

**JOB No.: TCS00310/06**

**REVISION No.: 2**

**DRAINAGE SERVICES DEPARTMENT (DSD)  
 CONTRACT No.: DC/2005/02**

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

**MONTHLY ENVIRONMENTAL MONITORING &  
 AUDIT (EM&A) REPORT FOR FEBRUARY 2009  
 (NO. 35) (DESIGNATED ELEMENTS)**

**PREPARED FOR**

**LEADER CIVIL ENGINEERING CORPORATION  
 LIMITED**

**Quality Index**

Date	Reference No.
10 March 2009	TCS00310/06/600/R0777r2

Prepared By	Reviewed By	Certified By	Approved By	Verified By
-	Ken Wong	David Yeung	TW Tam	Dr. Anne F Kerr

-	Deputy Environmental Team Leader	Environmental Team Leader	General Manager	Independent Environmental Checker
---	----------------------------------	---------------------------	-----------------	-----------------------------------

Rev. No.	Date	Remarks
1	04 Mar 09	First Submission
2	10 Mar 09	Response to IEC's comments received on 06 March 2009 via e-mail.

This report has been prepared by Action-United Environmental Services & Consulting with all reasonable skill, care and diligence within the terms of the Agreement with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

## 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 **February 2009 (No. 35)** present the environmental impact monitoring and audit (EM&A) program conducted from **01 to 28 February 2009** for the Designated Elements. The EM&A program in **February 2009** were covered air quality, construction noise and waste management.

## BREACH OF ACTION AND LIMIT (AL) LEVELS

- ES03. Two Limit Level exceedances for 24-Hour TSP monitoring were recorded at AM1 and AM7 on 02 February and 02 March 2009 respectively. ET had liaison with the Contractor to conduct the investigation, only erect formwork, rebar fixing and extract sheet pile were undertaken. Dust suppression measures with water spraying were applied on-site and no dust complaint was received at the vicinity area. The exceedance on 02 February 2009 at AM1 was not project related. The investigation finding for AM7 on 02 March 2009 exceedance will present in the next monthly EM&A Report (March 2009). No further air quality exceedance was recorded in this reporting month.

## COMPLAINT LOG

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

## NOTIFICATION OF ANY SUMMONS AND SUCCESSFUL PROSECUTION

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

## REPORTING CHANGES

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

## FUTURE KEY ISSUES

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

## TABLE OF CONTENTS

<b>1.0</b>	<b>BASIC PROJECT INFORMATION .....</b>	<b>1</b>
<b>2.0</b>	<b>ENVIRONMENTAL STATUS.....</b>	<b>3</b>
<b>3.0</b>	<b>SUMMARY OF EM&amp;A REQUIREMENTS.....</b>	<b>4</b>
<b>4.0</b>	<b>IMPLEMENTATION STATUS.....</b>	<b>5</b>
<b>5.0</b>	<b>MONITORING RESULTS .....</b>	<b>6</b>
<b>6.0</b>	<b>REPORT ON NON-COMPLIANCE (NC), COMPLAINTS, NOTIFICATIONS OF SUMMONS (NOS) AND SUCCESSFUL PROSECUTIONS.....</b>	<b>11</b>
<b>7.0</b>	<b>OTHERS.....</b>	<b>12</b>

## LIST OF TABLES

<b>TABLE 2-1</b>	<b>WORK UNDERTAKEN IN THE REPORTING MONTH WITH ILLUSTRATIONS OF MITIGATION MEASURES</b>
<b>TABLE 2-2</b>	<b>DESCRIPTION OF THE MONITORING STATIONS</b>
<b>TABLE 3-1</b>	<b>SUMMARY OF EM&amp;A REQUIREMENTS</b>
<b>TABLE 3-2</b>	<b>ACTION AND LIMIT LEVELS FOR AIR QUALITY</b>
<b>TABLE 3-3</b>	<b>ACTION AND LIMIT LEVELS FOR CONSTRUCTION NOISE</b>
<b>TABLE 4-1</b>	<b>STATUS OF ENVIRONMENTAL LICENSES AND PERMITS</b>
<b>TABLE 5-1</b>	<b>MONITORING EQUIPMENT USED IN IMPACT EM&amp;A PROGRAM</b>
<b>TABLE 5-2</b>	<b>LOCATION OF AIR QUALITY AND CONSTRUCTION NOISE MONITORING STATIONS/LOCATIONS</b>
<b>TABLE 5-3</b>	<b>SUMMARY OF AIR QUALITY MONITORING RESULTS</b>
<b>TABLE 5-4</b>	<b>SUMMARY OF NOISE MONITORING RESULTS AT NM3</b>
<b>TABLE 5-5</b>	<b>SUMMARY OF NOISE MONITORING RESULTS AT NM4</b>
<b>TABLE 5-6</b>	<b>SUMMARY OF NOISE MONITORING RESULTS AT NM6</b>
<b>TABLE 5-7</b>	<b>SUMMARY OF NOISE MONITORING RESULTS AT NM7</b>
<b>TABLE 5-8</b>	<b>MONITORING SCHEDULE FOR THE NEXT REPORTING MONTH</b>
<b>TABLE 7-1</b>	<b>SUMMARY OF WASTE QUANTITIES FOR DISPOSAL</b>
<b>TABLE 7-2</b>	<b>SUMMARY OF WASTE QUANTITIES FOR REUSE/RECYCLING</b>

## LIST OF ANNEXES

<b>ANNEX A</b>	<b>PROJECT SITE LAYOUT</b>
<b>ANNEX B</b>	<b>PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE</b>
<b>ANNEX C</b>	<b>CONSTRUCTION PROGRAM</b>
<b>ANNEX D</b>	<b>PHOTOGRAPHICAL RECORDS – NOISE BARRIER ON-SITES</b>
<b>ANNEX E</b>	<b>LOCATIONS OF MONITORING STATIONS</b>
<b>ANNEX F</b>	<b>EVENT AND ACTION PLAN</b>
<b>ANNEX G</b>	<b>MITIGATION IMPLEMENTATION SCHEDULE</b>
<b>ANNEX H</b>	<b>EQUIPMENT CALIBRATION CERTIFICATES</b>
<b>ANNEX I</b>	<b>METEOROLOGICAL DATA IN THE REPORTING MONTH</b>
<b>ANNEX J</b>	<b>GRAPHICAL PLOTS OF AIR QUALITY AND CONSTRUCTION NOISE MONITORING RESULTS</b>
<b>ANNEX K</b>	<b>PROFORMA OF SITE INSPECTION AND IEC AUDIT IN THE REPORTING MONTH</b>

## 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 **35<sup>th</sup> Monthly EM&A Report for February 2009 (No. 35)** (Designated Elements – Construction Phase) summarizes the impact monitoring results and audit findings in the reporting month from **01 to 28 February 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)

- Sheet piling
- Excavation
- Backfilling
- Concreting
- Pipe Jacking

#### Sha Po Pumping Station (P2)

- Sheet piling
- Excavation
- Backfilling
- Concreting

#### 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"> <li>Back filling</li> <li>Extract sheet pile</li> <li>Concreting</li> </ul>	<ul style="list-style-type: none"> <li>Erect 2.4m high noise barrier hoarding around the works area at P1, P2 and P3</li> <li>Remove dust and spray water at the construction access</li> <li>Cover the stockpiles of dusty material properly</li> <li>Spray water to all dusty materials immediately before loading and unloading</li> </ul>	A1 & F6 A2 A3 A4
P2 (Sha Po Pumping Station) and P3 (Nam Sang Wai Pumping Station)	<ul style="list-style-type: none"> <li>Back filling</li> <li>Concreting</li> </ul>	<ul style="list-style-type: none"> <li>Wash the wheels of vehicles before leaving the site</li> <li>Install and use power-operated cover at the dump trucks</li> <li>Spray water at the pavement breaking locations</li> <li>Spray the working area of excavation frequently</li> <li>Maximize the use of quiet PME on site</li> <li>Apply and obtain appropriate waste disposal licenses</li> </ul>	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"> <li>Sheet piling</li> <li>Excavation</li> <li>Pipe laying</li> <li>Backfilling</li> <li>Concreting</li> <li>Pipe jacking</li> <li>Extract sheet pile</li> </ul>	<ul style="list-style-type: none"> <li>Handle, store and dispose of chemical wastes as per relevant regulations</li> <li>Implement trip-ticket system for waste disposal</li> <li>Restrict open fires and provide fire fighting equipment in the works area</li> <li>Perform weekly inspection with ET and monthly audit with IEC</li> <li>Conduct noise and dust monitoring as per EM&amp;A Manual during construction</li> <li>Provide sedimentation tanks for treating site discharge.</li> <li>Recycle wheel washing water and provide sedimentation tanks for treating site discharge.</li> </ul>	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;
  - 0.6-1.7m<sup>3</sup>/min (20-60 SCFM) adjustable flow rate;
  - A 7-day mechanical timer for 24-Hour operation;
  - An elapsed time indicator with  $\pm 2$  minutes accuracy for 24-Hour operation;
  - Minimum exposed area of 63in<sup>2</sup>;
  - 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 (L<sub>10</sub> and L<sub>90</sub>) 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 AM1 and AM7 was required calibration in this reporting month, no monitoring equipment required to calibrate in next reporting month. Updated calibration certificate and schedule is shown in **Annex H**.
- 5.11 The sound level meters were calibrated using an acoustical calibrator prior to and after measurements. The meters are regularly calibrated in accordance with the manufacturer’s instructions. Prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustical calibrator generating a known sound pressure level at a known frequency. Measurements were considered valid only if the calibration levels before and after the noise measurement agree to within 1.0 dB.
- 5.12 Calibration certificates of the sound level meters will provide depend on the annual calibration had undertaken.

**PARAMETERS MONITORED**

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

**MONITORING LOCATIONS**

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

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

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

### MONITORING FREQUENCY AND PERIOD

- 5.15 The impact 24-Hour TSP monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A Manual. In this reporting month, **20** monitoring events of 24-Hour TSP monitoring were conducted.
- 5.16 The impact noise monitoring was conducted at the designated stations once every 6 normal working days in compliance with the updated EM&A Manual. Total of **20** monitoring events were carried out in this reporting month.

### MONITORING RESULTS AND SCHEDULE

- 5.17 Monitoring results in this reporting month for air quality and construction noise were summarized at **Tables 5-3 to 5-7**.
- 5.18 Two Limit Level exceedances for 24-Hour TSP monitoring were recorded at AM1 and AM7 on 02 February and 02 March 2009 respectively. ET had liaison with the Contractor to conduct the investigation, only erect formwork, rebar fixing and extract sheet pile were undertaken. Dust suppression measures with water spraying were applied on-site and no dust complaint was received at the vicinity area. The exceedance on 02 February 2009 at AM1 was not project related. The investigation finding for AM7 on 02 March 2009 exceedance will present in the next monthly EM&A Report (March 2009). No further air quality exceedance was recorded in this reporting month.
- 5.19 Power failure were recorded at AM6 on 02, 13, 25 February 2009 and AM7 on 19, 25 February 2009. Makeup monitoring had been arranged to undertaken upon the power supply reinstate.

**Table 5-3 Summary of Air Quality Monitoring Results**

Date	24-Hour TSP ( $\mu\text{g}/\text{m}^3$ )			
	AM1	AM5	AM6	AM7
2-Feb-09	<b>295</b>	160	69 (03-Feb-09)	52
7-Feb-09	115	167	50	36
13-Feb-09	142	100	45 (14-Feb-09)	51
19-Feb-09	107	120	40	153 (20-Feb-09)
25-Feb-09	96	102	56 (26-Feb-09)	<b>284</b> (02-Mar-09)
<b>Average (Range)</b>	151 (96-295)	130 (100-167)	52 (40-69)	115 (36-284)
<b>Action / Limit</b>	<b>&gt; 184 / &gt;260</b>	<b>&gt; 237 / &gt;260</b>	<b>&gt; 183 / &gt;260</b>	<b>&gt; 204 / &gt;260</b>

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.

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

**Table 5-4 Summary of Noise Monitoring Results at NM3**

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected* Leq30
03-Feb-09	11:20	50.9	49.5	52.3	54.8	53.9	55.4	53.3	56.3
09-Feb-09	11:10	50.6	49.7	53.2	54.9	50.4	51.5	52.1	55.1
14-Feb-09	10:40	54.2	50.5	50.9	48.2	51.2	49.7	51.2	54.2
20-Feb-09	11:00	50.4	55.7	52.8	50.3	49.6	53.1	52.5	55.5
26-Feb-09	09:40	55.3	49.5	46.0	57.2	60.9	54.2	56.2	59.2
<b>Limit Level</b>									<b>75</b>

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
3-Feb-09	10:00	63.4	60.5	57.9	58.2	59.9	56.3	60.0	63.0
9-Feb-09	09:40	63.9	61.3	56.5	58.2	59.7	57.3	60.3	63.3
14-Feb-09	09:00	59.5	61.4	58.4	62.9	61.2	59.7	60.8	63.8
20-Feb-09	09:00	59.7	62.3	61.7	54.8	63.9	60.7	61.3	64.3
26-Feb-09	10:30	58.7	59.2	60.4	54.9	62.8	60.7	60.0	63.0
<b>Limit Level</b>									<b>75</b>

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
03-Feb-09	11:28	56.3	66.4	61.0	60.8	58.1	59.4	61.6	No Correction Required
09-Feb-09	11:29	55.2	55.1	55.9	55.5	54.7	54.4	55.2	
14-Feb-09	11:26	57.2	57.6	59.4	57.9	56.3	56.7	57.6	
20-Feb-09	11:30	57.0	57.3	58.8	57.6	59.1	58.3	58.1	
26-Feb-09	11:26	54.0	55.5	60.2	55.7	53.8	56.3	56.5	
<b>Limit Level</b>									<b>75</b>

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
3-Feb-09	09:00	61.9	59.4	58.7	60.5	58.2	59.6	59.9	No Correction Required
9-Feb-09	09:00	59.2	57.3	60.2	58.9	57.4	60.9	59.2	
14-Feb-09	11:30	60.9	61.2	58.2	60.4	59.7	60.2	60.2	
20-Feb-09	13:00	56.4	57.9	60.2	60.3	59.1	54.7	58.5	
26-Feb-09	09:00	62.5	60.4	61.7	59.5	63.1	62.7	61.8	
<b>Limit Level</b>									<b>75</b>

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

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

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

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

✓	Monitoring Day
	Sunday or Public Holiday

**WEATHER CONDITIONS DURING THE MONITORING MONTH**

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

**GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS**

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

**WEATHER CONDITIONS THAT AFFECT THE MONITORING RESULTS**

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

**OTHER FACTORS INFLUENCING THE MONITORING RESULTS**

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

**QA/QC RESULTS AND DETECTION LIMITS**

5.26 Not applicable.

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

### **RECORD OF NON-COMPLIANCE OF ACTION AND LIMIT LEVELS**

- 6.01 Two Limit Level exceedances for 24-Hour TSP monitoring were recorded at AM1 and AM7 on 02 February and 02 March 2009 respectively. ET had liaison with the Contractor to conduct the investigation, only erect formwork, rebar fixing and extract sheet pile were undertaken. Dust suppression measures with water spraying were applied on-site and no dust complaint was received at the vicinity area. The exceedance on 02 February 2009 at AM1 was not project related. The investigation finding for AM7 on 02 March 2009 exceedance will present in the next monthly EM&A Report (March 2009). No further air quality exceedance 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 **March 2009** include sheet piling, excavation, pipe laying, backfilling, concreting, pipe jacking and extract sheet pile at Kam Tin Pumping Station (P1); sheet piling, excavation, backfilling, concreting and extract sheet pile at Sha Po Pumping Station (P2); backfilling, concreting and extract sheet pile at Nam Sang Wai P/S(P3) and Pok Wai South Road (S5 & S6); sheet piling, excavation, pipe laying, backfilling, concreting and extract sheet pile at Nam Sang Wai Road (S4). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

### SOLID AND LIQUID WASTE MANAGEMENT STATUS

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

**Table 7-1 Summary of Waste Quantities for Disposal**

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (tons) – Disposed	1.006	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)	0.039	Refuse Collector

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

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

- 7.03 There was no site effluent discharged but an estimated volume of less than 50m<sup>3</sup> of surface runoff was discharged in the reporting month. The sampling of effluent had been carried out by the Contractor in compliance with the Discharge License (No.1U434/1) requirement in the reporting month.

