

JOB NO.: TCS00310/06

REVISION NO.: 1

**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 **JANUARY 2009**
(No. 34) (DESIGNATED ELEMENTS)**

PREPARED FOR

**LEADER CIVIL ENGINEERING CORPORATION
 LIMITED**

Quality Index

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1	12 Feb 09	First Submission
2	17 Feb 09	Response to IEC's comments received on 16 February 2009 via e-mail

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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 **January 2009 (No. 34)** present the environmental impact monitoring and audit (EM&A) program conducted from **01 to 31 January 2009** for the Designated Elements. The EM&A program in **January 2009** were covered air quality, construction noise and waste management.

BREACH OF ACTION AND LIMIT (AL) LEVELS

- ES03. Exceedances for 24-Hour TSP monitoring were recorded at AM1 on 15 January 2009 (Action Level) and AM5 on 09 January 2009 (Limit Level). ET had liaison with the Contractor to conduct the investigation, only remove formwork, falsework and sheetpile extraction were undertaken. Dust suppression measures with water spraying were applied on-site and no dust complaint was received at the vicinity area. The exceedances on 09 and 15 January 2009 were not project related. No further of air quality and noise monitoring breach the Action or Limit Level was recorded in the 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 **February 2009** include excavation, concreting, pipe jacking and extract sheet pile at Kam Tin Pumping Station (P1); excavation, backfilling and concreting at Sha Po Pumping Station (P2); backfilling, concreting and extract sheet pile at Nam Sang Wai P/S(P3); sheet piling, excavation, pipe laying, backfilling, concreting and extract sheet pile at Nam Sang Wai Road (S4), backfilling, concreting and extract sheet pile at Pok Wai South Road (S5 & S6). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

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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 **34th Monthly EM&A Report for January 2009 (No. 34)** (Designated Elements – Construction Phase) summarizes the impact monitoring results and audit findings in the reporting month from **01 to 31 January 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
- Concreting

Sha Po Pumping Station (P2)

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

Nam Sang Wai Pumping Station (P3)

- Backfilling
- Concreting
- Extract sheet pile

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)	<ul style="list-style-type: none"> Back filling Extract sheet pile Concreting 	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> Back filling Concreting 	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> Sheet piling Excavation Pipe laying Backfilling Concreting Pipe jacking Extract sheet pile 	<ul style="list-style-type: none"> 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
AM1	Site Boundary in NSW	Excavation; Sheet piling; Backfilling; Pipe laying; Concreting; and Extract sheet pile	835829 N 822910 E
AM5	Site Boundary in FKH		835121 N 823515 E
AM6	Site Boundary in KT		833308 N 823987 E
AM7	Site Boundary in NSW		836171 N 822586 E
NM3	Village House in NSW		835808 N 822817 E
NM4	Village House in NSW		835282 N 822811 E
NM6	Village House in KT		833288 N 823999 E
NM7	Village House in FKH	835121 N 823495 E	

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 ($\mu\text{g}/\text{m}^3$)		Limit Level ($\mu\text{g}/\text{m}^3$)	
	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
6	Piling Permit (PP No.RN0008-08)	Valid (22 May 2008 to 21 Feb 2009)

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;
 - 0.6-1.7m³/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 63in²;
 - Flow control accuracy of $\pm 2.5\%$ 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 $\pm 2.5\%$ 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 (L₁₀ and L₉₀) 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, AM1 and AM7 will schedule 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 No renew calibration certificates of the sound level meters used during the impact monitoring program in this month are provided

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, **16** 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 **24** monitoring events were carried out in this reporting month.

MONITORING RESULTS WITH DATE AND TIME

- 5.17 Monitoring results in this reporting month for air quality and construction noise were summarized at **Tables 5-3 to 5-7**. Power disconnection from the landlord at AM6 was recorded on 15 January 2009. ET had liaison with the landlord and rectify immediately, monitoring at AM6 had resume on 16 January 2009.
- 5.18 Exceedances for 24-Hour TSP monitoring were recorded at AM1 on 15 January 2009 (Action Level) and AM5 on 09 January 2009 (Limit Level). ET had liaison with the Contractor to conduct the investigation, only remove formwork, falsework and sheetpile extraction were undertaken. Dust suppression measures with water spraying were applied on-site and no dust complaint was received at the vicinity area. The exceedances on 09 and 15 January 2009 were not project related. No further exceedance of air quality and construction noise was recorded in this reporting month.

Table 5-3 Summary of Air Quality Monitoring Results

Date	24-Hour TSP ($\mu\text{g}/\text{m}^3$)			
	AM1	AM5	AM6	AM7
3-Jan-09	143	139	133	42
9-Jan-09	139	<u>276</u>	71	94
15-Jan-09	203	195	87 (16-Jan-09)	163
21-Jan-09	134	151	47	185
Average (Range)	155 (134-203)	190 (139-276)	84 (47-133)	121 (42-185)
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.
Bold and italic is exceed the Action Level.
Bold and underline is exceed the Limit Level.

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
05-Jan-09	10:35	53.2	43.9	44.9	43.4	44.7	53.5	49.5	52.5
10-Jan-09	10:20	57.1	58.4	56.9	58.1	56.4	69.8	63.1	66.1
16-Jan-09	10:30	56.3	58.9	56.4	55.7	49.8	51.4	55.7	58.7
22-Jan-09	10:30	45.1	51.7	51.8	54.9	56.7	60.7	55.8	58.8
Limit Level									75

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

Table 5-5 Summary of Noise Monitoring Results at NM4

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
05-Jan-09	09:00	59.2	57.6	59.4	53.5	59.5	56.1	58.0	61.0
10-Jan-09	11:00	56.7	57.9	56.4	58.5	59.4	62.1	59.0	62.0
16-Jan-09	09:00	58.9	59.4	57.6	56.2	61.5	58.7	59.0	62.0
22-Jan-09	09:00	60.3	60.8	60.9	58.2	59.7	56.8	59.7	62.7
Limit Level									75

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

Table 5-6 Summary of Noise Monitoring Results at NM6

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
05-Jan-09	11:30	53.0	53.2	54.7	53.2	54.3	54.8	53.9	No Correction Required
10-Jan-09	11:27	54.4	54.6	54.1	55.1	53.2	54.1	54.3	
16-Jan-09	11:26	55.1	56.4	57.1	55.8	55.6	56.2	56.1	
22-Jan-09	11:26	58.2	55.7	54.2	56.3	57.4	55.1	56.4	
Limit Level									75

Note: * Noise monitoring was undertaken at the façade, correction was not necessary.

Table 5-7 Summary of Noise Monitoring Results at NM7

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
05-Jan-09	11:20	56.7	58.9	60.0	57.4	56.3	54.1	57.6	No Correction Required
10-Jan-09	09:00	60.0	61.2	59.4	58.4	60.2	59.3	59.8	
16-Jan-09	11:15	61.2	59.7	62.9	58.7	59.3	62.5	61.0	
22-Jan-09	11:20	56.4	57.9	56.5	60.5	57.8	58.4	58.1	
Limit Level									75

Note: * Noise monitoring was undertaken at the façade, correction was not necessary.

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

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

Date		Air Quality	Noise Leq 30min
1-Feb-09	Sun		
2-Feb-09	Mon	✓	
3-Feb-09	Tue		✓
4-Feb-09	Wed		
5-Feb-09	Thu		
6-Feb-09	Fri		
7-Feb-09	Sat	✓	
8-Feb-09	Sun		
9-Feb-09	Mon		✓
10-Feb-09	Tue		
11-Feb-09	Wed		
12-Feb-09	Thu		
13-Feb-09	Fri	✓	
14-Feb-09	Sat		✓
15-Feb-09	Sun		
16-Feb-09	Mon		
17-Feb-09	Tue		
18-Feb-09	Wed		
19-Feb-09	Thu	✓	
20-Feb-09	Fri		✓
21-Feb-09	Sat		
22-Feb-09	Sun		
23-Feb-09	Mon		
24-Feb-09	Tue		
25-Feb-09	Wed	✓	
26-Feb-09	Thu		✓
27-Feb-09	Fri		
28-Feb-09	Sat		

✓	Monitoring Day
	Sunday or Public Holiday

WEATHER CONDITIONS DURING THE MONITORING MONTH

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

GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

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

WEATHER CONDITIONS THAT AFFECT THE MONITORING RESULTS

5.22 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

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

QA/QC RESULTS AND DETECTION LIMITS

5.24 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 Exceedances for 24-Hour TSP monitoring were recorded at AM1 on 15 January 2009 (Action Level) and AM5 on 09 January 2009 (Limit Level). ET had liaison with the Contractor to conduct the investigation, only remove formwork, falsework and sheetpile extraction were undertaken. Dust suppression measures with water spraying were applied on-site and no dust complaint was received at the vicinity area. The exceedances on 09 and 15 January 2009 were not project related. No further exceedance of air quality was recorded in this reporting month.
- 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 **February 2009** include excavation, concreting, pipe jacking and extract sheet pile at Kam Tin Pumping Station (P1); excavation, backfilling and concreting at Sha Po Pumping Station (P2); backfilling, concreting and extract sheet pile at Nam Sang Wai P/S(P3); sheet piling, excavation, pipe laying, backfilling, concreting and extract sheet pile at Nam Sang Wai Road (S4), backfilling, concreting and extract sheet pile at Pok Wai South Road (S5 & S6). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

SOLID AND LIQUID WASTE MANAGEMENT STATUS

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

Table 7-1 Summary of Waste Quantities for Disposal

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (tons) – Disposed	2.126	Tuen Mun 38 Fill Bank
C&D Materials (Inert) (tons) – Reused	0	DSD Contract DC/2005/02
C&D Materials (Non-Inert) (tons)	0	NA
Chemical Waste (Litres)	0	NA
General Refuse (tons)	0.04	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 50m³ 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 From the Contractor information, site was close from 26 to 30 January 2009 for Chinese Lunar Year Holiday. Representatives of the Engineer, the Contractor and ET carried out regular weekly site inspection on 05, 13 and 20 January 2009 to evaluate the site environmental performance. No non-compliance was found in this reporting month. Five observations were recorded from the ET weekly site inspections. The monthly IEC site audit for **January 2009** was undertaken on 20 January 2009. No non-compliance and three 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

DATE: 1-24-54
PROJECT: ...
DRAWN BY: ...

SECTION 1

PROJECT: ...
DRAWN BY: ...

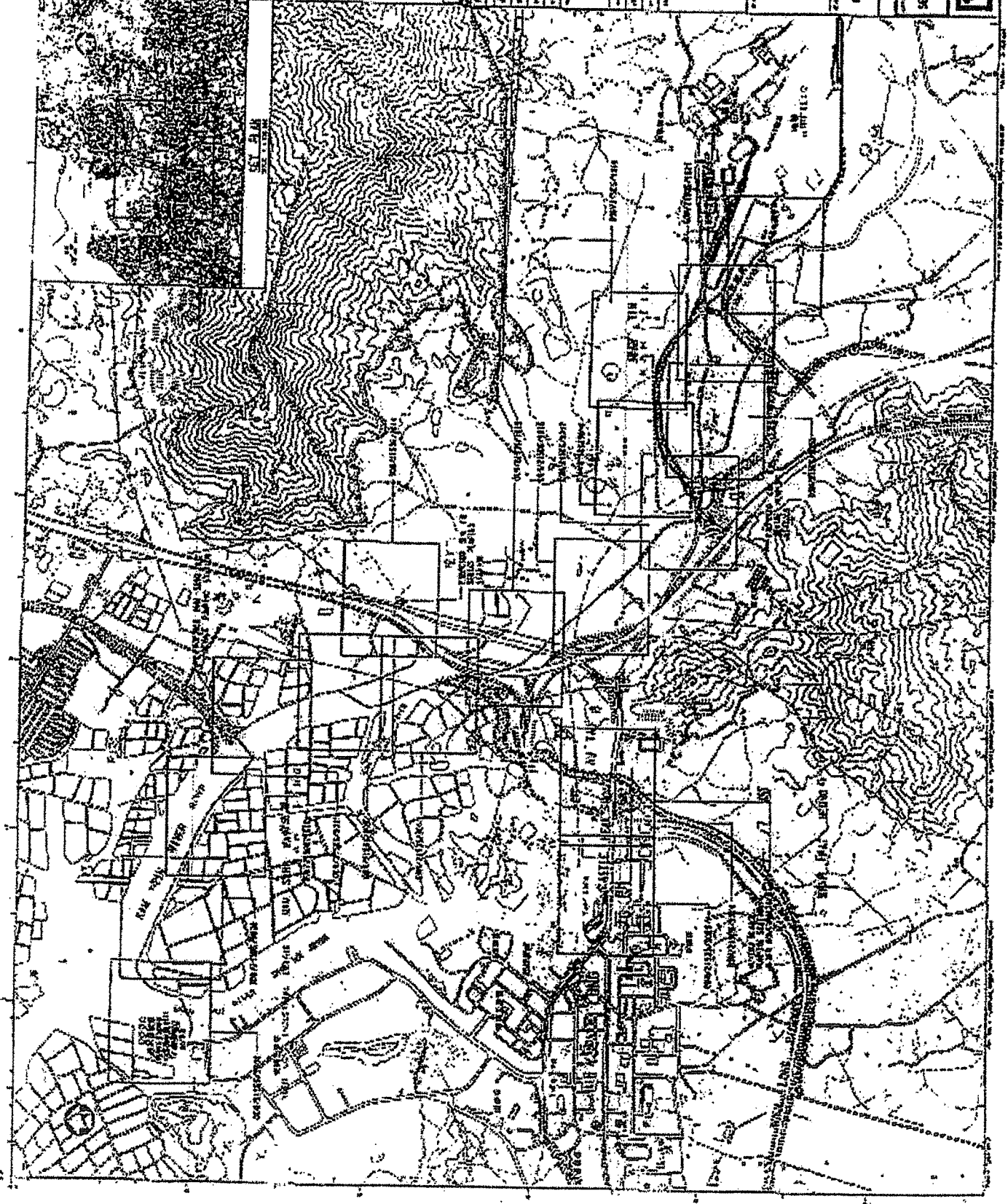
FOR TENDER PURPOSES ONLY
DATE: 1-24-54

NO.	DESCRIPTION	DATE
1
2
3
4
5
6
7
8
9
10

DATE OF WORK: ...
PROJECT NO: ...

COMPETITION NO: ...
DATE OF WORK: ...

SECTION: PROJECTS DIVISION
PROJECT NO: ...

