JOB NO.: TCS00310/06

VERSION NO.: 2

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

MONTHLY ENVIRONMENTAL MONITORING & AUDIT (EM&A) REPORT FOR APRIL 2009 (NO. 37) (DESIGNATED ELEMENTS)

PREPARED FOR

LEADER CIVIL ENGINEERING CORPORATION LIMITED

Quality Index

Date	Reference No.		
14 May 2009	TCS00310/06/600/R0837v2		
Prepared By	**Certified By**	**Approved By**	**Verified By**
Carson Chan	David Yeung	TW Tam	Dr. Anne F Kerr
Assistant Consultant	Environmental Team Leader	General Manager	Independent Environmental Checker

Version No.	Date	Remarks
1	12 May 2009	First Submission
2	14 May 2009	Amended against IEC's comment of 12 May 2009

EXECUTIVE SUMMARY

ES01. Leader Civil Engineering Corporation Limited (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.

ES02. This Monthly Environmental Monitoring and Audit (EM&A) Report for **April 2009 (No. 37)** present the environmental impact monitoring and audit (EM&A) program conducted from **01 to 30 April 2009** for the Designated Elements. The EM&A program in **April 2009** were covered air quality, construction noise and waste management.

BREACH OF ACTION AND LIMIT (AL) LEVELS

ES03. One Limit Level exceedance for 24-Hour TSP monitoring was recorded at AM5 on 23 April 2009. ET had liaison with the Contractor to conduct the investigation, only erect formwork, rebar fixing and extract sheet pile were undertaken. Dust suppression measures with water spraying were applied on-site and no dust complaint was received at the vicinity area. No further air quality exceedance was recorded in this reporting month.

COMPLAINT LOG

ES04. No environmental complaint was received in this reporting month.

NOTIFICATION OF ANY SUMMONS AND SUCCESSFUL PROSECUTION

ES05. There was no environmental summons or prosecution in this reporting month.

REPORTING CHANGES

ES06. There are no changes to be reported in this reporting month.

FUTURE KEY ISSUES

ES07. Construction activities to be undertaken in **May 2009** include sheet piling, excavation, pipe laying, backfilling, concreting, pipe jacking and extract sheet pile at Kam Tin Pumping Station (P1); sheet piling, excavation, backfilling, concreting and extract sheet pile at Sha Po Pumping Station (P2) and Nam Sang Wai Road (S4); backfilling, concreting and extract sheet pile at Nam Sang Wai P/S(P3) and Pok Wai South Road (S5 & S6). Potential environmental impacts arising from the works include construction waste, air quality, noise and water quality (particularly site runoff during rainy seasons). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ANNEXES

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 **37th Monthly EM&A Report for April 2009 (No. 37)** (Designated Elements – Construction Phase) summarizes the impact monitoring results and audit findings in the reporting month from **01 to 30 April 2009**.

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 MONTH

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**.

CONSTRUCTION ACTIVITIES UNDERTAKEN IN THE REPORTING MONTH

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

Kam Tin Pumping Station (P1)
- Excavation
- Pipe jacking

Sha Po Pumping Station (P2)
- Sheet piling
- Excavation
- Backfilling
- Concreting

Nam Sang Wai Pumping Station (P3)
- Backfilling
- Concreting

Nam Sang Wai Road (S4)
- Sheet piling
- Excavation
- Pipe laying
- Backfilling
- Concreting
- Extract sheet pile

Pok Wai South Road (S5 and S6)
- Backfilling
- Concreting

2.0 ENVIRONMENTAL STATUS

WORK UNDERTAKEN IN THE REPORTING MONTH 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 Month with Illustrations of Mitigation Measures

Locations	Description of Construction Activities	Environmental Mitigation Measures	EM&A Ref.
P1 (Kam Tin Pumping Station)	• Back filling • Extract sheet pile • Concreting	• 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 • Spray water to all dusty materials immediately before loading and unloading	A1 & F6 A2 A3 A4
P2 (Sha Po Pumping Station) and P3 (Nam Sang Wai Pumping Station	• Back filling • Concreting	• Wash the wheels of vehicles before leaving the site • 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 • Apply and obtain appropriate waste disposal licenses	A5 A6 A7 A8 B1, B2 & F5 D1
S4 (Nam Sang Wai Road) and S5 & S6 (Pok Wai South Road)	• Sheet piling • Excavation • Pipe laying • Backfilling • Concreting • Pipe jacking • Extract sheet pile	• 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 • 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.	D2, D3 & D4 D5 F9 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 (NM3, NM4, NM6 & NM7) under the project EP. Locations of the monitoring stations and description are summary in the **Table 2-2**.

Table 2-2 Description of the Monitoring Stations

Station ID	Nature of Premise	Site Work Description	Station Coordinates	
			Northern	Eastern
AM1	Site Boundary in NSW	Excavation; Sheet piling; Backfilling; Pipe laying; Concreting; and Extract sheet pile	835829	822910
AM5	Site Boundary in FKH		835121	823515
AM6	Site Boundary in KT		833308	823987
AM7	Site Boundary in NSW		836171	822586
NM3	Village House in NSW		835808	822817
NM4	Village House in NSW		835282	822811
NM6	Village House in KT		833288	823999
NM7	Village House in FKH		835121	823495

2.05 In this reporting month, the impact monitoring was carried out at four designated air stations and four noise monitoring locations 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-Hour TSP
Construction Noise	Leq 30min 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 Locations	Action Level ($\mu g/m^3$)		Limit Level ($\mu g/m^3$)	
	1-Hour TSP	24-Hour TSP	1-Hour TSP	24-Hour 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

Monitoring Period	Action Level	Limit Level
0700-1900 hours on normal weekdays	When one or more documented complaints are received	> 75 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 (EP-220/2005) 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 are summarized in **Table 2-1** and the implementation schedule as shown in **Annex G**.

4.02 The status of permits, licenses, and/or notifications related to environmental protection under this Project during the reporting month is presented in **Table 4-1**.

Table 4-1 Status of Environmental Licenses and Permits

Items	Item Description	License/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

5.0 MONITORING RESULTS

MONITORING METHODOLOGY OF AIR QUALITY MONITORING

5.01 The 24-Hour TSP monitoring was carried out by a High Volume Air Sampler (HVAS) in compliance with the updated EM&A Manual. The HVAS employed complied with the PS specifications including.

- Power supply of 220v/50 Hz for 24-Hour continuous operation;
- 0.6-1.7m^3/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-Hour operation;
- Minimum exposed area of 63in^2;
- Flow control accuracy of ±2.5% deviation over 24-Hour 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-Hour 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-Hour 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. The validation of all monitoring practices and data were following the in-house QA/QC procedures. Blank filters samples were collected and delivered to the HOKLAS-accredited laboratory for QA/QC check.

5.03 The meteorological information in this reporting month was obtained from Lau Fau Shan Station of the Hong Kong Observatory (HKO).

METHODOLOGY FOR CONSTRUCTION NOISE MONITORING

5.04 Noise measurements were taken in terms of the A-weighted equivalent sound pressure level (Leq) measured in decibels (dB). Supplementary statistical results (L_{10} and L_{90}) were also obtained for reference.

5.05 Hand-held sound level meters and associated acoustical calibrators in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specifications 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 5m/s or wind with gusts exceeding 10m/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-Hour TSP filter papers.

5.09 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

Env. Aspect	Parameters	Monitoring Equipment
Air Quality	24-Hour TSP	Greasby Anderson GMWS2310 High Volume Air Sampler
Noise	Leq(30mins)	B&K Sound Level Meter (Type 2238) and Acoustics Calibrator (Type 4231)

EQUIPMENT CALIBRATION

5.10 Initial calibration of the HVAS 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. HVAS of AM5 and AM6 was required calibration in this reporting month, HVAS of AM5 and AM6 monitoring equipment required to calibrate in next reporting month. Updated calibration certificate and schedule is shown in **Annex H**.

5.11 The sound level meters were calibrated using an acoustical 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 acoustical 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 Calibration certificates of the sound level meters will provide depend on the annual calibration had undertaken.

PARAMETERS MONITORED

5.13 The environmental parameters monitoring in this reporting month 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/Locations

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 Noise (4 Locations)	
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-Hour TSP monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A Manual. In this reporting month, **20** monitoring events of 24-Hour TSP monitoring were conducted.

5.16 The impact noise monitoring was conducted at the designated stations once every 6 normal working days in compliance with the updated EM&A Manual. Total of **20** monitoring events were carried out in this reporting month.

MONITORING RESULTS AND SCHEDULE

5.17 Monitoring results in this reporting month for air quality and construction noise were summarized at **Tables 5-3 to 5-7**.

5.18 One Limit Level exceedance for 24-Hour TSP monitoring was found at AM5 on 23 April 2009. ET had liaison with the Contractor provide information to conduct the investigation. Upon the report submission, the exceedance is still yet to conclude. However after the exceedance monitoring day, no further exceedance or dust complaint is recorded accordingly.

5.19 Two power failure incidents were happened in this reporting month, one at AM6 on 08 April 2009 and other at AM7 on 29 April 2009. Makeup monitoring had been arranged to undertaken upon the power supply reinstate.

Table 5-3 Summary of Air Quality Monitoring Results

Date	24-Hour TSP (μg/m^3)			
	AM1	AM5	AM6	AM7
1-Apr-09	104	82	40	49
8-Apr-09	73	202	89 (*9 Apr 09)	83
17-Apr-09	61	55	45	66
23-Apr-09	103	385	50	57
29-Apr-09	91	60	45	85 (*30 Apr 09)
Average (Range)	85 (61-104)	157 (55-385)	54 (40-89)	68 (49-85)
Action / Limit	**> 184 / >260**	**> 237 / >260**	**> 183 / >260**	**> 204 / >260**

Note: All 24-Hour TSP monitoring were preset to start at 00:00 on each monitoring date.
Makeup monitoring arranged were undertaken immediately
Bold and italic is exceed the Action Level.
Bold and underline is exceed the Limit Level.
* made up monitoring date of the power failure

5.20 No construction noise complaint (Action Level) was received and no construction noise monitoring above the Limit Level was recorded in this reporting month.

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-Apr-09	10:34	51.4	50.9	48.2	48.7	49.5	48.6	49.7	52.7
09-Apr-09	10:00	60.4	51.4	52.9	56.3	54.7	53.6	56.0	59.0
18-Apr-09	11:00	52.8	51.1	51.9	52.4	54.6	54.3	53.0	56.0
#24-Apr-09	11:25	52.3	51.9	53.4	53.1	52.9	50.4	52.4	55.4
30-Apr-09	16:09	48.9	47.2	46.3	46.7	46.1	47.3	47.2	50.2
Limit Level									**75**

Note: * A façade correction of +3 dB(A) has been added according to acoustical principles and EPD guidelines.
Invalid data as calibration certificate does not cover.

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-Apr-09	09:00	58.9	57.2	60.4	61.3	59.1	57.4	59.3	62.3
9-Apr-09	11:25	59.3	60.0	59.0	58.2	59.5	61.2	59.6	62.6
18-Apr-09	10:05	61.3	60.5	64.1	63.5	63.8	61.4	62.7	65.7
#24-Apr-09	10:45	54.3	52.7	53.3	54.3	52.4	54.7	53.7	56.7
30-Apr-09	15:23	49.4	50.9	55.7	55.4	53.1	50.9	53.2	56.2
Limit Level									**75**

Note: * A façade correction of +3 dB(A) has been added according to acoustical principles and EPD guidelines.
Invalid data as calibration certificate does not cover.

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
02-Apr-09	11:30	55.1	54.7	55.5	55.0	54.2	55.2	55.0
09-Apr-09	11:25	54.9	54.1	55.7	56.0	55.0	55.4	55.2
18-Apr-09	11:27	54.4	56.2	55.3	55.0	54.8	55.5	55.2
#24-Apr-09	15:30	55.5	56.3	55.8	54.8	54.5	55.4	55.4
30-Apr-09	10:15	55.6	56.3	57.2	56.9	54.1	54.5	55.9
Limit Level								**75**

Note: * Noise monitoring was undertaken at the façade, correction was not necessary
Invalid data as calibration certificate does not cover.

.

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
02-Apr-09	11:19	52.3	54.8	53.9	53.7	52.1	53.4	53.5
09-Apr-09	09:00	57.4	56.0	58.2	57.5	58.0	59.3	57.8
18-Apr-09	10:34	54.1	54.9	53.4	55.1	55.7	53.9	54.6
#24-Apr-09	09:35	58.4	58.9	59.7	60.1	60.4	58.9	59.5
30-Apr-09	14:45	60.7	58.1	60.9	61.4	59.3	58.2	60.0
Limit Level								**75**

Note: * Noise monitoring was undertaken at the façade, correction was not necessary.
Invalid data as calibration certificate does not cover.

5.21 The tentative monitoring schedule for the coming month (**May 2009**) is shown in **Table 5-8**.

Table 5-8 Tentative Schedule of Monitoring for Next Reporting Month

Date		Air Quality	Construction Noise
1-May-06	Fri		
2-May-06	Sat		
3-May-06	Sun		
4-May-06	Mon		
5-May-06	Tue		
6-May-06	Wed		
7-May-06	Thu	✓	
8-May-06	Fri		✓
9-May-06	Sat		
10-May-06	Sun		
11-May-06	Mon		
12-May-06	Tue		
13-May-06	Wed	✓	
14-May-06	Thu		✓
15-May-06	Fri		
16-May-06	Sat		
17-May-06	Sun		
18-May-06	Mon		
19-May-06	Tue	✓	
20-May-06	Wed		✓
21-May-06	Thu		
22-May-06	Fri		
23-May-06	Sat		
24-May-06	Sun		
25-May-06	Mon	✓	
26-May-06	Tue		✓
27-May-06	Wed		
28-May-06	Thu		
29-May-06	Fri		
30-May-06	Sat		
31-May-06	Sun		

✓	Monitoring Day
	Sunday or Public Holiday

WEATHER CONDITIONS DURING THE MONITORING MONTH

5.22 The meteorological data during the monitoring date are summarized in **Annex I**.

GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

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

WEATHER CONDITIONS THAT AFFECT THE MONITORING RESULTS

5.24 The weather conditions during 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 One Limit Level exceedance for 24-Hour TSP monitoring was found at AM5 on 23 April 2009. ET had liaison with the Contractor provide information to conduct the investigation. Upon the report submission, the exceedance is still yet to conclude. However after the exceedance monitoring day, no further exceedance or dust complaint is recorded accordingly.

6.02 No construction noise complaint (Action Level) or monitoring noise level exceed the Limit Level [75dB(A)] was recorded in this reporting month.

RECORD OF ENVIRONMENTAL COMPLAINTS RECEIVED

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

RECORD OF NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTION

6.04 There was no notification of summons or prosecution received in this reporting month.

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

6.05 No complaints or NoS was received in this reporting month.

DESCRIPTION OF FOLLOW-UP ACTIONS TAKEN

6.06 As mention in Section 6.05, no NC, complaints or NoS was received in this reporting month. Therefore, no follow-up action was needed to undertake. The Contractor was reminded to implement the environmental mitigation measures as present in **Table 2-1** as necessary.

7.0 OTHERS

FUTURE KEY ISSUES

7.01 Construction activities to be undertaken in **April 2009** include sheet piling, excavation, backfilling, concreting, pipe jacking and extract sheet pile at Kam Tin Pumping Station (P1); sheet piling, excavation, backfilling, concreting and extract sheet pile at Sha Po Pumping Station (P2); backfilling, concreting and extract sheet pile at Nam Sang Wai P/S(P3) and Pok Wai South Road (S5 & S6); sheet piling, excavation, pipe laying, backfilling, concreting and extract sheet pile at Nam Sang Wai Road (S4). 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 Waste Quantities for Disposal

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (tons) – Disposed	1.806	Tuen Mun 38 Fill Bank
C&D Materials (Inert) (tons) – Reused	1.140	DSD Contract DC/2005/02
C&D Materials (Non-Inert) (tons)	0	NA
Chemical Waste (Litres)	0	NA
General Refuse (tons)	0.048	Refuse Collector

Table 7-2 Summary of Waste Quantities 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 $50m^3$ of surface runoff was discharged in the reporting month. The sampling of effluent had been carried out by the Contractor in compliance with the Discharge License (No.1U434/1) requirement in the reporting month.

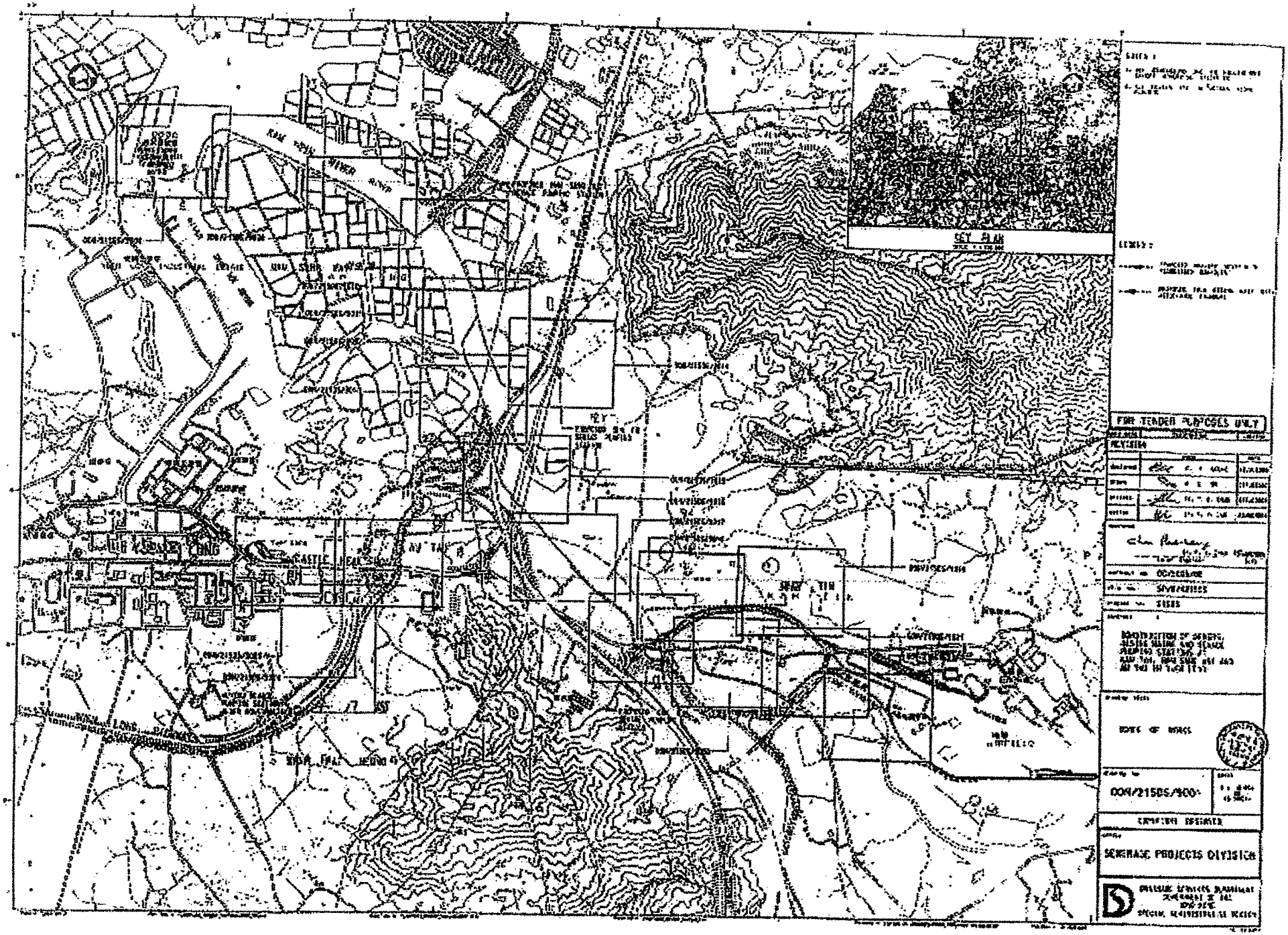
SUBMISSION OF PROFORMA

7.04 Representatives of the Engineer, the Contractor and ET carried out regular weekly site inspection on 07, 14, 21 and 28 April 2009 to evaluate the site environmental performance. No non-compliance was found in this reporting month. Four observations were recorded from the ET weekly site inspections. Two observations were recorded on 21 April 2009; and other two were found on 28 April 2009 during the regular weekly site inspection. The monthly IEC site audit for **April 2009** was undertaken on 28 April 2009. No non-compliance and two observations were indicated by IEC.