### SUBMISSION OF PROFORMA

- 7.04 Representatives of the Engineer, the Contractor and ET carried out regular weekly site inspection on 03, 10, 17 and 27 February 2009 to evaluate the site environmental performance. No non-compliance was found in this reporting month. Six observations were recorded from the ET weekly site inspections. The monthly IEC site audit for **February 2009** was undertaken on 17 February 2009. No non-compliance and two observations were indicated by IEC.
- 7.05 Proforma of the weekly ET site inspection activities and monthly joint IEC site audit are presented in **Annex K**.

**ANNEX A**  
**PROJECT SITE LAYOUT**





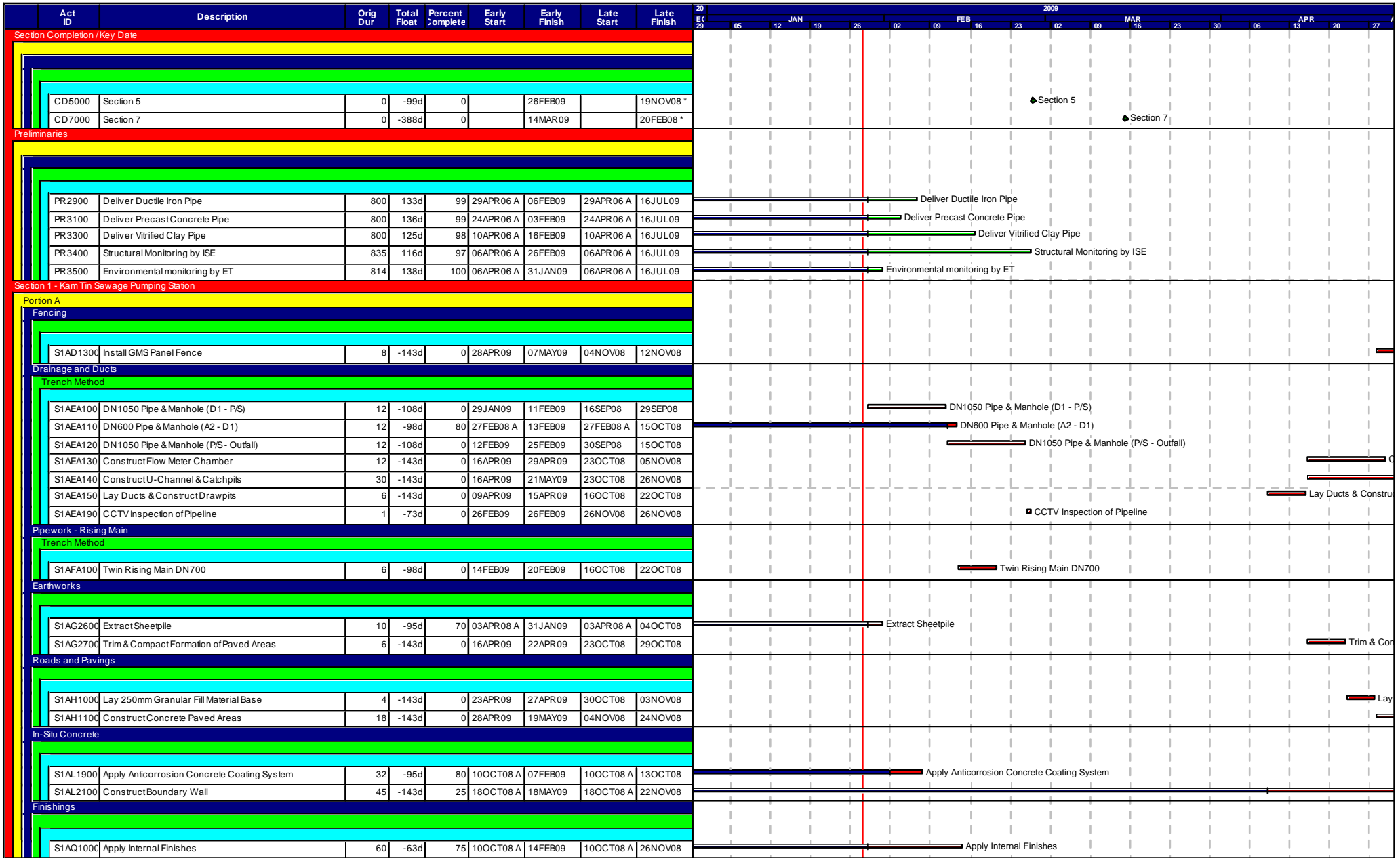
## **ANNEX B**

### **PROJECT ORGANIZATION AND MANAGEMENT STRUCTURE**



## **ANNEX C**

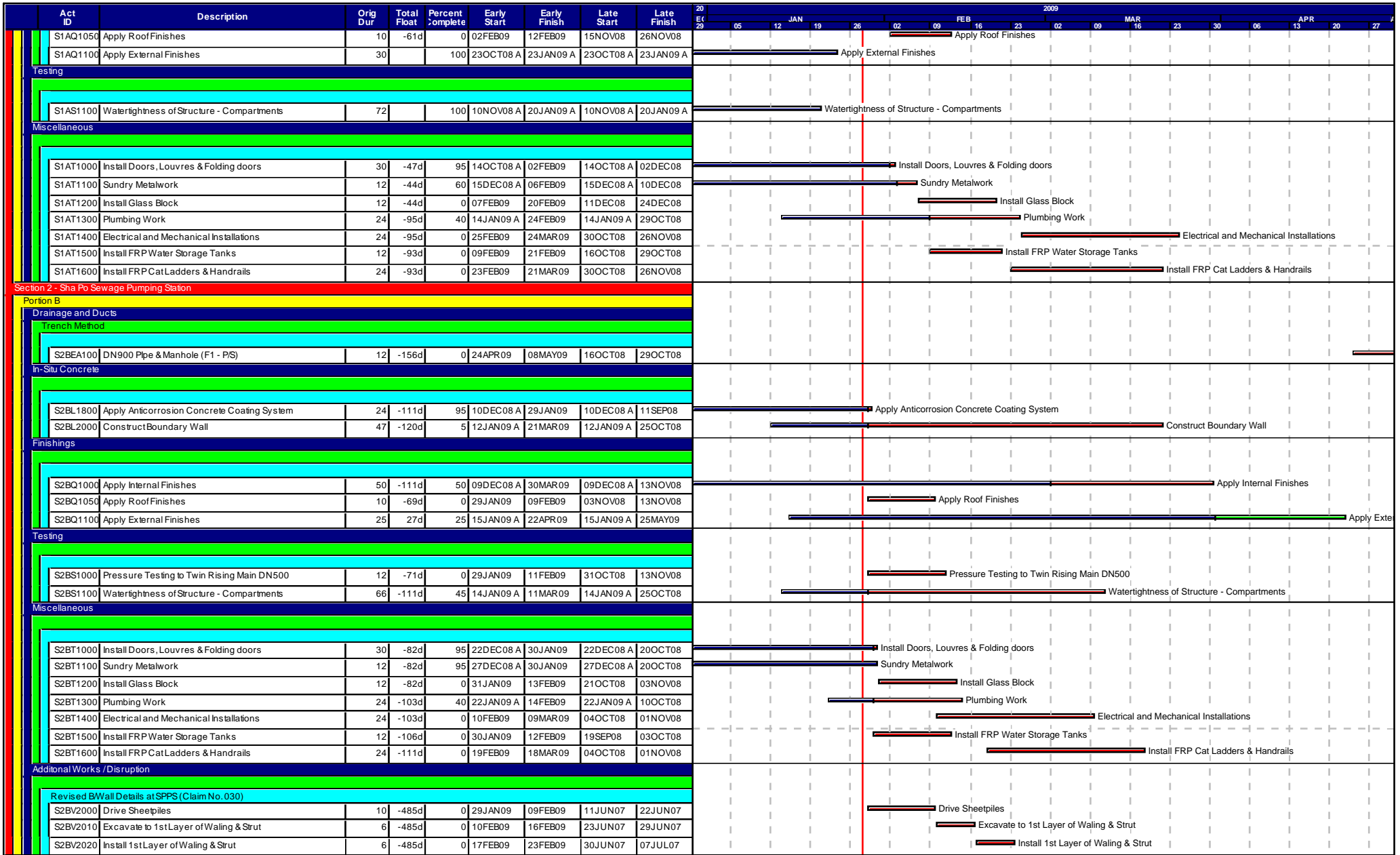
### **CONSTRUCTION PROGRAM**



Start date 19DEC05  
 Finish date 13NOV10  
 Data date 28JAN09  
 Page number 1A  
 Primavera Systems, Inc.

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

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



Start date 19DEC05  
 Finish date 13NOV10  
 Data date 28JAN09  
 Page number 2A  
 Primavera Systems, Inc.