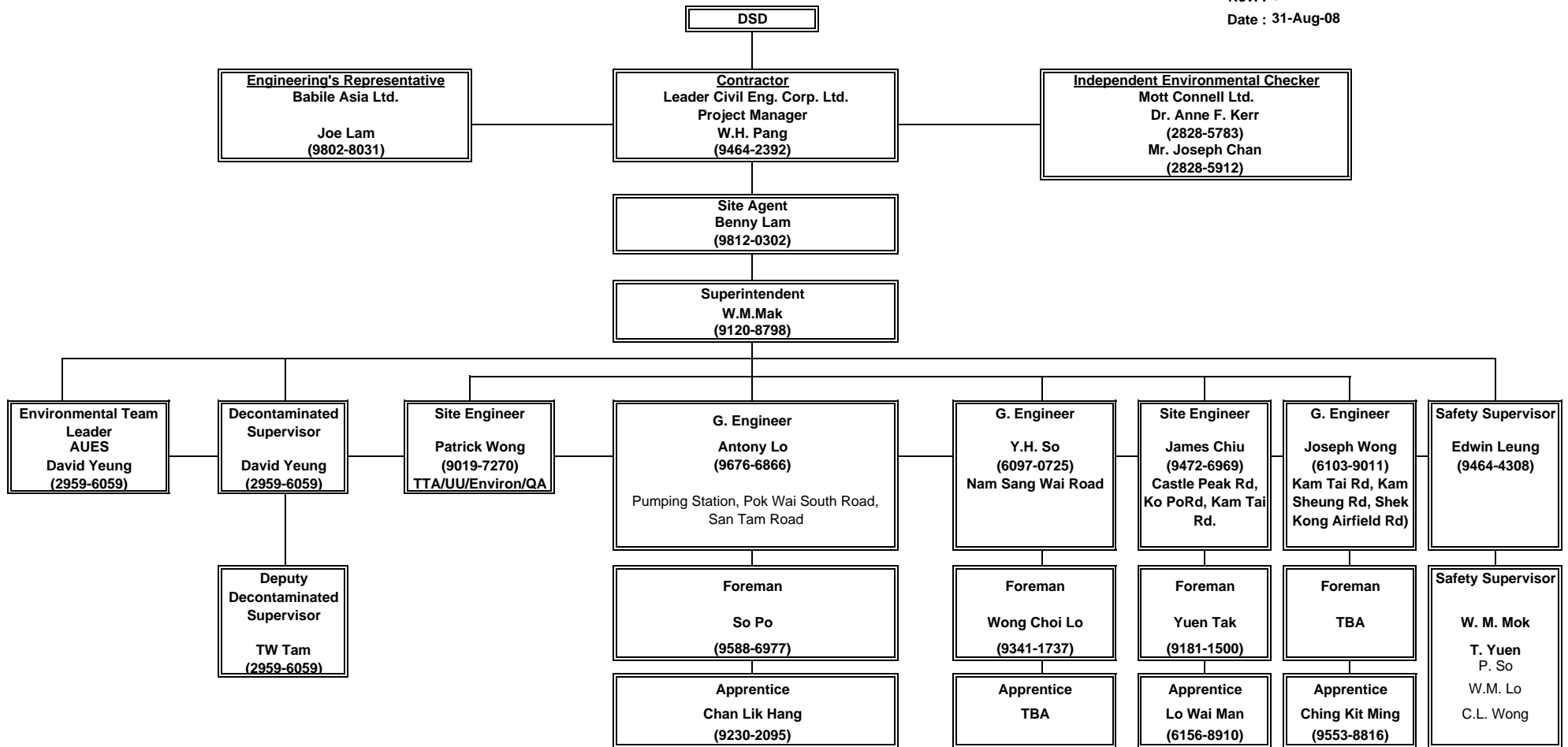


ANNEX B

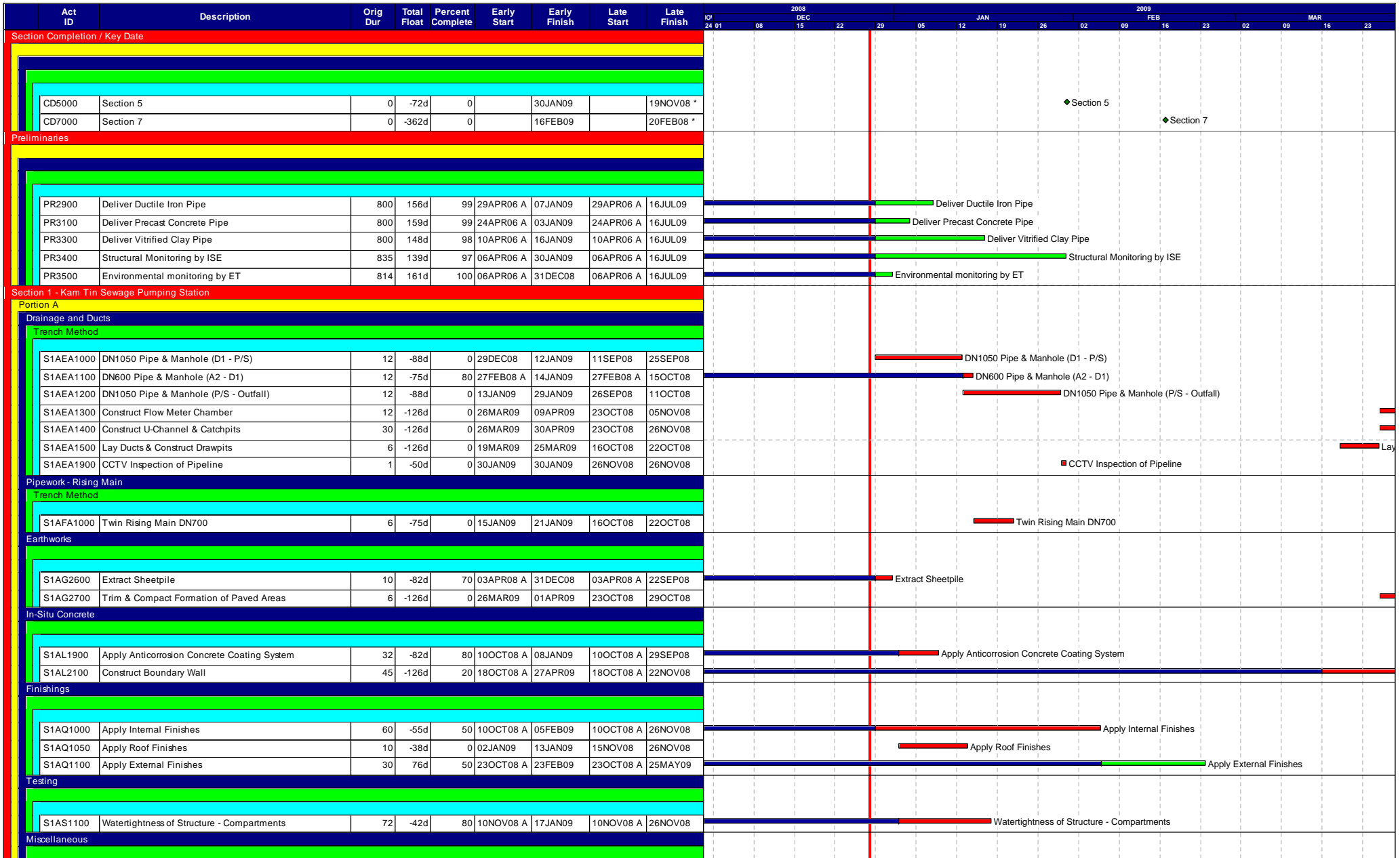
PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE

**Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin,
Nam Sang Wai and Au Tau in Yuen Long
Project Environmental Organization Chart**

Rev : 02
Date : 31-Aug-08



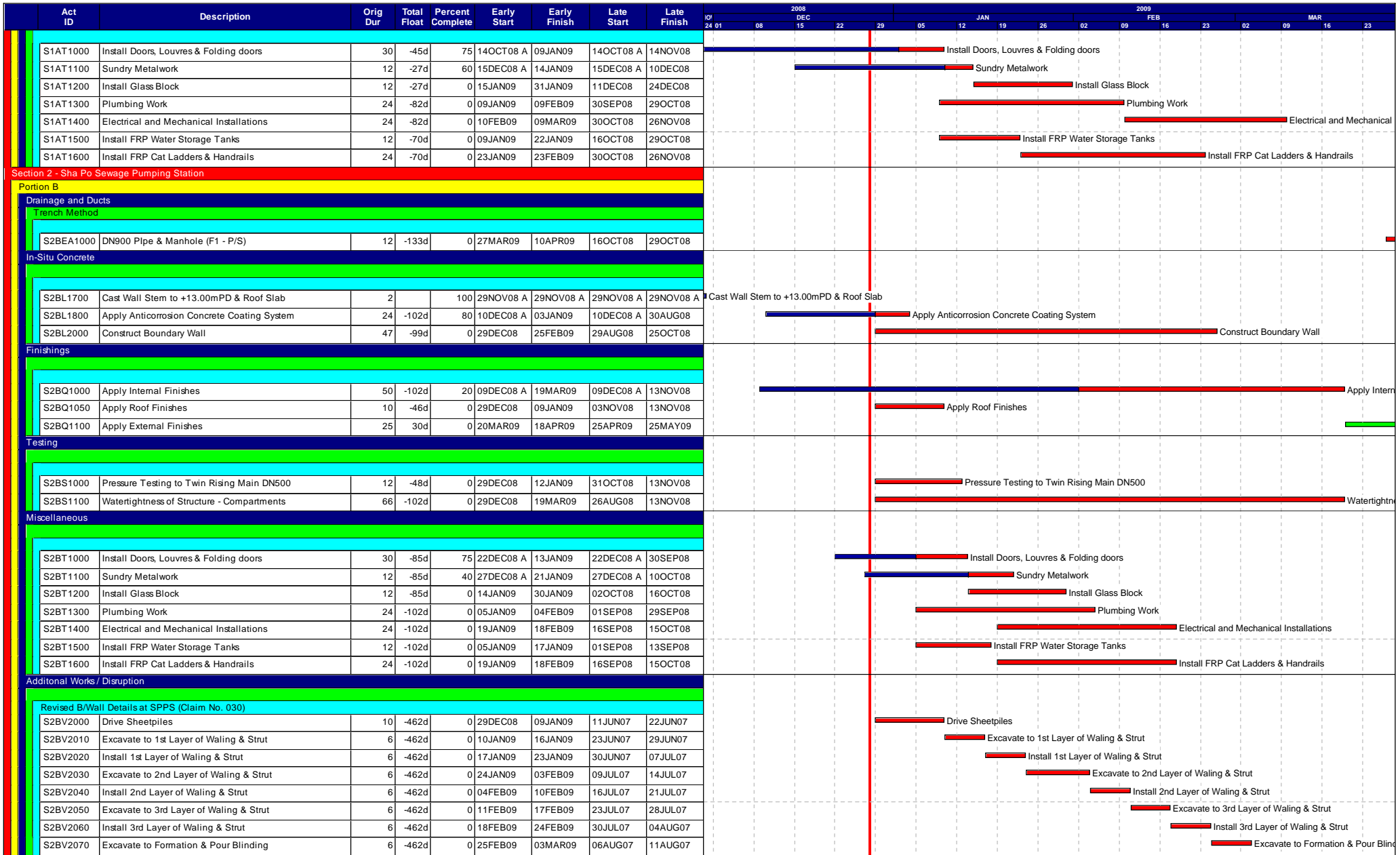
ANNEX C
CONSTRUCTION PROGRAM



Start date 19DEC05
 Finish date 18OCT10
 Data date 28DEC08
 Page number 1A
 Primavera Systems, Inc.

Leader Civil Engineering Corp. Ltd.
 DSD Contract No. DC/2005/02
 3-Month Rolling Programme - 3M01 at 29 December 2008

Early bar
 Progress bar
 Critical bar
 Summary bar
 Start milestone point
 Finish milestone point



Start date 19DEC05
 Finish date 18OCT10
 Data date 28DEC08
 Page number 2A
 Primavera Systems, Inc.

Leader Civil Engineering Corp. Ltd.
 DSD Contract No. DC/2005/02
 3-Month Rolling Programme - 3M01 at 29 December 2008