7.05 Proforma of the weekly ET site inspection activities and monthly joint IEC site audit are presented in **Annex K**.

ANNEX A

PROJECT SITE LAYOUT

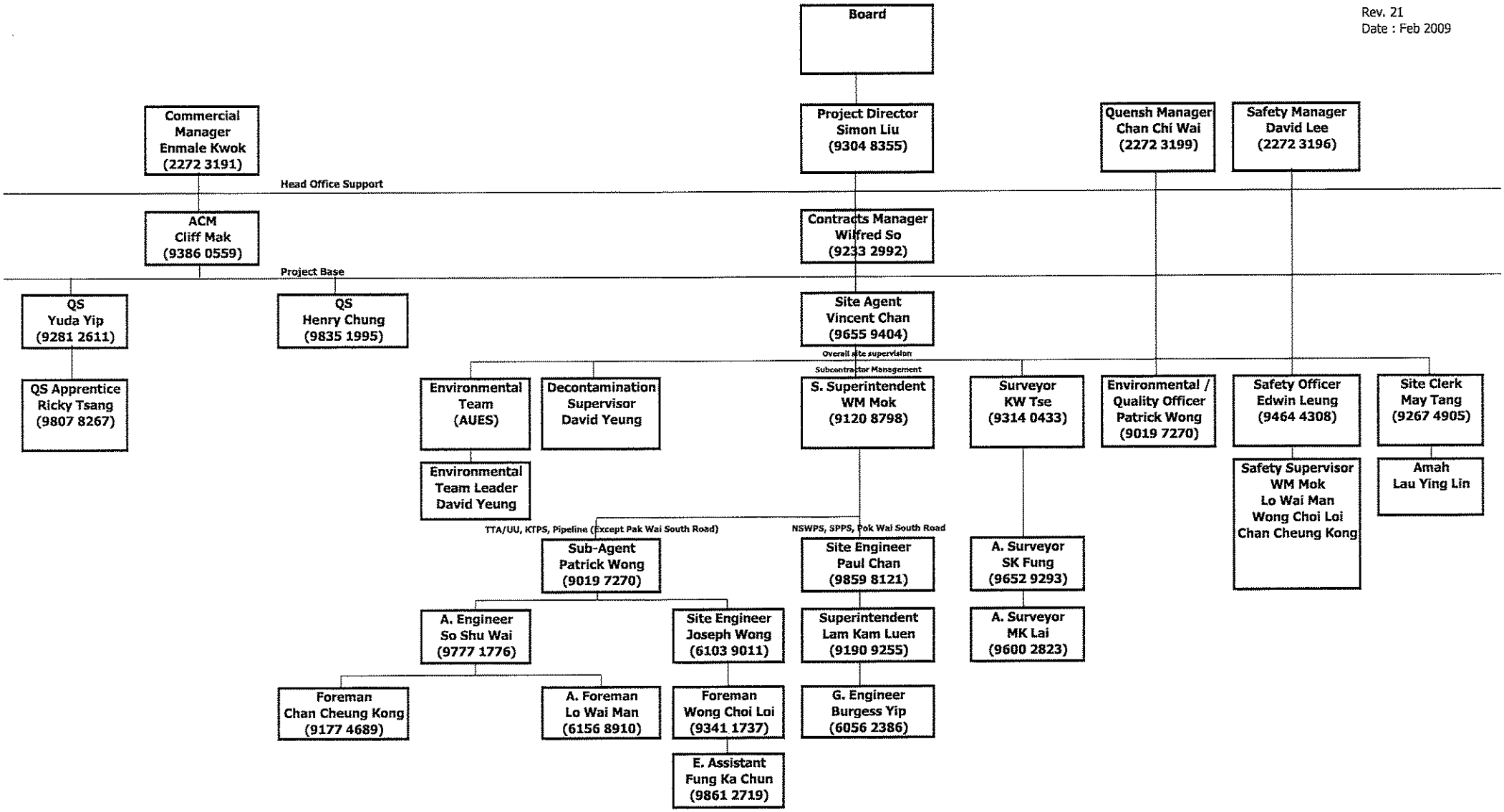

SET PLAN
FOR TENDER PURPOSES ONLY
SEWERAGE PROJECTS DIVISION

ANNEX B

PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

DSD Contract No. DC/2005/02
Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin Nam Sang Wai and Au Tau in Yuen Long
Contractor's Site Organization Chart

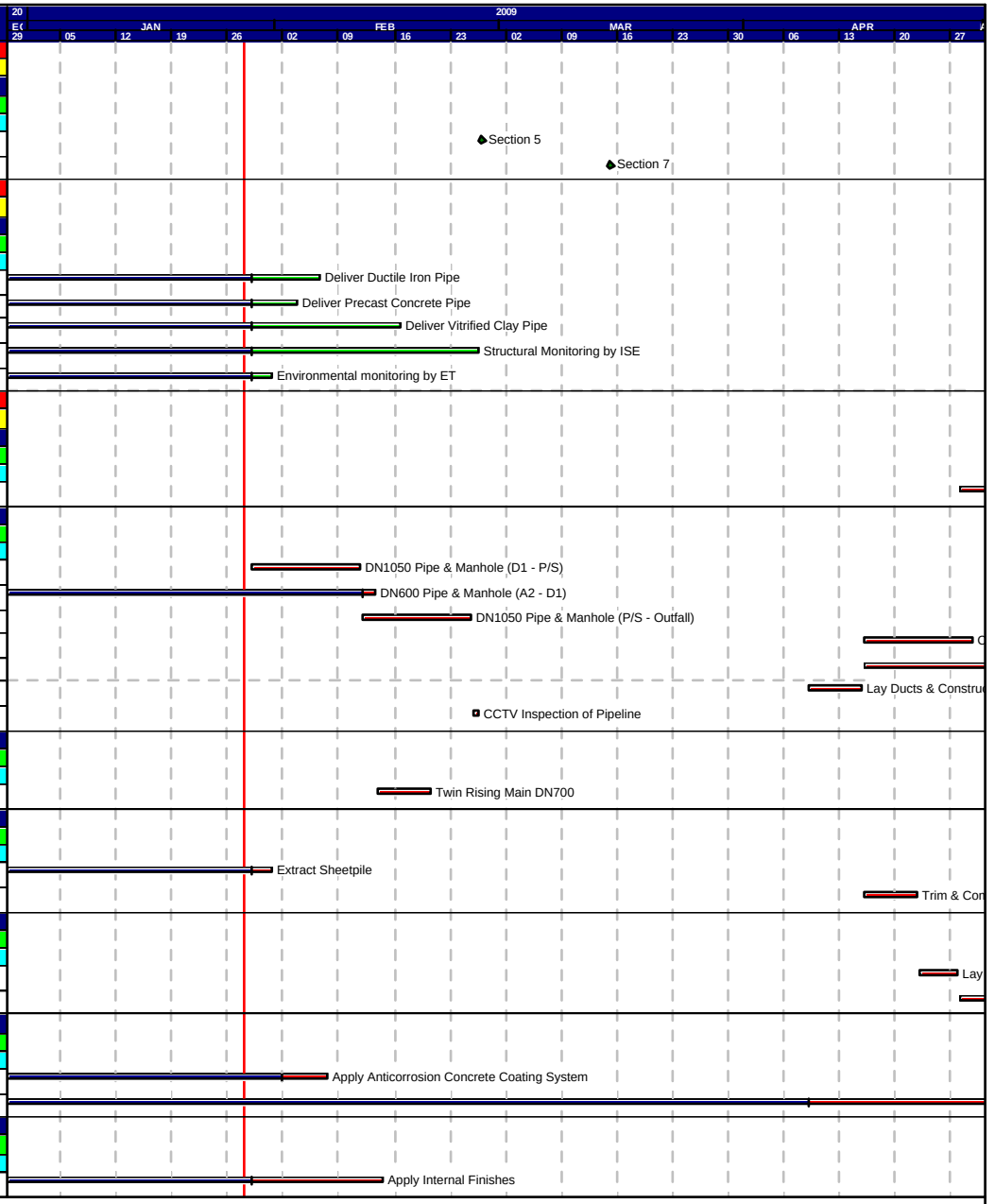
Rev. 21
Date : Feb 2009



ANNEX C

CONSTRUCTION PROGRAM

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Section Completion / Key Date								
CD5000	Section 5	0	-99d	0		26FEB09		19NOV08 *
CD7000	Section 7	0	-388d	0		14MAR09		20FEB08 *
Preliminaries								
PR2900	Deliver Ductile Iron Pipe	800	133d	99	29APR06 A	06FEB09	29APR06 A	16JUL09
PR3100	Deliver Precast Concrete Pipe	800	136d	99	24APR06 A	03FEB09	24APR06 A	16JUL09
PR3300	Deliver Vitrified Clay Pipe	800	125d	98	10APR06 A	16FEB09	10APR06 A	16JUL09
PR3400	Structural Monitoring by ISE	835	116d	97	06APR06 A	26FEB09	06APR06 A	16JUL09
PR3500	Environmental monitoring by ET	814	138d	100	06APR06 A	31JAN09	06APR06 A	16JUL09
Section 1 - Kam Tin Sewage Pumping Station								
Portion A								
Fencing								
S1AD1300	Install GMS Panel Fence	8	-143d	0	28APR09	07MAY09	04NOV08	12NOV08
Drainage and Ducts								
Trench Method								
S1AEA100	DN1050 Pipe & Manhole (D1 - P/S)	12	-108d	0	29JAN09	11FEB09	16SEP08	29SEP08
S1AEA110	DN600 Pipe & Manhole (A2 - D1)	12	-98d	80	27FEB08 A	13FEB09	27FEB08 A	15OCT08
S1AEA120	DN1050 Pipe & Manhole (P/S - Outfall)	12	-108d	0	12FEB09	25FEB09	30SEP08	15OCT08
S1AEA130	Construct Flow Meter Chamber	12	-143d	0	16APR09	29APR09	23OCT08	05NOV08
S1AEA140	Construct U-Channel & Catchpits	30	-143d	0	16APR09	21MAY09	23OCT08	26NOV08
S1AEA150	Lay Ducts & Construct Drawpits	6	-143d	0	09APR09	15APR09	16OCT08	22OCT08
S1AEA190	CCTV Inspection of Pipeline	1	-73d	0	26FEB09	26FEB09	26NOV08	26NOV08
Pipework - Rising Main								
Trench Method								
S1AFA100	Twin Rising Main DN700	6	-98d	0	14FEB09	20FEB09	16OCT08	22OCT08
Earthworks								
S1AG2600	Extract Sheetpile	10	-95d	70	03APR08 A	31JAN09	03APR08 A	04OCT08
S1AG2700	Trim & Compact Formation of Paved Areas	6	-143d	0	16APR09	22APR09	23OCT08	29OCT08
Roads and Pavings								
S1AH1000	Lay 250mm Granular Fill Material Base	4	-143d	0	23APR09	27APR09	30OCT08	03NOV08
S1AH1100	Construct Concrete Paved Areas	18	-143d	0	28APR09	19MAY09	04NOV08	24NOV08
In-Situ Concrete								
S1AL1900	Apply Anticorrosion Concrete Coating System	32	-95d	80	10OCT08 A	07FEB09	10OCT08 A	13OCT08
S1AL2100	Construct Boundary Wall	45	-143d	25	18OCT08 A	18MAY09	18OCT08 A	22NOV08
Finishings								
S1AQ1000	Apply Internal Finishes	60	-63d	75	10OCT08 A	14FEB09	10OCT08 A	26NOV08

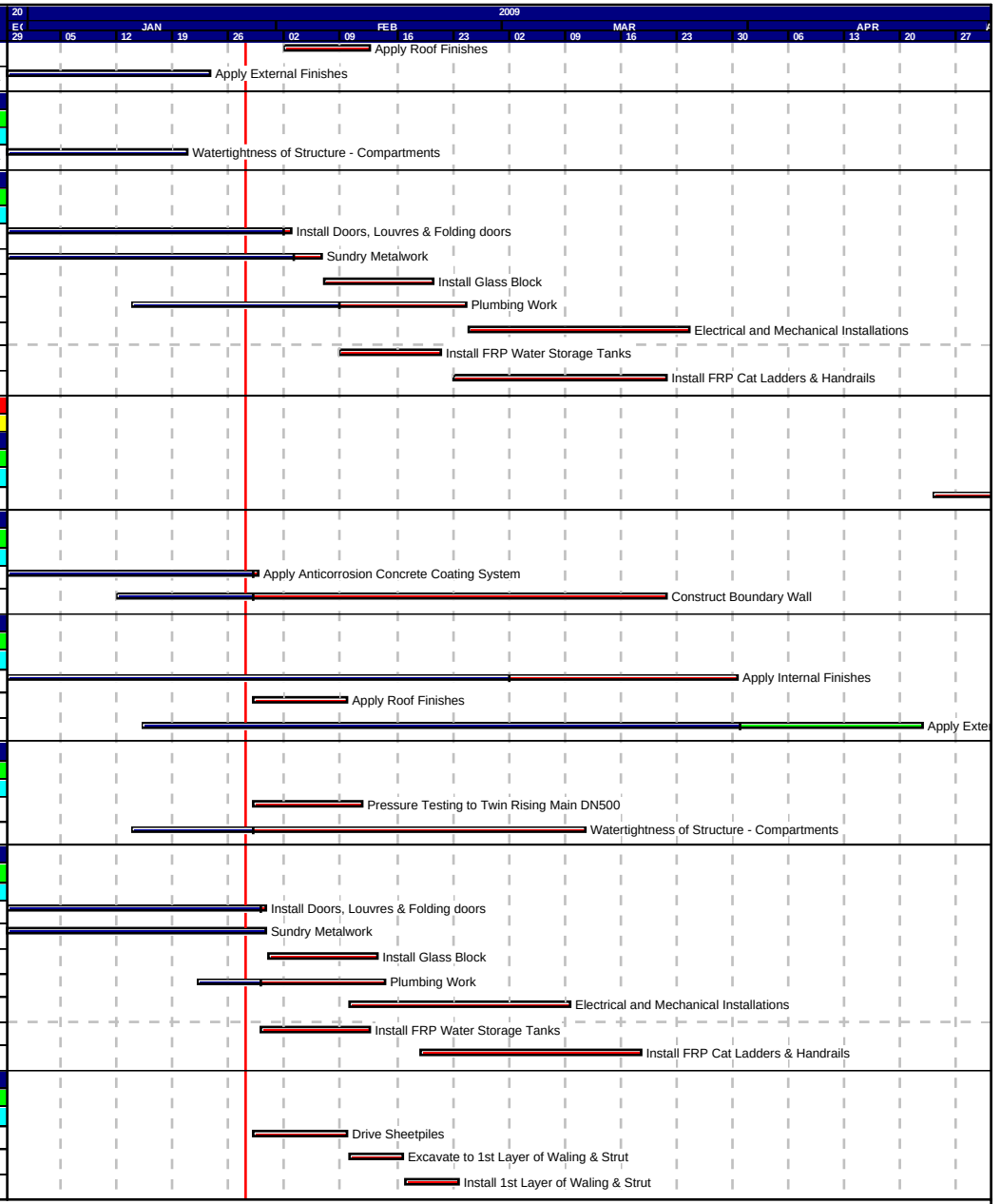


Start date	19DEC05
Finish date	13NOV10
Data date	28JAN09
Page number	1A

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 January 2009

Early bar
Progress bar
Critical bar
Summary bar
Start milestone poin
Finish milestone po

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S1AQ1050	Apply Roof Finishes	10	-61d	0	02FEB09	12FEB09	15NOV08	26NOV08
S1AQ1100	Apply External Finishes	30		100	23OCT08 A	23JAN09 A	23OCT08 A	23JAN09 A
Testing								
S1AS1100	Watertightness of Structure - Compartments	72		100	10NOV08 A	20JAN09 A	10NOV08 A	20JAN09 A
Miscellaneous								
S1AT1000	Install Doors, Louvres & Folding doors	30	-47d	95	14OCT08 A	02FEB09	14OCT08 A	02DEC08
S1AT1100	Sundry Metalwork	12	-44d	60	15DEC08 A	06FEB09	15DEC08 A	10DEC08
S1AT1200	Install Glass Block	12	-44d	0	07FEB09	20FEB09	11DEC08	24DEC08
S1AT1300	Plumbing Work	24	-95d	40	14JAN09 A	24FEB09	14JAN09 A	29OCT08
S1AT1400	Electrical and Mechanical Installations	24	-95d	0	25FEB09	24MAR09	30OCT08	26NOV08
S1AT1500	Install FRP Water Storage Tanks	12	-93d	0	09FEB09	21FEB09	16OCT08	29OCT08
S1AT1600	Install FRP Cat Ladders & Handrails	24	-93d	0	23FEB09	21MAR09	30OCT08	26NOV08
Section 2 - Sha Po Sewage Pumping Station								
Portion B								
Drainage and Ducts								
Trench Method								
S2BEA100	DN900 Pipe & Manhole (F1 - P/S)	12	-156d	0	24APR09	08MAY09	16OCT08	29OCT08
In-Situ Concrete								
S2BL1800	Apply Anticorrosion Concrete Coating System	24	-111d	95	10DEC08 A	29JAN09	10DEC08 A	11SEP08
S2BL2000	Construct Boundary Wall	47	-120d	5	12JAN09 A	21MAR09	12JAN09 A	25OCT08
Finishings								
S2BQ1000	Apply Internal Finishes	50	-111d	50	09DEC08 A	30MAR09	09DEC08 A	13NOV08
S2BQ1050	Apply Roof Finishes	10	-69d	0	29JAN09	09FEB09	03NOV08	13NOV08
S2BQ1100	Apply External Finishes	25	27d	25	15JAN09 A	22APR09	15JAN09 A	25MAY09
Testing								
S2BS1000	Pressure Testing to Twin Rising Main DN500	12	-71d	0	29JAN09	11FEB09	31OCT08	13NOV08
S2BS1100	Watertightness of Structure - Compartments	66	-111d	45	14JAN09 A	11MAR09	14JAN09 A	25OCT08
Miscellaneous								
S2BT1000	Install Doors, Louvres & Folding doors	30	-82d	95	22DEC08 A	30JAN09	22DEC08 A	20OCT08
S2BT1100	Sundry Metalwork	12	-82d	95	27DEC08 A	30JAN09	27DEC08 A	20OCT08
S2BT1200	Install Glass Block	12	-82d	0	31JAN09	13FEB09	21OCT08	03NOV08
S2BT1300	Plumbing Work	24	-103d	40	22JAN09 A	14FEB09	22JAN09 A	10OCT08
S2BT1400	Electrical and Mechanical Installations	24	-103d	0	10FEB09	09MAR09	04OCT08	01NOV08
S2BT1500	Install FRP Water Storage Tanks	12	-106d	0	30JAN09	12FEB09	19SEP08	03OCT08
S2BT1600	Install FRP Cat Ladders & Handrails	24	-111d	0	19FEB09	18MAR09	04OCT08	01NOV08
Additonal Works / Disruption								
Revised B/Wall Details at SPPS (Claim No.030)								
S2BV2000	Drive Sheetpiles	10	-485d	0	29JAN09	09FEB09	11JUN07	22JUN07
S2BV2010	Excavate to 1st Layer of Waling & Strut	6	-485d	0	10FEB09	16FEB09	23JUN07	29JUN07
S2BV2020	Install 1st Layer of Waling & Strut	6	-485d	0	17FEB09	23FEB09	30JUN07	07JUL07

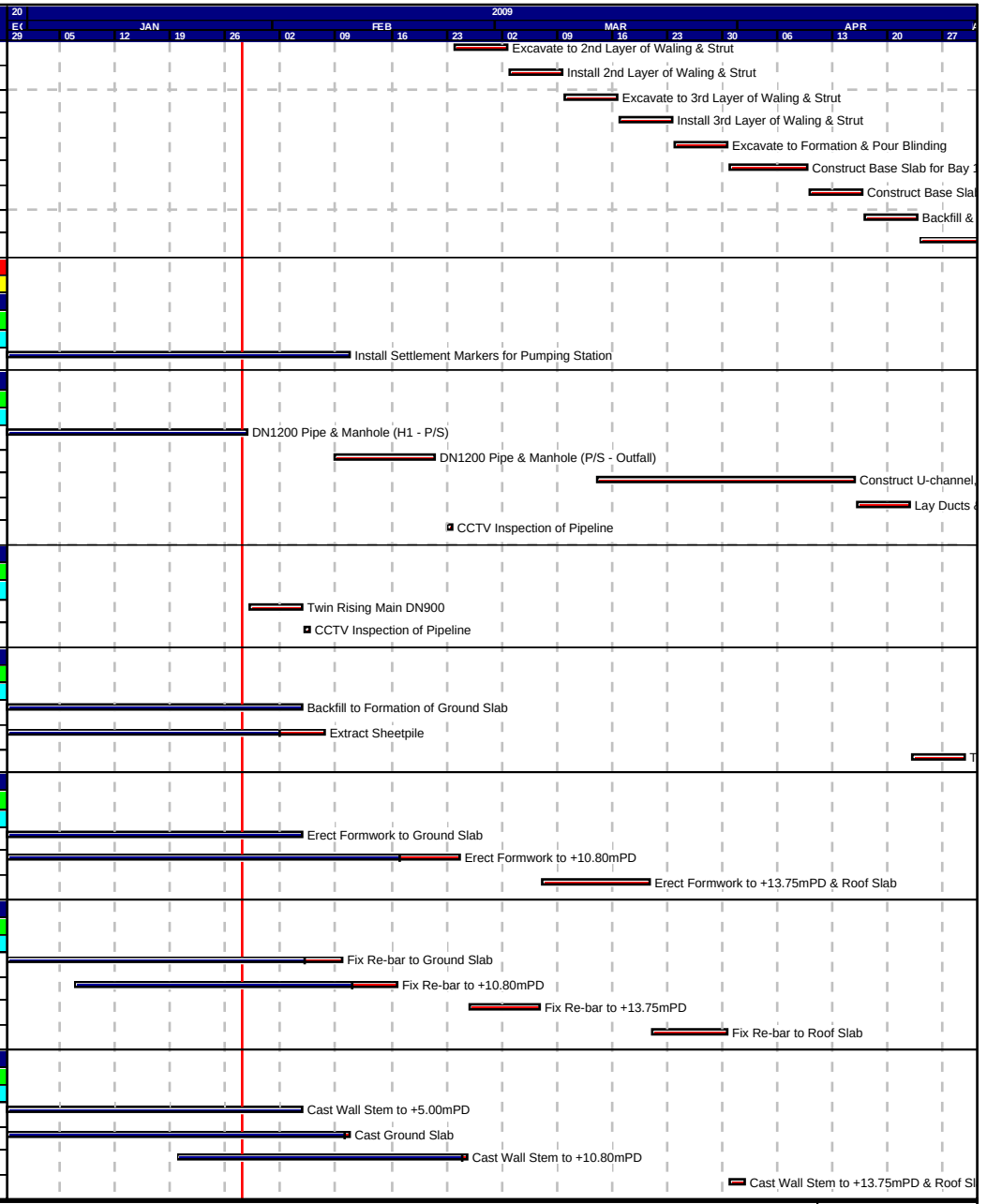


Start date 19DEC05
Finish date 13NOV10
Data date 28JAN09
Page number 2A

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 January 2009

Early bar
Progress bar
Critical bar
Summary bar
Start milestone poin
Finish milestone po