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

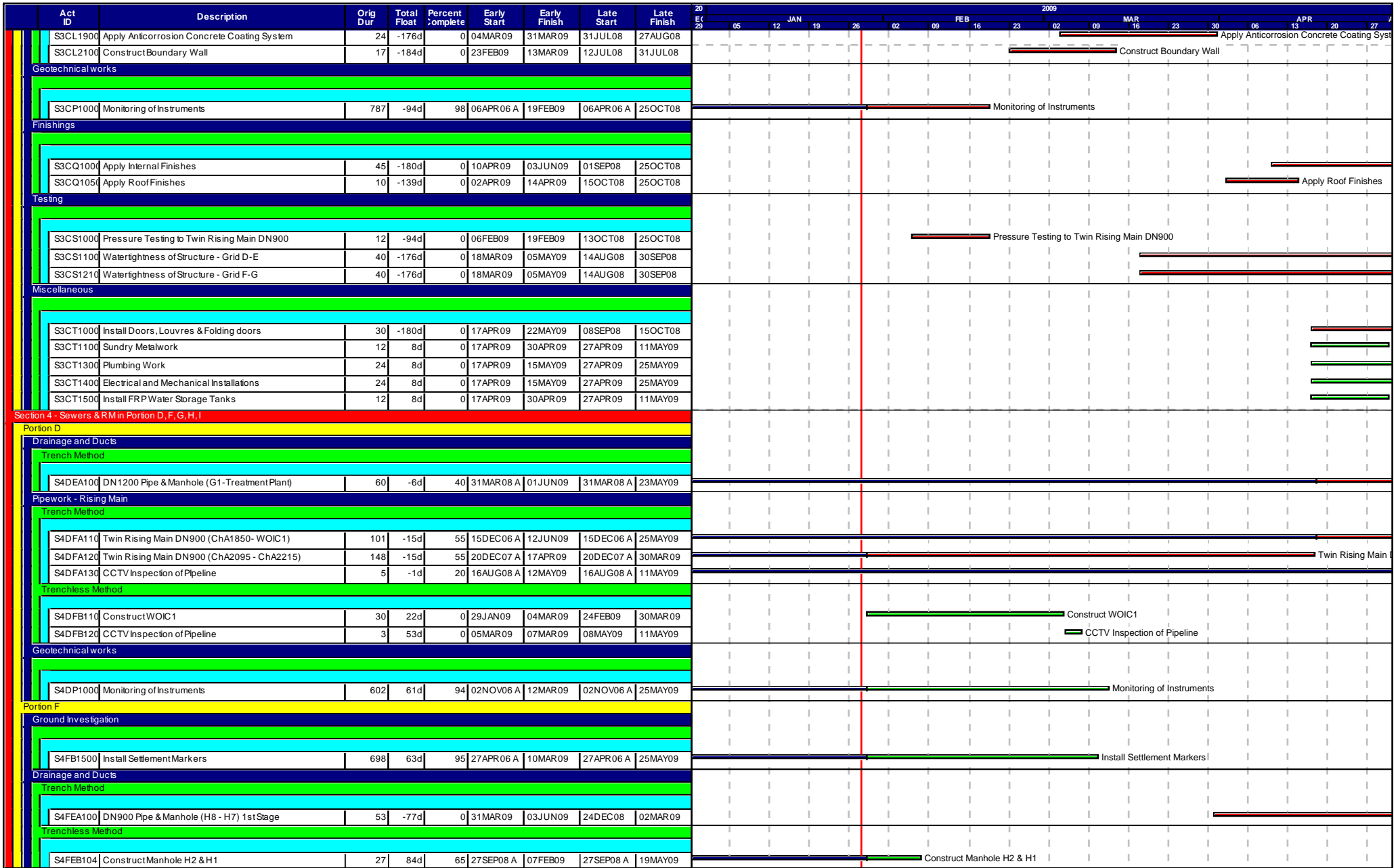
Legend:  
 Green bar: Early bar  
 Blue bar: Progress bar  
 Red bar: Critical bar  
 Purple bar: Summary bar  
 Diamond: Start milestone point  
 Diamond: Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish	2009																	
									20	JAN			FEB			MAR			APR							
									29	05	12	19	26	02	09	16	23	02	09	16	23	30	06	13	20	27
S2BV2030	Excavate to 2nd Layer of Waling & Strut	6	-485d	0	24FEB09	02MAR09	09JUL07	14JUL07	Excavate to 2nd Layer of Waling & Strut																	
S2BV2040	Install 2nd Layer of Waling & Strut	6	-485d	0	03MAR09	09MAR09	16JUL07	21JUL07	Install 2nd Layer of Waling & Strut																	
S2BV2050	Excavate to 3rd Layer of Waling & Strut	6	-485d	0	10MAR09	16MAR09	23JUL07	28JUL07	Excavate to 3rd Layer of Waling & Strut																	
S2BV2060	Install 3rd Layer of Waling & Strut	6	-485d	0	17MAR09	23MAR09	30JUL07	04AUG07	Install 3rd Layer of Waling & Strut																	
S2BV2070	Excavate to Formation & Pour Blinding	6	-485d	0	24MAR09	30MAR09	06AUG07	11AUG07	Excavate to Formation & Pour Blinding																	
S2BV2080	Construct Base Slab for Bay 1 & 3	8	-485d	0	31MAR09	09APR09	13AUG07	21AUG07	Construct Base Slab for Bay																	
S2BV2090	Construct Base Slab for Bay 2 & 4	6	-485d	0	10APR09	16APR09	22AUG07	28AUG07	Construct Base Slab																	
S2BV2100	Backfill & Remove 3rd Layer of Waling & Strut	6	-485d	0	17APR09	23APR09	29AUG07	04SEP07	Backfill &																	
S2BV2110	Construct Wall Stem 1st Lift for Bay 1 & 3	8	-485d	0	24APR09	04MAY09	05SEP07	13SEP07	Construct Wall Stem																	
<b>Section 3 - Nam Sang Wai Sewage Pumping Station</b>																										
<b>Portion C</b>																										
<b>Ground Investigation</b>																										
S3CB1700	Install Settlement Markers for Pumping Station	2	-180d	75	01DEC07 A	10FEB09	01DEC07 A	04JUL08	Install Settlement Markers for Pumping Station																	
<b>Drainage and Ducts</b>																										
<b>Trench Method</b>																										
S3CEA100	DN1200 Pipe & Manhole (H1 - P/S)	12		100	13JUN08 A	28JAN09	13JUN08 A	28JAN09	DN1200 Pipe & Manhole (H1 - P/S)																	
S3CEA140	DN1200 Pipe & Manhole (P/S - Outfall)	12	-184d	0	09FEB09	21FEB09	27JUN08	11JUL08	DN1200 Pipe & Manhole (P/S - Outfall)																	
S3CEA150	Construct U-channel, Dish Channel & Catchpit	27	-184d	0	14MAR09	15APR09	01AUG08	01SEP08	Construct U-channel																	
S3CEA160	Lay Ducts & Construct Drawpit	6	-184d	0	16APR09	22APR09	02SEP08	08SEP08	Lay Ducts																	
S3CEA210	CCTV Inspection of Pipeline	1	-97d	0	23FEB09	23FEB09	25OCT08	25OCT08	CCTV Inspection of Pipeline																	
<b>Pipework - Rising Main</b>																										
<b>Trench Method</b>																										
S3CFA100	Twin Rising Main DN900	6	-184d	0	29JAN09	04FEB09	17JUN08	23JUN08	Twin Rising Main DN900																	
S3CFA120	CCTV Inspection of Pipeline	1	-94d	0	05FEB09	05FEB09	11OCT08	11OCT08	CCTV Inspection of Pipeline																	
<b>Earthworks</b>																										
S3CG2800	Backfill to Formation of Ground Slab	8	-184d	95	20OCT08 A	04FEB09	20OCT08 A	23JUN08	Backfill to Formation of Ground Slab																	
S3CG2900	Extract Sheetpile	11	-184d	45	04NOV08 A	07FEB09	04NOV08 A	26JUN08	Extract Sheetpile																	
S3CG3000	Trim & Compact Formation of Paved Areas	6	-184d	0	23APR09	29APR09	09SEP08	16SEP08	Trim & Compact Formation of Paved Areas																	
<b>Formwork</b>																										
S3CJ1600	Erect Formwork to Ground Slab	8	-180d	90	15NOV08 A	04FEB09	15NOV08 A	27JUN08	Erect Formwork to Ground Slab																	
S3CJ1700	Erect Formwork to +10.80mPD	12	-180d	40	23DEC08 A	24FEB09	23DEC08 A	18JUL08	Erect Formwork to +10.80mPD																	
S3CJ1800	Erect Formwork to +13.75mPD & Roof Slab	12	-180d	0	07MAR09	20MAR09	30JUL08	12AUG08	Erect Formwork to +13.75mPD & Roof Slab																	
<b>Steel Reinforcement</b>																										
S3CK1500	Fix Re-bar to Ground Slab	8	-180d	50	26NOV08 A	09FEB09	26NOV08 A	03JUL08	Fix Re-bar to Ground Slab																	
S3CK1600	Fix Re-bar to +10.80mPD	8	-180d	40	07JAN09 A	16FEB09	07JAN09 A	10JUL08	Fix Re-bar to +10.80mPD																	
S3CK1700	Fix Re-bar to +13.75mPD	8	-180d	0	26FEB09	06MAR09	21JUL08	29JUL08	Fix Re-bar to +13.75mPD																	
S3CK1800	Fix Re-bar to Roof Slab	8	-180d	0	21MAR09	30MAR09	13AUG08	21AUG08	Fix Re-bar to Roof Slab																	
<b>In-Situ Concrete</b>																										
S3CL1550	Cast Wall Stem to +5.00mPD	2	-184d	75	03OCT08 A	04FEB09	03OCT08 A	23JUN08	Cast Wall Stem to +5.00mPD																	
S3CL1600	Cast Ground Slab	2	-180d	50	18DEC08 A	10FEB09	18DEC08 A	04JUL08	Cast Ground Slab																	
S3CL1700	Cast Wall Stem to +13.75mPD	2	-180d	40	20JAN09 A	25FEB09	20JAN09 A	19JUL08	Cast Wall Stem to +13.75mPD																	
S3CL1800	Cast Wall Stem to +13.75mPD & Roof Slab	2	-180d	0	31MAR09	01APR09	22AUG08	23AUG08	Cast Wall Stem to +13.75mPD & Roof Slab																	

Start date 19DEC05  
 Finish date 13NOV10  
 Data date 28JAN09  
 Page number 3A  
 Primavera Systems, Inc.

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

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

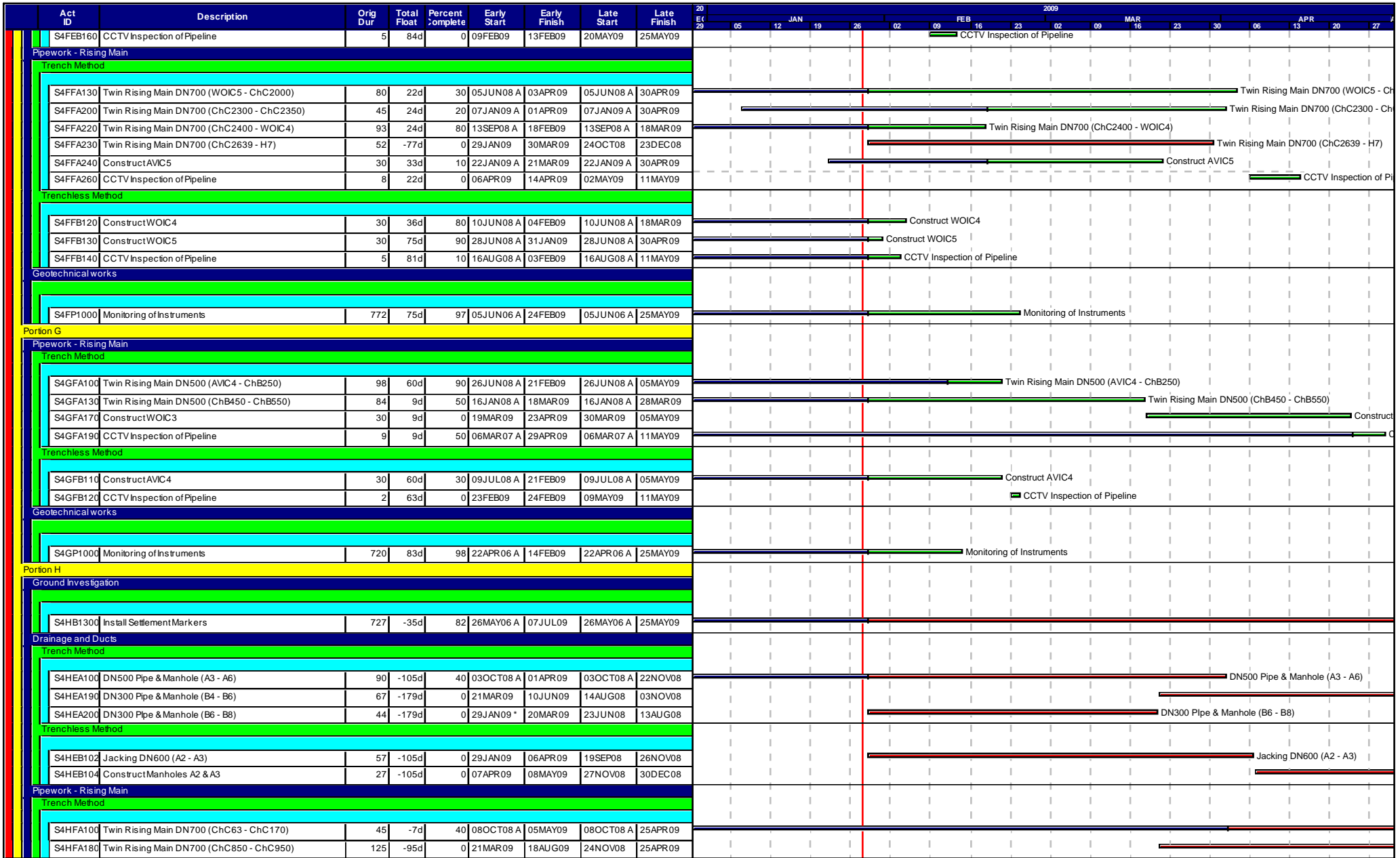


Start date 19DEC05  
 Finish date 13NOV10  
 Data date 28JAN09  
 Page number 4A  
 Primavera Systems, Inc.

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



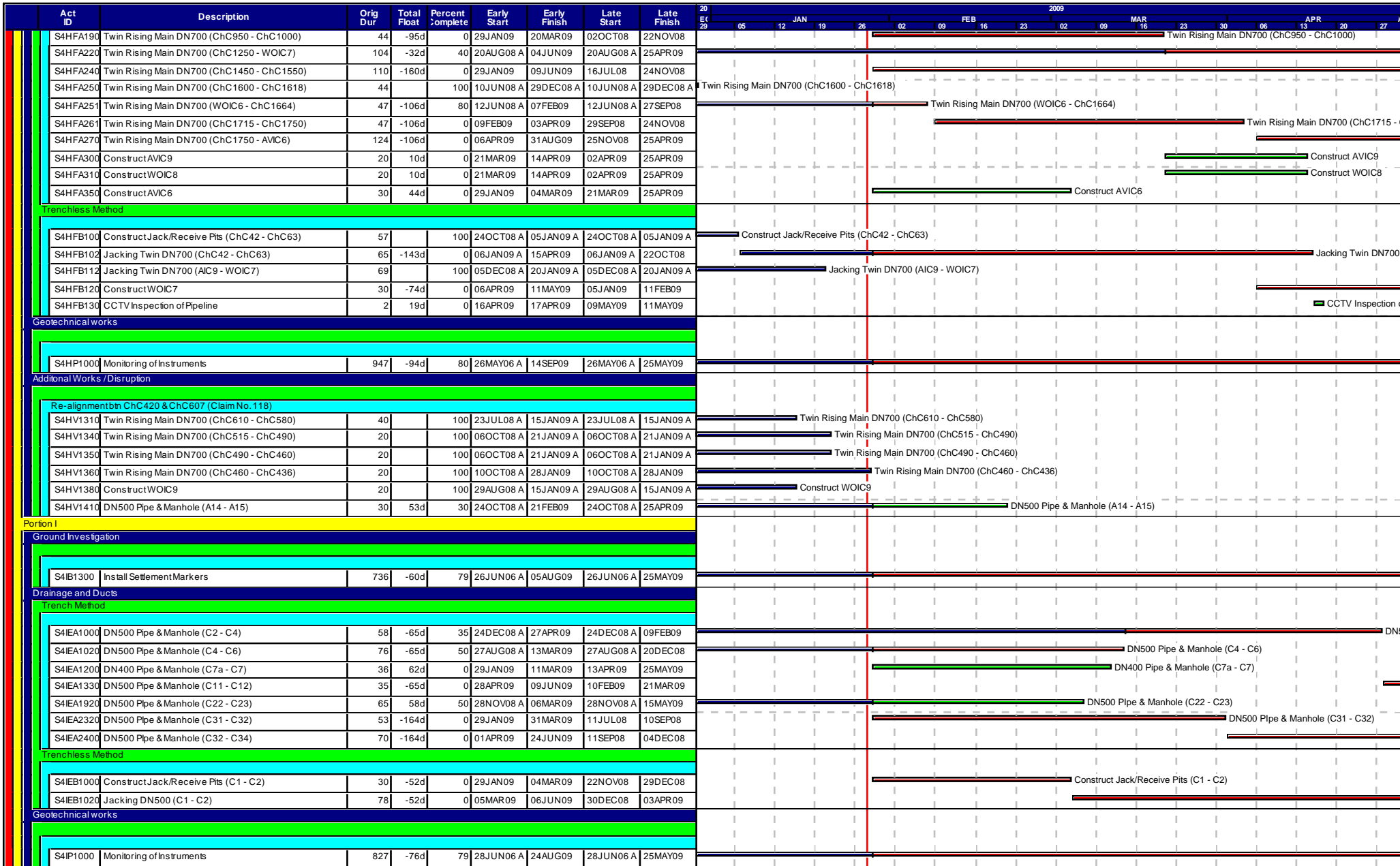




Startdate 19DEC05  
 Finish date 13NOV10  
 Data date 28JAN09  
 Page number 5A  
 Primavera Systems, Inc.

