**JOB NO.: TCS00310/06**

**REVISION NO.: 0**

**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 MAY 2008 (NO. 26) (DESIGNATED ELEMENTS - CONSTRUCTION PHASE)

**PREPARED FOR**

**LEADER CIVIL ENGINEERING CORPORATION LIMITED**

**Quality Index**

| Date | Reference No. | | | |
|---|---|---|---|---|
| 06 June 2008 | TCS00310/06/600/R0569 | | | |
| **Prepared By** | **Reviewed By** | **Certified By** | **Approved By** | **Verified By** |
| Sylvie Wong | Ken Wong | David Yeung | TW Tam | Dr. Anne F Kerr |
|  |  |  |  |  |
| Environmental Consultant | Deputy Environmental Team Leader | Environmental Team Leader | General Manager | Independent Environmental Checker |

## EXECUTIVE SUMMARY

ES.01 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.

ES.02 This Monthly Environmental Monitoring & Audit (EM&A) Report for **May 2008 (No. 26)** present the environmental impact monitoring and audit (EM&A) program conducted from **01** to **31 May 2008** for the Designated Elements. The EM&A program in **May 2008** were covered air quality, construction noise and waste management.

### BREACH OF ACTION AND LIMIT (AL) LEVELS

ES.03 There have one Action Level exceedance was found in Air Quality monitoring at AM6 on 13 May 2008. The notification of exceedance was issued on 21 May 2008 upon received the laboratory on 20 May 2008. All the noise monitoring results were complied with standard.

### COMPLAINT LOG

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

### NOTIFICATION OF ANY SUMMONS AND SUCCESSFUL PROSECUTION

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

### REPORTING CHANGES

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

### FUTURE KEY ISSUES

ES.07 Construction activities to be undertaken in **June 2008** include backfilling and concreting and extract sheet pile at Kam Tin Pumping Station (P1); backing filling and concreting at Sha Po Pumping Station (P2) and Nam Sang Wai P/S(P3); sheet piling, excavation, pipe laying, backfilling, concreting, pipe jacking and extract sheet pile at both Nam Sang Wai Road(S4) and Pok Wai South Road(S5 &S6). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

# TABLE OF CONTENTS

**1.0 BASIC PROJECT INFORMATION ..... 1**

**2.0 ENVIRONMENTAL STATUS ..... 2**

**3.0 SUMMARY OF EM&A REQUIREMENTS ..... 3**

**4.0 IMPLEMENTATION STATUS ..... 4**

**5.0 MONITORING RESULTS ..... 5**

**6.0 REPORT ON NON-COMPLIANCE (NC), COMPLAINTS, NOTIFICATIONS OF SUMMONS (NOS) AND SUCCESSFUL PROSECUTIONS ..... 10**

**7.0 OTHERS ..... 11**

## LIST OF TABLES

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

## LIST OF ANNEXES

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

# 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 26th Monthly EM&A Report for **May 2008 (No. 26)** (Designated Elements – Construction Phase) summarizes the impact monitoring results and audit findings in the reporting month from **01** to **31 May 2008**.

## 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)
- Backfilling
- Concreting
- Extract sheet pile

Sha Po Pumping Station (P2) and Nam Sang Wai Pumping Station (P3)
- Backfilling
- Concreting

Nam Sang Wai Road (S4) and Pok Wai South Road (S5 and S6)
- Sheet piling
- Excavation
- Pipe laying
- Backfilling
- Concreting
- Pipe jacking
- Extract sheet pile

# 2.0 ENVIRONMENTAL STATUS

## WORK UNDERTAKEN IN THE REPORTING MONTH WITH ILLUSTRATIONS

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

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

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

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 | Sheet piling and trench excavation. | 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 ($\mu g/m^3$) | | Limit Level ($\mu g/m^3$) | |
|---|---|---|---|---|
| | 1-Hour TSP | 24-Hour TSP | 1-Hour TSP | 24-Hour TSP |
| AM1 | > 391 | > 184 | > 500 | > 260 |
| AM5 | > 353 | > 237 | >500 | > 260 |
| AM6 | > 329 | > 183 | > 500 | > 260 |
| AM7 | > 383 | > 204 | > 500 | > 260 |

**Table 3-3 Action and Limit Levels for Construction Noise**

| Monitoring Period | Action Level | Limit Level |
|---|---|---|
| 0700-1900 hours on normal weekdays | When one or more documented complaints are received | > 75 dB(A) |

## EVENT AND ACTION PLANS

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

## ENVIRONMENTAL MITIGATION MEASURES

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

## ENVIRONMENTAL REQUIREMENTS IN CONTRACT DOCUMENTS

3.06 The environmental requirements in the contract documents generally refer to the compliance of the requirements as stipulated in the project EP (EP-220/2005) and the updated EM&A Manual.

## 4.0 IMPLEMENTATION STATUS

4.01 The implementation status of environmental protection and pollution control/mitigation measures as recommended in the project EIA report are summarized in **Table 2-1** and the implementation schedule as shown in **Annex G**.

4.02 The status of permits, licences, 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 | Construction Noise Permit (CNP No. GW-RN0479-07) | Valid (06 Nov 2007 to 05 May 2008) |
| 7 | Construction Noise Permit (CNP No. GW-RN0480-07) | Valid (06 Nov 2007 to 05 May 2008) |
| 8 | 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;
- 0.6-1.7 $m^3$/min (20-60 SCFM) adjustable flow rate;
- A 7-day mechanical timer for 24-Hour operation;
- An elapsed time indicator with ±2 minutes accuracy for 24-Hour operation;
- Minimum exposed area of 63 $in^2$;
- Flow control accuracy of ±2.5% deviation over 24-Hour operation;
- An anodized aluminum shelter to protect the filter and sampler;
- A motor speed-voltage control to control mass flow rate with accuracy of ±2.5% deviation over 24-Hour sampling period;
- Provision of a flow recorder for continuous monitoring;
- Provision of a peaked roof inlet;
- Incorporation with a manometer; and
- An 8”x10” stainless steel filter holder to hold, seal and easy to change the filter paper.

5.02 The filter papers used in 24-Hour TSP monitoring were of size 8”x10” and provided by a local HOKLAS-accredited laboratory, ALS Techichem Pty (HK) Limited (HOKLAS No. 66). The filters papers after measurements were returned to the laboratory for the required treatment and analysis. The validation of all monitoring practices and data were following the in-house QA/QC procedures. Blank filters samples were collected and delivered to the HOKLAS-accredited laboratory for QA/QC check.

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

## METHODOLOGY FOR CONSTRUCTION NOISE MONITORING

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

5.05 Hand-held sound level meters (B&K Model 2238) and associated acoustical calibrators in compliance with the International Electrotechnical Commission (IEC) Publication 651:1979 (Type 1) and 804:1985 (Type 1) specification were used for taking the baseline noise measurements.

5.06 Windshield was fitted in all measurements. All noise measurements were made with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq).

5.07 No noise measurement was made in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s.

### LABORATORY AND MONITORING EQUIPMENT USED

5.08 A local HOKLAS-accredited laboratory, ALS Technichem (HK) Pty Ltd (HOKLAS No. 66), is responsible for the analytical testing of the 24-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 | Leq30min | B&K Sound Level Meter Type 2238 |
| | On-site Calibration | B&K Noise 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**.** For this reporting month, HVAS at AM1 and AM7 were calibrated on 17 May 2008. The calibration certificate is shown in **Annex H**.

5.11 The sound level meters were calibrated using an acoustic calibrator prior to and after measurements. The meters are regularly calibrated in accordance with the manufacturer's instructions. Prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements were considered valid only if the calibration levels before and after the noise measurement agree to within 1.0 dB.

5.12 No renew calibration certificates of the sound level meters used during the impact monitoring program in this month are provided

### PARAMETERS MONITORED

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

### MONITORING LOCATIONS

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

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

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

### MONITORING FREQUENCY AND PERIOD

5.15 The impact 24-Hour TSP monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A manual. Due to the power supply failure was happened at AM1 and AM7 on 30 May 2008, so total of 18 monitoring events of 24-Hour TSP were conducted in this reporting month.

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

### MONITORING RESULTS WITH DATE AND TIME

5.17 Monitoring results in this reporting month for air quality and construction noise were summarized at **Table 5-3** to **5-7**. In this reporting month, one Action Level exceedance of air quality was found at AM6 on 13 May 2008. Due to the power failure, no 24-Hour TSP monitoring at AM1 and AM7 were present on 30 May 2008. The monitoring at AM1 and AM7 will resume upon the power supply available. However, no Action/Limit level exceedance of construction noise was recorded in this reporting month.

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

| Date | 24-Hour TSP (μg/m$^3$) | | | |
|---|---|---|---|---|
| | AM1 | AM5 | AM6 | AM7 |
| 6-May-08 | 53 | 87 | 29 | 37 |
| 13-May-08 | 70 | 178 | ***232*** | 58 |
| 19-May-08 | 53 | 92 | 45 | 58 |
| 24-May-08 | 36 | 55 | 23 | 65 |
| 30-May-08 | Power Failure | 96 | 30 | Power Failure |
| Average (Range) | 53 (36-70) | 102 (55-178) | 72 (23 – 232) | 55 (37 – 65) |
| Action / Limit | > 184 / >260 | > 237 / >260 | > 183 / >260 | > 204 / >260 |

Note: All 24-Hour TSP monitoring were preset to start at 00:00 on each monitoring date.
Bold and italic is exceed the Action Level.
Bold and underline is exceed the Limit Level.

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

| Date | Start Time | 1st Leq5 | 2nd Leq5 | 3rd Leq5 | 4th Leq5 | 5th Leq5 | 6th Leq5 | Leq30 | Corrected * Leq30 |
|---|---|---|---|---|---|---|---|---|---|
| 03-May-08 | 10:54 | 49.7 | 48.4 | 49.0 | 48.7 | 52.9 | 50.7 | 50.2 | 53.2 |
| 09-May-08 | 10:08 | 41.5 | 46.7 | 43.0 | 44.0 | 47.7 | 47.0 | 45.5 | 48.5 |
| 16-May-08 | 15:00 | 60.2 | 69.2 | 52.3 | 47.3 | 48.1 | 48.0 | 62.1 | 65.1 |
| 22-May-08 | 10:54 | 49.3 | 49.7 | 51.6 | 50.1 | 51.2 | 50.0 | 50.4 | 53.4 |
| 28-May-08 | 11:20 | 58.6 | 59.2 | 57.8 | 53.2 | 50.8 | 51.1 | 56.4 | 59.4 |
| **Limit Level** | | | | | | | | | **75** |

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

**Table 5-5 Summary of Noise Monitoring Results at NM4**

| Date | Start Time | 1st Leq5 | 2nd Leq5 | 3rd Leq5 | 4th Leq5 | 5th Leq5 | 6th Leq5 | Leq30 | Corrected * Leq30 |
|---|---|---|---|---|---|---|---|---|---|
| 3-May-08 | 9:44 | 53.4 | 53.8 | 52.3 | 50.5 | 50.8 | 54.5 | 52.8 | 55.8 |
| 9-May-08 | 14:00 | 59.1 | 59.0 | 57.7 | 54.8 | 53.5 | 50.8 | 56.8 | 59.8 |
| 16-May-08 | 16:03 | 56.8 | 58.3 | 58.7 | 60.2 | 57.4 | 54.5 | 58.0 | 61.0 |
| 22-May-08 | 9:23 | 53.4 | 51.9 | 50.7 | 51.1 | 50.0 | 50.3 | 51.4 | 54.4 |
| 28-May-08 | 11:28 | 55.3 | 52.1 | 58.9 | 55.2 | 60.0 | 62.5 | 58.6 | 61.6 |
| **Limit Level** | | | | | | | | | **75** |

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

**Table 5-6 Summary of Noise Monitoring Results at NM6**

| Date | Start Time | 1st Leq5 | 2nd Leq5 | 3rd Leq5 | 4th Leq5 | 5th Leq5 | 6th Leq5 | Leq30 | Corrected * Leq30 |
|---|---|---|---|---|---|---|---|---|---|
| 3-May-08 | 14:56 | 58.2 | 57.2 | 58.6 | 60.4 | 57.3 | 56.5 | 58.2 | No Correction Required |
| 9-May-08 | 15:27 | 59.2 | 57.3 | 56.3 | 56.8 | 60.5 | 55.4 | 58.0 | |
| 16-May-08 | 10:30 | 68.8 | 72.0 | 65.8 | 65.3 | 73.8 | 68.8 | 70.2 | |
| 22-May-08 | 13:50 | 65.7 | 73.4 | 72.1 | 69.5 | 75.5 | 66.7 | 71.8 | |
| 28-May-08 | 13:50 | 73.3 | 67.1 | 69.1 | 65.8 | 67.6 | 69.8 | 69.5 | |
| Limit Level | | | | | | | | | **75** |

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

**Table 5-7 Summary of Noise Monitoring Results at NM7**

| Date | Start Time | 1st Leq5 | 2nd Leq5 | 3rd Leq5 | 4th Leq5 | 5th Leq5 | 6th Leq5 | Leq30 | Corrected * Leq30 |
|---|---|---|---|---|---|---|---|---|---|
| 3-May-08 | 11:30 | 57.5 | 53.8 | 56.3 | 59.2 | 58.9 | 59.5 | 57.9 | No Correction Required |
| 9-May-08 | 14:45 | 56.8 | 54.9 | 55.2 | 54.6 | 53.8 | 55.8 | 55.3 | |
| 16-May-08 | 15:48 | 58.2 | 55.9 | 55.1 | 56.7 | 55.1 | 57.3 | 56.5 | |
| 22-May-08 | 13:19 | 56.6 | 54.2 | 52.9 | 55.9 | 53.5 | 57.8 | 55.5 | |
| 28-May-08 | 13:05 | 64.1 | 62.9 | 59.1 | 64.1 | 58.4 | 60.7 | 62.1 | |
| **Limit Level** | | | | | | | | | **75** |

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

5.18 The tentative monitoring schedule for the coming month (June 2008) is shown in **Table 5-8**.

**Table 5-8 Tentative Schedule of Monitoring for June 2008**

| Date | | Air Quality | Noise Leq 30min |
|---|---|---|---|
| 1-June-08 | Sun | | |
| 2-June-08 | Mon | | |
| 3-June-08 | Tue | | |
| 4-June-08 | Wed | | |
| 5-June-08 | Thu | | |
| 6-June-08 | Fri | | |
| 7-June-08 | Sat | | |
| 8-June-08 | Sun | | |
| 9-June-08 | Mon | | |
| 10-June-08 | Tue | | |
| 11-June-08 | Wed | | |
| 12-June-08 | Thu | | |
| 13-June-08 | Fri | | |
| 14-June-08 | Sat | | |
| 15-June-08 | Sun | | |
| 16-June-08 | Mon | | |
| 17-June-08 | Tue | | |
| 18-June-08 | Wed | | |
| 19-June-08 | Thu | | |
| 20-June-08 | Fri | | |
| 21-June-08 | Sat | | |
| 22-June-08 | Sun | | |
| 23-June-08 | Mon | | |
| 24-June-08 | Tue | | |
| 25-June-08 | Wed | | |
| 26-June-08 | Thu | | |
| 27-June-08 | Fri | | |
| 28-June-08 | Sat | | |
| 29-June-08 | Sun | | |
| 30-June-08 | Mon | | |

| | |
|---|---|
| | Monitoring Day |
| | Sunday or Public Holiday |

### WEATHER CONDITIONS DURING THE MONITORING MONTH

5.19 The meteorological data during the monitoring month are summarized in **Annex I**.

### GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

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

### WEATHER CONDITIONS THAT AFFECT THE MONITORING RESULTS

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

### OTHER FACTORS INFLUENCING THE MONITORING RESULTS

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

### QA/QC RESULTS AND DETECTION LIMITS

5.23 Not applicable.

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

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

6.01 There have one Action Level exceedance was found in air quality monitoring at AM6 on 13 May 2008. The notification of exceedance was issued on 21 May 2008 upon received the laboratory on 20 May 2008.

6.02 The investigation of exceedance was performed. Based on the work program at that day was provided by the Contractor, the construction activities had been carried out included removal of first layer waling & strut, extract sheet pile by silent piler and pour concrete to staircase during exceedance monitoring day. No major construction works with intense dust emission were being carried out. Moreover, high API Index was recorded on 13 May 2008 at Yuen Long district. So the exceedance of 24-Hour TSP Monitoring on 13 May 2008 at Location AM6 was considered not work related.

## 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. One Action Level exceedance was found in air quality monitoring at AM6 on 13 May 2008. Based on the investigation indicate that the exceedance was not due to the Project accordingly.

## DESCRIPTION OF FOLLOW-UP ACTIONS TAKEN

6.06 One Action Limit exceedance was found in AM6 of air quality monitoring on 13 May 2008. Based on the investigation indicated that the exceedance was not due to the Project. no any action was therefore follow-up to undertake. However, the Contractor was reminded to keep on implement the air quality mitigation measures in accordance with the EM&A Manual. No NC, complaints or NoS was received in this reporting month.

# 7.0 OTHERS

## FUTURE KEY ISSUES

7.01 Construction activities to be undertaken in **June 2008** include backfilling and concreting and extract sheet pile at Kam Tin Pumping Station (P1); backing filling and concreting at Sha Po Pumping Station (P2) and Nam Sang Wai P/S (P3); sheet piling, excavation, pipe laying, backfilling, concreting, pipe jacking and extract sheet pile at both Nam Sang Wai Road (S4) and Pok Wai South Road (S5 &S6). Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

## SOLID AND LIQUID WASTE MANAGEMENT STATUS

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

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

| Type of Waste | Quantity | Disposal Location |
|---|---|---|
| C&D Materials (Inert) (tons) – Disposed | 2.232 | Tuen Mun 38 Fill Bank |
| C&D Materials (Inert) (tons) – Reused | 0.88 | DSD Contract DC/2005/02 |
| C&D Materials (Non-Inert) (tons) | 0 | NA |
| Chemical Waste (Litres) | 1.2 | NA |
| General Refuse (tons) | 0.005 | Refuse Collector |

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

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

7.03 There was no site effluent discharged but an estimated volume of less than $50m^3$ of surface runoff was discharged in the reporting month.

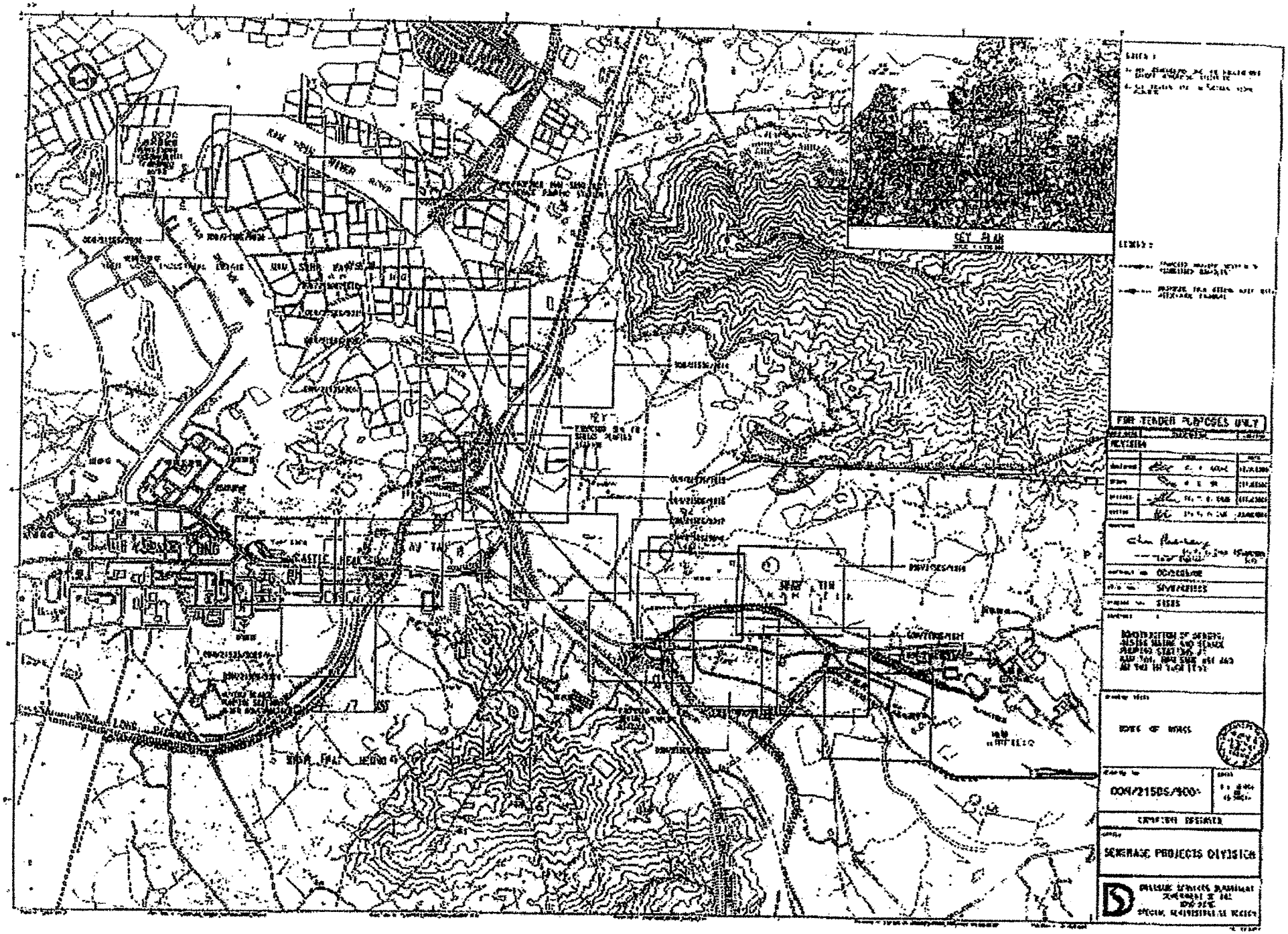
## SUBMISSION OF PROFORMA

7.04 Representatives of the Engineer, the Contractor and ET carried out regular weekly site inspection on 06, 16, 20 and 27 May 2008 to evaluate the site environmental performance. No non-compliance was found in this reporting month. Total fourteen observations were noted during the weekly site inspections. The monthly IEC site audit for **May 2008** was undertaken on 27 May 2008. Three observations and two recommendations 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

