07 Sat

Table 5-8 Monitoring Schedule for the Next Reporting Month

Monitoring Day
Sunday or Public Holiday

WEATHER CONDITIONS DURING THE MONITORING PERIOD

5.21 The meteorological data on the monitoring dates are summarized in **Annex I**.

GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

5.22 The graphical plots of air quality and construction noise monitoring data are presented in **Annex J**.

MAJOR ACTIVITY CARRIED OUT DURING THE MONITORING PERIOD

5.23 There were construction activities of sheet piling and trench excavation undertaken during the monitoring period.

WEATHER CONDITIONS THAT AUGUST AFFECT THE MONITORING RESULTS

5.24 The weather conditions at the time of monitoring were considered acceptable for monitoring activities and did not have significant impact on the monitoring results obtained.



OTHER FACTORS INFLUENCING THE MONITORING RESULTS

5.25 There were no other noticeable external factors generally affecting the monitoring results in this reporting month.

QA/QC RESULTS AND DETECTION LIMITS

5.26 Not applicable.

6.0 REPORT ON NON-COMPLIANCE (NC), COMPLAINTS, NOTIFICATIONS OF SUMMONS (NoS) AND SUCCESSFUL PROSECUTIONS

RECORD OF NON-COMPLIANCE OF ACTION AND LIMIT LEVELS

6.01 There was no Action or Limit Level exceedance in this reporting month.

RECORD OF ENVIRONMENTAL COMPLAINTS RECEIVED

6.02 There was no environmental complaint received in this reporting month.

RECORD OF NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTION

6.03 There was no notification of summon or prosecution received in this reporting month.

REVIEW OF REASONS FOR AND IMPLICATIONS OF NC, COMPLAINTS AND NOS

6.04 No NC, complaints or NoS received in this reporting month.

DESCRIPTION OF FOLLOW-UP ACTIONS TAKEN

6.05 No NC, complaints or NoS received in this reporting month.

7.0 OTHERS

FUTURE KEY ISSUES

7.01 Construction activities to be undertaken in June 2007 include bore hole at Sha Po pumping station (P2), excavation and piling at Nam Sang Wai pumping station (P3), sheeting piling, excavation, pipe laying, backfilling, concreting and extract sheet pile at Nam Sang Wai Road (S4) and Pok Wai South Road (S5 & S6). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.



SOLID AND LIQUID WASTE MANAGEMENT STATUS

7.02 The quantities of waste for disposal or reuse in this reporting month are summarized in **Tables 7-1** and **7-2**.

Table 7-1 Summary of Quantities of Waste for Disposal

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (tons) – Disposed	3,625	Tuen Mun 38 Fill Bank
C&D Materials (Inert) (tons) – Reused	0	DSD Contract DC/2005/02
C&D Materials (Non-Inert) (tons)	0	NA
Chemical Waste (Litres)	0	NA
General Refuse (tons)	2	Refuse Collector

Table 7-2 Summary of Quantities of Waste for Reuse/Recycling

Type of Waste	Quantity	Disposal Location
Metals for Recycling (kg)	0	NA
Paper for Recycling (kg)	0	NA
Plastics for Recycling (kg)	0	NA

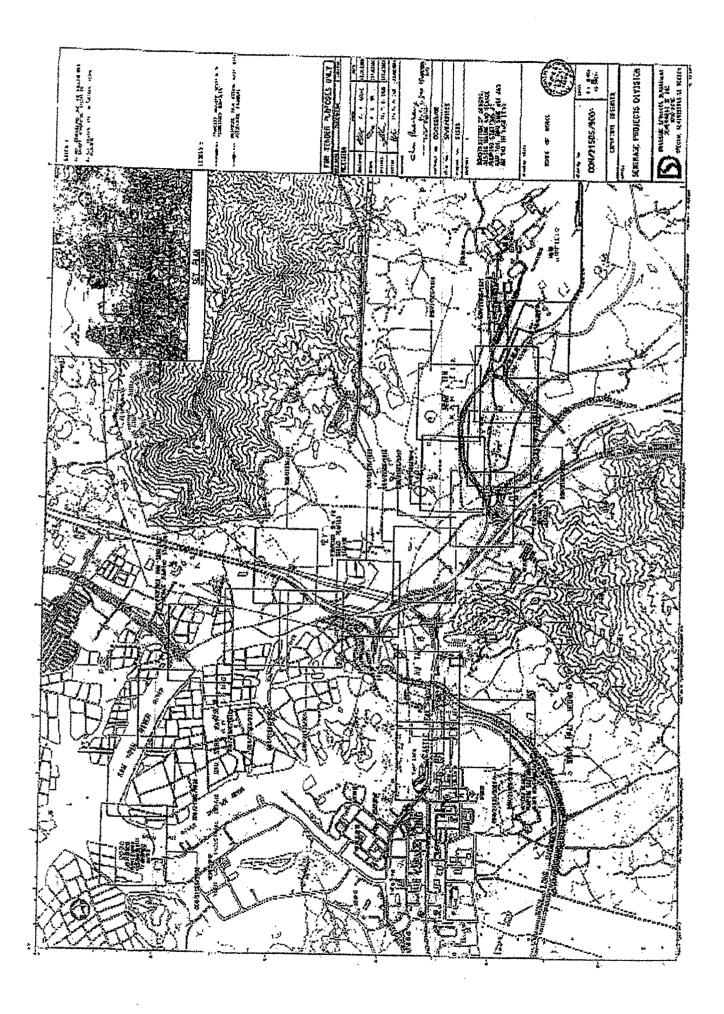
7.03 There was no site effluent discharged but an estimated volume of less than 50m³ of surface runoff was discharged in the reporting month.

SUBMISSION OF PROFORMA

- 7.04 Representatives of the Engineer, the Contractor and ET carried out regular weekly joint site inspection on 04, 08, 19 and 25 May 2007 to evaluate the site environmental performance. The monthly IEC site inspection for May 2007 was held on 10 May 2007. No non-compliance was noted and six observations were recorded in weekly and monthly site inspection.
- 7.05 Proforma of the weekly ET site inspection activities are presented in **Annex K**.



Annex A Project Site Layout





Annex B

Project Organization and Management Structure

Date: 12-May-0G Rev.: 01 Safety Officar Edwin Loung (9464 4308) Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin, G. Engineor Joseph Wong (6103 9011) (Kam Tin Road, Kam Sheung Road, Shek Kong Airfield Road) Project Environmental Organization Chart Sifo Enginaor Jamas Chiu (9472 6969) (Casila Peak Road, Ko Po Road, Kam Tai Road) Wam Sang Wai and Au Tau in Yuen Long Mott Connell Ltd Dr. Anne F. Kerr (2828 5793) Mr. S. M. Foo (2828 5912) DSD Contract No. DC/2005/02 G, Englineer Y H.So (6097 0725) (Nam Sang Wai Road) Contractor Leader Civil Eng. Corp. Ltd Project Manager W H Pang (3464 2392) G. Enginsor Antony Lo (9576 6866) (Pumping Station, Pok Wai South-Road, San Tam Road) Superintendent W M Mok (9120 8798) Site Agent Benny Lam (9812 0302) DSD Sito Enginoor Patrick Wong (9019 7270) (TTA/JU/Environ/QA) Engineer's Representative Bablie Aisa Ltd Joe Lam (9802 8031) Docontamination Supervisor Cliff Lam (9775 7575) Environmental Toam (AUES)

Safety Supervisor
W M Mok
T Yuen
P So
W M Lo
C, L, Wong

Foreman TBA

Foremen Yuen Tak (9181 1500)

Foreman Wong Chol Lol (9341 1737)

Foreman So Po (9588 6977)

Deputy
Decontamination
Supervisor
T. W. Tam
(9212 0408)

Environmental Foam Loador Cliff Lam (9775 7575)

Apprentice Ching Kit Ming (9553 8815)

Apprentice Lo Wai Man (6155 8910)

Apprentice TBA

Apprentice Chan Lik Hang (9230 2095)