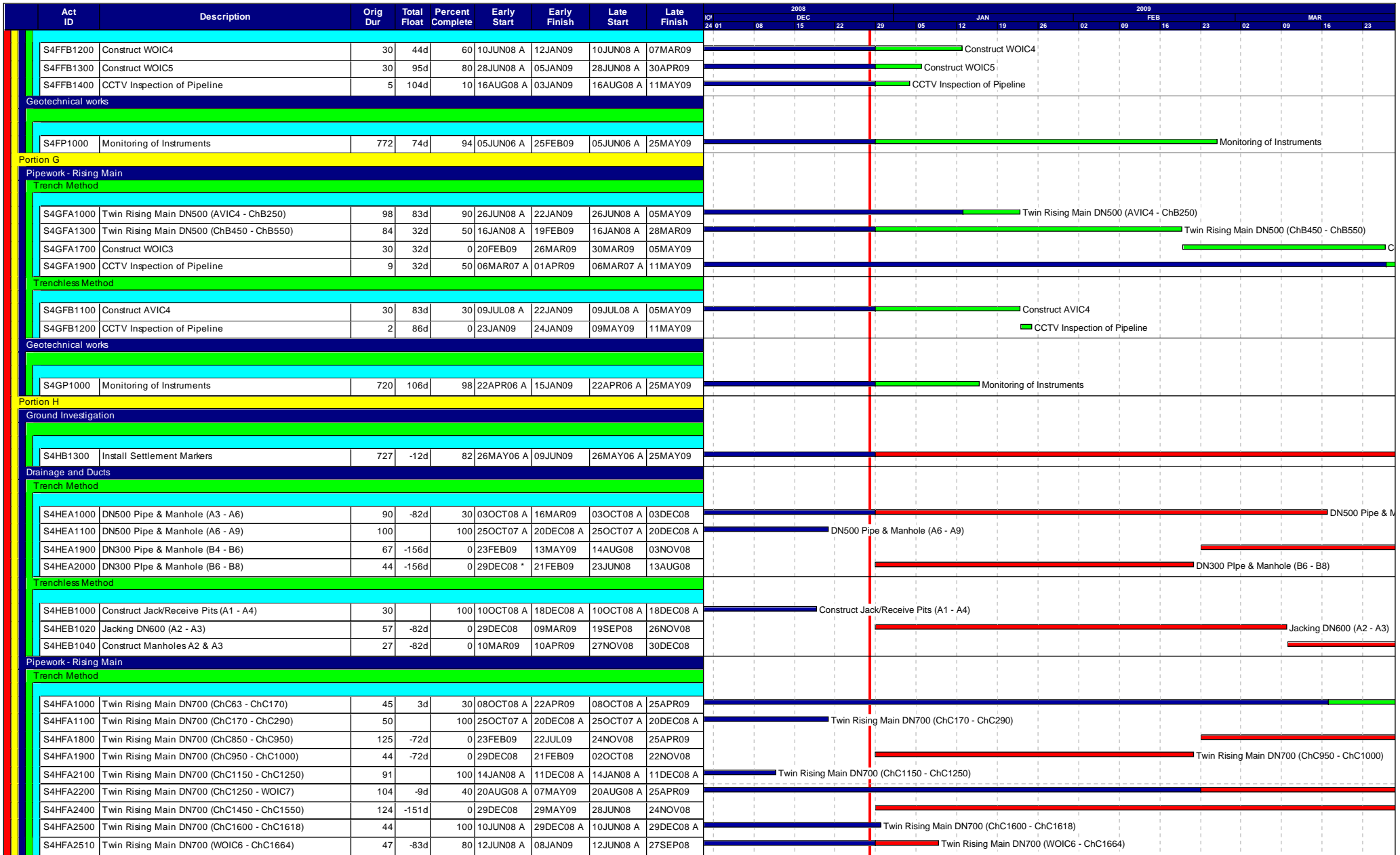
Legend:
 ■ Early bar
 ■ Progress bar
 ■ Critical bar
 ■ Summary bar
 ◆ Start milestone point
 ◆ Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	2008												2009											
									01	08	15	22	29	05	12	19	26	02	09	16	23	02	09	16	23							
S3CP1000	Monitoring of Instruments	787	-71d	98	06APR06 A	20JAN09	06APR06 A	25OCT08	Monitoring of Instruments																							
Finishings																																
S3CQ1050	Apply Roof Finishes	10	-126d	0	18MAR09	28MAR09	15OCT08	25OCT08																								
Testing																																
S3CS1000	Pressure Testing to Twin Rising Main DN900	12	-71d	0	07JAN09	20JAN09	13OCT08	25OCT08	Pressure Testing to Twin Rising Main DN900																							
S3CS1100	Watertightness of Structure - Grid D-E	48	-166d	0	23FEB09	20APR09	02AUG08	27SEP08																								
S3CS1210	Watertightness of Structure - Grid F-G	44	-162d	0	23FEB09	15APR09	07AUG08	27SEP08																								
Section 4 - Sewers & RM in Portion D, F, G, H, I																																
Portion D																																
Drainage and Ducts																																
Trench Method																																
S4DEA1000	DN1200 Pipe & Manhole (G1-Treatment Plant)	60	17d	40	31MAR08 A	04MAY09	31MAR08 A	23MAY09																								
Pipework - Rising Main																																
Trench Method																																
S4DFA1100	Twin Rising Main DN900 (ChA1850- WOIC1)	101	8d	55	15DEC06 A	15MAY09	15DEC06 A	25MAY09																								
S4DFA1200	Twin Rising Main DN900 (ChA2095 - ChA2215)	148	8d	55	20DEC07 A	20MAR09	20DEC07 A	30MAR09	Twin Rising																							
S4DFA1300	CCTV Inspection of Pipeline	5	22d	20	16AUG08 A	14APR09	16AUG08 A	11MAY09																								
Trenchless Method																																
S4DFB1100	Construct WOIC1	30	45d	0	29DEC08	05FEB09	24FEB09	30MAR09	Construct WOIC1																							
S4DFB1200	CCTV Inspection of Pipeline	3	76d	0	06FEB09	09FEB09	08MAY09	11MAY09	CCTV Inspection of Pipeline																							
Geotechnical works																																
S4DP1000	Monitoring of Instruments	602	60d	90	02NOV06 A	13MAR09	02NOV06 A	25MAY09	Monitoring of Instrum																							
Portion F																																
Ground Investigation																																
S4FB1500	Install Settlement Markers	698	86d	95	27APR06 A	11FEB09	27APR06 A	25MAY09	Install Settlement Markers																							
Drainage and Ducts																																
Trench Method																																
S4FEA1000	DN900 Pipe & Manhole (H8 - H7) 1st Stage	53	-54d	0	04MAR09	06MAY09	24DEC08	02MAR09																								
Trenchless Method																																
S4FEB1040	Construct Manhole H2 & H1	27	107d	65	27SEP08 A	08JAN09	27SEP08 A	19MAY09	Construct Manhole H2 & H1																							
S4FEB1600	CCTV Inspection of Pipeline	5	107d	0	09JAN09	14JAN09	20MAY09	25MAY09	CCTV Inspection of Pipeline																							
Pipework - Rising Main																																
Trench Method																																
S4FFA1300	Twin Rising Main DN700 (WOIC5 - ChC2000)	80	45d	30	05JUN08 A	07MAR09	05JUN08 A	30APR09	Twin Rising Main DN700 (WC																							
S4FFA2000	Twin Rising Main DN700 (ChC2300 - ChC2350)	45	38d	0	20JAN09	16MAR09	09MAR09	30APR09	Twin Rising Mai																							
S4FFA2100	Twin Rising Main DN700 (ChC2350 - ChC2400)	45		100	13SEP08 A	18DEC08 A	13SEP08 A	18DEC08 A	Twin Rising Main DN700 (ChC2350 - ChC2400)																							
S4FFA2200	Twin Rising Main DN700 (ChC2400 - WOIC4)	93	38d	80	13SEP08 A	19JAN09	13SEP08 A	07MAR09	Twin Rising Main DN700 (ChC2400 - WOIC4)																							
S4FFA2300	Twin Rising Main DN700 (ChC2639 - H7)	52	-54d	0	29DEC08	03MAR09	24OCT08	23DEC08	Twin Rising Main DN700 (ChC2639 - H7)																							
S4FFA2400	Construct AVIC5	30	53d	0	20JAN09	26FEB09	26MAR09	30APR09	Construct AVIC5																							
S4FFA2600	CCTV Inspection of Pipeline	8	38d	0	17MAR09	25MAR09	02MAY09	11MAY09	CC																							
Trenchless Method																																

Start date 19DEC05
 Finish date 18OCT10
 Data date 28DEC08
 Page number 4A
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 DSD Contract No. DC/2005/02
 3-Month Rolling Programme - 3M01 at 29 December 2008

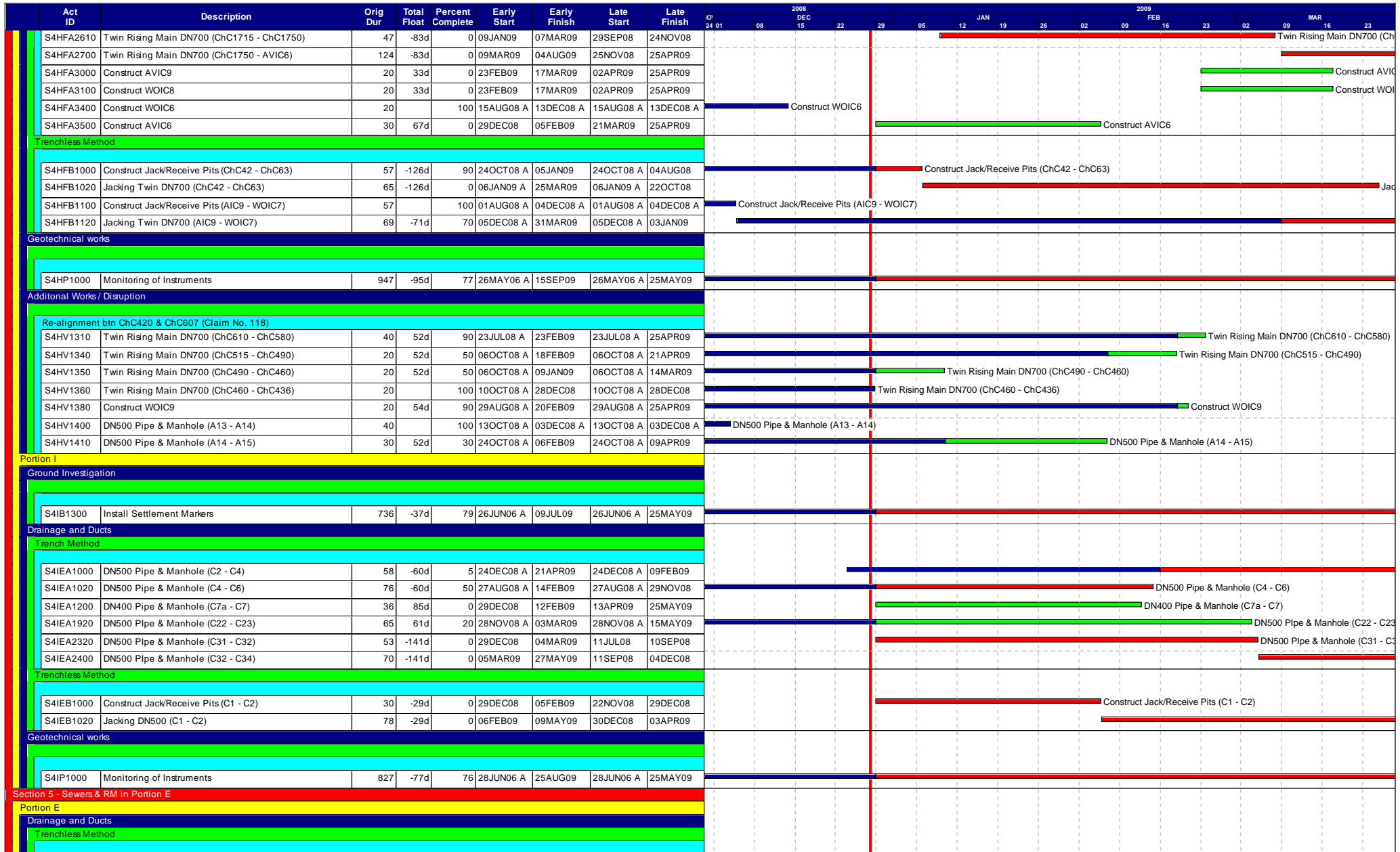
- Early bar
- Progress bar
- Critical bar
- Summary bar
- ◆ Start milestone point
- ◆ Finish milestone poi



Start date	19DEC05
Finish date	18OCT10
Data date	28DEC08
Page number	5A
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DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 29 December 2008

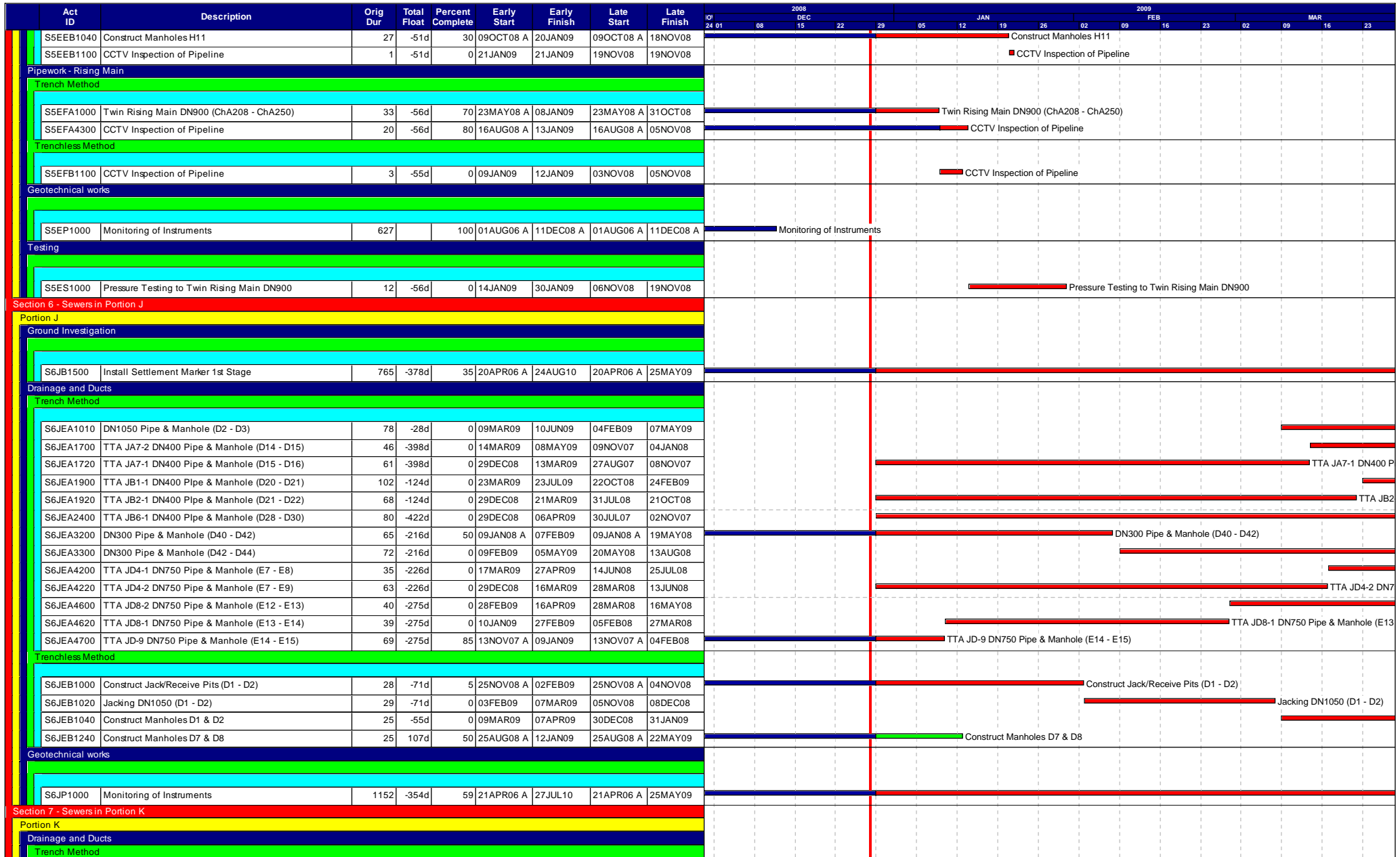
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- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point



Start date 19DEC05
 Finish date 18OCT10
 Data date 28DEC08
 Page number 6A
 Primavera Systems, Inc.

Leader Civil Engineering Corp. Ltd.
 DSD Contract No. DC/2005/02
 3-Month Rolling Programme - 3M01 at 29 December 2008

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point



Start date 19DEC05
 Finish date 18OCT10
 Data date 28DEC08
 Page number 7A
 Primavera Systems, Inc.