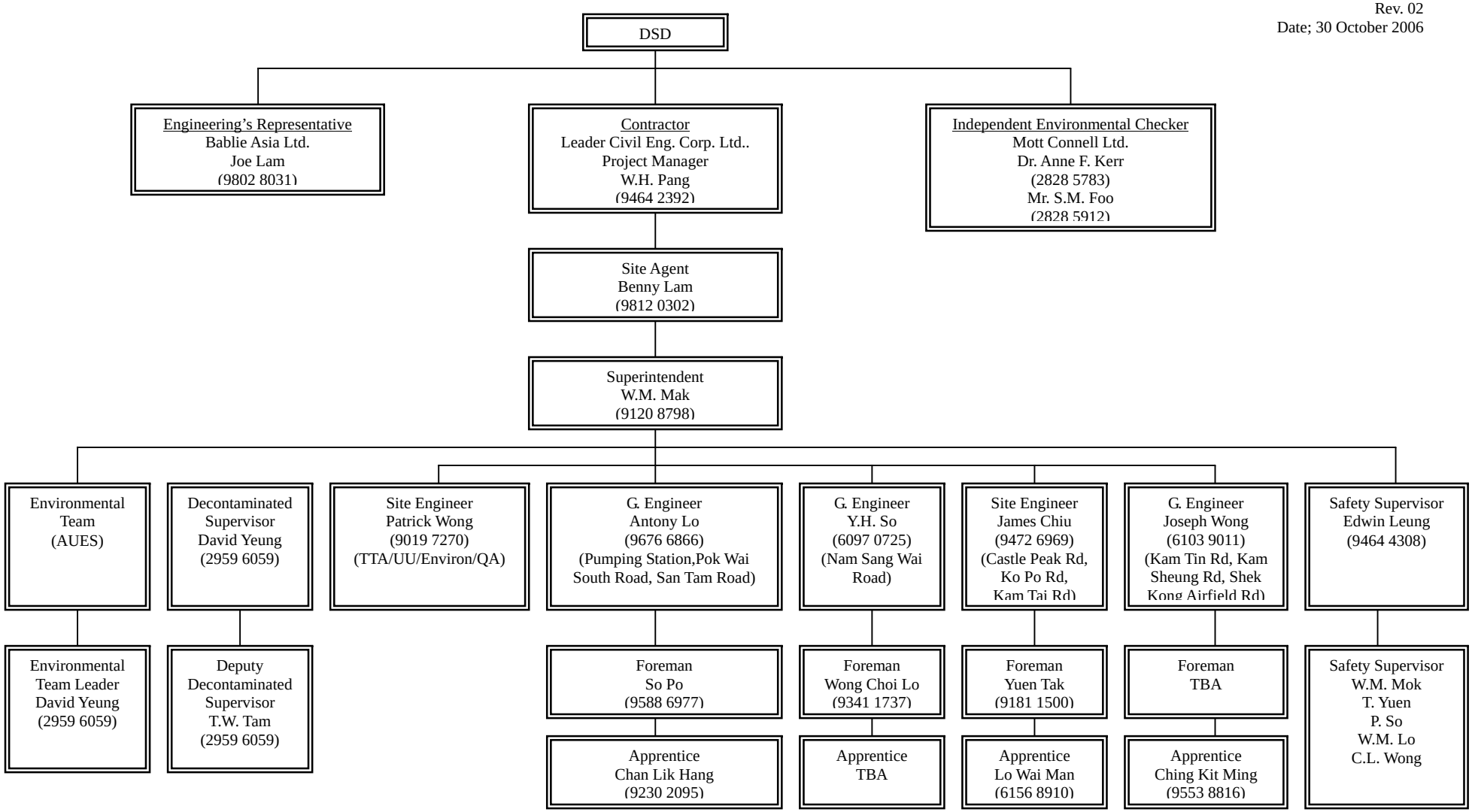

KEY PLAN
FOR TENDER PURPOSES ONLY
SEWERAGE PROJECTS DIVISION

# Annex B

# Project Organization and Management Structure

# DSD Contract No. DC/2005/02
# Construction of Sewers, Rising Mains and Sewage Pimping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long
## Project Environmental Organization Chart

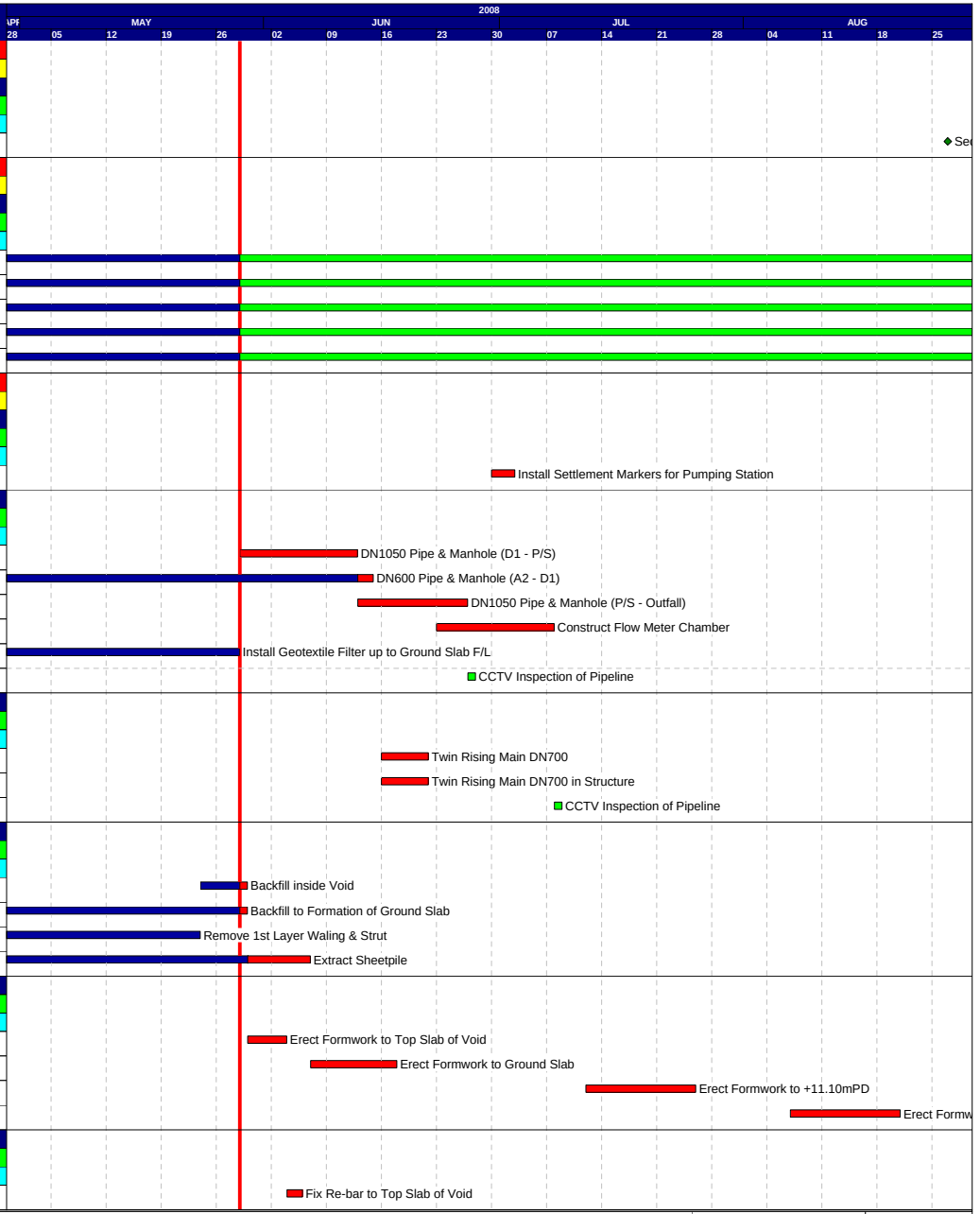
Rev. 02
Date; 30 October 2006



# Annex C

# Construction Program

| Act ID | Description | Orig Dur | Total Float | Percent Complete | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|---|---|
| **Section Completion / Key Date** | | | | | | | | |
| CD7000 | Section 7 | 0 | -188d | 0 | | 26AUG08 | | 20FEB08 * |
| **Preliminaries** | | | | | | | | |
| PR2900 | Deliver Ductile Iron Pipe | 800 | 132d | 81 | 29APR06 A | 24NOV08 | 29APR06 A | 06MAY09 |
| PR3100 | Deliver Precast Concrete Pipe | 800 | 148d | 83 | 24APR06 A | 05NOV08 | 24APR06 A | 06MAY09 |
| PR3300 | Deliver Vitrified Clay Pipe | 800 | 118d | 80 | 10APR06 A | 10DEC08 | 10APR06 A | 06MAY09 |
| PR3400 | Structural Monitoring by ISE | 835 | 111d | 80 | 06APR06 A | 18DEC08 | 06APR06 A | 06MAY09 |
| PR3500 | Environmental monitoring by ET | 814 | 150d | 84 | 06APR06 A | 03NOV08 | 06APR06 A | 06MAY09 |
| **Section 1 - Kam Tin Sewage Pumping Station** | | | | | | | | |
| **Portion A** | | | | | | | | |
| **Ground Investigation** | | | | | | | | |
| S1AB1500 | Install Settlement Markers for Pumping Station | 2 | -72d | 0 | 30JUN08 | 02JUL08 | 02APR08 | 03APR08 |
| **Drainage and Ducts** | | | | | | | | |
| **Trench Method** | | | | | | | | |
| S1AEA1000 | DN1050 Pipe & Manhole (D1 - P/S) | 12 | -71d | 0 | 29MAY08 | 12JUN08 | 29FEB08 | 13MAR08 |
| S1AEA1100 | DN600 Pipe & Manhole (A2 - D1) | 12 | -71d | 80 | 27FEB08 A | 14JUN08 | 27FEB08 A | 15MAR08 |
| S1AEA1200 | DN1050 Pipe & Manhole (P/S - Outfall) | 12 | -63d | 0 | 13JUN08 | 26JUN08 | 27MAR08 | 10APR08 |
| S1AEA1300 | Construct Flow Meter Chamber | 12 | -71d | 0 | 23JUN08 | 07JUL08 | 27MAR08 | 10APR08 |
| S1AEA1800 | Install Geotextile Filter up to Ground Slab F/L | 1 | -74d | 90 | 27MAR08 A | 28MAY08 | 27MAR08 A | 25FEB08 |
| S1AEA1900 | CCTV Inspection of Pipeline | 1 | 67d | 0 | 27JUN08 | 27JUN08 | 16SEP08 | 16SEP08 |
| **Pipework - Rising Main** | | | | | | | | |
| **Trench Method** | | | | | | | | |
| S1AFA1000 | Twin Rising Main DN700 | 6 | -71d | 0 | 16JUN08 | 21JUN08 | 17MAR08 | 26MAR08 |
| S1AFA1100 | Twin Rising Main DN700 in Structure | 6 | -71d | 0 | 16JUN08 | 21JUN08 | 17MAR08 | 26MAR08 |
| S1AFA1200 | CCTV Inspection of Pipeline | 1 | 47d | 0 | 08JUL08 | 08JUL08 | 01SEP08 | 01SEP08 |
| **Earthworks** | | | | | | | | |
| S1AG2300 | Backfill inside Void | 9 | -59d | 90 | 24MAY08 A | 29MAY08 | 24MAY08 A | 14MAR08 |
| S1AG2500 | Backfill to Formation of Ground Slab | 14 | -74d | 90 | 27MAR08 A | 29MAY08 | 27MAR08 A | 26FEB08 |
| S1AG2550 | Remove 1st Layer Waling & Strut | 2 | | 100 | 17APR08 A | 23MAY08 A | 17APR08 A | 23MAY08 A |
| S1AG2600 | Extract Sheetpile | 10 | -74d | 30 | 03APR08 A | 06JUN08 | 03APR08 A | 05MAR08 |
| **Formwork** | | | | | | | | |
| S1AJ1300 | Erect Formwork to Top Slab of Void | 4 | -59d | 0 | 30MAY08 | 03JUN08 | 15MAR08 | 19MAR08 |
| S1AJ1600 | Erect Formwork to Ground Slab | 8 | -74d | 0 | 07JUN08 | 17JUN08 | 06MAR08 | 14MAR08 |
| S1AJ1700 | Erect Formwork to +11.10mPD | 12 | -72d | 0 | 12JUL08 | 25JUL08 | 15APR08 | 28APR08 |
| S1AJ1800 | Erect Formwork to +14.00mPD & Roof Slab | 12 | -72d | 0 | 07AUG08 | 20AUG08 | 13MAY08 | 26MAY08 |
| **Steel Reinforcement** | | | | | | | | |
| S1AK1200 | Fix Re-bar to Top Slab of Void | 2 | -59d | 0 | 04JUN08 | 05JUN08 | 20MAR08 | 25MAR08 |

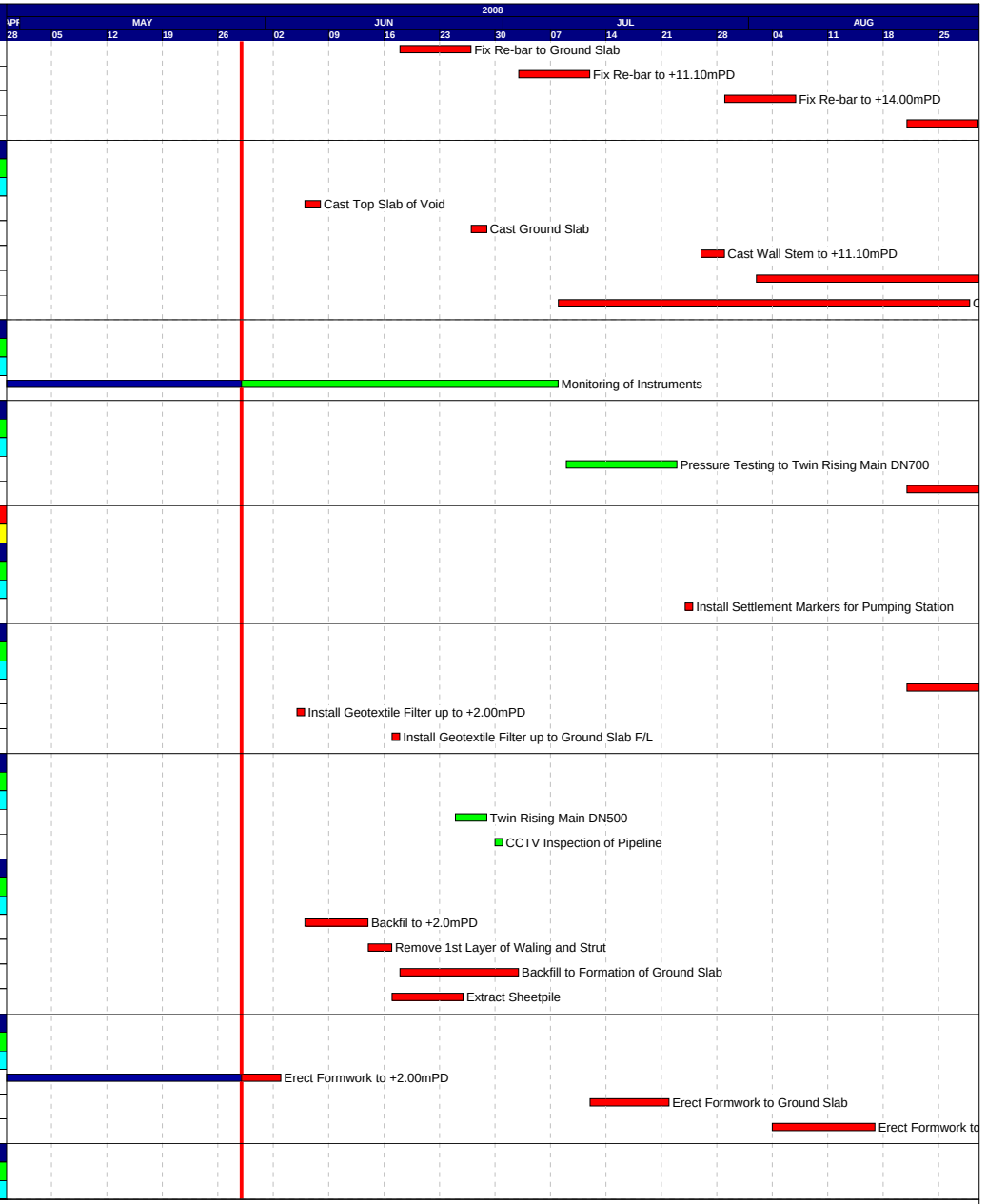



| | |
|---|---|
| Start date | 19DEC05 |
| Finish date | 19MAR10 |
| Data date | 29MAY08 |
| Page number | 1A |
| | |
| | |
| c Primavera Systems, Inc. | |

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

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

| Act ID | Description | Orig Dur | Total Float | Percent Complete | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|---|---|
| S1AK1500 | Fix Re-bar to Ground Slab | 8 | -74d | 0 | 18JUN08 | 26JUN08 | 15MAR08 | 27MAR08 |
| S1AK1600 | Fix Re-bar to +11.10mPD | 8 | -72d | 0 | 03JUL08 | 11JUL08 | 05APR08 | 14APR08 |
| S1AK1700 | Fix Re-bar to +14.00mPD | 8 | -72d | 0 | 29JUL08 | 06AUG08 | 02MAY08 | 10MAY08 |
| S1AK1800 | Fix Re-bar to Roof Slab | 8 | -72d | 0 | 21AUG08 | 29AUG08 | 27MAY08 | 04JUN08 |
| In-Situ Concrete | | | | | | | | |
| S1AL1300 | Cast Top Slab of Void | 2 | -59d | 0 | 06JUN08 | 07JUN08 | 26MAR08 | 27MAR08 |
| S1AL1600 | Cast Ground Slab | 2 | -74d | 0 | 27JUN08 | 28JUN08 | 28MAR08 | 29MAR08 |
| S1AL1700 | Cast Wall Stem to +11.10mPD | 2 | -72d | 0 | 26JUL08 | 28JUL08 | 29APR08 | 30APR08 |
| S1AL1900 | Apply Anticorrosion Concrete Coating System | 32 | -74d | 0 | 02AUG08 | 08SEP08 | 05MAY08 | 12JUN08 |
| S1AL2100 | Construct Boundary Wall | 45 | -71d | 0 | 08JUL08 | 28AUG08 | 11APR08 | 04JUN08 |
| Geotechnical works | | | | | | | | |
| S1AP1000 | Monitoring of Instruments | 483 | 60d | 93 | 16NOV06 A | 07JUL08 | 16NOV06 A | 16SEP08 |
| Testing | | | | | | | | |
| S1AS1000 | Pressure Testing to Twin Rising Main DN700 | 12 | 47d | 0 | 09JUL08 | 22JUL08 | 02SEP08 | 16SEP08 |
| S1AS1100 | Watertightness of Structure - Compartments | 72 | -74d | 0 | 21AUG08 | 15NOV08 | 24MAY08 | 18AUG08 |
| Section 2 - Sha Po Sewage Pumping Station | | | | | | | | |
| Portion B | | | | | | | | |
| Ground Investigation | | | | | | | | |
| S2BB1400 | Install Settlement Markers for Pumping Station | 1 | -46d | 0 | 24JUL08 | 24JUL08 | 29MAY08 | 29MAY08 |
| Drainage and Ducts | | | | | | | | |
| Trench Method | | | | | | | | |
| S2BEA1200 | Construct U-channel & Catchpits | 16 | -59d | 0 | 21AUG08 | 08SEP08 | 12JUN08 | 30JUN08 |
| S2BEA1550 | Install Geotextile Filter up to +2.00mPD | 1 | -309d | 0 | 05JUN08 | 05JUN08 | 21MAY07 | 21MAY07 |
| S2BEA1600 | Install Geotextile Filter up to Ground Slab F/L | 1 | -93d | 0 | 17JUN08 | 17JUN08 | 21FEB08 | 21FEB08 |
| Pipework - Rising Main | | | | | | | | |
| Trench Method | | | | | | | | |
| S2BFA1000 | Twin Rising Main DN500 | 4 | 42d | 0 | 25JUN08 | 28JUN08 | 14AUG08 | 18AUG08 |
| S2BFA1100 | CCTV Inspection of Pipeline | 1 | 42d | 0 | 30JUN08 | 30JUN08 | 19AUG08 | 19AUG08 |
| Earthworks | | | | | | | | |
| S2BG2020 | Backfil to +2.0mPD | 6 | -309d | 0 | 06JUN08 | 13JUN08 | 22MAY07 | 29MAY07 |
| S2BG2040 | Remove 1st Layer of Waling and Strut | 2 | -309d | 0 | 14JUN08 | 16JUN08 | 30MAY07 | 31MAY07 |
| S2BG2100 | Backfill to Formation of Ground Slab | 12 | -93d | 0 | 18JUN08 | 02JUL08 | 22FEB08 | 06MAR08 |
| S2BG2200 | Extract Sheetpile | 8 | -309d | 0 | 17JUN08 | 25JUN08 | 01JUN07 | 09JUN07 |
| Formwork | | | | | | | | |
| S2BJ1400 | Erect Formwork to +2.00mPD | 12 | -309d | 70 | 24APR08 A | 02JUN08 | 24APR08 A | 17MAY07 |
| S2BJ1500 | Erect Formwork to Ground Slab | 8 | -93d | 0 | 12JUL08 | 21JUL08 | 17MAR08 | 28MAR08 |
| S2BJ1600 | Erect Formwork to +10.30mPD | 12 | -46d | 0 | 04AUG08 | 16AUG08 | 10JUN08 | 23JUN08 |
| Steel Reinforcement | | | | | | | | |




| | |
|---|---|
| Start date | 19DEC05 |
| Finish date | 19MAR10 |
| Data date | 29MAY08 |
| Page number | 2A |
| | |
| | |
| c Primavera Systems, Inc. | |