Annex C Construction Program

Act ID	Description	Orig Dur	Total Percent Float Complete	rcent Early mplete Start	Early Finish	Late Start	Late Finish	1 75 07 14 71 29 04 11 18 25 02 05 16 25 39 05 17
Sübmission Decim Submission		To control of the section		2000				
Design Submission								
	1							
SUN1500	Approve Temp Work - Kam Tin P/Station	P9	-78d	95 10NOV06 A	A 29MAY07	10NOV06 A	A 15FEB07	Approve Temp Work - Kam Tin P/Station
SUN1700	Approve Temp Work - Sha Po P/Station	P9	30d	95 11 JAN07 A	4 29MAY07	11JAN07 A	A 04JUL07	Approve Temp Work - Sha Po P/Station
Method Statement Submission	Submission	September 1		,				
		V 6 667						
SUO1100	Approve Temp Work - Kam Tin P/Station	P9	-78d	95 10NOV06 A	A 29MAY07	10NOV06 A	A 15FEB07	Approve Temp Work - Kam Tin PJStation
SUO1300	Approve Temp Work - Sha Po P/Station	P9	30d	95 21APR07 A	A 29MAY07		_	Approve Temp Work - Sha Po P/Station
Prelminanes							288	
PR2900	Deliver Ductile Iron Pipe	P008	540	44 29APR06 A	A 21NOV08	29APR06 A	A 29JAN09	
PR3100	Deliver Precast Concrete Pipe	P008	P69	46 24APR06 A	A 04NOV08	T	7	
PR3300	Deliver Vitrified Clav Pine	P008	404	43 10APR06 A		T	-	
PR3400	44.2	835d	32d	44 06APR06 A		Т		
PR3500	Environmental monitoring by ET	814d	72d	48 06APR06 A			$\overline{}$	
Section 1 - Kam Tin	en on 1-) (am Tin Sewage Pumping Station		_				400	
Portion A			The state of					
Drainage and Ducts	cts.% ನಿಜನ್ಮಾನ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ನ್ನ್ನಿನ್ನಿನ್ನಿನ್ನಿನ್ನು ನಿಜನ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ್ಫ							
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	margin concerning the contract of the contract	21	200	20000	100000	- 6	1	
340-						8888		i versori
S1AG1100	Excavate to Level of 1st Layer of Waling	P4		100 24APR07 A				Excavate t
S1AG1200	Install 1st Layer Waling & Strut	44		100 26APR07 A	_			second 1st l
S1AG1300	Excavate to Level of 2nd Layer of Waling	-10 B		100 11MAY07 A				Excavate to Lev
S1AG1400	Install 2nd Layer Waling & Strut	4	-78d	50 19MAY07 A	A 31MAY07	19MAY07 A	A 21FEB07	Interestive and Install 2nd Layer Waling & Strut
S1AG1500	Excavate to Level of 3rd Layer of Waling	134	-78d	0 31MAY07	15JUN07	22FEB07	08MAR07	Excav
S1AG1600	Install 3rd Layer Waling & Strut	4d	-78d	0 15JUN07	21JUN07	09MAR07		Example 1 and Layer Waling & Strut
S1AG1700	Excavate to Level of 4th Layer of Waling	14d	-78d	0 21JUN07	0930107	14MAR07	29MAR07	Comments of the Layer of Waling
S1AG1800	Install 4th Layer Waling & Strut	4d	-78d	0 0930107	13301.07	30MAR07	03APR07	install 4th Layer Waling & Strut
S1AG1900	Excavate to Level of 5th Layer of Waling	17d	-78d	0 13JUL07	02AUG07	04APR07	27APR07	Excavate to Level of 5th Layer of Wali
S1AG2000	Install 5th Layer Waling & Strut	44	-78d	0 02AUG07	07AUG07	28APR07	03MAY07	Communication install 6th Layer Waling & Strut
S1AG2100	Excavate to Formation Level	184	-78d	0 07AUG07	28AUG07	04MAY07	24MAY07	ROLLING COLUMN C
Geotechnical works	ks de							
0000	The state of the s	7700	7.30	201101101101	00041100			
STAPTUUU MONITORING	Monitoring of instruments	3840	929	41 TBNOVUB A	A USMAKUB	16NOVU6 A	A Z7JUNUS	
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Pumping Test	at KT P/S (Claim No. 023)							
S1AV1100	S1AV1100 Engineer Confirm Acceptance	P9		100 17APR07 A	4 11MAY07 A	A 17APR07 A	A 11MAY07 A	A Engineer Confirm Acceptance
Section 2 - Sha Po S	oton 2 - Sha Po Sewage Pumping Station							
Portion B								
Estuworks								
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Page number 1A	7,007				-	SD Cont	ract No. D	DSD Contract No. DC/2005/02
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Act ID	Description	Orig To Dur Fk	Total Percent Float Complete	ent Early olete Start	. Early Finisi	Late	e Late r Finish	1PF MAY 21 30 07 14 21	23 C4 11 10 25 CZ 09 16 Z3 30 09 13 20 27
			_						
S2BG1100	Excavate to Level of 1st Layer of Waling	39	-19d	0 26JUL07	30JUL07	02JUL07			Excavate to Level of 1st Layer of Waling
S2BG1200	Install 1st Layer of Waling & Strut		-19d	0 3070107		7 09JUL07			Install 1st Layer of Waling & Strut
S2BG1300	Excavate to Level of 2nd Layer of Waling		-19d	0 03AUG07		7 13JUL07			Excavate to Level of 2nd L
S2BG1400	Install 2nd Layer of Waling & Strut	- P4	-19d	0 10AUG07		7 20JUL07		-	recommend install 2nd Layer of
S2BG1500	Excavate to Level of 3rd layer of Waling		-19d	0 15AUG07		7 25JUL07	7 01AUG07		Excevel
S2BG1600	Install 3rd Layer of Waling & Strut		-19d	0 23AUG07		7 02AUG07	77 06AUG07		
S2BG1700	Excavate to Formation Level	- p6	-19d	0 28AUG07	7 07SEP07	07AUG07	16AUG07		_
Geotechnical works									
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S2BP1000	Monitoring of Instruments	255d 1	142d	29 26FEB07 A	A 04JAN08	26FEB07 A	7 A 27JUN08	the second of th	
Additonal Works / Disruption	Disruption								
Pumping Test	it SP P/S (Claim No. 022)								
S2BV1040	S2BV1040 Respond to ER's Comments	p9		100 14MAR07 A	7 A 30APR07 A	7 A 14MAR07 A	17 A 30APR07 A	Respond to ER's Comments	
S2BV1050	Receive Engineer's Consent	pg g		100 01MAY07 A		1	$\overline{}$	Receive Engineer's Consent	
S2BV1060	Drill Pump & Obs. Wells	4	-19d	66 12MAY07 A				Total Control of the	Dril Pump & Obs. Wells
S2BV1070	Install Pump & Equipment	- pg	-19d	0 08JUN07	15JUN07	17MAY07	17 23MAY07		Exercises Install Pump & Equipment
S2BV1080	Baseline & Pumping Test	15d	-19d	0 15JUN07		24MAY07	11JUN07		undergrandstrandstrandstrandstrands Baseline & Pumping Test
S2BV1090	Prepare & Submit Ass. Report		-19d	0 05JUL07		12JUN07	7 26JUN07		Institution of the Prepare & Submit Ass. Report
S2BV1100	Engineer Confirm Acceptance	- pg	-19d	0 19301.07	26JUL07	27JUN07	7 04JUL07		Engineer Confirm Acceptance
Section 3 - Nam Sang	on 3 Nam Sang Wai Sewage Pumping Station							MVV	
Portion C									
Trench Method									
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	Install Geotextie Filter to F/L of Base Slab		-138d	0 13JUL07		20JAN07			I Install Geotextile Filter to F/L of Base Slab
	Install Geotextie Filter up to -9.0mPD	14 -1	-138d	0 16AUG07	7 16AUG07	7 27FEB07	7 27FEB07		I Install Geotextile F
Pipework - Rising I	Main (1998) (1998) A second of the second of			1357 in 1959.	X S				WCA
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S3CFA1000	Twin Rising Main DN900	- 6d -1	-128d	0 23AUG07	7 29AUG07	7 17MAR07	77 23MAR07		
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S3CG2200	Install 6th Laver of Waling & Strut	1	-138d	50 20APR07 A			_	. 3	management of Maling & Strut
S3CG2210	Excavate to Level of 7th Laver of Waling		-138d	0 31MAY07		1	- 1		Excavate to Level of 7th Layer of Waling
S3CG2220	Install 7th Laver of Waling & Stort		-138d	0 20JUND7	T	28DEC06	6 02JAN07		comma Install 7th Layer of Waling & Strut
S3CG2300	Excavate to Formation Level		-138d	0 25JUN07		03JAN07			Excavate to Formation Level
S3CG2400	Fill Grade 200 Rockfill		-138d	0 14JUL07	T	22JAN07			Entransment Fill Grade 200 Rockfill
S3CG2450	Backfill to -9.0m PD	-	-138d	0 17AUG07	Ι.				Emmana Backfil to
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S3CJ1000	Erect Formwork to Base Slab		-138d	0 24JUL07	30JUL07	31JAN07	7 06FEB07		Communication Errect Formwork to Base Slab
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Steel Reinforceme									
S3CK1000	Fix Re-bar to Base Stab		-138d	0 31,310,107	DEAUGO	7 07FEB07	7 (13FEB07		Fix Re-bar to Base Slab
S3CK1100	Fix Re-bar to -6.8mPD	F 98	-138d	0 23AUG07		7 06MAR07			
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	Jacking Twin DN900 (WOIC) - ChA2095)		50 29MAR07 A	5411607			Ag Twin Jacking Twin
	Construct WOIC1	***************************************	0 15AUG07	19SEP07		-	
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	Twin Rising Main DN500 (Ch8800 - Ch8850)	4					
	Twin Rising Main DN700 (ChC2250 - ChC2300)						Contraction that the second of
2200 Twin Rising Main DN700 (ChC2839 - H7) 524 212d 0 04JUL07 230CT07 230MAY07 24JUL07 25MAY07 24JUL07 25MAY07 24JUL07 25MAY07 24JUL07 25MAY07 24JUL07 25MAY07 24JUL07 25MAY07 2	1			1	V	the state of the s	Twin Rising Main DN700 (ChC2300 - ChC2350)
Sample Submitted Submitt					1		
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Jacking Twin DN700 (WOIC4 - ChC2639) 1489dh 14 80 ZNVOV06 A Jacking Twin DN700 (WOIC4 - ChC2639) 1489dh 14 80 ZNVOV06 A Jacking Twin DN700 (WOIC4 - ChC2639) 1489dh 14 80 ZNVOV06 A Jacking Twin DN700 (WOIC4 - ChC2639) 1489dh 14 80 ZNVOV06 A Jacking Twin DN700 (WOIC4 - ChC2639) 1489dh	Trenchiess Method						
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S4GB1500	Install Settlement Markers		P06	47 21APR06 A	A 22SEPOE		806 A 08JAN09	607	and the second of the second o					/C/1-
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S4GFA1300	Twin Rising Main DN500 (ChB450 - ChB550)		349d	0 29MAY07	05SEP07	307NF08	108 07NOV08	80/						
S4GFA1600	Construct AVIC2	309		100 02APR07 A		A	4	12MAY07 A	Construct AVIC2					
Trenchiess Method	pot										-			
S4GFB1000	S4GFB1000 Construct Jack/Receive Pits (AVIC4 - P/S)) p29	P09	0 05JUL07	08SEP07	7 13SEP07	P07 21NOV07	707				8		
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S4GP1000	Monitoring of Instruments	749d (610	44 22APR06 A	A 280CT08		22APR06 A 08JAN09	601	N. Tamanda and R. Tamanda and A. Langelong and A. Carallelland	Section 1990 Section 1990				
Portion H		18				7		200000						
Ground Investigation	ion					New York		KA-58						
S4HB1020	Boreholes & Instrumentation (A2 - A3)	100 16	168d	0 16JUN07	28JUN07	7 08JAN08	18JAN08	801				Boreholes	Boreholes & Instrumentation (A2 - A3)	
S4HB1040	Boreholes & Instrumentation (ChC1302 - ChC1376)	10d 1	126d	0 0730107		7 05DEC07	C07 15DEC07	202					Boreholes & Ins	III Boreholes & Instrumentation (ChC1302 - ChC1376)
S4HB1300	Install Settlement Markers	727d4h 11	1104	49 26MAY06 A	A 27AUG08		26MAYD6 A 08JAN09	601		Name of the state	Maria de la composição			ACTIVITY OF THE PROPERTY OF TH
Drainage and Duc Trench Method	cts													
S4HEA1100	S4HEA1100 DN500 Pipe & Manhole (A6 - A9)	100d	22d	0 25JUN07	230CT07	7 21JUL07	-07 17NOV07	V07						
S4HEA1200	DN500 Pipe & Manhole (A9 - A12)		22d	85 03JUL06 A				20	Constant and the distant of the other sections of) moreone	dia DN500 Pip	2 DN500 Pipe & Manhole (A9 - A12)	3)	
S4HEA1500	DN400 Pipe & Manhole (A16 - A18)		45d	0 04JUN07	1	1.		Т07						
Pipework - Rising Main	Main						新兴兴家							
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S4HFA1200	Twin Rising Main DN700 (ChC290 - ChC410)	45d	22d	81 03JUL06 A	4 23JUN07	7 03JUL06 A	-06 A 20JUL07	.07				Twin Rising Main	Twin Rising Main DN700 (ChC290 - ChC410)	
S4HFA1700			45d	90 09JAN07 A	1		4	.07		Twin	Twin Rising Main DN700 (ChC780 - ChC850)	ChC780 - ChC850)		
S4HFA1800			P89	0 09AUG07				808		TO THE STATE OF TH				
S4HFA1900	- 1	- Contraction	989 P89	30 03MAY07 A	- 2		- 1	T07	A CONTRACTOR OF THE PARTY OF TH					Twin Rising Main DN700 (C)
S4HFA2500			-47d	9 16DEC06 A		_		80			And the second s	The section for the section of the s		COLUMN COLOR
S4HFA2600			470	67 19JUNU6 A			∢	,0X					I WII NISHIGH	Malli DIN 00 (CIIC1630 - CIIC
S4HFA3000	Construct AVIC9	200 1	1730	0 09AUG07	01SEP0/	7 OBMAKUS	KUS USAPKUS	80 80						
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tion (733				esteriorio.				
Ground investigation	ion													
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	Boreholes & Instrumentation (C1 - C2)	P6	P60£	0 29JUN07	1030107	14JUL08	2330108	Boreholes & Instrumentation (C1 - C2)
S4IB1040	Boreholes & Instrumentation (ChD0 to ChD55)	PB	277d	0 29MAY07	70NUC90	05MAY08	13MAY08	Boreholes & Instrumentation (ChD6 to Ch055)
S4IB1300	Install Settlement Markers	736d4h	79d	45 26JUN06 A	06OCT08	26JUN06 A	08JAN09	
Drainage and Ducts								
Trench Method								
S4IEA1400	DN500 Pipe & Manhole (C12 - C13)	P85	L	100 05DEC06 A	15MAY07 A	A 05DEC06 A	15MAY07 A	Construction of the Constr
S4IEA1500	DN500 Plpe & Manhole (C13 - C14)	814	50d	20 18MAY07 A				
S4IEA1600	DN500 Plpe & Manhole (C14 - C15)	45d	20d	0 14AUG07	08OCT07	07SEP07	01NOV07	
S4IEA2300	DN500 Plpe & Manhole (C29 - C31)	24d	PL PL	70 08MAR07 A	16JUN07	08MAR07 A	16JUN07	DN500 Plpe & Manhole (C29 - C31)
S41EA2320	DN500 Pipe & Manhole (C31 - C32)	53d	19	0 16JUN07	20AUG07	18JUN07	20AU G07	DN500 Phe
S4IEA2400	DN500 Pipe & Manhole (C32 - C34)	70d	14	0 20AUG07	13NOV07	21AUG07	13NOV07	
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S4IP1000	Monitoring of Instruments	726d	38d	39 28JUN06 A	22NOV08	28JUN06 A	08JAN09	
ectori o - sewers & Kir Portion E Ground Investigation	on o - cavers of Manu Forgon L. Tron E. Pound Investigation							
S5EB1400	Install Settlement Markers (Stage 2)	138d	38d	34 29MAR07 A	14SEP07	29MAR07 A	310CT07*	
RING Ducts Drainage and Ducts	510							
Trenchiess Method	thod							
SSEEB1000	Construct Jack/Receive Pits (H11 - H10)	2	157d	* 15.11 NO7 *	24,1111.07	210FC07	28.IANOR	Construct Jack/Receive Pits (H11 - H10)
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S5EFA1800	Twin Rising Main DN900 (ChA600 - ChA650)	32d	-15d	0 23JUL07	29AUG07	06JUL07	11AUG07	
S5EFA2200	1		-16d	0 24JUL07	31AUG07	02JUL07	11AUG07	
S5EFA2300	Twin Rising Main DN900 (ChA850 - ChA900)		-16d	0 13JUN07	24JUL07	24MAY07	04JUL07	Twin Rising Main DN900 (ChA850 - ChA900)
S5EFA2400	Twin Rising Main DN900 (ChA900 - ChA950)	334	-16d	60 02APR07 A	13JUN07	02APR07 A	23MAY07	CONTROL CONTRO
S5EFA2800	Twin Rising Main DN900 (ChA1100 - ChA1150)	33d	44d	0 3070107	06SEP07	20SEP07	310CT07*	
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S7KEA1800 DN900 Pipe & Manhole (M12 - M15) Stage 2	300 51d		40 27DEC06 A	A 045UI 07		DEA 19MAY07		Division ripe or manning (m.c m.c.) stage z. Division ripe or manning (m.c m.c.) stage z. Division ripe or manning (m.c m.c.)
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S7KEA2000 DN400 Pipe & Manhole (M21 - M16a)	32d	-2d	0 0530107	11AUG07	7 0430107	7 09AUG07		Emmission Commission C
S7KEA2020 DN375 Pipe & Manhole (S1 - S2)	240	-2d	0 11AUG07	7 08SEP07	7 10AUG07	07 06SEP07		CONTRACT CONTRACT AND CONTRACT
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S7KEB1000 Construct Jack/Receive Pits (M4 - M19)	300	-165d	0 03701.07	07AUG07	7 07DEC06	13JAN07		Construct Jack/Receive Pits (M
S7KEB1020 Jacking DN600 (M4 - M19)	72d	1	0 07AUG07	7 02NOV07		-		
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Section B. Preservation and Preservation of Trees	nioc		33 24 MA 100	20 24NA100 A 02AFN0			2 Commence of the Commence of	
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c Primavera Systems, Inc.								♦ Finish milestone point