Leader Civil Engineering Corp. Ltd.
 DSD Contract No. DC/2005/02
 3-Month Rolling Programme - 3M01 at 29 December 2008

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	2008					2009														
									IOI	DEC	JAN	FEB	MAR	DEC	JAN	FEB	MAR											
									24	01	08	15	22	29	05	12	19	26	02	09	16	23	02	09	16	23		
S7KEA1105	DN600 Pipe & Manhole (M2 - M3) Stage 2	35	-293d	0	29DEC08	11FEB09	03JAN08	15FEB08																				
S7KEA1610	DN900 Pipe & Manhole (M11 - M12) Stage 2	54	-266d	85	20AUG08 A	07JAN09	20AUG08 A	15FEB08																				
S7KEA2100	CCTV Inspection of Pipeline	5	-293d	30	16AUG08 A	16FEB09	16AUG08 A	20FEB08																				
Trenchless Method																												
S7KEB1300	CCTV Inspection of Pipeline	2	-255d	30	16AUG08 A	29DEC08	16AUG08 A	20FEB08																				
Roads and Pavings																												
S7KH1000	Concrete Footpath from M14 to M16a	18	-266d	30	25OCT08 A	12JAN09	25OCT08 A	20FEB08																				
Geotechnical works																												
S7KP1000	Monitoring of Instruments	668		100	24MAY06 A	16DEC08 A	24MAY06 A	16DEC08 A																				
Section 8 - Preservation and Protection of Trees																												
All Portions																												
Landscape Softworks and Establishment Works																												
S8QR1100	Preservation & Protection of Preserved Trees	744	-21d	81	29JUL06 A	19JUN09	29JUL06 A	25MAY09																				
Decontamination Works																												
Portion H																												
Decontamination																												
S9HU1000	Decontamination Works	48	59d	0	24FEB09	21APR09	06MAY09	02JUL09																				

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DSD Contract No. DC/2005/02
3-Month Rolling Programme - 3M01 at 29 December 2008

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point

ANNEX D

PHOTOGRAPHICAL RECORDS – NOISE BARRIER ON-SITE



ANNEX E

LOCATIONS OF MONITORING STATIONS

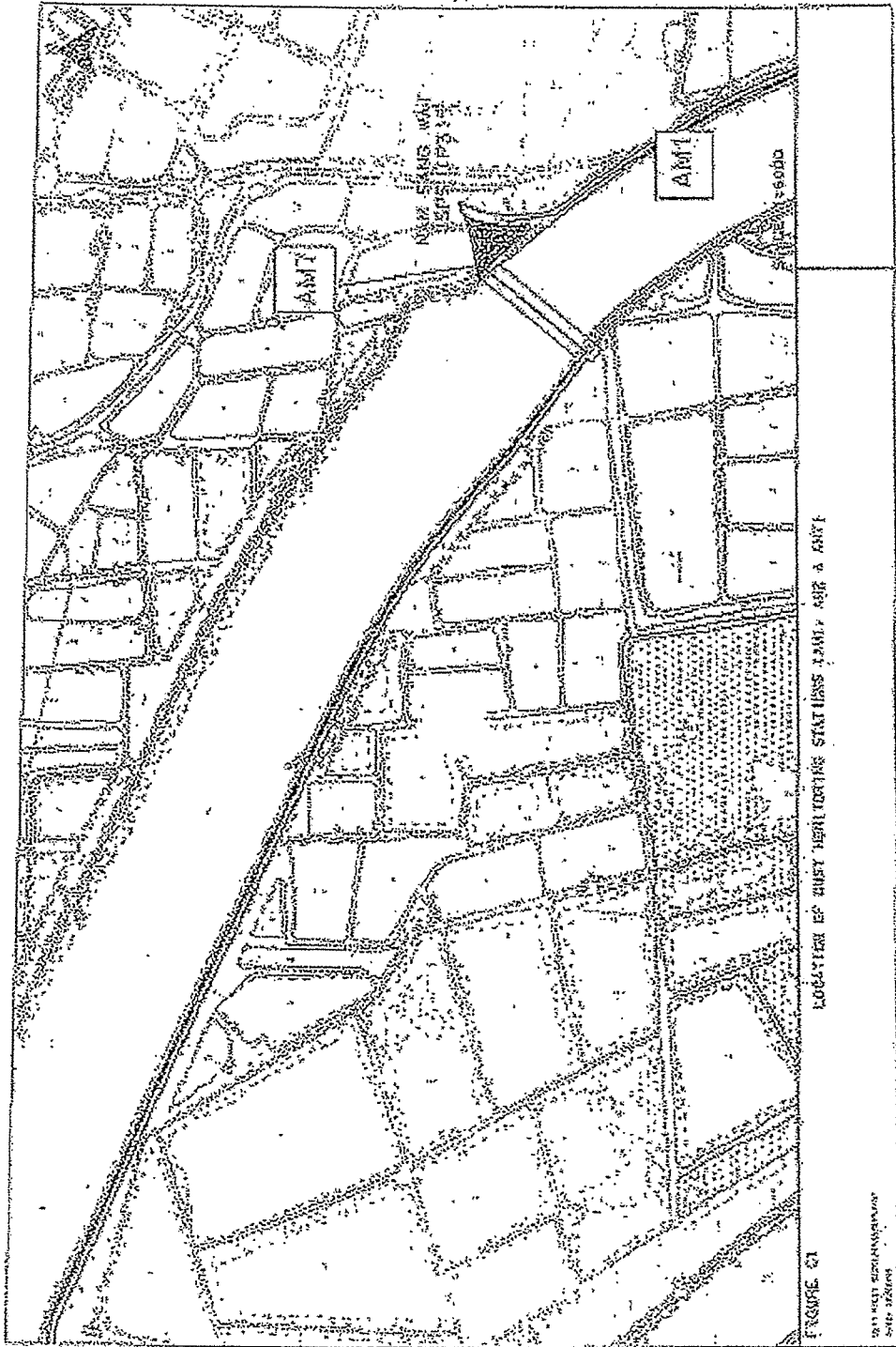


FIGURE 61

LOCATION OF CHIEF DEPT. OF THE STATISTICS (A.M.) & AIR & AIR

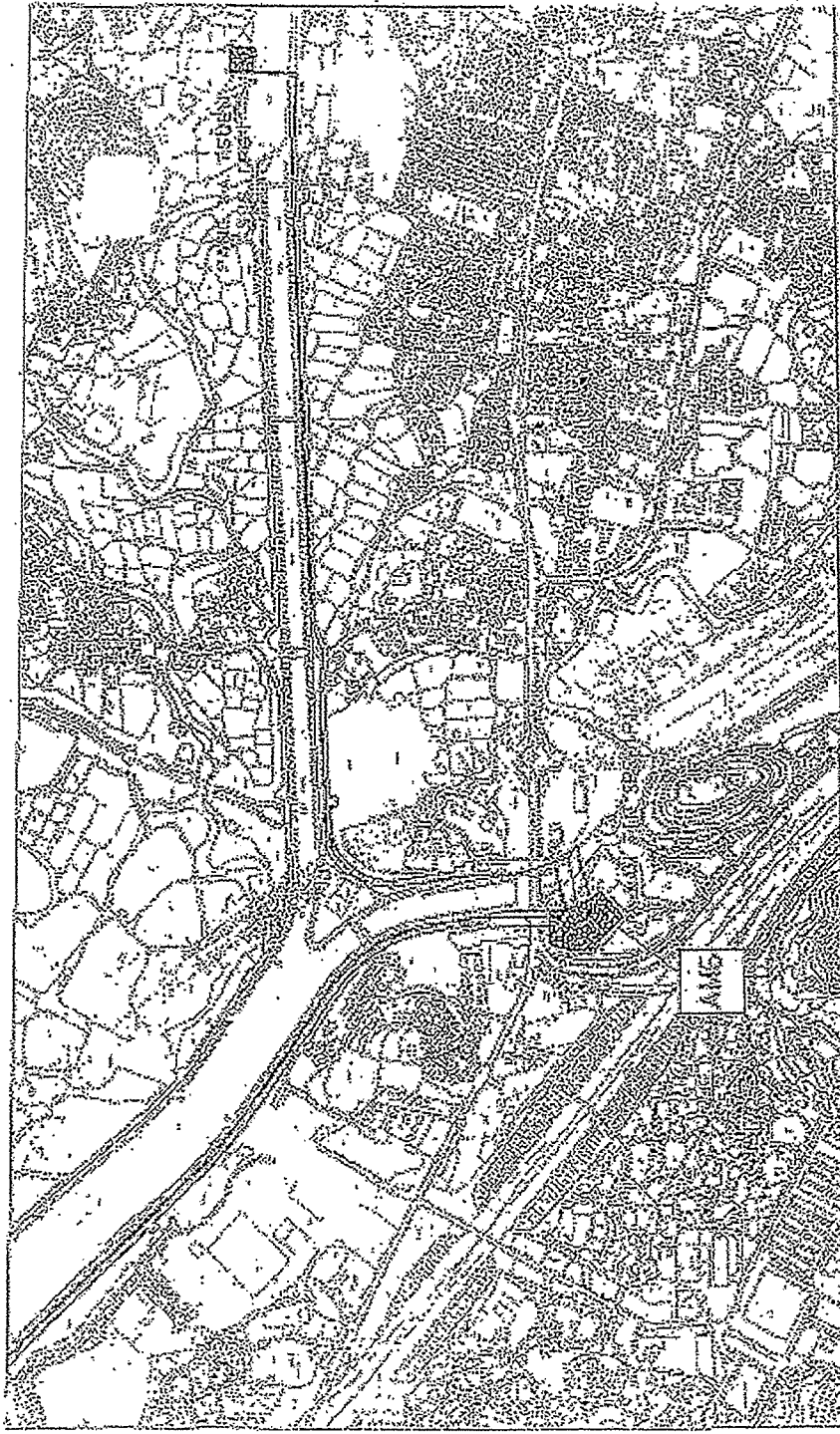
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C.



FIGURE OF BEST MONITORING STATION LAYOUT

FIGURE 22

SCALE: 1/4" = 1'-0"
SEE PLAN, SECTION 2000/2001



LOCATION OF BEST MONITORING STATIONS (AMC, AM6 & AM10)

FIGURE 20

AMERICAN OVERSEAS AIRWAYS
1960-1961

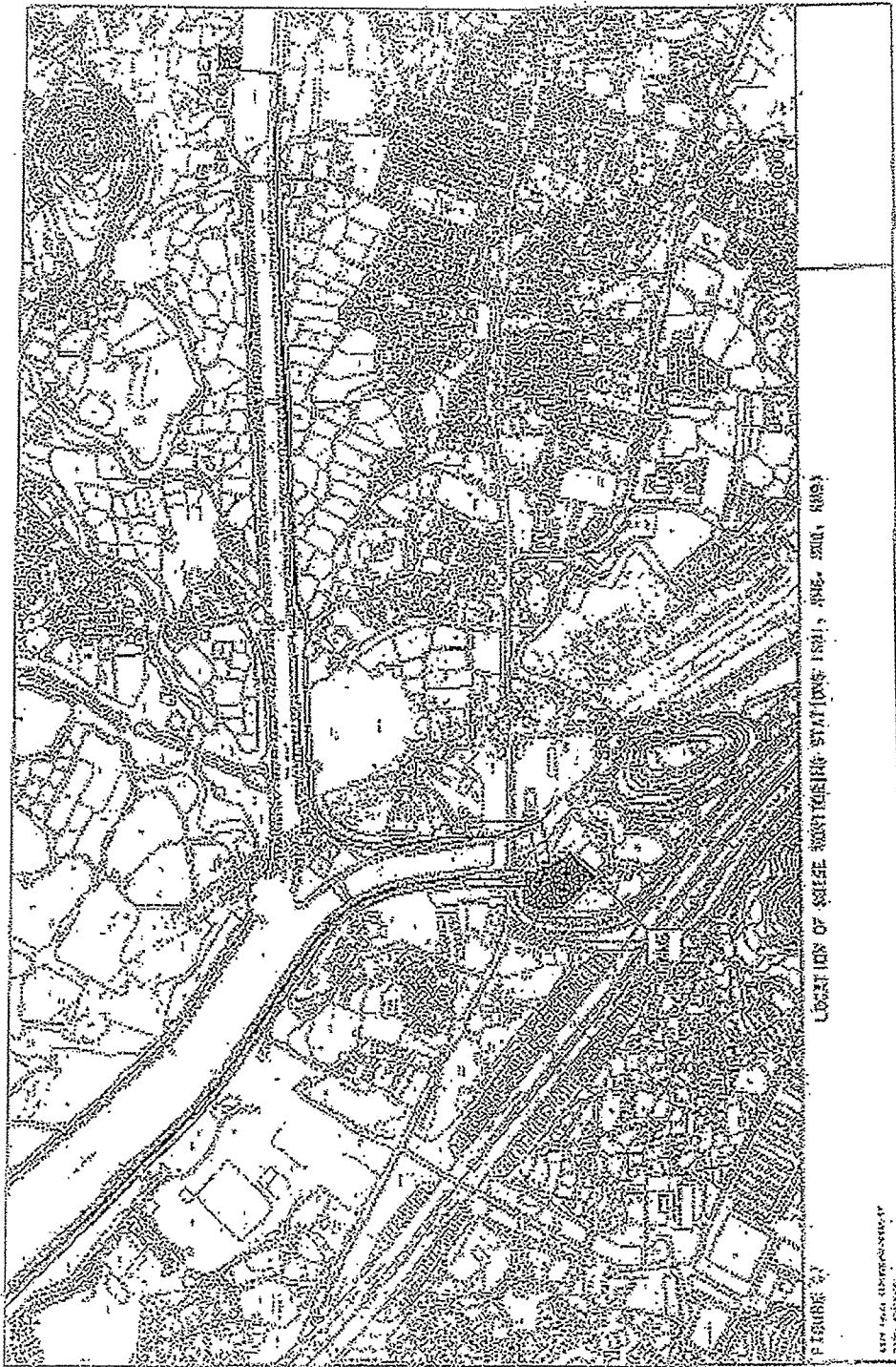


FIGURE 4
LOCATIONS OF SILECE MONITORING STATIONS 1981, 1982, 1983

SEE PAGE 10 FOR A LIST OF
THE STATIONS

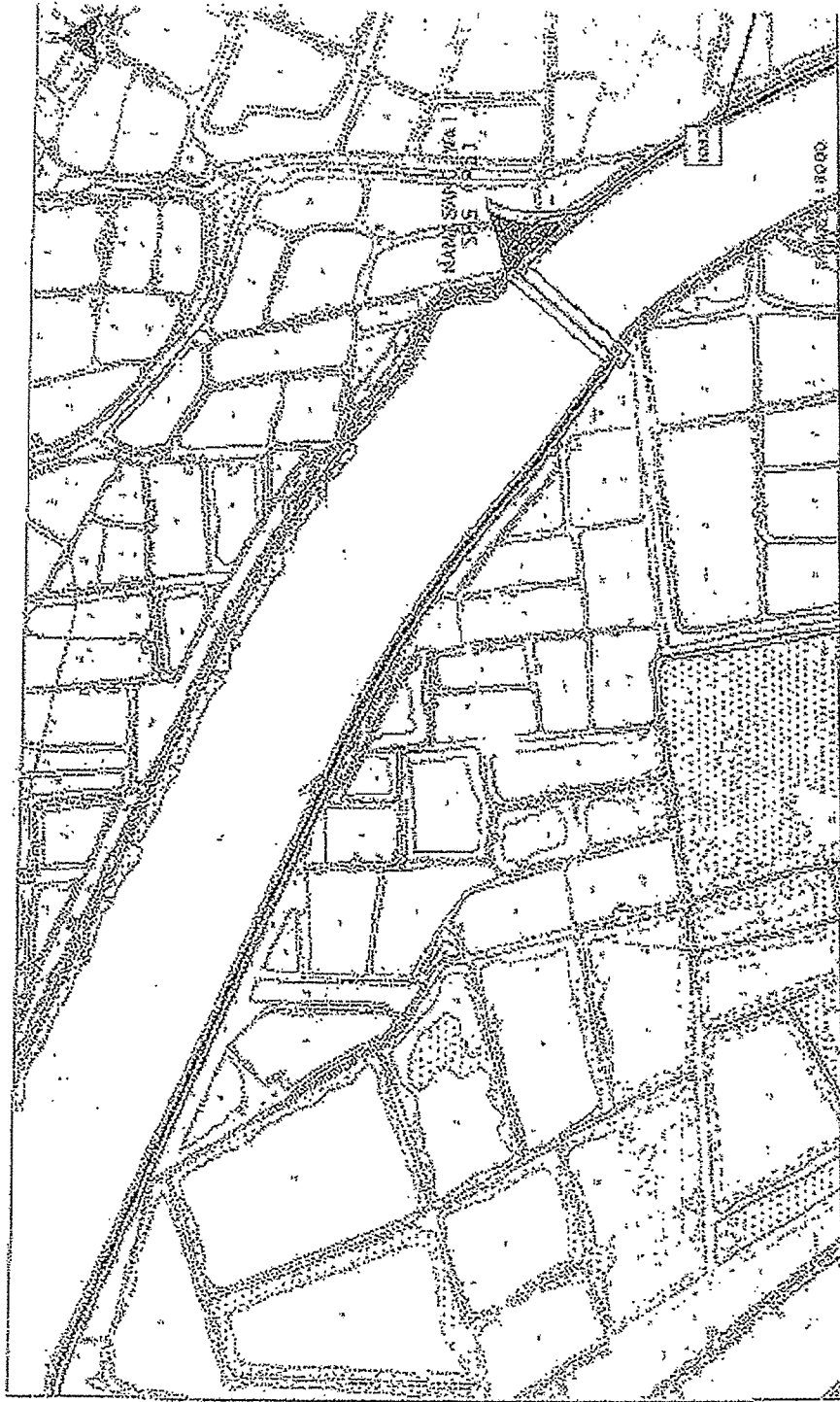


FIGURE 10

LOCATION OF HOUSE FOUNDATIONS STATIONS 1043, 1045, 1047

REPRODUCED FROM THE
1910 CENSUS



LOCATION OF NOISE MONITORING STATIONS FROM MAP 2

SCALE 1:500

BY: [unreadable]
DATE: [unreadable]

ANNEX F
EVENT AND ACTION PLAN

Monthly EM&A Report for January 2009 (No. 34) (Designated Elements)

Event and Action Plan for Construction Phase Air Quality

EVENT	ACTION			
	ET Leader	IEC	Engineer	Contractor
<i>Action Level</i>				
Exceedance for one sample	<ol style="list-style-type: none"> Identify source (s) of exceedance and inform IEC, Contractor and Engineer Repeat dust measurements to confirm findings Increase monitoring frequency to daily Assess efficacy of remedial measures and keep the Contractor, IEC, and Engineer informed 	<ol style="list-style-type: none"> Check monitoring data submitted by ET Check monitoring data trends and Contractors working methods Check and confirm Contractors proposed remedial actions and working methods are appropriate 	<ol style="list-style-type: none"> Confirm receipt of notification of exceedance in writing Remind the Contractor of his contractual obligations and review the Contractor's working methods Discuss remedial actions with the Contractor and IEC Inform complainant of actions taken, if necessary 	<ol style="list-style-type: none"> Rectify any unacceptable practice Liaise with Engineer and IEC to develop appropriate remedial measures to reduce dust impact Amend working methods and remedial proposals if required by the Engineer or IEC Implement the agreed remedial actions upon instruction from the Engineer and IEC
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> Identify source (s) of exceedance and inform IEC, Contractor and Engineer Repeat measurements to confirm findings Increase the monitoring frequency to daily to assess the efficacy of remedial measures and keep the Contractor informed Discuss remedial actions with IEC and Contractor If exceedance continues, arrange meeting with Engineer, IEC and Contractor to review working practices and identify further remedial actions If exceedance stops, inform the Contractor and cease additional monitoring 	<ol style="list-style-type: none"> Check monitoring data submitted by ET Check monitoring data trends and Contractors working methods Discuss with Contractor and Engineer on possible remedial measures Check and confirm Contractors proposed remedial measures are appropriate Determine the efficacy of remedial actions and keep the Engineer informed 	<ol style="list-style-type: none"> Confirm receipt of notification of exceedance in writing Remind the Contractor of his contractual obligations and review the Contractor's working methods Discuss remedial actions with the Contractor and IEC Ensure remedial measures are properly implemented Inform complainant of actions taken, if necessary. 	<ol style="list-style-type: none"> Rectify any unacceptable practice, if possible Submit proposals for remedial actions to Engineer and IEC within three working days of notification Discuss and amend remedial actions, if required, by the Engineer and IEC 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
<i>Limit Level</i>				
Exceedance for one sample	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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
<i>Limit Level</i>				
Exceedance for one sample	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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 <i>Air Pollution Control (Construction Dust) Regulations</i>								
3.5	A1	Site boundary and entrance <ul style="list-style-type: none"> 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		✓			<i>Part III, Clause 13 (c), Air Pollution Control (Construction Dust) Regulations</i>
3.5	A2	Access Road <ul style="list-style-type: none"> 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		✓			<i>Part III, Clause 14, (b), Air Pollution Control (Construction Dust) Regulations</i>
3.5	A3	Stockpiling of Dusty Materials <ul style="list-style-type: none"> 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		✓			<i>Part IV, Clause 18, (a, b & c), Air Pollution Control (Construction Dust) Regulations</i>
3.5	A4	Loading, unloading or transfer of dusty materials <ul style="list-style-type: none"> 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		✓			<i>Part IV, Clause 19, Air Pollution Control (Construction Dust) Regulations</i>
3.5	A5	Use of vehicles <ul style="list-style-type: none"> 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		✓			<i>Part IV, Clause 21, (1), Air Pollution Control (Construction</i>

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	<ul style="list-style-type: none"> 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		✓			<i>Dust) Regulations Part IV, Clause 21, (2), Air Pollution Control (Construction Dust) Regulations</i>
3.5	A7	<p>Power-driven drilling, and cutting</p> <ul style="list-style-type: none"> 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		✓			<i>Part IV, Clause 22, Air Pollution Control (Construction Dust) Regulations</i>
3.5	A8	<p>Excavation and earth moving</p> <ul style="list-style-type: none"> 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		✓			<i>Part IV, Clause 24, Air Pollution Control (Construction Dust) Regulations</i>
3.5	A9	<p>Construction of the superstructure of a building</p> <ul style="list-style-type: none"> 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 at 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		✓			<i>Part I, Clause 6, (a), Air Pollution Control (Construction Dust) Regulations</i>
3.5	A10	<ul style="list-style-type: none"> 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		✓			<i>Part I, Clause 6, (b), Air Pollution Control (Construction Dust) Regulations</i>

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								
4.7.1	B1	<p>General Site Clearance – Demolition Works</p> <ul style="list-style-type: none"> Use of quiet PME which meet the SWLs taken from British Standard, <i>Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997</i> (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		✓			<i>Annex 5 of EIAO-TM</i>
4.7.1	B2	<p>Construction of Sewage Pumping Stations P1, P2 & P3</p> <ul style="list-style-type: none"> Use of quiet PME which meet the SWLs taken from British Standard, <i>Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997</i>, 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		✓			<i>Annex 5 of EIAO-TM</i>
4.7.1	B3	<p>Sewers and Rising Mains using Open Trench Method</p> <ul style="list-style-type: none"> Use of quiet PME which meet the SWLs taken from British Standard, <i>Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997</i>, 	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		✓			<i>Annex 5 of EIAO-TM</i>
4.7.1	B4	<ul style="list-style-type: none"> 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 excavation works.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			<i>Annex 5 of EIAO-TM</i>
4.7.1	B5	<ul style="list-style-type: none"> 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		✓			<i>Annex 5 of EIAO-TM</i>
4.7.1	B5	<ul style="list-style-type: none"> 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		✓			<i>Annex 5 of EIAO-TM</i>

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	
4.7.1	B6	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. Sewers and Rising Mains using Pipe Jacking Method • Use of quiet PME which meet the SWLs taken from British Standard, <i>Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997,</i>	activities. To control potential noise impacts from PME during construction works	line of sight. Throughout the full duration of the road opening activities. Site wide and throughout the full duration of the construction contract.	The Contractor		✓			<i>Annex 5 of EIAO-TM</i>
4.7.1	B7	Road Pavement and Finishes • Use of quiet PME which meet the SWLs taken from British Standard, <i>Noise and Vibration Control on Construction Open Sites, BS 5228: Part 1: 1997,</i>	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		✓			<i>Annex 5 of EIAO-TM</i>
		WATER QUALITY - Construction Phase No water quality monitoring is required under this study.								
6.6.2	D1	WASTE - Construction Phase 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 (<i>Waste Disposal (Chemical Waste) (General) Regulations</i>); and • Dumping Licence (<i>Land (Miscellaneous Provisions) Ordinance (Cap 28)</i>)	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	✓	✓			<i>Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste)(General) Regulation (Cap 354), the Land (Miscellaneous Provisions) Ordinance (Cap 28)</i>

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	
6.6.2	D2	<p>Chemical Waste Chemical waste that is produced, as defined by Schedule 1 of the <i>Waste Disposal (Chemical Waste) (General) Regulation</i>, 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.</p>	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		✓			<i>Part II, (6) Waste Disposal (Chemical Waste) (General) Regulation</i>
6.6.2	D3	<p>Storage, Packaging and Labelling of Chemical Waste Containers used for storage of chemical wastes should:</p> <ul style="list-style-type: none"> 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		✓			<i>Part IV, (9, 10, 11 & 12) Waste Disposal (Chemical Waste) (General) Regulation</i>
6.6.2	D4	<p>Storage of chemical waste The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> 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		✓			<i>Part IV, (13,14, 15, 16, 17, & 18) Waste Disposal (Chemical Waste) (General) Regulation</i>

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								
6.6.2	D5	<p>Disposal of chemical waste</p> <ul style="list-style-type: none"> The Contractor should ensure that the disposal of chemical waste is via a licensed Waste Collector and in accordance with the <i>Waste Disposal (Chemical Waste) (General) Regulations</i>. <p><i>Management of Waste Disposal</i> 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 <i>Land (Miscellaneous Provisions) Ordinance (Cap28)</i> and the <i>Works Bureau Technical Circular No. 5/99</i>.</p>	<p>To control the disposal of chemical waste in accordance with the Regulations.</p>	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			<i>Part IV, (20 -25) Waste Disposal (Chemical Waste) (General) Regulation</i>
		<p>LAND CONTAMINATION- Construction Phase</p> <p>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</p>	<p>To monitor the disposal of C&DM and solid wastes at public filling facilities and landfills and to control fly-tipping.</p>	To be implemented at all worksites throughout the full duration of the construction phase.	The Engineer/ Contractor		✓			<i>Land (Miscellaneous Provisions) Ordinance (Cap 295) and Works Bureau Technical Circular No. 5/99.</i>
7.5.6	E1	<p>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</p>	<p>To determine the presence of soil and groundwater contamination and remedy any potential concerns to acceptable levels.</p>	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.	✓				<i>EIAO TM Annex 19/3.1.1 & 3.1.2</i>

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.								
8.7.1	F1	<p>ECOLOGY - Construction Phase Mitigation Measures Adopted - Avoidance 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</p>	To schedule construction works in order to minimise potential impacts to winter visiting birds. To be confirmed by regular site inspections.	At identified location (<i>Figure 8.7a</i>) for the full duration of the construction contract.	The Contractor		✓			
8.7.2	F2	<p>Mitigation Measures Adopted - Minimisation Pipe jacking method should be used instead of dredging where sewers and rising mains cross over existing MDC within the WCA and WBA.</p>	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	<p>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.</p> <p>The site inspections shall check and report the number of workfronts and implementation of</p>	To schedule noisy construction activities to minimise potential impacts to winter visiting birds.	Work fronts other than identified sections within WBA & WCA (see <i>Figure 8.7a</i> 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	
8.7.3	F5	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 Quietened construction plant and equipment (as shown in <i>Table F2</i>) 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		✓			<i>Air Pollution Control</i>

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	
8.7.4	F7	construction and provide temporary fire fighting equipment in the work areas. No filling and dumping to the remaining abandoned fishpond at P2.	minimising potential damage to trees and shrubs. To avoid disturbance to abandoned fishponds from construction activities and illegal dumping.	the full duration of the construction contract. At P2 for full duration of the construction contract	The Contractor		✓			(Open Burning) Regulation
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: <ul style="list-style-type: none"> existing landscape elements (such as mature trees), transplantation of valuable trees, new compensatory planting 		project.						
		<ul style="list-style-type: none"> 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	<p>EM&A REQUIEMENTS - Construction Phase</p> <p><i>Air Quality</i> 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.</p> <ul style="list-style-type: none"> 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		✓			<i>Air Pollution Control (Construction Dust) Regulations</i>

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	<ul style="list-style-type: none"> at any additional locations, where considered necessary, in agreement with EPD. <p><i>Construction Noise</i> 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.</p> <ul style="list-style-type: none"> (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		✓			<i>Noise Control Ordinance</i>

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)	17 Nov 08	17 Feb 09
2*		Greasby Anderson GMWS2310 High Volume Sampler	0355 (AM5)	02 Jan 09	02 Apr 09
3*		Greasby Anderson GMWS2310 High Volume Sampler	10394 (AM6)	02 Jan 09	02 Apr 09
4**		Greasby Anderson GMWS2310 High Volume Sampler	1283 (AM7)	17 Nov 08	17 Feb 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	2292167	22 Apr 08	22 Apr 09
8		Bruel & Kjaer 2238 Integrating Sound Level Meter	2285721	22 Apr 08	22 Apr 09

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.

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Sha Po Pumping Station	Date of Calibration: 2-Jan-09
Location ID : AM5	Next Calibration Date: 2-Apr-09
	Technician: Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1025.6	Corrected Pressure (mm Hg)	769.2
Temperature (°C)	13.7	Temperature (K)	287

CALIBRATION ORIFICE

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

CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION		
							Slope =	Intercept =	Corr. coeff. =
18	5.2	5.2	10.4	2.155	50	52.28	31.1451	-15.0451	0.9991
13	4.1	4.1	8.2	1.915	43	44.96			
10	3.2	3.2	6.4	1.693	35	36.60			
7	2	2	4	1.341	26	27.19			
5	1.0	1.0	2	0.952	14	14.64			

Calculations :

$$Qstd = 1/m[\text{Sqrt}(H20(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

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:

$$1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

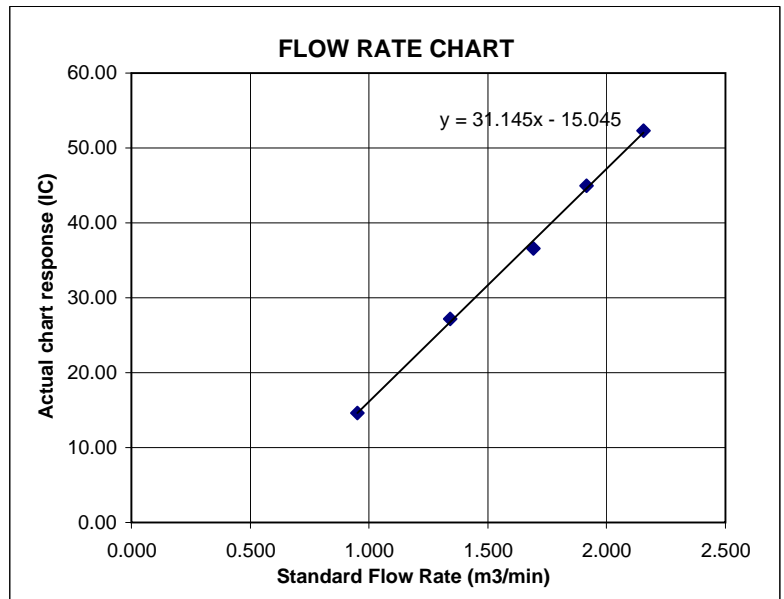
m = sampler slope

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: 2-Jan-09
 Location ID : AM 6 Next Calibration Date: 2-Apr-09
 Technician: Mr. Ben Tam

CONDITIONS

Sea Level Pressure (hPa)	1025.6	Corrected Pressure (mm Hg)	769.2
Temperature (°C)	13.7	Temperature (K)	287

CALIBRATION ORIFICE

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

CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.6	4.6	9.2	2.027	51	53.33	Slope = 30.9744 Intercept = -9.6477 Corr. coeff. = 0.9988
13	3.3	3.3	6.6	1.719	42	43.92	
10	2.6	2.6	5.2	1.527	35	36.60	
7	1.8	1.8	3.6	1.273	29	30.32	
5	1.0	1.0	2.0	0.952	19	19.87	

Calculations :

$$Qstd = 1/m[\text{Sqrt}(H20(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

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:

$$1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

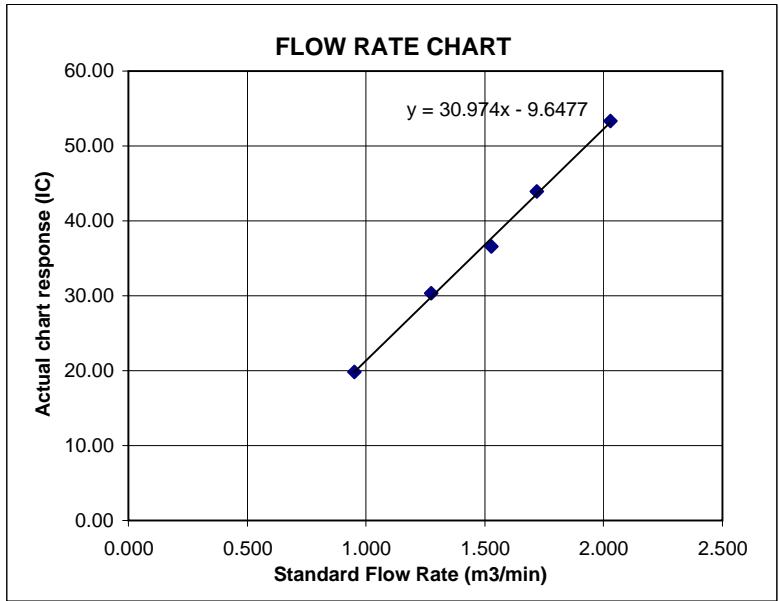
m = sampler slope

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

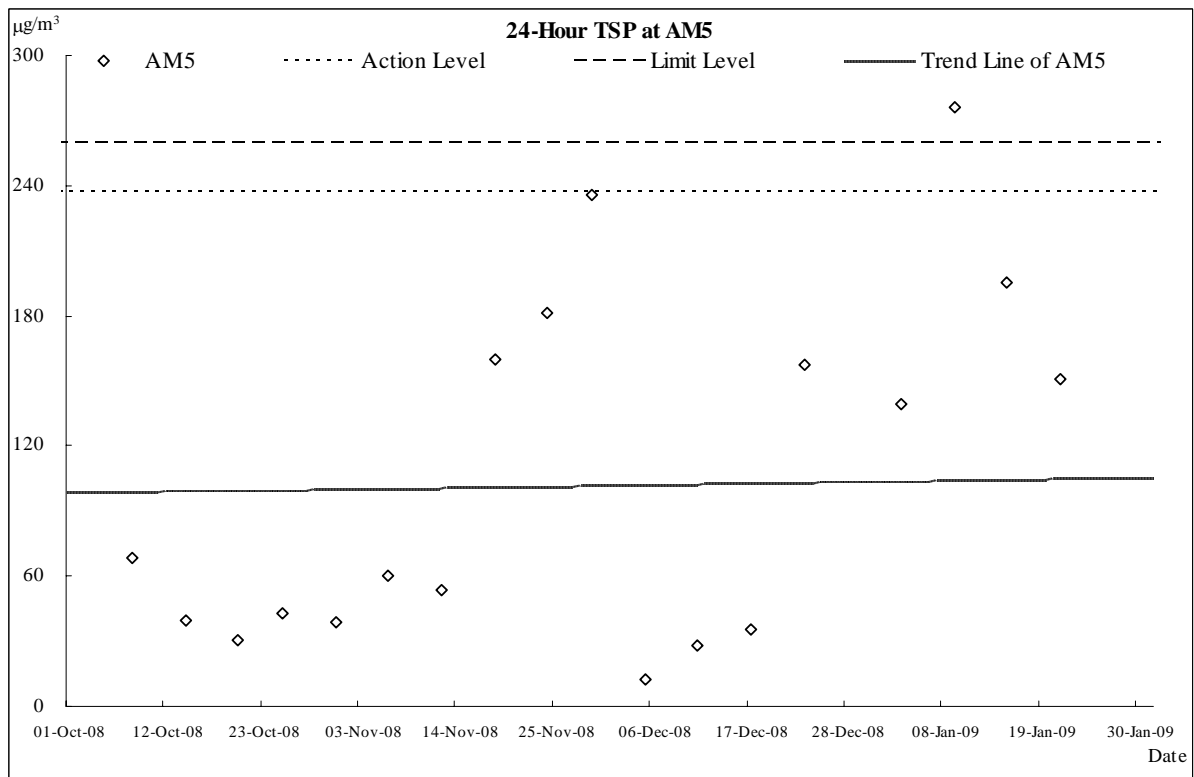
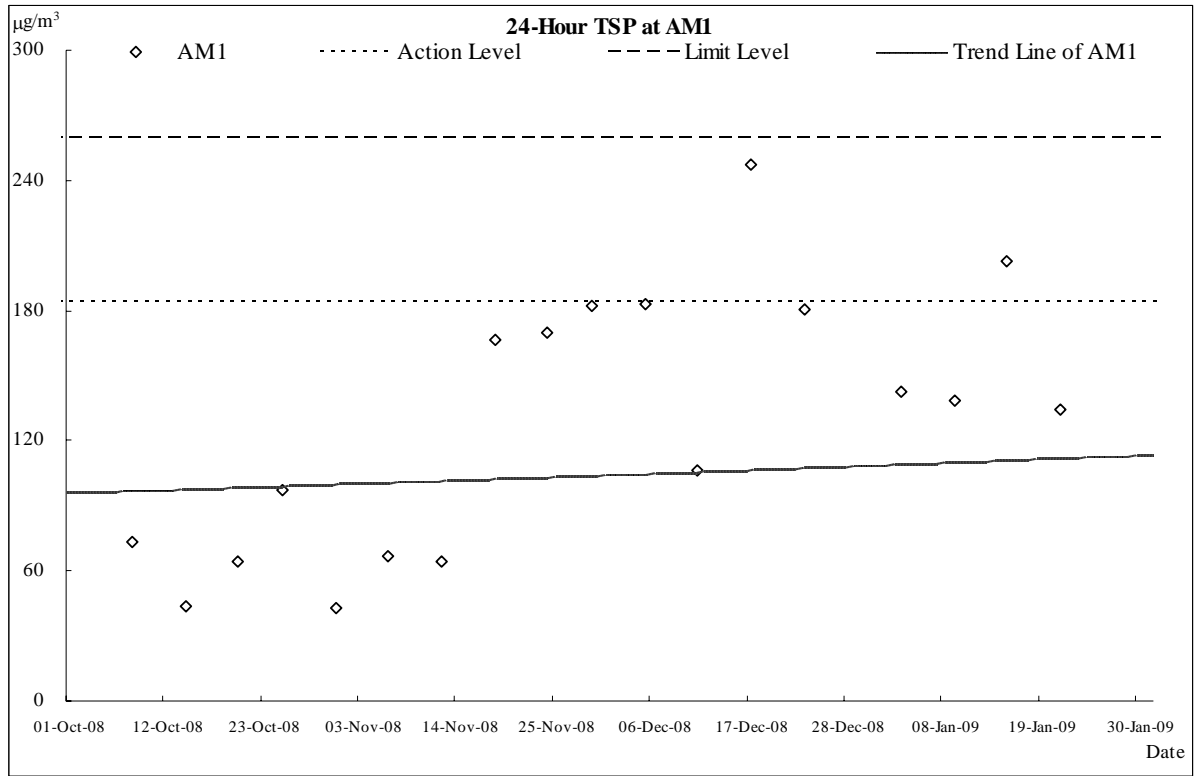
Date		Weather	Lau Fau Shan Weather Station				
			Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Jan-09	Thu	Holiday					
2-Jan-09	Fri	fine/dry/moderate	0	10.7	19	35.5	E/NE
3-Jan-09	Sat	fine/dry/cloudy/moderate/fresh	0	14.7	9	48.5	E/NE
4-Jan-09	Sun	fine/dry/moderate/fresh	Trace	18	13	50	E/NE
5-Jan-09	Mon	fine/dry/moderate/fresh	0	18	7.5	43.5	E/NE
6-Jan-09	Tue	fine/fresh/strong	0	19.3	10.5	66.7	E/SE
7-Jan-09	Wed	fine/dry/hazy/moderate/fresh	0	16.5	14.7	65	E/NE
8-Jan-09	Thu	fine/dry/moderate/fresh	0	13.8	17	57	NE
9-Jan-09	Fri	fine/dry/cold/fresh/strong	0	12.1	22.5	48.5	N/NE
10-Jan-09	Sat	fine/very dry/cold/fresh/strong	0	12.1	21.5	32.5	NE
11-Jan-09	Sun	fine/cold/very dry/moderate/fresh	0	11.6	9	Maintenance	E/SE
12-Jan-09	Mon	fine/very dry/cold/moderate/fresh	0	13.8	17.7	Maintenance	E/NE
13-Jan-09	Tue	fine/cold/very dry/moderate/fresh	0	12.5	18.7	28	E/NE
14-Jan-09	Wed	fine/dry/cold/moderate/fresh	0	11.8	16.5	25	E/NE
15-Jan-09	Thu	fine/very dry/cool/moderate	0	12.9	10.7	47.5	E/NE
16-Jan-09	Fri	fine/dry/cool/moderate	0	13.4	11.5	52.7	E/SE
17-Jan-09	Sat	fine/dry/cool/moderate	0	15.9	11	57.5	E/SE
18-Jan-09	Sun	fine/haze/moderate/fresh	0	17.7	8	63.5	W/SW
19-Jan-09	Mon	fine/haze/moderate/fresh	0	22	10	60.5	E/SE
20-Jan-09	Tue	sunny periods/cloudy/moderate/fresh	0	18.8	12.2	54.5	E
21-Jan-09	Wed	fine/hazy/light winds/moderate	0	21.7	9	63	E
22-Jan-09	Thu	fine/dry/hazy/moderate	0	18.5	12	66	W/SW
23-Jan-09	Fri	cloudy/dry/hazy/moderate/fresh	0	16.3	16	70	E/NE
24-Jan-09	Sat	cloudy/very dry/cold/fresh/strong			22.5	47	NE
25-Jan-09	Sun	cloudy/very dry/cold/fresh/strong	0	12.6	24	43.5	NE
26-Jan-09	Mon	Holiday					
27-Jan-09	Tue	Holiday					
28-Jan-09	Wed	Holiday					
29-Jan-09	Thu	cloudy/haze/sunny intervals/moderate	0	14.9	12	72	W/SW
30-Jan-09	Fri	fine/dry/moderate/fresh	0	16.1	14.5	75.5	W/NW
31-Jan-09	Sat	fine/cloudy/moderate/fresh	0	17.4	18.5	58.5	E/NE