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

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

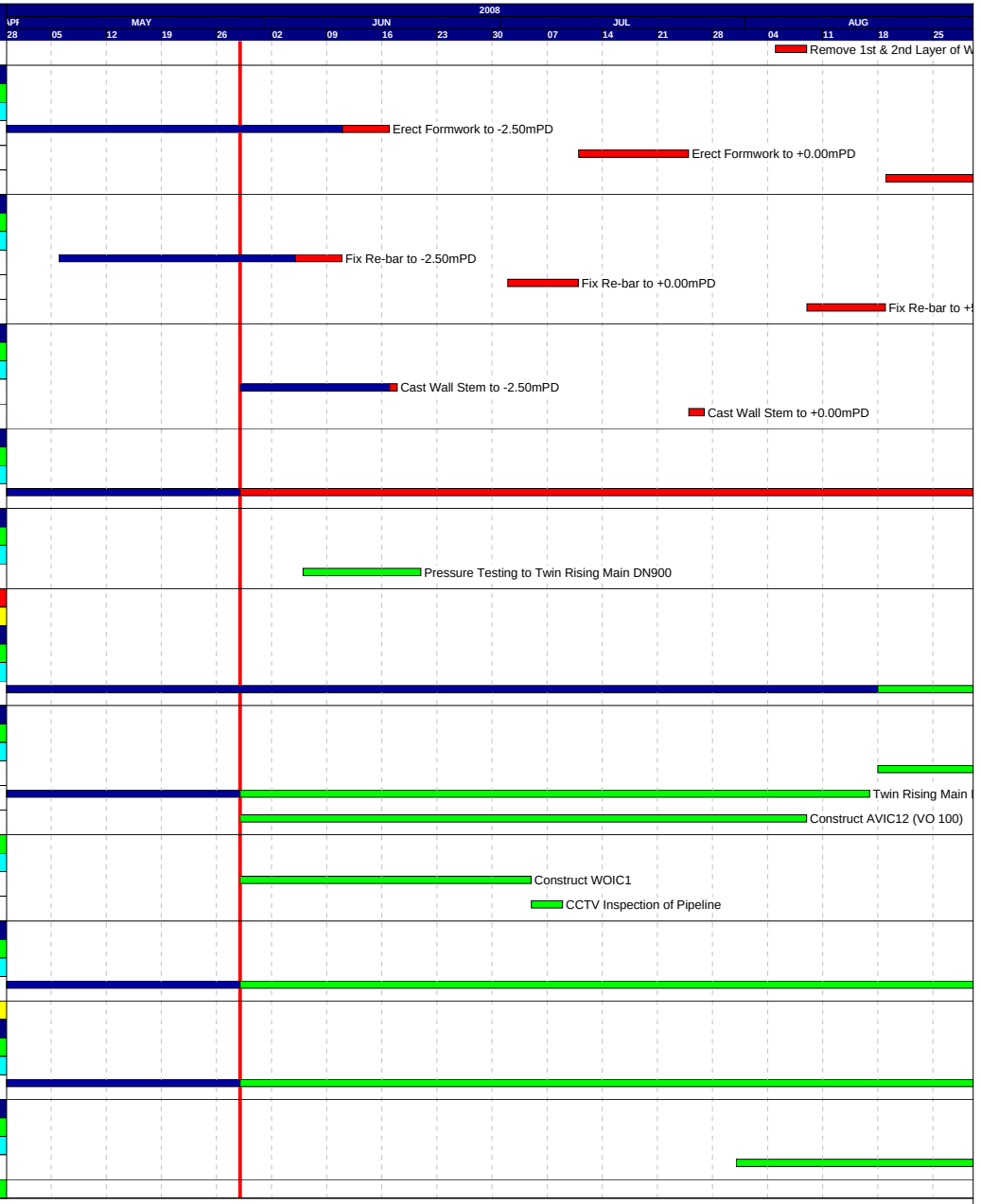
| Act ID | Description | Orig Dur | Total Float | Percent Complete | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|---|---|
| S2BK1300 | Fix Re-bar to +2.00mPD | 8 | | 100 | 25APR08 A | 28MAY08 A | 25APR08 A | 28MAY08 A |
| S2BK1400 | Fix Re-bar to Ground Slab | 8 | -93d | 0 | 03JUL08 | 11JUL08 | 07MAR08 | 15MAR08 |
| S2BK1500 | Fix Re-bar to +10.30mPD | 8 | -46d | 0 | 25JUL08 | 02AUG08 | 30MAY08 | 07JUN08 |
| S2BK1600 | Fix Re-bar to +13.00mPD | 8 | -46d | 0 | 20AUG08 | 28AUG08 | 26JUN08 | 05JUL08 |
| In-Situ Concrete | | | | | | | | |
| S2BL1400 | Cast Wall Stem to +2.00mPD | 2 | -309d | 0 | 03JUN08 | 04JUN08 | 18MAY07 | 19MAY07 |
| S2BL1500 | Cast Ground Slab | 2 | -93d | 0 | 22JUL08 | 23JUL08 | 29MAR08 | 31MAR08 |
| S2BL1600 | Cast Wall Stem to +10.30mPD | 2 | -46d | 0 | 18AUG08 | 19AUG08 | 24JUN08 | 25JUN08 |
| S2BL1800 | Apply Anticorrosion Concrete Coating System | 24 | -93d | 0 | 26AUG08 | 23SEP08 | 06MAY08 | 03JUN08 |
| S2BL2000 | Construct Boundary Wall | 47 | -59d | 0 | 26JUN08 | 20AUG08 | 15APR08 | 11JUN08 |
| Geotechnical works | | | | | | | | |
| S2BP1000 | Monitoring of Instruments | 525 | -74d | 71 | 26FEB07 A | 01DEC08 | 26FEB07 A | 02SEP08 |
| Testing | | | | | | | | |
| S2BS1000 | Pressure Testing to Twin Rising Main DN500 | 12 | 42d | 0 | 02JUL08 | 15JUL08 | 20AUG08 | 02SEP08 |
| Additonal Works / Disruption | | | | | | | | |
| Revised B/Wall Details at SPPS (Claim No. 030) | | | | | | | | |
| S2BV2000 | Drive Sheetpiles | 10 | -309d | 0 | 26JUN08 | 08JUL08 | 11JUN07 | 22JUN07 |
| S2BV2010 | Excavate to 1st Layer of Waling & Strut | 6 | -309d | 0 | 09JUL08 | 15JUL08 | 23JUN07 | 29JUN07 |
| S2BV2020 | Install 1st Layer of Waling & Strut | 6 | -309d | 0 | 16JUL08 | 22JUL08 | 30JUN07 | 07JUL07 |
| S2BV2030 | Excavate to 2nd Layer of Waling & Strut | 6 | -309d | 0 | 23JUL08 | 29JUL08 | 09JUL07 | 14JUL07 |
| S2BV2040 | Install 2nd Layer of Waling & Strut | 6 | -309d | 0 | 30JUL08 | 05AUG08 | 16JUL07 | 21JUL07 |
| S2BV2050 | Excavate to 3rd Layer of Waling & Strut | 6 | -309d | 0 | 06AUG08 | 12AUG08 | 23JUL07 | 28JUL07 |
| S2BV2060 | Install 3rd Layer of Waling & Strut | 6 | -309d | 0 | 13AUG08 | 19AUG08 | 30JUL07 | 04AUG07 |
| S2BV2070 | Excavate to Formation & Pour Blinding | 6 | -309d | 0 | 20AUG08 | 26AUG08 | 06AUG07 | 11AUG07 |
| S2BV2080 | Construct Base Slab for Bay 1 & 3 | 8 | -309d | 0 | 27AUG08 | 04SEP08 | 13AUG07 | 21AUG07 |
| Section 3 - Nam Sang Wai Sewage Pumping Station | | | | | | | | |
| Portion C | | | | | | | | |
| Drainage and Ducts | | | | | | | | |
| Trench Method | | | | | | | | |
| S3CEA1300 | DN500 DI Pipe (GCVC2 - H9) Stage 1 (VO103) | 6 | -202d | 0 | 19JUN08 | 25JUN08 | 11OCT07 | 17OCT07 |
| S3CEA1900 | Install Geotextile Filter up to -2.50mPD | 1 | -202d | 0 | 18JUN08 | 18JUN08 | 10OCT07 | 10OCT07 |
| S3CEA1950 | Install Geotextile Filter up to +0.00mPD | 1 | -202d | 0 | 28JUL08 | 28JUL08 | 19NOV07 | 19NOV07 |
| Pipework - Rising Main | | | | | | | | |
| Trench Method | | | | | | | | |
| S3CFA1000 | Twin Rising Main DN900 | 6 | -202d | 0 | 29MAY08 | 04JUN08 | 19SEP07 | 25SEP07 |
| S3CFA1200 | CCTV Inspection of Pipeline | 1 | 46d | 0 | 05JUN08 | 05JUN08 | 31JUL08 | 31JUL08 |
| Earthworks | | | | | | | | |
| S3CG2650 | Backfill to -4.80mPD | 5 | -202d | 95 | 07APR08 A | 04JUN08 | 07APR08 A | 25SEP07 |
| S3CG2670 | Remove 4th Layer of Waling & Strut | 4 | -202d | 95 | 21APR08 A | 04JUN08 | 21APR08 A | 25SEP07 |
| S3CG2700 | Backfill to -2.50mPD | 6 | -198d | 0 | 19JUN08 | 25JUN08 | 16OCT07 | 23OCT07 |
| S3CG2720 | Remove 3rd Layer of Waling & Strut | 4 | -202d | 0 | 26JUN08 | 30JUN08 | 18OCT07 | 23OCT07 |
| S3CG2750 | Backfill to +0.00mPD | 6 | -202d | 0 | 29JUL08 | 04AUG08 | 20NOV07 | 26NOV07 |


| | |
|---|---|
| Start date | 19DEC05 |
| Finish date | 19MAR10 |
| Data date | 29MAY08 |
| Page number | 3A |
| | |
| | |
| c Primavera Systems, Inc. | |

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

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

| Act ID | Description | Orig Dur | Total Float | Percent Complete | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|---|---|
| S3CG2770 | Remove 1st & 2nd Layer of Waling & Strut | 4 | -202d | 0 | 05AUG08 | 08AUG08 | 27NOV07 | 30NOV07 |
| Formwork | | | | | | | | |
| S3CJ1400 | Erect Formwork to -2.50mPD | 12 | -202d | 60 | 28APR08 A | 16JUN08 | 28APR08 A | 08OCT07 |
| S3CJ1500 | Erect Formwork to +0.00mPD | 12 | -202d | 0 | 11JUL08 | 24JUL08 | 02NOV07 | 15NOV07 |
| S3CJ1550 | Erect Formwork to +5.0mPD | 12 | -202d | 0 | 19AUG08 | 01SEP08 | 11DEC07 | 24DEC07 |
| Steel Reinforcement | | | | | | | | |
| S3CK1300 | Fix Re-bar to -2.50mPD | 8 | -202d | 50 | 06MAY08 A | 10JUN08 | 06MAY08 A | 02OCT07 |
| S3CK1400 | Fix Re-bar to +0.00mPD | 8 | -202d | 0 | 02JUL08 | 10JUL08 | 24OCT07 | 01NOV07 |
| S3CK1450 | Fix Re-bar to +5.00mPD | 8 | -202d | 0 | 09AUG08 | 18AUG08 | 01DEC07 | 10DEC07 |
| In-Situ Concrete | | | | | | | | |
| S3CL1400 | Cast Wall Stem to -2.50mPD | 2 | -202d | 50 | 29MAY08 A | 17JUN08 | 29MAY08 A | 09OCT07 |
| S3CL1500 | Cast Wall Stem to +0.00mPD | 2 | -202d | 0 | 25JUL08 | 26JUL08 | 16NOV07 | 17NOV07 |
| Geotechnical works | | | | | | | | |
| S3CP1000 | Monitoring of Instruments | 787 | -89d | 81 | 06APR06 A | 29NOV08 | 06APR06 A | 14AUG08 |
| Testing | | | | | | | | |
| S3CS1000 | Pressure Testing to Twin Rising Main DN900 | 12 | 46d | 0 | 06JUN08 | 20JUN08 | 01AUG08 | 14AUG08 |
| Section 4 - Sewers & RM in Portion D, F, G, H, I | | | | | | | | |
| Portion D | | | | | | | | |
| Drainage and Ducts | | | | | | | | |
| Trench Method | | | | | | | | |
| S4DEA1000 | DN1200 Pipe & Manhole (G1-Treatment Plant) | 60 | 152d | 20 | 31MAR08 A | 15OCT08 | 31MAR08 A | 18APR09 |
| Pipework - Rising Main | | | | | | | | |
| Trench Method | | | | | | | | |
| S4DFA1100 | Twin Rising Main DN900 (ChA1850- WOIC1) | 101 | 113d | 0 | 18AUG08 | 16DEC08 | 03JAN09 | 06MAY09 |
| S4DFA1200 | Twin Rising Main DN900 (ChA2095 - ChA2215) | 148 | 113d | 55 | 20DEC07 A | 16AUG08 | 20DEC07 A | 02JAN09 |
| S4DFA1210 | Construct AVIC12 (VO 100) | 60 | 191d | 0 | 29MAY08 | 08AUG08 | 16JAN09 | 30MAR09 |
| Trenchless Method | | | | | | | | |
| S4DFB1100 | Construct WOIC1 | 30 | 150d | 0 | 29MAY08 | 04JUL08 | 26NOV08 | 02JAN09 |
| S4DFB1200 | CCTV Inspection of Pipeline | 3 | 223d | 0 | 05JUL08 | 08JUL08 | 02APR09 | 06APR09 |
| Geotechnical works | | | | | | | | |
| S4DP1000 | Monitoring of Instruments | 602 | 129d | 77 | 02NOV06 A | 12NOV08 | 02NOV06 A | 20APR09 |
| Portion F | | | | | | | | |
| Ground Investigation | | | | | | | | |
| S4FB1500 | Install Settlement Markers | 698 | 188d | 89 | 27APR06 A | 01SEP08 | 27APR06 A | 20APR09 |
| Drainage and Ducts | | | | | | | | |
| Trench Method | | | | | | | | |
| S4FEA1000 | DN900 Pipe & Manhole (H8 - H7) 1st Stage | 53 | 62d | 0 | 31JUL08 | 02OCT08 | 15OCT08 | 15DEC08 |
| Trenchless Method | | | | | | | | |

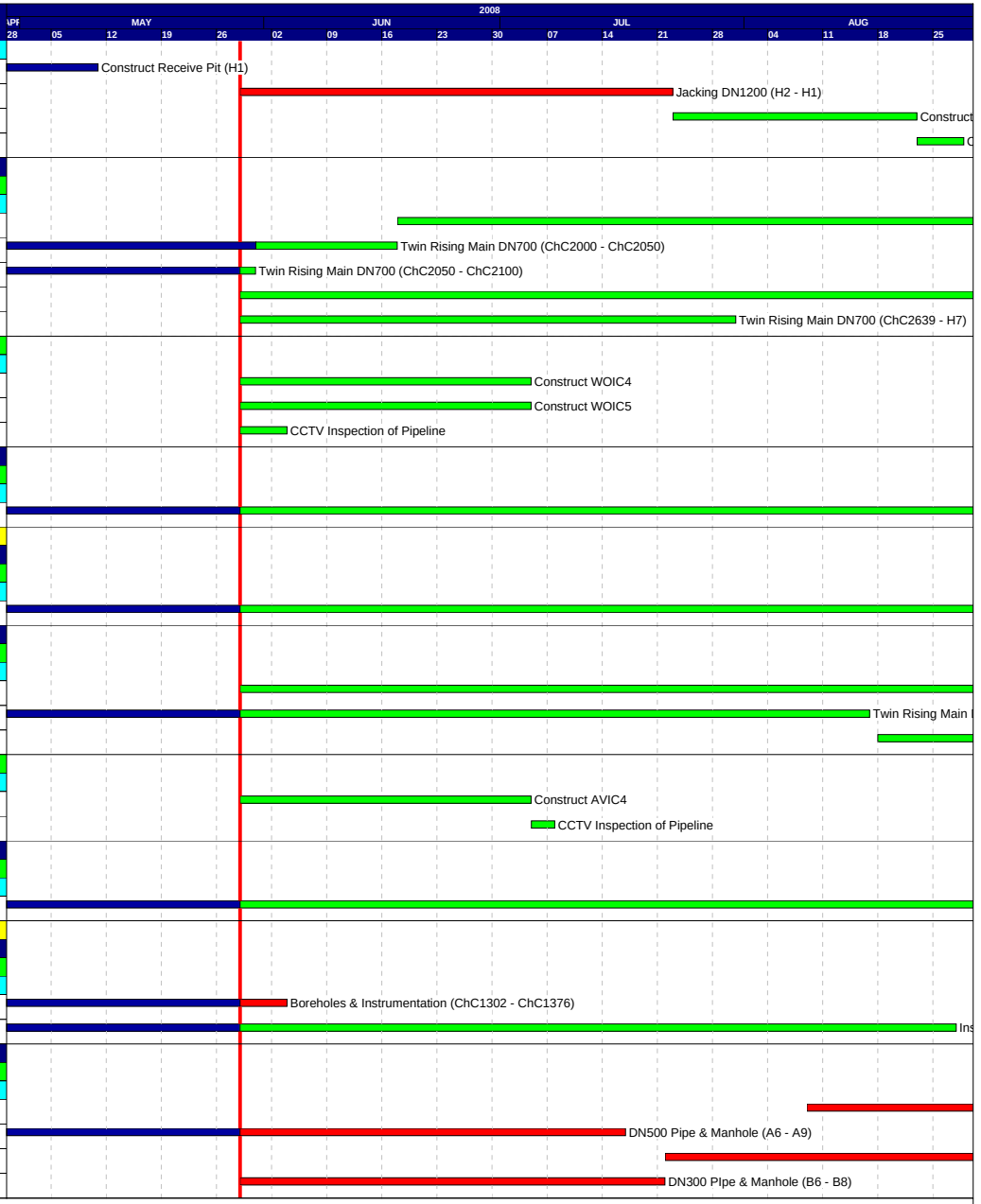



| | |
|---|---|
| Start date | 19DEC05 |
| Finish date | 19MAR10 |
| Data date | 29MAY08 |
| Page number | 4A |
| | |
| | |
| c Primavera Systems, Inc. | |

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

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

| Act ID | Description | Orig Dur | Total Float | Percent Complete | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|---|---|
| S4FEB1000 | Construct Receive Pit (H1) | 30 | | 100 | 07APR08 A | 10MAY08 A | 07APR08 A | 10MAY08 A |
| S4FEB1020 | Jacking DN1200 (H2 - H1) | 45 | -92d | 0 | 29MAY08 | 22JUL08 | 01FEB08 | 31MAR08 |
| S4FEB1040 | Construct Manhole H2 & H1 | 27 | 191d | 0 | 23JUL08 | 22AUG08 | 13MAR09 | 14APR09 |
| S4FEB1600 | CCTV Inspection of Pipeline | 5 | 191d | 0 | 23AUG08 | 28AUG08 | 15APR09 | 20APR09 |
| Pipework - Rising Main | | | | | | | | |
| Trench Method | | | | | | | | |
| S4FFA1300 | Twin Rising Main DN700 (WOIC5 - ChC2000) | 80 | 152d | 0 | 18JUN08 | 20SEP08 | 17DEC08 | 26MAR09 |
| S4FFA1400 | Twin Rising Main DN700 (ChC2000 - ChC2050) | 45 | 142d | 70 | 05APR08 A | 17JUN08 | 05APR08 A | 04DEC08 |
| S4FFA1500 | Twin Rising Main DN700 (ChC2050 - ChC2100) | 45 | 142d | 95 | 12FEB08 A | 30MAY08 | 12FEB08 A | 18NOV08 |
| S4FFA2200 | Twin Rising Main DN700 (ChC2400 - WOIC4) | 93 | 65d | 0 | 29MAY08 | 17SEP08 | 15AUG08 | 04DEC08 |
| S4FFA2300 | Twin Rising Main DN700 (ChC2639 - H7) | 52 | 62d | 0 | 29MAY08 | 30JUL08 | 12AUG08 | 14OCT08 |
| Trenchless Method | | | | | | | | |
| S4FFB1200 | Construct WOIC4 | 30 | 128d | 0 | 29MAY08 | 04JUL08 | 31OCT08 | 04DEC08 |
| S4FFB1300 | Construct WOIC5 | 30 | 218d | 0 | 29MAY08 | 04JUL08 | 20FEB09 | 26MAR09 |
| S4FFB1400 | CCTV Inspection of Pipeline | 5 | 251d | 0 | 29MAY08 | 03JUN08 | 31MAR09 | 06APR09 |
| Geotechnical works | | | | | | | | |
| S4FP1000 | Monitoring of Instruments | 772 | 84d | 76 | 05JUN06 A | 07JAN09 | 05JUN06 A | 20APR09 |
| Portion G | | | | | | | | |
| Ground Investigation | | | | | | | | |
| S4GB1500 | Install Settlement Markers | 748 | 172d | 87 | 21APR06 A | 20SEP08 | 21APR06 A | 20APR09 |
| Pipework - Rising Main | | | | | | | | |
| Trench Method | | | | | | | | |
| S4GFA1000 | Twin Rising Main DN500 (AVIC4 - ChB250) | 98 | 149d | 0 | 29MAY08 | 23SEP08 | 25NOV08 | 25MAR09 |
| S4GFA1300 | Twin Rising Main DN500 (ChB450 - ChB550) | 84 | 150d | 20 | 16JAN08 A | 16AUG08 | 16JAN08 A | 18FEB09 |
| S4GFA1700 | Construct WOIC3 | 30 | 150d | 0 | 18AUG08 | 22SEP08 | 19FEB09 | 25MAR09 |
| Trenchless Method | | | | | | | | |
| S4GFB1100 | Construct AVIC4 | 30 | 217d | 0 | 29MAY08 | 04JUL08 | 19FEB09 | 25MAR09 |
| S4GFB1200 | CCTV Inspection of Pipeline | 2 | 224d | 0 | 05JUL08 | 07JUL08 | 03APR09 | 06APR09 |
| Geotechnical works | | | | | | | | |
| S4GP1000 | Monitoring of Instruments | 720 | 170d | 86 | 22APR06 A | 23SEP08 | 22APR06 A | 20APR09 |
| Portion H | | | | | | | | |
| Ground Investigation | | | | | | | | |
| S4HB1040 | Boreholes & Instrumentation (ChC1302 - ChC1376) | 10 | -8d | 50 | 08APR08 A | 03JUN08 | 08APR08 A | 24MAY08 |
| S4HB1300 | Install Settlement Markers | 727 | 192d | 90 | 26MAY06 A | 27AUG08 | 26MAY06 A | 20APR09 |
| Drainage and Ducts | | | | | | | | |
| Trench Method | | | | | | | | |
| S4HEA1000 | DN500 Pipe & Manhole (A3 - A6) | 90 | -25d | 0 | 09AUG08 | 25NOV08 | 11JUL08 | 27OCT08 |
| S4HEA1100 | DN500 Pipe & Manhole (A6 - A9) | 100 | -25d | 60 | 25OCT07 A | 16JUL08 | 25OCT07 A | 16JUN08 |
| S4HEA1900 | DN300 Pipe & Manhole (B4 - B6) | 67 | -9d | 0 | 22JUL08 | 10OCT08 | 11JUL08 | 27SEP08 |
| S4HEA2000 | DN300 PIpe & Manhole (B6 - B8) | 44 | -9d | 0 | 29MAY08 * | 21JUL08 | 19MAY08 | 10JUL08 |

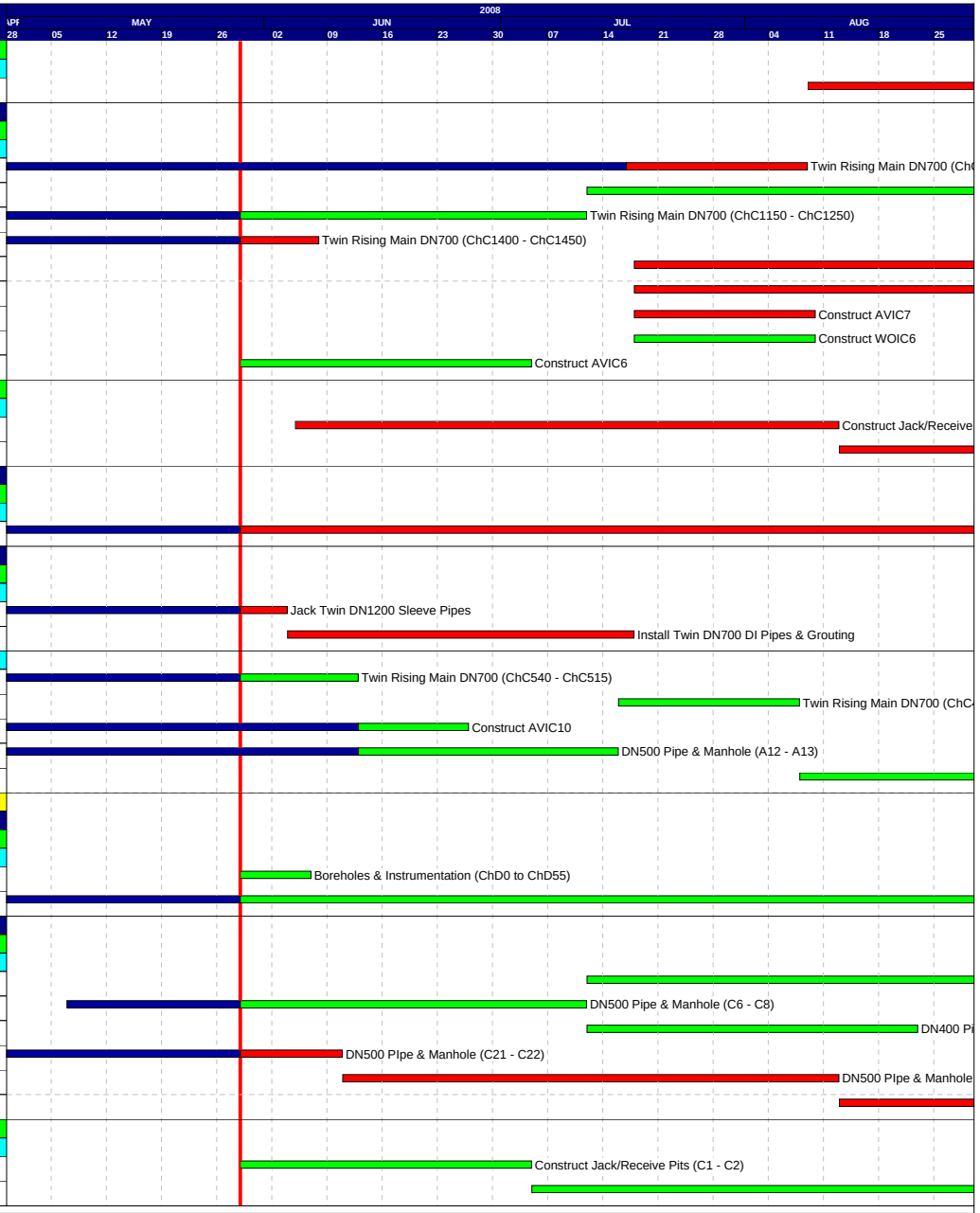



| | |
|---|---|
| Start date | 19DEC05 |
| Finish date | 19MAR10 |
| Data date | 29MAY08 |
| Page number | 5A |
| | |
| | |
| c Primavera Systems, Inc. | |