Annex D

Photographical Records – Noise Barrier On-Site



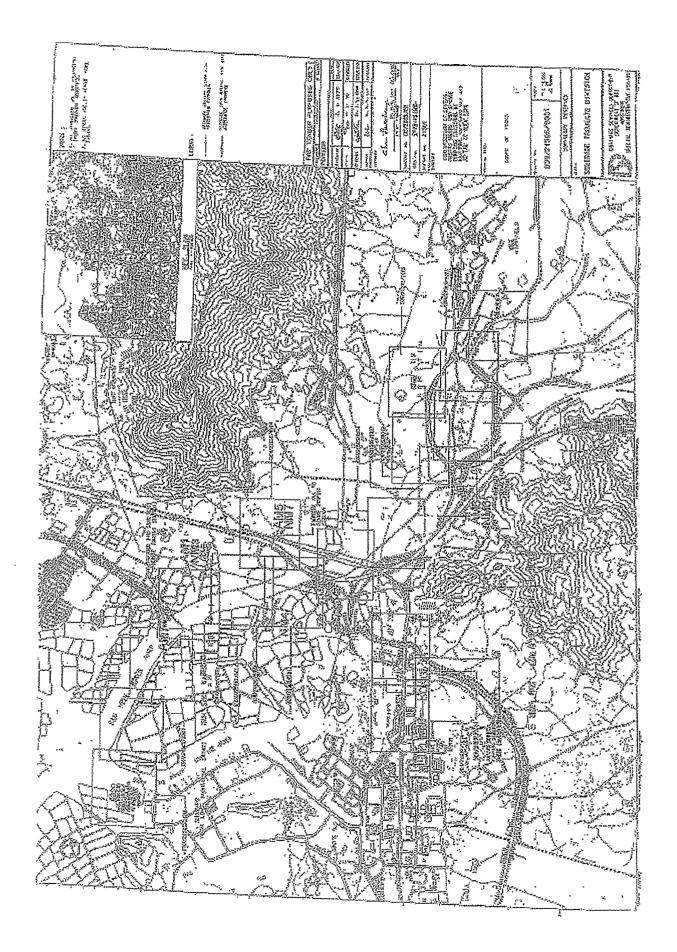


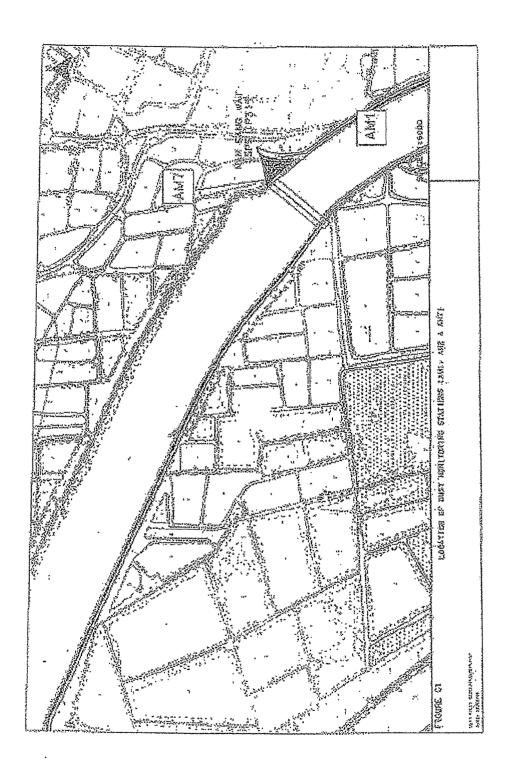


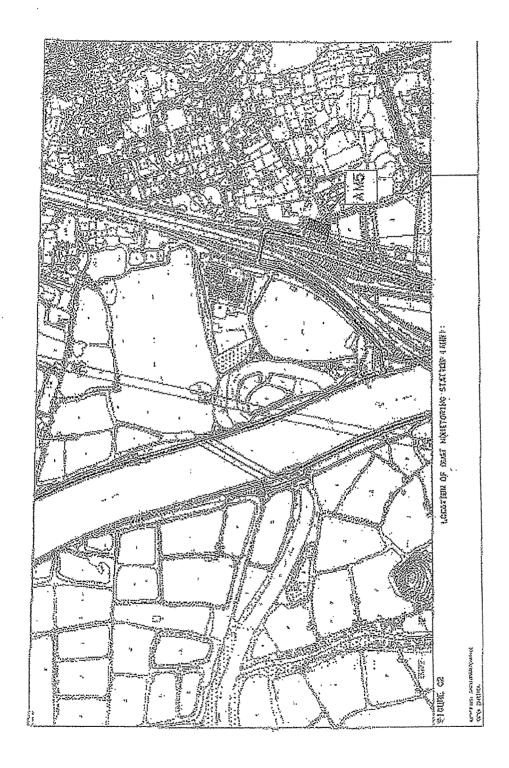


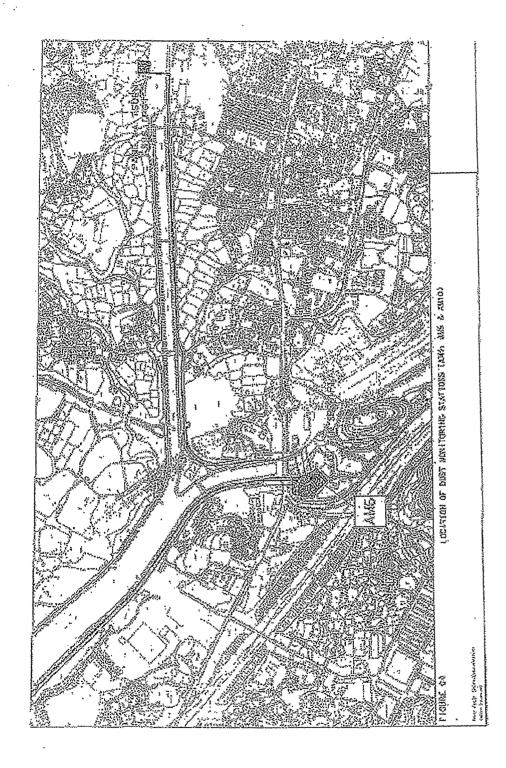


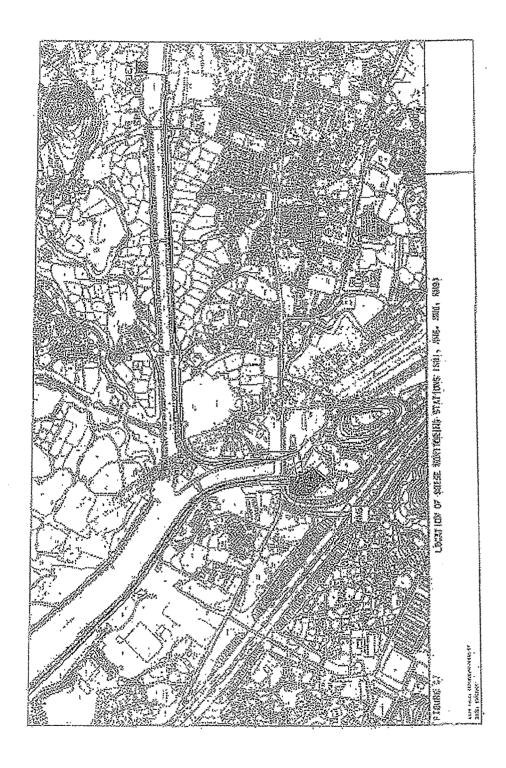
Annex E Locations of Monitoring Stations

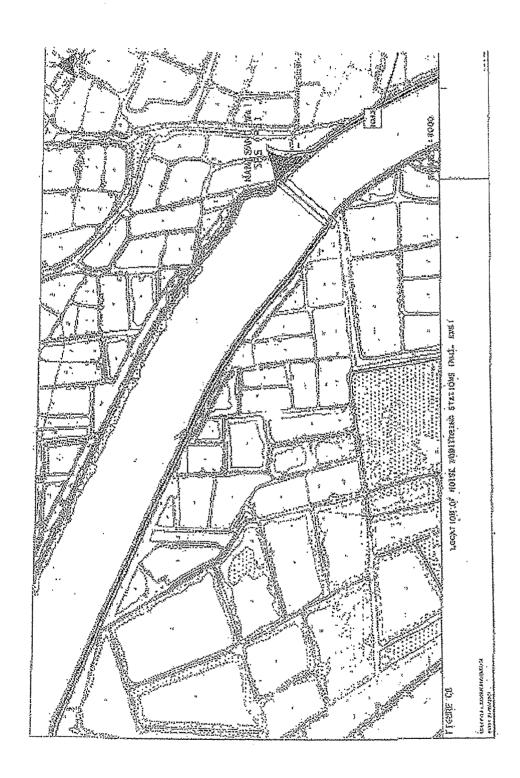


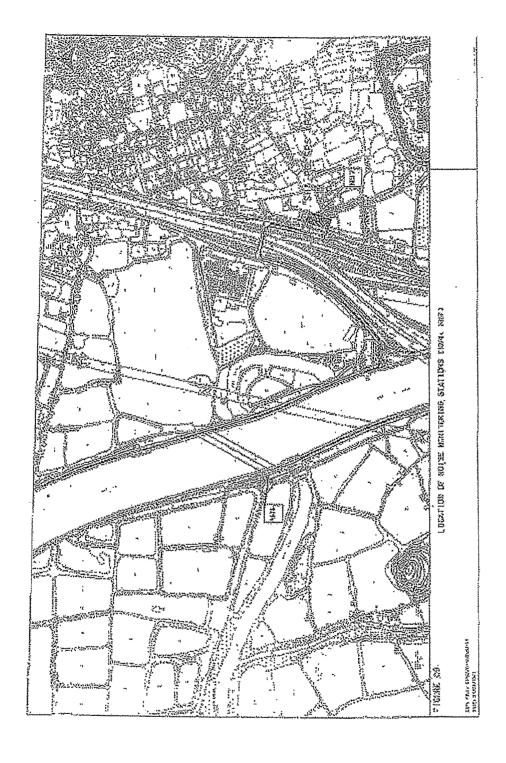














Annex F Event and Action Plan



DSD Contract DC/2005/02 Corrstruction of Sewers, Rising Mains & Sewäge Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long Updated Environmental Monitoring and Audit (Designated Elements) Marutal

Event and Action Plan for Construction Phase Air Quality

EVENT

	-		ACTION .	NOI	
Action Court	-	lanear in	SEC SEC	Engineer	
שרפחוו רבונה	-				Contractor
Excedance for one sample	<u>← 7, 24</u>		1, Check monitoring data submitted by ET 2. Check monitoring data trends and contractors working methods 3. Check and confirm Contractors proposed remedial actions and working methods are appropriate	1. Confirm receipt of notification of exceedance in writing 2. Remittof the Contractor of his recontractual obligations and review the Contractor's working methods 3. Discuss temedial actions with the Contractor and IEC inform complainant of actions taken, il necessary	Reculty any unacceptable practice Lialse with Engineer and IEC to develop appropriate remedial measures to reduce dust impact Amend working methods and remedial proposals if required by the Engineer or IEC implement the agraed remedial actions upon instruction from the Engineer and IEC
Exceedance for two or more consecutive samples	નં જ છે 🕏 થો છે	Identify source (s) of exceedance and inform IEC. Contractor and Engineer Repeat measuraments to confirm findings Increase the monitoring frequency to daily to assess the efficacy of remedial measures and koep the Contractor informed Discuss remedial actions with IEC and Contractor informed in exceedance confunes, arrange meeting with Engineer, IEC and Cortractor to review working practices and identify further remedial actions If exceedance stops, inform the Contractor and cease additional monitoring	1. Check monitoring data submitted by ET 2. Check monitoring data trends and chrackers working methods 3. Discuss With Contractor and Engineer on possible remedial measures 4. Check and confirm Contractors proposed remedial measures are appropriate 5. Determine the efficacy of remedial actions and keep the Engineer informed	1. Confirm receipt of notification of exceedance in writing 2. Remind the Contractor of his contractor of his contractor and review the Contractor's working methods 3. Siscuss remedial actions with the Contractor and IEC Ensure ennedial measures are propelly implemented inform complainant of actions taken, if necessary.	1. Rectify any unacceptable practice, if possible 2. Submit proposals for remedial actions to Engineer and EC within three working days of notification 3. Discuss and amend remedial actions, if raquired, by the Engineer and IEC 4. Implement the remedial action (s) implement the remedial action (s) implement the remedial action (s) immediately upon instruction from the Engineer Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions
Limit Level	_				
	1				



DSD Contract DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Karn Tin, Nam Sang Wai and Au Tau in Yuen Long Updated Environmental Monitoring end Audit (Designated Elements) Manual

Event and Action Plan for Construction Phase Air Quality

EVENT

		Confractor	Take inmediate action to avoid	furfiler exceedance	Submit proposals for remedial	actions to Frances and 100 min.	three Working days of positions	Discuss and amond and are	actions if constraint with the constraint actions	and IFC	Carping and the carping and th	unpublication (b)	inmediately upon instruction from	Discuss with Engineer and 157	optimise the effectiveness of the	agreed remedial actions		Becilia any managarian	Foosible	Submit proposals for remodia.	actions to Frontinger and IIIO within	three working days of norfifeasion	District and amond managed	actions if received by the Control	and IEC	Implement the remedial action (s)	mmediately upon instruction from	the Engineer	Discuss with Engineer and IEC, to	oplimise the effectiveness of the	agreed remedial actions					
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,		Lagran Rr. C	Continue receipt of notification of			contractual obligations and review			Confractor and IEC,			•••	taken, if necessary.				- 1		exceedance in writing.	Remind the Contractor of his	contractual obligations and review	the Contractor's working methods	Discuss remedial actions with the	Confractor and IEC	Ensure remedial measures are	properly implemented	If exceedance continues, instruct	the Contractor to stop the relevant	. portion of Work until the	exceedance is abated	the strange of actions	נמוכנו, וו ווכנימססמוץ.				
ACTION	L	1	<u>-</u>							4,		ග් 	~			+	4			·	<u>. </u>		ო —-		4.	١	ก่						٠			
	EC .	1. Check monitoring data suhmitted	by ET	2. Check monitoring data frends and	Contractors working methods	3. Check and confirm Contractors	Drobosed remedial actions and	Working mothers are a second	d Charles all appropriate		proposeu territorial measures are		5. Determine the efficacy of remedial	informed			1 Discuss with Desired	in Course with Confracior and	crigines on possible remedial	Teasures C		proposed remedial measures are		 Usternine the etticacy of remedial 	actions and Keep the Engineer	morniea	•									
ET Leader		incenting source (s) of exceedance	Grains IEC, Contractor and	Cuguicer 2 D			o. Increase monitoring frequency to		4. Assess efficacy of remedial	measures and keep the Confractor	IEC, Engineer and EPD informed						1. Identify source (s) of exceedance	and inform IEC. Confractor and	Engineer	2. Repeat measurements to confirm	_	3. Increase the monitoring frequency	to daily to assect the official of		Confectoringmod	4. Discuss remedial actions with IEC	and Cantractor	5. If exceadance continues, arrange	meeting with Engineer, IEC and	Contractor to review working	practices and identify further	remedial actions	6. If exceedance stops, inform the	Contractor and cease additional	moniforing.	-
	Exceedance for	one sample															Exceedance for	two or more	consecutive	samples																