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S2BV2030	Excavate to 2nd Layer of Waling & Strut	6	-485d	0	24FEB09	02MAR09	09JUL07	14JUL07
S2BV2040	Install 2nd Layer of Waling & Strut	6	-485d	0	03MAR09	09MAR09	16JUL07	21JUL07
S2BV2050	Excavate to 3rd Layer of Waling & Strut	6	-485d	0	10MAR09	16MAR09	23JUL07	28JUL07
S2BV2060	Install 3rd Layer of Waling & Strut	6	-485d	0	17MAR09	23MAR09	30JUL07	04AUG07
S2BV2070	Excavate to Formation & Pour Blinding	6	-485d	0	24MAR09	30MAR09	06AUG07	11AUG07
S2BV2080	Construct Base Slab for Bay 1 & 3	8	-485d	0	31MAR09	09APR09	13AUG07	21AUG07
S2BV2090	Construct Base Slab for Bay 2 & 4	6	-485d	0	10APR09	16APR09	22AUG07	28AUG07
S2BV2100	Backfill & Remove 3rd Layer of Waling & Strut	6	-485d	0	17APR09	23APR09	29AUG07	04SEP07
S2BV2110	Construct Wall Stem 1st Lift for Bay 1 & 3	8	-485d	0	24APR09	04MAY09	05SEP07	13SEP07
Section 3 - Nam Sang Wai Sewage Pumping Station								
Portion C								
Ground Investigation								
S3CB1700	Install Settlement Markers for Pumping Station	2	-180d	75	01DEC07 A	10FEB09	01DEC07 A	04JUL08
Drainage and Ducts								
Trench Method								
S3CEA100	DN1200 Pipe & Manhole (H1 - P/S)	12		100	13JUN08 A	28JAN09	13JUN08 A	28JAN09
S3CEA140	DN1200 Pipe & Manhole (P/S - Outfall)	12	-184d	0	09FEB09	21FEB09	27JUN08	11JUL08
S3CEA150	Construct U-channel, Dish Channel & Catchpit	27	-184d	0	14MAR09	15APR09	01AUG08	01SEP08
S3CEA160	Lay Ducts & Construct Drawpit	6	-184d	0	16APR09	22APR09	02SEP08	08SEP08
S3CEA210	CCTV Inspection of Pipeline	1	-97d	0	23FEB09	23FEB09	25OCT08	25OCT08
Pipework - Rising Main								
Trench Method								
S3CFA100	Twin Rising Main DN900	6	-184d	0	29JAN09	04FEB09	17JUN08	23JUN08
S3CFA120	CCTV Inspection of Pipeline	1	-94d	0	05FEB09	05FEB09	11OCT08	11OCT08
Earthworks								
S3CG2800	Backfill to Formation of Ground Slab	8	-184d	95	20OCT08 A	04FEB09	20OCT08 A	23JUN08
S3CG2900	Extract Sheetpile	11	-184d	45	04NOV08 A	07FEB09	04NOV08 A	26JUN08
S3CG3000	Trim & Compact Formation of Paved Areas	6	-184d	0	23APR09	29APR09	09SEP08	16SEP08
Formwork								
S3CJ1600	Erect Formwork to Ground Slab	8	-180d	90	15NOV08 A	04FEB09	15NOV08 A	27JUN08
S3CJ1700	Erect Formwork to +10.80mPD	12	-180d	40	23DEC08 A	24FEB09	23DEC08 A	18JUL08
S3CJ1800	Erect Formwork to +13.75mPD & Roof Slab	12	-180d	0	07MAR09	20MAR09	30JUL08	12AUG08
Steel Reinforcement								
S3CK1500	Fix Re-bar to Ground Slab	8	-180d	50	26NOV08 A	09FEB09	26NOV08 A	03JUL08
S3CK1600	Fix Re-bar to +10.80mPD	8	-180d	40	07JAN09 A	16FEB09	07JAN09 A	10JUL08
S3CK1700	Fix Re-bar to +13.75mPD	8	-180d	0	26FEB09	06MAR09	21JUL08	29JUL08
S3CK1800	Fix Re-bar to Roof Slab	8	-180d	0	21MAR09	30MAR09	13AUG08	21AUG08
In-Situ Concrete								
S3CL1550	Cast Wall Stem to +5.00mPD	2	-184d	75	03OCT08 A	04FEB09	03OCT08 A	23JUN08
S3CL1600	Cast Ground Slab	2	-180d	50	18DEC08 A	10FEB09	18DEC08 A	04JUL08
S3CL1700	Cast Wall Stem to +10.80mPD	2	-180d	40	20JAN09 A	25FEB09	20JAN09 A	19JUL08
S3CL1800	Cast Wall Stem to +13.75mPD & Roof Slab	2	-180d	0	31MAR09	01APR09	22AUG08	23AUG08

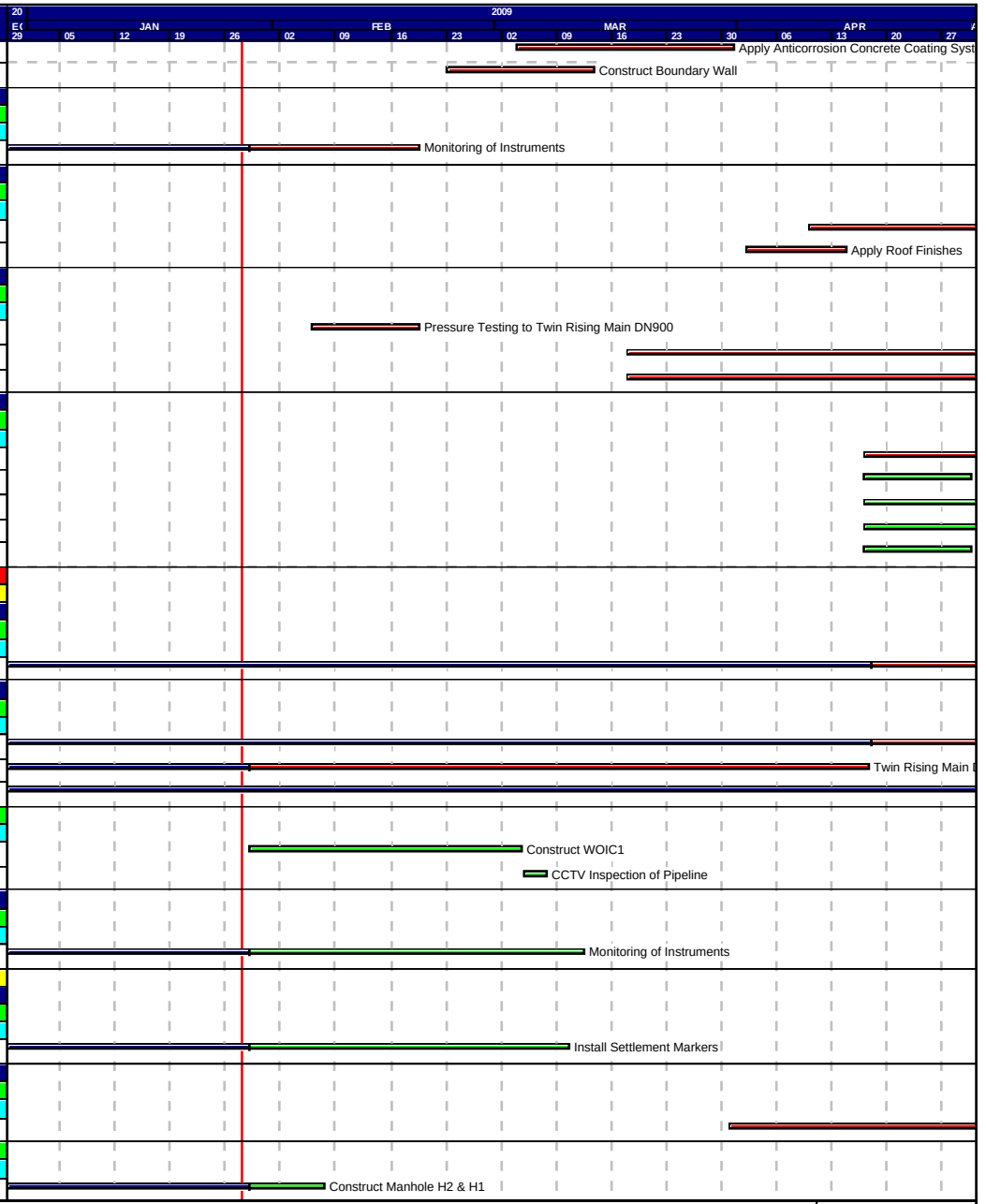


Start date 19DEC05
Finish date 13NOV10
Data date 28JAN09
Page number 3A

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 January 2009

Early bar
Progress bar
Critical bar
Summary bar
Start milestone poin
Finish milestone po

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S3CL1900	Apply Anticorrosion Concrete Coating System	24	-176d	0	04MAR09	31MAR09	31JUL08	27AUG08
S3CL2100	Construct Boundary Wall	17	-184d	0	23FEB09	13MAR09	12JUL08	31JUL08
Geotechnical works								
S3CP1000	Monitoring of Instruments	787	-94d	98	06APR06 A	19FEB09	06APR06 A	25OCT08
Finishings								
S3CQ1000	Apply Internal Finishes	45	-180d	0	10APR09	03JUN09	01SEP08	25OCT08
S3CQ1050	Apply Roof Finishes	10	-139d	0	02APR09	14APR09	15OCT08	25OCT08
Testing								
S3CS1000	Pressure Testing to Twin Rising Main DN900	12	-94d	0	06FEB09	19FEB09	13OCT08	25OCT08
S3CS1100	Watertightness of Structure - Grid D-E	40	-176d	0	18MAR09	05MAY09	14AUG08	30SEP08
S3CS1210	Watertightness of Structure - Grid F-G	40	-176d	0	18MAR09	05MAY09	14AUG08	30SEP08
Miscellaneous								
S3CT1000	Install Doors, Louvres & Folding doors	30	-180d	0	17APR09	22MAY09	08SEP08	15OCT08
S3CT1100	Sundry Metalwork	12	8d	0	17APR09	30APR09	27APR09	11MAY09
S3CT1300	Plumbing Work	24	8d	0	17APR09	15MAY09	27APR09	25MAY09
S3CT1400	Electrical and Mechanical Installations	24	8d	0	17APR09	15MAY09	27APR09	25MAY09
S3CT1500	Install FRP Water Storage Tanks	12	8d	0	17APR09	30APR09	27APR09	11MAY09
Section 4 - Sewers & RM in Portion D, F, G, H, I								
Portion D								
Drainage and Ducts								
Trench Method								
S4DEA100	DN1200 Pipe & Manhole (G1-Treatment Plant)	60	-6d	40	31MAR08 A	01JUN09	31MAR08 A	23MAY09
Pipework - Rising Main								
Trench Method								
S4DFA110	Twin Rising Main DN900 (ChA1850- WOIC1)	101	-15d	55	15DEC06 A	12JUN09	15DEC06 A	25MAY09
S4DFA120	Twin Rising Main DN900 (ChA2095 - ChA2215)	148	-15d	55	20DEC07 A	17APR09	20DEC07 A	30MAR09
S4DFA130	CCTV Inspection of Plpeline	5	-1d	20	16AUG08 A	12MAY09	16AUG08 A	11MAY09
Trenchless Method								
S4DFB110	Construct WOIC1	30	22d	0	29JAN09	04MAR09	24FEB09	30MAR09
S4DFB120	CCTV Inspection of Pipeline	3	53d	0	05MAR09	07MAR09	08MAY09	11MAY09
Geotechnical works								
S4DP1000	Monitoring of Instruments	602	61d	94	02NOV06 A	12MAR09	02NOV06 A	25MAY09
Portion F								
Ground Investigation								
S4FB1500	Install Settlement Markers	698	63d	95	27APR06 A	10MAR09	27APR06 A	25MAY09
Drainage and Ducts								
Trench Method								
S4FEA100	DN900 Pipe & Manhole (H8 - H7) 1st Stage	53	-77d	0	31MAR09	03JUN09	24DEC08	02MAR09
Trenchless Method								
S4FEB104	Construct Manhole H2 & H1	27	84d	65	27SEP08 A	07FEB09	27SEP08 A	19MAY09

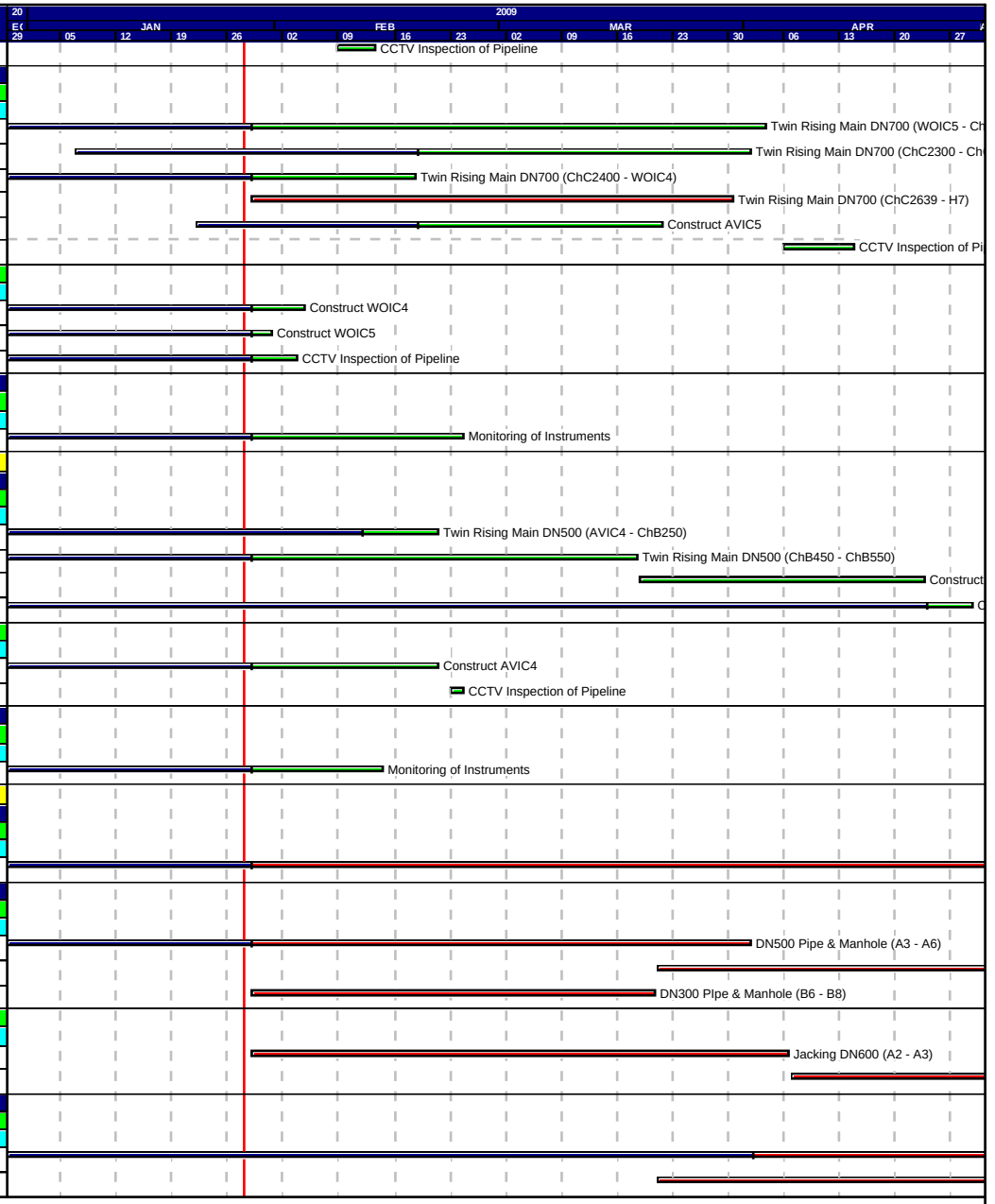


Startdate 19DEC05
Finish date 13NOV10
Data date 28JAN09
Page number 4A

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 January 2009

Early bar
Progress bar
Critical bar
Summary bar
Start milestone poin
Finish milestone po

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S4FEB160	CCTV Inspection of Pipeline	5	84d	0	09FEB09	13FEB09	20MAY09	25MAY09
Pipework - Rising Main								
Trench Method								
S4FFA130	Twin Rising Main DN700 (WOIC5 - ChC2000)	80	22d	30	05JUN08 A	03APR09	05JUN08 A	30APR09
S4FFA200	Twin Rising Main DN700 (ChC2300 - ChC2350)	45	24d	20	07JAN09 A	01APR09	07JAN09 A	30APR09
S4FFA220	Twin Rising Main DN700 (ChC2400 - WOIC4)	93	24d	80	13SEP08 A	18FEB09	13SEP08 A	18MAR09
S4FFA230	Twin Rising Main DN700 (ChC2639 - H7)	52	-77d	0	29JAN09	30MAR09	24OCT08	23DEC08
S4FFA240	Construct AVIC5	30	33d	10	22JAN09 A	21MAR09	22JAN09 A	30APR09
S4FFA260	CCTV Inspection of Pipeline	8	22d	0	06APR09	14APR09	02MAY09	11MAY09
Trenchless Method								
S4FFB120	Construct WOIC4	30	36d	80	10JUN08 A	04FEB09	10JUN08 A	18MAR09
S4FFB130	Construct WOIC5	30	75d	90	28JUN08 A	31JAN09	28JUN08 A	30APR09
S4FFB140	CCTV Inspection of Pipeline	5	81d	10	16AUG08 A	03FEB09	16AUG08 A	11MAY09
Geotechnical works								
S4FP1000	Monitoring of Instruments	772	75d	97	05JUN06 A	24FEB09	05JUN06 A	25MAY09
Portion G								
Pipework - Rising Main								
Trench Method								
S4GFA100	Twin Rising Main DN500 (AVIC4 - ChB250)	98	60d	90	26JUN08 A	21FEB09	26JUN08 A	05MAY09
S4GFA130	Twin Rising Main DN500 (ChB450 - ChB550)	84	9d	50	16JAN08 A	18MAR09	16JAN08 A	28MAR09
S4GFA170	Construct WOIC3	30	9d	0	19MAR09	23APR09	30MAR09	05MAY09
S4GFA190	CCTV Inspection of Pipeline	9	9d	50	06MAR07 A	29APR09	06MAR07 A	11MAY09
Trenchless Method								
S4GFB110	Construct AVIC4	30	60d	30	09JUL08 A	21FEB09	09JUL08 A	05MAY09
S4GFB120	CCTV Inspection of Pipeline	2	63d	0	23FEB09	24FEB09	09MAY09	11MAY09
Geotechnical works								
S4GP1000	Monitoring of Instruments	720	83d	98	22APR06 A	14FEB09	22APR06 A	25MAY09
Portion H								
Ground Investigation								
S4HB1300	Install Settlement Markers	727	-35d	82	26MAY06 A	07JUL09	26MAY06 A	25MAY09
Drainage and Ducts								
Trench Method								
S4HEA100	DN500 Pipe & Manhole (A3 - A6)	90	-105d	40	03OCT08 A	01APR09	03OCT08 A	22NOV08
S4HEA190	DN300 Pipe & Manhole (B4 - B6)	67	-179d	0	21MAR09	10JUN09	14AUG08	03NOV08
S4HEA200	DN300 PIpe & Manhole (B6 - B8)	44	-179d	0	29JAN09 *	20MAR09	23JUN08	13AUG08
Trenchless Method								
S4HEB102	Jacking DN600 (A2 - A3)	57	-105d	0	29JAN09	06APR09	19SEP08	26NOV08
S4HEB104	Construct Manholes A2 & A3	27	-105d	0	07APR09	08MAY09	27NOV08	30DEC08
Pipework - Rising Main								
Trench Method								
S4HFA100	Twin Rising Main DN700 (ChC63 - ChC170)	45	-7d	40	08OCT08 A	05MAY09	08OCT08 A	25APR09
S4HFA180	Twin Rising Main DN700 (ChC850 - ChC950)	125	-95d	0	21MAR09	18AUG09	24NOV08	25APR09

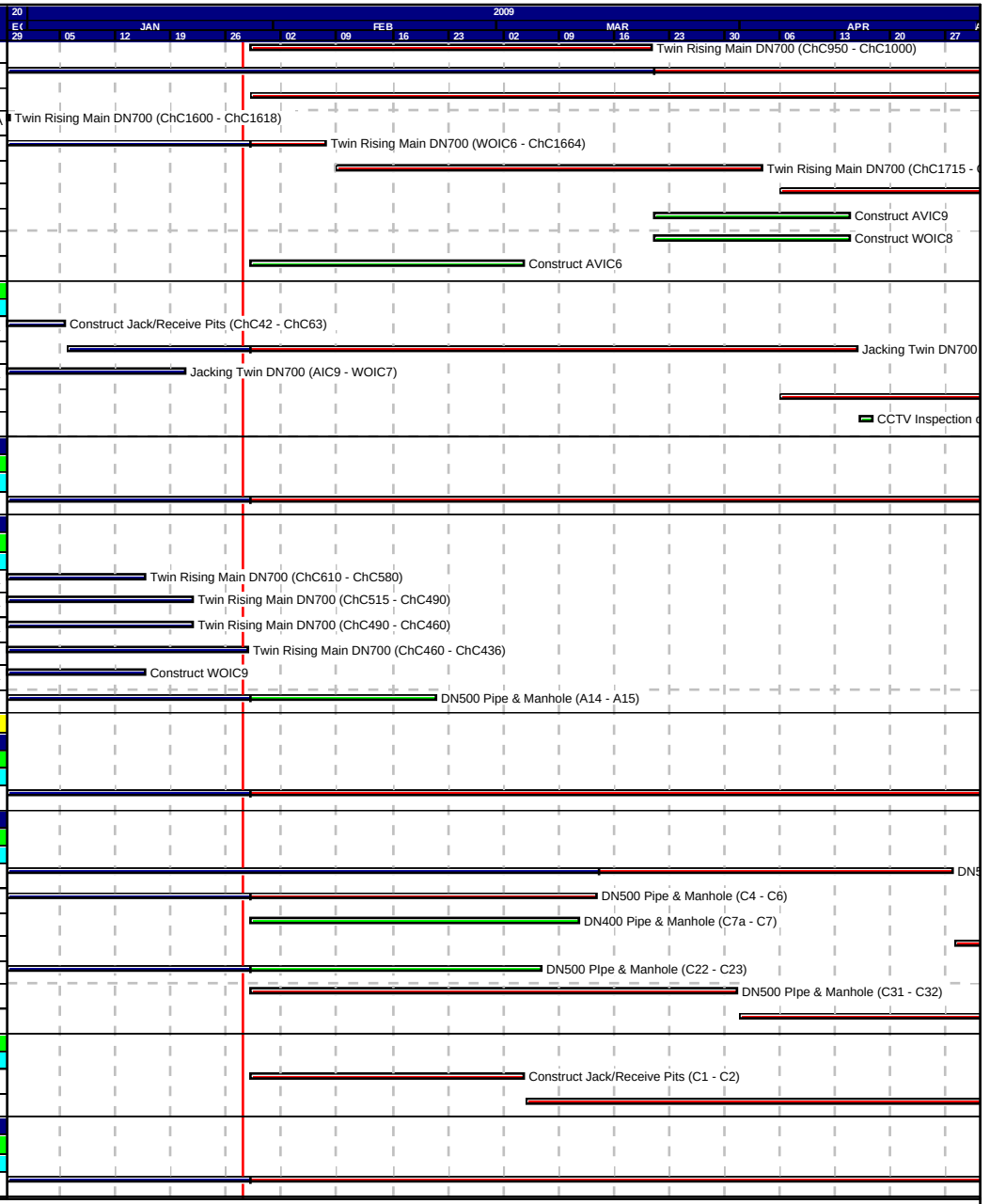


Start date 19DEC05
Finish date 13NOV10
Data date 28JAN09
Page number 5A

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 January 2009

Early bar
Progress bar
Critical bar
Summary bar
Start milestone poin
Finish milestone po