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

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

| Act ID | Description | Orig Dur | Total Float | Percent Complete | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|---|---|
| **Trenchless Method** | | | | | | | | |
| S4HEB1000 | Construct Jack/Receive Pits (A2 - A3) | 30 | -25d | 0 | 09AUG08 | 12SEP08 | 11JUL08 | 14AUG08 |
| **Pipework - Rising Main** | | | | | | | | |
| **Trench Method** | | | | | | | | |
| S4HFA1100 | Twin Rising Main DN700 (ChC170 - ChC290) | 50 | -25d | 60 | 25OCT07 A | 08AUG08 | 25OCT07 A | 10JUL08 |
| S4HFA1900 | Twin Rising Main DN700 (ChC950 - ChC1000) | 44 | 28d | 0 | 12JUL08 | 01SEP08 | 14AUG08 | 06OCT08 |
| S4HFA2100 | Twin Rising Main DN700 (ChC1150 - ChC1250) | 91 | 28d | 60 | 14JAN08 A | 11JUL08 | 14JAN08 A | 13AUG08 |
| S4HFA2310 | Twin Rising Main DN700 (ChC1400 - ChC1450) | 45 | -42d | 80 | 27MAR08 A | 07JUN08 | 27MAR08 A | 17APR08 |
| S4HFA2500 | Twin Rising Main DN700 (ChC1600 - ChC1618) | 44 | -118d | 0 | 18JUL08 | 06SEP08 | 22FEB08 | 17APR08 |
| S4HFA2510 | Twin Rising Main DN700 (WOIC6 - ChC1664) | 47 | -26d | 0 | 18JUL08 | 10SEP08 | 17JUN08 | 11AUG08 |
| S4HFA3300 | Construct AVIC7 | 20 | -94d | 0 | 18JUL08 | 09AUG08 | 25MAR08 | 17APR08 |
| S4HFA3400 | Construct WOIC6 | 20 | 1d | 0 | 18JUL08 | 09AUG08 | 19JUL08 | 11AUG08 |
| S4HFA3500 | Construct AVIC6 | 30 | 203d | 0 | 29MAY08 | 04JUL08 | 03FEB09 | 09MAR09 |
| **Trenchless Method** | | | | | | | | |
| S4HFB1100 | Construct Jack/Receive Pits (AVIC8 - WOIC7) | 57 | -9d | 0 | 05JUN08 | 12AUG08 | 26MAY08 | 01AUG08 |
| S4HFB1120 | Jacking Twin DN700 (AVIC8 - WOIC7) | 69 | -9d | 0 | 13AUG08 | 04NOV08 | 02AUG08 | 24OCT08 |
| **Geotechnical works** | | | | | | | | |
| S4HP1000 | Monitoring of Instruments | 947 | -84d | 63 | 26MAY06 A | 30JUL09 | 26MAY06 A | 20APR09 |
| **Additonal Works / Disruption** | | | | | | | | |
| **Twin R/M DN700 ChC1620 - ChC1661 (Claim No. 026)** | | | | | | | | |
| S4HV1100 | Jack Twin DN1200 Sleeve Pipes | 36 | -118d | 85 | 11DEC07 A | 03JUN08 | 11DEC07 A | 07JAN08 |
| S4HV1110 | Install Twin DN700 DI Pipes & Grouting | 36 | -118d | 0 | 04JUN08 | 17JUL08 | 08JAN08 | 21FEB08 |
| **Re-alignment btn ChC420 & ChC607 (Claim No. 118)** | | | | | | | | |
| S4HV1330 | Twin Rising Main DN700 (ChC540 - ChC515) | 40 | 11d | 70 | 12FEB08 A | 12JUN08 | 12FEB08 A | 25JUN08 |
| S4HV1360 | Twin Rising Main DN700 (ChC460 - ChC436) | 20 | 11d | 0 | 16JUL08 | 07AUG08 | 29JUL08 | 20AUG08 |
| S4HV1370 | Construct AVIC10 | 24 | 156d | 50 | 26MAR08 A | 26JUN08 | 26MAR08 A | 02JAN09 |
| S4HV1390 | DN500 Pipe & Manhole (A12 - A13) | 30 | 11d | 10 | 12APR08 A | 15JUL08 | 12APR08 A | 28JUL08 |
| S4HV1400 | DN500 Pipe & Manhole (A13 - A14) | 40 | 11d | 0 | 08AUG08 | 24SEP08 | 21AUG08 | 09OCT08 |
| **Portion I** | | | | | | | | |
| **Ground Investigation** | | | | | | | | |
| S4IB1040 | Boreholes & Instrumentation (ChD0 to ChD55) | 8 | 121d | 0 | 29MAY08 | 06JUN08 | 23OCT08 | 31OCT08 |
| S4IB1300 | Install Settlement Markers | 736 | 184d | 89 | 26JUN06 A | 05SEP08 | 26JUN06 A | 20APR09 |
| **Drainage and Ducts** | | | | | | | | |
| **Trench Method** | | | | | | | | |
| S4IEA1020 | DN500 Pipe & Manhole (C4 - C6) | 76 | 10d | 0 | 12JUL08 | 11OCT08 | 24JUL08 | 23OCT08 |
| S4IEA1100 | DN500 Pipe & Manhole (C6 - C8) | 48 | 10d | 25 | 07MAY08 A | 11JUL08 | 07MAY08 A | 23JUL08 |
| S4IEA1200 | DN400 Pipe & Manhole (C7a - C7) | 36 | 209d | 0 | 12JUL08 | 22AUG08 | 24MAR09 | 06MAY09 |
| S4IEA1900 | DN500 PIpe & Manhole (C21 - C22) | 50 | -4d | 80 | 01FEB08 A | 10JUN08 | 01FEB08 A | 04JUN08 |
| S4IEA2320 | DN500 PIpe & Manhole (C31 - C32) | 53 | -4d | 0 | 11JUN08 | 12AUG08 | 05JUN08 | 07AUG08 |
| S4IEA2400 | DN500 PIpe & Manhole (C32 - C34) | 70 | -4d | 0 | 13AUG08 | 05NOV08 | 08AUG08 | 31OCT08 |
| **Trenchless Method** | | | | | | | | |
| S4IEB1000 | Construct Jack/Receive Pits (C1 - C2) | 30 | 131d | 0 | 29MAY08 | 04JUL08 | 04NOV08 | 08DEC08 |
| S4IEB1020 | Jacking DN500 (C1 - C2) | 78 | 131d | 0 | 05JUL08 | 06OCT08 | 09DEC08 | 16MAR09 |

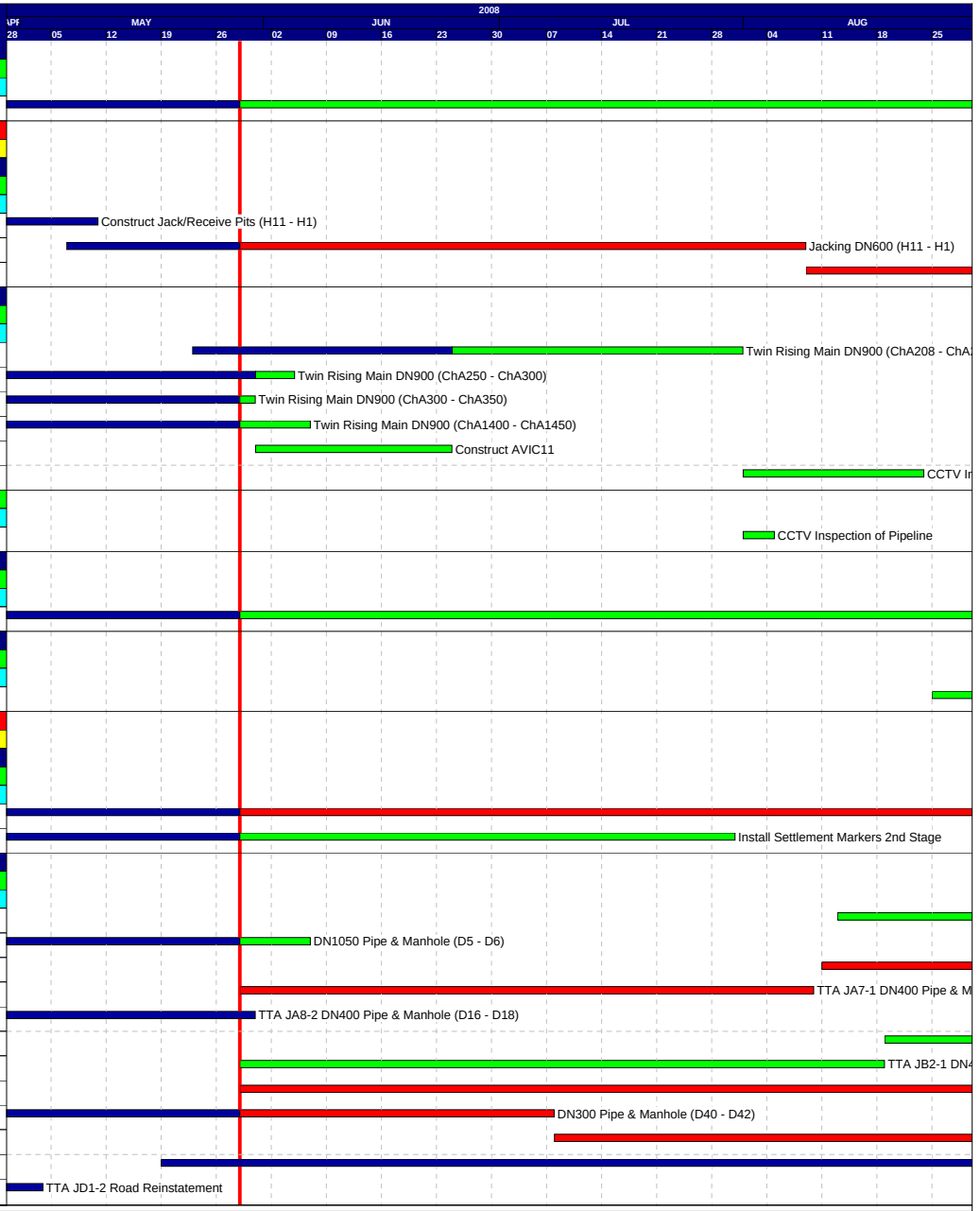



| | |
|---|---|
| Start date | 19DEC05 |
| Finish date | 19MAR10 |
| Data date | 29MAY08 |
| Page number | 6A |
| | |
| | |
| c Primavera Systems, Inc. | |

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

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

| Act ID | Description | Orig Dur | Total Float | Percent Complete | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|---|---|
| Geotechnical works | | | | | | | | |
| S4IP1000 | Monitoring of Instruments | 827 | 9d | 69 | 28JUN06 A | 09APR09 | 28JUN06 A | 20APR09 |
| Section 5 - Sewers & RM in Portion E | | | | | | | | |
| Portion E | | | | | | | | |
| Drainage and Ducts | | | | | | | | |
| Trenchless Method | | | | | | | | |
| S5EEB1000 | Construct Jack/Receive Pits (H11 - H1) | 30 | | 100 | 15OCT07 A | 10MAY08 A | 15OCT07 A | 10MAY08 A |
| S5EEB1020 | Jacking DN600 (H11 - H1) | 90 | 0 | 33 | 07MAY08 A | 08AUG08 | 07MAY08 A | 08AUG08 |
| S5EEB1040 | Construct Manholes H11 | 27 | 0 | 0 | 09AUG08 | 09SEP08 | 09AUG08 | 09SEP08 |
| Pipework - Rising Main | | | | | | | | |
| Trench Method | | | | | | | | |
| S5EFA1000 | Twin Rising Main DN900 (ChA208 - ChA250) | 33 | 3d | 5 | 23MAY08 A | 31JUL08 | 23MAY08 A | 04AUG08 |
| S5EFA1100 | Twin Rising Main DN900 (ChA250 - ChA300) | 26 | 19d | 85 | 08SEP07 A | 04JUN08 | 08SEP07 A | 27JUN08 |
| S5EFA1200 | Twin Rising Main DN900 (ChA300 - ChA350) | 26 | 3d | 90 | 06AUG07 A | 30MAY08 | 06AUG07 A | 03JUN08 |
| S5EFA3400 | Twin Rising Main DN900 (ChA1400 - ChA1450) | 26 | 48d | 70 | 11APR08 A | 06JUN08 | 11APR08 A | 04AUG08 |
| S5EFA4100 | Construct AVIC11 | 20 | 3d | 0 | 31MAY08 | 24JUN08 | 04JUN08 | 27JUN08 |
| S5EFA4300 | CCTV Inspection of Pipeline | 20 | 3d | 0 | 01AUG08 | 23AUG08 | 05AUG08 | 27AUG08 |
| Trenchless Method | | | | | | | | |
| S5EFB1100 | CCTV Inspection of Pipeline | 3 | 20d | 0 | 01AUG08 | 04AUG08 | 25AUG08 | 27AUG08 |
| Geotechnical works | | | | | | | | |
| S5EP1000 | Monitoring of Instruments | 627 | 1d | 86 | 01AUG06 A | 09SEP08 | 01AUG06 A | 10SEP08 |
| Testing | | | | | | | | |
| S5ES1000 | Pressure Testing to Twin Rising Main DN900 | 12 | 3d | 0 | 25AUG08 | 06SEP08 | 28AUG08 | 10SEP08 |
| Section 6 - Sewers in Portion J | | | | | | | | |
| Portion J | | | | | | | | |
| Ground Investigation | | | | | | | | |
| S6JB1500 | Install Settlement Marker 1st Stage | 765 | -56d | 82 | 20APR06 A | 10NOV08 | 20APR06 A | 02SEP08 |
| S6JB2100 | Install Settlement Markers 2nd Stage | 600 | 229d | 91 | 07JUL06 A | 30JUL08 | 07JUL06 A | 06MAY09 |
| Drainage and Ducts | | | | | | | | |
| Trench Method | | | | | | | | |
| S6JEA1010 | DN1050 Pipe & Manhole (D2 - D3) | 78 | 125d | 0 | 13AUG08 | 14NOV08 | 13JAN09 | 17APR09 |
| S6JEA1210 | DN1050 Pipe & Manhole (D5 - D6) | 78 | 180d | 90 | 09APR08 A | 06JUN08 | 09APR08 A | 12JAN09 |
| S6JEA1700 | TTA JA7-2 DN400 Pipe & Manhole (D14 - D15) | 46 | -238d | 0 | 11AUG08 | 04OCT08 | 22OCT07 | 13DEC07 |
| S6JEA1720 | TTA JA7-1 DN400 Pipe & Manhole (D15 - D16) | 61 | -238d | 0 | 29MAY08 | 09AUG08 | 08AUG07 | 20OCT07 |
| S6JEA1800 | TTA JA8-2 DN400 Pipe & Manhole (D16 - D18) | 81 | | 100 | 30AUG07 A | 30MAY08 A | 30AUG07 A | 30MAY08 A |
| S6JEA1900 | TTA JB1-1 DN400 PIpe & Manhole (D20 - D21) | 102 | 36d | 0 | 19AUG08 | 18DEC08 | 02OCT08 | 05FEB09 |
| S6JEA1920 | TTA JB2-1 DN400 PIpe & Manhole (D21 - D22) | 68 | 36d | 0 | 29MAY08 | 18AUG08 | 12JUL08 | 30SEP08 |
| S6JEA2400 | TTA JB6-1 DN400 PIpe & Manhole (D28 - D30) | 80 | -262d | 0 | 29MAY08 | 01SEP08 | 11JUL07 | 13OCT07 |
| S6JEA3200 | DN300 Pipe & Manhole (D40 - D42) | 65 | -56d | 50 | 09JAN08 A | 07JUL08 | 09JAN08 A | 28APR08 |
| S6JEA3300 | DN300 Pipe & Manhole (D42 - D44) | 72 | -56d | 0 | 08JUL08 | 30SEP08 | 29APR08 | 25JUL08 |
| S6JEA3410 | DN300 Pipe & Manhole (D47 - D49) | 23 | 49d | 0 | 19MAY08 A | 21JAN09 | 19MAY08 A | 23MAR09 |
| S6JEA3930 | TTA JD1-2 Road Reinstatement | 6 | | 100 | 16APR08 A | 03MAY08 A | 16APR08 A | 03MAY08 A |

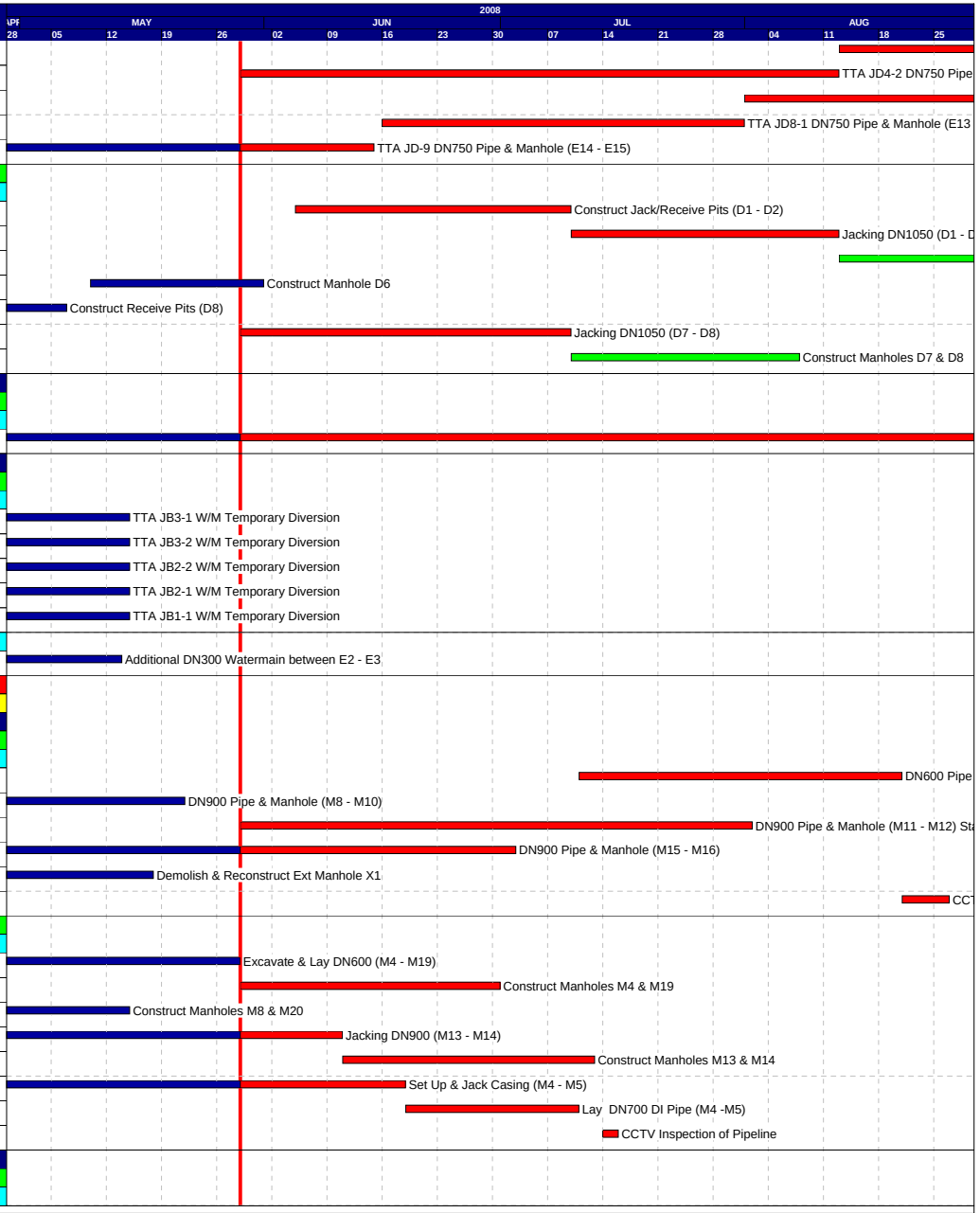



| | |
|---|---|
| Start date | 19DEC05 |
| Finish date | 19MAR10 |
| Data date | 29MAY08 |
| Page number | 7A |
| | |
| | |
| c Primavera Systems, Inc. | |

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

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

| Act ID | Description | Orig Dur | Total Float | Percent Complete | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|---|---|
| S6JEA4200 | TTA JD4-1 DN750 Pipe & Manhole (E7 - E8) | 35 | -66d | 0 | 13AUG08 | 23SEP08 | 26MAY08 | 07JUL08 |
| S6JEA4220 | TTA JD4-2 DN750 Pipe & Manhole (E7 - E9) | 63 | -66d | 0 | 29MAY08 | 12AUG08 | 06MAR08 | 24MAY08 |
| S6JEA4600 | TTA JD8-2 DN750 Pipe & Manhole (E12 - E13) | 40 | -119d | 0 | 01AUG08 | 17SEP08 | 06MAR08 | 25APR08 |
| S6JEA4620 | TTA JD8-1 DN750 Pipe & Manhole (E13 - E14) | 39 | -119d | 0 | 16JUN08 | 31JUL08 | 17JAN08 | 05MAR08 |
| S6JEA4700 | TTA JD-9 DN750 Pipe & Manhole (E14 - E15) | 69 | -119d | 80 | 13NOV07 A | 14JUN08 | 13NOV07 A | 16JAN08 |
| Trenchless Method | | | | | | | | |
| S6JEB1000 | Construct Jack/Receive Pits (D1 - D2) | 28 | -9d | 0 | 05JUN08 | 09JUL08 | 26MAY08 | 27JUN08 |
| S6JEB1020 | Jacking DN1050 (D1 - D2) | 29 | -9d | 0 | 10JUL08 | 12AUG08 | 28JUN08 | 01AUG08 |
| S6JEB1040 | Construct Manholes D1 & D2 | 25 | 98d | 0 | 13AUG08 | 10SEP08 | 09DEC08 | 09JAN09 |
| S6JEB1140 | Construct Manhole D6 | 25 | | 100 | 10MAY08 A | 31MAY08 A | 10MAY08 A | 31MAY08 A |
| S6JEB1200 | Construct Receive Pits (D8) | 28 | | 100 | 11APR08 A | 06MAY08 A | 11APR08 A | 06MAY08 A |
| S6JEB1220 | Jacking DN1050 (D7 - D8) | 34 | -9d | 0 | 29MAY08 | 09JUL08 | 19MAY08 | 27JUN08 |
| S6JEB1240 | Construct Manholes D7 & D8 | 25 | 220d | 0 | 10JUL08 | 07AUG08 | 03APR09 | 04MAY09 |
| Geotechnical works | | | | | | | | |
| S6JP1000 | Monitoring of Instruments | 1152 | -248d | 54 | 21APR06 A | 03MAR10 | 21APR06 A | 06MAY09 |
| Additonal Works / Disruption | | | | | | | | |
| Kam Tin Road A/C Watermain (Claim No. 019) | | | | | | | | |
| S6JV1530 | TTA JB3-1 W/M Temporary Diversion | 18 | | 100 | 21APR08 A | 14MAY08 A | 21APR08 A | 14MAY08 A |
| S6JV1550 | TTA JB3-2 W/M Temporary Diversion | 18 | | 100 | 21APR08 A | 14MAY08 A | 21APR08 A | 14MAY08 A |
| S6JV1570 | TTA JB2-2 W/M Temporary Diversion | 18 | | 100 | 21APR08 A | 14MAY08 A | 21APR08 A | 14MAY08 A |
| S6JV1590 | TTA JB2-1 W/M Temporary Diversion | 18 | | 100 | 21APR08 A | 14MAY08 A | 21APR08 A | 14MAY08 A |
| S6JV1610 | TTA JB1-1 W/M Temporary Diversion | 18 | | 100 | 21APR08 A | 14MAY08 A | 21APR08 A | 14MAY08 A |
| Additional DN300 W/M E2 - E3 (Claim No. 110) | | | | | | | | |
| S6JV2900 | Additional DN300 Watermain between E2 - E3 | 30 | | 100 | 29DEC07 A | 13MAY08 A | 29DEC07 A | 13MAY08 A |
| Section 7 - Sewers in Portion K | | | | | | | | |
| Portion K | | | | | | | | |
| Drainage and Ducts | | | | | | | | |
| Trench Method | | | | | | | | |
| S7KEA1105 | DN600 Pipe & Manhole (M2 - M3) Stage 2 | 35 | -153d | 0 | 11JUL08 | 20AUG08 | 02JAN08 | 14FEB08 |
| S7KEA1400 | DN900 Pipe & Manhole (M8 - M10) | 51 | | 100 | 26OCT07 A | 21MAY08 A | 26OCT07 A | 21MAY08 A |
| S7KEA1610 | DN900 Pipe & Manhole (M11 - M12) Stage 2 | 54 | -137d | 0 | 29MAY08 | 01AUG08 | 07DEC07 | 14FEB08 |
| S7KEA1900 | DN900 Pipe & Manhole (M15 - M16) | 93 | -124d | 70 | 29JAN08 A | 02JUL08 | 29JAN08 A | 26JAN08 |
| S7KEA2060 | Demolish & Reconstruct Ext Manhole X1 | 24 | | 100 | 14FEB08 A | 17MAY08 A | 14FEB08 A | 17MAY08 A |
| S7KEA2100 | CCTV Inspection of Pipeline | 5 | -153d | 0 | 21AUG08 | 26AUG08 | 15FEB08 | 20FEB08 |
| Trenchless Method | | | | | | | | |
| S7KEB1020 | Excavate & Lay DN600 (M4 - M19) | 72 | | 100 | 27NOV07 A | 28MAY08 A | 27NOV07 A | 28MAY08 A |
| S7KEB1040 | Construct Manholes M4 & M19 | 27 | -145d | 0 | 29MAY08 | 30JUN08 | 28NOV07 | 31DEC07 |
| S7KEB1140 | Construct Manholes M8 & M20 | 27 | | 100 | 30JAN08 A | 14MAY08 A | 30JAN08 A | 14MAY08 A |
| S7KEB1220 | Jacking DN900 (M13 - M14) | 48 | -117d | 80 | 02DEC06 A | 10JUN08 | 02DEC06 A | 14JAN08 |
| S7KEB1240 | Construct Manholes M13 & M14 | 27 | -117d | 0 | 11JUN08 | 12JUL08 | 15JAN08 | 18FEB08 |
| S7KEB1270 | Set Up & Jack Casing (M4 - M5) | 98 | -153d | 83 | 07JAN08 A | 18JUN08 | 07JAN08 A | 07DEC07 |
| S7KEB1280 | Lay DN700 DI Pipe (M4 -M5) | 18 | -153d | 0 | 19JUN08 | 10JUL08 | 08DEC07 | 31DEC07 |
| S7KEB1300 | CCTV Inspection of Pipeline | 2 | -117d | 0 | 14JUL08 | 15JUL08 | 19FEB08 | 20FEB08 |
| Roads and Pavings | | | | | | | | |