& Sewage Pumping Station at Kam Tin, Nam Sang War and Au Tau in Yuen Long

DSD Contract DC/2005/02 Construction of Sewers, Rising Mains

Updated Environmental Monitoring and Audit (Designated Elements) Manual

measures to reduce noise impact remedial proposals If required by actions upon instruction from the Implement the remedial action (s) Liaise with Engineer and IEC to Implement the agreed remedial Stop the relevant portion of work Discuss with Engineer and IEC. to optimise the effectiveness of develop appropriate remedial Amend working methods and Submit proposals for remedial as determined by the Engineer until the exceedance is abated Discuss and amend remedial immediately upon instruction actions to Engineer and IEC within three worlding days of the agreed remedial actions Rectify any unacceptable actions, if required, by the Reclify any unacceptable Contractor the Engineer or IEC practice, if possible Engineer and IEC from the Engineer Engineer and IEC notification ຜ່ <u>ဖ</u> Inform complainant of actions taken, if confractual obligations and review the confractual obligations and review the of work until the exceedance is abated Inform complainant of actions taken, if Contractor to stop the relevant portion If axceedance continues, instruct the Discuss remedial actions with the Confirm receipt of notification of Discuss remedial actions with the Confirm receipt of notification of Confractor's working methods Ensure remedial measures are Remind the Contractor of his Contractor's working methods Remind the Contractor of his Engineer exceedance in writing exceedance in wiling properly implemented Confractor and (EC Confractor and IEC necessary necessary. က် ACTION Check monitoring data submitted by Discuss with Contractor and Engineer Check monitoring data submitted by Check monitoring data trends and Check monitoring data trends and Confractors working methods Defermine the efficacy of remedial working methods are appropriate proposed remedial measures are Check and confirm Confractors proposed remedial actions and Contractors working methods on possible remedial measures Check and confirm Contractors actions and keep the Engineer appropriate поттва તં 'n exceedance, increase monitoring frequency If exceedance stops, inform Contractor and Assess efficacy of remedial measures and with Engineer, IEC and Contractor to review Repeal measurements to confirm findings increase the monitoring frequency to daily If exceedance stops, inform the Contractor Assess the efficacy of remedial measures If exceedance confinues, arrange meeling keep the Confractor, IEC, and Engineer Repeat dust measurements to confirm Identify source (s) of exceedance and inform IEC, Contractor and Engineer Identify source (s) of exceedance and Inform IEC, Contractor and Engineer working practices and identify further cease additional noise monitoring Discuss remedial actions with IEC, and keep the Confractor informed ff repeat measurements confirm and cease additional monitoring, Event and Action Plan for Construction Noise ET Leader Engineer and the EPD romedial actions informad findings to daily ທ່ Exceedance for for two or more Limit Level Exceedance EVENT one sample consecutive samples



Annex G Mitigation Implementation Schedule



Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau In Yuen Long Updated Environmental Monitoring and Audit (Designated Elements) Manual

DSD Contract DC/2005/02 Construction of Sewers, Rising Mains

Parl III, Clause 13 (c), Air Pollution Control (Construction Dust) Regulations Part III, Glause 14, (b), Air Pollution Control (Construction Dust) Regulations Part IV, Clause 21, (1), Air Pollution Control (Construction Part IV, Glause 18, (a. b & c), Air Pollution Control (Construction Part IV, Clause 19, Air Pollution Control (Construction Dust) and Implementations and Relevant clears are Dust) Regulations Regulations \ > > \ `\ The Contractor The Contractor The Contractor The Contractor The Contractor Site wide and throughout the full duration of the construction contract. Site wide and throughout Site, wide and throughout Sile wide and inroughout the full duration of the construction contract, Site wide and throughout the full duration of the construction contract. the full duration of the the full duration of the construction contract. construction contract. To prevent access to the site and control potential dust impacts from construction impacts during excavation and stockpiling activities. To control potential dust impacts during material handling and truck To control potential dust impacts from vehicle To control potential dust impacis from vehicle To control potential dust movements. novements, Loading, unloading or transfer of dusty materials The following measures are enforceable under the Air Pollution Conirol (Construction Dust) Regulations public, hoarding of not less than 2.4 m high from ground lavel should be provided along the boundaries of the seven pumping stations sites and the works area where the Enginear's the office and the Contractor's site office mmediately prior to any loading and unloading every vehicle should be washed to remove any dusly materials from its body and wheels immediately before leaving a construction site: either covered entirely by impervious sheeting and placed in an area sheltered on the top and discernible or designated vehicle entrance or where a site boundary adjoins a road, street, service lane or other area accessible to the exit should be kept clear of dusty materials; any stockpile of dusty materials should be the 3 sides or sprayed with water so as to all dusty materials should be sprayed with so as to maintain the dusty materials wet; the portion of any road leading only to a construction site that is within 30 m of a water or a dust suppression chemical AIR QUALITY - Construction Phase maintain the entire surface wet; Stockpiling of Dusty Materials Site boundary and entrance E.C. T. E.C. T CONSTRUCTION PHASE Use of vehicles Access Road erected; Ą AZ A3 Ş A5 3,5 3.5 3,5 Ç, 3.5



& Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long Updated Environmental Monitoring and Audit (Designated Elements) Manifal

DSD Contract DC/2005/62 Construction of Sewers. Rising Mains

Ation Information and Relevantuegistation (Relevantuegistation (Relevant (2), Air Pollution Control (Construction Dust) Regulations Part IV, Clause 22, Air Pollution Conrol (Construction Dust) Regulations Air Pollution Control (Construction Dust) Regulations Part I, Clause 6, (a).
Air Pollution Control
(Construction Dust)
Regulations Peut I, Clause 6, (b), Air Pollution Confrol (Construction Dust) Regulations Dust) Regulations Part IV, Clause 21, Part IV, Clauso 24, `, 7 > > > The Contractor The Contractor The Confractor The Contractor The Contractor Site wide and throughout the full duration of the construction contract. Site wide and throughout the full duralion of the construction contract. Site wide and throughout the full duration of the construction contract. Full duration of SPS construction contract. construction contract. Full duration of SPS To control potential dust impacts during mechanical To control potential dust impacle from SPS building To control potential dust impacts during malerial To control potential dust To control potential dust impacis during material transportation, impacts artsing from construction works. excavation works, ransportation, breaking. Construction of the superstructure of a building surface where any mechanical breaking operation that causes dust emission is carried operation that causes dust emission is carried objection of an effective dusty extraction and fillering device; Ihe working area of excavation should be sprayed with water immedialely before, during and immediately after the operation so as to maintain the entire surface wet; any skip hoist for material transport should be tokally enclosed by the impervious sheeting. where a vehicle leaving a construction site is carrying a load of dusty materials, the load water should be continuously sprayed on the where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheefing or netting should be provided to enclose the scaffolding from the round floor level of the SPS, or if a impervious sheeting to ensure that the dusty materials do not leak from the vehicle; canopy is provided a the first itoor level, from the first floor level, up to the highest level of should be covered entirely by clean Power-driven drilling, and cutting Excavation and earth moving the scaffolding; and EIA* ENSAR A6 A10 47 ΑB A9 3,5 3,5 3.5 3.5 3.5

EACH SERVICE STREET
DSD Contract DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long Updated Environmental Monitoring and Audit (Designated Elements) Manual

NOISE - Construction Phase General Site Clearance - Demotified Works • Use of quiet PME which meet the SWLs taken To control polonital noise form British Standard, Noise and Vibration and Sewers and Rising Mains using Open Trench Impacts atteing the Construction of temperatoric or Demotified Works • Use of quiet PME which meet the SWLs taken To control polonital noise form in Teble P2). Construction of Sewerge Pumping Stations P7, P2 & P3 • Use of quiet PME which meet the SWLs taken To minimise potential noise form of a sile hoarding (with a superficial density of these PME and Vibration Part 1: 1997. • Adoption of temporary noise barrier, in the control or Construction Open Sites, BS 5228. • Adoption of temporary noise barrier, in the density of all least 20kg/m2, with no substantial gaps), along the site boundary of the pumping station sites. Sewers and Rising Mains using Open Trench Method or Construction Open Sites, BS 5228. B4 • Use of movable noise barriers or 3 sited a propriet or control potential noise dependent or	5		TW	Ę	Ę	Ž		
NOTE - Construction Phase General State Character Construction Phase	Relevantillegista & Guidalinesta Antonio		Annex 5 of EIAO-:	Annex 5 of EIAO-7	Annex 5 of EIAO-T	Annex 5 of EIAO-T		
NOSE - Construction Phase General Site Clearance For the graphs of the peace of quiet Policy which meet the SWLs taken to make the structure of control on Construction Character of Stations Prize and P	lation George							
NOSE - Construction Phase General Site Clearance Demonstrated by Works of the SMLs skien from British Standard, Nose and Vibration Control on Construction of Severage Pumping Stations Pri, 1997; Los of quiet PME which meet the SMLs skien from British Standard, Nose and Vibration Control on Construction of Severage Pumping Stations Pri, 2 Pag. 8 Pag. 8 Pag. 8 Pag. 8 Pag. 9 Pag. 9 Pag. 8 Pag. 9	Olemen Second		`	>	> .	, \	>	>
NOISE - Construction Phase General Site Clearance - Demotive to the Site Site of quiet Plute which meet the SWI is taken from British Standard, Noise and Vibration of Control on Construction Open Sites, BS 5228. Construction of Sewage Pumping Stations Pr, P2 & P3 Adoption of femporary noise barrier, in the Control on Construction Open Sites, BS 5228. Adoption of femporary noise barrier, in the Control on Construction Open Sites, BS 5228. Adoption of femporary noise barrier, in the Gensilion with Stations of the Site Sites, BS 5228. Adoption of femporary noise barrier, in the Gensilion of Pr, P2 & P3 Sewers and Rising Mains using Open Trench Method Use of quiet PME which meet the SWLs taken To minimise potential noise form of a site boundary of the pumping station site. To minimise potential noise for Prench To control potential noise for Prench To control potential noise for prench potential protection of Stories for prench potential noise for prench potential predefined prench pre	Implementation III Agents of the St Agents of the St Second of the St		The Contractor	The Contractor	The Contractor	The Confractor	The Contractor	The Contractor
NOISE - Construction Phase General Site Clearance - Demotive to the Site Site of quiet Plute which meet the SWI is taken from British Standard, Noise and Vibration of Control on Construction Open Sites, BS 5228. Construction of Sewage Pumping Stations Pr, P2 & P3 Adoption of femporary noise barrier, in the Control on Construction Open Sites, BS 5228. Adoption of femporary noise barrier, in the Control on Construction Open Sites, BS 5228. Adoption of femporary noise barrier, in the Gensilion with Stations of the Site Sites, BS 5228. Adoption of femporary noise barrier, in the Gensilion of Pr, P2 & P3 Sewers and Rising Mains using Open Trench Method Use of quiet PME which meet the SWLs taken To minimise potential noise form of a site boundary of the pumping station site. To minimise potential noise for Prench To control potential noise for Prench To control potential noise for prench potential protection of Stories for prench potential noise for prench potential predefined prench pre			Site wide and throughout the full duration of the construction contract.	Sile wide and throughout the full duralion of the construction contract.	Sile wide and throughout he full duration of the sonsfruction contract.	ile wide and throughout he full duration of the onstruction contract,	Where there are NSRs ocaled within 50m of the ine of sight. Throughout he full duration of the oad opening activities.	Where there are NSRs located within 50m of the
NOISE · Construction Phase General Site Clearance - Demolition Works B 1	Decomposition of the second of		To control potential noise impacts during site clearance and demoition works					lng
B B B B B B B B B B B B B B B B B B B		NOISE - Construction Phase	~ > ~			ising Open Trench meet the SWLs taken vise and Vibration Open Sites, 8S 5228;	÷	vities
4.7.1			φ 1	29			B4	82
			4,7.1	4.7.1	·····	4.7.1	4.7.1	4.7.1

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Action of the control Annex 5 of EIAO-TM Waste)(General) Regulation (Cap 354), Waste Disposal Ordinance (Cap 354), Waste Disposal Annex 5 of EIAO-TM Ordinance (Cap 28)) Miscellaneous Provisions) Chemical he Land \ \ \ \ The Contractor The Contractor The Contractor line of sight. Throughout the full duration of the Site wide and throughout the full duration of the Site wide and throughout the full duration of the construction contract, Site wide and throughout the full duration of the construction contract, oad opening activities, sonstruction contract. handling and disposal of chemical waste and G&D Waste, and in compliance with relevant Hong Kong Standards and Regulations. To control potential noise impacts from PME during pavement and finish works To control potential noise impacts from PME during construction works To monitor the collection, February (Enr. A) Cost (April 1987) Control (A) Cost (A) Use of quiet PME which meet the SVVLs taken from British Standard, Noise and Vibration Cantrol on Canstruction Open Sites, BS 5228: Part 1; 1997, enclosures for all fnilial road opening activities Use of quiet PME which meet the SWLs taken from British Standard, Noise and Vibrelion Control on Construction Open Sites, BS 5228: Part 1: 1997, depth of 300mm or when granular material is (Chemical Waste) (General) Regulations); and within 50m of the line of sight from the works (breaking farmac/concrete road surface to a Sewers and Rising Mains using Pipe Jacking The Contractor shall obtain the necessary waste clisposal permits from the appropriate authorities for the disposal of chemical and G&D waste, No water quality monitoring is required under this reached), where there are NSRs located Waste Disposal Licanca (Wasto Disposal Chemical Waste Producer and Chemical Dumping Licence (Land (Miscellaneous Provisions) Ordinance (Cap 28)) WATER QUALITY - Construction Phase Road Pavement and Finishos WASTE - Construction Phase Method study. 36 B7 õ 4.7.1 4.7.1 6,6,2