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

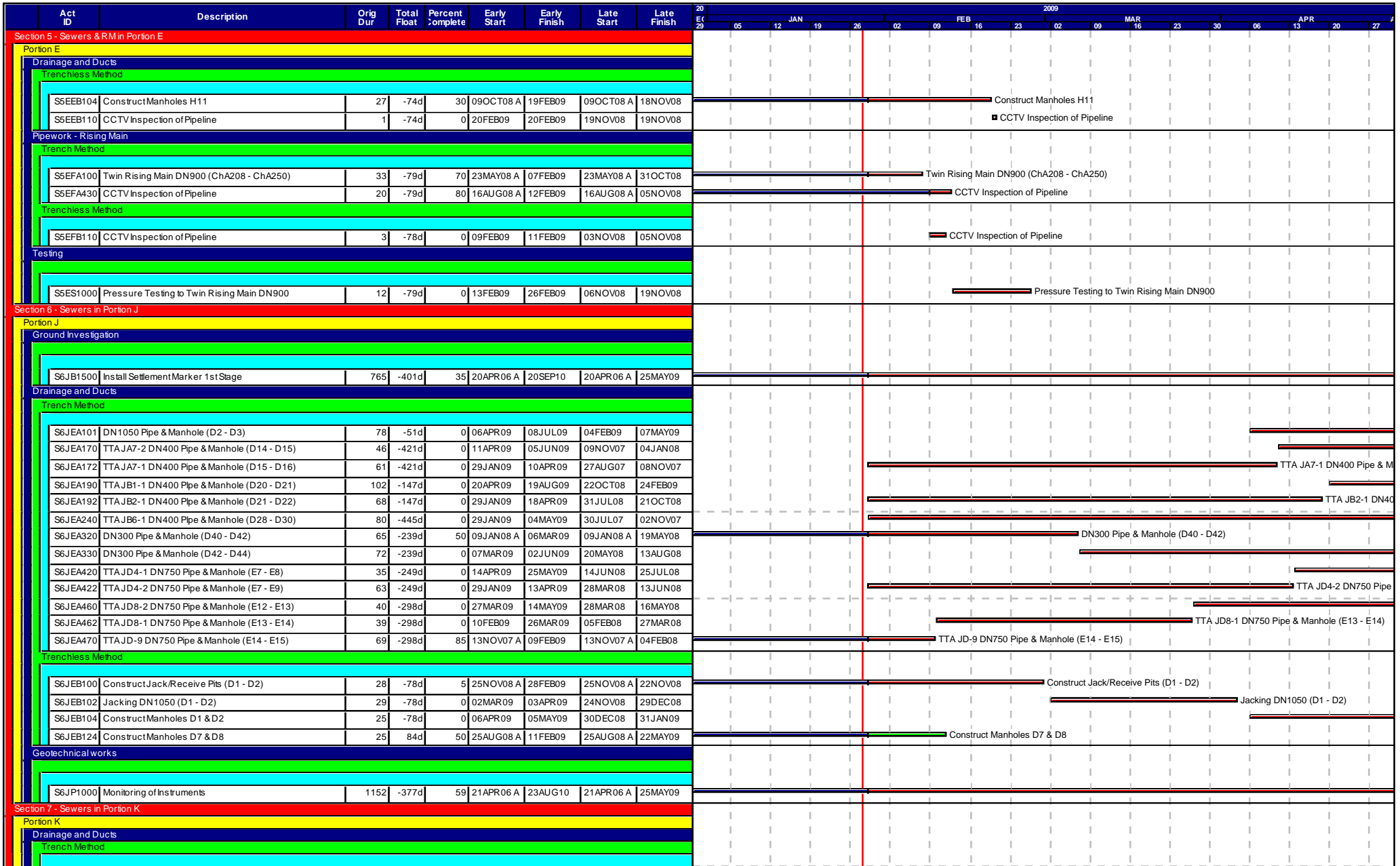
- Early bar
- Progress bar
- Critical bar
- Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point



Start date 19DEC05  
 Finish date 13NOV10  
 Data date 28JAN09  
 Page number 6A  
 Primavera Systems, Inc.

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

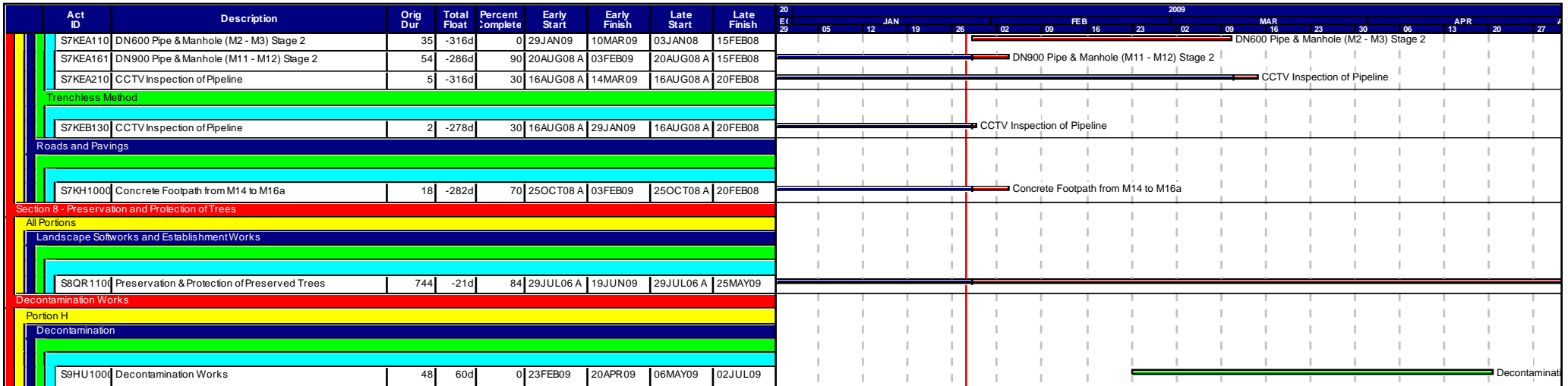
Legend:  
 Early bar  
 Progress bar  
 Critical bar  
 Summary bar  
 Start milestone point  
 Finish milestone point



Startdate 19DEC05  
 Finish date 13NOV10  
 Data date 28JAN09  
 Page number 7A  
 Primavera Systems, Inc.

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

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



Start date 19DEC05  
 Finish date 13NOV10  
 Data date 28JAN09  
 Page number 8A  
 Primavera Systems, Inc.

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

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

**ANNEX D**

**PHOTOGRAPHICAL RECORDS – NOISE BARRIER ON-SITE**

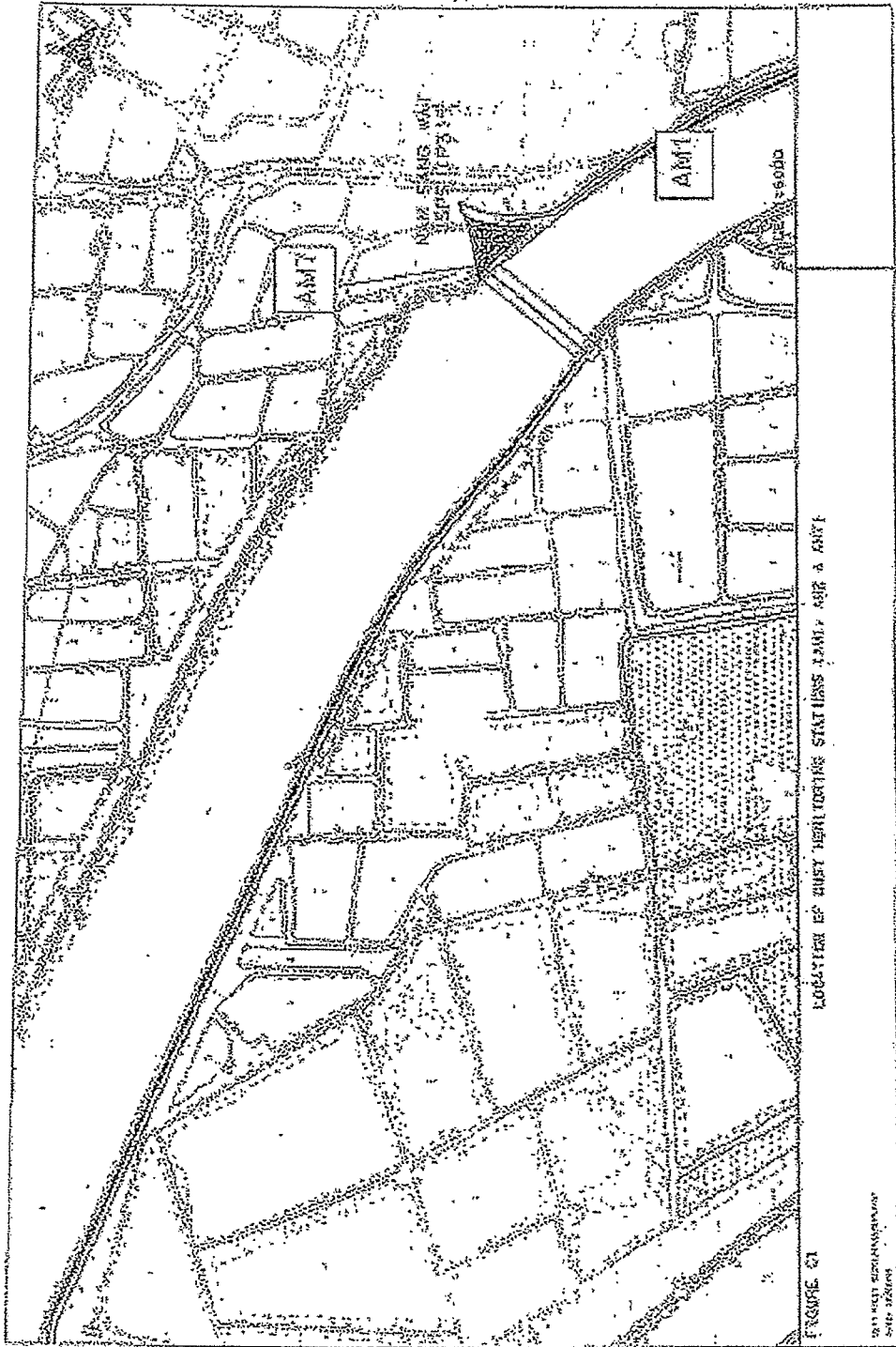


## ANNEX E

### LOCATIONS OF MONITORING STATIONS







LOCATION OF THEY HEH TOWNS STATIONS TAMI, ABE & AHT

FIGURE 61

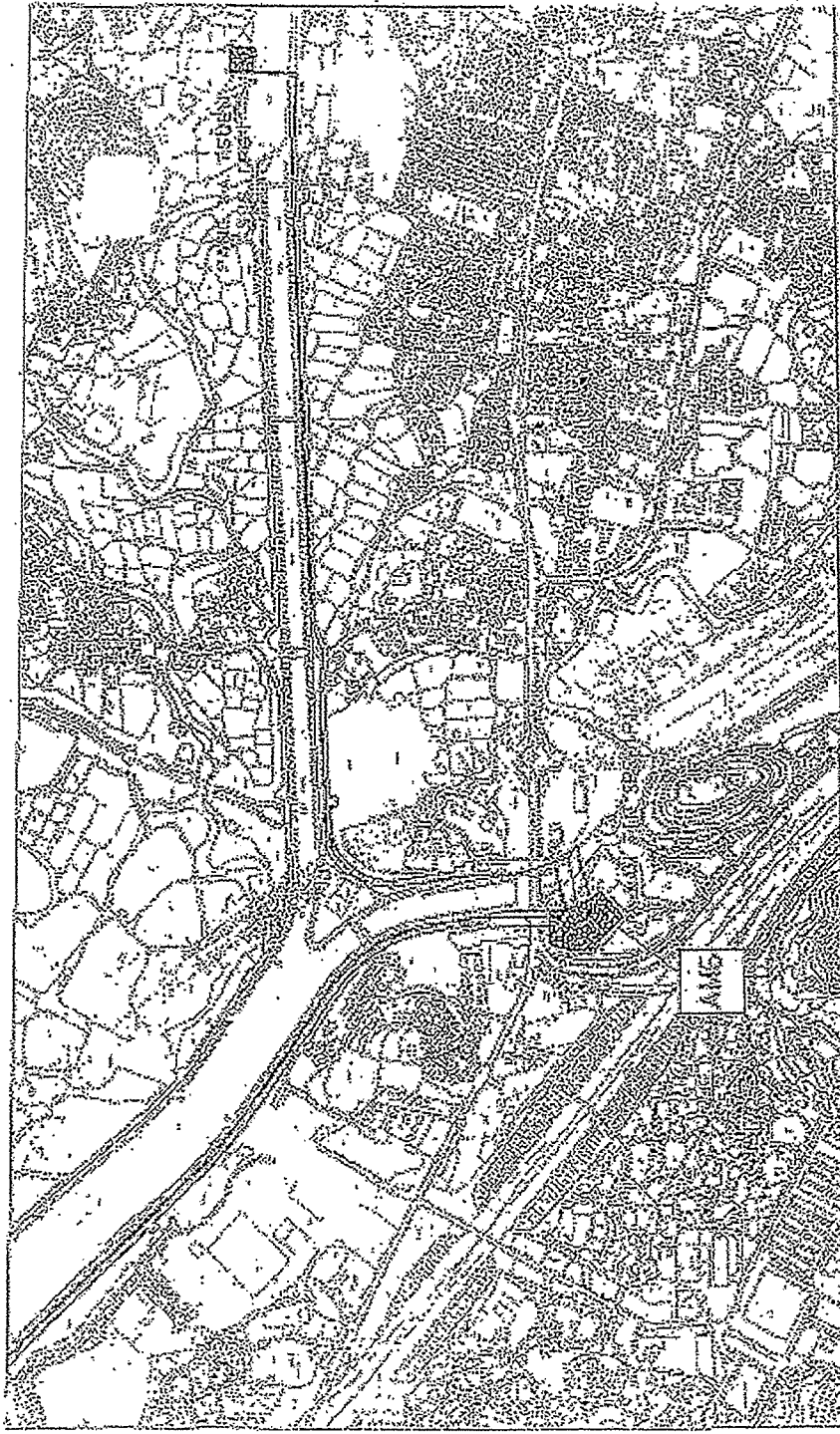
BY THE NATIONAL ARCHIVES  
 COLLEGE PARK, MARYLAND



FIGURE OF BEST MONITORING STATION LAYOUT

FIGURE 62

Scale: 1/4" = 1'-0"  
Sheet No. 62



LOCATION OF BEST MONITORING STATIONS (AMC, AMS & AMOS)