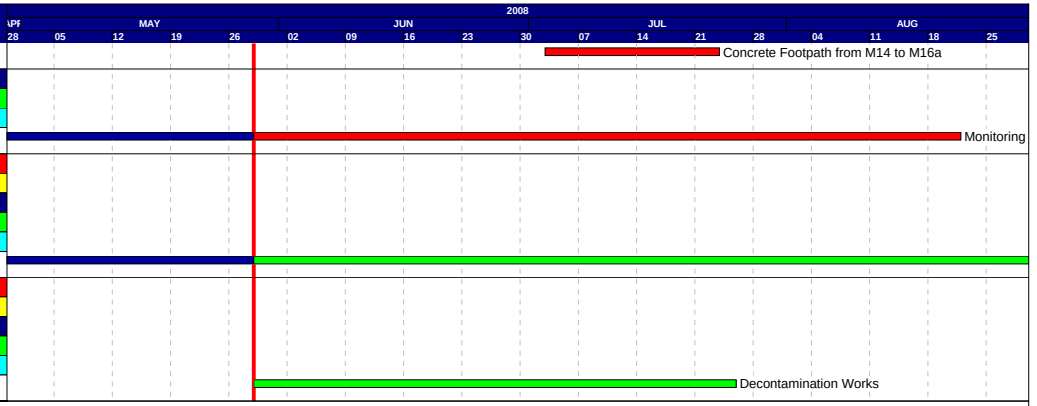



| | |
|---|---|
| Start date | 19DEC05 |
| Finish date | 19MAR10 |
| Data date | 29MAY08 |
| Page number | 8A |
| | |
| | |
| c Primavera Systems, Inc. | |

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

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

| Act ID | Description | Orig Dur | Total Float | Percent Complete | Early Start | Early Finish | Late Start | Late Finish |
|---|---|---|---|---|---|---|---|---|
| S7KH1000 | Concrete Footpath from M14 to M16a | 18 | -124d | 0 | 03JUL08 | 23JUL08 | 28JAN08 | 20FEB08 |
| Geotechnical works | | | | | | | | |
| S7KP1000 | Monitoring of Instruments | 668 | -149d | 89 | 24MAY06 A | 21AUG08 | 24MAY06 A | 20FEB08 |
| Section 8 - Preservation and Protection of Trees | | | | | | | | |
| All Portions | | | | | | | | |
| Landscape Softworks and Establishment Works | | | | | | | | |
| S8QR1100 | Preservation & Protection of Preserved Trees | 744 | 81d | 73 | 29JUL06 A | 29JAN09 | 29JUL06 A | 06MAY09 |
| Decontamination Works | | | | | | | | |
| Portion B | | | | | | | | |
| Decontamination | | | | | | | | |
| S9BU1000 | Decontamination Works | 48 | 33d | 0 | 29MAY08 | 25JUL08 | 09JUL08 | 02SEP08 |




| | |
|---|---|
| Start date | 19DEC05 |
| Finish date | 19MAR10 |
| Data date | 29MAY08 |
| Page number | 9A |



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

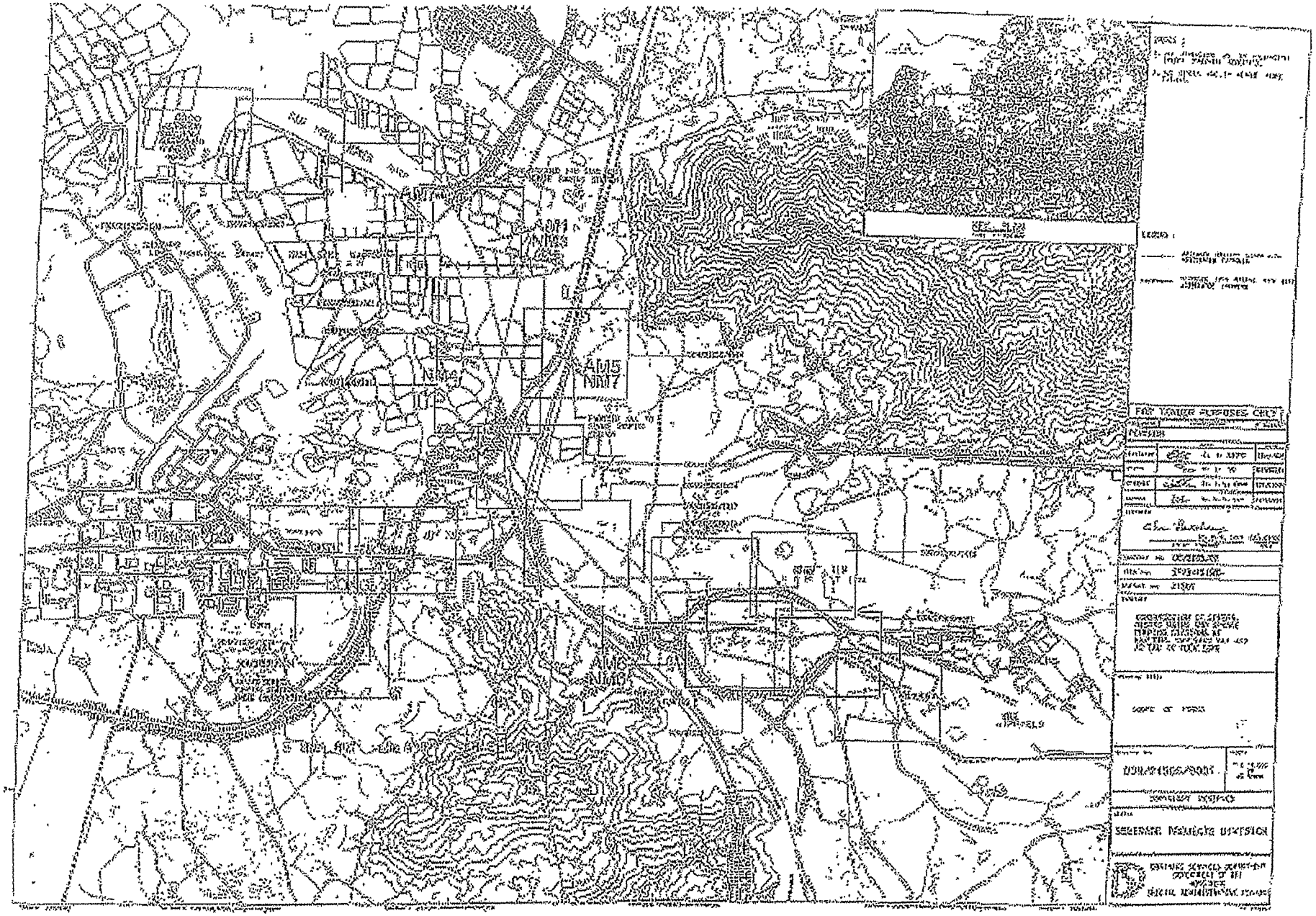
- Early bar
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

# Annex D

# Photographical Records – Noise Barrier On-Site

# Annex E

# Locations of Monitoring Stations



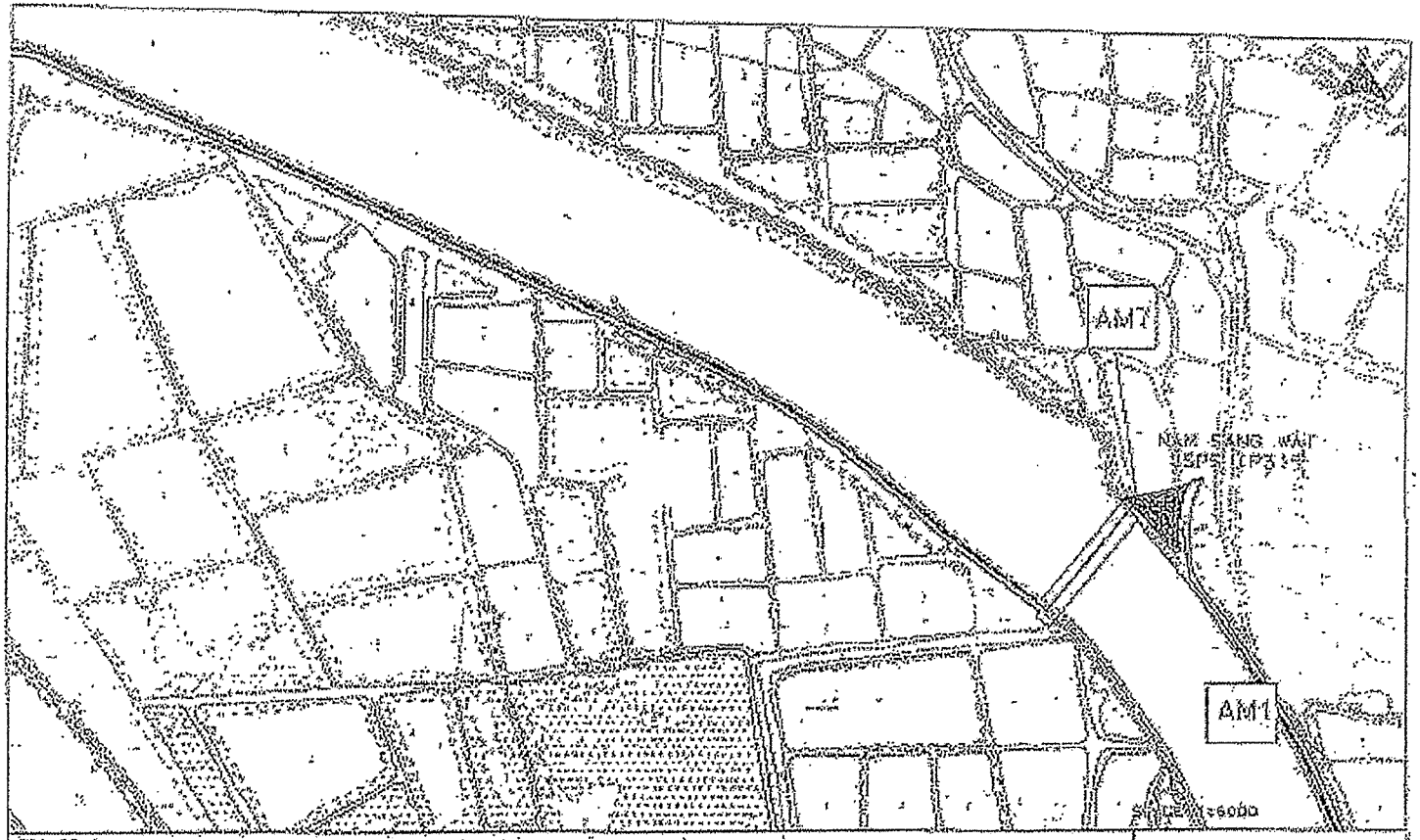



FIGURE 61 LOCATION OF DUST MONITORING STATIONS AM7 AND AM1

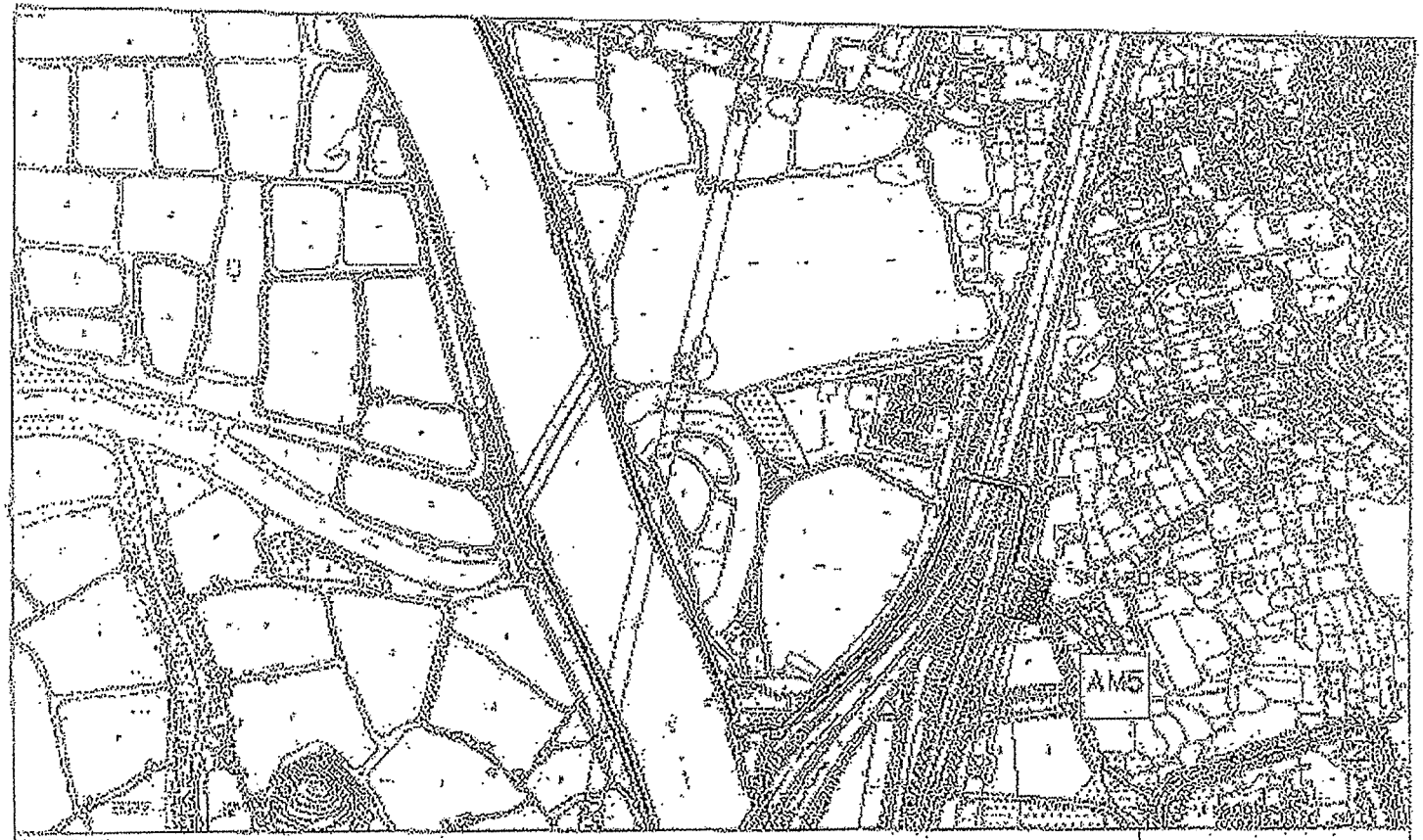



FIGURE 02

LOCATION OF DUST MONITORING STATION (AM5)


FIGURE 6.0 LOCATION OF DUST MONITORING STATIONS (AM1, AM5 & AM10)

FIGURE 4.1 LOCATION OF NOISE MONITORING STATIONS (NM1, NM2, NM3, NM4)

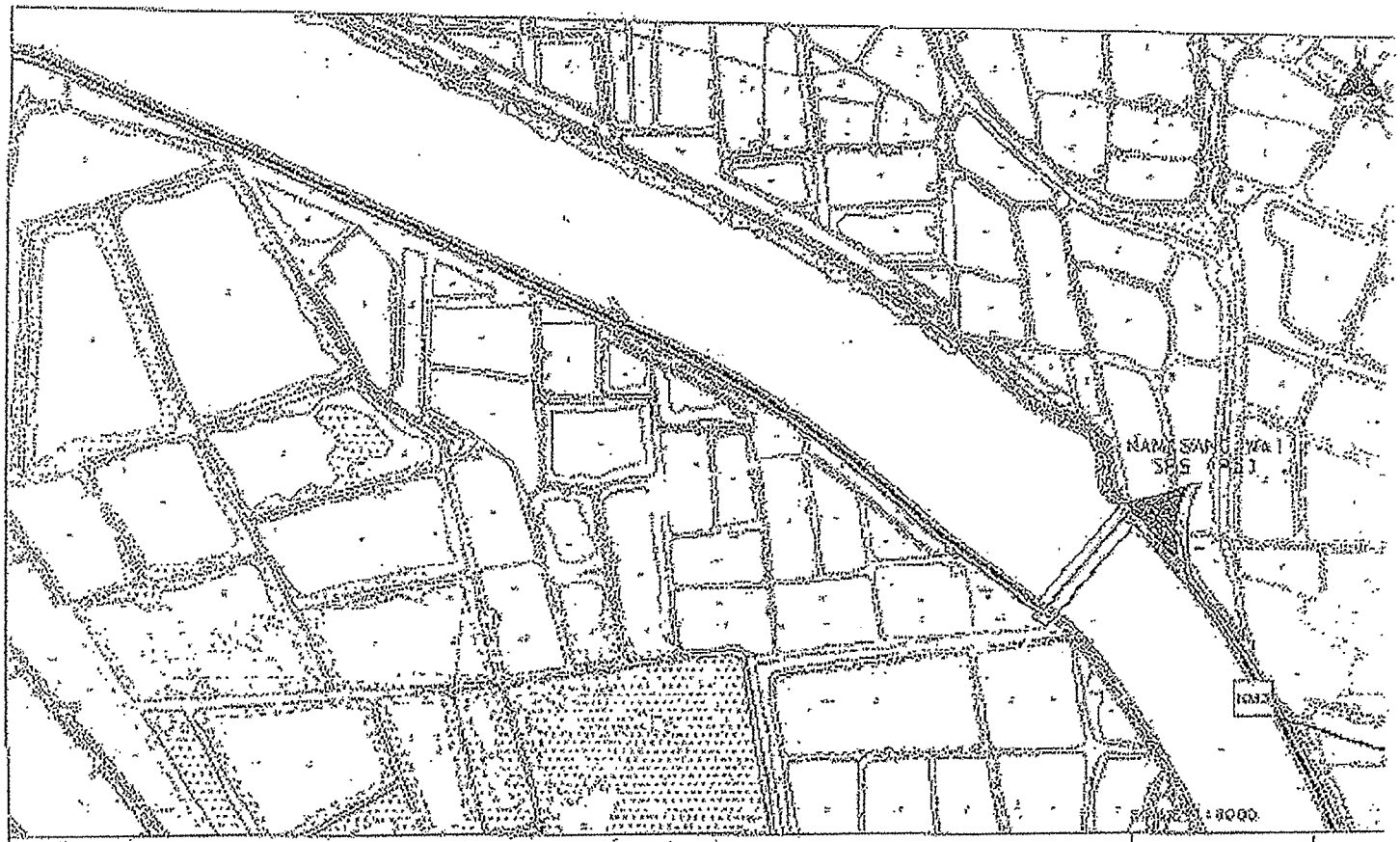


FIGURE 08

LOCATION OF NOISE MONITORING STATIONS (NMS - 5 & 6)

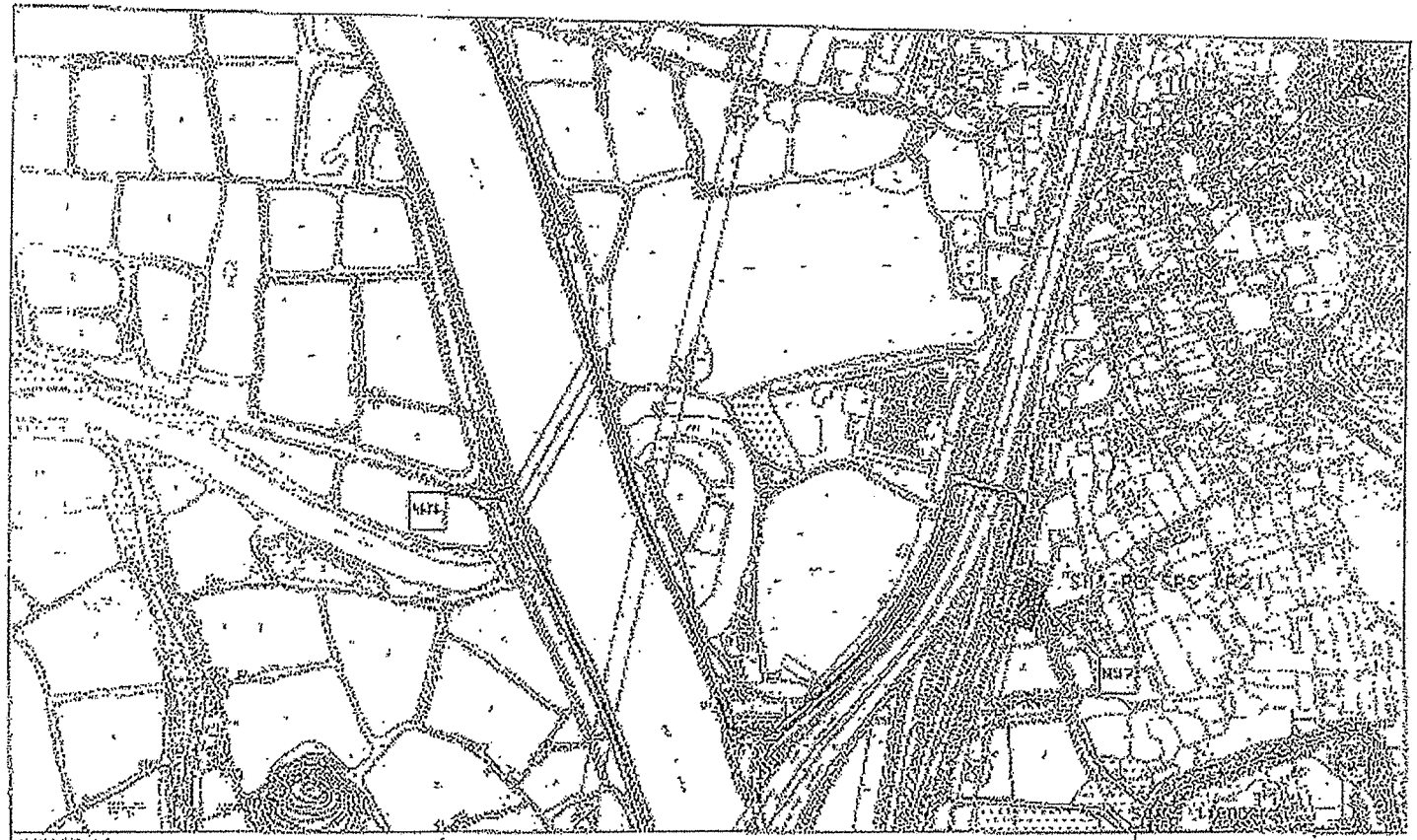


FIGURE 20.