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Part IV. (9, 10, 11 & 12) Waste Disposal (Chamical Waste) (General) Regulation Part II., (6) Waste Disposal (Chemical Waste) (General) Regulation Part IV. (13, 14, 15, 16, 17, 46, 17, & 18) Waste Disposal (Chemical Waste) (General) Regulation Martin Martin Ministranti on Alexandria (Martin Martin Mar > 1 5 The Contractor The Contractor The Contractor To be implemented at all worksites throughout the full duration of the construction phase, To be implemented at all worksites throughout the full duration of the To be implemented at all worksites throughout the full duration of the construction phase. construction phase, To ensure the proper storage, packaging and labelling of chemical waste in accordance To ensure the proper storage of chemical waste in To control the handling, storage and disposal of chemical waste, in order to minimise potential spillages/leakages and human health and environmental impacts, with the Regulations. accordance with the Regulations, Practice on the Packaging, Handling and Storage of Chemical Wastes as follows. All chemical waste have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of be sultable for the substance they are holding, resistant to corresion, maintained in a good be arranged so that incompatible materials are Storage, Packaging and Labelling of Chemical have a capacity of less than 450 L unless the specifications have been approved by the Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled Containers used for storage of chemical wastes be covered to prevent rainfall entering (water collected within the bund must be tested and Chemical waste that is produced, as defined by in accordance with the regulations and Code of disposed as chemical wasle, if necessary); accordance with instructions prescribed in producers should be registered with the EPD, The storage area for chemical wastes should: be clearly labelled and used solely for the display a label in English and Chinese In the chemical waste stored in that area, be enclosed on at least 3 sides; condition, and securely closed; Schedule 2 of the Regulations, storage of chemical waste have adequate ventilation; whichever is the greatest; EVEN Ref Storage of chemical waste Chemical Waste EPD; and Waste should: D2 53 Ď 6.6.2 6,6.2 6.6.2



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Updated Environmental Monitoring and Audit (Designated Elements) Manual

General) Regulation Ordinance (Cap 295) and Works Bureau Land (Miscellaneous Part IV, (20 -25) Waste Disposal (Chemical Waste) Technical Circular EIAO TIV Annex 19/3.1.1 & 3.1.2 Provisions) Vo. 5/99. 7 > depending upon when site access can be gained, The Contractor To be Implemented before To be the congreencement of the Implemented by construction works. sub-consultants at the Defailed The Engineer/ Design Stage, Confractor DSO or their To be implemented at all worksites throughout the full duration of the construction phase. To be implemented at all worksites throughout the construction phase. full duration of the To control the disposal of chemical waste in accordance with the Regulations, To determine the presence of To monitor the disposal of C&DM and solid wastes at public filling facilities and landfills and to control contamination and remedy any potential concerns to soil and groundwater acceptable levels. fly-tipping, A trip-fioket system should be established which monitors the disposal of C&DM and solid wastes at public filling facilities and landfills and to control construction works. Following receipt of the EPD's findings of the investigations will be reported in the Contaminated Assessment Report (CAR), before Ir land contamination is confirmed, a Remediation Action Plan (RAP) shall be prepared, and both the CAR and the RAP shall be submitted as a A revised CAP should be submitted to the EPD for (Miscellaneous Provisions) Ordinance (Cap28) and the Works Bureau Technical Circular No. 5/99. disposal of chemical waste is via a licensad Waste Collector and in accordance with the Weste Disposal (Chemical Waste) (General) Regulations. approval, the CAP shall be implemented and the combined report to the EPD for approval before disturbing the ground of the concerned siles. If applicable and required in consultation with the LAND CONTAMINATION. Construction Phase ground disturbance is allowed at the concerned approval before the commencement of the The Contractor should ensure that the fly-tipping, in accordance with Land Managemenl of Waste Disposal Disposal of chemical waste adequately separate 5 ũ 6.6.2 7.5.6



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DSD Confract DC/2005/02 Construction of Sewers, Rising Mains

Enformmentalization of the properties of the second of the 1 \ > The Contractor The Contractor The Contractor Work fronts other than Identified sections within WBA & WCA (see Figure 8.74 attached) throughout the full duration of the For the full duration of the construction confract. At Identified location (Figure 8,7a) for the full duration of the construction confract. construction contract. potential impacts to winter visiting birds. To be confirmed To minimise potential construction noise Impacts to ecological sensitive receivers To schedule notsy construction activities to minimise potential impacts to works in order to minimise by regular sile inspections, To schedule construction within the WCA/WBA. winter visiting birds. EPD, the contaminated site(s) shall be remediated in accordance with the approved CAR/RAP, the winter season (November to March) along the conducted by the Environmental Team during the (including parts of S4, S5 and S6) within the WOA and WBA, where construction activities cannot be Construction activities shall be prohibited during should be conducted by the ET during the winter Spoonbill, Buzzard, Imperial Eagle and Avocel). dredging where sewers and rising mains cross Conservation Area and the Deep Bay Wetland Mitigation Measures Adopted - Minimisation Pipe jacking method should be used instead of season (November to March) for the remaining The site inspactions shall check and report the Buffer Area (WCA and WBA) and close to the inspections (at least twice a month) should bo ECOLOGY - Construction Phase Mitigation Measures Adopted - Avoidance section of the proposed sewerage alignment, winter season (Novamber to March) to ensure sections of the proposed sewerage alignment over existing MDC within the WCA and WBA. number of workfronts and implementation of Regular Inspections (at least twice a month) (including Intermediate Egret, Black-faced (See Figure 8.7a attached). Regular sile locations of ecologically sonsilive species which fall within the Deep Bay Wetland proper implementation of this restriction rescheduled, EIAX Rec EM&A Red Ŀ 5 ₽.4 8.7.1 8.7.2 8.7.2



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Hittlemeniation (New Particular) Air Pollution Control Sec. Market > ż ` \ 1 The Contractor The Contractor The Contractor The Contractor The Contractor Ed. Ems. Ref. | Ems. A ref. | Environmental Profession Measures | Objectives of the state | Common France | Feb. | Site wide and throughout At described locations and throughout the full duration of the At P2 for full duration of the construction contract At P1 to P3 for full duration of the construction contract. construction contract duration of the constract, At P1 to P3 for full paticulary rare birds including Black-faced Spoonbill, Buzzard, Hobby, imperial Eagle, Intermediate Quiet construction plant shall minimise potential noise impacts to the wildlife, To erect fences to prevent encroachment of construction activities onto adjacent areas. To Install silt removal facilities in potentially impact streams and ponds to prevent To prohibil open fires, thereby To evoid disturbance to abandoned fishponds from construction activities and Egret, Avocel and Slack-eared Kite legal dumping. sedimentation. installation and operation of sill removal (acilities at Appendix A1 of ProPECC Note PN1/94 Construction Site Drainage. The minimal total combined volume of the silt removal facilities of Nam Sang Wai SPS construction of pumping stations (P3 and P2) and Erection of fences along the boundary of pumping lipping, vehicle movements, and encroachment of Quietened construction plant and equipment (as commencement of construction works to prevent disturbance to the remaining pond areas (0.7 ha); construction sites of P1 to P3. The silt removal noise barriers with a suitable footing olong the facilities should be designed in accordance with station construction sites (P1 to P3) before the sersonnel into adjacent areas, and P2 to avoid miligation measures (i.e. erection of movable sewerage alignment (S4, S5 and S6) located within the WCA and WBA. No open fires within the site boundary during shown in Table F2) should be used for the No filling and dumping to the remaining sites) in the monthly EM&A reports. Mitigation Measures Adopted abandoned fishpond at P2, (P3) should be (5m³, T. <u>16</u> 8 47 FB 8.7.3 8,7.4 8.7.4 8.7.4 8.7.4

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RegrandLegislation of Cities Innesting of Transmission of Transmission (Open Burning) Regulation Air Pollution Gunirol (Open Burning) Regulation (Resource | Implementation | Implementat `\ 5 The Contractor The Contractor The Contractor The Contractor the full duration of the construction contract.
At P2 for full duration of the the construction contract. Site wide and throughout the full duration of the construction coniract. To be implemented during the construction phases of construction contract, At P1 to P3 for full duration of the the project. To install still removal facilities in potentially impact streams and pands to prevent sedimentation. | Ed. To prohibit open fires, thereby.. minimising polential damage to frees and shrubs. to trees and shrubs.
To avoid disturbance to abandoned inshponds from construction activities and fandscape and visual Impacts. To minimise potentlat illegal dumping. Instellation and operation of silt removal facilities at construction siles of P1 to P3. The silt removal facilities should be designed in accordance with Appendix A1 of P10PECC Note PN1/94 ANDSCAPE AND VISUAL - Construction Phase The first monthly EM&A Report should also report No open fires within the site boundary during construction and provide temporary fire fighting No specific mitigation measures are required for inclusion in the EP. The site inspections shall check and report the implementation of mitigation measures (i.e. olanting works are carried out immediately after CULTURAL HERITAGE -- Not Applicable for Package 14-17 (DC)2005/02) he construction of the civil structure) in the top-soil are reused and new compensatory the appearance of the temporary hoarding barriers. equipment in the work areas.

No filling and dumping to the remaining abandoned fishpond at P2. FISHERIES - Construction Phase equipment in the work areas, Construction Site Drainage. nonthly EM&A reports. 77 8 6 Ξ 18.7.4 8.7.4 8.7.4

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DSD and Confractor

To be implemented during the design and construction phases of the

To minimise potential landscape and visual impacts.

Prior to application for an Environmental Permit, a set of landscape plans and building elevations of the proposed pumping stations should be

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Air Pollution Control (Canstruction Dust) Regulations 7 the Environmental Team (ET) and reviewed and audited by the Engineer /DSD To be underfaken by At specified dust monitoring locations for the duration of the construction works. monitoring stations to ensure the action and limit levels are not exceeded, Installations of the dust Enter A 1806 Francisco mentali Projection de Carlos Maria de C existing landscape elements (such as mature incorporate information on materials, details and textures so as to be as visually recessive as possible and in a style that fits with the colour should be of low chramatic intensity to The landscape plans and puniping station elevations should demonstrate that the following frees), transplantation of valuable trees, new use of trees with a dense conopy of up to 5 m in height subject to constraints such as englheering and land avallability. felling of mature trees are kept to a minimum. Air Quality
Subject to the Environmental Protection
Departments (EPDs) agreement, construction
phase dust monitoring shall be undertaken at the a minimum screen planting of 3m width and Worksite boundary facing Scattered house in reduce the potential contrast between the structures and their background. The external finishing of the Pumping Stations shall be designed in conjunction with the EM&A REQUIEMENTS - Construction Phase (AM5); Worksite boundary facing Scattered House near Route 3 (AM6); Worksite boundary facing Fung Kat Heung following locations in accordance with the eubmilled for approval by the EPD. surrounding village buildings, compensatory planting recommendations of the EIA. efements are considered; Nam Sang Wai (AM1); landscape scheme,

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EACH CENTRAL CONTROL C Noise Control Ordinance > the Environmental Tearn (ET) and reviewed and audited by the Engineer undertaken by To be At specified noise innointoring locations uthroughout the duration of it the construction works. Installations of the noise monitoring stations to ensure the action and limit levels are not exceeded. Construction Noise Subject to the Environmental Protection
Departments (EPDs) agreement, construction
phase noise monitoring shall be undertaken at the
following locations in accordance with the
recommendations of the EJA. Des = Dasign, C = Construction, O = Operation, Dec = Decommissioning (NM6) Scattered House near Route 3 (D17); (NM7) Fung Kat Heung (D19); and at any additional locations, where considered necessary, in agreement with EPD (D12); (NIM4) Scattered House in Nam San Waj (D11); <u>~</u> 4.9.1



Annex H Equipment Calibration Certificates



Equipment Calibration List for Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long Project

Item	Aspect	Description of Equipment	Serial No.	Date of Calibration	Date of Next Calibration
1*	Air	Greasby Anderson GMWS2310 High Volume Sampler	0329 (AM1)	20 May 07	20 Aug 07
2		Greasby Anderson GMWS2310 High Volume Sampler	0355 (AM5)	14 Apr 07	14 Jul 07
3		Greasby Anderson GMWS2310 High Volume Sampler	10394 (AM6)	02 Apr 07	02 Jul 07
4*		Greasby Anderson GMWS2310 High Volume Sampler	1283 (AM7)	20 May 07	20 Aug 07
5	Noise	Bruel & Kjaer 4231 Acoustical Calibrator	2292168	17 Apr 07	17 Apr 08
6		Bruel & Kjaer 2238 Integrating Sound Level Meter	2285721	17 Apr 07	17 Apr 08

Note: Calibration certificates will only be provided if monitoring equipment is re-calibrated or new.

^{*} Calibration done in this reporting month, see calibration certificate attached.