FIGURE 50

AMERICAN OVERSEAS AIRWAYS CORPORATION  
1960-1961

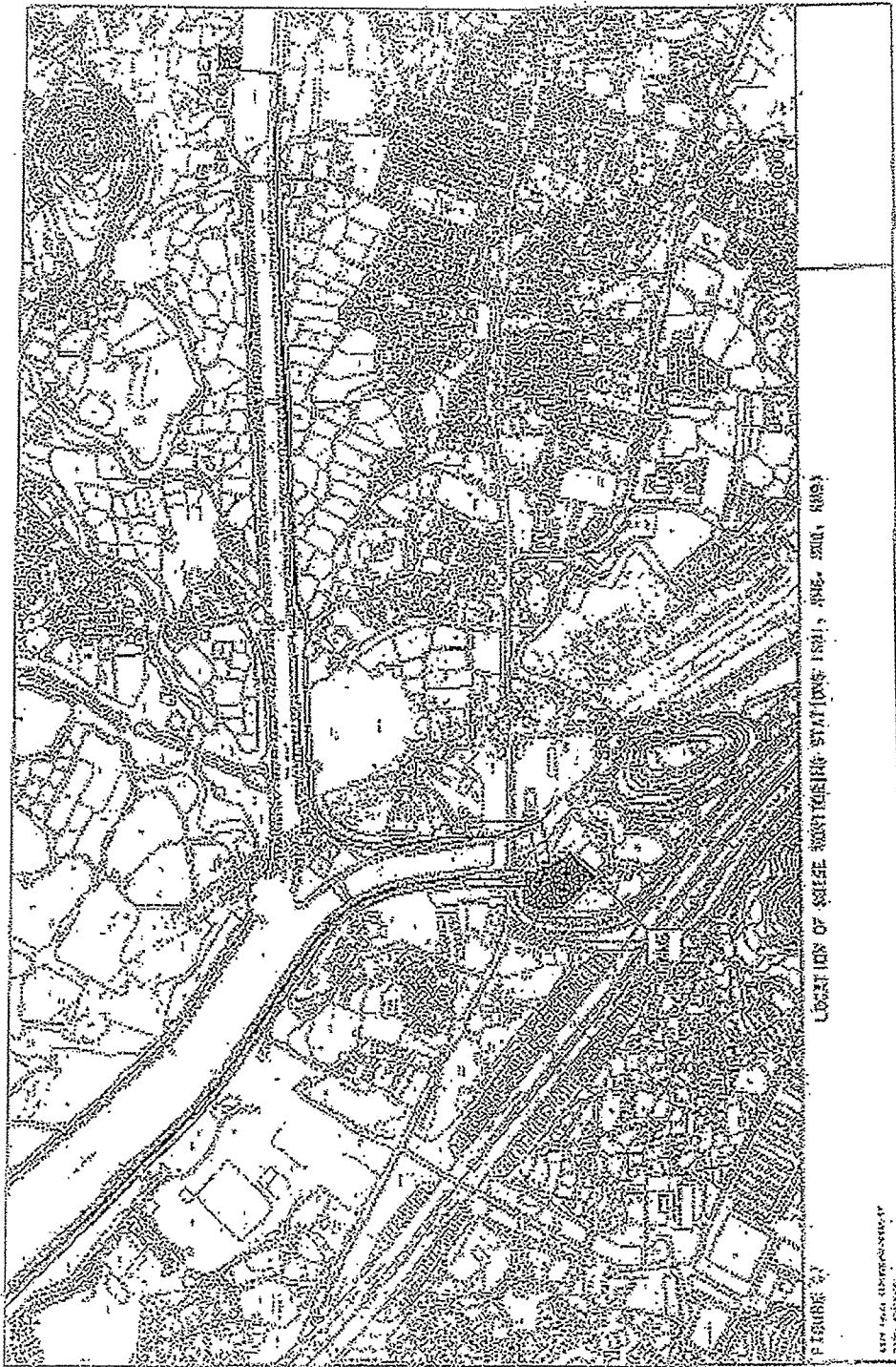


FIGURE 4  
LOCATIONS OF SILECE MONITORING STATIONS 1981, 1982, 1983

NEW YORK UNIVERSITY  
CITY UNIVERSITY





LOCATION OF NOISE MONITORING STATIONS FROM MAP 2

SCALE 1:500

BY: J. L. GIBSON  
DATE: 10/1/68

## ANNEX F

### EVENT AND ACTION PLAN

## Monthly EM&amp;A Report for February 2009 (No. 35) (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"> <li>Identify source (s) of exceedance and inform IEC, Contractor and Engineer</li> <li>Repeat dust measurements to confirm findings</li> <li>Increase monitoring frequency to daily</li> <li>Assess efficacy of remedial measures and keep the Contractor, IEC, and Engineer informed</li> </ol>	<ol style="list-style-type: none"> <li>Check monitoring data submitted by ET</li> <li>Check monitoring data trends and Contractors working methods</li> <li>Check and confirm Contractors proposed remedial actions and working methods are appropriate</li> </ol>	<ol style="list-style-type: none"> <li>Confirm receipt of notification of exceedance in writing</li> <li>Remind the Contractor of his contractual obligations and review the Contractor's working methods</li> <li>Discuss remedial actions with the Contractor and IEC</li> <li>Inform complainant of actions taken, if necessary</li> </ol>	<ol style="list-style-type: none"> <li>Rectify any unacceptable practice</li> <li>Liaise with Engineer and IEC to develop appropriate remedial measures to reduce dust impact</li> <li>Amend working methods and remedial proposals if required by the Engineer or IEC</li> <li>Implement the agreed remedial actions upon instruction from the Engineer and IEC</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>Identify source (s) of exceedance and inform IEC, Contractor and Engineer</li> <li>Repeat measurements to confirm findings</li> <li>Increase the monitoring frequency to daily to assess the efficacy of remedial measures and keep the Contractor informed</li> <li>Discuss remedial actions with IEC and Contractor</li> <li>If exceedance continues, arrange meeting with Engineer, IEC and Contractor to review working practices and identify further remedial actions</li> <li>If exceedance stops, inform the Contractor and cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>Check monitoring data submitted by ET</li> <li>Check monitoring data trends and Contractors working methods</li> <li>Discuss with Contractor and Engineer on possible remedial measures</li> <li>Check and confirm Contractors proposed remedial measures are appropriate</li> <li>Determine the efficacy of remedial actions and keep the Engineer informed</li> </ol>	<ol style="list-style-type: none"> <li>Confirm receipt of notification of exceedance in writing</li> <li>Remind the Contractor of his contractual obligations and review the Contractor's working methods</li> <li>Discuss remedial actions with the Contractor and IEC</li> <li>Ensure remedial measures are properly implemented</li> <li>Inform complainant of actions taken, if necessary.</li> </ol>	<ol style="list-style-type: none"> <li>Rectify any unacceptable practice, if possible</li> <li>Submit proposals for remedial actions to Engineer and IEC within three working days of notification</li> <li>Discuss and amend remedial actions, if required, by the Engineer and IEC</li> <li>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</li> </ol>



## Monthly EM&amp;A Report for February 2009 (No. 35) (Designated Elements)

## 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"> <li>1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer</li> <li>2. Repeat dust measurements to confirm findings</li> <li>3. Increase monitoring frequency to daily</li> <li>4. Assess efficacy of remedial measures and keep the Contractor, IEC, Engineer and EPD informed</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET</li> <li>2. Check monitoring data trends and Contractors working methods</li> <li>3. Check and confirm Contractors proposed remedial actions and working methods are appropriate</li> <li>4. Check and confirm Contractors proposed remedial measures are appropriate</li> <li>5. Determine the efficacy of remedial actions and keep the Engineer informed</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing</li> <li>2. Remind the Contractor of his contractual obligations and review the Contractor's working methods</li> <li>3. Discuss remedial actions with the Contractor and IEC,</li> <li>4. Ensure remedial measures are properly implemented</li> <li>5. Inform complainant of actions taken, if necessary.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance</li> <li>2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification</li> <li>3. Discuss and amend remedial actions, if required, by the Engineer and IEC</li> <li>4. Implement the remedial action (s) immediately upon instruction from the Engineer</li> <li>5. Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer</li> <li>2. Repeat measurements to confirm findings</li> <li>3. Increase the monitoring frequency to daily to assess the efficacy of remedial measures and keep the Contractor informed</li> <li>4. Discuss remedial actions with IEC and Contractor</li> <li>5. If exceedance continues, arrange meeting with Engineer, IEC and Contractor to review working practices and identify further remedial actions</li> <li>6. If exceedance stops, inform the Contractor and cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with Contractor and Engineer on possible remedial measures</li> <li>2. Check and confirm Contractors proposed remedial measures are appropriate</li> <li>3. Determine the efficacy of remedial actions and keep the Engineer informed</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing</li> <li>2. Remind the Contractor of his contractual obligations and review the Contractor's working methods</li> <li>3. Discuss remedial actions with the Contractor and IEC</li> <li>4. Ensure remedial measures are properly implemented</li> <li>5. If exceedance continues, instruct the Contractor to stop the relevant portion of work until the exceedance is abated</li> <li>6. Inform complainant of actions taken, if necessary.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice, if possible</li> <li>2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification</li> <li>3. Discuss and amend remedial actions, if required, by the Engineer and IEC</li> <li>4. Implement the remedial action (s) immediately upon instruction from the Engineer</li> <li>5. Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions</li> </ol>

## Monthly EM&amp;A Report for February 2009 (No. 35) (Designated Elements)

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"> <li>1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer</li> <li>2. Repeat dust measurements to confirm findings</li> <li>3. If repeat measurements confirm exceedance ,increase monitoring frequency to daily</li> <li>4. Assess efficacy of remedial measures and keep the Contractor, IEC, and Engineer informed</li> <li>5. If exceedance stops, inform Contractor and cease additional noise monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET</li> <li>2. Check monitoring data trends and Contractors working methods</li> <li>3. Check and confirm Contractors proposed remedial actions and working methods are appropriate</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing</li> <li>2. Remind the Contractor of his contractual obligations and review the Contractor's working methods</li> <li>3. Discuss remedial actions with the Contractor and IEC</li> <li>4. Inform complainant of actions taken, if necessary</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice</li> <li>2. Liaise with Engineer and IEC to develop appropriate remedial measures to reduce noise impact</li> <li>3. Amend working methods and remedial proposals if required by the Engineer or IEC</li> <li>4. Implement the agreed remedial actions upon instruction from the Engineer and IEC</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer</li> <li>2. Repeat measurements to confirm findings</li> <li>3. Increase the monitoring frequency to daily</li> <li>4. Discuss remedial actions with IEC, Engineer and the EPD</li> <li>5. Assess the efficacy of remedial measures and keep the Contractor informed</li> <li>6. If exceedance continues, arrange meeting with Engineer, IEC and Contractor to review working practices and identify further remedial actions</li> <li>7. If exceedance stops, inform the Contractor and cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET</li> <li>2. Check monitoring data trends and Contractors working methods</li> <li>3. Discuss with Contractor and Engineer on possible remedial measures</li> <li>4. Check and confirm Contractors proposed remedial measures are appropriate</li> <li>5. Determine the efficacy of remedial actions and keep the Engineer informed</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing</li> <li>2. Remind the Contractor of his contractual obligations and review the Contractor's working methods</li> <li>3. Discuss remedial actions with the Contractor and IEC</li> <li>4. Ensure remedial measures are properly implemented</li> <li>5. If exceedance continues, instruct the Contractor to stop the relevant portion of work until the exceedance is abated</li> <li>6. Inform complainant of actions taken, if necessary.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice, if possible</li> <li>2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification</li> <li>3. Discuss and amend remedial actions, if required, by the Engineer and IEC</li> <li>4. Implement the remedial action (s) immediately upon instruction from the Engineer</li> <li>5. Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions</li> <li>6. Stop the relevant portion of work as determined by the Engineer until the exceedance is abated</li> </ol>

## **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	
<b>CONSTRUCTION PHASE</b>										
<b>AIR QUALITY - Construction Phase</b>										
		The following measures are enforceable under the <i>Air Pollution Control (Construction Dust) Regulations</i>								
3.5	A1	<p><b>Site boundary and entrance</b></p> <ul style="list-style-type: none"> <li>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;</li> </ul>	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	<p><b>Access Road</b></p> <ul style="list-style-type: none"> <li>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;</li> </ul>	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	<p><b>Stockpiling of Dusty Materials</b></p> <ul style="list-style-type: none"> <li>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;</li> </ul>	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 &amp; c), Air Pollution Control (Construction Dust) Regulations</i>
3.5	A4	<p><b>Loading, unloading or transfer of dusty materials</b></p> <ul style="list-style-type: none"> <li>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;</li> </ul>	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	<p><b>Use of vehicles</b></p> <ul style="list-style-type: none"> <li>every vehicle should be washed to remove any dusty materials from its body and wheels immediately before leaving a construction site;</li> </ul>	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"> <li>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;</li> </ul>	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><b>Power-driven drilling, and cutting</b></p> <ul style="list-style-type: none"> <li>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;</li> </ul>	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><b>Excavation and earth moving</b></p> <ul style="list-style-type: none"> <li>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;</li> </ul>	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><b>Construction of the superstructure of a building</b></p> <ul style="list-style-type: none"> <li>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</li> </ul>	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"> <li>any skip hoist for material transport should be totally enclosed by the impervious sheeting.</li> </ul>	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	
		<b>NOISE - Construction Phase</b>								
4.7.1	B1	<p><b>General Site Clearance – Demolition Works</b></p> <ul style="list-style-type: none"> <li>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),</li> </ul>	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><b>Construction of Sewage Pumping Stations P1, P2 &amp; P3</b></p> <ul style="list-style-type: none"> <li>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>,</li> <li>Adoption of temporary noise barrier, in the form of a site hoarding (with a superficial density of at least 20kg/m<sup>2</sup>, with no substantial gaps), along the site boundary of the pumping station sites.</li> </ul>	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><b>Sewers and Rising Mains using Open Trench Method</b></p> <ul style="list-style-type: none"> <li>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>,</li> </ul>	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"> <li>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.</li> </ul>	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"> <li>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.</li> </ul>	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"> <li>Use of movable noise barriers or 3 sided enclosures for all initial road opening activities</li> </ul>	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.  <b>Sewers and Rising Mains using Pipe Jacking Method</b> • 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	<b>Road Pavement and Finishes</b> • 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>
		<b>WATER QUALITY - Construction Phase</b>  No water quality monitoring is required under this study.								
6.6.2	D1	<b>WASTE - Construction Phase</b>  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><b>Chemical Waste</b> 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><b>Storage, Packaging and Labelling of Chemical Waste</b> Containers used for storage of chemical wastes should:</p> <ul style="list-style-type: none"> <li>be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;</li> <li>have a capacity of less than 450 L unless the specifications have been approved by the EPD; and</li> <li>display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.</li> </ul>	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 &amp; 12) Waste Disposal (Chemical Waste) (General) Regulation</i>
6.6.2	D4	<p><b>Storage of chemical waste</b> The storage area for chemical wastes should:</p> <ul style="list-style-type: none"> <li>be clearly labelled and used solely for the storage of chemical waste;</li> <li>be enclosed on at least 3 sides;</li> <li>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;</li> <li>have adequate ventilation;</li> <li>be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste, if necessary); and</li> <li>be arranged so that incompatible materials are</li> </ul>	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, &amp; 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><b>Disposal of chemical waste</b></p> <ul style="list-style-type: none"> <li>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>.</li> </ul> <p><i>Management of Waste Disposal</i> A trip-ticket system should be established which monitors the disposal of C&amp;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><b>LAND CONTAMINATION- Construction Phase</b></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&amp;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 &amp; 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><b>ECOLOGY - Construction Phase</b>  <b>Mitigation Measures Adopted - Avoidance</b>            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><b>Mitigation Measures Adopted - Minimisation</b>            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.  <b>Mitigation Measures Adopted</b> 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 <sup>3</sup> .	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
		<b>FISHERIES - Construction Phase</b>  No specific mitigation measures are required for inclusion in the EP.								
		<b>CULTURAL HERITAGE – Not Applicable for Package 1A-1T (DC/2005/02)</b>								
		<b>LANDSCAPE AND VISUAL - Construction Phase</b>								
	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"> <li>existing landscape elements (such as mature trees), transplantation of valuable trees, new compensatory planting</li> </ul>		project.						
		<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>felling of mature trees are kept to a minimum.</li> </ul>								
3.7	I1	<p><b>EM&amp;A REQUIEMENTS - Construction Phase</b></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"> <li>Worksite boundary facing Scattered house in Nam Sang Wai (AM1);</li> <li>Worksite boundary facing Fung Kat Heung (AM5);</li> <li>Worksite boundary facing Scattered House near Route 3 (AM6);</li> </ul>	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"> <li>at any additional locations, where considered necessary, in agreement with EPD.</li> </ul> <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"> <li>(NM3) Scattered House in Nam San Wai (D12);</li> <li>(NM4) Scattered House in Nam San Wai (D11);</li> <li>(NM6) Scattered House near Route 3 (D17);</li> <li>(NM7) Fung Kat Heung (D19);</li> <li>and at any additional locations, where considered necessary, in agreement with EPD</li> </ul>	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)	14 Feb 09	14 Apr 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)	14 Feb 09	14 Apr 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 : Nam Sang Wai	Date of Calibration: 14-Feb-09
Location ID : AM 1 (Designated)	Next Calibration Date: 14-Apr-09
Serial No: 0329	Technician: Mr. Ben Tam