LOCATION OF NOISE MONITORING STATIONS (1994 MAP)

# Annex F

# Event and Action Plan

**Event and Action Plan for Construction Phase Air Quality**

| EVENT | ACTION | | | |
|---|---|---|---|---|
| | **ET Leader** | **IEC** | **Engineer** | **Contractor** |
| ***Action Level*** | | | | |
| Exceedance for one sample | 1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer<br>2. Repeat dust measurements to confirm findings<br>3. Increase monitoring frequency to daily<br>4. Assess efficacy of remedial measures and keep the Contractor, IEC, and Engineer informed | 1. Check monitoring data submitted by ET<br>2. Check monitoring data trends and Contractors working methods<br>3. Check and confirm Contractors proposed remedial actions and working methods are appropriate | 1. Confirm receipt of notification of exceedance in writing<br>2. Remind the Contractor of his contractual obligations and review the Contractor's working methods<br>3. Discuss remedial actions with the Contractor and IEC<br>4. Inform complainant of actions taken, if necessary | 1. Rectify any unacceptable practice<br>2. Liaise with Engineer and IEC to develop appropriate remedial measures to reduce dust impact<br>3. Amend working methods and remedial proposals if required by the Engineer or IEC<br>4. Implement the agreed remedial actions upon instruction from the Engineer and IEC |
| Exceedance for two or more consecutive samples | 1. Identify source (s) of exceedance and inform IEC, Contractor and Engineer<br>2. Repeat measurements to confirm findings<br>3. Increase the monitoring frequency to daily to assess the efficacy of remedial measures and keep the Contractor informed<br>4. Discuss remedial actions with IEC and Contractor<br>5. If exceedance continues, arrange meeting with Engineer, IEC and Contractor to review working practices and identify further remedial actions<br>6. If exceedance stops, inform the Contractor and cease additional monitoring | 1. Check monitoring data submitted by ET<br>2. Check monitoring data trends and Contractors working methods<br>3. Discuss with Contractor and Engineer on possible remedial measures<br>4. Check and confirm Contractors proposed remedial measures are appropriate<br>5. Determine the efficacy of remedial actions and keep the Engineer informed | 1. Confirm receipt of notification of exceedance in writing<br>2. Remind the Contractor of his contractual obligations and review the Contractor's working methods<br>3. Discuss remedial actions with the Contractor and IEC<br>4. Ensure remedial measures are properly implemented<br>5. Inform complainant of actions taken, if necessary. | 1. Rectify any unacceptable practice, if possible<br>2. Submit proposals for remedial actions to Engineer and IEC within three working days of notification<br>3. Discuss and amend remedial actions, if required, by the Engineer and IEC<br>4. Implement the remedial action (s) immediately upon instruction from the Engineer Discuss with Engineer and IEC, to optimise the effectiveness of the agreed remedial actions |

**Event and Action Plan for Construction Phase Air Quality**

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

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

# Annex G

# Mitigation Implementation Schedule

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

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

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

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

| EIA* Ref. | EM&A Ref | Environmental Protection Measures | Objectives of the Recommended Measures & Main Concerns | Location of the measure | Implementation Agent | Implementation Stage** | | | | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Des | C | O | Dec | |
| | | ***Chemical Waste*** | | | | | | | | |
| 6.6.2 | D2 | Chemical waste that is produced, as defined by Schedule 1 of the *Waste Disposal (Chemical Waste) (General) Regulation,* should be handled in accordance with the regulations and Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows. All chemical waste producers should be registered with the EPD. | To control the handling, storage and disposal of chemical waste, in order to minimise potential spillages/leakages and human health and environmental impacts. | To be implemented at all worksites throughout the full duration of the construction phase. | The Contractor | | ✓ | | | *Part II, (6) Waste Disposal (Chemical Waste) (General) Regulation* |
| | | **Storage, Packaging and Labelling of Chemical Waste** | | | | | | | | |
| 6.6.2 | D3 | Containers used for storage of chemical wastes should:<br>• be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;<br>• have a capacity of less than 450 L unless the specifications have been approved by the EPD; and<br>• display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. | To ensure the proper storage, packaging and labelling of chemical waste in accordance with the Regulations. | To be implemented at all worksites throughout the full duration of the construction phase. | The Contractor | | ✓ | | | *Part IV, (9, 10, 11 & 12) Waste Disposal (Chemical Waste) (General) Regulation* |
| | | **Storage of chemical waste** | | | | | | | | |
| 6.6.2 | D4 | The storage area for chemical wastes should:<br>• be clearly labelled and used solely for the storage of chemical waste;<br>• be enclosed on at least 3 sides;<br>• 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;<br>• have adequate ventilation;<br>• be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste, if necessary); and<br>• be arranged so that incompatible materials are | To ensure the proper storage of chemical waste in accordance with the Regulations. | To be implemented at all worksites throughout the full duration of the construction phase. | The Contractor | | ✓ | | | *Part IV, (13,14, 15, 16, 17, & 18) Waste Disposal (Chemical Waste) (General) Regulation* |

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

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

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

| EIA* Ref. | EM&A Ref | Environmental Protection Measures | Objectives of the Recommended Measures & Main Concerns | Location of the measure | Implementation Agent | Implementation Stage** | | | | Relevant Legislation & Guidelines |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Des | C | O | Dec | |
| | | construction and provide temporary fire fighting equipment in the work areas. | minimising potential damage to trees and shrubs. | the full duration of the construction contract. | | | | | | *(Open Burning) Regulation* |
| 8.7.4 | F7 | No filling and dumping to the remaining abandoned fishpond at P2. | To avoid disturbance to abandoned fishponds from construction activities and illegal dumping. | At P2 for full duration of the construction contract | The Contractor | | ✓ | | | |
| 8.7.4 | F8 | Installation and operation of silt removal facilities at construction sites of P1 to P3. The silt removal facilities should be designed in accordance with Appendix A1 of ProPECC Note PN1/94 Construction Site Drainage. | To install silt removal facilities in potentially impact streams and ponds to prevent sedimentation. | At P1 to P3 for full duration of the construction contract. | The Contractor | | ✓ | | | |
| 8.7.4 | F9 | No open fires within the site boundary during construction and provide temporary fire fighting equipment in the work areas. | To prohibit open fires, thereby minimising potential damage to trees and shrubs. | Site wide and throughout the full duration of the construction contract. | The Contractor | | ✓ | | | *Air Pollution Control (Open Burning) Regulation* |
| | | **FISHERIES -** *Construction Phase*<br><br>No specific mitigation measures are required for inclusion in the EP. | | | | | | | | |
| | | **CULTURAL HERITAGE – Not Applicable for Package 1A-1T (DC/2005/02)** | | | | | | | | |
| | | **LANDSCAPE AND VISUAL -** ***Construction Phase*** | | | | | | | | |
| | H1 | The site inspections shall check and report the implementation of mitigation measures (i.e. top-soil are reused and new compensatory planting works are carried out immediately after the construction of the civil structure) in the monthly EM&A reports.<br><br>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.<br><br>The landscape plans and pumping station elevations should demonstrate that the following elements are considered:<br>• existing landscape elements (such as mature trees), transplantation of valuable trees, new compensatory planting | | project. | | | | | | |
| | | • incorporate information on materials, details and textures so as to be as visually recessive as possible and in a style that fits with the surrounding village buildings.<br>• 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.<br>• 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.<br>• felling of mature trees are kept to a minimum. | | | | | | | | |
| | | **EM&A REQUIEMENTS - *Construction Phase***<br><br>*Air Quality* | | | | | | | | |
| 3.7 | I1 | 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.<br>• Worksite boundary facing Scattered house in Nam Sang Wai (AM1);<br>• Worksite boundary facing Fung Kat Heung (AM5);<br>• Worksite boundary facing Scattered House near Route 3 (AM6); | Installations of the dust monitoring stations to ensure the action and limit levels are not exceeded. | At specified dust monitoring locations for the duration of the construction works. | To be undertaken by the Environmental Team (ET) and reviewed and audited by the Engineer /DSD | | ✓ | | | *Air Pollution Control (Construction Dust) Regulations* |

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

# Annex H

# Equipment Calibration Certificates

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

| Items | Aspect | Description of Equipment | Serial No. | Date of Calibration | Date of Next Calibration |
|---|---|---|---|---|---|
| 1* | Air | Greasby Anderson GMWS2310 High Volume Sampler | 0329 (AM1) | 17 May 08 | 17 Aug 08 |
| 2 | | Greasby Anderson GMWS2310 High Volume Sampler | 0355 (AM5) | 02 Apr 08 | 02 Jul 08 |
| 3 | | Greasby Anderson GMWS2310 High Volume Sampler | 10394 (AM6) | 02 Apr 08 | 02 Jul 08 |
| 4* | | Greasby Anderson GMWS2310 High Volume Sampler | 1283 (AM7) | 17 May 08 | 17 Aug 08 |
| 5 | Noise | Bruel & Kjaer 4231 Acoustical Calibrator | 2326408 | 25 Apr 07 | 25 Apr 08 |
| 6 | | Bruel & Kjaer 2238 Integrating Sound Level Meter | 2285762 | 25 Apr 07 | 25 Apr 08 |
| 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: | 17-May-08 |
| Location ID : | AM 1 | Next Calibration Date: | 17-Aug-08 |
| Serial No: | 0329 | Technician: | Mr. Ben Tam |

## CONDITIONS

| | | | |
|---|---|---|---|
| Sea Level Pressure (hPa) | 1007.8 | Corrected Pressure (mm Hg) | 755.85 |
| Temperature ($^{o}$C) | 25.0 | Temperature (K) | 298 |

## CALIBRATION ORIFICE

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

## CALIBRATION

| Plate No. | H20 (L) (in) | H2O (R) (in) | H20 (in) | Qstd (m3/min) | I (chart) | IC corrected |
|---|---|---|---|---|---|---|
| 18 | 4.5 | 4.5 | 9 | 1.950 | 53 | 52.86 |
| 13 | 3.8 | 3.8 | 7.6 | 1.793 | 46 | 45.87 |
| 10 | 2.6 | 2.6 | 5.2 | 1.485 | 31 | 30.92 |
| 7 | 2.1 | 2.1 | 4.2 | 1.336 | 23 | 22.94 |
| 5 | 1.3 | 1.3 | 2.6 | 1.054 | 13 | 12.96 |

LINEAR REGRESSION

Slope = 45.5677
Intercept = -36.3287
Corr. coeff. = 0.9978

***Calculations :***

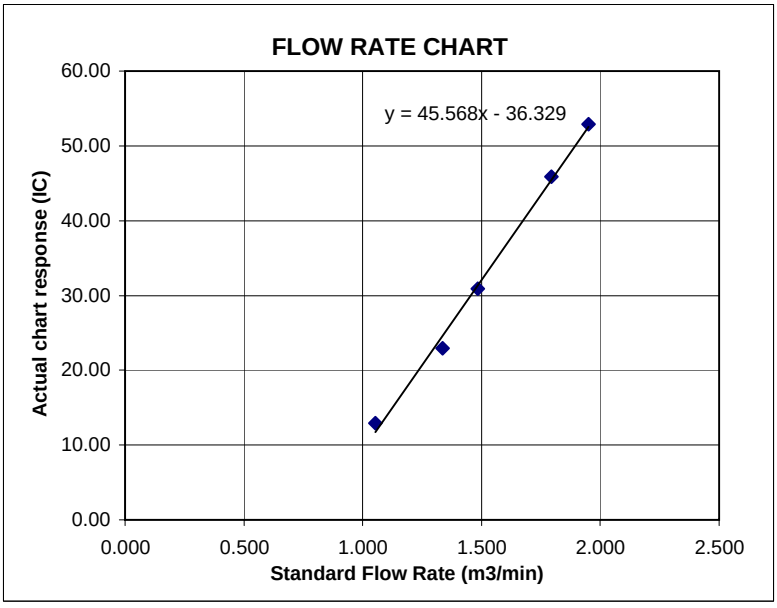
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

***For subsequent calculation of sampler flow:***

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

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



# TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

| | | | |
|---|---|---|---|
| Location : | Nam Sang Wai | Date of Calibration: | 17-May-08 |
| Location ID : | AM 7 | Next Calibration Date: | 17-Aug-08 |
| Serial No: | 1283 | Technician: | Mr. Ben Tam |

## CONDITIONS

| | | | |
|---|---|---|---|
| Sea Level Pressure (hPa) | 1007.8 | Corrected Pressure (mm Hg) | 755.85 |
| Temperature ($^{o}$C) | 25.0 | Temperature (K) | 298 |

## CALIBRATION ORIFICE

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

## CALIBRATION

| Plate No. | H20 (L) (in) | H2O (R) (in) | H20 (in) | Qstd (m3/min) | I (chart) | IC corrected | LINEAR REGRESSION |
|---|---|---|---|---|---|---|---|
| 18 | 4.7 | 4.7 | 9.4 | 1.993 | 45 | 44.88 | Slope = 30.6559 |
| 13 | 3.6 | 3.6 | 7.2 | 1.746 | 37 | 36.90 | Intercept = -16.5245 |
| 10 | 2.5 | 2.5 | 5 | 1.457 | 27 | 26.93 | Corr. coeff. = 0.9963 |
| 7 | 1.7 | 1.7 | 3.4 | 1.204 | 22 | 21.94 | |
| 5 | 1.2 | 1.2 | 2.4 | 1.013 | 14 | 13.96 | |

***Calculations :***

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

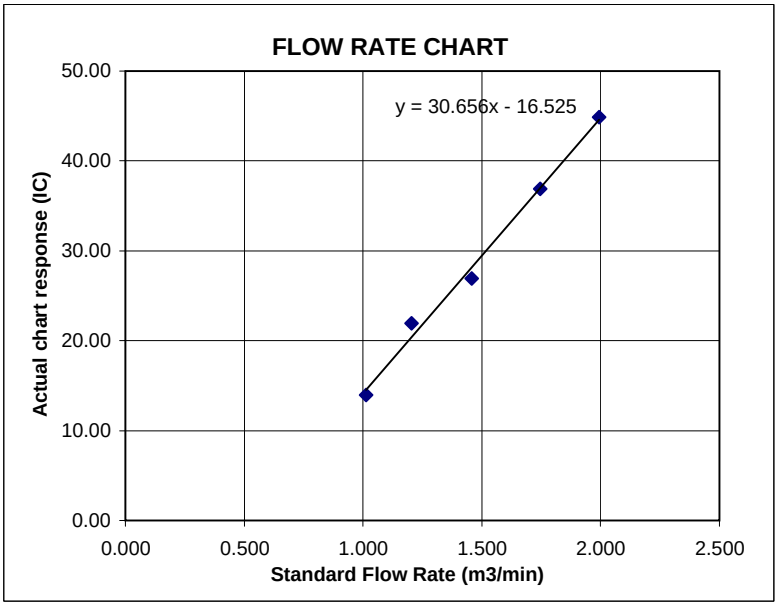
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

***For subsequent calculation of sampler flow:***

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

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



# Annex I

# Meteorological Data in the Reporting Month

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

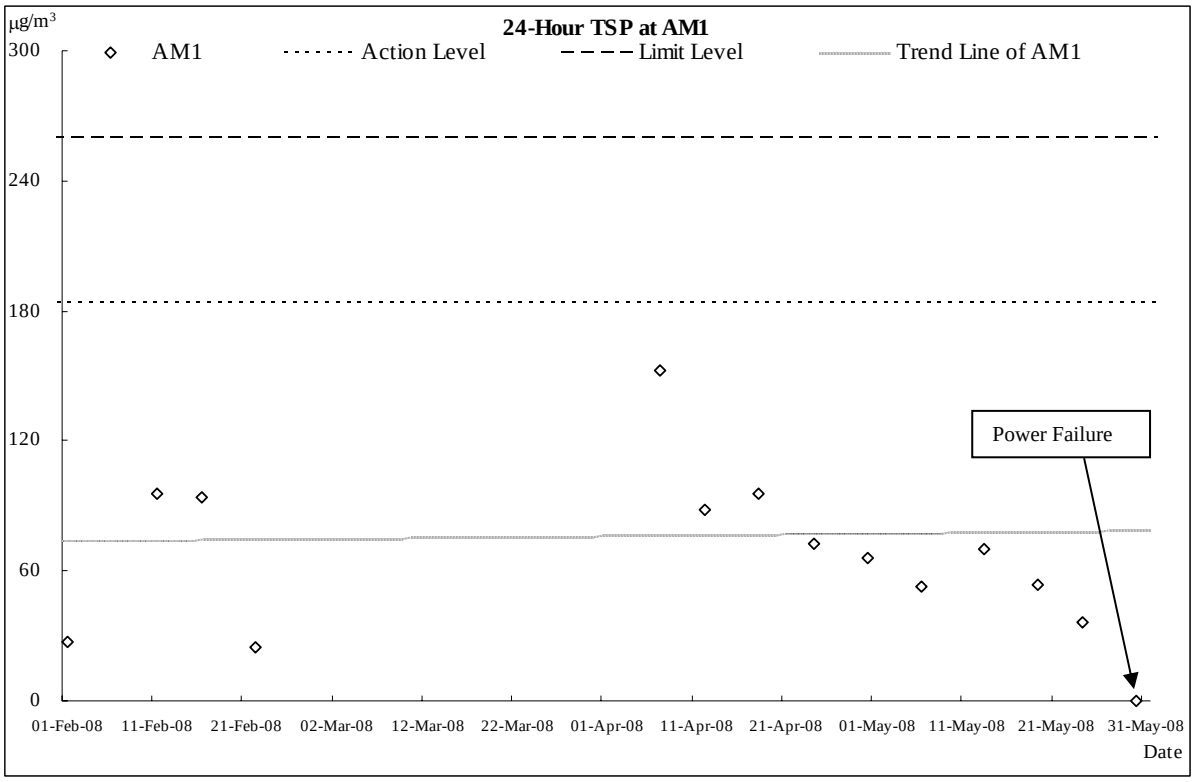
| Date | | Weather | | Lau Fau Shan Station | | | |
|---|---|---|---|---|---|---|---|
| | | | Total Rainfall (mm) | Mean Air Temperature (°C) | Wind Speed (km/h) | Mean Relative Humidity (%) | Wind Direction |
| 1-May-08 | Thu | | | Holiday | | | |
| 2-May-08 | Fri | cloudy/a few showers/moderate | 7.1 | 24.2 | 7.5 | 86 | S/SE |
| 3-May-08 | Sat | misty/sunny intervals/moderate | 2.2 | 26.5 | 11 | 84 | E |
| 4-May-08 | Sun | cloudy/scattered showers/light winds/moderate | Trace | 28 | 13.5 | 72.5 | S/SE |
| 5-May-08 | Mon | sunny intervals/light winds/fresh/scattered showers/squally thunderstorm | 4.5 | 25.4 | 9 | 83.5 | S/SE |
| 6-May-08 | Tue | cloudy/rain/moderate/fresh | 21 | 23.9 | 19.5 | 81.5 | E |
| 7-May-08 | Wed | fine/mist/moderate | Trace | 27 | 12.5 | 76.2 | E |
| 8-May-08 | Thu | fine/hot/light winds | Trace | 27.1 | 14.2 | 77 | SE |
| 9-May-08 | Fri | cloudy/moderate/fresh/scattered showers | 0 | 28.7 | 13.5 | 79.5 | W |
| 10-May-08 | Sat | cloudy/showers/sunny intervals/moderate/fresh | 3.5 | 23 | 16.5 | 74.5 | NE |
| 11-May-08 | Sun | cloudy/showers/moderate/fresh | Trace | 21.3 | 13.4 | 78.5 | W |
| 12-May-08 | Mon | | | Holiday | | | |
| 13-May-08 | Tue | fine/very dry/moderate/fresh | Trace | 21.3 | 12.5 | 60 | E |
| 14-May-08 | Wed | fine/dry/moderate/fresh | 0 | 24.4 | 12.5 | 59.5 | E |
| 15-May-08 | Thu | fine/dry/haze/hot/moderate | 0 | 24.3 | 13 | 60 | E/SE |
| 16-May-08 | Fri | fine/dry/haze/hot/moderate | 0 | 24.3 | 14 | 68.5 | SE |
| 17-May-08 | Sat | cloudy/sunny intervals/moderate | 0 | 25.5 | 14 | 63.5 | SE |
| 18-May-08 | Sun | cloudy/sunny intervals/moderate | Trace | 25.3 | 16 | 76.5 | S/SE |
| 19-May-08 | Mon | cloudy/rain/moderate | 20.1 | 23 | 13 | 91 | N/NW |
| 20-May-08 | Tue | cloudy/overcast/rain/fresh/strong | 32.9 | 20.6 | 12 | 95.5 | E/NE |
| 21-May-08 | Wed | cloudy/a few showers/moderate | Trace | 22.8 | 14 | 90.5 | E/NE |
| 22-May-08 | Thu | cloudy/rain/mist/moderate | 1.4 | 26 | 11 | 88 | E |
| 23-May-08 | Fri | sunny periods/isolated showers/moderate | 0.3 | 27.1 | 9.5 | 84.5 | E/SE |
| 24-May-08 | Sat | hot/sunny periods/isolated showers/moderate | 0.4 | 28.4 | 15 | 79 | S/SE |
| 25-May-08 | Sun | sunny periods/a few showers/moderate/fresh | 0.3 | 28 | 15.5 | 80.5 | SE |
| 26-May-08 | Mon | sunny periods/a few showers/moderate/fresh | 9.9 | 26.2 | 11 | 84 | S/SE |
| 27-May-08 | Tue | a few showers/sunny periods/moderate/fresh | Trace | 29 | 15.5 | 79.5 | S/SE |
| 28-May-08 | Wed | scattered showers/squally thunderstorms/sunny intervals/moderate/fresh | 6.9 | 27.6 | 22 | 80.5 | S/SW |
| 29-May-08 | Thu | cloudy/rain/squally thunderstorms/moderate/fresh | 60.6 | 26.6 | 21 | 87.5 | S/SE |
| 30-May-08 | Fri | cloudy/overcast/rain/squally thunderstorms/moderate/fresh | 39 | 25.7 | 12 | 87 | S/SW |
| 31-May-08 | Sat | cloudy/rain/thunderstorms/moderate | 0.7 | 26.4 | 7.5 | 90 | E/SE |