Annex I Meteorological Data in the Reporting Month



Meteorological Data Extracted From the HK Observatory at Lau Fau Shan Weather Station

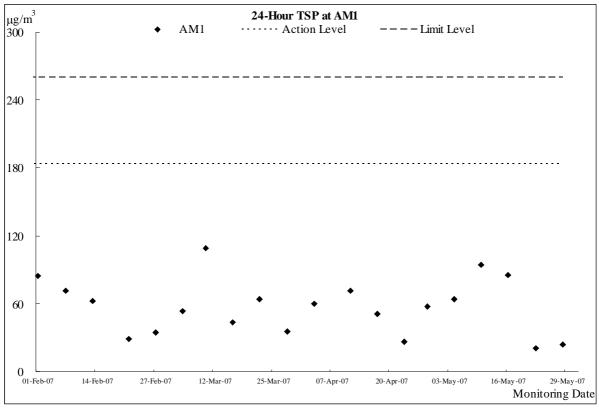
	0	Data Extracted From the HK Obs		Lau Fau Shan Station					
Date	;	Weather	Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction		
1-May-07	Tue	fine / hot	0	26.6	13	57	SE		
2-May-07	Wed	fine / haze / hot / light winds	0	25.3	5	52	N/NW		
3-May-07	Thu	cloudy / sunny periods / light winds	Trace	25.6	11	67.5	E/SE		
4-May-07	Fri	cloudy / rain	6.9	23.5	9	65	E		
5-May-07	Sat	cloudy / rain / moderate	2.3	24.3	8.5	93.7	W/SW		
6-May-07	Sun	fine / light winds / moderate	0	26.2	9	53.5	S/SE		
7-May-07	Mon	fine / dry / haze / light winds / moderate	0	26.5	4.5	60.5	SE		
8-May-07	Tue	fine / haze / hot/ dry	0	26.2	12	57.5	Е		
9-May-07	Wed	sunny periods / moderate / fresh	0	26.7	13.5	61	Е		
10-May-07	Thu	sunny periods / moderate / fresh strong	0	27.4	18.5	65	Е		
11-May-07	Fri	fine / hot / isolated showers	0	27.2	17.5	62.5	Е		
12-May-07	Sat	hot / fine / frest	0	26.7	9	69.5	Е		
13-May-07	Sun	hot / moderate / fresh / dry	0	27.4	12	72.5	Е		
14-May-07	Mon	fine / haze / moderate	0	25.8	7.5	62	SE		
15-May-07	Tue	fine / lightwinds / hot	0	27.8	15.5	75.5	SE		
16-May-07	Wed	hot / lightwinds	0.1	28.4	17.5	71.5	SE		
17-May-07	Thu	hot / humid / gale	trace	28.3	15	75	N		
18-May-07	Fri	hot / rain / moderate	13.8	28.3	11	70.5	W/SW		
19-May-07	Sat	hot / rain / moderate	47.2	25.5	12.5	72.5	Е		
20-May-07	Sun	wild / rain / cloudy	81.6	22.3	13	82	Е		
21-May-07	Mon	warm / rain / cloudy	29.7	24.6	14	88.5	Е		
22-May-07	Tue	rain / moderate / fresh	37.3	32.5	15.5	89.5	E/SE		
23-May-07	Wed	sunny intervals/a few showers/moderate/fresh	0.6	27.9	14.5	89	SE/E		
24-May-07	Thu	hot / fine	0	29.6	16	75	S/SE		
25-May-07	Fri	hot / fine / moderate	0	30.3	11.5	76	S		
26-May-07	Sat	fine / hot / moderate / isolated showers	0	29.8	17	75	S		
27-May-07	Sun	Rain / hot	53	27.5	37	86.5	W		
28-May-07	Mon	fine / hot / moderate / isolated showers	10.9	27.3	35	86.5	E		
29-May-07	Tue	fine / hot / moderate	0	28.4	13.5	81	SE/E		
30-May-07	Wed	fine / showers / very hot / moderate	0	29.3	13	79.5	SE		
31-May-07	Thu	isolated showers/sunny/intervals/moderate/hot	4.9	27.9	11.7	81	SE		

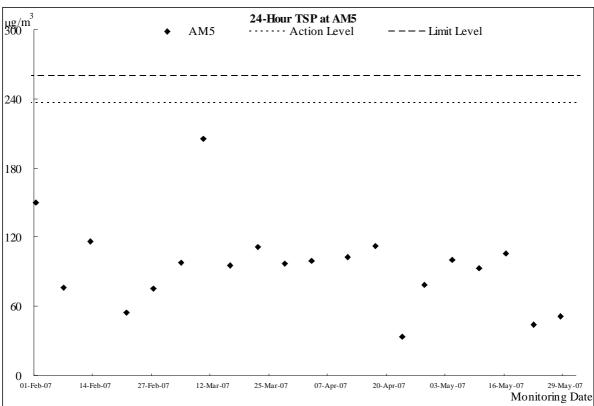


Annex J Graphical Plots of Air Quality & Noise Monitoring Results

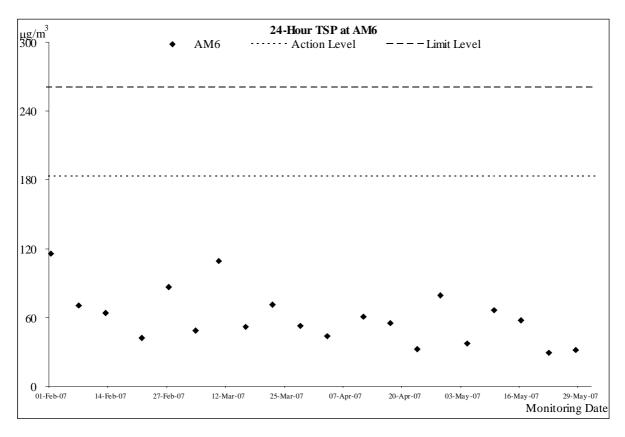


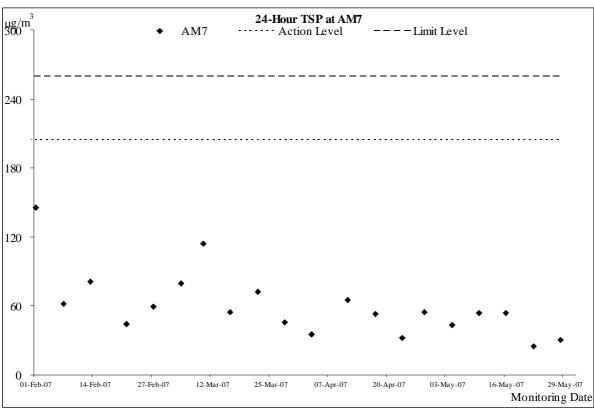
Air Quality Monitoring Results





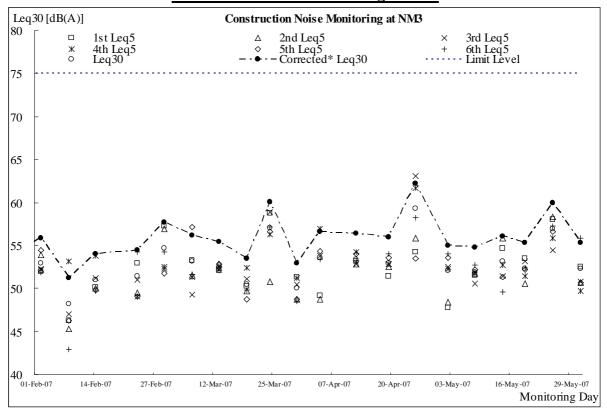


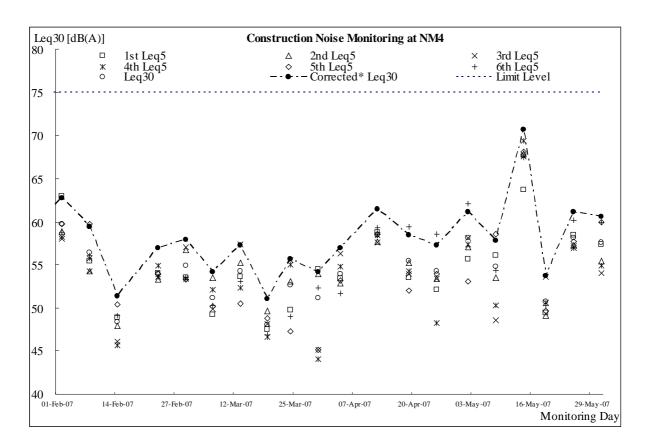




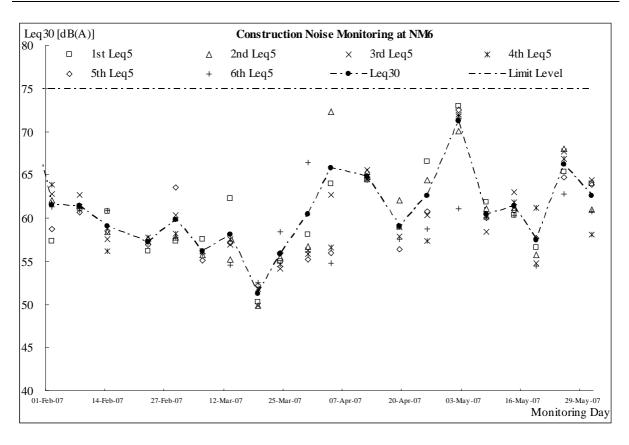


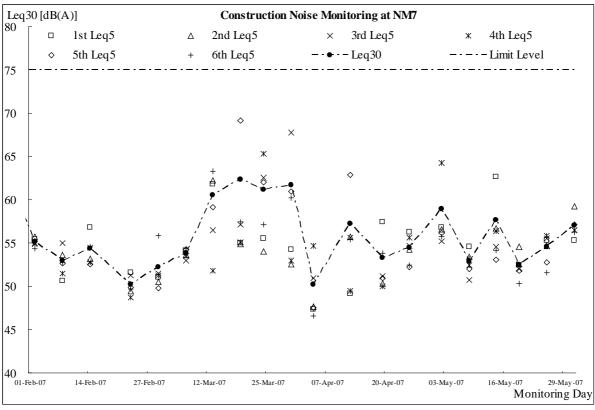
Construction Noise Monitoring Results













Annex K

Proforma of Site Inspection and IEC Audit in the Reporting Period



Project	Sewage Pumpir	ng Station at Kam Ti	ers, Rising Mains & n, Nam Sang Wai and	Contractor:		Leader Civil Engineering Corp. Ltd						
	Au Tau in Yuen	Long		Engineer:		Babtie Asia	Ltd					
Inspected by:	ET Auditor:	Ben Tam		IEC:		Mott Conne	II Ltd					
	Contractor Rep	Benny / Edwin		Environmental	Team:	Action-Unite	ed Environ	mental Servic	es & Consulting			
	IEC's Rep:	Nil		Inspection Dat	e & Time:	04 May 200)7					
	RE's Rep:	Mr. S L Hui		Checklist Refe No.:	rence	DSD-AT040	0507					
General Meteor	ological Informat	ion										
Weather	Sunny	Fine	Cloudy	✓ Overcast		Drizzle		Rain	Hazy			
Temp:	24 °C											
Humidity:	High (RH	> 90%)	Moderate (9	0% > RH > 50%)		Low (RH	< 50%)					
Wind:	Calm	✓ Light	Breeze	Strong								
Air Quality				Yes	No	NA	NC	Follow- up	Remarks			
Is hoarding of no	t less than 2.4m p	rovided?		✓								
Are site vehicles	traveling within co	introlled speed limit?		V								
Are site vehicles	movement confine	ed to designated haul	roads?	~								
Are public roads	outside site exits l	kept clean and free fro	om dust?	~								
Are haul roads a	nd unpaved surfac	es watered regularly	to avoid dust generation?	·								
Are there wheel	washing facilities p	provided at site exits?		✓								
ls water spraying	g used during the r	nain dust-generating a	activities?	~								
Are the excavate	ed or stockpile of d	usty materials kept we	et?	~								
ls exposed area	of ground covered	or watered frequently	n	✓								
Are load on vehic	cles covered by cle	ean impervious sheeti	ng?			~						
Are vehicles and	equipment switch	ed off while not in use	9?	✓								
ls smoky emissic	ons from plants/eq	uipment avoided?		✓								
ls open burning a	avoided?			✓								
Observable dust	sources [Wind erosion		Ve	ehicle/equi	pment move	ments					
	[Loading/unloadin	g of materials	~	thers 1	Vil						
.												
Construction No		led to minimize noise	nuinanna?	F.71				[]				
		o minimize noise nuisa										
	equipment well ma t turned off or throt	aintained and in good	operating condition?									
, ,			v approprieto asti-	✓								
is powered mech materials?	iai licai equipment	covered of shielded b	y appropriate acoustic									
ls silenced equip	ment used where	appropriate?		V								
Are noise enclos	ures or noise barri	ers used where neces	ssary?	V								
Does specified e	quipment has valid	d noise label?		V								
Are Construction	Noise Permits (Cf	NPs) available for insp	pection?			\checkmark						
Major Noise Sou	rce [Traffic		✓ Co	onstruction	activities ins	side of site					
	Г	Construction activ	vities outside of site		hers							



Water Quality & Drainage		Yes	No	NA	NC	Follow- up	Remarks
ls a wastewater discharge	license obtained for the Project?	V					
ls site effluent discharged i	n accordance with the discharge license?	✓					
Is the discharge of silty wat	er avoided?	√					
Is drainage adequate?		✓					
Is drainage system well ma	intained?		\checkmark				
Are there temporary ditches	s for runoff discharge into appropriate watercourse?	√					
Are there sedimentation tar	nks for settling runoff prior to discharge?	✓					
Are the sedimentation tank	s: Constructed of pre-formed individual cells?	✓					
	With adequate capacity?	\checkmark					
	Free from silt and sediment?	\checkmark					
Are there neutralization tan	ks for concrete batching/mixing discharge?			\checkmark			
Are there oil interceptors in	drainage system?			\checkmark			-
Is wheel wash facility provid	ded at every site exit?	✓					
Are vehicles and plant clea	ned of earth, mud & debris before leaving the site?	√					
Are wheel washing facilities	s regularly inspected and maintained?			\checkmark			
Are toilets provided on site	? If so, are they properly maintained?	✓					
Are manholes covered and	sealed?	✓					
Is oil leakage or spillage av	oided?	✓					
Waste Management and F	Potential Land Contamination						
General Refuse:	Are receptacles (rubbish bins) available?	V					
	Is there regular and proper disposal?	V					
	Is proper sorting and recycling implemented?	✓					
Construction Waste:	Is generation of construction waste minimized?	V					
	Is waste sorting implemented on site?	V					
	Is construction waste reused where practicable?	\checkmark					
	Is construction waste properly disposed of?	√					
	Are disposal records available for inspection?	√					
Chemical waste/waste oil	Is there designated storage area?			✓			
	Is chemical waste stored properly?			✓			
	Is there proper disposal?			✓			***************************************
	Is chemical waste license available for inspection?			✓			
Excavated Materials	Do excavated materials appear uncontaminated?	✓					
	Are appropriate procedures followed if contaminated materials exist?	~					
	Are disposal records available for inspection?	√					
Chemical/Fuel	Is chemical/fuel stored in bunded area?	V					
	Is bund capacity adequate (>110% of the largest tank)?	\checkmark					
	Are storage areas lockable?	\checkmark					
Is foam, oil, grease or other avoided?	r objectionable matters in water or nearby drains of sewer	✓					



Remarks	
Remarks	٠

PI	revi	ous	Aua	lit F	ollo	w-ui	D:
----	------	-----	-----	-------	------	------	----

Stagnant water accumulated in the U-channel at the Ko Po Raod work front was cleared.

Observations Recorded in this Site Inspection:

No environmental issue was observed during the inspection.

Signatures:			
Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
Name :Ben Tam	Name:	Name:	Name [.]