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S4HFA190	Twin Rising Main DN700 (ChC950 - ChC1000)	44	-95d	0	29JAN09	20MAR09	02OCT08	22NOV08
S4HFA220	Twin Rising Main DN700 (ChC1250 - WOIC7)	104	-32d	40	20AUG08 A	04JUN09	20AUG08 A	25APR09
S4HFA240	Twin Rising Main DN700 (ChC1450 - ChC1550)	110	-160d	0	29JAN09	09JUN09	16JUL08	24NOV08
S4HFA250	Twin Rising Main DN700 (ChC1600 - ChC1618)	44		100	10JUN08 A	29DEC08 A	10JUN08 A	29DEC08 A
S4HFA251	Twin Rising Main DN700 (WOIC6 - ChC1664)	47	-106d	80	12JUN08 A	07FEB09	12JUN08 A	27SEP08
S4HFA261	Twin Rising Main DN700 (ChC1715 - ChC1750)	47	-106d	0	09FEB09	03APR09	29SEP08	24NOV08
S4HFA270	Twin Rising Main DN700 (ChC1750 - AVIC6)	124	-106d	0	06APR09	31AUG09	25NOV08	25APR09
S4HFA300	Construct AVIC9	20	10d	0	21MAR09	14APR09	02APR09	25APR09
S4HFA310	Construct WOIC8	20	10d	0	21MAR09	14APR09	02APR09	25APR09
S4HFA350	Construct AVIC6	30	44d	0	29JAN09	04MAR09	21MAR09	25APR09
Trenchless Method								
S4HFB100	Construct Jack/Receive Pits (ChC42 - ChC63)	57		100	24OCT08 A	05JAN09 A	24OCT08 A	05JAN09 A
S4HFB102	Jacking Twin DN700 (ChC42 - ChC63)	65	-143d	0	06JAN09 A	15APR09	06JAN09 A	22OCT08
S4HFB112	Jacking Twin DN700 (AIC9 - WOIC7)	69		100	05DEC08 A	20JAN09 A	05DEC08 A	20JAN09 A
S4HFB120	Construct WOIC7	30	-74d	0	06APR09	11MAY09	05JAN09	11FEB09
S4HFB130	CCTV Inspection of Pipeline	2	19d	0	16APR09	17APR09	09MAY09	11MAY09
Geotechnical works								
S4HP1000	Monitoring of Instruments	947	-94d	80	26MAY06 A	14SEP09	26MAY06 A	25MAY09
Additional Works / Disruption								
Re-alignment btn ChC420 & ChC607 (Claim No. 118)								
S4HV1310	Twin Rising Main DN700 (ChC610 - ChC580)	40		100	23JUL08 A	15JAN09 A	23JUL08 A	15JAN09 A
S4HV1340	Twin Rising Main DN700 (ChC515 - ChC490)	20		100	06OCT08 A	21JAN09 A	06OCT08 A	21JAN09 A
S4HV1350	Twin Rising Main DN700 (ChC490 - ChC460)	20		100	06OCT08 A	21JAN09 A	06OCT08 A	21JAN09 A
S4HV1360	Twin Rising Main DN700 (ChC460 - ChC436)	20		100	10OCT08 A	28JAN09	10OCT08 A	28JAN09
S4HV1380	Construct WOIC9	20		100	29AUG08 A	15JAN09 A	29AUG08 A	15JAN09 A
S4HV1410	DN500 Pipe & Manhole (A14 - A15)	30	53d	30	24OCT08 A	21FEB09	24OCT08 A	25APR09
Portion I								
Ground Investigation								
S4IB1300	Install Settlement Markers	736	-60d	79	26JUN06 A	05AUG09	26JUN06 A	25MAY09
Drainage and Ducts								
Trench Method								
S4IEA1000	DN500 Pipe & Manhole (C2 - C4)	58	-65d	35	24DEC08 A	27APR09	24DEC08 A	09FEB09
S4IEA1020	DN500 Pipe & Manhole (C4 - C6)	76	-65d	50	27AUG08 A	13MAR09	27AUG08 A	20DEC08
S4IEA1200	DN400 Pipe & Manhole (C7a - C7)	36	62d	0	29JAN09	11MAR09	13APR09	25MAY09
S4IEA1330	DN500 Pipe & Manhole (C11 - C12)	35	-65d	0	28APR09	09JUN09	10FEB09	21MAR09
S4IEA1920	DN500 PIpe & Manhole (C22 - C23)	65	58d	50	28NOV08 A	06MAR09	28NOV08 A	15MAY09
S4IEA2320	DN500 PIpe & Manhole (C31 - C32)	53	-164d	0	29JAN09	31MAR09	11JUL08	10SEP08
S4IEA2400	DN500 PIpe & Manhole (C32 - C34)	70	-164d	0	01APR09	24JUN09	11SEP08	04DEC08
Trenchless Method								
S4IEB1000	Construct Jack/Receive Pits (C1 - C2)	30	-52d	0	29JAN09	04MAR09	22NOV08	29DEC08
S4IEB1020	Jacking DN500 (C1 - C2)	78	-52d	0	05MAR09	06JUN09	30DEC08	03APR09
Geotechnical works								
S4IP1000	Monitoring of Instruments	827	-76d	79	28JUN06 A	24AUG09	28JUN06 A	25MAY09

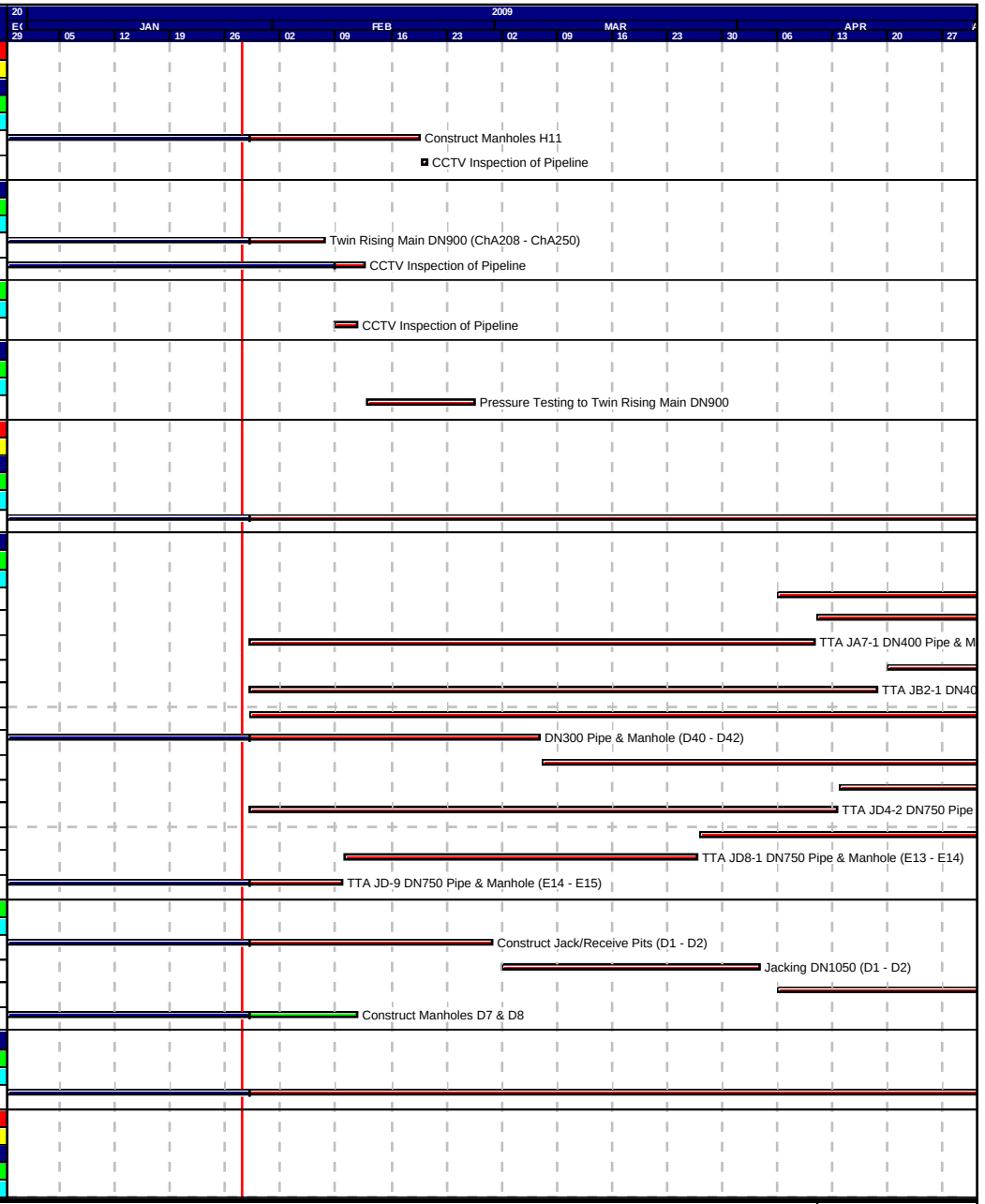


Start date	19DEC05
Finish date	13NOV10
Data date	28JAN09
Page number	6A

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 January 2009

Early bar
Progress bar
Critical bar
Summary bar
Start milestone poin
Finish milestone po

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Section 5 - Sewers & RM in Portion E								
Portion E								
Drainage and Ducts								
Trenchless Method								
S5EEB104	Construct Manholes H11	27	-74d	30	09OCT08 A	19FEB09	09OCT08 A	18NOV08
S5EEB110	CCTV Inspection of Pipeline	1	-74d	0	20FEB09	20FEB09	19NOV08	19NOV08
Pipework - Rising Main								
Trench Method								
S5EFA100	Twin Rising Main DN900 (ChA208 - ChA250)	33	-79d	70	23MAY08 A	07FEB09	23MAY08 A	31OCT08
S5EFA430	CCTV Inspection of Pipeline	20	-79d	80	16AUG08 A	12FEB09	16AUG08 A	05NOV08
Trenchless Method								
S5EFB110	CCTV Inspection of Pipeline	3	-78d	0	09FEB09	11FEB09	03NOV08	05NOV08
Testing								
S5ES1000	Pressure Testing to Twin Rising Main DN900	12	-79d	0	13FEB09	26FEB09	06NOV08	19NOV08
Section 6 - Sewers in Portion J								
Portion J								
Ground Investigation								
S6JB1500	Install Settlement Marker 1st Stage	765	-401d	35	20APR06 A	20SEP10	20APR06 A	25MAY09
Drainage and Ducts								
Trench Method								
S6JEA101	DN1050 Pipe & Manhole (D2 - D3)	78	-51d	0	06APR09	08JUL09	04FEB09	07MAY09
S6JEA170	TTA JA7-2 DN400 Pipe & Manhole (D14 - D15)	46	-421d	0	11APR09	05JUN09	09NOV07	04JAN08
S6JEA172	TTA JA7-1 DN400 Pipe & Manhole (D15 - D16)	61	-421d	0	29JAN09	10APR09	27AUG07	08NOV07
S6JEA190	TTA JB1-1 DN400 PIpe & Manhole (D20 - D21)	102	-147d	0	20APR09	19AUG09	22OCT08	24FEB09
S6JEA192	TTA JB2-1 DN400 PIpe & Manhole (D21 - D22)	68	-147d	0	29JAN09	18APR09	31JUL08	21OCT08
S6JEA240	TTA JB6-1 DN400 PIpe & Manhole (D28 - D30)	80	-445d	0	29JAN09	04MAY09	30JUL07	02NOV07
S6JEA320	DN300 Pipe & Manhole (D40 - D42)	65	-239d	50	09JAN08 A	06MAR09	09JAN08 A	19MAY08
S6JEA330	DN300 Pipe & Manhole (D42 - D44)	72	-239d	0	07MAR09	02JUN09	20MAY08	13AUG08
S6JEA420	TTA JD4-1 DN750 Pipe & Manhole (E7 - E8)	35	-249d	0	14APR09	25MAY09	14JUN08	25JUL08
S6JEA422	TTA JD4-2 DN750 Pipe & Manhole (E7 - E9)	63	-249d	0	29JAN09	13APR09	28MAR08	13JUN08
S6JEA460	TTA JD8-2 DN750 Pipe & Manhole (E12 - E13)	40	-298d	0	27MAR09	14MAY09	28MAR08	16MAY08
S6JEA462	TTA JD8-1 DN750 Pipe & Manhole (E13 - E14)	39	-298d	0	10FEB09	26MAR09	05FEB08	27MAR08
S6JEA470	TTA JD-9 DN750 Pipe & Manhole (E14 - E15)	69	-298d	85	13NOV07 A	09FEB09	13NOV07 A	04FEB08
Trenchless Method								
S6JEB100	Construct Jack/Receive Pits (D1 - D2)	28	-78d	5	25NOV08 A	28FEB09	25NOV08 A	22NOV08
S6JEB102	Jacking DN1050 (D1 - D2)	29	-78d	0	02MAR09	03APR09	24NOV08	29DEC08
S6JEB104	Construct Manholes D1 & D2	25	-78d	0	06APR09	05MAY09	30DEC08	31JAN09
S6JEB124	Construct Manholes D7 & D8	25	84d	50	25AUG08 A	11FEB09	25AUG08 A	22MAY09
Geotechnical works								
S6JP1000	Monitoring of Instruments	1152	-377d	59	21APR06 A	23AUG10	21APR06 A	25MAY09
Section 7 - Sewers in Portion K								
Portion K								
Drainage and Ducts								
Trench Method								

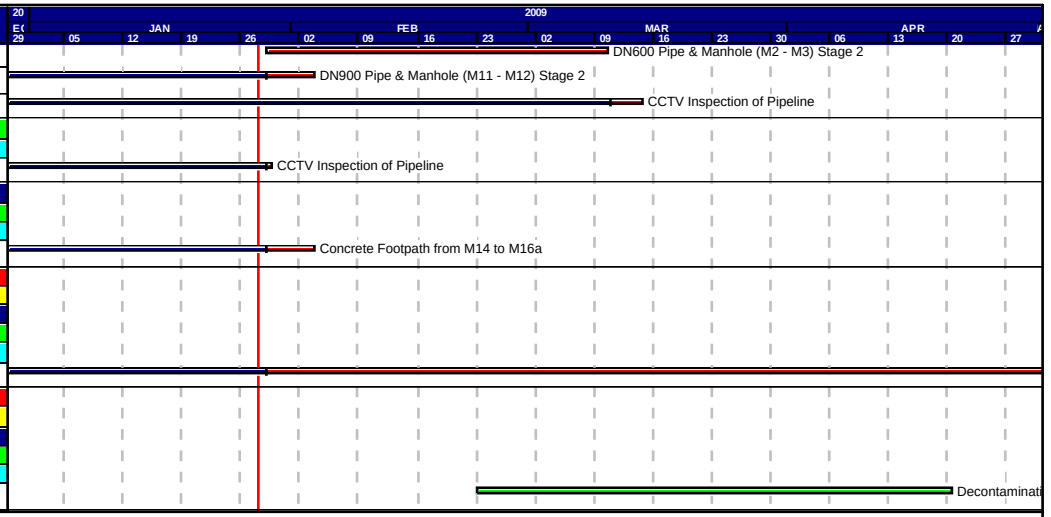


Start date	19DEC05
Finish date	13NOV10
Data date	28JAN09
Page number	7A

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 January 2009

Early bar
Progress bar
Critical bar
Summary bar
Start milestone poin
Finish milestone po

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S7KEA110	DN600 Pipe & Manhole (M2 - M3) Stage 2	35	-316d	0	29JAN09	10MAR09	03JAN08	15FEB08
S7KEA161	DN900 Pipe & Manhole (M11 - M12) Stage 2	54	-286d	90	20AUG08 A	03FEB09	20AUG08 A	15FEB08
S7KEA210	CCTV Inspection of Pipeline	5	-316d	30	16AUG08 A	14MAR09	16AUG08 A	20FEB08
Trenchless Method								
S7KEB130	CCTV Inspection of Pipeline	2	-278d	30	16AUG08 A	29JAN09	16AUG08 A	20FEB08
Roads and Pavings								
S7KH1000	Concrete Footpath from M14 to M16a	18	-282d	70	25OCT08 A	03FEB09	25OCT08 A	20FEB08
Section 8 - Preservation and Protection of Trees								
All Portions								
Landscape Softworks and Establishment Works								
S8QR1100	Preservation & Protection of Preserved Trees	744	-21d	84	29JUL06 A	19JUN09	29JUL06 A	25MAY09
Decontamination Works								
Portion H								
Decontamination								
S9HU1000	Decontamination Works	48	60d	0	23FEB09	20APR09	06MAY09	02JUL09



Start date 19DEC05
Finish date 13NOV10
Data date 28JAN09
Page number 8A

Leader Civil Engineering Corp. Ltd.
DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 28 January 2009

Early bar
Progress bar
Critical bar
Summary bar
Start milestone poin
Finish milestone po

ANNEX D

PHOTOGRAPHICAL RECORDS – NOISE BARRIER ON-SITE

ANNEX E

LOCATIONS OF MONITORING STATIONS

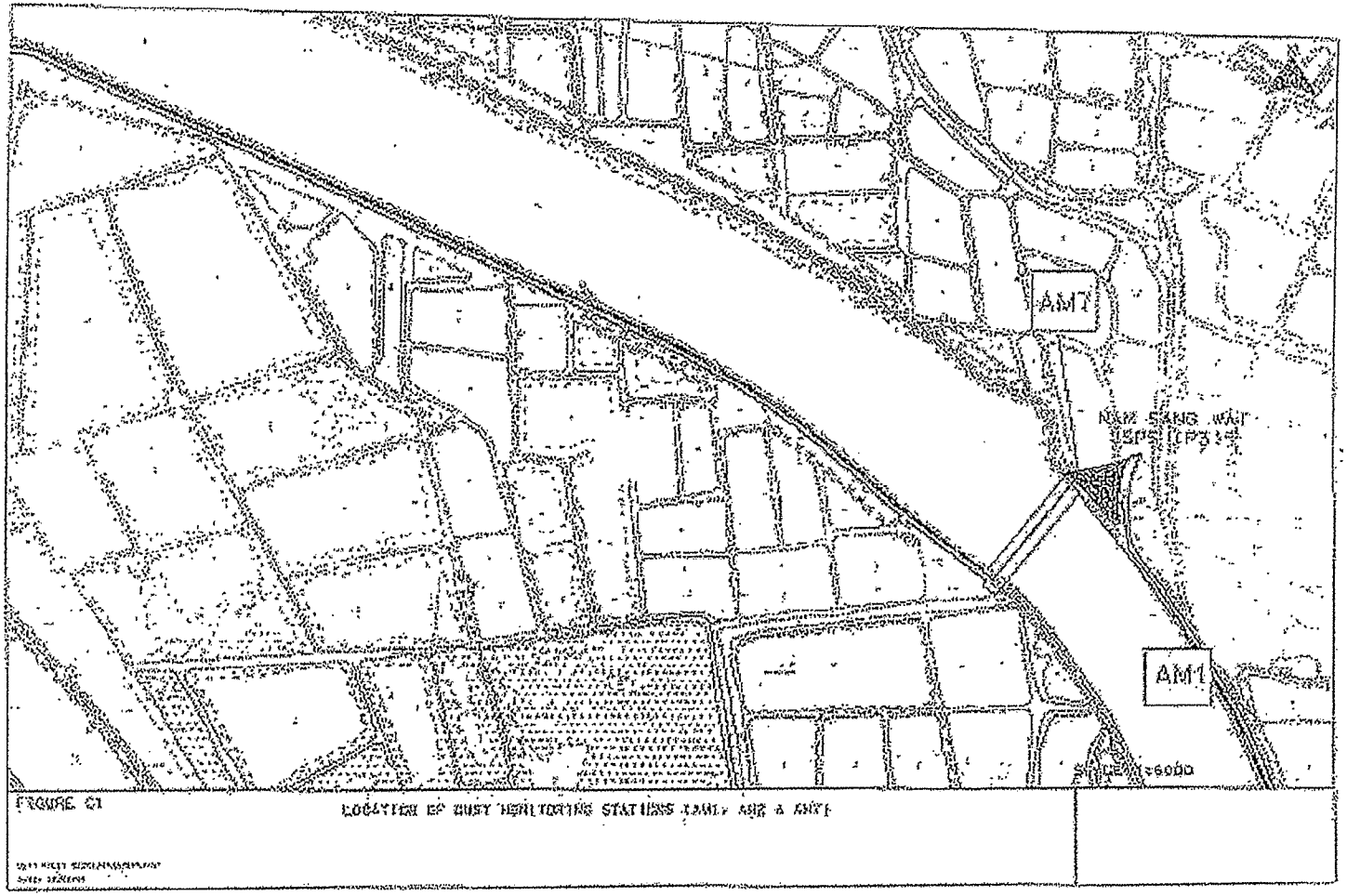


FIGURE 01 LOCATION OF DUST MONITORING STATIONS AM1 AND A AM1

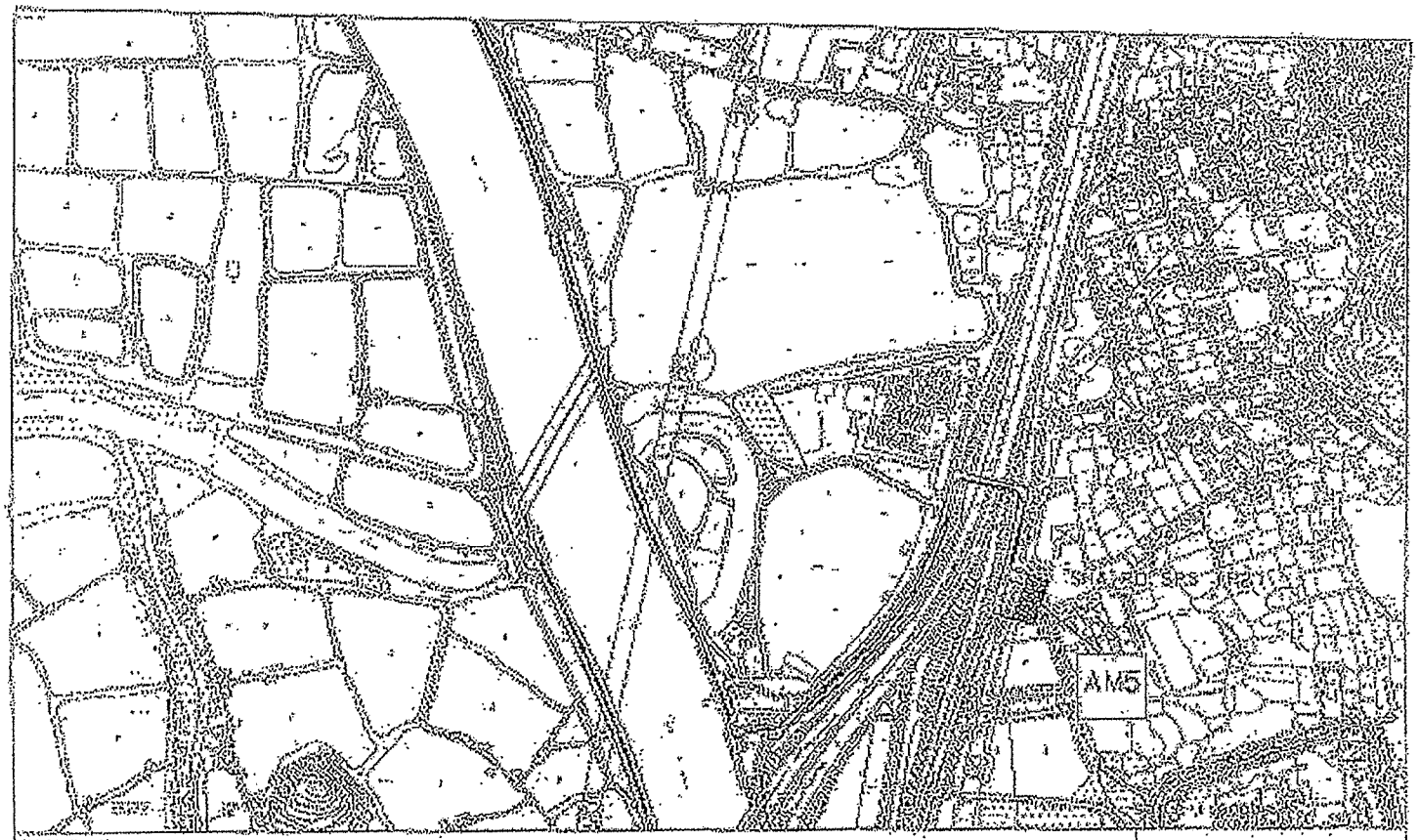


FIGURE 02

LOCATION OF DUST MONITORING STATIONS (AM5)

FIGURE 6.0 LOCATION OF DUST MONITORING STATIONS (AQM1, AMS & AQM10)

FIGURE 4.7 LOCATION OF NOISE MONITORING STATIONS (N01, N02, N03, N04)

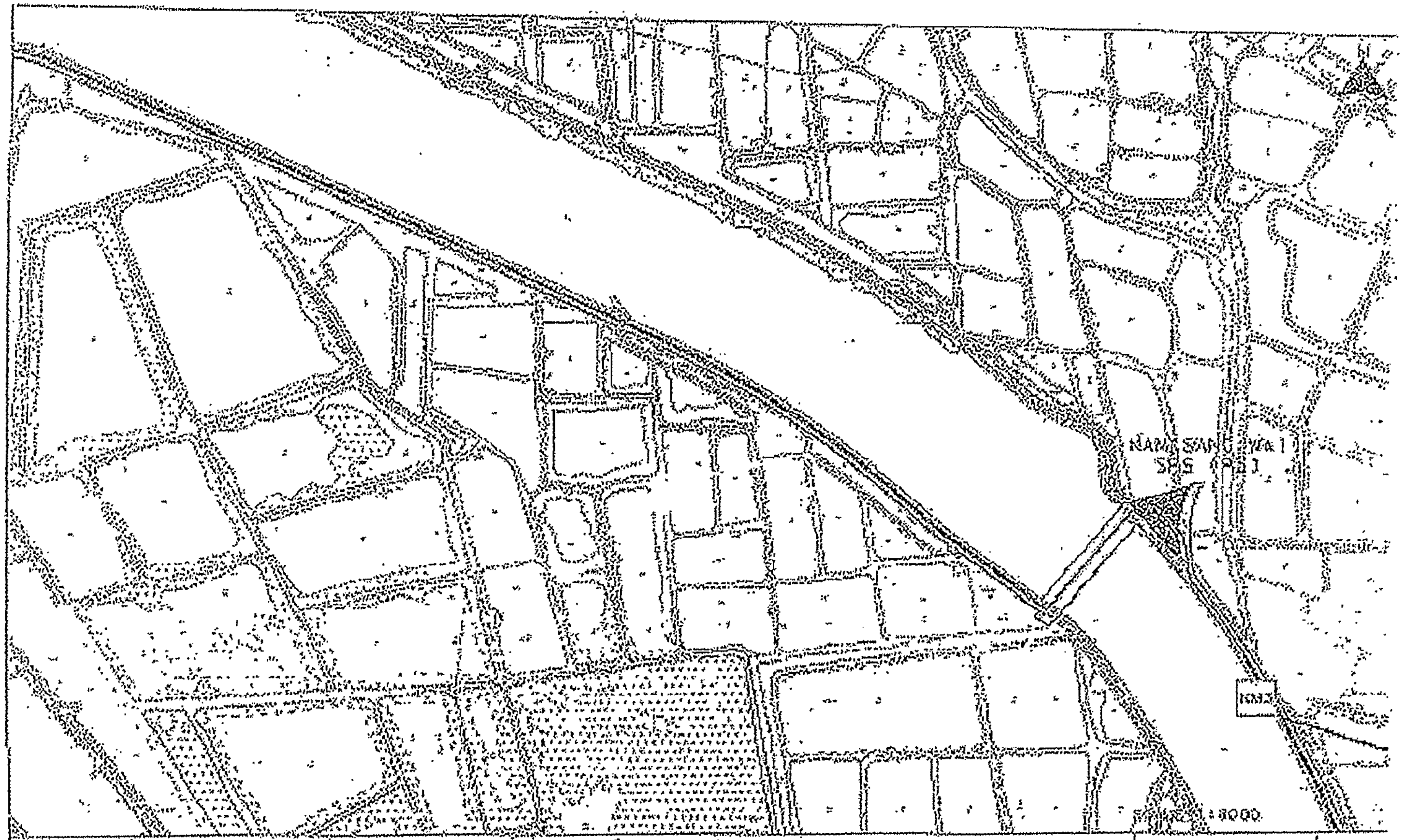


FIGURE C8

LOCATION OF NOISE MONITORING STATIONS (NM3, [illegible])

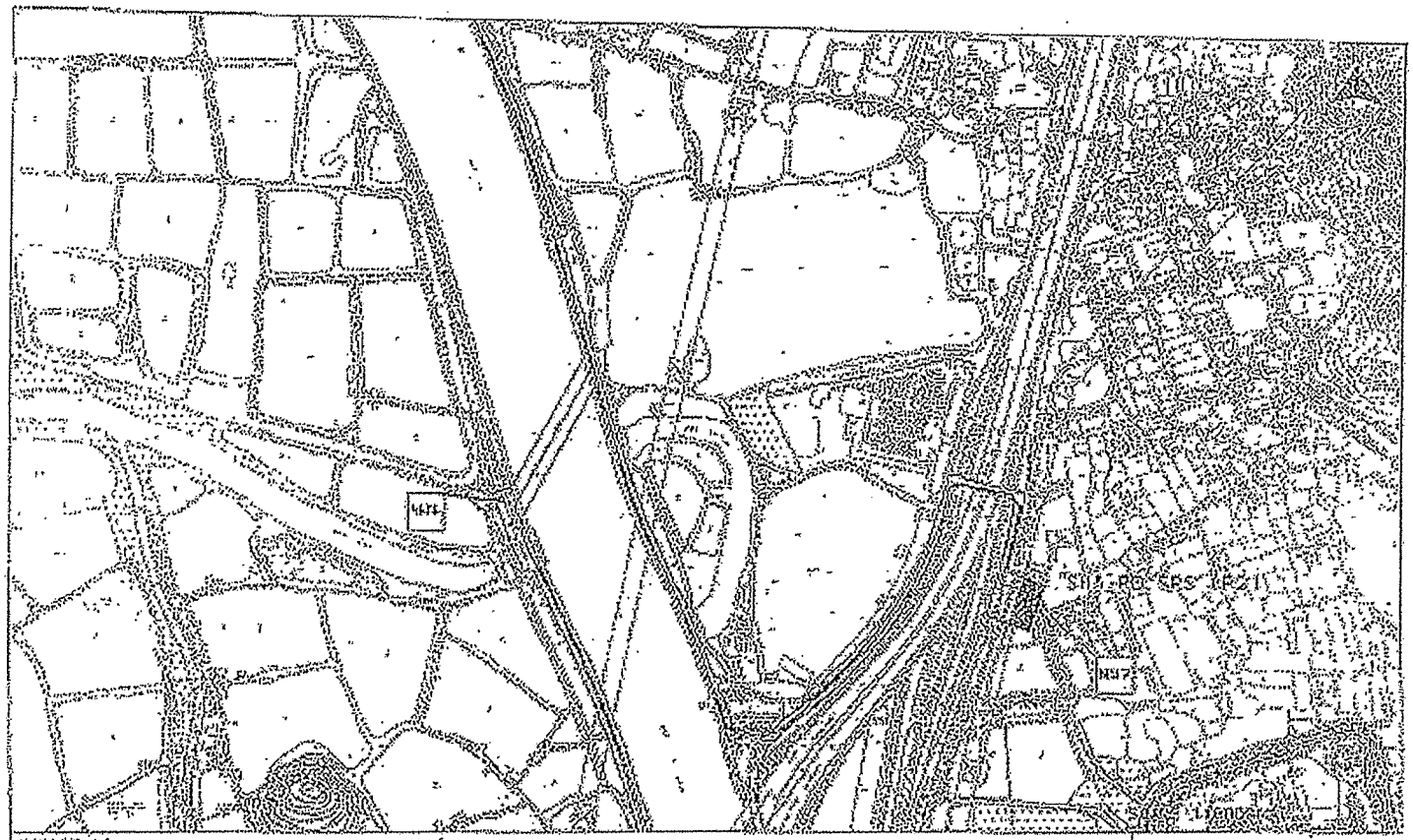


FIGURE 20.

LOCATION OF NOISE MONITORING STATIONS (NM1, NM2)

ANNEX F

EVENT AND ACTION PLAN

Event and Action Plan for Construction Phase Air Quality

EVENT	ACTION			
	ET Leader	**IEC**	**Engineer**	**Contractor**
Action Level				
Exceedance for one sample	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat dust measurements to confirm findings 3. Increase monitoring frequency to daily 4. Assess efficacy of remedial measures and keep the Contractor, IEC, and Engineer informed	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. Remind the Contractor of his contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC 4. Inform complainant of actions taken, if necessary	1. Rectify any unacceptable practice 2. Liaise with Engineer and IEC to develop appropriate remedial measures to reduce dust impact 3. Amend working methods and remedial proposals if required by the Engineer or IEC 4. Implement the agreed remedial actions upon instruction from the Engineer and IEC
Exceedance for two or more consecutive samples	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat measurements to confirm findings 3. Increase the monitoring frequency to daily to assess the efficacy of remedial measures and keep the Contractor informed 4. Discuss remedial actions with IEC and Contractor 5. If exceedance 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 monitoring	1. Check monitoring data submitted by ET 2. Check monitoring data trends and Contractors 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 contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC 4. Ensure remedial measures are properly implemented 5. Inform complainant of actions taken, if necessary.	1. Rectify any unacceptable practice, if possible 2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification 3. Discuss and amend remedial actions, if required, by the Engineer and IEC 4. 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

Event and Action Plan for Construction Phase Air Quality

EVENT	ACTION			
	ET Leader	**IEC**	**Engineer**	**Contractor**
Limit Level				
Exceedance for one sample	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat dust measurements to confirm findings 3. Increase monitoring frequency to daily 4. Assess efficacy of remedial measures and keep the Contractor, IEC, Engineer and EPD informed	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 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 contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC, 4. Ensure remedial measures are properly implemented 5. Inform complainant of actions taken, if necessary.	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification 3. Discuss and amend remedial actions, if required, by the Engineer and IEC 4. Implement the remedial action (s) immediately upon instruction from the Engineer 5. Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions
Exceedance for two or more consecutive samples	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat measurements to confirm findings 3. Increase the monitoring frequency to daily to assess the efficacy of remedial measures and keep the Contractor informed 4. Discuss remedial actions with IEC and Contractor 5. If exceedance 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 monitoring.	1. Discuss with Contractor and Engineer on possible remedial measures 2. Check and confirm Contractors proposed remedial measures are appropriate 3. 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 contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC 4. Ensure remedial measures are properly implemented 5. If exceedance continues, instruct the Contractor to stop the relevant portion of work until the exceedance is abated 6. Inform complainant of actions taken, if necessary.	1. Rectify any unacceptable practice, if possible 2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification 3. Discuss and amend remedial actions, if required, by the Engineer and IEC 4. Implement the remedial action (s) immediately upon instruction from the Engineer 5. Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions

Event and Action Plan for Construction Noise				
EVENT	**ACTION**			
	ET Leader	**IEC**	**Engineer**	**Contractor**
Limit Level				
Exceedance for one sample	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat dust measurements to confirm findings 3. If repeat measurements confirm exceedance ,increase monitoring frequency to daily 4. Assess efficacy of remedial measures and keep the Contractor, IEC, and Engineer informed 5. If exceedance stops, inform Contractor and cease additional noise monitoring	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. Remind the Contractor of his contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC 4. Inform complainant of actions taken, if necessary	1. Rectify any unacceptable practice 2. Liaise with Engineer and IEC to develop appropriate remedial measures to reduce noise impact 3. Amend working methods and remedial proposals if required by the Engineer or IEC 4. Implement the agreed remedial actions upon instruction from the Engineer and IEC
Exceedance for two or more consecutive samples	1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer 2. Repeat measurements to confirm findings 3. Increase the monitoring frequency to daily 4. Discuss remedial actions with IEC, Engineer and the EPD 5. Assess the efficacy of remedial measures and keep the Contractor informed 6. If exceedance continues, arrange meeting with Engineer, IEC and Contractor to review working practices and identify further remedial actions 7. If exceedance stops, inform the Contractor and cease additional monitoring.	1. Check monitoring data submitted by ET 2. Check monitoring data trends and Contractors 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 contractual obligations and review the Contractor's working methods 3. Discuss remedial actions with the Contractor and IEC 4. Ensure remedial measures are properly implemented 5. If exceedance continues, instruct the Contractor to stop the relevant portion of work until the exceedance is abated 6. Inform complainant of actions taken, if necessary.	1. Rectify any unacceptable practice, if possible 2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification 3. Discuss and amend remedial actions, if required, by the Engineer and IEC 4. Implement the remedial action (s) immediately upon instruction from the Engineer 5. Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions 6. Stop the relevant portion of work as determined by the Engineer until the exceedance is abated

ANNEX G

MITIGATION IMPLEMENTATION SCHEDULE

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		CONSTRUCTION PHASE								
		AIR QUALITY - *Construction Phase*								
		The following measures are enforceable under the *Air Pollution Control (Construction Dust) Regulations*								
		Site boundary and entrance								
3.5	A1	• where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the boundaries of the seven pumping stations sites and the works area where the Engineer's site office and the Contractor's site office erected;	To prevent access to the site and control potential dust impacts from construction works.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part III, Clause 13 (c), Air Pollution Control (Construction Dust) Regulations*
		Access Road								
3.5	A2	• the portion of any road leading only to a construction site that is within 30 m of a discernible or designated vehicle entrance or exit should be kept clear of dusty materials;	To control potential dust impacts from vehicle movements.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part III, Clause 14, (b), Air Pollution Control (Construction Dust) Regulations*
		Stockpiling of Dusty Materials								
3.5	A3	• any stockpile of dusty materials should be either covered entirely by impervious sheeting and placed in an area sheltered on the top and the 3 sides or sprayed with water so as to maintain the entire surface wet;	To control potential dust impacts during excavation and stockpiling activities.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part IV, Clause 18, (a, b & c), Air Pollution Control (Construction Dust) Regulations*
		Loading, unloading or transfer of dusty materials								
3.5	A4	• all dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading and unloading so as to maintain the dusty materials wet;	To control potential dust impacts during material handling and truck movements.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part IV, Clause 19, Air Pollution Control (Construction Dust) Regulations*
		Use of vehicles								
3.5	A5	• every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving a construction site;	To control potential dust impacts from vehicle movements.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part IV, Clause 21, (1), Air Pollution Control (Construction*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
3.5	A6	• where a vehicle leaving a construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;	To control potential dust impacts during material transportation.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Dust) Regulations Part IV, Clause 21, (2), Air Pollution Control (Construction Dust) Regulations*
		Power-driven drilling, and cutting								
3.5	A7	• water should be continuously sprayed on the surface where any mechanical breaking operation that causes dust emission is carried out, unless the process is accompanied by the operation of an effective dusty extraction and filtering device;	To control potential dust impacts during mechanical breaking.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part IV, Clause 22, Air Pollution Control (Construction Dust) Regulations*
		Excavation and earth moving								
3.5	A8	• the working area of excavation should be sprayed with water immediately before, during and immediately after the operation so as to maintain the entire surface wet;	To control potential dust impacts arising from excavation works.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Part IV, Clause 24, Air Pollution Control (Construction Dust) Regulations*
		Construction of the superstructure of a building								
3.5	A9	• where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the round floor level of the SPS, or if a canopy is provided a the first floor level, from the first floor level, up to the highest level of the scaffolding; and	To control potential dust impacts from SPS building construction works.	Full duration of SPS construction contract.	The Contractor		✓			*Part I, Clause 6, (a), Air Pollution Control (Construction Dust) Regulations*
3.5	A10	• any skip hoist for material transport should be totally enclosed by the impervious sheeting.	To control potential dust impacts during material transportation.	Full duration of SPS construction contract.	The Contractor		✓			*Part I, Clause 6, (b), Air Pollution Control (Construction Dust) Regulations*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		NOISE - *Construction Phase*								
		General Site Clearance – Demolition Works								
4.7.1	B1	• Use of quiet PME which meet the SWLs taken from British Standard, *Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997 (Examples of these PME are shown in Table F2)*,	To control potential noise impacts during site clearance and demolition works	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
		Construction of Sewage Pumping Stations P1, P2 & P3								
4.7.1	B2	• Use of quiet PME which meet the SWLs taken from British Standard, *Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997*,	To minimise potential noise impacts arising during the construction of *P1, P2 & P3*	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
		• Adoption of temporary noise barrier, in the form of a site hoarding (with a superficial density of at least 20kg/m2, with no substantial gaps), along the site boundary of the pumping station sites.	To minimise potential noise impacts arising during the construction of *P1, P2 & P3*	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
		Sewers and Rising Mains using Open Trench Method								
4.7.1	B3	• Use of quiet PME which meet the SWLs taken from British Standard, *Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997*,	To control potential noise impacts during excavation works.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
4.7.1	B4	• Use of handheld breakers for all initial road opening activities, when breaking tarmac/concrete road surface to a depth of 300mm or when granular material is reached.	To control potential noise impacts during road opening activities.	Where there are NSRs located within 50m of the line of sight. Throughout the full duration of the road opening activities.	The Contractor		✓			
4.7.1	B5	• Use of movable noise barriers or 3 sided enclosures for all initial road opening activities	To control potential noise impacts during road opening	Where there are NSRs located within 50m of the	The Contractor		✓			

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		enclosures for all initial road opening activities (breaking tarmac/concrete road surface to a depth of 300mm or when granular material is reached), where there are NSRs located within 50m of the line of sight from the works area.	activities.	line of sight. Throughout the full duration of the road opening activities.						
		Sewers and Rising Mains using Pipe Jacking Method								
4.7.1	B6	• Use of quiet PME which meet the SWLs taken from British Standard, *Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997*,	To control potential noise impacts from PME during construction works	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
		Road Pavement and Finishes								
4.7.1	B7	• Use of quiet PME which meet the SWLs taken from British Standard, *Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997*,	To control potential noise impacts from PME during pavement and finish works	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Annex 5 of EIAO-TM*
		WATER QUALITY - *Construction Phase*								
		No water quality monitoring is required under this study.								
		WASTE - *Construction Phase*								
6.6.2	D1	The Contractor shall obtain the necessary waste disposal permits from the appropriate authorities for the disposal of chemical and C&D waste, • Chemical Waste Producer and Chemical Waste Disposal Licence *(Waste Disposal (Chemical Waste) (General) Regulations); and* • Dumping Licence (*Land (Miscellaneous Provisions) Ordinance (Cap 28))*	To monitor the collection, handling and disposal of chemical waste and C&D waste, and in compliance with relevant Hong Kong Standards and Regulations.	Site wide and throughout the full duration of the construction contract.	The Contractor	✓	✓			*Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste)(General) Regulation (Cap 354), the Land (Miscellaneous Provisions) Ordinance (Cap 28))*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		Chemical Waste								
6.6.2	D2	Chemical waste that is produced, as defined by Schedule 1 of the *Waste Disposal (Chemical Waste) (General) Regulation,* should be handled in accordance with the regulations and Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows. All chemical waste producers should be registered with the EPD.	To control the handling, storage and disposal of chemical waste, in order to minimise potential spillages/leakages and human health and environmental impacts.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			*Part II, (6) Waste Disposal (Chemical Waste) (General) Regulation*
		Storage, Packaging and Labelling of Chemical Waste								
6.6.2	D3	Containers used for storage of chemical wastes should: • be 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 L unless the specifications have been approved by the EPD; and • display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.	To ensure the proper storage, packaging and labelling of chemical waste in accordance with the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			*Part IV, (9, 10, 11 & 12) Waste Disposal (Chemical Waste) (General) Regulation*
		Storage of chemical waste								
6.6.2	D4	The storage area for chemical wastes should: • be clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3 sides; • have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste, if necessary); and • be arranged so that incompatible materials are	To ensure the proper storage of chemical waste in accordance with the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			*Part IV, (13,14, 15, 16, 17, & 18) Waste Disposal (Chemical Waste) (General) Regulation*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		adequately separate								
		Disposal of chemical waste • The Contractor should ensure that the disposal of chemical waste is via a licensed Waste Collector and in accordance with the *Waste Disposal (Chemical Waste) (General) Regulations*.	To control the disposal of chemical waste in accordance with the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			*Part IV, (20 -25) Waste Disposal (Chemical Waste) (General) Regulation*
6.6.2	D5	*Management of Waste Disposal* A trip-ticket system should be established which monitors the disposal of C&DM and solid wastes at public filling facilities and landfills and to control fly-tipping, in accordance with *Land (Miscellaneous Provisions) Ordinance (Cap28)* and the *Works Bureau Technical Circular No. 5/99.*	To monitor the disposal of C&DM and solid wastes at public filling facilities and landfills and to control fly-tipping.	To be implemented at all worksites throughout the full duration of the construction phase.	The Engineer/ Contractor		✓			*Land (Miscellaneous Provisions) Ordinance (Cap 295) and Works Bureau Technical Circular No. 5/99.*
		LAND CONTAMINATION- *Construction Phase*								
7.5.6	E1	A revised CAP should be submitted to the EPD for approval before the commencement of the construction works. Following receipt of the EPD's approval, the CAP shall be implemented and the findings of the investigations will be reported in the Contaminated Assessment Report (CAR), before ground disturbance is allowed at the concerned sites. If land contamination is confirmed, a Remediation Action Plan (RAP) shall be prepared, and both the CAR and the RAP shall be submitted as a combined report to the EPD for approval before disturbing the ground of the concerned sites. If applicable and required in consultation with the	To determine the presence of soil and groundwater contamination and remedy any potential concerns to acceptable levels.	To be implemented before the commencement of the construction works.	To be Implemented by DSD or their sub-consultants at the Detailed Design Stage, depending upon when site access can be gained.	✓				*EIAO TM Annex 19/3.1.1 & 3.1.2*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		EPD, the contaminated site(s) shall be remediated in accordance with the approved CAR/RAP.								
		ECOLOGY - *Construction Phase*								
		Mitigation Measures Adopted - Avoidance								
8.7.1	F1	Construction activities shall be prohibited during the winter season (November to March) along the section of the proposed sewerage alignment, which fall within the Deep Bay Wetland Conservation Area and the Deep Bay Wetland Buffer Area (WCA and WBA) and close to the locations of ecologically sensitive species (including Intermediate Egret, Black-faced Spoonbill, Buzzard, Imperial Eagle and Avocet). (See Figure 8.7a attached). Regular site inspections (at least twice a month) should be conducted by the Environmental Team during the winter season (November to March) to ensure proper implementation of this restriction	To schedule construction works in order to minimise potential impacts to winter visiting birds. To be confirmed by regular site inspections.	At identified location (*Figure 8.7a*) for the full duration of the construction contract.	The Contractor		✓			
		Mitigation Measures Adopted - Minimisation								
8.7.2	F2	Pipe jacking method should be used instead of dredging where sewers and rising mains cross over existing MDC within the WCA and WBA.	To minimise potential construction noise impacts to ecological sensitive receivers within the WCA/WBA.	For the full duration of the construction contract.	The Contractor		✓			
8.7.2	F4	Regular inspections (at least twice a month) should be conducted by the ET during the winter season (November to March) for the remaining sections of the proposed sewerage alignment (including parts of S4, S5 and S6) within the WCA and WBA, where construction activities cannot be rescheduled. The site inspections shall check and report the number of workfronts and implementation of	To schedule noisy construction activities to minimise potential impacts to winter visiting birds.	Work fronts other than identified sections within WBA & WCA (see *Figure 8.7a* attached) throughout the full duration of the construction contract.	The Contractor		✓			

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		mitigation measures (i.e. erection of movable noise barriers with a suitable footing along the sites) in the monthly EM&A reports. ***Mitigation Measures Adopted***								
8.7.3	F5	Quietened construction plant and equipment (as shown in *Table F2*) should be used for the construction of pumping stations (P3 and P2) and sewerage alignment (S4, S5 and S6) located within the WCA and WBA.	Quiet construction plant shall minimise potential noise impacts to the wildlife, particularly rare birds including Black-faced Spoonbill, Buzzard, Hobby, Imperial Eagle, Intermediate Egret, Avocet and Black-eared Kite	At described locations and throughout the full duration of the construction contract.	The Contractor		✓			
8.7.4	F6	Erection of fences along the boundary of pumping station construction sites (P1 to P3) before the commencement of construction works to prevent tipping, vehicle movements, and encroachment of personnel into adjacent areas, and P2 to avoid disturbance to the remaining pond areas (0.7 ha);	To erect fences to prevent encroachment of construction activities onto adjacent areas.	At P1 to P3 for full duration of the construction contract.	The Contractor		✓			
8.7.4	F7	No filling and dumping to the remaining abandoned fishpond at P2.	To avoid disturbance to abandoned fishponds from construction activities and illegal dumping.	At P2 for full duration of the construction contract	The Contractor		✓			
8.7.4	F8	Installation and operation of silt removal facilities at construction sites of P1 to P3. The silt removal facilities should be designed in accordance with Appendix A1 of ProPECC Note PN1/94 Construction Site Drainage. The minimal total combined volume of the silt removal facilities at Nam Sang Wai SPS (P3) should be 15m^3.	To install silt removal facilities in potentially impact streams and ponds to prevent sedimentation.	At P1 to P3 for full duration of the construction contract.	The Contractor		✓			
8.7.4	F9	No open fires within the site boundary during	To prohibit open fires, thereby	Site wide and throughout	The Contractor		✓			*Air Pollution Control*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		construction and provide temporary fire fighting equipment in the work areas.	minimising potential damage to trees and shrubs.	the full duration of the construction contract.						*(Open Burning) Regulation*
8.7.4	F7	No filling and dumping to the remaining abandoned fishpond at P2.	To avoid disturbance to abandoned fishponds from construction activities and illegal dumping.	At P2 for full duration of the construction contract	The Contractor		✓			
8.7.4	F8	Installation and operation of silt removal facilities at construction sites of P1 to P3. The silt removal facilities should be designed in accordance with Appendix A1 of ProPECC Note PN1/94 Construction Site Drainage.	To install silt removal facilities in potentially impact streams and ponds to prevent sedimentation.	At P1 to P3 for full duration of the construction contract.	The Contractor		✓			
8.7.4	F9	No open fires within the site boundary during construction and provide temporary fire fighting equipment in the work areas.	To prohibit open fires, thereby minimising potential damage to trees and shrubs.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Air Pollution Control (Open Burning) Regulation*
		FISHERIES - *Construction Phase* No specific mitigation measures are required for inclusion in the EP.								
		CULTURAL HERITAGE – Not Applicable for Package 1A-1T (DC/2005/02)								
		LANDSCAPE AND VISUAL - ***Construction Phase***								
	H1	The site inspections shall check and report the implementation of mitigation measures (i.e. top-soil are reused and new compensatory planting works are carried out immediately after the construction of the civil structure) in the monthly EM&A reports. The first monthly EM&A Report should also report the appearance of the temporary hoarding barriers.	To minimise potential landscape and visual impacts.	To be implemented during the construction phases of the project.	The Contractor		✓			
	H2	Prior to application for an Environmental Permit, a set of landscape plans and building elevations of the proposed pumping stations should be	To minimise potential landscape and visual impacts.	To be implemented during the design and construction phases of the	DSD and The Contractor	✓	✓			

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
		submitted for approval by the EPD. The landscape plans and pumping station elevations should demonstrate that the following elements are considered: • existing landscape elements (such as mature trees), transplantation of valuable trees, new compensatory planting		project.						
		• incorporate information on materials, details and textures so as to be as visually recessive as possible and in a style that fits with the surrounding village buildings. • colour should be of low chromatic intensity to reduce the potential contrast between the structures and their background. The external finishing of the Pumping Stations shall be designed in conjunction with the landscape scheme. • a minimum screen planting of 3m width and use of trees with a dense canopy of up to 5 m in height subject to constraints such as engineering and land availability. • felling of mature trees are kept to a minimum.								
3.7	I1	**EM&A REQUIEMENTS - *Construction Phase*** *Air Quality* Subject to the Environmental Protection Departments (EPDs) agreement, construction phase dust monitoring shall be undertaken at the following locations in accordance with the recommendations of the EIA. • Worksite boundary facing Scattered house in Nam Sang Wai (AM1); • Worksite boundary facing Fung Kat Heung (AM5); • Worksite boundary facing Scattered House near Route 3 (AM6);	Installations of the dust monitoring stations to ensure the action and limit levels are not exceeded.	At specified dust monitoring locations for the duration of the construction works.	To be undertaken by the Environmental Team (ET) and reviewed and audited by the Engineer /DSD		✓			*Air Pollution Control (Construction Dust) Regulations*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
4.9.1	I2	• at any additional locations, where considered necessary, in agreement with EPD. *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 EIA. • (NM3) Scattered House in Nam San Wai (D12); • (NM4) Scattered House in Nam San Wai (D11); • (NM6) Scattered House near Route 3 (D17); • (NM7) Fung Kat Heung (D19); • and at any additional locations, where considered necessary, in agreement with EPD	Installations of the noise monitoring stations to ensure the action and limit levels are not exceeded.	At specified noise monitoring locations throughout the duration of the construction works.	To be undertaken by the Environmental Team (ET) and reviewed and audited by the Engineer		✓			*Noise Control Ordinance*
Des = Design, C = Construction, O = Operation, Dec = Decommissioning										

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

Items	Aspect	Description of Equipment	Serial No.	Date of Calibration	Date of Next Calibration
1*	Air	Greasby Anderson GMWS2310 High Volume Sampler	0329 (AM1)	1 Apr 09	1 Jun 09
2*		Greasby Anderson GMWS2310 High Volume Sampler	(AM5)	1 Apr 09	1 Jun 09
3*		Greasby Anderson GMWS2310 High Volume Sampler	(AM6)	1 Apr 09	1 Jun 09
4*		Greasby Anderson GMWS2310 High Volume Sampler	1283 (AM7)	1 Apr 09	1 Jun 09
5	Noise	Bruel & Kjaer 4231 Acoustical Calibrator	2326408	22 Apr 08	22 Apr 09
6		Bruel & Kjaer 2238 Integrating Sound Level Meter	2285762	22 Apr 08	22 Apr 09
7*		Bruel & Kjaer 4231 Acoustical Calibrator	2326408	28 Apr 09	28 Apr 10
8*		Bruel & Kjaer 2238 Integrating Sound Level Meter	T212509	28 Apr 09	28 Apr 10

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.
** Calibration will be done in next reporting month.

輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C092057

Certificate of Calibration

This is to certify that the equipment

Description : Sound Level Meter (EQ002)

Manufacturer : Cesva

Model No. : SC-20c

Serial No. : T212509

has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C092057.

The equipment is supplied by

Co. Name : Action-United Environmental Services and Consulting

Address : Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

Date of Issue : 28 April 2009

Certified by : K C Lee

The test equipment used for calibration are traceable to the National Standards as specified in this report.
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com

輝創工程有限公司
Sun Creation Engineering Limited Calibration and Testing Laboratory

Report No. : C092057

Calibration Report

ITEM TESTED

DESCRIPTION : Sound Level Meter (EQ002)
MANUFACTURER : Cesva
MODEL NO. : SC-20c
SERIAL NO. : T212509

TEST CONDITIONS

AMBIENT TEMPERATURE : (23 ± 2)°C RELATIVE HUMIDITY : (55 ± 20)%
LINE VOLTAGE : ---

TEST SPECIFICATIONS

Calibration check

DATE OF TEST : 27 April 2009 ***JOB NO.*** : IC09-0962

TEST RESULTS

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Tested by : *H C Chan* *Date : 28 April 2009*

Report No. : C092057

Calibration Report

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using external calibrator, Cesva CB-5, S/N : 030934 was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C090024
CL281	Multifunction Acoustic Calibrator	DC090052

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting			Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
L_F	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting			Applied Value		UUT Reading (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
L_F	A	F	94.00	1	94.1 (Ref.)
			104.00		104.2
			114.00		114.2

IEC 651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting			Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
L_F	A	F	94.00	1	94.1	Ref.
L_S		S			94.1	± 0.1

Report No. : C092057

Calibration Report

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting			Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Burst Duration		
L_F	A	F	106.00	Continuous	106.0	Ref.
L_F Maximum				200 ms	105.0	-1.0 ± 1.0
L_S		S		Continuous	106.0	Ref.
L_S Maximum				500 ms	102.1	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting			Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Freq.		
L_F	A	F	94.00	31.5 Hz	54.7	-39.4 ± 1.5
				63 Hz	68.0	-26.2 ± 1.5
				125 Hz	78.1	-16.1 ± 1.0
				500 Hz	91.0	-3.2 ± 1.0
				1 kHz	94.1	Ref.
				2 kHz	94.9	+1.2 ± 1.0
				4 kHz	93.5	+1.0 ± 1.0

6.3.2 C-Weighting

UUT Setting			Applied Value		UUT Reading (dB)	IEC 651 Type 1 Spec. (dB)
Parameter	Freq. Weighting	Time Weighting	Level (dB)	Freq.		
L_F	C	F	94.00	31.5 Hz	91.1	-3.0 ± 1.5
				63 Hz	93.4	-0.8 ± 1.5
				125 Hz	94.1	-0.2 ± 1.0
				500 Hz	94.2	0.0 ± 1.0
				1 kHz	94.1	Ref.
				2 kHz	93.6	-0.2 ± 1.0
				4 kHz	91.7	-0.8 ± 1.0

Report No. : C092057

Calibration Report

6.4 Time Averaging

UUT Setting			Applied Value					UUT	IEC 60804
Parameter	Freq. Weighting	Integrating Time	Freq. (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
L_{eq}	A	10 sec.	4	1	1/10	110.0	100	100.2	± 0.5
					$1/10^2$		90	90.2	± 0.5
		60 sec.			$1/10^3$		80	80.1	± 1.0
		5 min.			$1/10^4$		70	70.1	± 1.0

Remarks : - Mfr's Spec. : IEC 651 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB :	31.5 Hz - 125 Hz	: ± 0.35 dB
	500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz	: ± 0.35 dB
	4 kHz	: ± 0.35 dB
104 dB :	1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB :	1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

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

輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C092063

Certificate of Calibration

This is to certify that the equipment

Description : Acoustical Calibrator (EQ081)

Manufacturer : Bruel & Kjaer

Model No. : 4231

Serial No. : 2326408

has been calibrated for the specific items and ranges.
The results are shown in the Calibration Report No. C092063.

The equipment is supplied by

Co. Name : Action-United Environmental Services and Consulting

Address : Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

Date of Issue : 28 April 2009

Certified by : K C Lee

The test equipment used for calibration are traceable to the National Standards as specified in this report.
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
Tel: 2927 2606 Fax: 2744 8986 E-mail: callab@suncreation.com Website: www.suncreation.com

輝創工程有限公司
Sun Creation Engineering Limited Calibration and Testing Laboratory

Report No. : C092063

Calibration Report

ITEM TESTED

DESCRIPTION : Acoustical Calibrator (EQ081)
MANUFACTURER : Bruel & Kjaer
MODEL NO. : 4231
SERIAL NO. : 2326408

TEST CONDITIONS

AMBIENT TEMPERATURE : (23 ± 2)°C RELATIVE HUMIDITY : (55 ± 20)%
LINE VOLTAGE : ---

TEST SPECIFICATIONS

Calibration check

DATE OF TEST : 27 April 2009 ***JOB NO.*** : IC09-0962

TEST RESULTS

The results apply to the particular unit-under-test only.
All results are within manufacturer's specification.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested by : *H C Chan* *Date : 28 April 2009*

Report No. : C092063

Calibration Report

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
TST150A	Measuring Amplifier	C080751
CL130	Universal Counter	C083083
CL281	Multifunction Acoustic Calibrator	DC090052

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

Remark : - The uncertainties are for a confidence probability of not less than 95 %.

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

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Nam Sang Wai	Date of Calibration:	1-Apr-09
Location ID :	AM 1 (Designated)	Next Calibration Date:	1-Jun-09
Serial No:	0329	Technician:	Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (^{o}C)	18.8	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.54431
Model->	515N	Qstd Intercept ->	-0.01988
Serial # ->	0285		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected
18	4.2	4.2	8.4	1.914	52	53.22
13	3.3	3.3	6.6	1.698	42	42.99
10	2.7	2.7	5.4	1.537	35	35.82
7	2.1	2.1	4.2	1.357	26	26.61
5	1.3	1.3	2.6	1.070	15	15.35

LINEAR REGRESSION

Slope = 45.2587
Intercept = -33.7723
Corr. coeff. = 0.9990

Calculations :

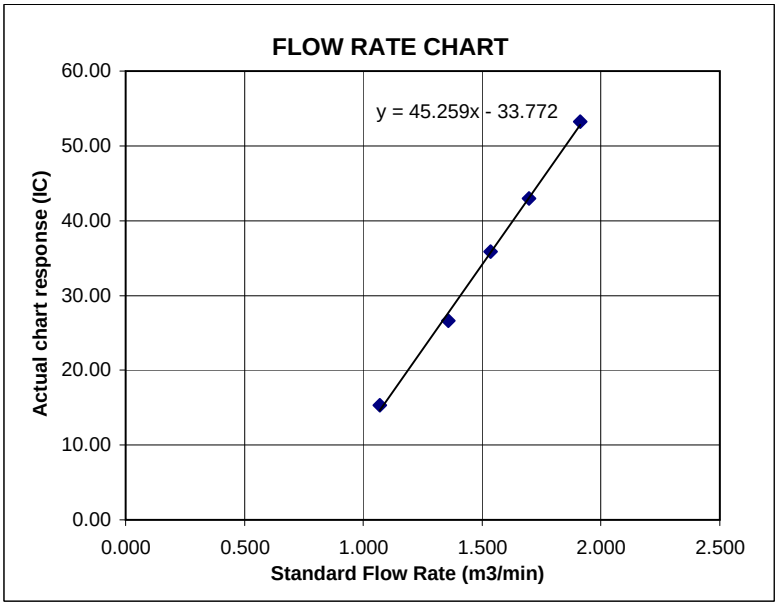
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Nam Sang Wai	Date of Calibration:	1-Apr-09
Location ID :	AM 7 (Designated)	Next Calibration Date:	1-Jun-09
Serial No:	1283	Technician:	Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (^{o}C)	18.8	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.54431
Model->	515N	Qstd Intercept ->	-0.01988
Serial # ->	0285		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected
18	4.7	4.7	9.4	2.024	42	42.99
13	3.9	3.9	7.8	1.844	36	36.85
10	3	3	6	1.619	29	29.68
7	2.1	2.1	4.2	1.357	23	23.54
5	1.2	1.2	2.4	1.029	15	15.35

LINEAR REGRESSION

Slope =	27.4503
Intercept =	-13.5427
Corr. coeff. =	0.9968

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

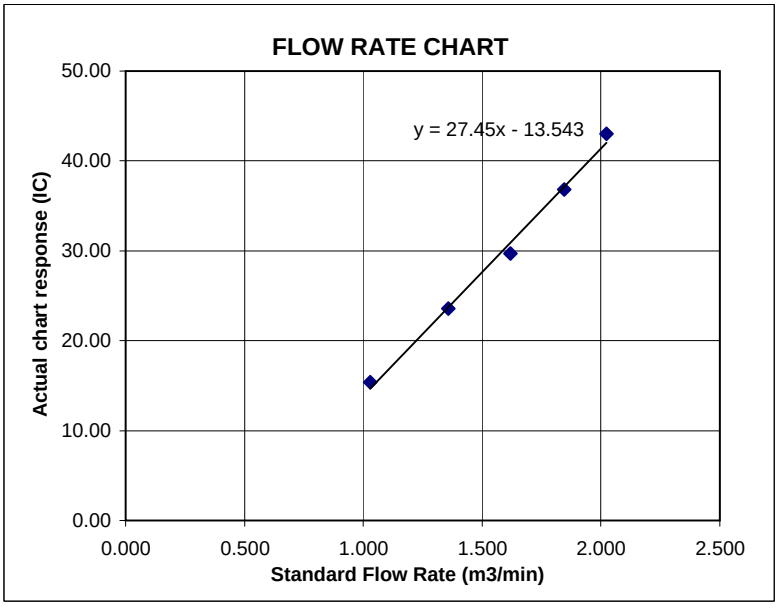
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Tai Hing Car Shop (Scattered House near Route 3) Date of Calibration: 1-Apr-09
Location ID : AM 6 Next Calibration Date: 1-Jun-09
Technician: Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (^{o}C)	18.8	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.54431
Model->	515N	Qstd Intercept ->	-0.01988
Serial # ->	10394		

CALIBRATION

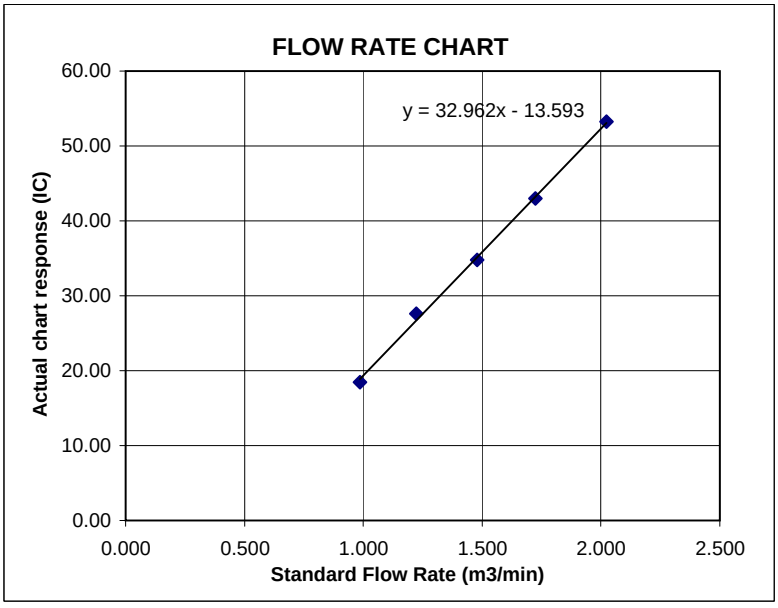
Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.7	4.7	9.4	2.024	52	53.22	Slope = 32.9616
13	3.4	3.4	6.8	1.723	42	42.99	Intercept = -13.5926
10	2.5	2.5	5.0	1.479	34	34.80	Corr. coeff. = 0.9991
7	1.7	1.7	3.4	1.222	27	27.63	
5	1.1	1.1	2.2	0.986	18	18.42	

Calculations :
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:
1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Sha Po Pumping Station
Location ID : AM5

Date of Calibration: 1-Apr-09
Next Calibration Date: 1-Jun-09
Technician: Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1017.8	Corrected Pressure (mm Hg)	763.35
Temperature (^{o}C)	18.8	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.54431
Model->	515N	Qstd Intercept ->	-0.01988
Serial # ->	355		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected
18	5.2	5.2	10.4	2.128	51	52.20
13	4.2	4.2	8.4	1.914	44	45.03
10	3.4	3.4	6.8	1.723	36	36.85
7	2.1	2.1	4.2	1.357	27	27.63
5	1.2	1.2	2.4	1.029	15	15.35

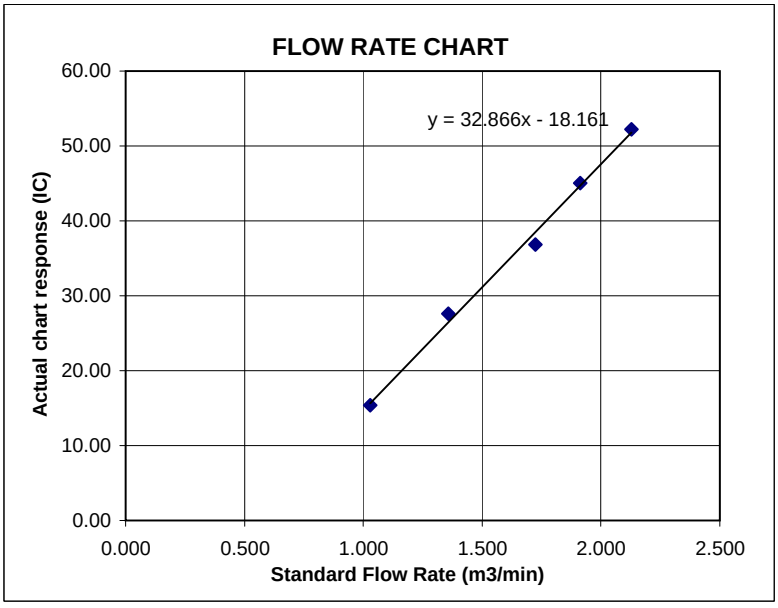
LINEAR REGRESSION
Slope = 32.8662
Intercept = -18.1609
Corr. coeff. = 0.9974

Calculations :
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
I = actual chart response
m = calibrator Qstd slope
b = calibrator Qstd intercept
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:
1/m((I)[Sqrt(298/Tav)(Pav/760)]-b)

m = sampler slope
b = sampler intercept
I = chart response
Tav = daily average temperature
Pav = daily average pressure



ANNEX I

METEOROLOGICAL DATA IN THE REPORTING MONTH

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

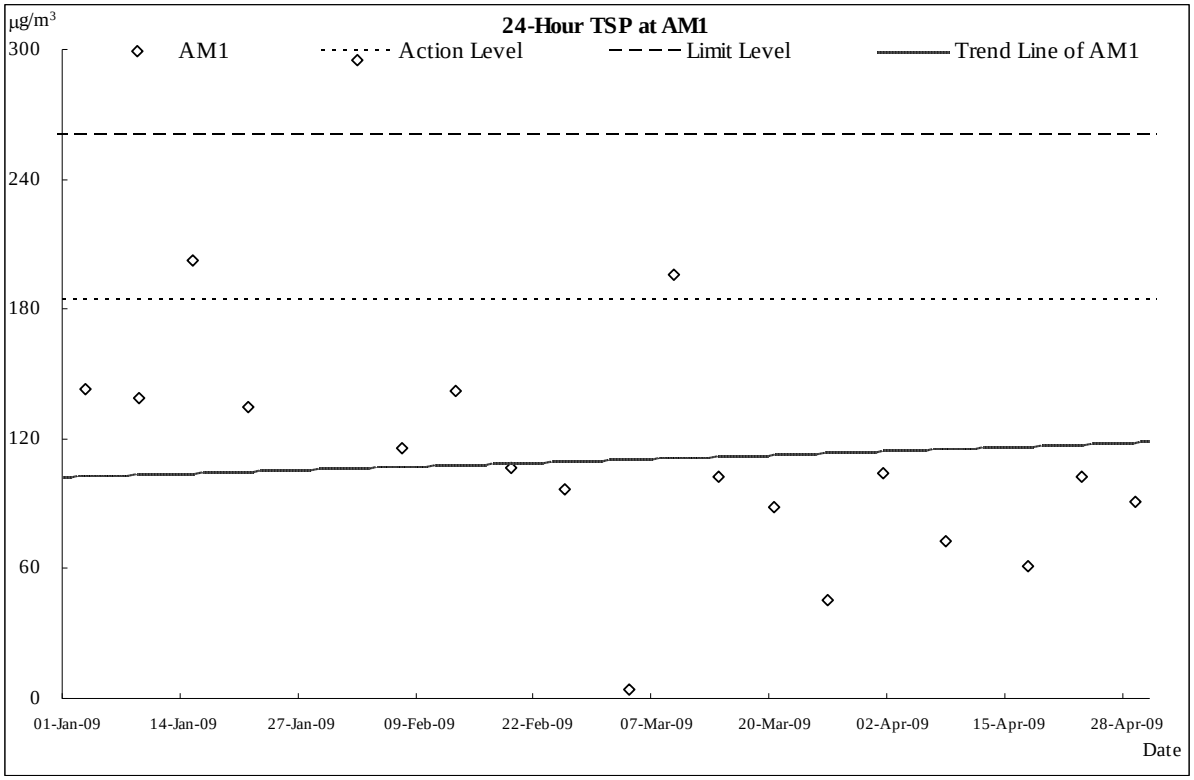
Date		Weather	Lau Fau Shan Weather Station				
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Apr-09	Wed	sunny	0	21.8	11.2	68.5	E/NE
2-Apr-09	Thu	cloudy/dry/rain/fresh/strong	Trace	19.7	17.2	58.5	E
3-Apr-09	Fri	cloudy/sunny intervals/fresh/strong	Trace	20.4	16.5	62.5	E
4-Apr-09	Sat	Holiday	-	-	-	-	-
5-Apr-09	Sun	cloudy/moderate/fresh	0	23.7	14	68.5	W/NW
6-Apr-09	Mon	cloudy/rain/moderate	8.1	18.2	13	76	E/NE
7-Apr-09	Tue	cloudy/dry/moderate	0.6	17.7	9.2	78.5	E/NE
8-Apr-09	Wed	cloudy/sunny periods/moderate/fresh	0	21.6	8.5	72.2	E/NE
9-Apr-09	Thu	dry/sunny periods/fresh/strong	0	22.7	14	57	E
10-Apr-09	Fri	Holiday	-	-	-	-	-
11-Apr-09	Sat	Holiday	-	-	-	-	-
12-Apr-09	Sun	Holiday	-	-	-	-	-
13-Apr-09	Mon	Holiday	-	-	-	-	-
14-Apr-09	Tue	fine/hazy/isolated showers/light winds	0	25.4	10.5	82	W/SW
15-Apr-09	Wed	sunny periods/cloudy/a few shoers/moderate/fresh	4.3	25	10	74.5	E/NE
16-Apr-09	Thu	sunny periods/showers/moderate	2.9	23	23.5	76.2	E/NE
17-Apr-09	Fri	haze/sunny intervals/cloudy/moderate/fresh	0	24.5	7.5	78	E/NE
18-Apr-09	Sat	cloudy/a few showers/fresh/strong	34.1	22.2	17.5	71	E/SE
19-Apr-09	Sun	cloudy/rain/strong	4.5	25.3	21	86	S/SW
20-Apr-09	Mon	sunny periods/cloudy/moderate	0	27.3	13.7	76	W/SW
21-Apr-09	Tue	cloudy/moderate	1.5	26.7	11.5	55.5	E/NE
22-Apr-09	Wed	cloudy/rain/fresh/strong	Trace	24.1	16.5	63	E
23-Apr-09	Thu	cloudy/rain/fresh/strong	0.2	25.1	20.5	70	E
24-Apr-09	Fri	cloudy/mist/moderate	Trace	25.3	11.7	78	E/SE
25-Apr-09	Sat	overcast/rain/squally thunderstorm/moderate./fresh	43	21.4	15	81.5	E/NE
26-Apr-09	Sun	cloudy/sunny intervals/moderate/fresh	4.5	19	11	87	E/SE
27-Apr-09	Mon	sunny periods/cloudy/moderate/fresh	0	22.7	15.2	67	E/NE
28-Apr-09	Tue	fine/dry/fresh/strong	0	23.3	19.5	48.5	E
29-Apr-09	Wed	sunny periods/cloudy/moderate/fresh	0	23.2	16.2	44	E/SE
30-Apr-09	Thu	cloudy/sunny periods/moderate/fresh	Trace	24.3	17	61	E