### CONDITIONS

Sea Level Pressure (hPa)	1009.9	Corrected Pressure (mm Hg)	757.425
Temperature (°C)	24.0	Temperature (K)	297

### CALIBRATION ORIFICE

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

### 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	4.2	4.2	8.4	1.890	52	52.09	48.1463	-38.9553	0.9962
13	3.3	3.3	6.6	1.676	43	43.07			
10	2.7	2.7	5.4	1.518	33	33.05			
7	2.1	2.1	4.2	1.340	24	24.04			
5	1.4	1.4	2.8	1.096	15	15.02			

#### 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:

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

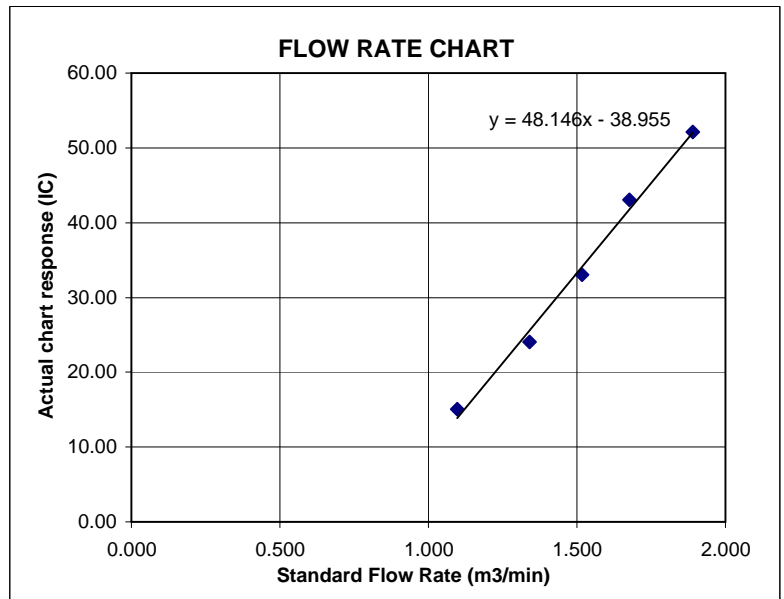
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Nam Sang Wai	Date of Calibration: 14-Feb-09
Location ID : AM 7 (Designated)	Next Calibration Date: 14-Apr-09
Serial No: 1283	Technician: Mr. Ben Tam

### CONDITIONS

Sea Level Pressure (hPa)	1009.9	Corrected Pressure (mm Hg)	757.425
Temperature (°C)	24.0	Temperature (K)	297

### CALIBRATION ORIFICE

Make-> TISCH	Qstd Slope ->
Model-> 515N	1.54431
Serial # -> 0285	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	4.7	4.7	9.4	1.998	43	43.07	29.4453	-16.5301	0.9976
13	3.9	3.9	7.8	1.821	37	37.06			
10	3.1	3.1	6.2	1.625	30	30.05			
7	2.1	2.1	4.2	1.340	23	23.04			
5	1.3	1.3	2.6	1.057	15	15.02			

#### 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:

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

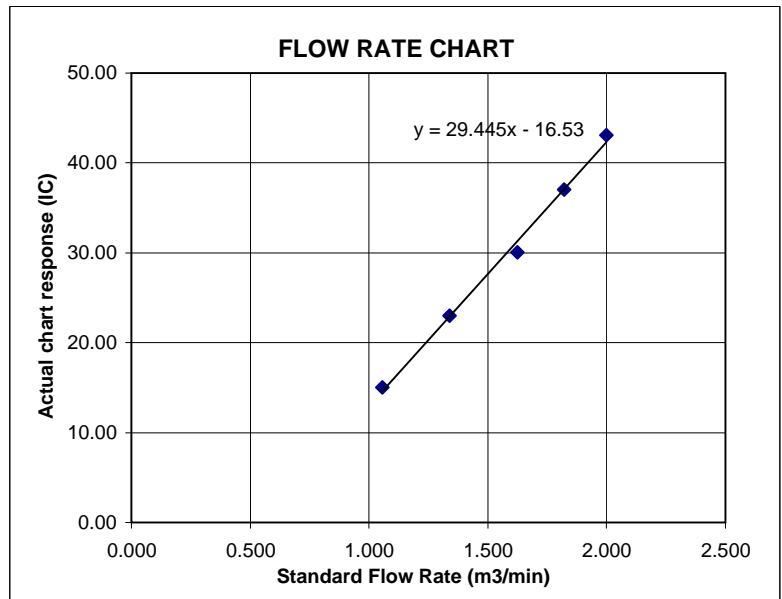
m = sampler slope

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**

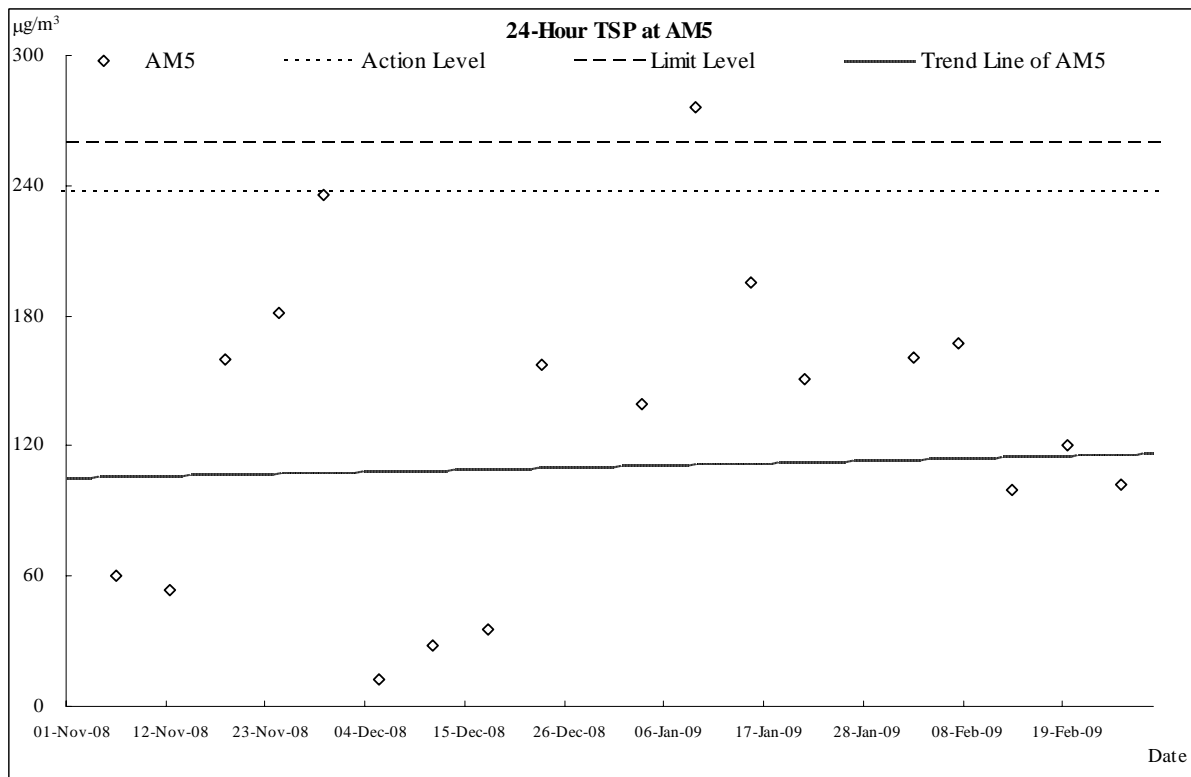
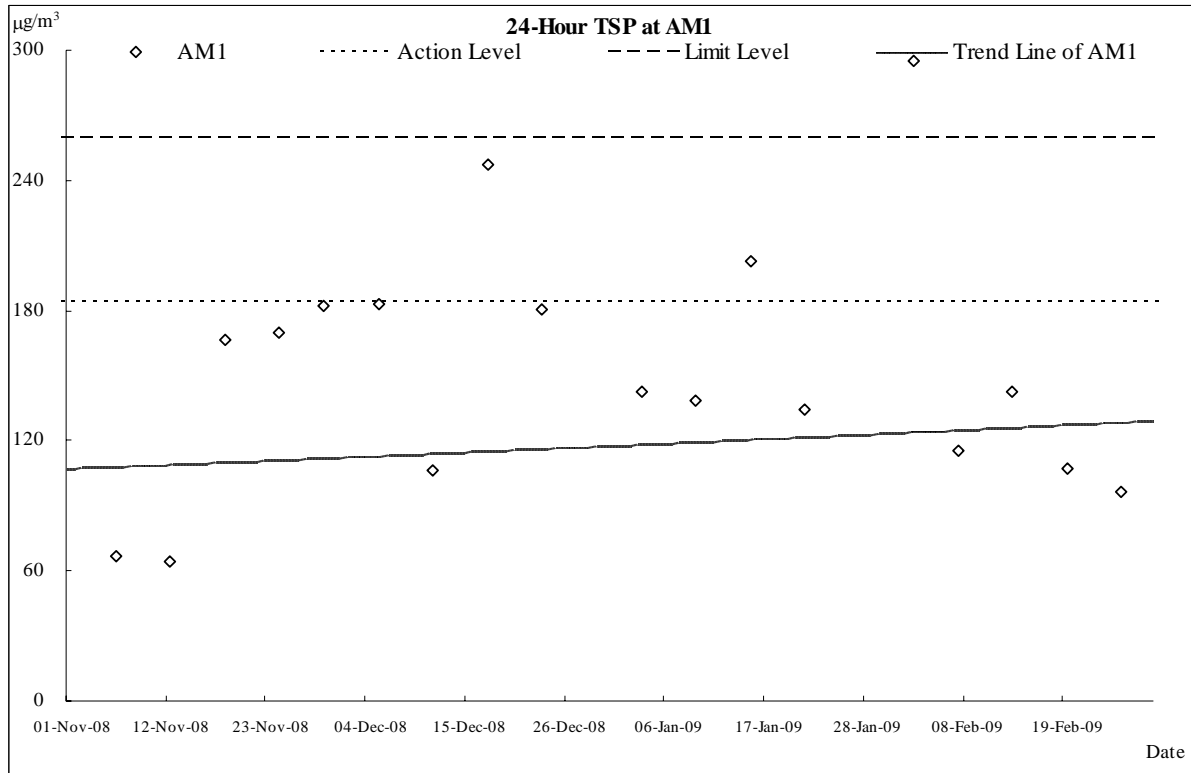
Date	Weather	Lau Fau Shan Weather Station					
		Total Rainfall (mm)	Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction	
1-Feb-09	Sun	sunny periods/moderate/fresh	Trace	20.4	13.5	57.5	E
2-Feb-09	Mon	fine/moderate	0	20.5	10.5	58.7	E/NE
3-Feb-09	Tue	fine/haze/light winds	0	17.8	13	67.5	E/SE
4-Feb-09	Wed	sunny periods/cloudy/moderate/fresh	0	19.9	11.7	67.2	E/SE
5-Feb-09	Thu	fine/haze/moderate	0	18.3	13.2	68.7	E/NE
6-Feb-09	Fri	fine/moderate/fresh	0	19.5	11.2	73	E/SE
7-Feb-09	Sat	fine/haze/moderate	0	19.7	14.5	68	E/SE
8-Feb-09	Sun	fine/haze/moderate	0	22	10	61	E/SE
9-Feb-09	Mon	fine/moderate/haze	0	20.2	13.5	67.5	E/NE
10-Feb-09	Tue	fine/hazy/moderate/fresh	0	27.3	13.5	67	E/SE
11-Feb-09	Wed	fine/hazy/light winds	0	19.2	10.5	66	E/SE
12-Feb-09	Thu	fine/misty/moderate	0	22.2	15.5	70.5	S/SE
13-Feb-09	Fri	cloudy/warm/sunny intervals/moderate	0	23.9	15.5	68	S/SE
14-Feb-09	Sat	cloudy/rain/fog/moderate	Trace	24.5	16	79.5	S/SE
15-Feb-09	Sun	cloudy/rain/mist/strong	0.1	24.3	18	79	E/NE
16-Feb-09	Mon	Cloudy/rain/mist/fresh/strong	0.06	23.5	14.5	73.5	E
17-Feb-09	Tue	sunny periods/fresh/strong	Trace	20.2	15	68.5	E/NE
18-Feb-09	Wed	sunny periods/cloudy/moderate	Trace	21.5	10.5	63.5	E/NE
19-Feb-09	Thu	cloudy/rain/moderate	0.3	23	13	74.5	E/NE
20-Feb-09	Fri	cloudy/bright/moderate/fresh	Trace	20.9	19	73.5	E/NE
21-Feb-09	Sat	sunny intervals/rain/fresh/strong	Trace	22.6	12	64.5	E/SE
22-Feb-09	Sun	fog/sunny periods/moderate	Trace	24.6	26.5	67	S/SE
23-Feb-09	Mon	cloudy/fog/sunny periods/moderate	0	26	15	72.5	S/SE
24-Feb-09	Tue	cloudy/sunny periods/mist/moderate	Trace	26.7	17	71	S/SE
25-Feb-09	Wed	sunny periods/cloudy/fog/moderate	Trace	25.5	13.5	69.2	S/SE
26-Feb-09	Thu	cloudy/foggy/drizzle/moderate/fresh	0.3	24.8	11.7	73.5	E/SE
27-Feb-09	Fri	cloudy/mist/moderate	Trace	24.1	15.5	72	E
28-Feb-09	Sat	cloudy/rain/moderate/fresh	Trace	22.6	12.7	73.7	E/NE