AUES

Project		Construction of Sewe		Contractor:		Leader Civi	l Engineeri	ng Corp. Ltd	
	Au Tau in Yue	en Long		Engineer:		Babtie Asia	Ltd		
Inspected by:	ET Auditor:	Ken Wong		IEC:		Mott Conne	li Ltd		
	Contractor Re	ep: Benny / Edwin		Environmental	Team:	Action-Unite	ed Environ	mental Servic	es & Consulting
	IEC's Rep:	Nil		Inspection Date	e & Time:	08 May 200	17		
	RE's Rep:	Mr. S L Hui		Checklist Refe	rence	DSD-AT080	0507		
				No.:					
General Meteoro	ological Inform	ation							
Weather	Sunny	Fine	Cloudy	✓ Overcast		Drizzle		Rain	Hazy
Temp:	27 °C								
Humidity:	High (R	H > 90%)	✓ Moderate (90	0% > RH > 50%)		Low (RH	< 50%)		
Wind:	Calm	Light	Breeze	Strong					
Air Quality				Yes	No	NA	NC	Follow- up	Remarks
Is hoarding of not	t less than 2.4m	provided?		~					
Are site vehicles	traveling within	controlled speed limit?		V					
Are site vehicles	movement confi	ined to designated haul	roads?	~					
Are public roads	outside site exits	s kept clean and free fro	om dust?	<u> </u>					
Are haul roads ar	nd unpaved surf	aces watered regularly	o avoid dust generation?	· /					
Are there wheel v	washing facilities	s provided at site exits?		✓					
Is water spraying	used during the	e main dust-generating a	activities?	✓					
Are the excavated	d or stockpile of	dusty materials kept we	et?	\checkmark					
Is exposed area of	of ground covere	ed or watered frequently	?	\checkmark					
Are load on vehic	cles covered by	clean impervious sheeti	ng?			V			
Are vehicles and	equipment swite	ched off while not in use	?	✓					
Is smoky emissio	ns from plants/e	equipment avoided?		V					
Is open burning a	voided?			✓					*****************************
Observable dust	sources	Wind erosion		Ve	hicle/equi	pment mover	ments		
		Loading/unloadin	g of materials	✓ Ot	hers <u>N</u>	lil			
Construction No	oise								
Are the construct	ion works sched	duled to minimize noise	nuisance?	✓					
Are the works or	equipment sited	to minimize noise nuisa	ance?	✓					
Are all plant and	equipment well r	maintained and in good	operating condition?	\checkmark					
Is idle equipment	turned off or thr	rottled down?		✓					
Is powered mechanismaterials?	anical equipmer	nt covered or shielded b	y appropriate acoustic	~					
Is silenced equipr	ment used where	e appropriate?		✓					
Are noise enclosu	ures or noise ba	rriers used where neces	sary?	V					
Does specified ed	quipment has va	lid noise label?		\checkmark					
Are Construction	Noise Permits (CNPs) available for insp	ection?			V			
Major Noise Sour	ce	Traffic		✓ Co	onstruction	activities ins	ide of site		
		Construction activ	rities outside of site	ot	hers				



Water Quality & Drainage		Yes	No	NA	NC	Follow- up	Remarks
ls a wastewater discharge	license obtained for the Project?	V					
Is site effluent discharged i	n accordance with the discharge license?	V					
Is the discharge of silty wat	ter avoided?	V					
Is drainage adequate?		V					
Is drainage system well ma	nintained?	\checkmark					
Are there temporary ditche	s for runoff discharge into appropriate watercourse?	\checkmark					
Are there sedimentation ta	nks for settling runoff prior to discharge?	V					
Are the sedimentation tank	s: Constructed of pre-formed individual cells?	V					
	With adequate capacity?	~					
	Free from silt and sediment?		\checkmark				Remarks 1
Are there neutralization tan	sks for concrete batching/mixing discharge?			\checkmark			
Are there oil interceptors in	drainage system?			\checkmark			
Is wheel wash facility provi	ded at every site exit?	V					
Are vehicles and plant clea	ned of earth, mud & debris before leaving the site?	V					
Are wheel washing facilities	s regularly inspected and maintained?			✓			
Are toilets provided on site	? If so, are they properly maintained?	V					
Are manholes covered and	sealed?	V					
ls oil leakage or spillage av	oided?	✓					
Waste Management and I	Potential Land Contamination						
General Refuse:	Are receptacles (rubbish bins) available?	\checkmark					
	Is there regular and proper disposal?	\checkmark					
	Is proper sorting and recycling implemented?	V					
Construction Waste:	Is generation of construction waste minimized?	\checkmark					
	Is waste sorting implemented on site?	\checkmark					
	Is construction waste reused where practicable?	V					
	Is construction waste properly disposed of?	\checkmark					
	Are disposal records available for inspection?	\checkmark					
Chemical waste/waste oil	Is there designated storage area?			\checkmark			
	Is chemical waste stored properly?			\checkmark			
	Is there proper disposal?			✓			
	Is chemical waste license available for inspection?			✓			
Excavated Materials	Do excavated materials appear uncontaminated?	V					
	Are appropriate procedures followed if contaminated materials exist?	V					·
	Are disposal records available for inspection?	\checkmark					
Chemical/Fuel	Is chemical/fuel stored in bunded area?	✓					
	Is bund capacity adequate (>110% of the largest tank)?	\checkmark					
	Are storage areas lockable?	\checkmark					
Is foam, oil, grease or othe avoided?	r objectionable matters in water or nearby drains of sewer	V					





Remarks:					
Previous Audit Follo	<u>w-up</u> :				
Nil					
	led in this Site Inspection:				
Sedimentation tanks the tank regularly to	s at Nam San Wai Road were ful maintain the good performances	I of silt and sediment, cont of the sedimentation tank.	ractor was reminded that to clean		
Signatures:					
Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff		
Name :Ken Wong	Name:	Name:	Name:		

AUES

Project	Sewage Pump	Construction of Sewe	Contractor:	Leader Civil Engineering Corp. Ltd									
	Au Tau in Yue	en Long		Engineer:	Engineer:		Babtie Asia Ltd						
Inspected by:	pected by: ET Auditor: Ben T		Ben Tam		IEC:			Mott Connell Ltd					
	Contractor R	ep: Benny / Edwin		Environmental	Team:	Action-Unite	ed Environi	mental Servic	es & Consulting				
	IEC's Rep:	Nil		Inspection Date	& Time:	19 May 200)7						
	RE's Rep:	Mr. S L Hui		Checklist Refer	ence	DSD-AT190	0507						
General Meteor	ological Inform	ation											
Weather	Sunny	Fine	Cloudy	Overcast		Drizzle	✓	Rain	Hazy				
Temp:	27 °C												
Humidity:	✓ High (R	H > 90%)	Moderate (90	0% > RH > 50%)		Low (RH	< 50%)						
Wind:	Calm	Light	Breeze	Strong									
Air Quality				Yes	No	NA	NC	Follow- up	Remarks				
ls hoarding of no	t less than 2.4m	provided?		~									
Are site vehicles	traveling within	controlled speed limit?		✓									
Are site vehicles	movement confi	ined to designated haul	roads?	V									
Are public roads	outside site exit	s kept clean and free fro	m dust?	✓									
Are haul roads a	nd unpaved surf	aces watered regularly t	o avoid dust generation?	· 🗸									
Are there wheel	washing facilities	s provided at site exits?		√									
ls water spraying	used during the	e main dust-generating a	activities?	✓									
Are the excavate	d or stockpile of	dusty materials kept we	et?	✓									
ls exposed area	of ground covere	ed or watered frequently	?	✓									
Are load on vehic	cles covered by	clean impervious sheetir	ng?		✓				Remarks 1				
Are vehicles and	equipment swite	ched off while not in use	?	V									
ls smoky emissio	ons from plants/e	equipment avoided?		<u> </u>									
ls open burning a	avoided?			<u> </u>									
Observable dust	sources	Wind erosion		Ve	hicle/equi	pment mover	ments						
		Loading/unloading	g of materials	✓ Oti	hers N	lil							
Construction No		ded and the control of						[]					
		duled to minimize noise i											
		I to minimize noise nuisa											
		maintained and in good	operating condition?	✓									
s idle equipment turned off or throttled down?				✓									
s powered mech materials?	anical equipmer	nt covered or shielded by	y appropriate acoustic	<u> </u>									
s silenced equip	ment used wher	e appropriate?		\checkmark									
Are noise enclos	ures or noise ba	rriers used where neces	sary?	V									
Does specified e	quipment has va	ilid noise label?		✓									
Are Construction	Noise Permits (CNPs) available for insp	ection?			V							
Major Noise Sou	rce	Traffic		✓ Co	nstruction	activities ins	ide of site						
		Construction activ	rities outside of site	Oti	ners								



Water Quality & Drainage	9	Yes	No	NA	NC	Follow- up	Remarks
Is a wastewater discharge	license obtained for the Project?	V					
Is site effluent discharged	in accordance with the discharge license?	V					
Is the discharge of silty wa	ter avoided?	√					
Is drainage adequate?		✓					
Is drainage system well ma	aintained?	V					
Are there temporary ditche	s for runoff discharge into appropriate watercourse?	✓					
Are there sedimentation ta	nks for settling runoff prior to discharge?	\checkmark					
Are the sedimentation tank	s: Constructed of pre-formed individual cells?	\checkmark					
	With adequate capacity?	V					
	Free from silt and sediment?	V					
Are there neutralization tar	nks for concrete batching/mixing discharge?			✓			
Are there oil interceptors in	drainage system?			✓			
Is wheel wash facility provi	ded at every site exit?	\checkmark					
Are vehicles and plant clea	ned of earth, mud & debris before leaving the site?	\checkmark					
Are wheel washing facilities	s regularly inspected and maintained?			\checkmark			
Are toilets provided on site	? If so, are they properly maintained?	\checkmark					
Are manholes covered and	sealed?	\checkmark					
Is oil leakage or spillage av	roided?	\checkmark					
Waste Management and I	Potential Land Contamination						
General Refuse:	Are receptacles (rubbish bins) available?	~					
	Is there regular and proper disposal?	\checkmark					
	Is proper sorting and recycling implemented?	\checkmark					
Construction Waste:	Is generation of construction waste minimized?	\checkmark					
	Is waste sorting implemented on site?	\checkmark					
	Is construction waste reused where practicable?	\checkmark					
	Is construction waste properly disposed of?	\checkmark					
	Are disposal records available for inspection?	\checkmark					
Chemical waste/waste oil	Is there designated storage area?			\checkmark			
	Is chemical waste stored properly?			\checkmark			
	Is there proper disposal?			\checkmark			
	Is chemical waste license available for inspection?			\checkmark			
Excavated Materials	Do excavated materials appear uncontaminated?	V					
	Are appropriate procedures followed if contaminated materials exist?	Y					
	Are disposal records available for inspection?	\checkmark					
Chemical/Fuel	Is chemical/fuel stored in bunded area?	✓					
	Is bund capacity adequate (>110% of the largest tank)?	V					
	Are storage areas lockable?	V					
Is foam, oil, grease or othe avoided?	r objectionable matters in water or nearby drains of sewer	✓					



Remarks:

Previous Audit Follow-up:

The sedimentation tanks at Nam San Wai Road had been properly clean, the contractor was reminded that to provide regular maintenance to perform the desilting system in properly efficiency.

<u>C</u>

<u>Ob</u>	Observations Recorded in this Site Inspection:								
1.	Stockpile without entirely Contractor was reminded	y covered by the tarpaulin sh I to maintain the stockpile cover	eet was observed at the Namby the tarpaulin sheet entirely.	Sam Wai Road. The					
				•					
Sign	atures:								
Env.	Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff					
Nam	e :Ben Tam	Name:	Name:	Name:					



Project	Sewage Pump	Construction of Sewe		Contra	ector:		Leader Civil	Engineerin	ng Corp. Ltd			
	Au Tau in Yue	en Long		Engine	er:		Babtie Asia	Ltd				
Inspected by:	ET Auditor:	Ken Wong		IEC:	IEC:		Mott Connell Ltd					
	Contractor Re	ep: Edwin		Enviro	nmental 1	ream:	Action-United Environmental Services & Consulting					
	IEC's Rep:	Nil		Inspec	tion Date	& Time:	25 May 200	7				
	RE's Rep:	Mr. Yu			list Refere	ence	DSD-AT250	507				
				No.:								
General Meteoro	ological Inform	ation										
Weather	Sunny	Fine	Cloudy		Overcast		Drizzle		Rain	Hazy		
Temp:	29 °C											
Humidity:	High (R	:H > 90%)	✓ Moderate (90	0% > RH >	50%)		Low (RH	< 50%)				
Wind:	Calm	✓ Light	Breeze		Strong							
Air Quality					Yes	No	NA		Follow-			
,,								NC	up	Remarks		
Is hoarding of not	less than 2.4m	provided?			\checkmark							
Are site vehicles t	traveling within	controlled speed limit?			\checkmark							
Are site vehicles i	movement confi	ined to designated haul	oads?		\checkmark							
Are public roads	outside site exits	s kept clean and free fro	m dust?		\checkmark							
Are haul roads ar	nd unpaved surf	aces watered regularly t	o avoid dust generation?	•	\checkmark							
Are there wheel w	vashing facilities	s provided at site exits?			V							
Is water spraying	used during the	e main dust-generating a	ctivities?		\checkmark							
Are the excavated	d or stockpile of	dusty materials kept we	t?		V							
Is exposed area of	of ground covere	ed or watered frequently	?		\checkmark							
Are load on vehic	les covered by	clean impervious sheetir	ng?		✓							
Are vehicles and	equipment swite	ched off while not in use	?		\checkmark							
Is smoky emission	ns from plants/e	equipment avoided?			✓							
Is open burning a	voided?				\checkmark							
Observable dust	sources	Wind erosion			Vel	nicle/equi	oment mover	ments				
		Loading/unloading	g of materials		✓ Oth	iers <u>N</u>	lil					
	_											
Construction No												
		duled to minimize noise										
		I to minimize noise nuisa			<u> </u>							
		maintained and in good	operating condition?		<u> </u>							
Is idle equipment												
Is powered mecha materials?	anical equipmer	nt covered or shielded by	/ appropriate acoustic									
Is silenced equipr	ment used wher	e appropriate?			V							
Are noise enclosu	ures or noise ba	rriers used where neces	sary?		✓							
Does specified ed	quipment has va	alid noise label?			V							
Are Construction	Noise Permits (CNPs) available for insp	ection?				✓					
Major Noise Sour	ce	Traffic			✓ Cor	nstruction	activities ins	ide of site				
		Construction activ	ities outside of site		Oth	ers						



Water Quality & Drainage	•	Yes	No	NA	NC	Follow- up	Remarks
Is a wastewater discharge	license obtained for the Project?	~					
Is site effluent discharged in accordance with the discharge license?							
Is the discharge of silty wa	ter avoided?		✓				Remarks 1
Is drainage adequate?		~					
Is drainage system well ma	aintained?	\checkmark					
Are there temporary ditche	s for runoff discharge into appropriate watercourse?	✓					
Are there sedimentation ta	nks for settling runoff prior to discharge?	V					
Are the sedimentation tank	cs: Constructed of pre-formed individual cells?	\checkmark					
	With adequate capacity?	✓					
	Free from silt and sediment?	~					
Are there neutralization tar	nks for concrete batching/mixing discharge?			\checkmark			
Are there oil interceptors in	n drainage system?			V			
Is wheel wash facility provi	ded at every site exit?	\checkmark					
Are vehicles and plant clea	aned of earth, mud & debris before leaving the site?	~					
Are wheel washing facilitie	s regularly inspected and maintained?			✓			
Are toilets provided on site	? If so, are they properly maintained?	~					
Are manholes covered and	sealed?	✓					
Is oil leakage or spillage av	voided?	\checkmark					
Waste Management and	Potential Land Contamination						
General Refuse:	Are receptacles (rubbish bins) available?	V					
	Is there regular and proper disposal?	V					
	Is proper sorting and recycling implemented?	✓					
Construction Waste:	Is generation of construction waste minimized?	✓					
	Is waste sorting implemented on site?	✓					
	Is construction waste reused where practicable?	\checkmark					***************************************
	Is construction waste properly disposed of?	✓					
	Are disposal records available for inspection?	\checkmark					
Chemical waste/waste oil	Is there designated storage area?			✓			
	Is chemical waste stored properly?			✓			
	Is there proper disposal?			✓			
	Is chemical waste license available for inspection?			\checkmark			
Excavated Materials	Do excavated materials appear uncontaminated?	✓					
	Are appropriate procedures followed if contaminated materials exist?	V					
	Are disposal records available for inspection?	\checkmark					
Chemical/Fuel	Is chemical/fuel stored in bunded area?	Y					
	Is bund capacity adequate (>110% of the largest tank)?	\checkmark					
	Are storage areas lockable?	\checkmark					
Is foam, oil, grease or othe avoided?	r objectionable matters in water or nearby drains of sewer	V					



Remarks:	
----------	--

Previous Audit Follow-up:

No stockpile with covered by the tarpaulin sheet was observed at the Nam Sam Wai Road.

Observations Recorded in this Site Inspection:

Silty water discharge			eak Road work front, the Contractor
was reminded to p	rovide regular clean to maintain t	ne aesiiting system in pro	oper eπiciency.
Signatures:			
Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
Env. / dato	Contractor of Representative	io(E) Additor	resident one ofan
Name :Ken Wong	Name:	Name:	Name:

Agreement No. CE37/2005 (EP) Environmental Monitoring and Audit for Kam Tin Trunk Sewerage Phase 1 and Au Tau trunk sewers

MONTHLY SITE INSPECTION CHECKLIST

Inspection	Date	10/05/2007	Time		9.30 ai	n	Ir	nspected	д Ву	Leader: ET: -	Edwin	
Site Location	on	Ko Po Roc Kat Hing W Kam Tin Pu	ad mping Station	ı						DSD: S	L Hui orence Yu	en
Weather												
Condition	Sun	iny 🗸	Fine	Overcast		Orizzle		Rain		Storm		Hazy
Temperature	29°	С		Humidity	F	ligh [Moderate	e	Low		
Wind	Caln	1	Light	Breeze		Strong		Direction				
EIA ref:	Construction	on Phase - Constructio	on Phase					N/A or not obs	Yes	No	Photo/	Remarks
3.5	Are hoar	dings of not l	ess than 2.4m	high provided	d along th	е [
3.5		ortion of any ithin 30m of a	road leading c a vehicle entrar						V		-	
3.5	sheeting		y materials c n an area shelt						V			
3.5		y material loa g and unloadi	ds on vehicles a	sprayed with	water pric	or			V		****	
3.5			ed to remove or re leaving site?	dusty materia	als from it	s			V			
3.5			are carrying d sheeting when		ls covere	d			V			
3.5	Are surfa place spr		ny mechanical t	oreaking oper	ation take	s		V				
3.5	 Are work immediate operation 	ely before,	any excavatio during and						/			
3.5	building sheeting the grou	under const or netting pr nd floor level	is erected around its rection, are considered to encloy of the SPS, or the street of t	effective dus ose the scaffo a canopy fro	t screens olding from om the firs	s, n		V			was a selection of the second	
3.5	Are skip	hoists for mat	erial transport t	otally enclose	ed?			V				

3.7	 Have dust monitors been provided at the following locations: Boundary facing scattered house in NSW (AM1) Boundary facing Fung Kat Heung (AM5) Boundary facing scattered house near route 3 (AM6) 					
	Construction Noise Demolition works					
4.7.1	Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used?	V	/			
	Sewage Pumping Stations P1, P2 & P3					
4.7.1	 Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used? 					_
4.7.1	 Are temporary noise barrier, in the form of a site hoarding (with superficial density of at least 20kg/m2, with no substantial gaps), along the site boundaries of the pumping station sites adopted? 					_
474	Sewers and Rising Mains using Open Trench					
4.7.1	 Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used? 					_
4.7.1	 Are handheld breakers used for all initial road opening activities, when breaking tarmac/concrete road surface to a depth of 300mm or when granular material is reached? 		V			
4.7.1	 Are movable noise barriers or 3 sided enclosures installed for all initial road opening activities (breaking tarmac/concrete road surface to a depth of 300mm or when granular material is reached) where there NSRs within 50m of the line of sight? 	V	/			
4.7.1	Sewers and Rising Mains using Pipe Jacking • Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used?					
474	Road Pavement and Finishes					
4.7.1	 Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used? 		li/			
4.9.1	 Have noise monitors been provided at the following locations: (NM3) Scattered house in NSW (NM4) Scattered house in NSW (NM6) Scattered house near Route 3 (NM7) Fung Kat Heung 					
	Construction Runoff and Site Drainage					
	 Are perimeter cut-off drains to direct off-site water around the site constructed with internal drainage works and erosion and sedimentation control facilities implemented. Are channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers provided on site to direct stormwater to silt removal facilities? 		/			
	 Are dikes or embankments for flood protection implemented around the boundaries of earthwork areas. Are sediment/silt traps incorporated in the permanent drainage channels to enhance deposition rates? 		V			
	 Are silt removal facilities provided with retention time for silt/sand traps of 5 minutes under maximum flow conditions? 			V	P	
	 Are construction works programmed to minimize surface excavation works during the rainy seasons (April to September)? 		√			_
	Are slopes minimised and erosion potential reduced?					_
	 Is deposited silt and grit removed regularly and disposed of by spreading evenly over stable, vegetated areas? 	V				

	 Are measures taken to minimise the ingress of site drainage into excavations? Is water pumped out from trenches of foundation excavations discharged into storm drains via sill removal facilities? 	r!
	 Are open stockpiles of construction materials (for example aggregates, sand and fill material) of more than 50m3 covered with tarpaulin or similar fabric during rainstorms? 	
	Are manholes (including newly constructed ones) adequately covered and temporarily sealed?	
	Are precautions taken before rainstorms?	
	Are all vehicles and plant cleaned before leaving site?	
	 Is solid waste, debris and rubbish on site appropriately collected, handled and disposed of properly to avoid wate quality impacts? 	
	 Are all fuel tanks and storage areas provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to preven spilled fuel oils from reaching water sensitive receivers nearby? 	ot l
	Sewage Effluent - Construction Phase	
	1) Are portable chemical toilets and sewage holding tanks provided? Is handling the construction sewage generated fo collection and disposal of this waste? Is a licensed contracto employed?	r
	Waste Management - Construction Phase	
6.6.2	 Are the necessary waste disposal permits from the appropriate authorities in placed for chemical and C&E wastes, in accordance with the Waste Disposal (Chemica Waste) (General) Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap 28)? 	
6.6.2	 Is chemical waste that is produced, as defined by Schedule of the Waste Disposal (Chemical Waste) (General Regulation, being handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes? 	
6.6.2	 Are containers used for the storage of chemical waster suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation? 	o y e e e e e e e e e e e e e e e e e e
6.6.2	 Is the storage area for chemical wastes clearly labelled and used solely for the storage of chemical waste; enclosed on a least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated? 	at of of the control
6.6.2	 Is disposal of chemical waste via a licensed waste collector be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste under approval from the EPD? 	
6.6.2	 Are trip tickets for disposal available to monitor disposal of C&DM and solid wastes at public filling and landfills, and to control fly tipping? 	

7.5.6	Land Contamination - Construction Phase	
7.5.0	 Is a revised CAP submitted to the EPD before commencement of construction works? Is the CAP implemented and findings of the investigations reported in the CAR, before ground disturbance is allowed? 	
7.5.6	 If land contamination is confirmed, has a RAP beer prepared and submitted to EPD? 	
7.5.6	 Are contaminated sites remediated in accordance with the approved CAR/RAP? 	
	Ecology - Construction Phase	
8.7.1	 Are construction activities prohibited during November to March for the sections of works within the WCA and WBA and close to locations of ecologically sensitive species. 	
8.7.1	 During November to March periods, are regular site inspections (at least twice a month) undertaken by ET to ensure proper implementation of this restriction? 	
8.7.2	 Is pipe jacking method used for sewers and rising mains crossing over MDC within the WCA and WBA? 	
8.7.2	 During November to March, are regular site inspections (at least twice a month) undertaken by ET for the remaining sewerage sections (including parts of S4, S5 and S6) within the WCA and WBA where construction activities cannot be rescheduled? 	
8.7.2	 The site inspections shall check and report the number of workfronts and implementation of mitigation measures in the monthly EM&A Report. 	
8.7.3	 Are quietened construction plant and equipment used for PS (P2 and P3) and sewers (S4, S5, S6) within the WCA and WBA? 	
8.7.4	 For P1-P3, have fences along the boundary of the pumping stations construction sites been erected? 	
8.7.4	 There shall be no filling and dumping to the remaining abandoned fishpond at P2. 	
8.7.4	 Are silt removal facilities, designed to the ProPECC Note PN1/94, installed and operated at the P1 to P3 sites? The minimal total combined volume of the silt removal facilities at P3 (NSW SPS) should be 15m3. 	
8.7.4	There shall be no open fires within the site boundary.	
8.7.4	 Have temporary fire fighting equipment provided in the works areas. 	
	Landscape and Visual - Construction Phase	
	 Have the implementation of mitigation measures (i.e., top soil reused, new compensatory planting) been reported in the monthly EM&A? 	
	 The first monthly EM&A Report should report on the appearance of the temporary hoarding barriers. 	
	 Are screen planting (3m wide) and trees with dense canopy (up to 5m) provided? 	
	Is felling of mature trees kept to a minimum?	

OTHER OBSERVATIONS

Ko Po Road

Still

Plo20713 - Stagnant water was observed in sedimentation tank which is not in operation. The Contractor was reminded to remove the water in the tanks as soon as possible.

P1020714 - Stagnant water was observed on bareground between the pipes. The Contractor was reminded to capily insecticides to avoid mosquite breeding.

Kat Hing Wai

Plo20716 — The Contractor was reminded to increase capacity of the sedimentation tanks and ensure the water discharge complied with WPCO standards and standards specified in the water discharge license.

DSD Representative		Contractor Representati	ETL			IEC	
							Florene Yven
()	()	()	(Florence Yuen)

Agreement No. CE37/2005 (EP) Environmental Monitoring and Audit for Kam Tin Trunk Sewerage Phase 1 and Au Tau trunk sewers

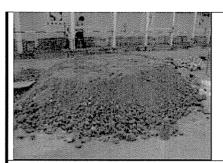
MONTHLY SITE INSPECTION PHOTOS 10 May 2007 Environmental Observations

Follow up last month's observations

Follow up last month's observations								
Last month's observations	This month's observations							
Ko Po Road								
P1020513: Stagnant water was observed in	P1020713: Stagnant water was still observed in							
sedimentation tank which is not in operation. The Contractor was reminded to remove the stagnant water as soon as possible.	sedimentation tank which is not in operation. The Contractor was reminded to remove the water in the tanks as soon as possible.							
P1020515: Haul road was dry. The Contractor was reminded to provide water spray more frequently to suppress dust.	Closed - P1020712: Water spray was provided regularly to haul road to suppress dust.							
Kam Tai Road								
P1020518: The Contractor was reminded to provide better maintenance to the sedimentation tanks.	To be followed up in the next site inspection.							
Castle Peak Road								

Agreement No. CE37/2005 (EP) Environmental Monitoring and Audit for Kam Tin Trunk Sewerage Phase 1 and Au Tau trunk sewers

MONTHLY SITE INSPECTION PHOTOS 10 May 2007 Environmental Observations



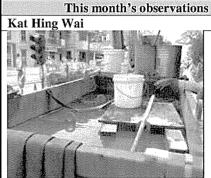
P1020524 & 1020525: The Contractor was reminded to cover the stockpiles of dusty materials entirely with impervious sheeting.

To be followed up in the next site inspection.

This month's observations

This month's observations Ko Po Road							
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P1020714: Stagnant water was observed on bare ground between the pipes. The Contractor was reminded to apply insecticides to avoid mosquito breeding.



P1020716: The Contractor was reminded to increase capacity of the sedimentation tanks and ensure the water discharge complied with WPCO standards and standards specified in the water discharge license.