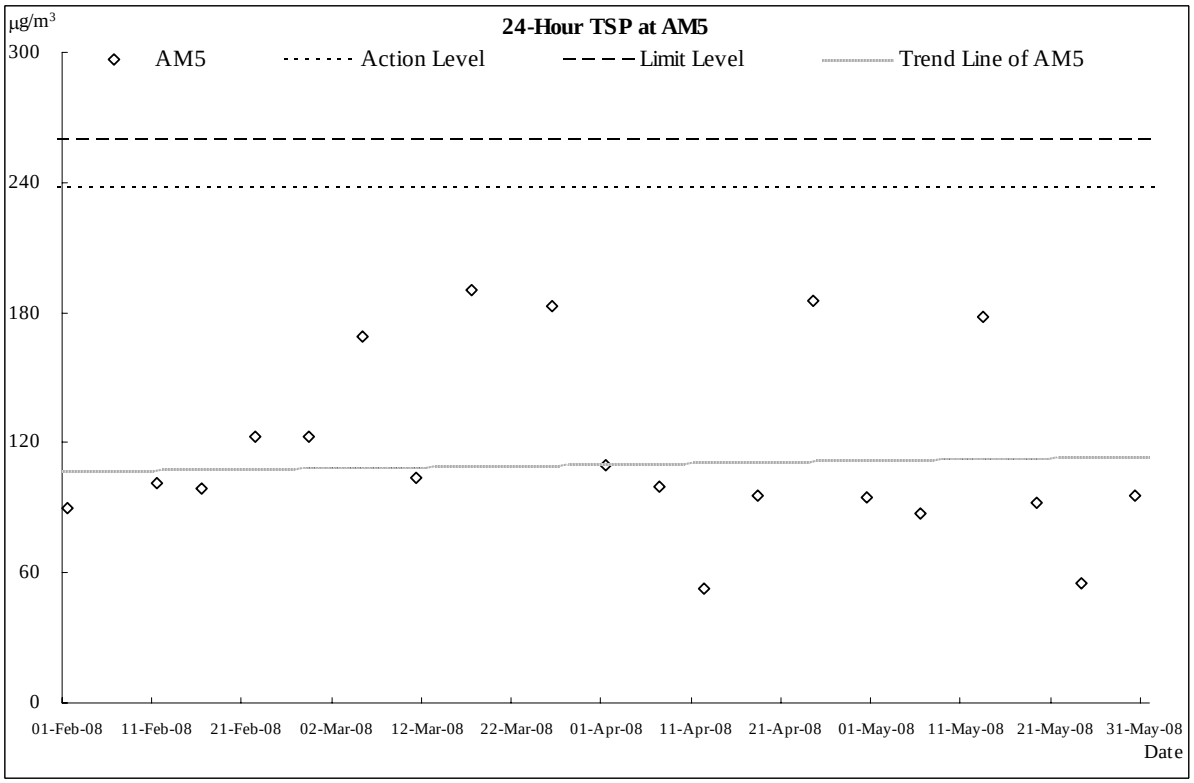
# Annex J

# Graphical Plots of Air Quality and Construction Noise Monitoring Results

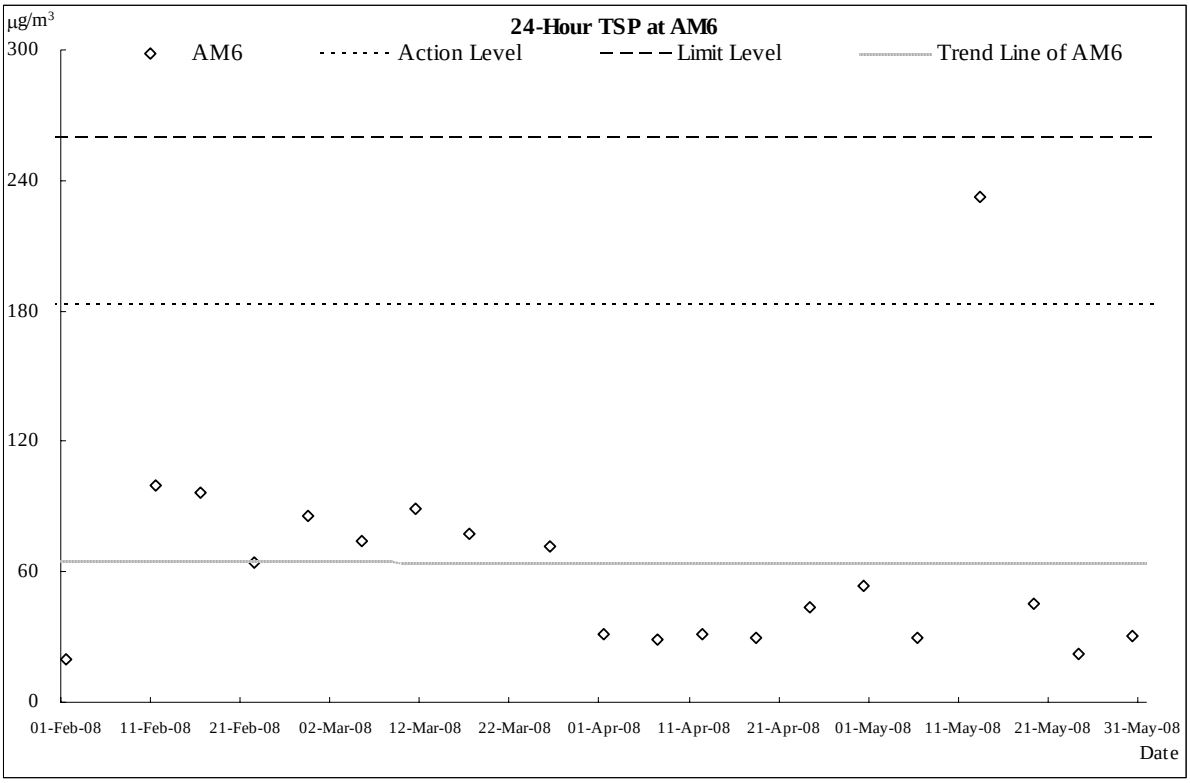
# Air Quality

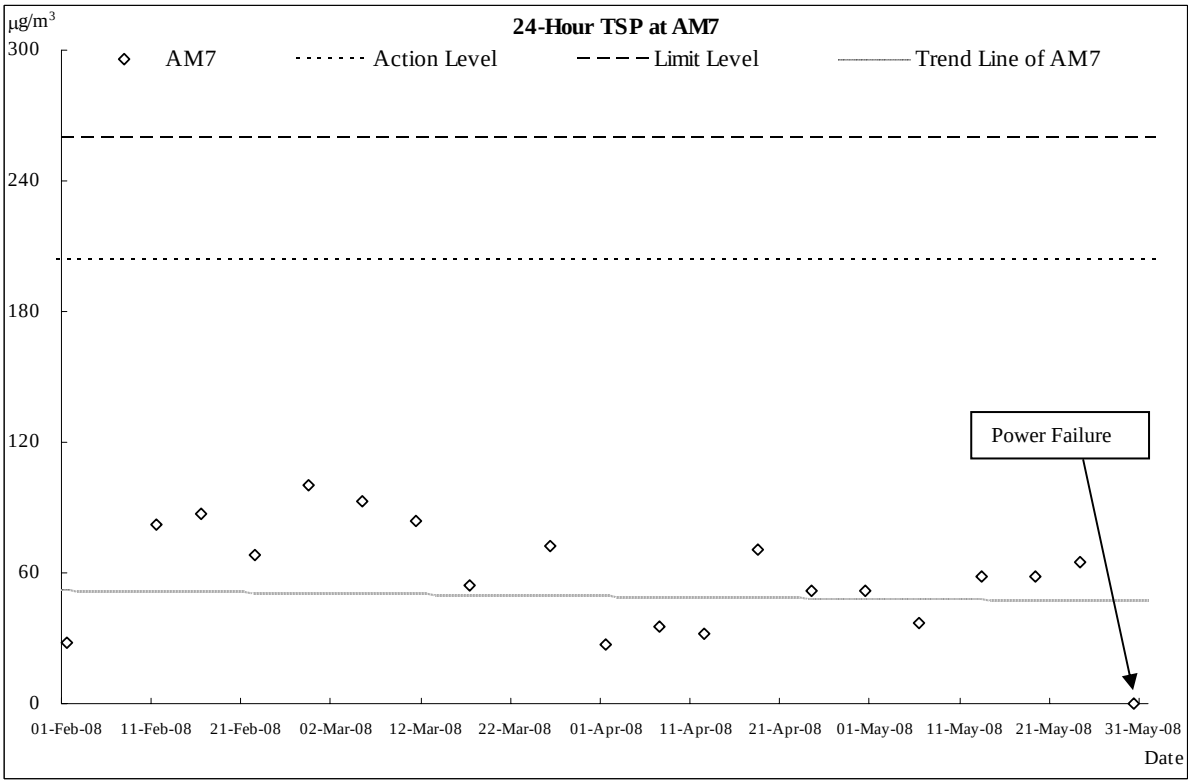
# Air Quality Monitoring Results



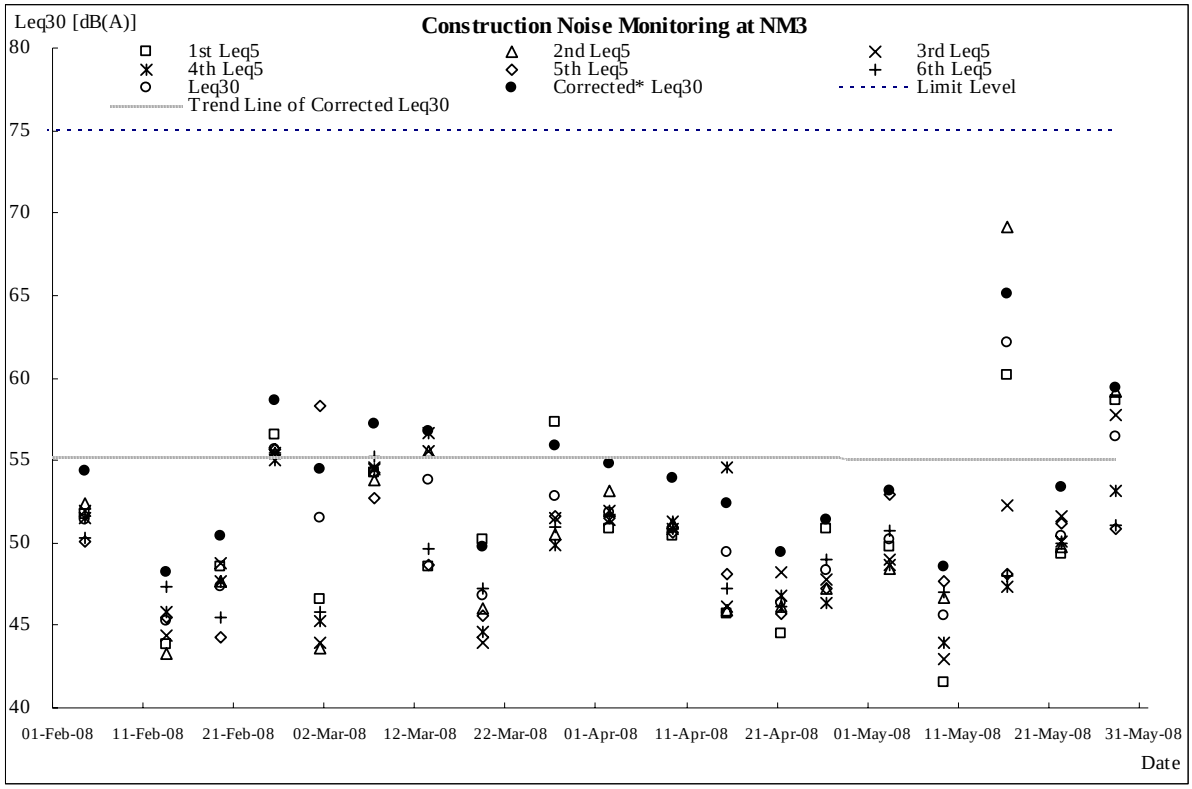
# Air Quality Monitoring Results

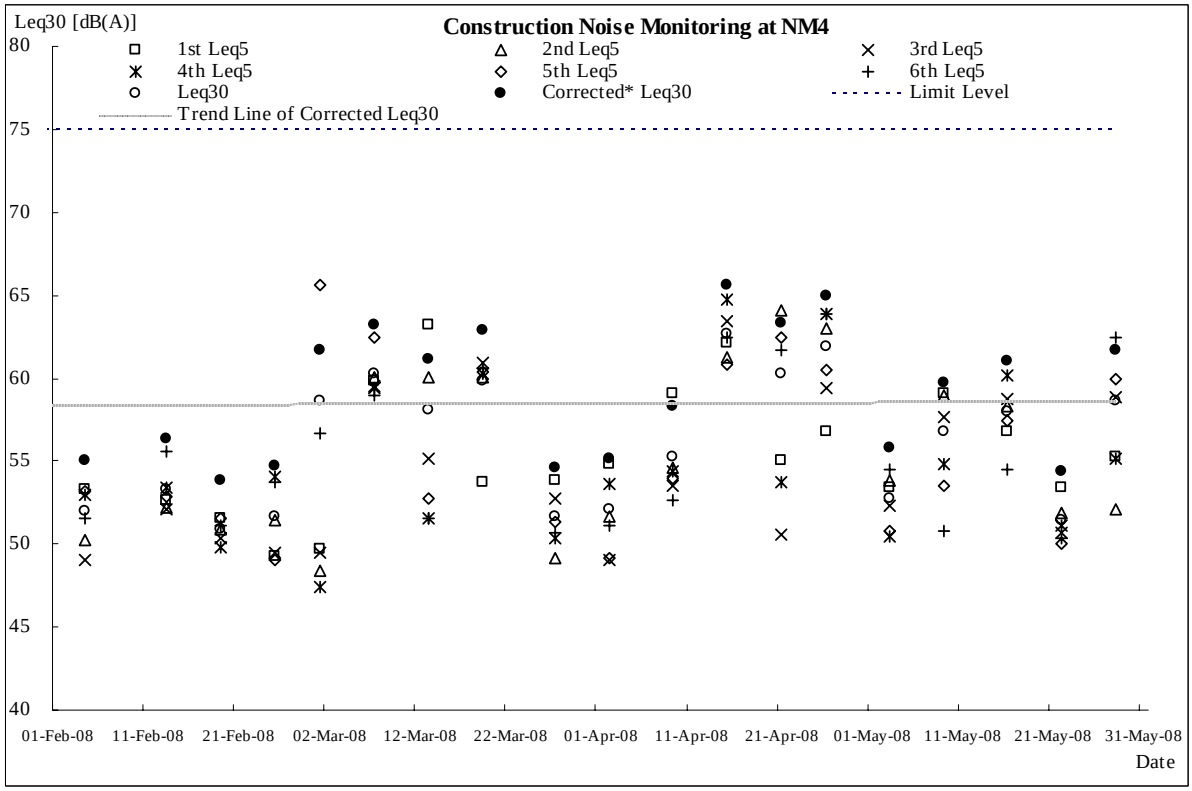


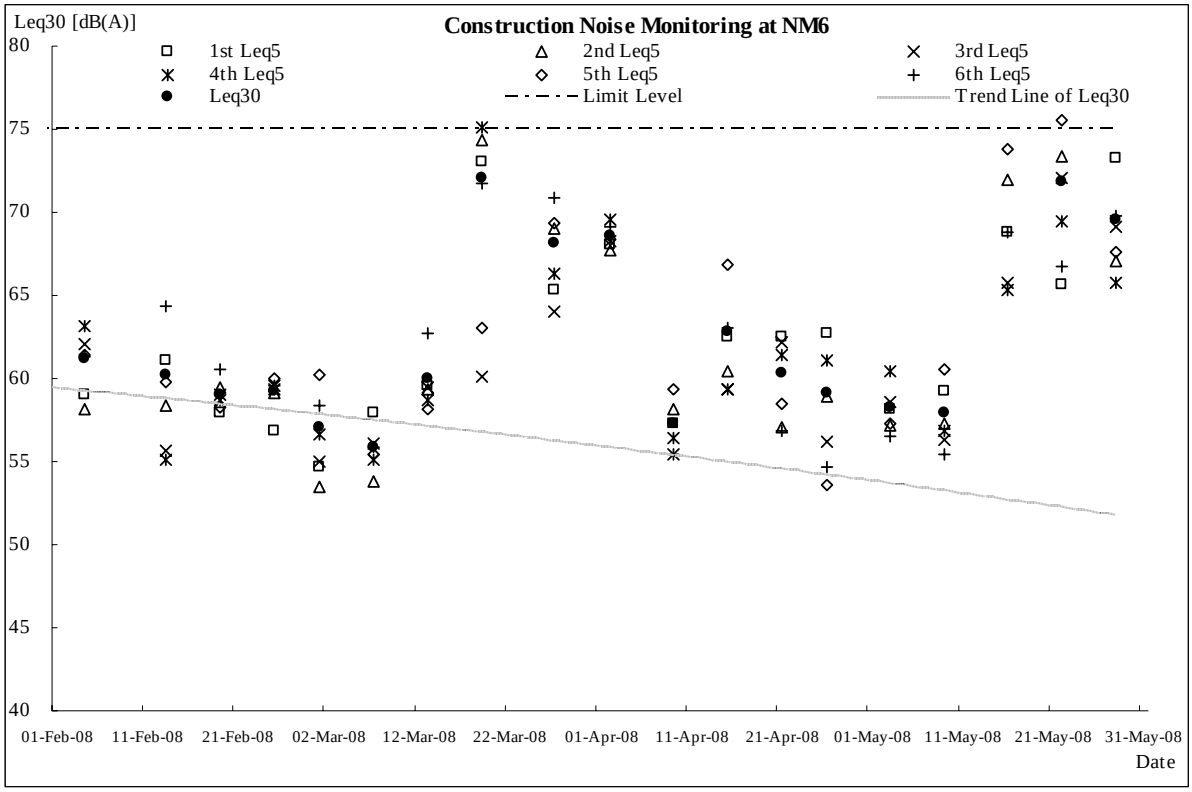
# Construction Noise

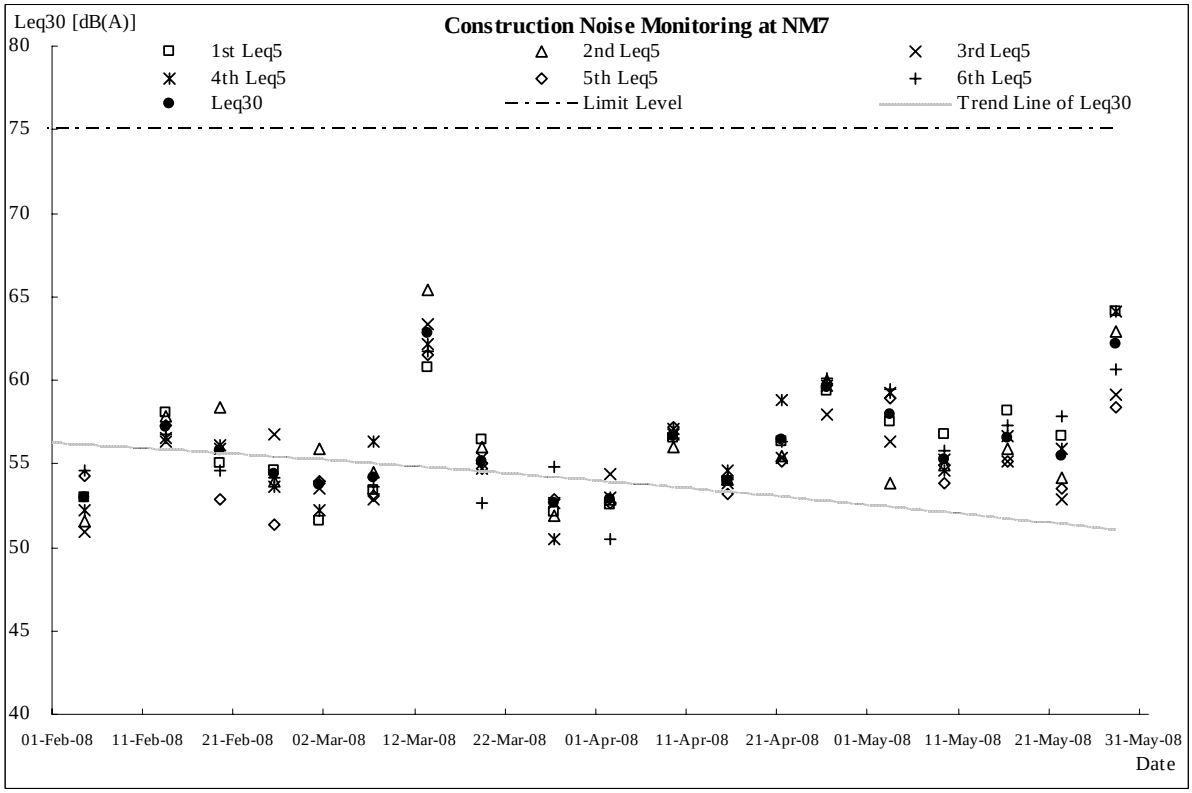
# Construction Noise Monitoring Results



# Construction Noise Monitoring Results



# Annex K

# Proforma of Site Inspection & IEC Audit in the Reporting Month

AUES

# Site Inspection Checklist (SF-17)

| | | | |
|---|---|---|---|
| Project | DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long | Contractor: | Leader Civil Engineering Corp. Ltd |
| | | Engineer: | Babtie Asia Ltd |
| Inspected by: | ET Auditor: Ben Tam | IEC: | Mott Connell Ltd |
| | Contractor Rep: Edwin Leung | Environmental Team: | Action-United Environmental Services & Consulting |
| | IEC's Rep: Joseph Chan | Inspection Date & Time: | 06 May 2008 (10:00) |
| | RE's Rep: | Checklist Reference No.: | DSD-AT060508 |

**General Meteorological Information**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Weather | [ ] Sunny | [✓] Fine | [ ] Cloudy | [ ] Overcast | [ ] Drizzle | [ ] Rain | [ ] Hazy |
| Temp: | 23 °C | | | | | | |
| Humidity: | [ ] High (RH > 90%) | [✓] Moderate (90% > RH > 50%) | [ ] Low (RH < 50%) | | | | |
| Wind: | [ ] Calm | [ ] Light | [✓] Breeze | [ ] Strong | | | |

| Air Quality | Yes | NO | NA | NC | Follow-up | Remarks |
|---|---|---|---|---|---|---|
| Is hoarding of not less than 2.4m provided? | ✓ | | | | | |
| Are site vehicles traveling within controlled speed limit? | ✓ | | | | | |
| Are site vehicles movement confined to designated haul roads? | ✓ | | | | | |
| Are public roads outside site exits kept clean and free from dust? | ✓ | | | | | Remarks 2 |
| Are haul roads and unpaved surfaces watered regularly to avoid dust generation? | ✓ | | | | | |
| Are there wheel washing facilities provided at site exits? | ✓ | | | | | |
| Is water spraying used during the main dust-generating activities? | ✓ | | | | | |
| Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet? | ✓ | | | | | |
| Is exposed area of ground covered or watered frequently? | ✓ | | | | | |
| Are load on vehicles covered by clean impervious sheeting? | ✓ | | | | | |
| Are vehicles and equipment switched off while not in use? | ✓ | | | | | |
| Are smoky emissions from plants/equipment avoided? | ✓ | | | | | |
| Is open burning avoided? | ✓ | | | | | |

Observable dust sources: [✓] Wind erosion; [ ] Vehicle/equipment movements; [ ] Loading/unloading of materials; [✓] Others Nil

**Construction Noise**

| | Yes | NO | NA | NC | Follow-up | Remarks |
|---|---|---|---|---|---|---|
| Are the construction works scheduled to minimize noise nuisance? | ✓ | | | | | |
| Are the works or equipment sited to minimize noise nuisance? | ✓ | | | | | |
| Are all plant and equipment well maintained and in good operating condition? | ✓ | | | | | |
| Is idle equipment turned off or throttled down? | ✓ | | | | | |
| Is powered mechanical equipment covered or shielded by appropriate acoustic materials? | ✓ | | | | | |
| Is silenced equipment used where appropriate? | ✓ | | | | | |
| Are noise enclosures or noise barriers used where necessary? | ✓ | | | | | |
| Does specified equipment has valid noise label? | ✓ | | | | | |
| Are Construction Noise Permits (CNPs) available for inspection? | | | ✓ | | | |

Major Noise Source: [ ] Traffic; [✓] Construction activities inside the site; [ ] Construction activities outside of site; [ ] Others Nil

| Water Quality & Drainage | | Yes | NO | NA | NC | Follow-up | Remarks |
|---|---|---|---|---|---|---|---|
| Is a wastewater discharge license obtained for the Project? | | ✓ | | | | | |
| Is site effluent discharged in accordance with the discharge license? | | ✓ | | | | | |
| Is the discharge of silty water avoided? | | ✓ | | | | | |
| Is drainage adequate? | | ✓ | | | | | |
| Is drainage system well maintained? | | ✓ | | | | | |
| Are there temporary ditches for runoff discharge into appropriate watercourse? | | ✓ | | | | | |
| Are there sedimentation tanks for settling runoff prior to discharge? | | ✓ | | | | | |
| Are the sedimentation tanks: | Constructed of pre-formed individual cells? | ✓ | | | | | |
| | With adequate capacity? | ✓ | | | | | |
| | Free from silt and sediment? | | ✓ | | | | Remarks 5 |
| Are there neutralization tanks for concrete batching/mixing discharge? | | | | ✓ | | | |
| Are there oil interceptors in drainage system? | | | | ✓ | | | |
| Is wheel wash facility provided at every site exit? | | ✓ | | | | | |
| Are vehicles and plant cleaned of earth, mud & debris before leaving the site? | | ✓ | | | | | |
| Are wheel washing facilities regularly inspected and maintained? | | ✓ | | | | | |
| Are toilets provided on site? If so, are they properly maintained? | | ✓ | | | | | |
| Are manholes covered and sealed? | | ✓ | | | | | |
| Is oil leakage or spillage avoided? | | ✓ | | | | | |
| **Waste Management and Potential Land Contamination** | | | | | | | |
| General Refuse: | Are receptacles (rubbish bins) available? | ✓ | | | | | |
| | Is there regular and proper disposal? | | ✓ | | | | Remarks 4 |
| | Is proper sorting and recycling implemented? | ✓ | | | | | |
| Construction Waste: | Is generation of construction waste minimized? | ✓ | | | | | |
| | Is waste sorting implemented on site? | ✓ | | | | | |
| | Is construction waste reused where practicable? | ✓ | | | | | |
| | Is construction waste properly disposed of? | ✓ | | | | | |
| | Are disposal records available for inspection? | ✓ | | | | | |
| Chemical waste/waste oil | Is there designated storage area? | ✓ | | | | | |
| | Is chemical waste stored properly? | ✓ | | | | | |
| | Is there proper disposal? | ✓ | | | | | |
| | Is chemical waste license available for inspection? | ✓ | | | | | |
| Excavated Materials | Do excavated materials appear uncontaminated? | ✓ | | | | | |
| | Are appropriate procedures followed if contaminated materials exist? | ✓ | | | | | |
| | Are disposal records available for inspection? | ✓ | | | | | |
| Chemical/Fuel | Is chemical/fuel stored in bunded area? | ✓ | | | | | |
| | Is bund capacity adequate (>110% of the largest tank)? | ✓ | | | | | |
| | Are storage areas lockable? | ✓ | | | | | |
| Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided? | | ✓ | | | | | |

**Remarks:**

***Previous Audit Follow-up:***

1. Stagnant waster at Nam San Wai pumping station was cleared.
2. General refuse at Nam San Wai working portion was cleared.
3. Turbidly water was observed discharge from the sedimentation tank at Nam San Wai working portion, the contractor was reminded to improve the efficiency of the sedimentation tank.

***Observations Recorded in this Site Inspection:***

4. No environmental observation during the site inspection. Contractor was reminded to keep working areas clear and tidy.

Signatures:

| Env. Auditor | Contractor's Representative | IC(E) Auditor | Resident Site Staff |
|---|---|---|---|
| Name: Ben Tam | Name: Benny Lam | Name: | Name: |

AUES

# Site Inspection Checklist (SF-17)

| | | | |
|---|---|---|---|
| **Project** | **DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long** | **Contractor:** | **Leader Civil Engineering Corp. Ltd** |
| | | **Engineer:** | **Babtie Asia Ltd** |
| **Inspected by:** | **ET Auditor:** **Ben Tam** | **IEC:** | **Mott Connell Ltd** |
| | **Contractor Rep:** **Edwin Leung** | **Environmental Team:** | **Action-United Environmental Services & Consulting** |
| | **IEC's Rep:** — | **Inspection Date & Time:** | **16 May 2008 (10:00)** |
| | **RE's Rep:** | **Checklist Reference No.:** | **DSD-AT060508** |

**General Meteorological Information**

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

**Temp:** [29] °C

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

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

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

Observable dust sources [✓] Wind erosion [ ] Vehicle/equipment movements [ ] Loading/unloading of materials [✓] Others Nil

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

Major Noise Source [ ] Traffic [✓] Construction activities inside the site [ ] Construction activities outside of site [ ] Others Nil

| Water Quality & Drainage | | Yes | NO | NA | NC | Follow-up | Remarks |
|---|---|---|---|---|---|---|---|
| Is a wastewater discharge license obtained for the Project? | | ✓ | | | | | |
| Is site effluent discharged in accordance with the discharge license? | | ✓ | | | | | |
| Is the discharge of silty water avoided? | | ✓ | | | | | |
| Is drainage adequate? | | ✓ | | | | | |
| Is drainage system well maintained? | | ✓ | | | | | |
| Are there temporary ditches for runoff discharge into appropriate watercourse? | | ✓ | | | | | |
| Are there sedimentation tanks for settling runoff prior to discharge? | | ✓ | | | | | |
| Are the sedimentation tanks: | Constructed of pre-formed individual cells? | ✓ | | | | | |
| | With adequate capacity? | ✓ | | | | | |
| | Free from silt and sediment? | | ✓ | | | | Remarks 3 |
| Are there neutralization tanks for concrete batching/mixing discharge? | | | | ✓ | | | |
| Are there oil interceptors in drainage system? | | | | ✓ | | | |
| Is wheel wash facility provided at every site exit? | | ✓ | | | | | |
| Are vehicles and plant cleaned of earth, mud & debris before leaving the site? | | ✓ | | | | | |
| Are wheel washing facilities regularly inspected and maintained? | | ✓ | | | | | |
| Are toilets provided on site? If so, are they properly maintained? | | ✓ | | | | | |
| Are manholes covered and sealed? | | ✓ | | | | | |
| Is oil leakage or spillage avoided? | | ✓ | | | | | |
| **Waste Management and Potential Land Contamination** | | | | | | | |
| General Refuse: | Are receptacles (rubbish bins) available? | ✓ | | | | | |
| | Is there regular and proper disposal? | | ✓ | | | | Remarks 2 |
| | Is proper sorting and recycling implemented? | ✓ | | | | | |
| Construction Waste: | Is generation of construction waste minimized? | ✓ | | | | | |
| | Is waste sorting implemented on site? | ✓ | | | | | |
| | Is construction waste reused where practicable? | ✓ | | | | | |
| | Is construction waste properly disposed of? | ✓ | | | | | |
| | Are disposal records available for inspection? | ✓ | | | | | |
| Chemical waste/waste oil | Is there designated storage area? | ✓ | | | | | |
| | Is chemical waste stored properly? | ✓ | | | | | |
| | Is there proper disposal? | ✓ | | | | | |
| | Is chemical waste license available for inspection? | ✓ | | | | | |
| Excavated Materials | Do excavated materials appear uncontaminated? | ✓ | | | | | |
| | Are appropriate procedures followed if contaminated materials exist? | ✓ | | | | | |
| | Are disposal records available for inspection? | ✓ | | | | | |
| Chemical/Fuel | Is chemical/fuel stored in bunded area? | ✓ | | | | | |
| | Is bund capacity adequate (>110% of the largest tank)? | ✓ | | | | | |
| | Are storage areas lockable? | ✓ | | | | | |
| Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided? | | ✓ | | | | | |

**Remarks:**

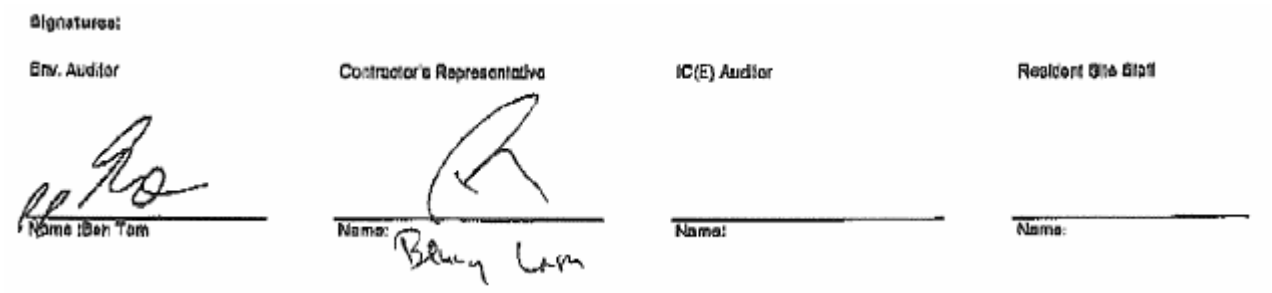
***Previous Audit Follow-up:***

1. Stagnant waster at Nam San Wai pumping station was cleared.
2. General refuse at Nam San Wai working portion was cleared.
3. Turbidly water was observed discharge from the sedimentation tank at Nam San Wai working portion, the contractor was reminded to improve the efficiency of the sedimentation tank.

***Observations Recorded in this Site Inspection:***

4. No environmental observation during the site inspection. Contractor was reminded to keep working areas clear and tidy.

**Signatures:**



AUES

# Site Inspection Checklist (SF-17)

| | | | |
|---|---|---|---|
| **Project** | **DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long** | **Contractor:** | **Leader Civil Engineering Corp. Ltd** |
| | | **Engineer:** | **Babtie Asia Ltd** |
| **Inspected by:** | **ET Auditor:** **Sylvie Wong** | **IEC:** | **Mott Connell Ltd** |
| | **Contractor Rep:** **Edwin Leung** | **Environmental Team:** | **Action-United Environmental Services & Consulting** |
| | **IEC's Rep:** | **Inspection Date & Time:** | **20 May 2008 (10:20)** |
| | **RE's Rep:** **Mr Tsang** | **Checklist Reference No.:** | **DSD-AT200508** |

**General Meteorological Information**

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

**Temp:** [21] °C

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

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

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

Observable dust sources [✓] Wind erosion [ ] Vehicle/equipment movements [ ] Loading/unloading of materials [✓] Others Nil

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

Major Noise Source [ ] Traffic [✓] Construction activities inside the site [ ] Construction activities outside of site [ ] Others Nil

| Water Quality & Drainage | | Yes | NO | NA | NC | Follow-up | Remarks |
|---|---|---|---|---|---|---|---|
| Is a wastewater discharge license obtained for the Project? | | ✓ | | | | | |
| Is site effluent discharged in accordance with the discharge license? | | ✓ | | | | | |
| Is the discharge of silty water avoided? | | ✓ | | | | | |
| Is drainage adequate? | | ✓ | | | | | |
| Is drainage system well maintained? | | ✓ | | | | | |
| Are there temporary ditches for runoff discharge into appropriate watercourse? | | ✓ | | | | | |
| Are there sedimentation tanks for settling runoff prior to discharge? | | ✓ | | | | | |
| Are the sedimentation tanks: | Constructed of pre-formed individual cells? | ✓ | | | | | |
| | With adequate capacity? | ✓ | | | | | |
| | Free from silt and sediment? | | ✓ | | | | Remarks 5 |
| Are there neutralization tanks for concrete batching/mixing discharge? | | | | ✓ | | | |
| Are there oil interceptors in drainage system? | | | | ✓ | | | |
| Is wheel wash facility provided at every site exit? | | ✓ | | | | | |
| Are vehicles and plant cleaned of earth, mud & debris before leaving the site? | | ✓ | | | | | |
| Are wheel washing facilities regularly inspected and maintained? | | ✓ | | | | | |
| Are toilets provided on site? If so, are they properly maintained? | | ✓ | | | | | |
| Are manholes covered and sealed? | | ✓ | | | | | |
| Is oil leakage or spillage avoided? | | | ✓ | | | | Remark 4 |
| **Waste Management and Potential Land Contamination** | | | | | | | |
| General Refuse: | Are receptacles (rubbish bins) available? | ✓ | | | | | |
| | Is there regular and proper disposal? | ✓ | | | | | |
| | Is proper sorting and recycling implemented? | ✓ | | | | | |
| Construction Waste: | Is generation of construction waste minimized? | ✓ | | | | | |
| | Is waste sorting implemented on site? | ✓ | | | | | |
| | Is construction waste reused where practicable? | ✓ | | | | | |
| | Is construction waste properly disposed of? | ✓ | | | | | |
| | Are disposal records available for inspection? | ✓ | | | | | |
| Chemical waste/waste oil | Is there designated storage area? | ✓ | | | | | |
| | Is chemical waste stored properly? | ✓ | | | | | |
| | Is there proper disposal? | ✓ | | | | | |
| | Is chemical waste license available for inspection? | ✓ | | | | | |
| Excavated Materials | Do excavated materials appear uncontaminated? | ✓ | | | | | |
| | Are appropriate procedures followed if contaminated materials exist? | ✓ | | | | | |
| | Are disposal records available for inspection? | ✓ | | | | | |
| Chemical/Fuel | Is chemical/fuel stored in bunded area? | ✓ | | | | | |
| | Is bund capacity adequate (>110% of the largest tank)? | ✓ | | | | | |
| | Are storage areas lockable? | ✓ | | | | | |
| Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided? | | ✓ | | | | | |

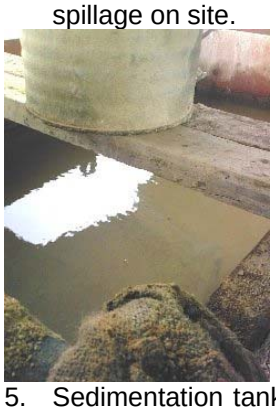
**Remarks:**

***Previous Audit Follow-up:***

1. Stagnant water was observed at Nam San Wai pumping station (Ⅰbar).
2. General refuse at Nam San Wai working portion had been cleaned.
3. Turbid water discharge from the sedimentation tank at Nam San Wai working portion had been improved.

***Observations Recorded in this Site Inspection:***

4. Oil spillage was observed at Nam San Wai pumping station, Contractor was reminded to prevent any oil spillage on site.



5. Sedimentation tanks at Nam San Wai working portion were observed to be mostly filled by sand. Contractor was reminded to improve the efficiency of the sedimentation tank.

6. Stagnant water was observed at Nam San Wai pumping station (Ⅰbar), the contractor was reminded to implement mitigation measures to prevent mosquito breeding.

**Signatures:**

Signatures:

| Env. Auditor | Contractor's Representative | ET&(E) Auditor | Resident Site Staff |
|---|---|---|---|
| Name :Sylvia Wong | Name: | Name: | Name: |

AUES

# Site Inspection Checklist (SF-17)

| | | | |
|---|---|---|---|
| **Project** | **DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long** | **Contractor:** | **Leader Civil Engineering Corp. Ltd** |
| | | **Engineer:** | **Babtie Asia Ltd** |
| **Inspected by:** | **ET Auditor:** **Sylvie Wong** | **IEC:** | **Mott Connell Ltd** |
| | **Contractor Rep:** **Edwin Leung** | **Environmental Team:** | **Action-United Environmental Services & Consulting** |
| | **IEC's Rep:** **Joseph Chan** | **Inspection Date & Time:** | **27 May 2008 (09:30)** |
| | **RE's Rep:** **Mr Tsang** | **Checklist Reference No.:** | **DSD-AT270508** |

**General Meteorological Information**

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

**Temp:** [29] °C

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

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

| **Air Quality** | **Yes** | **NO** | **NA** | **NC** | **Follow-up** | **Remarks** |
|---|---|---|---|---|---|---|
| Is hoarding of not less than 2.4m provided? | ✓ | | | | | |
| Are site vehicles traveling within controlled speed limit? | ✓ | | | | | |
| Are site vehicles movement confined to designated haul roads? | ✓ | | | | | |
| Are public roads outside site exits kept clean and free from dust? | ✓ | | | | | |
| Are haul roads and unpaved surfaces watered regularly to avoid dust generation? | | | ✓ | | | |
| Are there wheel washing facilities provided at site exits? | ✓ | | | | | |
| Is water spraying used during the main dust-generating activities? | | | ✓ | | | |
| Are the excavated or stockpile of dusty materials kept wet or covered by impermeable/tarpaulin sheet? | ✓ | | | | | Remark 5 |
| Is exposed area of ground covered or watered frequently? | | | ✓ | | | |
| Are load on vehicles covered by clean impervious sheeting? | ✓ | | | | | |
| Are vehicles and equipment switched off while not in use? | ✓ | | | | | |
| Are smoky emissions from plants/equipment avoided? | ✓ | | | | | |
| Is open burning avoided? | ✓ | | | | | |

Observable dust sources [✓] Wind erosion [ ] Vehicle/equipment movements [ ] Loading/unloading of materials [✓] Others Nil

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

Major Noise Source [ ] Traffic [✓] Construction activities inside the site [ ] Construction activities outside of site [ ] Others Nil

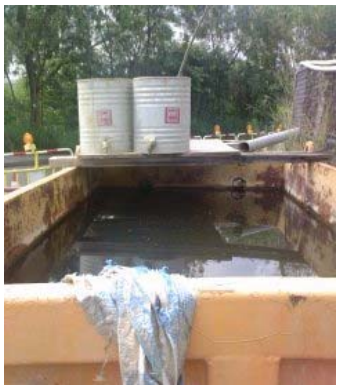
| Water Quality & Drainage | | Yes | NO | NA | NC | Follow-up | Remarks |
|---|---|---|---|---|---|---|---|
| Is a wastewater discharge license obtained for the Project? | | ✓ | | | | | |
| Is site effluent discharged in accordance with the discharge license? | | ✓ | | | | | |
| Is the discharge of silty water avoided? | | ✓ | | | | | |
| Is drainage adequate? | | ✓ | | | | | |
| Is drainage system well maintained? | | ✓ | | | | | |
| Are there temporary ditches for runoff discharge into appropriate watercourse? | | ✓ | | | | | |
| Are there sedimentation tanks for settling runoff prior to discharge? | | ✓ | | | | | |
| Are the sedimentation tanks: | Constructed of pre-formed individual cells? | ✓ | | | | | |
| | With adequate capacity? | ✓ | | | | | |
| | Free from silt and sediment? | | ✓ | | | | Remarks 1,2,3 |
| Are there neutralization tanks for concrete batching/mixing discharge? | | | | ✓ | | | |
| Are there oil interceptors in drainage system? | | | | ✓ | | | |
| Is wheel wash facility provided at every site exit? | | ✓ | | | | | |
| Are vehicles and plant cleaned of earth, mud & debris before leaving the site? | | ✓ | | | | | |
| Are wheel washing facilities regularly inspected and maintained? | | ✓ | | | | | |
| Are toilets provided on site? If so, are they properly maintained? | | ✓ | | | | | |
| Are manholes covered and sealed? | | | | ✓ | | | |
| Is oil leakage or spillage avoided? | | ✓ | | | | | |
| **Waste Management and Potential Land Contamination** | | | | | | | |
| General Refuse: | Are receptacles (rubbish bins) available? | ✓ | | | | | |
| | Is there regular and proper disposal? | | | | | ✓ | Remark 5 |
| | Is proper sorting and recycling implemented? | ✓ | | | | | |
| Construction Waste: | Is generation of construction waste minimized? | ✓ | | | | | |
| | Is waste sorting implemented on site? | ✓ | | | | | |
| | Is construction waste reused where practicable? | ✓ | | | | | |
| | Is construction waste properly disposed of? | ✓ | | | | | |
| | Are disposal records available for inspection? | | | ✓ | | | |
| Chemical waste/waste oil | Is there designated storage area? | ✓ | | | | | |
| | Is chemical waste stored properly? | ✓ | | | | | |
| | Is there proper disposal? | ✓ | | | | | |
| | Is chemical waste license available for inspection? | ✓ | | | | | |
| Excavated Materials | Do excavated materials appear uncontaminated? | ✓ | | | | | |
| | Are appropriate procedures followed if contaminated materials exist? | ✓ | | | | | |
| | Are disposal records available for inspection? | ✓ | | | | | |
| Chemical/Fuel | Is chemical/fuel stored in bunded area? | ✓ | | | | | |
| | Is bund capacity adequate (>110% of the largest tank)? | ✓ | | | | | |
| | Are storage areas lockable? | ✓ | | | | | |
| Is foam, oil, grease or other objectionable matters in water or nearby drains of sewer avoided? | | ✓ | | | | | |

**Remarks:**

***Previous Audit Follow-up:***

1. Sediment had been cleared from the sedimentation tanks at Nam San Wai Road working portion (portion H, under bridge) since last site inspection. However, sediment was observed accumulating in a relatively fast rate. Contractor was suggested to improve the efficiency of the sedimentation tank by providing segregation in tanks or by frequent clearance.

***Observations Recorded in this Site Inspection:***



2. Unused sedimentation tank filled with water was observed at the Nam San Wai Road working portion (portion H). Contractor was reminded to prevent stagnant water from accumulating on site.

3. Sedimentation tanks were observed to be saturated with sediment at Nam Sang Wai Road (next to wetland). Contractor was reminded to prevent discharge of turbid effluent.

4. Contractor was reminded to remove unused sedimentation tank from site and avoid stagnant water from accumulating.

5. Contractor was reminded to avoid waste/C&D material from accumulating on-site at working area opposite Pok Oi Hospital and implement dust mitigation measures for stockpiles.

Signatures:

Env. Auditor

Name :Sylvia Wong

Contractor's Representative

Name:

IC(E) Auditor

Name:

Resident Site Staff

Name:

RECEIVED
BY | DATE 28-May-08

Tel: 3126 8888 Fax: 2565

# 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 | 27 May 2008 | Time | 09:47 – 11:30 | Inspected By | Leader: Edwin Leung<br>ET: Sylvia Wong<br>DSD: WK Tsang<br>IEC: Joseph Chan |
| Site Location | NSW Road Sha Ho Pumping Station Ko Po Road near Yuen Long Highway | | | | |

Weather

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Condition | ✓ | Sunny | | Fine | | Overcast | | Drizzle | | Rain | | Storm | | Hazy |
| Temperature | 28°C | | | | Humidity | | High | ✓ | Moderate | | Low | | |
| Wind | | Calm | | Light | ✓ | Breeze | | Strong | | Direction | | | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| 3.7 | • Have dust monitors been provided at the following locations:<br>  ◦ Boundary facing scattered house in NSW (AM1)<br>  ◦ Boundary facing Fung Kat Heung (AM5)<br>  ◦ Boundary facing scattered house near route 3 (AM6) | | | ✓ | | |
| | ***Construction Noise***<br>**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:<br>  ◦ (NM3) Scattered house in NSW<br>  ◦ (NM4) Scattered house in NSW<br>  ◦ (NM6) Scattered house near Route 3<br>  ◦ (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? | | | ✓ | | see observation |
| | • 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? | | | ✓ | | see observation |
| | • Are construction works programmed to minimize surface excavation works during the rainy seasons (April to September)? | | | ✓ | | |
| | • Are slopes minimised and erosion potential reduced? | | | ✓ | | |
| | • Is deposited silt and grit removed regularly and disposed of by spreading evenly over stable, vegetated areas? | | ✓ | | | |

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

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

**OTHER OBSERVATIONS**

Observations (27 May 2008)

① Idled sedimentation tank was noted at NSW Rd. Portion H. Rainwater was accumulated inside the tank. The Contractor indicated they will remove the accumulated rainwater and as well erode / remove the tank or turn it upside down.

② The Contractor was recommended to clear the deposited sediment inside sedimentation Tank at NSW Rd. Portion H. Regular removal of sediment is needed to maintain its efficiency.

③ Drums of grouting additive were placed on ground at NSW Rd. Portion H near the grouting pump. The Contractor was recommended to place all these drums of chemicals inside drip Trays.

④ Muddy water was noted inside sedimentation Tank at NSW Rd. site. Flocculant dosing facility was in place and functioning. No discharge was noted and the Contractor indicated Tank cleaning ~~is~~ has been arranged in the afternoon. The Contractor was reminded to re-circulate / reuse as much as possible site effluent than to ~~discharge~~ discharge

⑤ Rocks and sediments were noted inside the Trapezoidal channel next to the site along Yuen Long Highway opposite Pok Oi Hospital. The Contractor was recommended to clean up the channel.

⑥ Idled sedimentation was found at the same site as ⑤. The Contractor indicated they will remove the Tank back to site office.

Follow-up of last site audit (6 May 2008)

① The Two sedimentation Tanks at NSW Rd. have been connected in series for better settling performance. Installing of baffle walls is to be arranged depending on the performance.

② Pile of rubbish near the entrance of NSW Rd. Portion F (should be Portion H) was removed.

| DSD Representative | Contractor Representative | ETL | IEC |
|---|---|---|---|
| ( ) | ( ) | (Silvie Wong) | (Joseph Chan) 27 May 2008. |

**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**
**27 May 2008**
**Environmental Observations**

## This month's observations

| This month's observations | This month's observations |
|---|---|
| **Housekeeping** | |
|  | **Not Use** |
| 0279: Idled sedimentation tank was noted at NSW Rd. Portion H. Rainwater was accumulated inside the tank. The Contractor indicated they will remove the accumulated rainwater and either remove the tank or turn it upside down. | **Not Use** |
| **Waste** | **Water Quality** |
|  |  |
| 0281: Prior to the previous observation, housekeeping was maintained at NSW Road Portion H, waste was removed. | 0288: The Contractor was recommended to clear the deposited sediment inside sedimentation tank at NSW Rd. Portion H. Regular removal of sediment is needed. |
| **Chemical Storage** | **Water Quality** |
| No Photo |  |
| Drums of grouting additives were placed on ground at NSW Rd. Portion H site near the cement pump. The Contractor was recommended to place all these drums of chemicals inside drip tray. | 0295: Muddy water was noted inside sedimentation tank at NSW Rd. site. Flocculant dosing facility was in place and functioning. No discharge was noted and the Contractor indicated tank cleaning was arranged in the afternoon. The Contractor was reminded to re-circulate or reuse as much as possible site effluent than to discharge. |

grouting

**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**
**27 May 2008**
**Environmental Observations**

| Water Quality | Housekeeping |
|---|---|
|  |  |
| 0303: Rocks and sediments were noted inside the trapezoidal channel next to the site along Yuen Long Highway opposite Pok Oi Hospital. The Contractor was recommended to clean up the channel. | 0302: Idled sedimentation was noted at the site along Yuen Long Highway opposite Pok Oi Hospital. The Contractor indicated they will remove the tank back to site office. |