**ANNEX J**

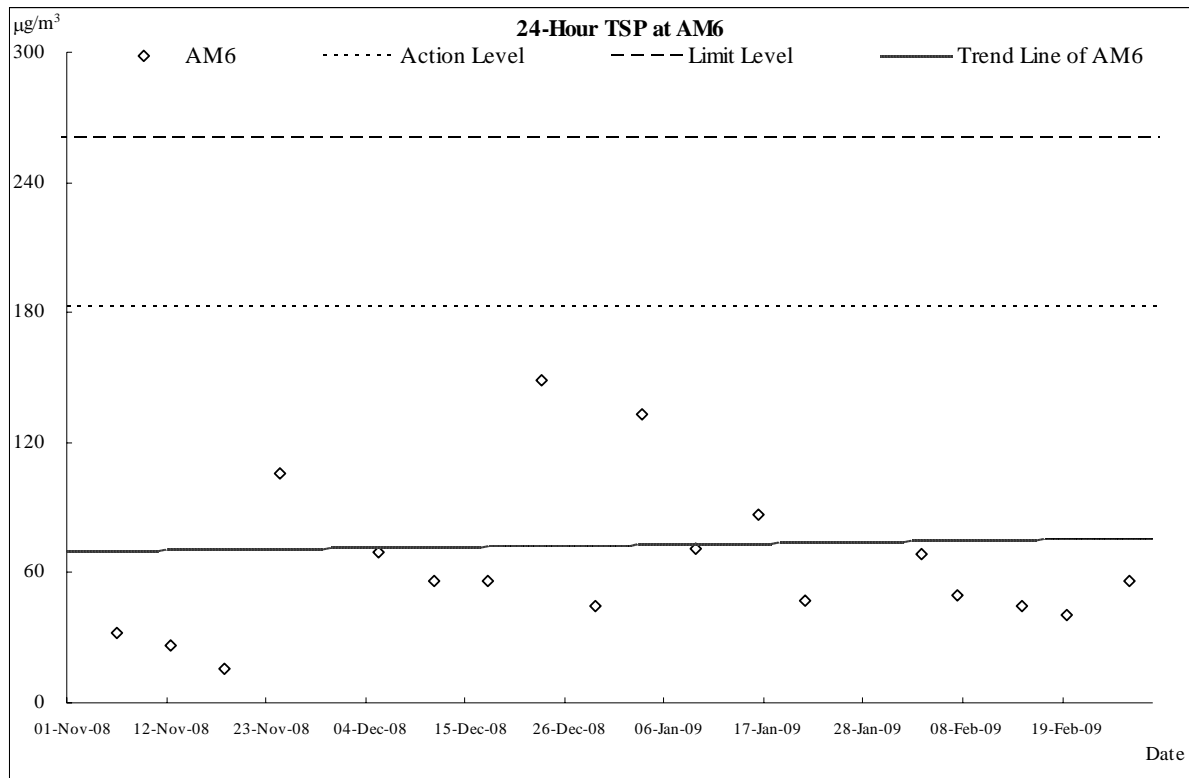
**GRAPHICAL PLOTS OF AIR QUALITY AND CONSTRUCTION NOISE  
MONITORING RESULTS**

## AIR QUALITY

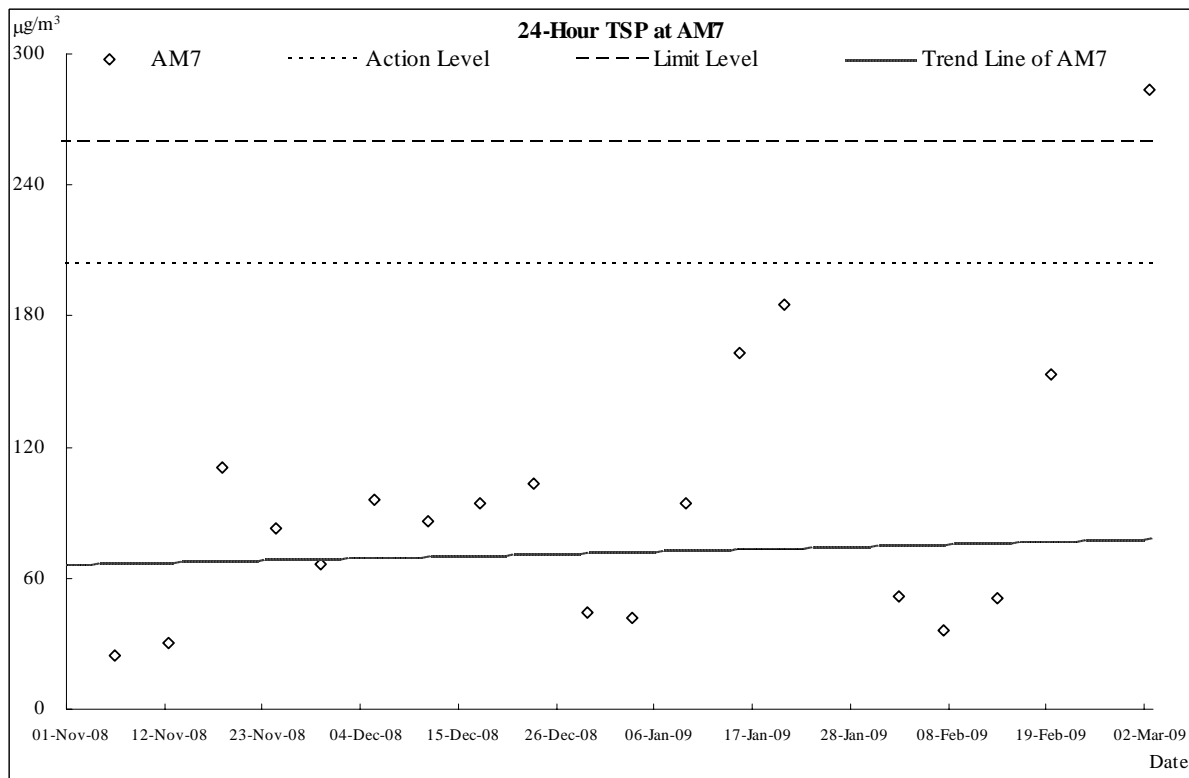
**Air Quality Monitoring Results**



**Air Quality Monitoring Results**



Note: Power failure recorded on 02, 13 and 25 February 2009, makeup monitoring had been conducted on 03, 14 and 26 February 2009.

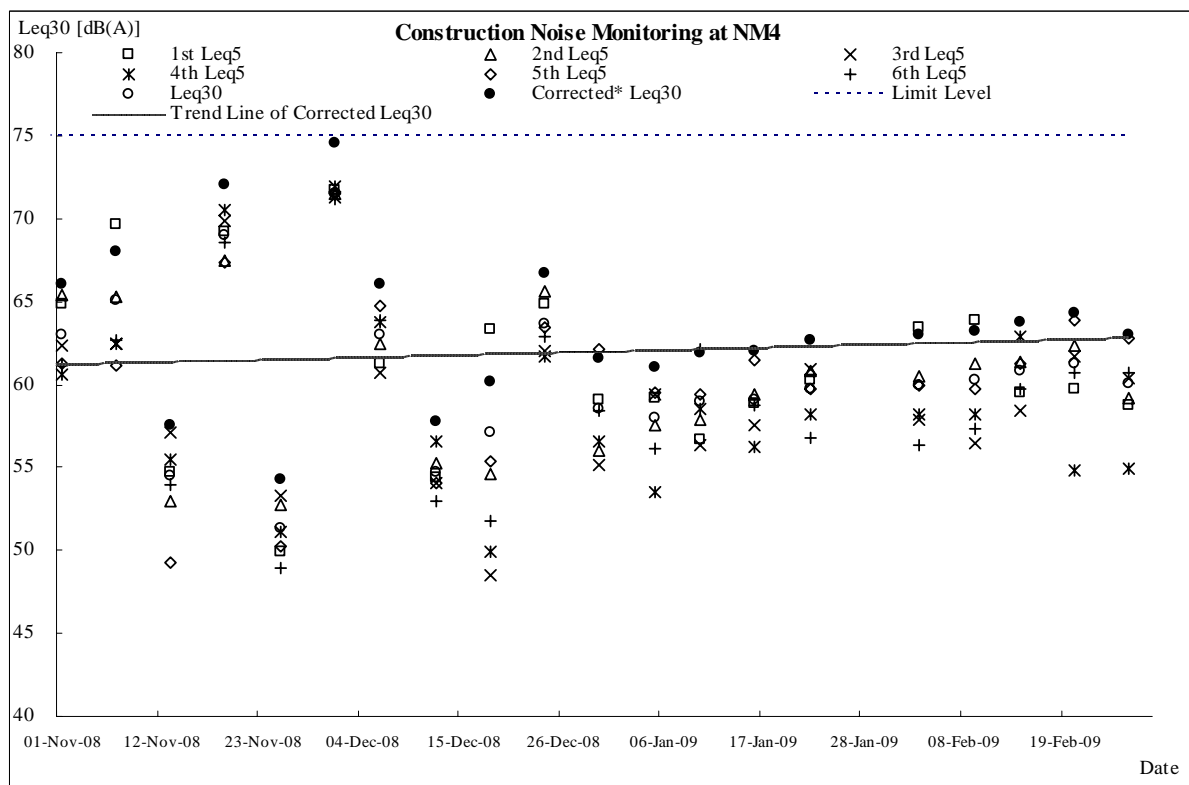
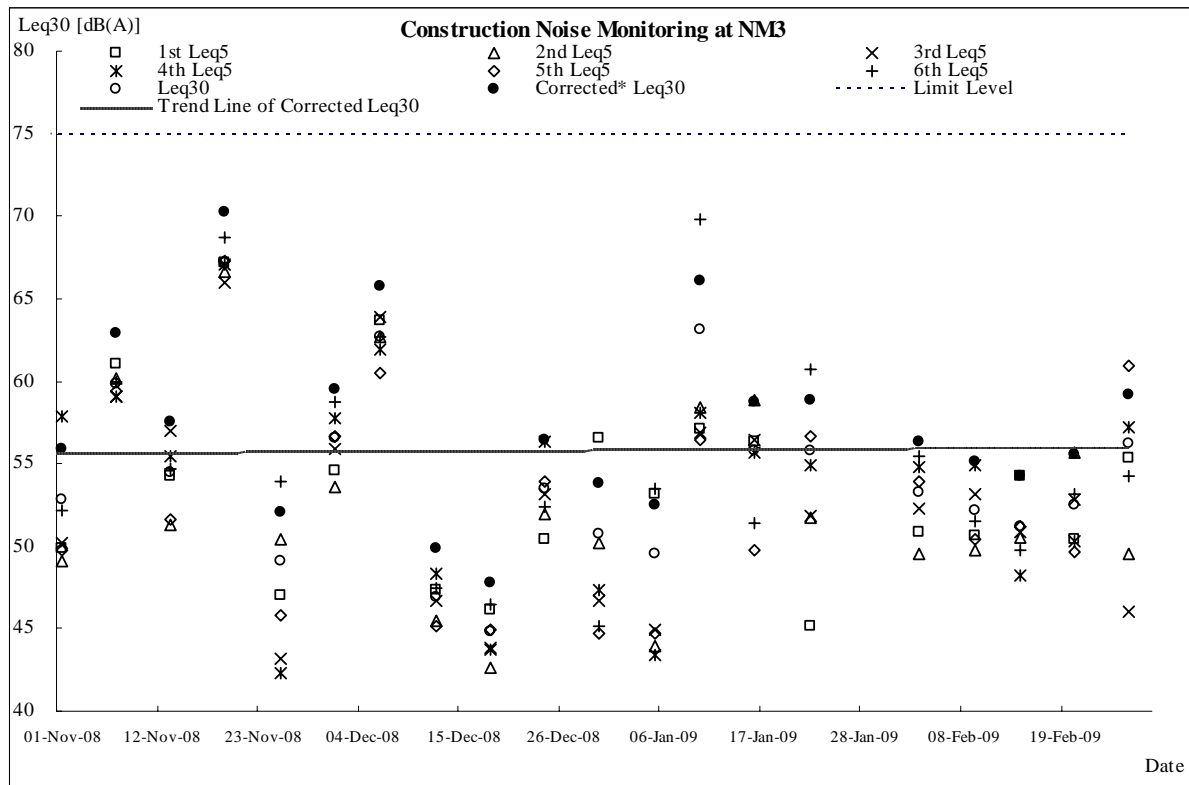


Note: Power failure recorded on 19 and 25 February 2009, makeup monitoring had been conducted on 20 February 2009 and 02 March 2009.