ANNEX J

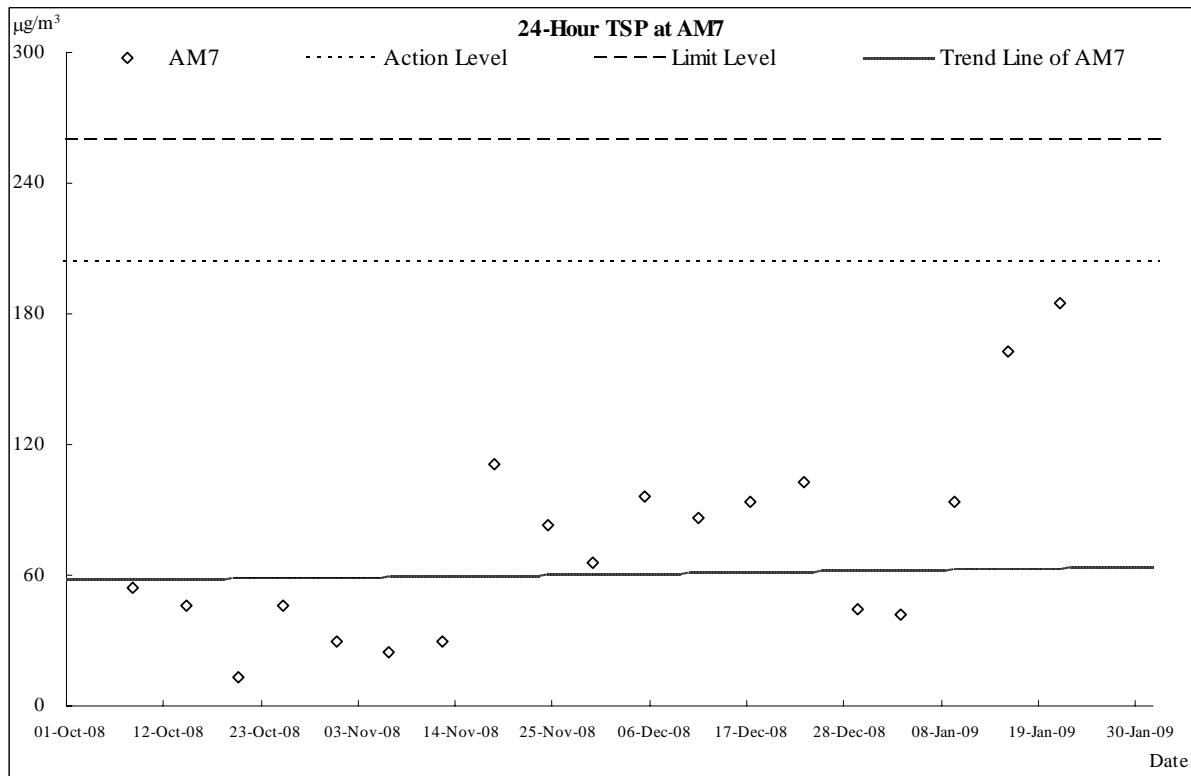
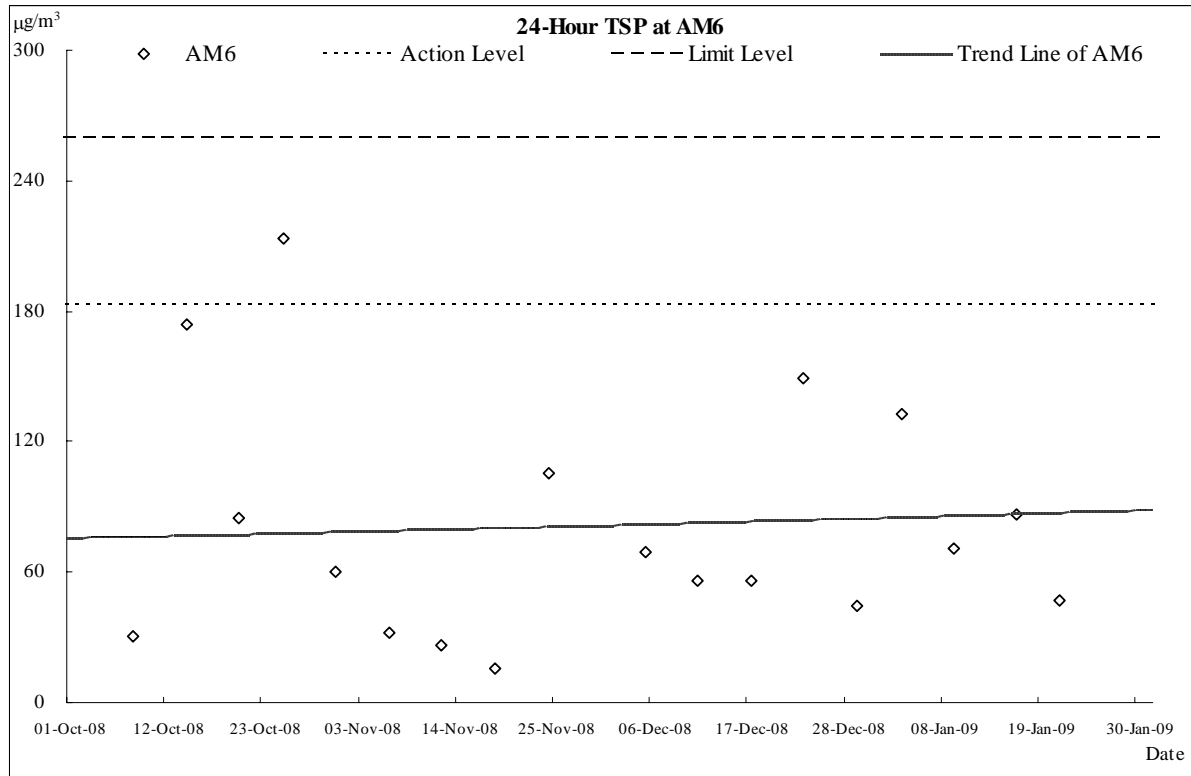
**GRAPHICAL PLOTS OF AIR QUALITY AND CONSTRUCTION NOISE
MONITORING RESULTS**

AIR QUALITY

Air Quality Monitoring Results

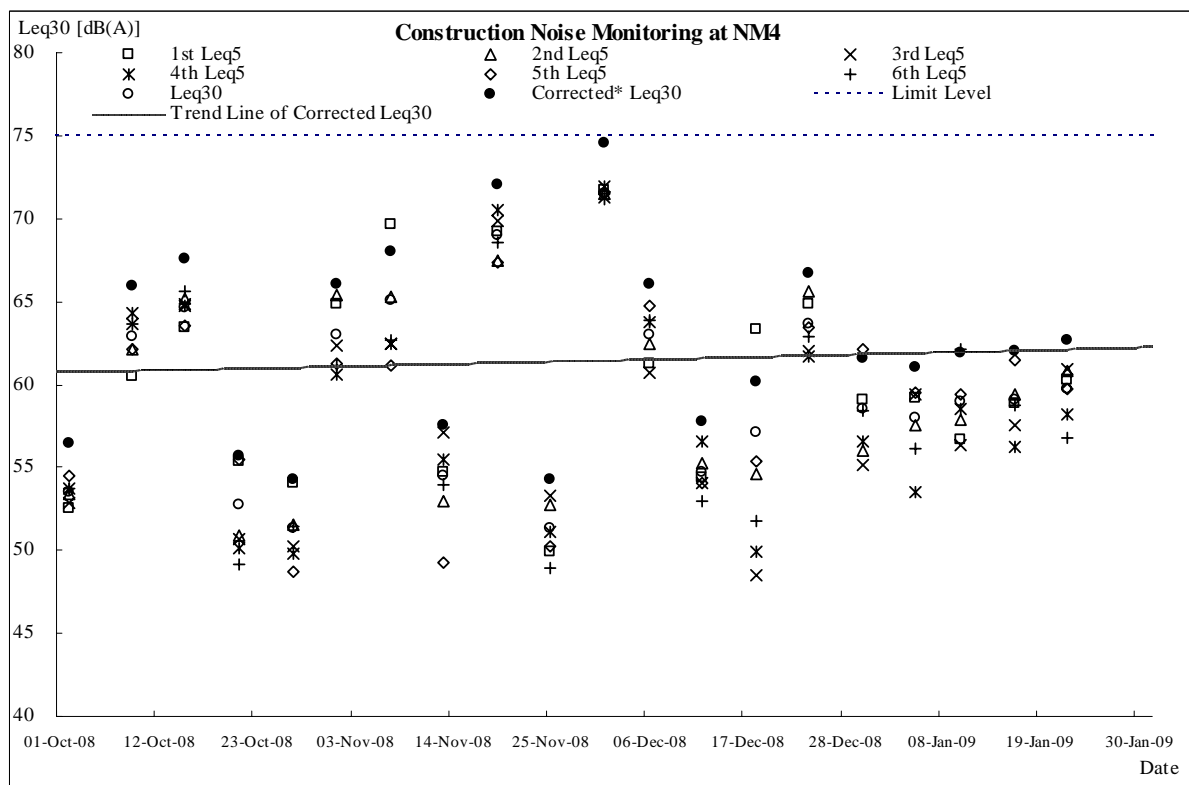
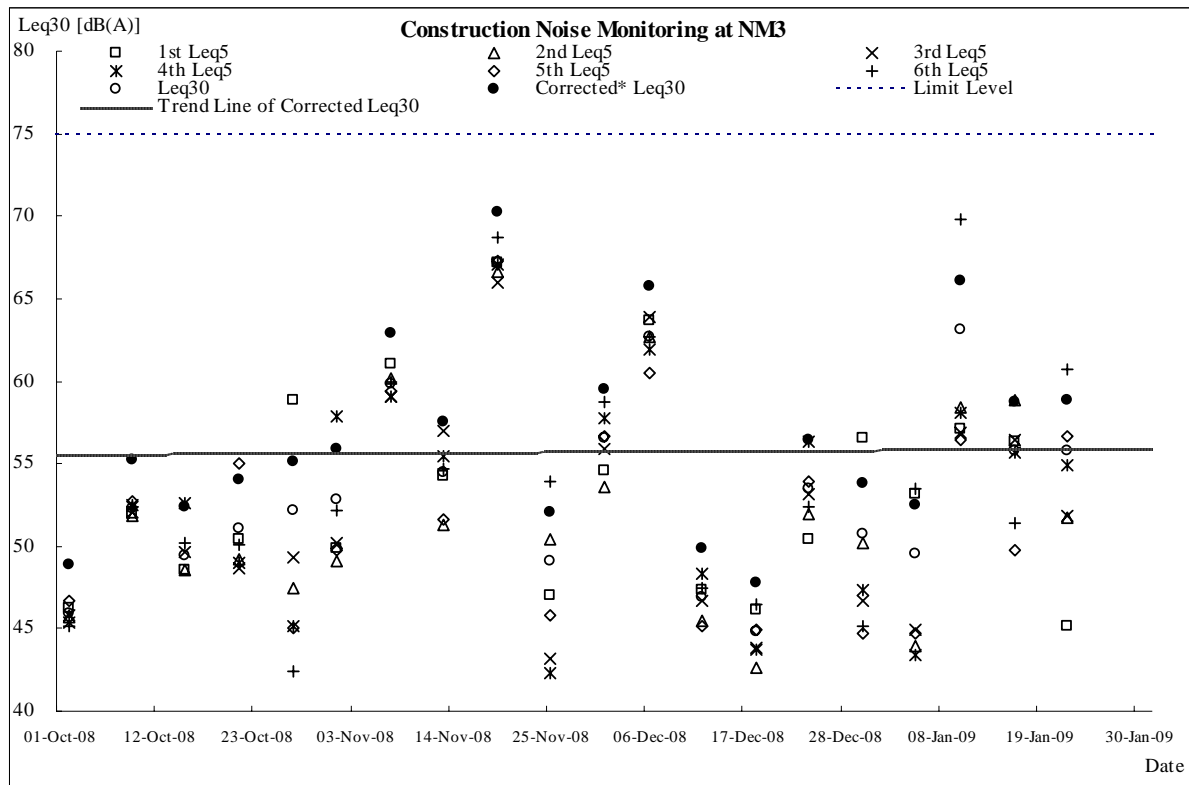


Air Quality Monitoring Results

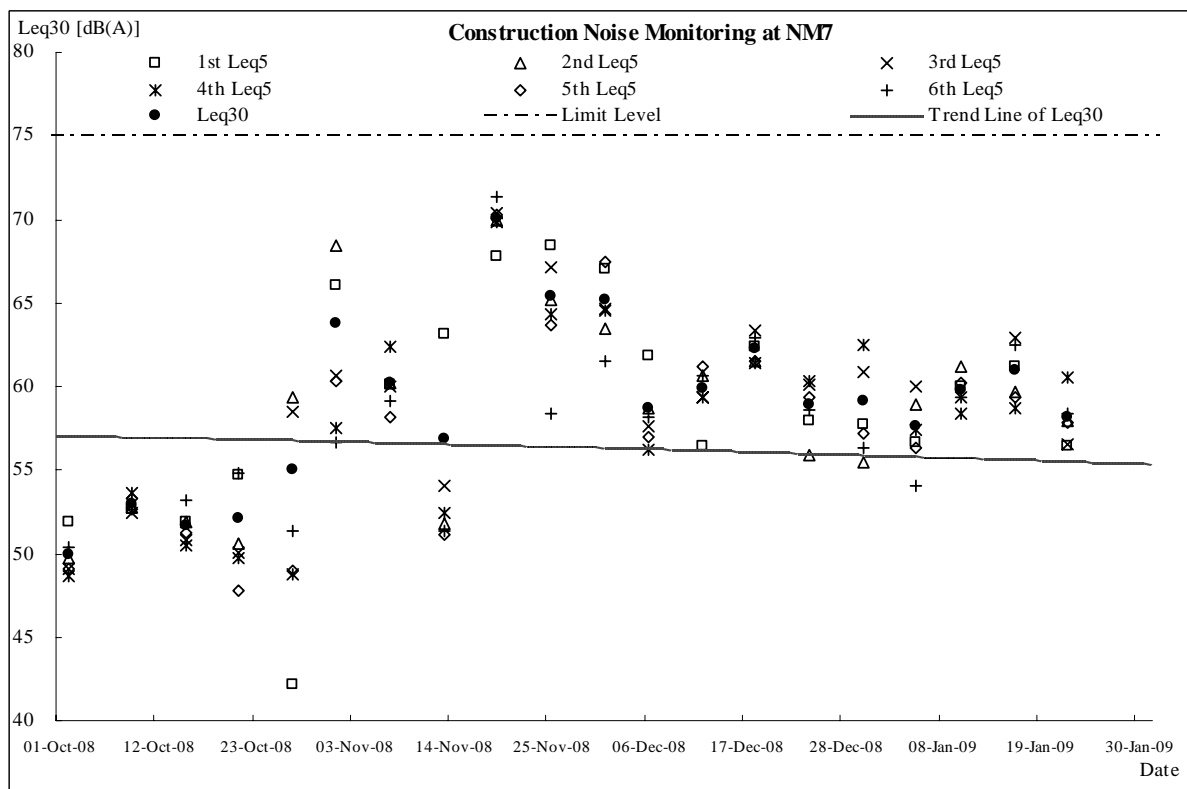
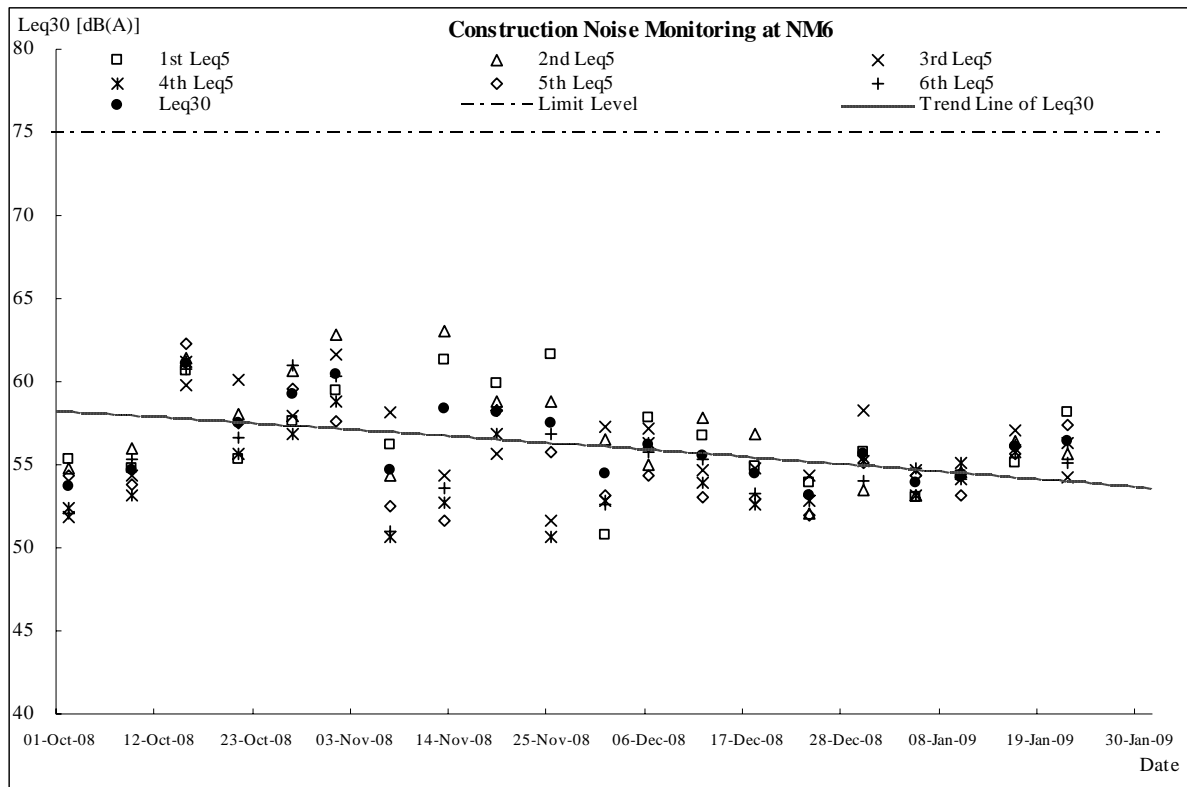


CONSTRUCTION NOISE

Construction Noise Monitoring Results



Construction Noise Monitoring Results



ANNEX K

**PROFORMA OF SITE INSPECTION & IEC AUDIT IN THE REPORTING
MONTH**

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
Inspected by:	ET Auditor: Ben Tam	Engineer:	Babtie Asia Ltd
	Contractor Rep: Benny Lam/Edwin Leung	IEC:	Mott MacDonald Hong Kong Ltd
	IEC's Rep:	Environmental Team:	Action-United Environmental Services & Consulting
	RE's Rep: Mr. Tsang	Inspection Date & Time:	05 January 2009 (09:30)
		Checklist Reference No.:	DSD-AT050109

General Meteorological Information

Weather Sunny Fine Cloudy Overcast Drizzle Rain Hazy
Temp: °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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are site vehicles traveling within controlled speed limit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are site vehicles movement confined to designated haul roads?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are public roads outside site exits kept clean and free from dust?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are there wheel washing facilities provided at site exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is water spraying used during the main dust-generating activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is exposed area of ground covered or watered frequently?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are load on vehicles covered by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are vehicles and equipment switched off while not in use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are smoky emissions from plants/equipment avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is open burning avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Observable dust sources <input type="checkbox"/> Wind erosion	<input checked="" type="checkbox"/>	NA				
<input type="checkbox"/> Loading/unloading of materials	<input type="checkbox"/>	Others				

Construction Noise

Are the construction works scheduled to minimize noise nuisance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the works or equipment sited to minimize noise nuisance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all plant and equipment well maintained and in good operating condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is idle equipment turned off or throttled down?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is silenced equipment used where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are noise enclosures or noise barriers used where necessary?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does specified equipment has valid noise label?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are Construction Noise Permits (CNPs) available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Major Noise Source <input type="checkbox"/> Traffic	<input checked="" type="checkbox"/>	Construction activities inside the site				
<input type="checkbox"/> Construction activities outside of site	<input type="checkbox"/>	Others		<input type="text" value="Nil"/>		

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

Remarks:

Observations Recorded in this Site Inspection:



Direct discharge was observed at Sha Po Pumping Station, the Contractor was reminded to provide de-silting facility for site effluent


Signatures:

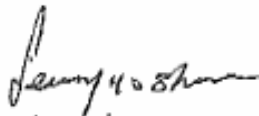
Env. Auditor

Contractor's Representative

IC(E) Auditor

Resident Site Staff


Name: Ben Tam


Name: Edwin Leung

Name:

Name:

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
Inspected by:	ET Auditor: Ben Tam	Engineer:	Babtie Asia Ltd
	Contractor Rep: Benny Lam/Edwin Leung	IEC:	Mott MacDonald Hong Kong Ltd
	IEC's Rep:	Environmental Team:	Action-United Environmental Services & Consulting
	RE's Rep: Mr. Tsang	Inspection Date & Time:	13 January 2009 (09:30)
		Checklist Reference No.:	DSD-AT130109

General Meteorological Information

Weather Sunny Fine Cloudy Overcast Drizzle Rain Hazy
Temp: °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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are site vehicles traveling within controlled speed limit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are site vehicles movement confined to designated haul roads?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are public roads outside site exits kept clean and free from dust?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are there wheel washing facilities provided at site exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is water spraying used during the main dust-generating activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is exposed area of ground covered or watered frequently?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are load on vehicles covered by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are vehicles and equipment switched off while not in use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are smoky emissions from plants/equipment avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is open burning avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Observable dust sources <input type="checkbox"/> Wind erosion	<input checked="" type="checkbox"/>	NA				
<input type="checkbox"/> Loading/unloading of materials	<input type="checkbox"/>	Others _____				

Construction Noise

Are the construction works scheduled to minimize noise nuisance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the works or equipment sited to minimize noise nuisance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all plant and equipment well maintained and in good operating condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is idle equipment turned off or throttled down?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is silenced equipment used where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are noise enclosures or noise barriers used where necessary?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does specified equipment has valid noise label?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are Construction Noise Permits (CNPs) available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Major Noise Source <input type="checkbox"/> Traffic	<input checked="" type="checkbox"/>	Construction activities inside the site				
<input type="checkbox"/> Construction activities outside of site	<input type="checkbox"/>	Others Nil _____				

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

Remarks:

Observations Recorded in this Site Inspection:



Housekeeping should be improved at Kam Tin Pumping Station; the Contractor was reminded to keep the works area clean and tidy.


Signatures:

Env. Auditor

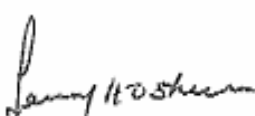
Contractor's Representative

IC(B) Auditor

Resident OIA Staff



Name: Ben Tam



Name: Edwin Leung

Name:

Name:

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
Inspected by:	ET Auditor: Ben Tam	Engineer:	Babtie Asia Ltd
	Contractor Rep: Benny Lam/Edwin Leung	IEC:	Mott MacDonald Hong Kong Ltd
	IEC's Rep: Joseph Chan	Environmental Team:	Action-United Environmental Services & Consulting
	RE's Rep: Mr. Tsang	Inspection Date & Time:	20 January 2009 (09:30)
		Checklist Reference No.:	DSD-AT200109

General Meteorological Information

Weather Sunny Fine Cloudy Overcast Drizzle Rain Hazy
Temp: °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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are site vehicles traveling within controlled speed limit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are site vehicles movement confined to designated haul roads?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are public roads outside site exits kept clean and free from dust?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are haul roads and unpaved surfaces watered regularly to avoid dust generation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are there wheel washing facilities provided at site exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is water spraying used during the main dust-generating activities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is exposed area of ground covered or watered frequently?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are load on vehicles covered by clean impervious sheeting?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are vehicles and equipment switched off while not in use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are smoky emissions from plants/equipment avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is open burning avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Observable dust sources <input type="checkbox"/> Wind erosion	<input checked="" type="checkbox"/>	NA				
<input type="checkbox"/> Loading/unloading of materials	<input type="checkbox"/>	Others				

Construction Noise

Are the construction works scheduled to minimize noise nuisance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the works or equipment sited to minimize noise nuisance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all plant and equipment well maintained and in good operating condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is idle equipment turned off or throttled down?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is powered mechanical equipment covered or shielded by appropriate acoustic materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is silenced equipment used where appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are noise enclosures or noise barriers used where necessary?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does specified equipment has valid noise label?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are Construction Noise Permits (CNPs) available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Major Noise Source <input type="checkbox"/> Traffic	<input checked="" type="checkbox"/>	Construction activities inside the site				
<input type="checkbox"/> Construction activities outside of site	<input type="checkbox"/>	Others		<input type="text" value="Nil"/>		

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

Remarks:

Follow up

Housekeeping at Kam Tin Pumping station was improved.

Observations Recorded in this Site Inspection:



Oil stain patch was observed at Nam San Wai Road Portion H, the Contractor was reminded to clean and the removed soil should transfer to chemical waste storage area.



Lube oil splashes was observed at Nam San Wai Road site near King Fai Farm, the Contractor was reminded to remove the timber and the stained soil as chemical waste.



Stockpile without cover was observed, the contractor was reminded to cover properly to prevent dust generation.


Signatures:

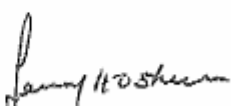
Env. Auditor

Contractor's Representative

IC(B) Auditor

Resident Site Staff


 Name: Ben Tam


 Name: Edwin Loeng

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	20 Jan 2009	Time	1000-1215	Inspected By	Leader: <i>Benjamin Lam</i> ET: <i>Benjamin Lam</i> DSD: <i>W.K. Tsang</i> IEC: <i>Joseph Chan</i>
Site Location	<i>Nam Sang Wan Road . NSU Amenity Room Site Amenity Room . Kam Tin Amenity Room .</i>				

Weather

Condition	<input type="checkbox"/> Sunny	<input checked="" type="checkbox"/> Fine	<input type="checkbox"/> Overcast	<input type="checkbox"/> Drizzle	<input type="checkbox"/> Rain	<input type="checkbox"/> Storm	<input type="checkbox"/> Hazy
Temperature	<input style="width: 50px;" type="text" value="18°C"/>		Humidity	<input type="checkbox"/> High	<input type="checkbox"/> Moderate	<input checked="" type="checkbox"/> Low	
Wind	<input type="checkbox"/> Calm	<input type="checkbox"/> Light	<input checked="" type="checkbox"/> Breeze	<input type="checkbox"/> Strong	<input type="checkbox"/> Direction	<input style="width: 50px;" type="text" value="E"/>	

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>See ehs ③</i>
3.5	• Are dusty material loads on vehicles sprayed with water prior to loading and unloading?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.5	• Are all vehicles washed to remove dusty materials from its body and wheels before leaving site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.5	• Are vehicles which are carrying dusty materials covered entirely by impervious sheeting when leaving site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.5	• Are surfaces where any mechanical breaking operation takes place sprayed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.5	• Are working area of any excavation sprayed with water, immediately before, during and immediately after the operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.5	• Are skip hoists for material transport totally enclosed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

- 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?

		✓	
--	--	---	--

see obs ③
- 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 place 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?

		✓	
--	--	---	--

but see obs ①②③
- 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?		✓	At De	
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 15m ³ .			✓	
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 (20 Jan 2009)

1. Oil stain patches were noticed at Portion H of Nam Sang Wai Road. Immediate follow-up action in removing the patches was arranged. The Contractor was reminded to make sure the removed soil is transferred to the chemical waste storage.
2. Lube oil splashes were noticed at NSW Rd. site near King Fai Farm. The Contractor was asked to remove all the stained soil and timber away as chemical wastes.
3. The Contractor was reminded to cover properly all filling material stockpiles with tarpaulin and replace torn ones.

Follow-up last month's observation (23 Dec 2008)

1. Mechanical oil drum previously found near Ko Po Road was removed.
2. The fuel drum found in Portion H of NSW Rd. was removed.

DSD Representative

Contractor Representative

ETL

IEC






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Joseph Tam
20/1/2009

**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
20 January 2009
Environmental Observations**

This month's observations

This month's observations	This month's observations
Chemical Waste	Site Tidiness
	
1763: Oil stain patches were noticed at Portion H of Nam Sang Wai Road. Immediate follow-up action in removing the patches was arranged. The Contractor was reminded to make sure the removed soil is transferred to the chemical waste storage.	1772: Tidiness along Nam Sang Wai Road was maintained.
Chemical Waste	Waste Management
	
1773: Lube oil splashes were noticed at NSW Rd. site near King Fai Farm. The Contractor was asked to remove all the stained soil and timber away as chemical wastes.	1776: Wastes found during last audit near Nam Sang Wai Pumping Room was removed.
Chemical Waste	
	
1765: Oil drum previously found not storing inside drip tray at Portion H of NSW Rd. was removed.	