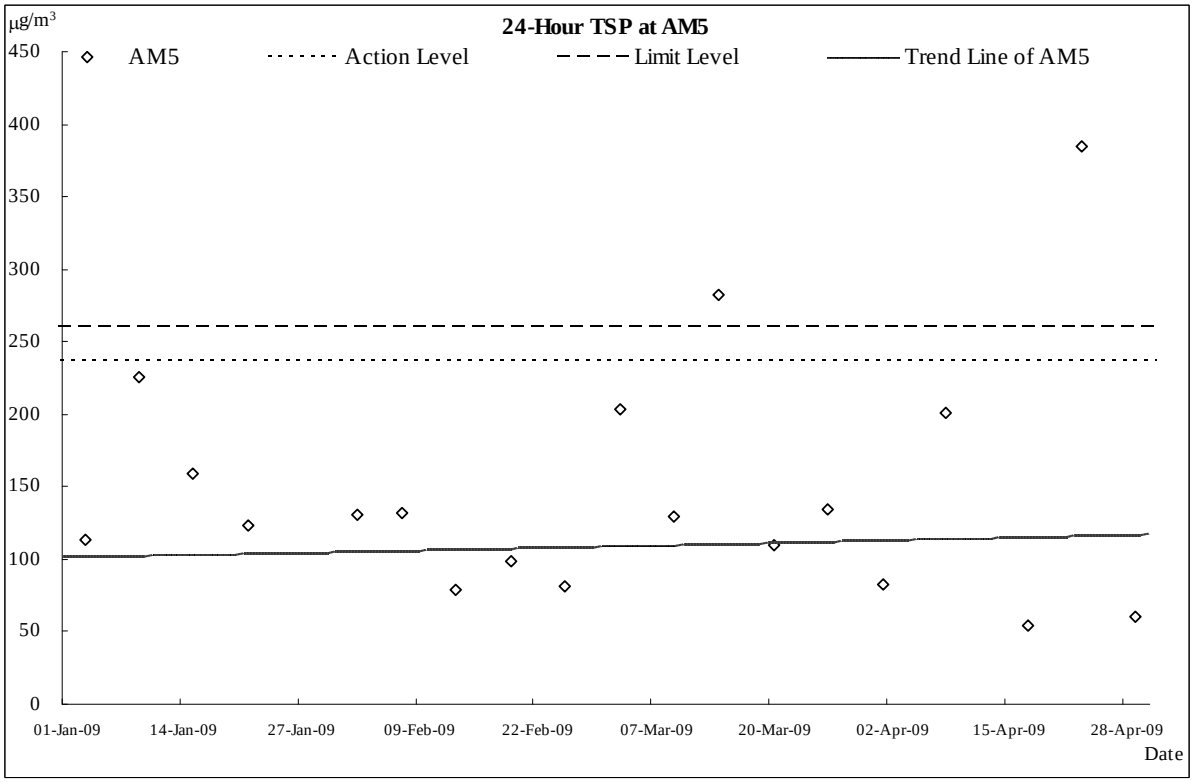
ANNEX J

GRAPHICAL PLOTS OF AIR QUALITY AND CONSTRUCTION NOISE MONITORING RESULTS

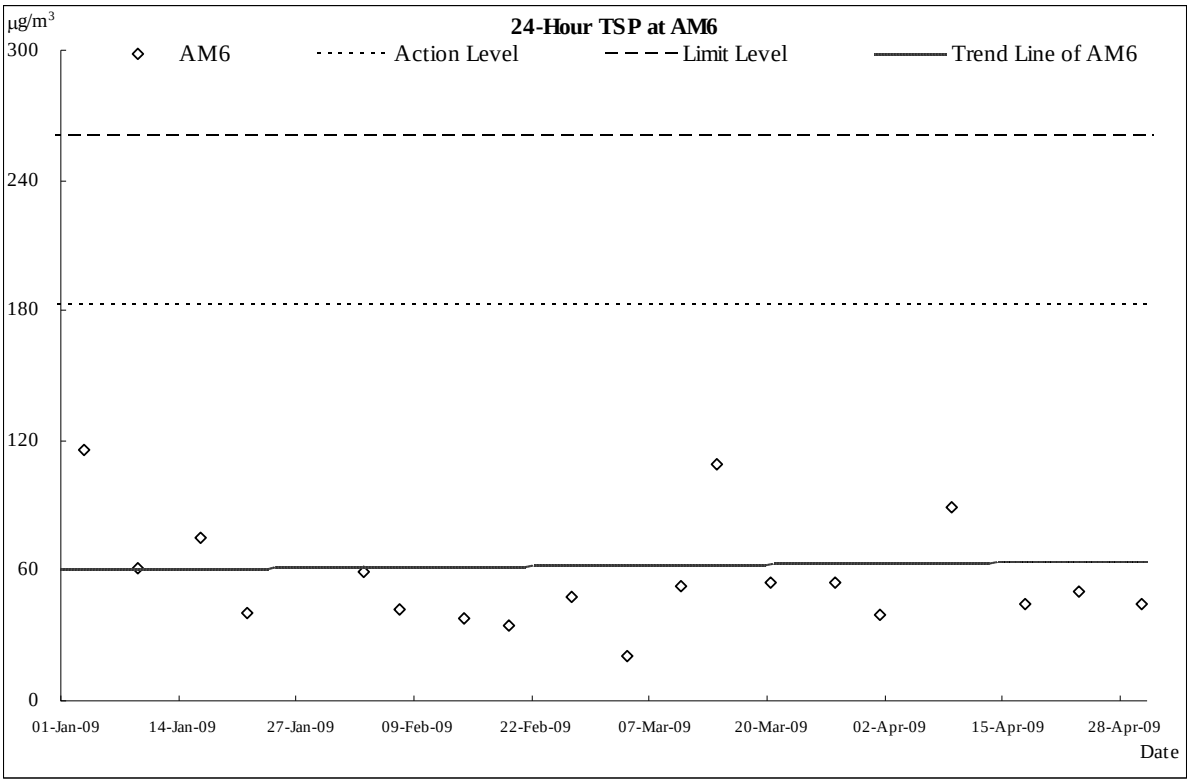
AIR QUALITY

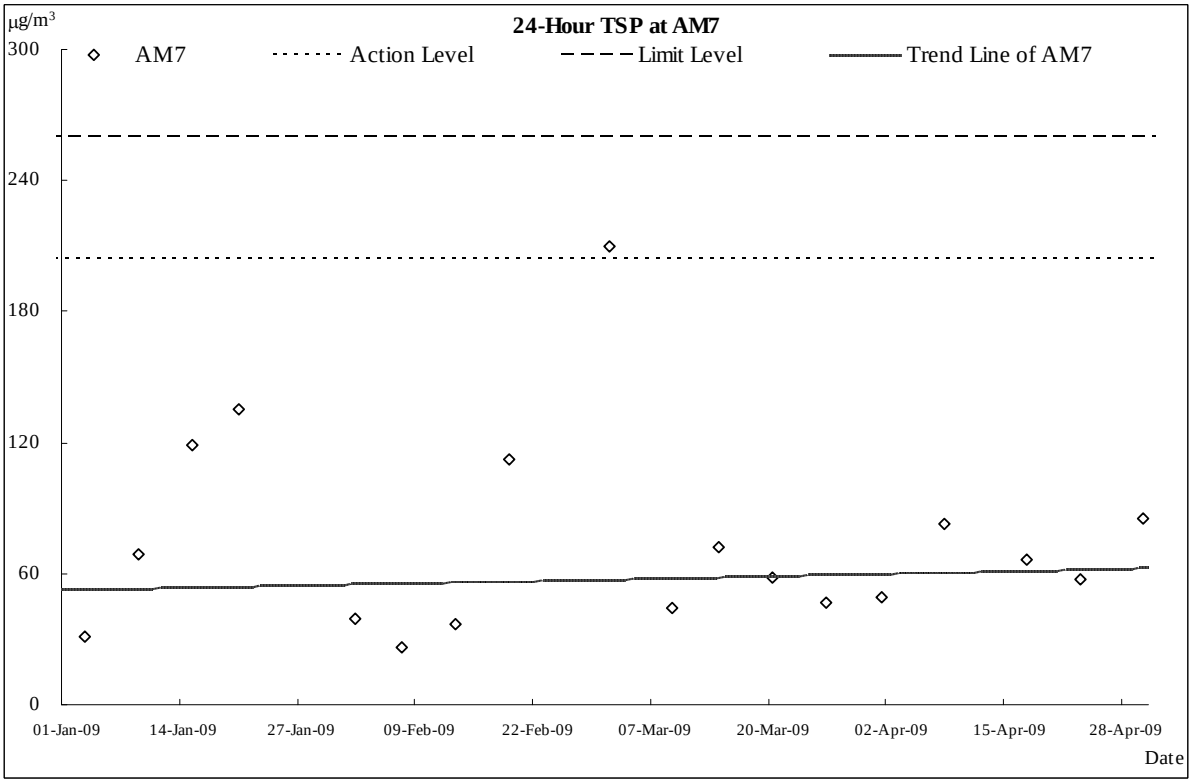
Air Quality Monitoring Results





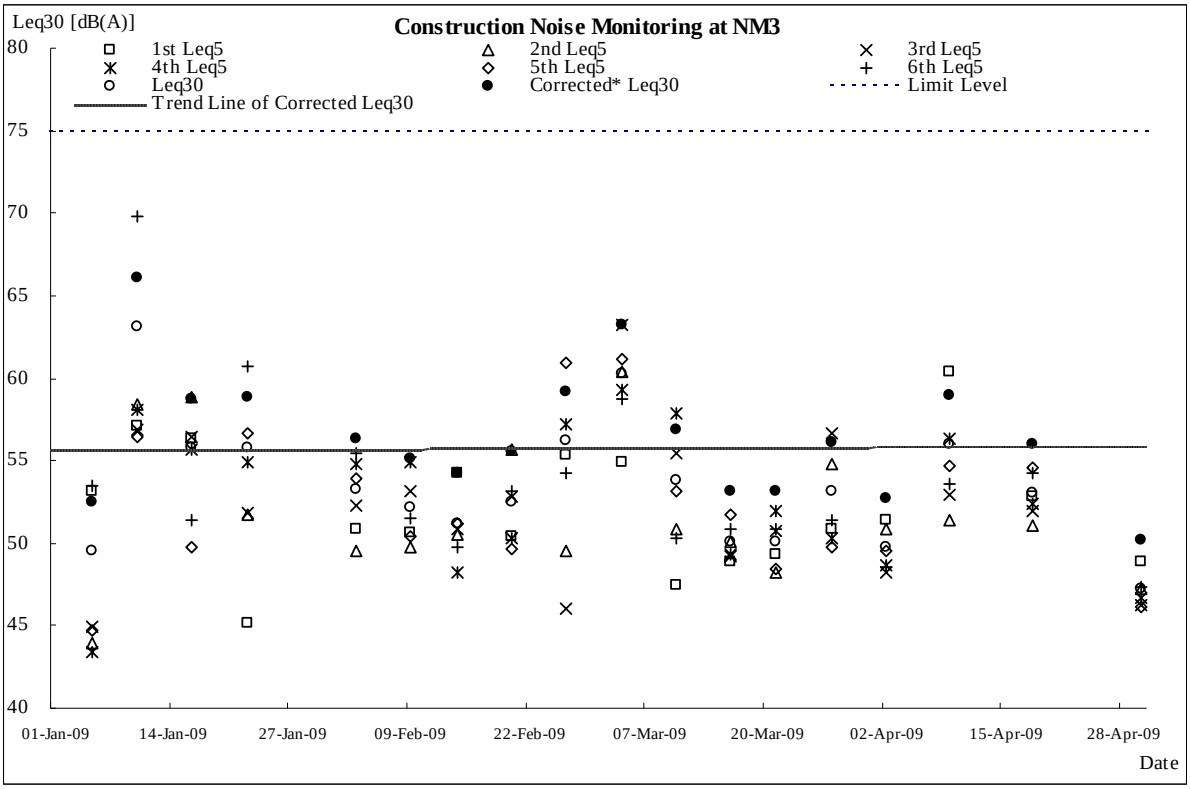
Air Quality Monitoring Results

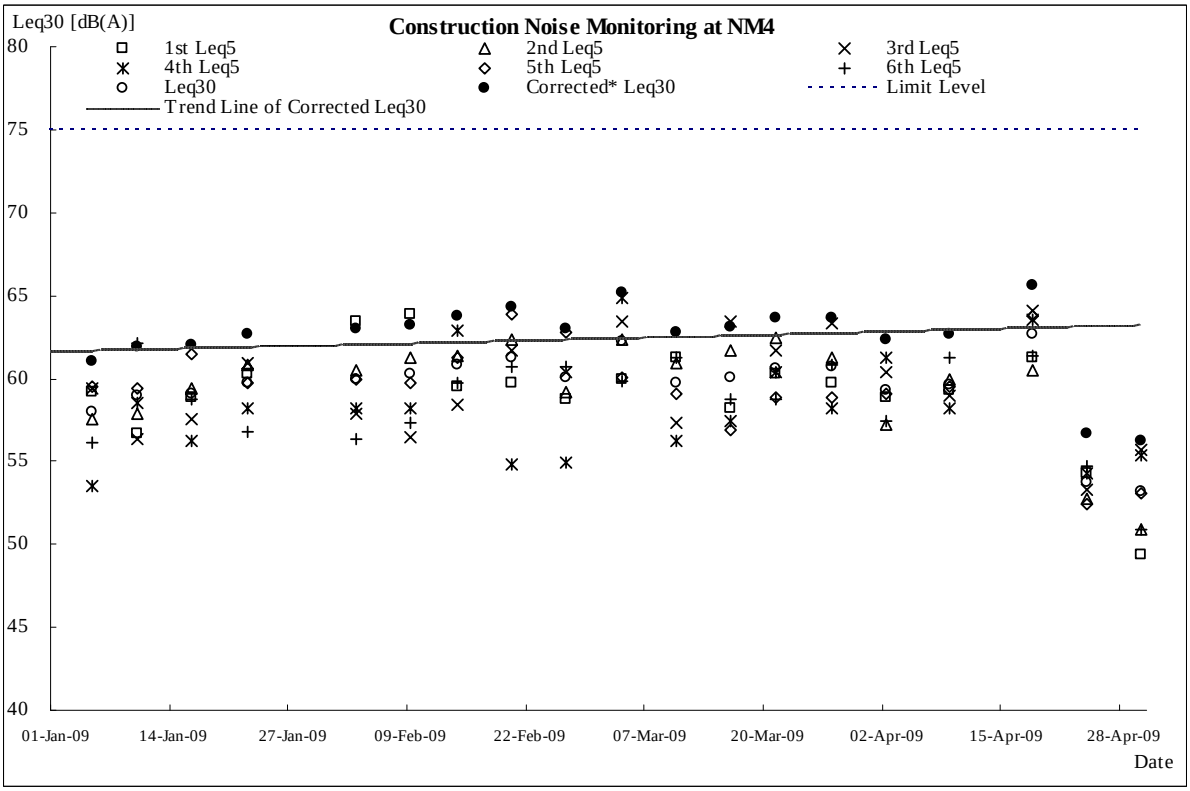




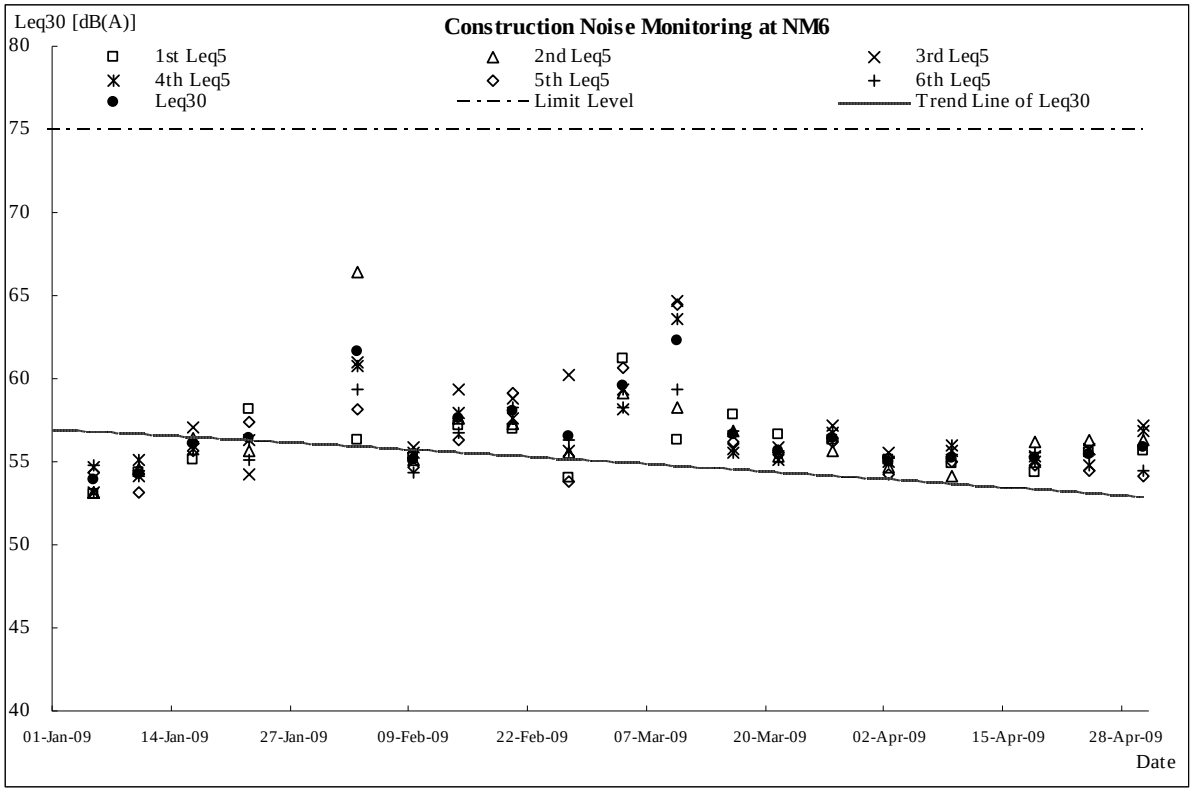
CONSTRUCTION NOISE

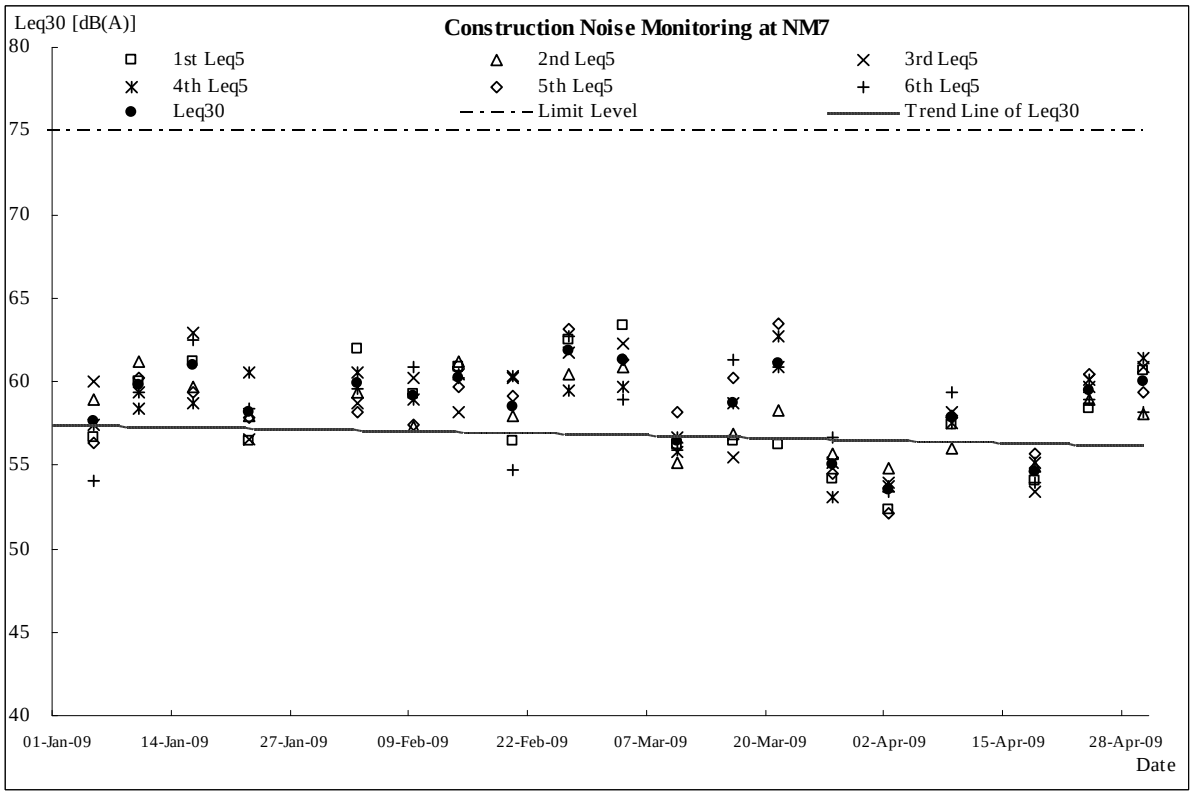
Construction Noise Monitoring Results





Construction Noise Monitoring Results





ANNEX K

PROFORMA OF SITE INSPECTION & IEC AUDIT IN THE REPORTING MONTH

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor: Ken Wong**	**IEC:**	**Mott MacDonald Hong Kong Ltd**
	Contractor Rep: Edwin Leung	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**21 April 2009 (09:30)**
	RE's Rep: Mr. Tseng	**Checklist Reference No.:**	**DSD-AT210409**

General Meteorological Information

Weather [ ] Sunny [✓] Fine [ ] Cloudy [ ] Overcast [ ] Drizzle [ ] Rain [ ] Hazy

Temp: [26.8] °C

Humidity: [ ] High (RH > 90%) [✓] Moderate (90% > RH > 50%) [ ] Low (RH < 50%)

Wind: [ ] Calm [ ] Light [✓] Breeze [ ] Strong

Air Quality	**Yes**	**NO**	**NA**	**NC**	**Follow-up**	**Remarks**
Is hoarding of not less than 2.4m provided?	✓					
Are site vehicles traveling within controlled speed limit?	✓					
Are site vehicles movement confined to designated haul roads?	✓					
Are public roads outside site exits kept clean and free from dust?	✓					
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?		✓				
Are there wheel washing facilities provided at site exits?	✓					
Is water spraying used during the main dust-generating activities?	✓					
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	✓					
Is exposed area of ground covered or watered frequently?	✓					
Are load on vehicles covered by clean impervious sheeting?	✓					
Are vehicles and equipment switched off while not in use?	✓					
Are smoky emissions from plants/equipment avoided?	✓					
Is open burning avoided?	✓					

Observable dust sources [ ] Wind erosion [✓] NA

[ ] Loading/unloading of materials [ ] Others

Construction Noise

Are the construction works scheduled to minimize noise nuisance?	✓					
Are the works or equipment sited to minimize noise nuisance?	✓					
Are all plant and equipment well maintained and in good operating condition?	✓					
Is idle equipment turned off or throttled down?	✓					
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?			✓			
Is silenced equipment used where appropriate?			✓			
Are noise enclosures or noise barriers used where necessary?			✓			
Does specified equipment has valid noise label?			✓			
Are Construction Noise Permits (CNPs) available for inspection?			✓			

Major Noise Source [ ] Traffic [✓] Construction activities inside the site

[ ] Construction activities outside of site [ ] Others Nil

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 water avoided?		✓					
Is drainage adequate?		✓					
Is drainage system well maintained?		✓					
Are there temporary ditches for runoff discharge into appropriate watercourse?		✓					
Are there sedimentation tanks for settling runoff prior to discharge?		✓					
Are the sedimentation tanks:	Constructed of pre-formed individual cells?	✓					
	With adequate capacity?	✓					
	Free from silt and sediment?	✓					
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities 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 avoided?		✓					
Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?	✓					
	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?	✓					
	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 bounded area?	✓					
	Is bund capacity adequate (>110% of the largest tank)?	✓					
	Are storage areas lockable?	✓					
Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?		✓					

Remarks:

Follow up

No environmental observation was required to follow up.

Observations Recorded in this Site Inspection:

Fugitive dust emission during handling the dusty material for backfilling was observed at the Nam Sang Wai Road work front. The Contractor was reminded to dust suppression such as water spraying as necessary.

Oil Stain on ground was found at the Sha Po Pumping Station, the Contractor was reminded to clear up in according to the WMP procedure.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
Name : Ken Wong	Name: Edwin Leung	Name:	Name:

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **Ben Tam**	**IEC:**	**Mott MacDonald Hong Kong Ltd**
	Contractor Rep: **Edwin Leung**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**14 April 2009 (09:30)**
	RE's Rep:	**Checklist Reference No.:**	**DSD-AT140409**

General Meteorological Information

Weather [ ] Sunny [ ] Fine [✓] Cloudy [ ] Overcast [ ] Drizzle [ ] Rain [ ] Hazy

Temp: [24.7] °C

Humidity: [ ] High (RH > 90%) [✓] Moderate (90% > RH > 50%) [ ] Low (RH < 50%)

Wind: [ ] Calm [ ] Light ✓ [ ] Breeze [ ] Strong

Air Quality	**Yes**	**NO**	**NA**	**NC**	**Follow-up**	**Remarks**
Is hoarding of not less than 2.4m provided?	✓					
Are site vehicles traveling within controlled speed limit?	✓					
Are site vehicles movement confined to designated haul roads?	✓					
Are public roads outside site exits kept clean and free from dust?	✓					
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	✓					
Are there wheel washing facilities provided at site exits?	✓					
Is water spraying used during the main dust-generating activities?	✓					
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	✓					
Is exposed area of ground covered or watered frequently?	✓					
Are load on vehicles covered by clean impervious sheeting?	✓					
Are vehicles and equipment switched off while not in use?	✓					
Are smoky emissions from plants/equipment avoided?	✓					
Is open burning avoided?	✓					

Observable dust sources [ ] Wind erosion [✓] NA

[ ] Loading/unloading of materials [ ] Others

Construction Noise						
Are the construction works scheduled to minimize noise nuisance?	✓					
Are the works or equipment sited to minimize noise nuisance?	✓					
Are all plant and equipment well maintained and in good operating condition?	✓					
Is idle equipment turned off or throttled down?	✓					
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?			✓			
Is silenced equipment used where appropriate?			✓			
Are noise enclosures or noise barriers used where necessary?			✓			
Does specified equipment has valid noise label?			✓			
Are Construction Noise Permits (CNPs) available for inspection?			✓			

Major Noise Source [ ] Traffic [✓] Construction activities inside the site

[ ] Construction activities outside of site [ ] Others Nil

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 water avoided?		✓					
Is drainage adequate?		✓					
Is drainage system well maintained?		✓					
Are there temporary ditches for runoff discharge into appropriate watercourse?		✓					
Are there sedimentation tanks for settling runoff prior to discharge?		✓					
Are the sedimentation tanks:	Constructed of pre-formed individual cells?	✓					
	With adequate capacity?	✓					
	Free from silt and sediment?	✓					
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities 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 avoided?		✓					
Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?	✓					
	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?	✓					
	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 bounded area?	✓					
	Is bund capacity adequate (>110% of the largest tank)?	✓					
	Are storage areas lockable?	✓					
Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?		✓					

Remarks:

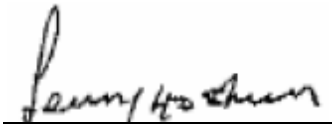
Follow up

.

Observations Recorded in this Site Inspection:

No environmental issue was observed during site inspection.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
			
Name : Ben Tam	Name: Edwin Leung	Name:	Name:

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor:** **Ben Tam**	**IEC:**	**Mott MacDonald Hong Kong Ltd**
	Contractor Rep: **Edwin Leung**	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**07 April 2009 (09:30)**
	RE's Rep:	**Checklist Reference No.:**	**DSD-AT070409**

General Meteorological Information

Weather [✓] Sunny [ ] Fine [ ] Cloudy [ ] Overcast [ ] Drizzle [ ] Rain [ ] Hazy

Temp: [21] °C

Humidity: [ ] High (RH > 90%) [✓] Moderate (90% > RH > 50%) [ ] Low (RH < 50%)

Wind: [ ] Calm [✓] Light [ ] Breeze [ ] Strong

Air Quality	**Yes**	**NO**	**NA**	**NC**	**Follow-up**	**Remarks**
Is hoarding of not less than 2.4m provided?	✓					
Are site vehicles traveling within controlled speed limit?	✓					
Are site vehicles movement confined to designated haul roads?	✓					
Are public roads outside site exits kept clean and free from dust?	✓					
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	✓					
Are there wheel washing facilities provided at site exits?	✓					
Is water spraying used during the main dust-generating activities?	✓					
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	✓					
Is exposed area of ground covered or watered frequently?	✓					
Are load on vehicles covered by clean impervious sheeting?			✓			
Are vehicles and equipment switched off while not in use?	✓					
Are smoky emissions from plants/equipment avoided?	✓					
Is open burning avoided?	✓					

Observable dust sources [ ] Wind erosion [✓] NA

[ ] Loading/unloading of materials [ ] Others _____

Construction Noise

Are the construction works scheduled to minimize noise nuisance?	✓					
Are the works or equipment sited to minimize noise nuisance?	✓					
Are all plant and equipment well maintained and in good operating condition?	✓					
Is idle equipment turned off or throttled down?	✓					
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?			✓			
Is silenced equipment used where appropriate?			✓			
Are noise enclosures or noise barriers used where necessary?			✓			
Does specified equipment has valid noise label?			✓			
Are Construction Noise Permits (CNPs) available for inspection?			✓			

Major Noise Source [ ] Traffic [✓] Construction activities inside the site

[ ] Construction activities outside of site [ ] Others Nil

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 water avoided?		✓					
Is drainage adequate?		✓					
Is drainage system well maintained?		✓					
Are there temporary ditches for runoff discharge into appropriate watercourse?		✓					
Are there sedimentation tanks for settling runoff prior to discharge?		✓					
Are the sedimentation tanks:	Constructed of pre-formed individual cells?	✓					
	With adequate capacity?	✓					
	Free from silt and sediment?	✓					
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities 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 avoided?		✓					
Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?	✓					
	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?	✓					
	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 bounded area?	✓					
	Is bund capacity adequate (>110% of the largest tank)?	✓					
	Are storage areas lockable?	✓					
Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?		✓					

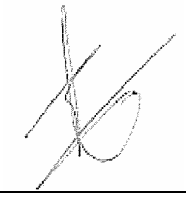
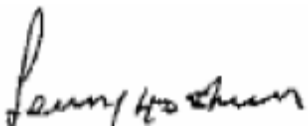
Remarks:

Follow up
Follow-up actions completed.

Observations Recorded in this Site Inspection:

No environmental issue was observed during the site inspection

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
			
Name : Ben Tam	Name: Edwin Leung	Name:	Name:

AUES

Site Inspection Checklist (SF-17)

Project	**DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long**	**Contractor:**	**Leader Civil Engineering Corp. Ltd**
		Engineer:	**Babtie Asia Ltd**
Inspected by:	**ET Auditor: LUI Kam Man**	**IEC:**	**Mott MacDonald Hong Kong Ltd**
	Contractor Rep: Edwin Leung	**Environmental Team:**	**Action-United Environmental Services & Consulting**
	IEC's Rep:	**Inspection Date & Time:**	**28 April 2009 (09:30)**
	RE's Rep: Mr. Tseng	**Checklist Reference No.:**	**DSD-AT280409**

General Meteorological Information

Weather [ ] Sunny [✓] Fine [ ] Cloudy [ ] Overcast [ ] Drizzle [ ] Rain [ ] Hazy

Temp: [26.6] °C

Humidity: [ ] High (RH > 90%) [✓] Moderate (90% > RH > 50%) [✓] Low (RH < 50%)

Wind: [ ] Calm [ ] Light [✓] Breeze [ ] Strong

Air Quality	**Yes**	**NO**	**NA**	**NC**	**Follow-up**	**Remarks**
Is hoarding of not less than 2.4m provided?	✓					
Are site vehicles traveling within controlled speed limit?	✓					
Are site vehicles movement confined to designated haul roads?	✓					
Are public roads outside site exits kept clean and free from dust?	✓					
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	✓					
Are there wheel washing facilities provided at site exits?	✓					
Is water spraying used during the main dust-generating activities?	✓					
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	✓					
Is exposed area of ground covered or watered frequently?	✓					
Are load on vehicles covered by clean impervious sheeting?	✓					
Are vehicles and equipment switched off while not in use?	✓					
Are smoky emissions from plants/equipment avoided?	✓					
Is open burning avoided?	✓					

Observable dust sources [ ] Wind erosion [✓] NA

[ ] Loading/unloading of materials [ ] Others

Construction Noise						
Are the construction works scheduled to minimize noise nuisance?	✓					
Are the works or equipment sited to minimize noise nuisance?	✓					
Are all plant and equipment well maintained and in good operating condition?	✓					
Is idle equipment turned off or throttled down?	✓					
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?			✓			
Is silenced equipment used where appropriate?			✓			
Are noise enclosures or noise barriers used where necessary?			✓			
Does specified equipment has valid noise label?			✓			
Are Construction Noise Permits (CNPs) available for inspection?			✓			

Major Noise Source [ ] Traffic [✓] Construction activities inside the site

[ ] Construction activities outside of site [ ] Others Nil

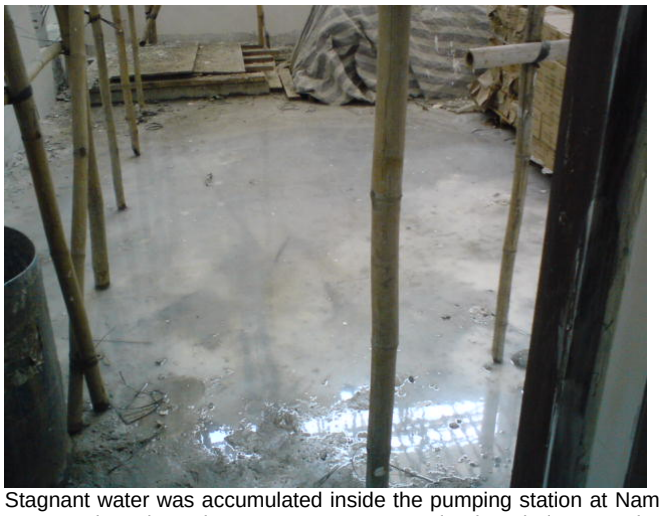
Water Quality & Drainage		Yes	NO	NA	NC	Follow-up	Remarks
Is a wastewater discharge license obtained for the Project?		✓					
Is site effluent discharged in accordance with the discharge license?		✓					
Is the discharge of silty water avoided?		✓					
Is drainage adequate?		✓					
Is drainage system well maintained?		✓					
Are there temporary ditches for runoff discharge into appropriate watercourse?		✓					
Are there sedimentation tanks for settling runoff prior to discharge?		✓					
Are the sedimentation tanks:	Constructed of pre-formed individual cells?	✓					
	With adequate capacity?	✓					
	Free from silt and sediment?	✓					
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities 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 avoided?		✓					
Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?	✓					
	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?	✓					
	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 bounded area?	✓					
	Is bund capacity adequate (>110% of the largest tank)?	✓					
	Are storage areas lockable?	✓					
Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided?		✓					

Remarks:

Follow up

No environmental observation was required to follow up.

Observations Recorded in this Site Inspection:



Stagnant water was accumulated inside the pumping station at Nam Sang Wai Station, The Contractor was remained to drain away the stagnant water.

The soil stockpile in the site should be removed or covered with tarpaulin in order to minimize the dust nuisance.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
Name : LUI Kam Man	Name: Edwin Leung	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	28 Apr 2009	Time	10:00-11:30	Inspected By	Leader: Edwin Leung ET: KM Lui DSD: WK Tsang IEC: Benny Liu
Site Location	Nam San Wai Rd Nam San Wai Pumping Station Kam Tin Pumping Station Ko Po Road				

Weather

Condition		Sunny		Fine	✓	Overcast		Drizzle		Rain		Storm		Hazy
Temperature	20°C				Humidity		High		✓	Moderate		Low	
Wind		Calm	✓	Light		Breeze		Strong		Direction	East		

EIA ref:		Close-out on last comments Y/N	N/A or not obs	Yes	No	Photo/Remarks
	Construction Phase					
	Air Quality - Construction Phase					
3.5	• Are hoardings of not less than 2.4m high provided along the site boundary?			✓		
3.5	• Is the portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit kept clear of dusty materials?			✓		
3.5	• Are stockpiled dusty materials covered by impervious sheeting and placed in an area sheltered on top and 3 sides or sprayed with water?			✓		See Obs.
3.5	• Are dusty material loads on vehicles sprayed with water prior to loading and unloading?		✓			
3.5	• Are all vehicles washed to remove dusty materials from its body and wheels before leaving site?		✓			
3.5	• Are vehicles which are carrying dusty materials covered entirely by impervious sheeting when leaving site?		✓			
3.5	• Are surfaces where any mechanical breaking operation takes place sprayed?		✓			
3.5	• Are working area of any excavation sprayed with water, immediately before, during and immediately after the operation?		✓			
3.5	• Where a scaffolding is erected around the perimeter of a building under construction, are effective dust screens, sheeting or netting provided to enclose the scaffolding from the ground floor level of the SPS, or a canopy from the first floor level up to the highest level of the scaffolding?			✓		
3.5	• Are skip hoists for material transport totally enclosed?		✓			

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?		✓			
	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?			✓		
	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?		✓			
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?		✓			
	Sewers and Rising Mains using Pipe Jacking					
4.7.1	• Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used?		✓			
	Road Pavement and Finishes					
4.7.1	• Are quiet PME which meet the SWLs from BS 5228:Part 1: 1997 used?		✓			
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?			✓		
	• Are silt removal facilities provided with retention time for silt/sand traps of 5 minutes under maximum flow conditions?			✓		
	• 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?			✓		

	• Are measures taken to minimise the ingress of site drainage into excavations? Is water pumped out from trenches or foundation excavations discharged into storm drains via silt removal facilities?			✓	
	• 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 water 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 prevent spilled fuel oils from reaching water sensitive receivers nearby?			✓	
	Sewage Effluent - Construction Phase				
	1) Are portable chemical toilets and sewage holding tanks provided? Is handling the construction sewage generated for collection and disposal of this waste? Is a licensed contractor employed?			✓	
	Waste Management - Construction Phase				
6.6.2	• Are the necessary waste disposal permits from the appropriate authorities in placed for chemical and C&D wastes, in accordance with the Waste Disposal (Chemical Waste) (General) Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap 28)?			✓	
6.6.2	• Is chemical waste that is produced, as defined by Schedule 1 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 wastes 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?			✓	
6.6.2	• Is the storage area for chemical wastes clearly labelled and used solely for the storage of chemical waste; enclosed on at 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?			✓	
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?			✓	

	Land Contamination - *Construction Phase*					
7.5.6	• 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 been 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

This month's observations (28 Apr 2009)

1. The Contractor was reminded to remove stagnant water inside Nam San Wai Sewage Pumping Station.
2. The Contractor was reminded to provide cover for the stockpiled materials at Ko Po Road.

Follow-up last month's observation (24 Mar 2009)

1. Mold oil drum was provided with drip tray at Nam Sang Wai Sewage Pumping Station.
2. Mud inside sedimentation tanks was observed clearing during site audit.
3. Drain off rainwater in drip trays after rainfall was carried out by Contractor.

DSD Representative	Contractor Representative	ETL	IEC
( )	( )	( )	(Benny Lin 28/4/2009)

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
28 April 2009
Environmental Observations

This month's observations

This month's observations	This month's observations
Chemical Waste	**Waste Quality**
	
S6001496 Mold oil drum was provided with drip tray at Nam Sang Wai Sewage Pumping Station. Drain off rainwater in drip trays after rainfall was carried out by Contractor.	S6001500 The Contractor was reminded to remove stagnant water inside Nam San Wai Sewage Pumping Station.
Water Quality	**Air and Water Quality**
	
S6001526 Mud inside sedimentation tanks was observed clearing during site audit	DSC00721 The Contractor was reminded to provide cover for the stockpiled materials at Ko Po Road.