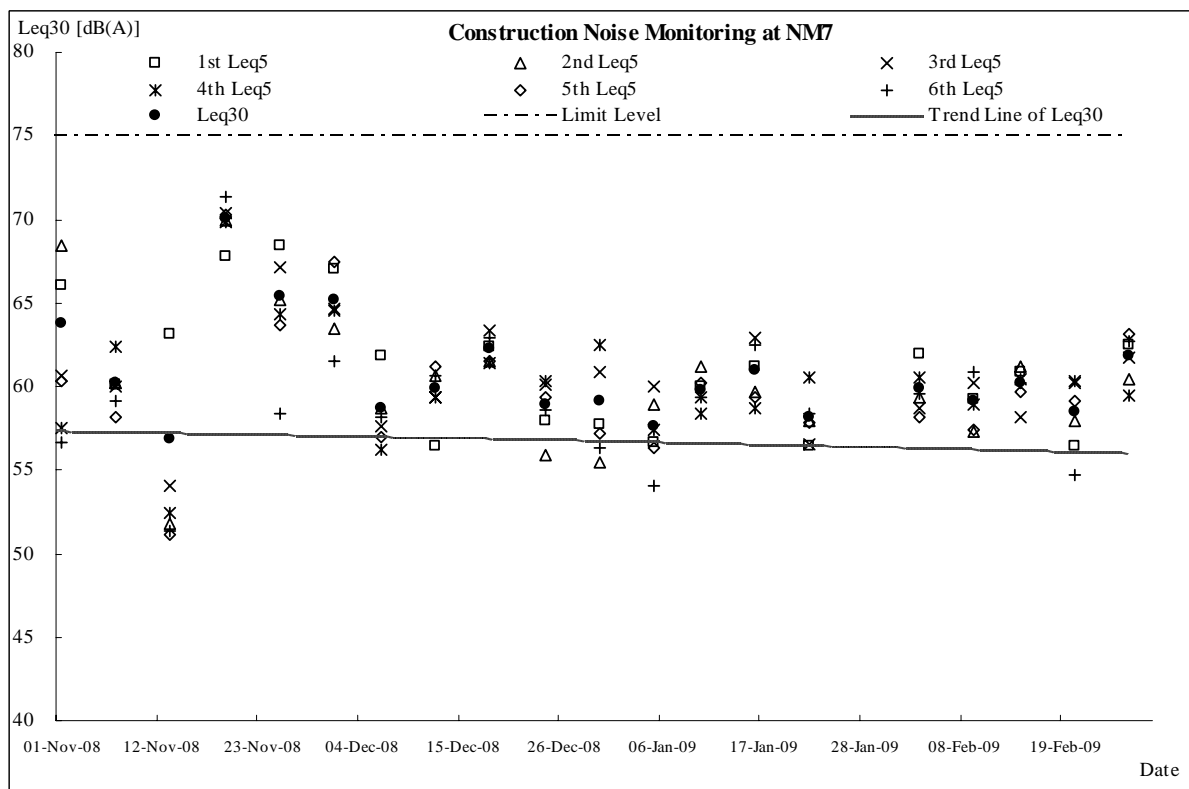
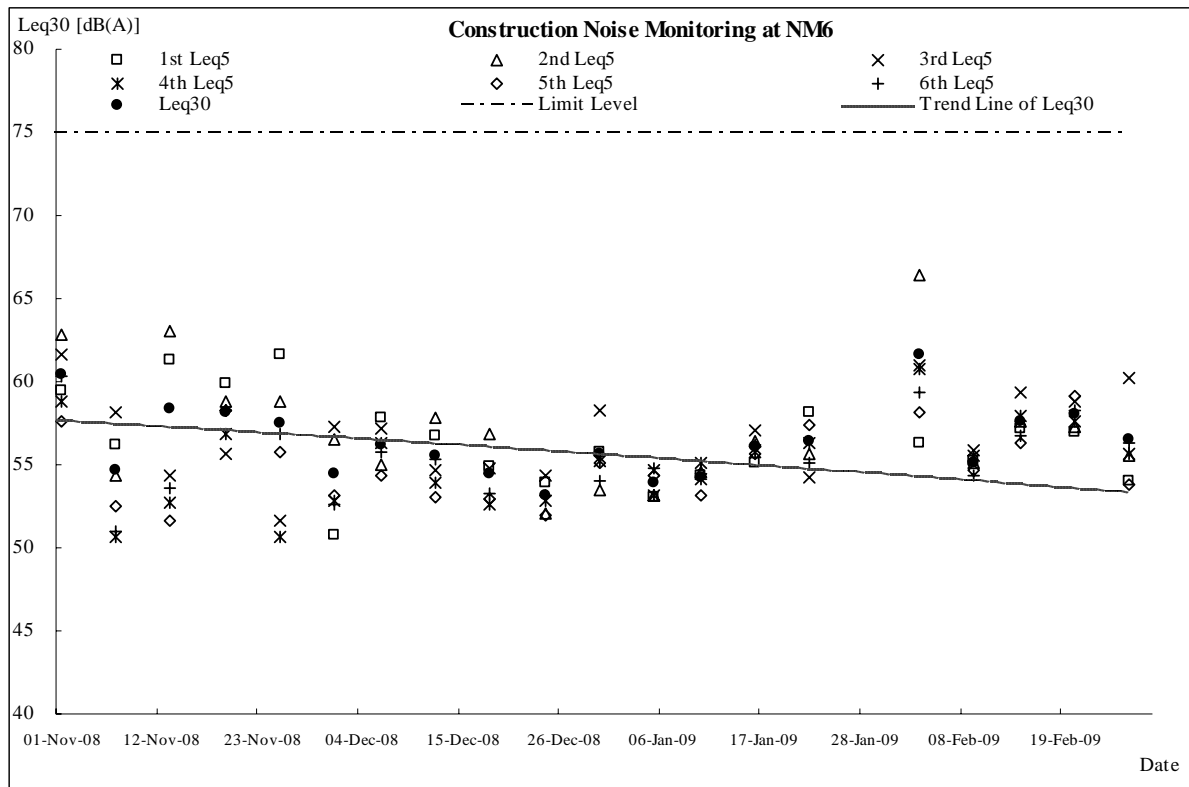


## CONSTRUCTION NOISE

### Construction Noise Monitoring Results



### Construction Noise Monitoring Results



**ANNEX K**

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

<b>Project</b>	<b>DC/2005/02 Construction of Sewers, Rising Mains &amp; Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long</b>	<b>Contractor:</b>	<b>Leader Civil Engineering Corp. Ltd</b>
<b>Inspected by:</b>	<b>ET Auditor: Ben Tam</b>	<b>Engineer:</b>	<b>Babtie Asia Ltd</b>
	<b>Contractor Rep: Benny Lam/Edwin Leung</b>	<b>IEC:</b>	<b>Mott MacDonald Hong Kong Ltd</b>
	<b>IEC's Rep:</b>	<b>Environmental Team:</b>	<b>Action-United Environmental Services &amp; Consulting</b>
	<b>RE's Rep:</b>	<b>Inspection Date &amp; Time:</b>	<b>03 February 2009 (09:30)</b>
		<b>Checklist Reference No.:</b>	<b>DSD-AT030209</b>

### 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"/>	_____
<b>Waste Management and Potential Land Contamination</b>							
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:**

**Follow up**

Oil Stain patch and lube oil splashes at Nam San Wai Road was cleaned.  
Stockpile was observed cover with tarpaulin sheet.

**Observations Recorded in this Site Inspection:**



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


**Signatures:**

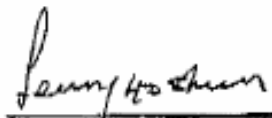
Env. Auditor

Contractor's Representative

IC(E) Auditor

Resident Site Staff

  
Name: Ben Tam

  
Name: Edwin Leung

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Name:

<b>Project</b>	<b>DC/2005/02 Construction of Sewers, Rising Mains &amp; Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long</b>	<b>Contractor:</b>	<b>Leader Civil Engineering Corp. Ltd</b>
<b>Inspected by:</b>	<b>ET Auditor: Ben Tam</b>	<b>Engineer:</b>	<b>Babtie Asia Ltd</b>
	<b>Contractor Rep: Mr. Chan/Edwin Leung</b>	<b>IEC:</b>	<b>Mott MacDonald Hong Kong Ltd</b>
	<b>IEC's Rep:</b>	<b>Environmental Team:</b>	<b>Action-United Environmental Services &amp; Consulting</b>
	<b>RE's Rep:</b>	<b>Inspection Date &amp; Time:</b>	<b>10 February 2009 (09:30)</b>
		<b>Checklist Reference No.:</b>	<b>DSD-AT100209</b>

### 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 type="checkbox"/>	<input checked="" 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"/>	_____
<b>Waste Management and Potential Land Contamination</b>							
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 Sha Po Pumping station was improved.


**Observations Recorded in this Site Inspection:**



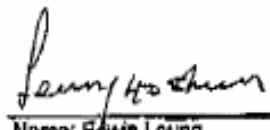
Dry and dusty haul road was observed at Ko Po Road, the Contractor was reminded spraying the water more frequency to minimize the dust generation.

**Signatures:**

Env. Auditor

  
Name: Ben Tam

Contractor's Representative

  
Name: Edwin Leung

IC(E) Auditor

Name: \_\_\_\_\_

Resident Site Staff

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	<u>17 Feb 2009</u>	Time	<u>10:00-11:30</u>	Inspected By	Leader: <u>Edwin Leung</u> ET: <u>Ben Tam</u> DSD: <u>Mc Tsang</u> IEC: <u>Benny Lin</u>
Site Location	<u>Nam San Wai Rd Nam San Wai Pumping Room Kam Tin RI</u>				

**Weather**

Condition  Sunny  Fine  Overcast  Drizzle  Rain  Storm  Hazy

Temperature  17 Humidity  High  Moderate  Low

Wind  Calm  Light  Breeze  Strong  Direction  E

EIA ref:		Close-out on last comments Y/N	N/A or not obs	Yes	No	Photo/Remarks
<b>Construction Phase</b>						
<b>Air Quality - Construction Phase</b>						
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"/>	<u>See obs</u>
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 50m<sup>3</sup> covered with tarpaulin or similar fabric during rainstorms? 

		✓	
--	--	---	--
- Are manholes (including newly constructed ones) adequately covered and temporarily sealed? 

		✓	
--	--	---	--
- Are precautions taken before rainstorms? 

	✓		
--	---	--	--
- Are all vehicles and plant cleaned before leaving site? 

	✓		
--	---	--	--
- Is solid waste, debris and rubbish on site appropriately collected, handled and disposed of properly to avoid water quality impacts? 

		✓	
--	--	---	--
- Are all fuel tanks and storage areas provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby? 

		✓	
--	--	---	--

**Sewage Effluent - Construction Phase**

- 1) Are portable chemical toilets and sewage holding tanks provided? Is handling the construction sewage generated for collection and disposal of this waste? Is a licensed contractor employed? 

		✓	
--	--	---	--

**Waste Management - Construction Phase**

- 6.6.2 • Are the necessary waste disposal permits from the appropriate authorities in 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? 

		✓	
--	--	---	--

*See obs.*
- 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? 

		✓	
--	--	---	--

<b>Land Contamination - Construction Phase</b>					
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?		✓		
<b>Ecology - Construction Phase</b>					
8.7.1	• Are construction activities prohibited during November to March for the sections of works within the WCA and WBA, and close to locations of ecologically sensitive species.		✓		
8.7.1	• During November to March periods, are regular site inspections (at least twice a month) undertaken by ET to ensure proper implementation of this restriction?		✓		
8.7.2	• Is pipe jacking method used for sewers and rising mains crossing over MDC within the WCA and WBA?		✓		
8.7.2	• During November to March, are regular site inspections (at least twice a month) undertaken by ET for the remaining sewerage sections (including parts of S4, S5 and S6) within the WCA and WBA where construction activities cannot be rescheduled?		✓		
8.7.2	• The site inspections shall check and report the number of workfronts and implementation of mitigation measures in the monthly EM&A Report.		✓		
8.7.3	• Are quietened construction plant and equipment used for PS (P2 and P3) and sewers (S4, S5, S6) within the WCA and WBA?		✓		
8.7.4	• For P1-P3, have fences along the boundary of the pumping stations construction sites been erected?		✓		
8.7.4	• There shall be no filling and dumping to the remaining abandoned fishpond at P2.		✓		
8.7.4	• Are silt removal facilities, designed to the ProPECC Note PN1/94, installed and operated at the P1 to P3 sites? The minimal total combined volume of the silt removal facilities at P3 (NSW SPS) should be 15m3.		✓		
8.7.4	• There shall be no open fires within the site boundary.		✓		
8.7.4	• Have temporary fire fighting equipment provided in the works areas.		✓		
<b>Landscape and Visual - Construction Phase</b>					
	• 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?		✓		

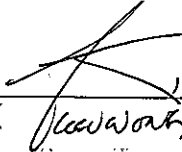
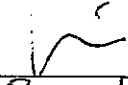
**OTHER OBSERVATIONS**

**This month's observations (17 Feb 2009)**

1. Oil drums were placed on bare ground instead of drip trays. The Contractor was reminded to store them properly inside drip trays (Nam Sang Wai Sewage Pumping Station).
2. The Contractor was reminded to clear the mud at sedimentation tanks regularly. The condition is acceptable during site inspection.

**Follow-up last month's observation (20 Jan 2009)**

1. Oil stained soil and timber at NSW Rd. site near King Fai Farm was cleared.
2. Stockpiles of filling material is covered with tarpaulin





DSD Representative	Contractor Representative	ETL	IEC
( )	( )	(  )	(  ) Benny Lin 17/2/2009



**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**  
**17 February 2009**  
**Environmental Observations**

**This month's observations**

This month's observations	This month's observations
<p><b>Chemical Waste</b></p>  <p>59: Oil drums were placed on bare ground instead of drip trays. The Contractor was reminded to store them properly inside drip trays (Nam Sang Wai Sewage Pumping Station).</p>	<p><b>Site Tidiness</b></p>  <p>55. Stockpiles of filling material is covered with tarpaulin</p>
<p><b>Chemical Waste</b></p>  <p>56: Oil stained soil and timber at NSW Rd. site near King Fai Farm was cleared.</p>	<p><b>Water Quality</b></p>  <p>60: The Contractor was reminded to clear the mud at sedimentation tanks regularly. The condition is acceptable during site inspection.</p>



<b>Project</b>	<b>DC/2005/02 Construction of Sewers, Rising Mains &amp; Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long</b>	<b>Contractor:</b>	<b>Leader Civil Engineering Corp. Ltd</b>
<b>Inspected by:</b>	<b>ET Auditor: Ben Tam</b>	<b>Engineer:</b>	<b>Babtie Asia Ltd</b>
	<b>Contractor Rep: Mr. Chan/Edwin Leung</b>	<b>IEC:</b>	<b>Mott MacDonald Hong Kong Ltd</b>
	<b>IEC's Rep: Benny Liu</b>	<b>Environmental Team:</b>	<b>Action-United Environmental Services &amp; Consulting</b>
	<b>RE's Rep:</b>	<b>Inspection Date &amp; Time:</b>	<b>17 February 2009 (10:00)</b>
		<b>Checklist Reference No.:</b>	<b>DSD-AT170209</b>

### 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 type="checkbox"/>	<input checked="" 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"/>	_____
<b>Waste Management and Potential Land Contamination</b>							
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**

Water spraying was observed at Ko Po Road.

**Observations Recorded in this Site Inspection:**

1. Free standing oil drums without drip tray was observed at Nam San Wai Pumping Station, the contractor was reminded to provide drip dray for all chemical container to prevent oil leakage.
2. Sedimentation tank was full of sediment; the contractor was reminded to clean regularly to maintain the tank efficiency.


**Signatures:**

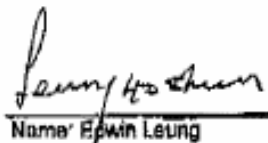
Env. Auditor

Contractor's Representative

IC(E) Auditor

Resident Site Staff

  
Name: Ben Tam

  
Name: Edwin Leung

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Name:

<b>Project</b>	<b>DC/2005/02 Construction of Sewers, Rising Mains &amp; Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long</b>	<b>Contractor:</b>	<b>Leader Civil Engineering Corp. Ltd</b>
<b>Inspected by:</b>	<b>ET Auditor: Anfernee Chow</b>	<b>Engineer:</b>	<b>Babtie Asia Ltd</b>
	<b>Contractor Rep: Edwin Leung</b>	<b>IEC:</b>	<b>Mott MacDonald Hong Kong Ltd</b>
	<b>IEC's Rep:</b>	<b>Environmental Team:</b>	<b>Action-United Environmental Services &amp; Consulting</b>
	<b>RE's Rep:</b>	<b>Inspection Date &amp; Time:</b>	<b>27 February 2009 (09:30)</b>
		<b>Checklist Reference No.:</b>	<b>DSD-AT270209</b>

### 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"/>	_____
<b>Waste Management and Potential Land Contamination</b>							
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**  
Oil drums removed.

**Observations Recorded in this Site Inspection:**



The road should be keep clean.



Flap of the excavator should be closed.

**Signatures:**

Env. Auditor

Name: Arfernee Chow

Contractor's Representative

Name: Edwin Leung

IC(E) Auditor

Name:

Resident Site Staff

Name: