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

6th Monthly Construction Phase EM&A Report
September 2006

PREPARED FOR

Leader Civil Engineering Corporation Ltd

Quality Index

Date	Reference No.
5 Oct 2006	TCS/00310/06/600/R0094

Prepared by	Reviewed by	Certified by	Approved by	Verified by
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Executive Summary

ES.01 Leader Civil Engineering Corporation Ltd (the Contractor) has been awarded the DSD Contract DC/2005/02 Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long (the Project). The Project requires an Environmental Monitoring and Audit (EM&A) program to be implemented by an Environmental Team (ET) throughout the contract period in compliance with the requirements as stated in the project Environmental Permit (EP-220/2005) and the project's Updated EM&A (Designated Elements) Manual.

ES.02 This is the 6th Monthly Construction Phase EM&A Report (September 2006, Report No. 6) reporting the environmental impact monitoring and audit (EM&A) conducted from 1 to 30 September 2006. The EM&A in September 2006 covered air quality, noise and waste management.

Breach of Action and Limit (AL) Levels

ES.03 There was no breach of Action or Limit level for air and noise monitoring in this reporting month.

Complaint Log

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

Notification of Any Summons and Successful Prosecution

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

Reporting Changes

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

Future Key Issues

ES.07 Construction activities to be undertaken in October 2006 include site hoarding erection, site clearance and formation work at Kam Tin pumping station, site investigation works at the Nam Sang Wai pumping station, pipe jacking for drainage work at S4, trench excavation and sorting erection for drainage work at S5, S6 and S7. Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

1.0 BASIC PROJECT INFORMATION

1.01 Leader Civil Engineering Corporation Ltd (the Contractor) has been awarded the DSD Contract DC/2005/02 Construction of Sewers, Rising Mains and Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long (the Project). The Project is part of the Yuen Long and Kam Tin Sewerage and Sewage Disposal (YLKTSSD) Scheme. A site layout map showing the site boundary and the work areas is shown in ***Annex A***.

1.02 This 6th Monthly Construction Phase EM&A Report (September 2006, Report No. 6) summarizes the impact monitoring results and audit findings in the reporting period from 1 to 30 September 2006.

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 for the Reporting Month

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

Management Structure

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

Works Undertaken during the Month

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

Nam Sang Wai Pumping Station (P3)
- Excavation and shoring installation

Nam Sang Wai Road (S4)
- Grouting for ground treatment

Pok Wai South Road (S5)
- Pipe Jacking
- Grouting for ground treatment

2.0 ENVIRONMENTAL STATUS

Work Undertaken during the 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 September 2006 with Illustrations of Mitigation Measures

Location	Description of Construction Activities	Environmental Mitigation Measures	EM&A Ref.
P3 (Nam Sang Wai Pumping Station)	• Excavation and shoring installation	• Erect 2.4m high noise barrier hoarding around the works area	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
		• 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
S5 (Pok Wai South Road)	• Pipe Jacking • Grouting for ground treatment	• Maximize the use of quiet PME on site	B1, B2 & F5
		• Apply and obtain appropriate waste disposal licenses	D1
		• 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
		• Recycle wheel washing water and provide sedimentation tanks for treating site discharge.	-
		• Remove dust and spray water at the construction access	A2
		• Cover or provide shelters to the stockpiles / operation of dusty material properly	A3
		• Spray water to all dusty materials immediately before loading and unloading	A4
		• Wash the wheels of vehicles before leaving the site	A5
		• Install and use power-operated cover at the dump trucks	A6
		• 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)	Grouting for ground treatment	• 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.	-
		• Remove dust and spray water at the construction access	A2
		• Cover or provide shelters to the stockpiles / operation of dusty material properly	A3
		• Spray water to all dusty materials immediately before loading and unloading	A4
		• Wash the wheels of vehicles before leaving the site	A5
		• 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
		• Handle, store and dispose of chemical wastes as per relevant regulations	D2, D3 & D4
		• 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.	-

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 and four noise monitoring stations under the project EP. In this reporting month, the monitoring was carried out at two designated air (AM1 & AM7) and two noise (NM3 & NM4) 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
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

2.05 The two remaining air (AM5 & AM6) and noise (NM6 & NM7) stations were selected and approved by IEC and RE in end September 2006. Based on the Contractor's revised construction progress, baseline monitoring at the remaining air monitoring station AM6 and noise monitoring station NM6 station will undertake in early October 2006, and air monitoring station AM5 and noise monitoring station NM7 will be commence end October 2006.

2.06 Impact Monitoring at the two remaining air (AM5 & AM6) and noise (NM6 & NM7) station will carry out immediately after baseline monitoring progress completion.

3.0 SUMMARY OF EM&A REQUIREMENTS

Monitoring Parameters

3.01 Environmental monitoring and audit requirements are set out in the Updated EM&A manual. Air quality and construction noise have been identified to be the key monitoring parameters during the impact phase for the construction of the project.

3.02 A summary of the impact EM&A requirements for air quality and construction noise as per the project Updated EM&A Manual are shown in ***Table 3-1.***

Table 3-1 Summary of EM&A Requirements

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

Environmental Quality Performance Limits

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

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

Monitoring Location	Action Level (μg /m^3)		Limit Level (μg/m^3)	
	1-Hr TSP	24-Hr TSP	1-Hr TSP	24-Hr TSP
AM1	391	184	500	260
AM7	383	204	500	260

Table 3-3 Action and Limit Levels for Construction Noise

Parameter	Action Level in dB(A)	Limit Level in dB(A)
0700-1900 hrs on normal 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 and the updated EM&A Manual.

4.0 IMPLEMENTATION STATUS

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

4.02 A summary status of the permits, licences, and/or notifications on environmental protection for this Project in this reporting month is presented in ***Table 4-1***.

Table 4-1 Status of Environmental Licenses and Permits

Item	Item Description	Permit Status
1	Environmental Permit No.: EP-220/2005	Issued in June 2005
2	Air Pollution Control (Construction Dust)	Notified EPD on 24 Dec 2005
3	Chemical Waste Producer Registration	Registration on 27 Jan 2006
4	Water Pollution Control (Discharge license)	Applied to EPD on 7 Feb 2006
5	Account for Disposal of Construction Waste No. 5004959	Registration on 27 Dec 2005
6	Construction Noise Permit (Sheet Piling at NSW Station)	Valid (2 Jun to 12 Dec 2006)
7	Construction Noise Permit (General Works at NSW Station)	Valid (7 Apr to 7 Oct 2006)

5.0 MONITORING RESULTS

MONITORING METHODOLOGY OF AIR QUALITY MONITORING

5.01 The 24-Hr TSP monitoring was carried out by a High volume sampler (HVS) in compliance with the updated EM&A Manual. The HVS employed complied with the PS specifications including.

- Power supply of 220v/50 hz for 24-hour continuous operation;
- 0.6-1.7 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-Hr operation;
- Minimum exposed area of 63 in^2;
- Flow control accuracy of ±2.5% deviation over 24-Hr operation;
- An anodized aluminum shelter to protect the filter and sampler;
- A motor speed-voltage control to control mass flow rate with accuracy of ±2.5% deviation over 24-hr sampling period;
- Provision of a flow recorder for continuous monitoring;
- Provision of a peaked roof inlet;
- Incorporation with a manometer; and
- An 8"x10" stainless steel filter holder to hold, seal and easy to change the filter paper.

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

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

MONITORING METHODOLOGY OF CONSTRUCTION NOISE MONITORING

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-Hr TSP filter papers.

5.09 The monitoring equipment used in the impact EM&A program is presented in ***Table 5-1***:

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

Parameters	Monitoring Equipment	
Air Quality	24-Hr TSP	Tisch High Volume Sampler 515N
Noise	Leq30min	B&K Type 2238
	On-site Calibration	B&K Type 4231

EQUIPMENT CALIBRATION

5.10 Initial calibration of the HVS was performed upon installation and thereafter at a six month intervals in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A). The calibration data are properly documented and the records are maintained by ET for future reference***.***

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

5.12 The renew calibration certificates of the monitoring equipment used during the impact monitoring program in this month are attached in ***Annex H***.

PARAMETERS MONITORED

5.13 The environmental parameters monitoring in this reporting month is 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 two designated air (AM1 & AM7) and two noise (NM3 & NM4) monitoring stations. The two remaining air (AM5 & AM6) and noise (NM6 & NM7) stations were selected and approved by IEC and RE in end September 2006. Based on the Contractor's revised construction progress, baseline monitoring at the remaining air monitoring station AM6 and noise monitoring station NM6 station will undertake in early October 2006, and air monitoring station AM5 and noise monitoring station NM7 will be commence end October 2006. The locations of the designated monitoring stations are shown in ***Table 5-2*** and geographically in ***Annex E***.

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

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

Remarks: Monitoring at AM5 & AM6 and NM6 & NM7 will commence in October 2006.

MONITORING FREQUENCY AND PERIOD

5.15 The impact 24-Hr TSP monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A manual. A total of 10 monitoring events were carried out in this reporting month.

5.16 The impact noise monitoring was conducted at the designated stations once every 6 days in compliance with the updated EM&A manual. A total of 10 monitoring events were carried out in this reporting month.

MONITORING RESULTS WITH DATE AND TIME

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

Table 5-3 Summary of Air Quality Monitoring Results

Date	24-Hr TSP (ug/m^3)	
	AM1	AM7
2-Sep-06	85	73
8-Sep-06	65	54
14-Sep-06	49	38
20-Sep-06	108	86
26-Sep-06	111	94
Average (Range)	84 (49 - 111)	69 (38 - 94)

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

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

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
04-Sep-06	11:01	47.4	44.8	48.1	52.3	46.9	45.8	48.3	51.3
09-Sep-06	11:19	56.1	56.5	53.9	62.3	57.5	53.3	57.7	60.7
15-Sep-06	13:48	56.2	51.6	55.8	60.3	53.7	56.1	56.5	59.5
21-Sep-06	13:47	46.2	46.8	45.1	47.2	46.8	45.6	46.3	49.3
27-Sep-06	13:44	46.9	46.7	45.1	49.1	45.8	46.7	46.9	49.9
Limit Level									**75**

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

Table 5-5 Summary of Noise Monitoring Results at NM4

Date	Start Time	1st Leq5	2nd Leq5	3rd Leq5	4th Leq5	5th Leq5	6th Leq5	Leq30	Corrected * Leq30
4-Sep-06	10:20	65.6	65.4	64.7	61.9	56.7	61.2	63.5	66.5
9-Sep-06	10:38	64.4	64.1	63.9	63	57.6	60.2	62.8	65.8
15-Sep-06	13:11	58.6	57.6	58.1	58.4	58.3	56.2	57.9	60.9
21-Sep-06	13:09	56	56	56.1	56.7	55.7	55.8	56.1	59.1
27-Sep-06	13:04	59.8	57.1	56.7	57.2	57.7	58.2	57.9	60.9
Limit Level									**75**

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

WEATHER CONDITIONS DURING THE MONITORING PERIOD

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

GRAPHICAL PLOTS OF TRENDS OF MONITORED PARAMETERS

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

MAJOR ACTIVITY CARRIED OUT DURING THE MONITORING PERIOD

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

WEATHER CONDITIONS THAT AUGUST AFFECT THE MONITORING RESULTS

5.23 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

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

QA/QC RESULTS AND DETECTION LIMITS

5.25 Not applicable.

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

RECORD OF NON-COMPLIANCE OF ACTION AND LIMIT LEVELS

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

RECORD OF ENVIRONMENTAL COMPLAINTS RECEIVED

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

RECORD OF NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTION

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

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

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

DESCRIPTION OF FOLLOW-UP ACTIONS TAKEN

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

7.0 OTHERS

FUTURE KEY ISSUES

7.01 Construction activities to be undertaken in October 2006 include site hoarding erection, site clearance and formation work at Kam Tin pumping station, site investigation works at the Nam Sang Wai pumping station, pipe jacking for drainage work at S4, trench excavation and sorting erection for drainage work at S5, S6 and S7. Potential environmental impacts arising from the works include air quality, noise and water quality (particularly site runoff). Environmental mitigation measures will be properly implemented and maintained as per the Mitigation Implementation Schedule to ensure site environmental performance is acceptable.

SOLID AND LIQUID WASTE MANAGEMENT STATUS

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

Table 7-1 Summary of Quantities of Waste for Disposal

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) (tons) – Disposed	4,750	Tuen Mun 38 Fill Bank
C&D Materials (Inert) (tons) – Reused	2,910	DSD Contract DC/2005/0
C&D Materials (Non-Inert) (tons)	-	NA
Chemical Waste (Litres)	-	NA
General Refuse (tons)	17	Refuse Collector

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

Type of Waste	Quantity	Disposal Location
Metals for Recycling (kg)	1720	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 this reporting month.

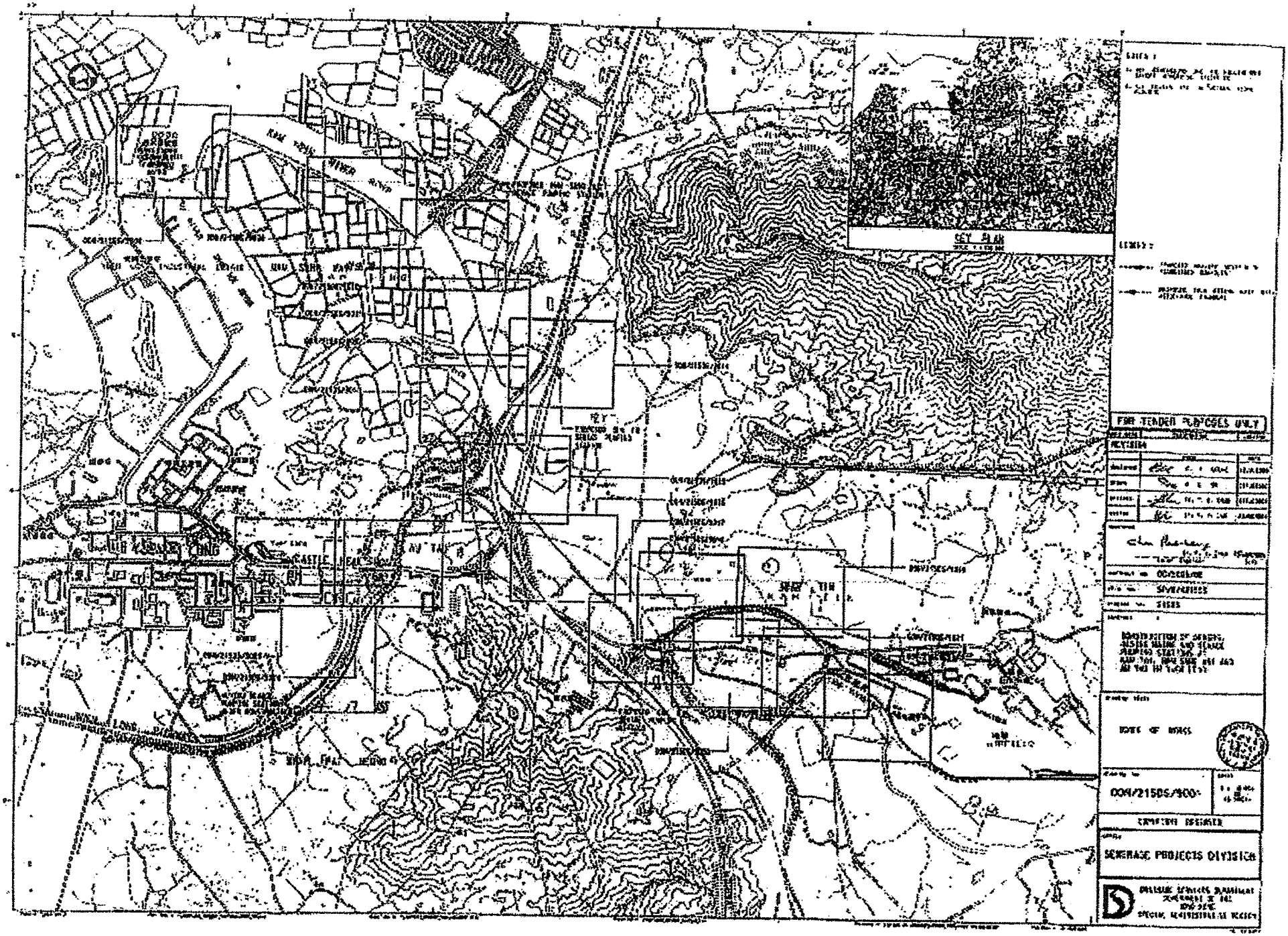
SUBMISSION OF PROFORMA

7.01 Representatives of the Engineer, the Contractor and ET carried out regular weekly joint site inspection on 01, 15 and 19 September 2006 to evaluate the site environmental performance. No non-compliance was noted and seven observations were recorded in weekly site inspection. The IEC monthly joint site inspection with RE, Contractor and ET was carried out 04 September 2006.

7.02 Proforma of the weekly ET site inspection activities are presented in ***Annex K***.

Annex A

Project Site Layout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SEWERAGE PROJECTS DIVISION

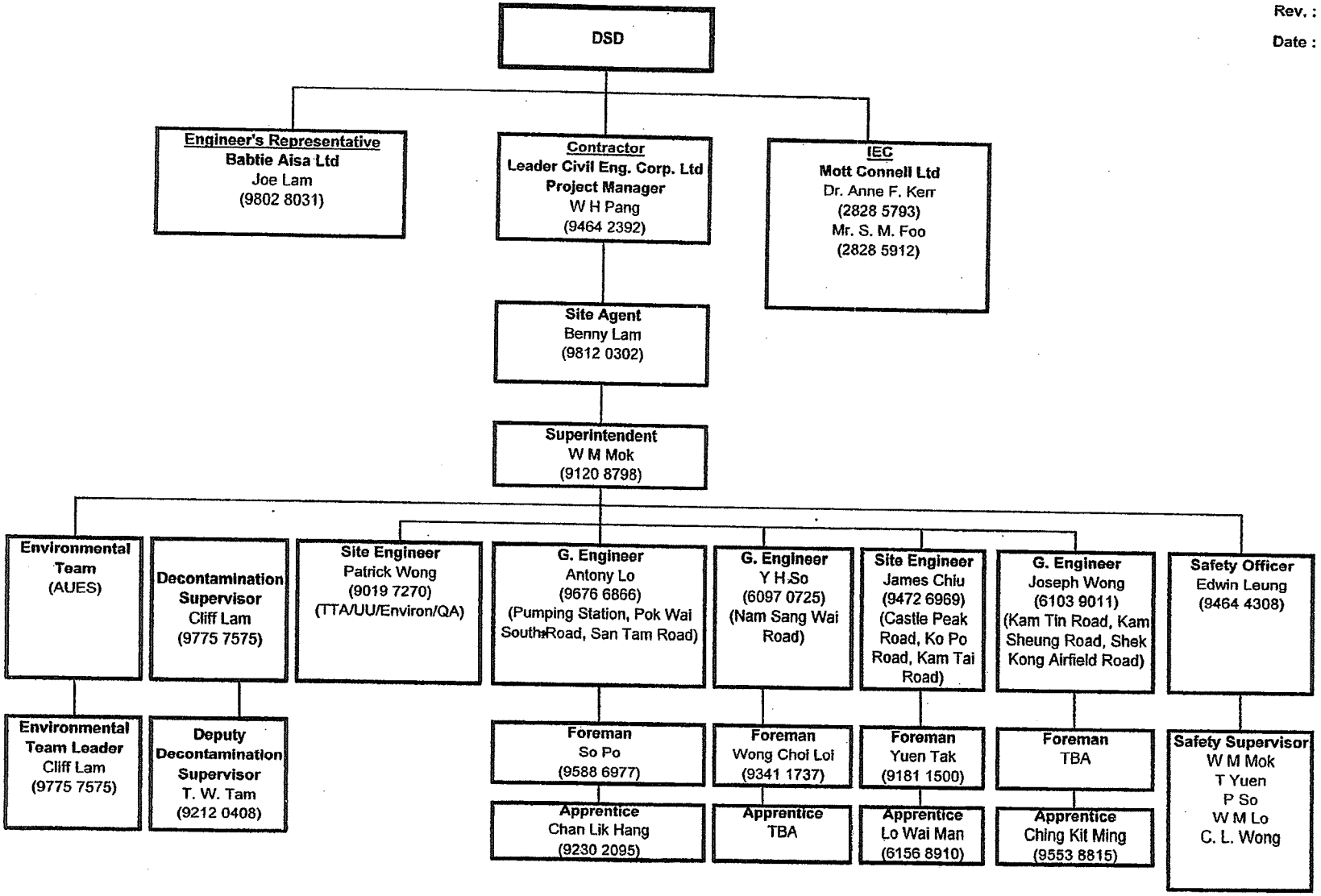
Annex B

Project Organization and Management Structure

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

Rev. : 01

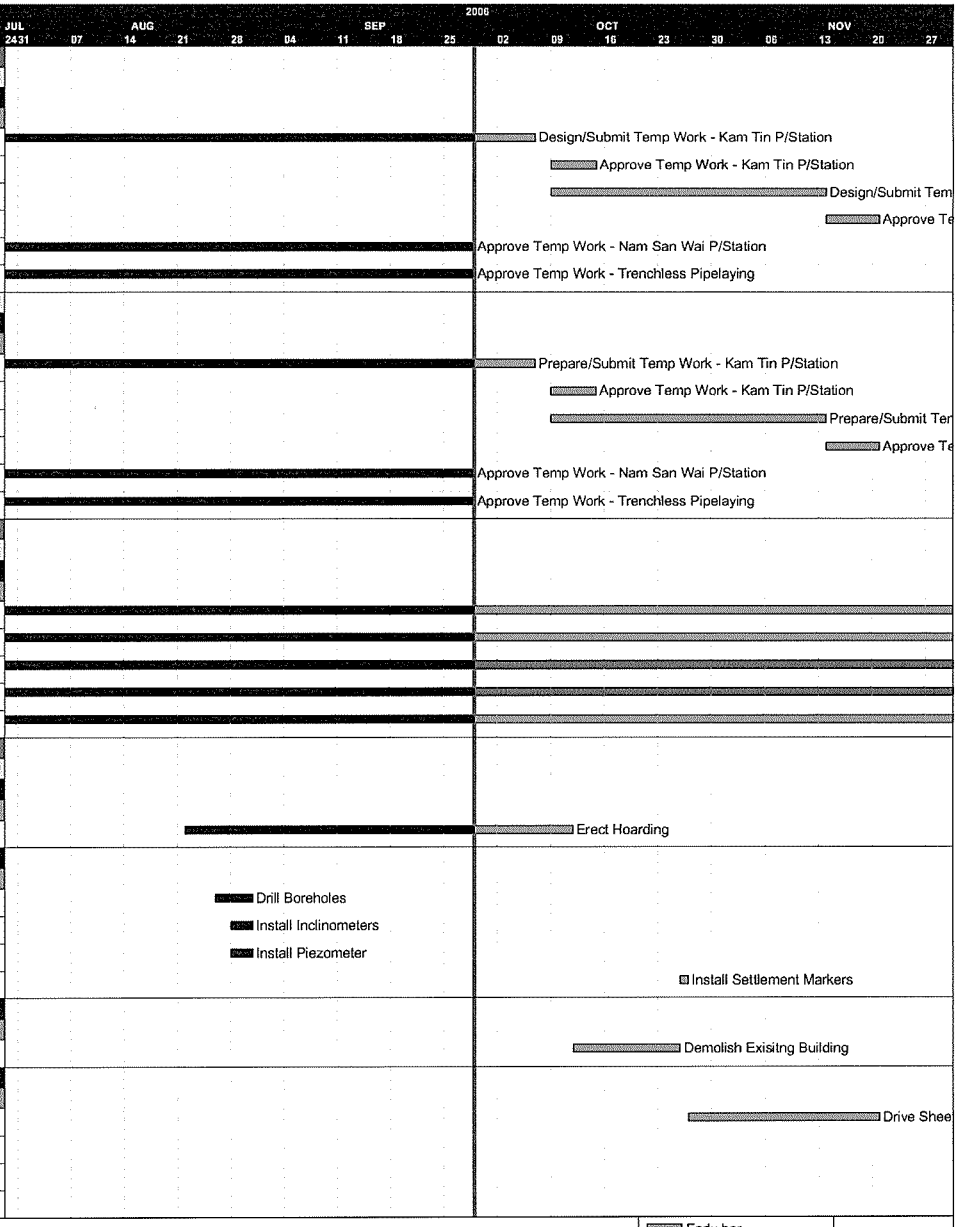
Date : 12-May-06



Annex C

Construction Program

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Submission								
Design Submission								
SUN1400	Design/Submit Temp Work - Kam Tin P/Station	30	61d	80	20MAY06 A	06OCT06	20MAY06 A	19DEC06
SUN1500	Approve Temp Work - Kam Tin P/Station	6	61d	0	09OCT06	14OCT06	20DEC06	27DEC06
SUN1600	Design/Submit Temp Work - Sha Po P/Station	30	179d	0	09OCT06	13NOV06	15MAY07	18JUN07
SUN1700	Approve Temp Work - Sha Po P/Station	6	179d	0	14NOV06	20NOV06	20JUN07	26JUN07
SUN1900	Approve Temp Work - Nam San Wai P/Station	6	-47d	95	01MAR06 A	28SEP06	01MAR06 A	04AUG06
SUN2300	Approve Temp Work - Trenchless Pipelaying	6	-139d	95	08APR06 A	28SEP06	08APR06 A	15APR06 *
Method Statement Submission								
SUO1000	Prepare/Submit Temp Work - Kam Tin P/Station	30	61d	80	20MAY06 A	06OCT06	20MAY06 A	19DEC06
SUO1100	Approve Temp Work - Kam Tin P/Station	6	61d	0	09OCT06	14OCT06	20DEC06	27DEC06
SUO1200	Prepare/Submit Temp Work - Sha Po P/Station	30	179d	0	09OCT06	13NOV06	15MAY07	18JUN07
SUO1300	Approve Temp Work - Sha Po P/Station	6	179d	0	14NOV06	20NOV06	20JUN07	26JUN07
SUO1500	Approve Temp Work - Nam San Wai P/Station	6	-47d	95	01MAR06 A	28SEP06	01MAR06 A	04AUG06
SUO1900	Approve Temp Work - Trenchless Pipelaying	6	-139d	95	08APR06 A	28SEP06	08APR06 A	15APR06 *
Preliminaries								
PR2900	Deliver Ductile Iron Pipe	800	11d	17	29APR06 A	13DEC08	29APR06 A	27DEC08
PR3100	Deliver Precast Concrete Pipe	800	26d	19	24APR06 A	26NOV08	24APR06 A	27DEC08
PR3300	Deliver Vitrified Clay Pipe	800	-4d	15	10APR06 A	02JAN09	10APR06 A	27DEC08
PR3400	Structural Monitoring by ISE	835	-11d	18	06APR06 A	10JAN09	06APR06 A	27DEC08
PR3500	Environmental monitoring by ET	814	28d	20	06APR06 A	24NOV08	06APR06 A	27DEC08
Section 1 - Kam Tin Sewage Pumping Station								
Portion A								
Preliminaries								
S1AA1000	Erect Hoarding	18	30d	50	22AUG06 A	11OCT06	22AUG06 A	16NOV06
Ground Investigation								
S1AB1100	Drill Boreholes	13		100	26AUG06 A	30AUG06 A	26AUG06 A	30AUG06 A
S1AB1200	Install Inclinometers	2		100	28AUG06 A	30AUG06 A	28AUG06 A	30AUG06 A
S1AB1300	Install Piezometer	1		100	28AUG06 A	30AUG06 A	28AUG06 A	30AUG06 A
S1AB1400	Install Settlement Markers	1	40d	0	26OCT06	26OCT06	13DEC06	13DEC06
Site Clearance								
S1AC1000	Demolish Exisitng Building	12	36d	0	12OCT06	25OCT06	24NOV06	07DEC06
Earthworks								
S1AG1000	Drive Sheetpile	20	51d	0	27OCT06	20NOV06	28DEC06	20JAN07
S1AG1100	Excavate to Level of 1st Layer of Waling	4	30d	0	15DEC06	19DEC06	22JAN07	25JAN07
S1AG1200	Install 1st Layer Waling & Strut	4	30d	0	20DEC06	23DEC06	26JAN07	30JAN07
S1AG1300	Excavate to Level of 2nd Layer of Waling	10	30d	0	26DEC06	06JAN07	31JAN07	10FEB07



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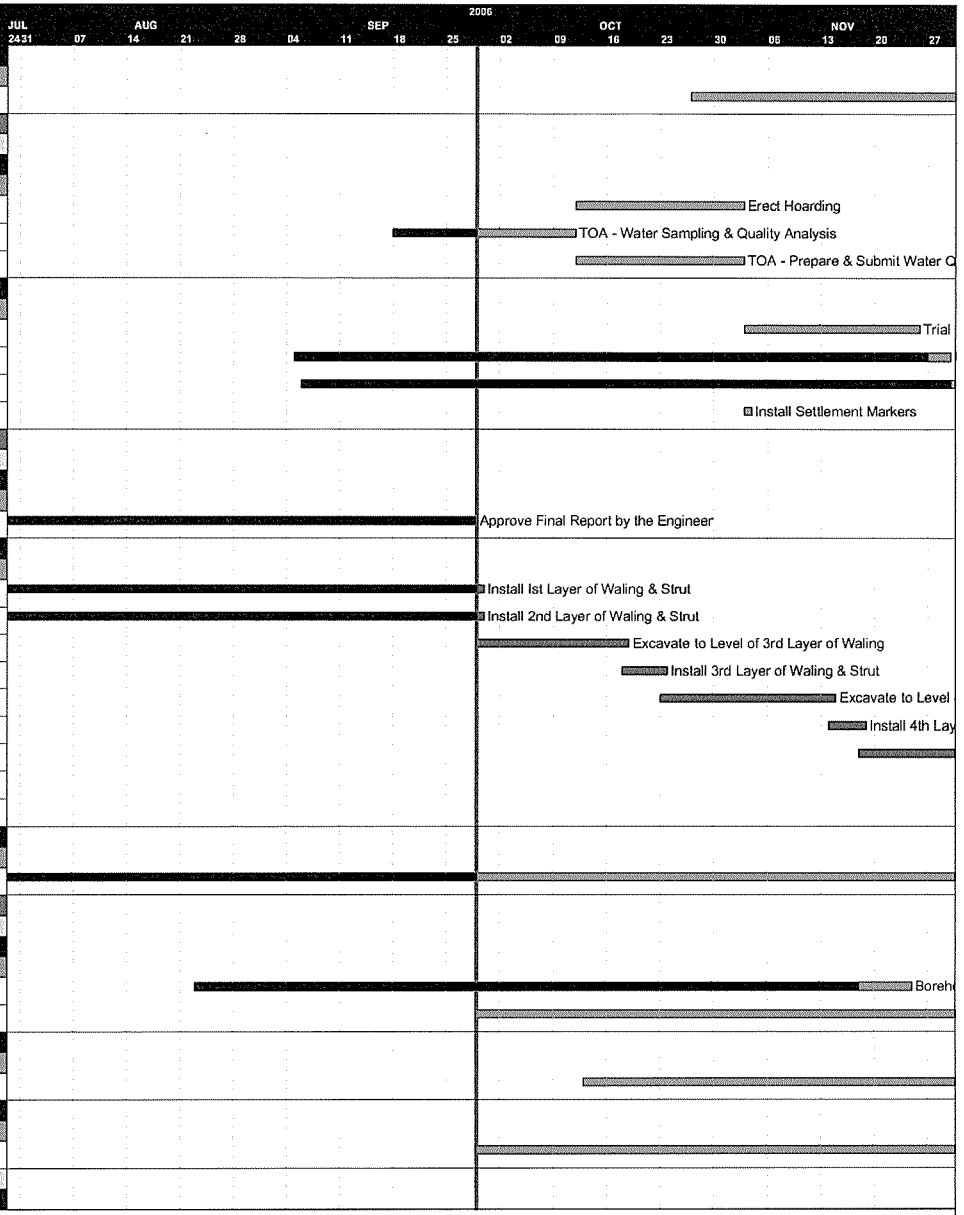
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Geotechnical works								
S1AP1000	Monitoring of Instruments	476	40d	0	27OCT06	27MAY08	14DEC06	15JUL08
Section 2 - Sha Po Sewage Pumping Station								
Portion B								
Preliminaries								
S2BA1000	Erect Hoarding	18	30d	0	12OCT06	02NOV06	17NOV06	07DEC06
S2BA1100	TOA - Water Sampling & Quality Analysis	18	30d	50	18SEP06 A	11OCT06	18SEP06 A	16NOV06
S2BA1200	TOA - Prepare & Submit Water Quality Assessment	18	30d	0	12OCT06	02NOV06	17NOV06	07DEC06
Ground Investigation								
S2BB1000	Trial Pits	20	170d	0	03NOV06	25NOV06	29MAY07	21JUN07
S2BB1100	Drill Boreholes	11	170d	75	05SEP06 A	29NOV06	05SEP06 A	25JUN07
S2BB1200	Install Inclinometers	2	170d	75	06SEP06 A	30NOV06	06SEP06 A	26JUN07
S2BB1300	Install Settlement Markers	1	193d	0	03NOV06	03NOV06	26JUN07	26JUN07
Section 3 - Nam Sang Wai Sewage Pumping Station								
Portion C								
Ground Investigation								
S3CB1500	Approve Final Report by the Engineer	4	67d	90	22JUL06 A	28SEP06	22JUL06 A	19DEC06
Earthworks								
S3CG1200	Install Ist Layer of Waling & Strut	4	-47d	95	03JUL06 A	29SEP06	03JUL06 A	04AUG06
S3CG1400	Install 2nd Layer of Waling & Strut	4	-47d	95	17JUL06 A	29SEP06	17JUL06 A	04AUG06
S3CG1500	Excavate to Level of 3rd Layer of Waling	14	-47d	0	29SEP06	18OCT06	05AUG06	21AUG06
S3CG1600	Install 3rd Layer of Waling & Strut	4	-47d	0	18OCT06	23OCT06	22AUG06	25AUG06
S3CG1700	Excavate to Level of 4th Layer of Waling	18	-47d	0	23OCT06	14NOV06	26AUG06	15SEP06
S3CG1800	Install 4th Layer of Waling & Strut	4	-47d	0	14NOV06	18NOV06	16SEP06	20SEP06
S3CG1900	Excavate to Level of 5th Layer of Waling	22	-47d	0	18NOV06	14DEC06	21SEP06	18OCT06
S3CG2000	Install 5th Layer of Waling & Strut	4	-47d	0	14DEC06	19DEC06	19OCT06	23OCT06
S3CG2100	Excavate to Level of 6th Layer of Waling	22	-47d	0	19DEC06	16JAN07	24OCT06	18NOV06
Geotechnical works								
S3CP1000	Monitoring of Instruments	632	17d	29	06APR06 A	26MAR08	06APR06 A	16APR08
Section 4 - Sewers & RM in Portion D, F, G, H, I								
Portion D								
Ground Investigation								
S4DB1010	Boreholes & Instrumentation (WOIC1 - ChA2095)	12	87d	50	23AUG06 A	24NOV06	23AUG06 A	12MAR07
S4DB1300	Install Settlement Markers	579	97d	0	29SEP06	01SEP08	26JAN07	27DEC08
Pipework - Rising Main								
Trench Method								
S4DFA1000	Twin Rising Main DN900 (ChA1750 - ChA1850)	124	87d	0	13OCT06	13MAR07	26JAN07	26JUN07
Geotechnical works								
S4DP1000	Monitoring of Instruments	567	109d	0	29SEP06 *	18AUG08	09FEB07	27DEC08
Portion F								
Ground Investigation								



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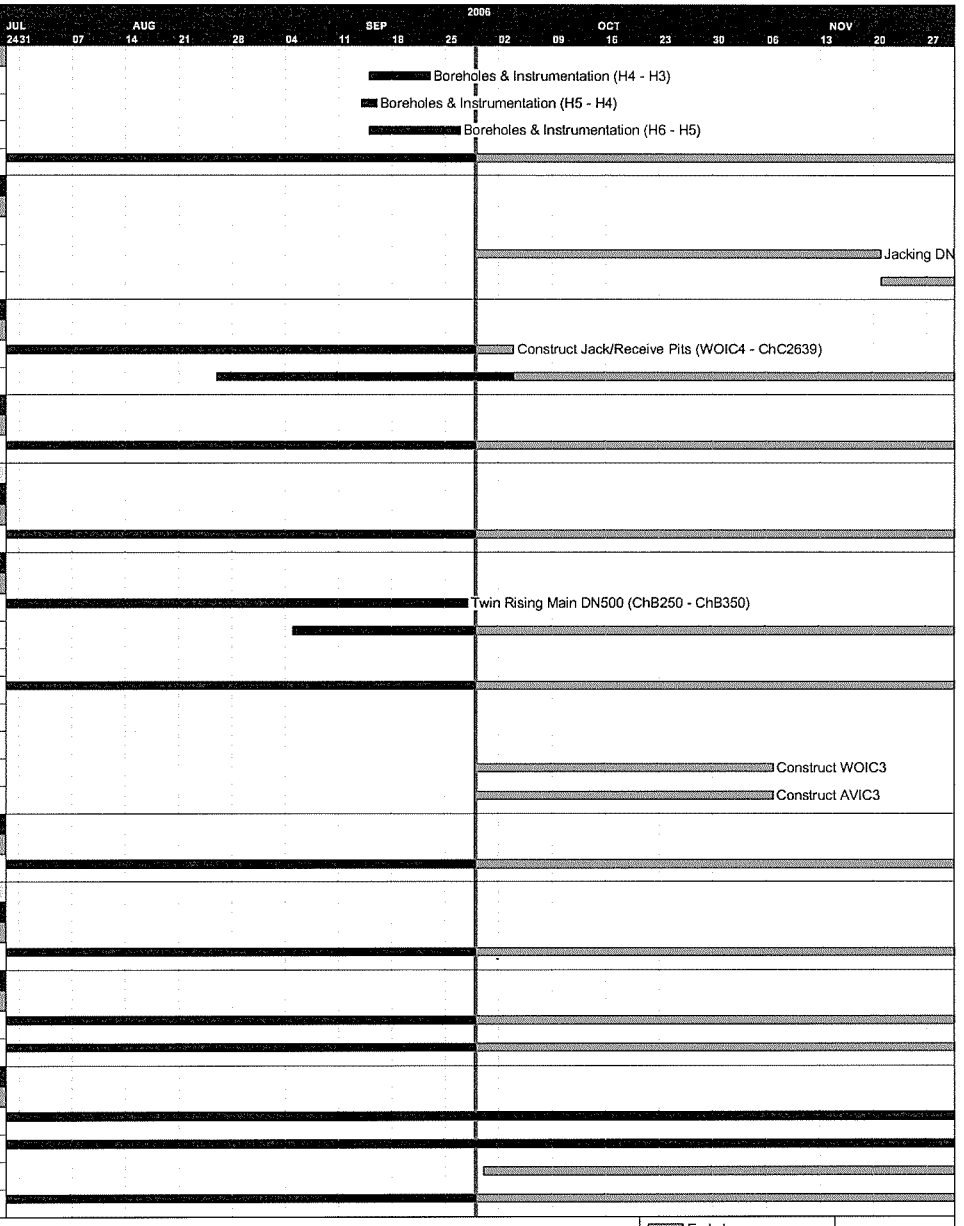
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

LEADER

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S4FB1060	Boreholes & Instrumentation (H4 - H3)	9		100	15SEP06 A	22SEP06 A	15SEP06 A	22SEP06 A
S4FB1080	Boreholes & Instrumentation (H5 - H4)	4		100	14SEP06 A	15SEP06 A	14SEP06 A	15SEP06 A
S4FB1120	Boreholes & Instrumentation (H6 - H5)	8		100	15SEP06 A	26SEP06 A	15SEP06 A	26SEP06 A
S4FB1500	Install Settlement Markers	720	109d	21	27APR06 A	18AUG08	27APR06 A	27DEC08
Drainage and Ducts								
Trenchless Method								
S4FEB1400	Construct Jack/Receive Pits (H6 - H5)	30	12d	0	22DEC06	27JAN07	08JAN07	10FEB07
S4FEB1520	Jacking DN1200 (H7 - H6)	42	12d	0	29SEP06	20NOV06	16OCT06	04DEC06
S4FEB1540	Construct Manhole H7	27	12d	0	21NOV06	21DEC06	05DEC06	06JAN07
Pipework - Rising Main								
Trenchless Method								
S4FFB1000	Construct Jack/Receive Pits (WOIC4 - ChC2639)	57	5d	95	05JUN06 A	03OCT06	05JUN06 A	10OCT06
S4FFB1020	Jacking Twin DN700 (WOIC4 - ChC2639)	139	5d	5	26AUG06 A	14MAR07	26AUG06 A	20MAR07
Geotechnical works								
S4FP1000	Monitoring of Instruments	803	12d	17	05JUN06 A	12DEC08	05JUN06 A	27DEC08
Portion G								
Ground Investigation								
S4GB1500	Install Settlement Markers	738	91d	21	21APR06 A	08SEP08	21APR06 A	27DEC08
Pipework - Rising Main								
Trench Method								
S4GFA1100	Twin Rising Main DN500 (ChB250 - ChB350)	90		100	22APR06 A	27SEP06 A	22APR06 A	27SEP06 A
S4GFA1200	Twin Rising Main DN500 (ChB350 - ChB450)	89	523d	22	05SEP06 A	21DEC06	05SEP06 A	17SEP08
S4GFA1300	Twin Rising Main DN500 (ChB450 - ChB550)	84	523d	0	22DEC06	04APR07	18SEP08	27DEC08
S4GFA1400	Twin Rising Main DN500 (ChB550 - ChB650)	107	465d	44	27JUL06 A	11DEC06	27JUL06 A	28JUN08
S4GFA1500	Twin Rising Main DN500 (ChB650 - ChB750)	130	465d	0	12DEC06	19MAY07	30JUN08	02DEC08
S4GFA1600	Construct AVIC2	30	565d	0	12DEC06	17JAN07	29OCT08	02DEC08
S4GFA1700	Construct WOIC3	30	495d	0	29SEP06	06NOV06	24MAY08	28JUN08
S4GFA1800	Construct AVIC3	30	562d	0	29SEP06	06NOV06	13AUG08	17SEP08
Geotechnical works								
S4GP1000	Monitoring of Instruments	729	51d	14	22APR06 A	28OCT08	22APR06 A	27DEC08
Portion H								
Ground Investigation								
S4HB1300	Install Settlement Markers	717	112d	21	26MAY06 A	14AUG08	26MAY06 A	27DEC08
Drainage and Ducts								
Trench Method								
S4HEA1200	DN500 Pipe & Manhole (A9 - A12)	90	4d	33	03JUL06 A	11DEC06	03JUL06 A	15DEC06
S4HEA1600	DN400 Pipe & Manhole (A18 - A21)	74	251d	26	19JUL06 A	05DEC06	19JUL06 A	06OCT07
Pipework - Rising Main								
Trench Method								
S4HFA1200	Twin Rising Main DN700 (ChC290 - ChC410)	45	4d	33	03JUL06 A	17JAN07	03JUL06 A	22JAN07
S4HFA1600	Twin Rising Main DN700 (ChC660 - ChC780)	37	251d	26	19JUL06 A	08JAN07	19JUL06 A	08NOV07
S4HFA2100	Twin Rising Main DN700 (ChC1150 - ChC1250)	84	21d	0	30SEP06	11JAN07	27OCT06	05FEB07
S4HFA2600	Twin Rising Main DN700 (ChC1650 - ChC1750)	124	92d	38	19JUN06 A	02JAN07	19JUN06 A	24APR07



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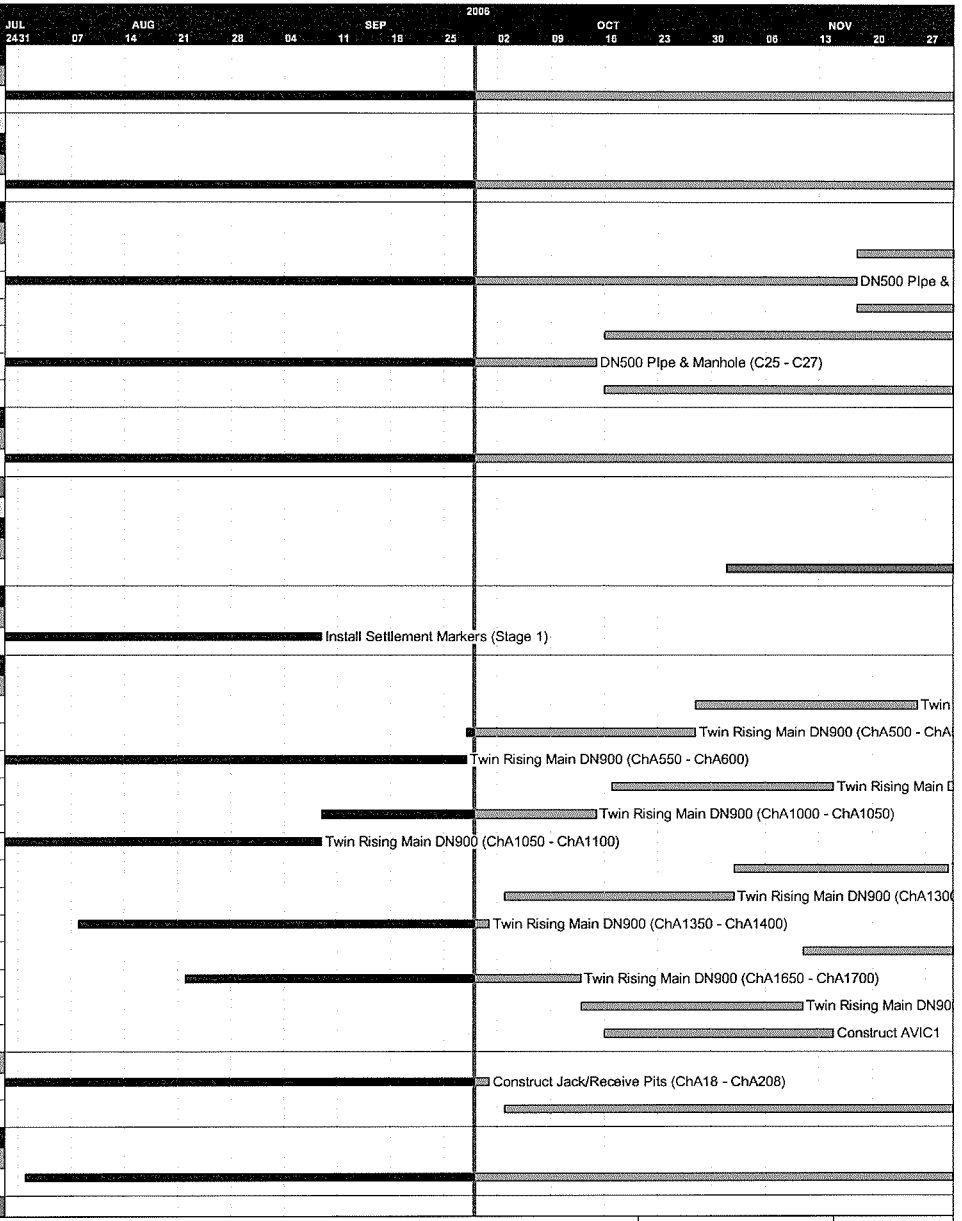
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Geotechnical works								
S4HP1000	Monitoring of Instruments	764	50d	18	26MAY06 A	29OCT08	26MAY06 A	27DEC08
Portion I								
Ground Investigation								
S4IB1300	Install Settlement Markers	726	103d	21	26JUN06 A	25AUG08	26JUN06 A	27DEC08
Drainage and Ducts								
Trench Method								
S4IEA1200	DN400 Pipe & Manhole (C7a - C7)	47	171d	0	18NOV06	13JAN07	14JUN07	09AUG07
S4IEA1300	DN500 Pipe & Manhole (C8 - C11)	63	171d	36	21JUL06 A	17NOV06	21JUL06 A	13JUN07
S4IEA1400	DN500 Pipe & Manhole (C11 - C13)	71	373d	0	18NOV06	10FEB07	16FEB08	10MAY08
S4IEA2000	DN500 Pipe & Manhole (C22 - C25)	70	439d	0	16OCT06	08JAN07	01APR08	24JUN08
S4IEA2100	DN500 Pipe & Manhole (C25 - C27)	57	269d	79	20JUN06 A	14OCT06	20JUN06 A	05SEP07
S4IEA2200	DN500 Pipe & Manhole (C27 - C29)	62	269d	0	16OCT06	28DEC06	06SEP07	20NOV07
Geotechnical works								
S4IP1000	Monitoring of Instruments	795	28d	19	28JUN06 A	24NOV08	28JUN06 A	27DEC08
Section 5 - Sewers & RM in Portion E								
Portion E								
Preliminaries								
S5EA1100	Non Work Period 01 Nov 06 - 31 Mar 07	125	0	0	01NOV06 *	31MAR07	01NOV06	31MAR07 *
Ground Investigation								
S5EB1300	Install Settlement Markers (Stage 1)	134		100	27APR06 A	08SEP06 A	27APR06 A	08SEP06 A
Pipework - Rising Main								
Trench Method								
S5EFA1500	Twin Rising Main DN900 (ChA450 - ChA500)	24	204d	0	28OCT06	25NOV06	05JUL07	01AUG07
S5EFA1600	Twin Rising Main DN900 (ChA500 - ChA550)	24	204d	5	28SEP06 A	27OCT06	28SEP06 A	04JUL07
S5EFA1700	Twin Rising Main DN900 (ChA550 - ChA600)	24		100	29JUL06 A	27SEP06 A	29JUL06 A	27SEP06 A
S5EFA2500	Twin Rising Main DN900 (ChA950 - ChA1000)	24	162d	0	17OCT06	14NOV06	03MAY07	30MAY07
S5EFA2600	Twin Rising Main DN900 (ChA1000 - ChA1050)	24	162d	50	09SEP06 A	14OCT06	09SEP06 A	30APR07
S5EFA2700	Twin Rising Main DN900 (ChA1050 - ChA1100)	24		100	29JUL06 A	08SEP06 A	29JUL06 A	08SEP06 A
S5EFA3100	Twin Rising Main DN900 (ChA1250 - ChA1300)	24	252d	0	02NOV06	29NOV06	03SEP07	02OCT07
S5EFA3200	Twin Rising Main DN900 (ChA1300 - ChA1350)	24	252d	0	03OCT06	01NOV06	06AUG07	01SEP07
S5EFA3300	Twin Rising Main DN900 (ChA1350 - ChA1400)	24	252d	91	08AUG06 A	30SEP06	08AUG06 A	04AUG07
S5EFA3800	Twin Rising Main DN900 (ChA1600 - ChA1650)	24	223d	0	11NOV06	08DEC06	09AUG07	05SEP07
S5EFA3900	Twin Rising Main DN900 (ChA1650 - ChA1700)	24	87d	60	22AUG06 A	12OCT06	22AUG06 A	25JAN07
S5EFA4000	Twin Rising Main DN900 (ChA1700 - ChA1750)	24	223d	0	13OCT06	10NOV06	12JUL07	08AUG07
S5EFA4200	Construct AVIC1	25	162d	0	16OCT06	14NOV06	02MAY07	30MAY07
Trenchless Method								
S5EFB1000	Construct Jack/Receive Pits (ChA18 - ChA208)	42	24d	95	17APR06 A	30SEP06	17APR06 A	01NOV06
S5EFB1020	Jacking DN1350 Conc Casing (ChA18 - ChA208)	107	24d	0	03OCT06	08FEB07	02NOV06	12MAR07
Geotechnical works								
S5EP1000	Monitoring of Instruments	629	38d	23	01AUG06 A	10MAY08	01AUG06 A	25JUN08
Section 6 - Sewers in Portion J								



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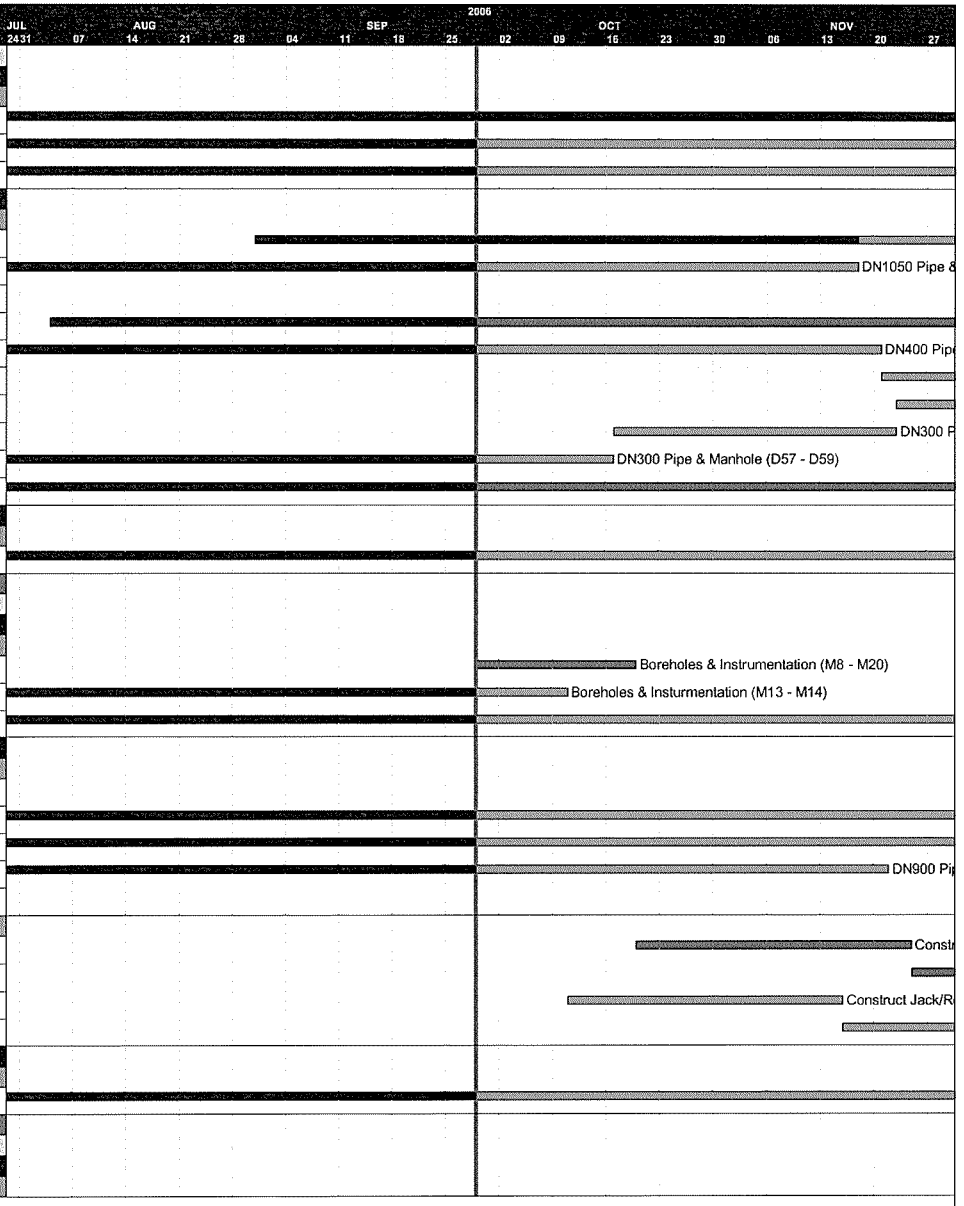
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
Portion J								
Ground Investigation								
S6JB1040	Boreholes & Instrumentation (D6 - D7)	13	5d	50	13JUN06 A	22MAR07	13JUN06 A	28MAR07
S6JB1500	Install Settlement Marker 1st Stage	741	88d	21	20APR06 A	11SEP08	20APR06 A	27DEC08
S6JB2100	Install Settlement Markers 2nd Stage	589	163d	13	07JUL06 A	14JUN08	07JUL06 A	27DEC08
Drainage and Ducts								
Trench Method								
S6JEA1100	DN1050 Pipe & Manhole (D2 - D4)	62	62d	53	31AUG06 A	21DEC06	31AUG06 A	09MAR07
S6JEA1200	DN1050 Pipe & Manhole (D4 - D6)	100	62d	60	21APR06 A	17NOV06	21APR06 A	31JAN07
S6JEA1300	DN1050 Pipe & Manhole (D8 - D9)	62	62d	0	22DEC06	09MAR07	10MAR07	23MAY07
S6JEA1900	DN400 PIpe & Manhole (D19 - D21)	124	-79d	2	04AUG06 A	27FEB07	04AUG06 A	21NOV06
S6JEA2900	DN400 Pipe & Manhole (D33 - D35)	65	274d	36	06JUL06 A	20NOV06	06JUL06 A	18OCT07
S6JEA3000	DN400 Pipe & Manhole (D35 - D38)	78	274d	0	21NOV06	24FEB07	20OCT07	21JAN08
S6JEA3600	DN300 Pipe & Manhole (D51 - D55)	40	391d	0	23NOV06	10JAN07	13MAR08	29APR08
S6JEA3700	DN300 Pipe & Manhole (D55 - D57)	31	391d	0	17OCT06	22NOV06	02FEB08	12MAR08
S6JEA3800	DN300 Pipe & Manhole (D57 - D59)	36	391d	63	13JUL06 A	16OCT06	13JUL06 A	01FEB08
S6JEA3900	DN750 Pipe & Manhole (D12 - E3)	88	-128d	2	24JUL06 A	12JAN07	24JUL06 A	10AUG06
Geotechnical works								
S6JP1000	Monitoring of Instruments	791	32d	19	04MAY06 A	19NOV08	04MAY06 A	27DEC08
Section 7 - Sewers in Portion K								
Portion K								
Ground Investigation								
S7KB1040	Boreholes & Instrumentation (M8 - M20)	16	-96d	0	29SEP06	19OCT06	08JUN06	26JUN06
S7KB1060	Boreholes & Insturmentation (M13 - M14)	16	12d	50	08MAY06 A	10OCT06	08MAY06 A	24OCT06
S7KB1500	Install Settlement Markers	402	65d	38	08MAY06 A	01AUG07	08MAY06 A	18OCT07
Drainage and Ducts								
Trench Method								
S7KEA1200	DN750 Pipe & Manhole (M4 - M6)	126	124d	0	13DEC06	16MAY07	15MAY07	12OCT07
S7KEA1300	DN750 PIpe & Manhole (M6 - M8)	79	124d	23	19MAY06 A	12DEC06	19MAY06 A	14MAY07
S7KEA1600	DN900 Pipe & Manhole (M11 - M12)	90	118d	16	06JUN06 A	30DEC06	06JUN06 A	24MAY07
S7KEA1700	DN900 Pipe & Manhole (M12 - M13)	79	50d	46	06JUN06 A	21NOV06	06JUN06 A	20JAN07
S7KEA2500	Demolish Ext Sewer Adj. M4 - M6	30	220d	0	13DEC06	18JAN07	06SEP07	12OCT07
Trenchless Method								
S7KEB1100	Construct Jack/Receive Pits (M8 - M20)	30	-96d	0	20OCT06	24NOV06	27JUN06	01AUG06
S7KEB1120	Jacking DN450 (M8 - M20)	76	-96d	0	25NOV06	27FEB07	02AUG06	01NOV06
S7KEB1200	Construct Jack/Receive Pit (M13 - M14)	30	12d	0	11OCT06	15NOV06	25OCT06	29NOV06
S7KEB1220	Jacking DN900 (M13 - M14)	43	12d	0	16NOV06	06JAN07	30NOV06	20JAN07
Geotechnical works								
S7KP1000	Monitoring of Instruments	427	35d	34	27MAY06 A	05SEP07	27MAY06 A	18OCT07
Section 8 - Preservation and Protection of Trees								
All Portions								
Landscape Softworks and Establishment Works								



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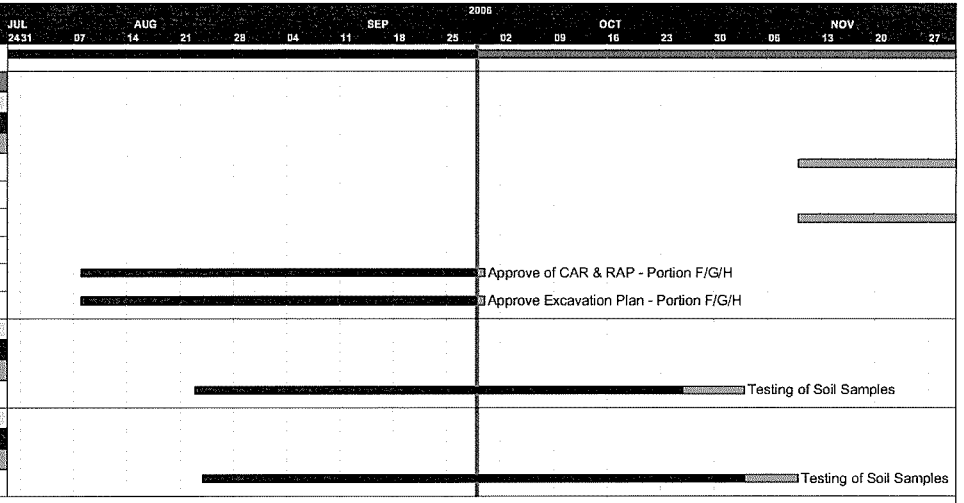
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Act ID	Description	Orig Dur	Total Float	Percent Complete	Early Start	Early Finish	Late Start	Late Finish
S8QR1100	Preservation & Protection of Preserved Trees	861	0	22	29JUL06 A	27DEC08	29JUL06 A	27DEC08
Decontamination Works								
General Submission								
S9L1000	Prepare & Submit CAR & RAP - Portion A/B	18	30d	0	10NOV06	30NOV06	15DEC06	06JAN07
S9L1100	Approve of CAR & RAP - Portion A/B	12	30d	0	01DEC06	14DEC06	08JAN07	20JAN07
S9L1200	Prepare & Submit Excavation Plan - Portion A/B	18	30d	0	10NOV06	30NOV06	15DEC06	06JAN07
S9L1300	Approve Excavation Plan - Portion A/B	12	30d	0	01DEC06	14DEC06	08JAN07	20JAN07
S9L1500	Approve of CAR & RAP - Portion F/G/H	12	21d	90	08AUG06 A	29SEP06	08AUG06 A	26OCT06
S9L1700	Approve Excavation Plan - Portion F/G/H	12	21d	90	08AUG06 A	29SEP06	08AUG06 A	26OCT06
Portion A								
Ground Investigation								
S9AB1200	Testing of Soil Samples	12	36d	50	23AUG06 A	02NOV06	23AUG06 A	14DEC06
Portion B								
Ground Investigation								
S9BB1200	Testing of Soil Samples	12	30d	50	24AUG06 A	09NOV06	24AUG06 A	14DEC06



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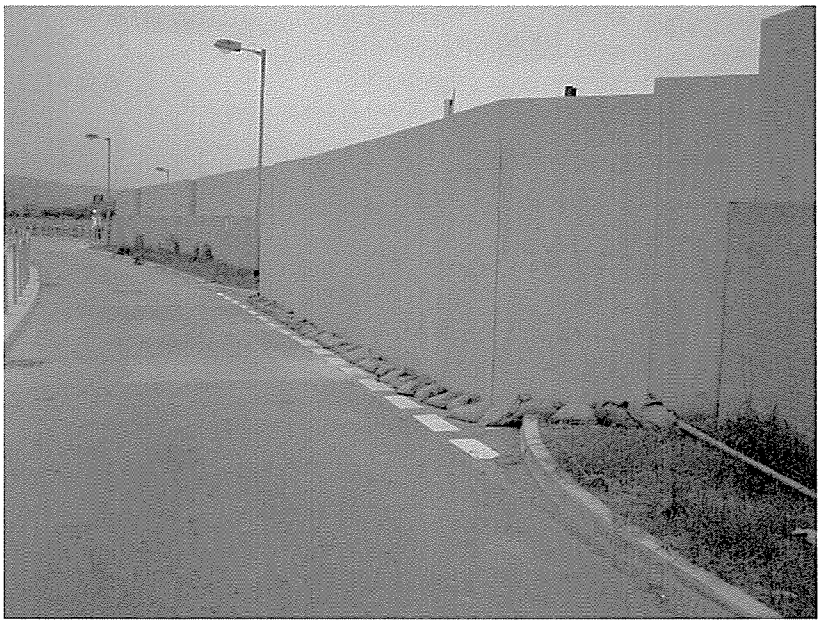
Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

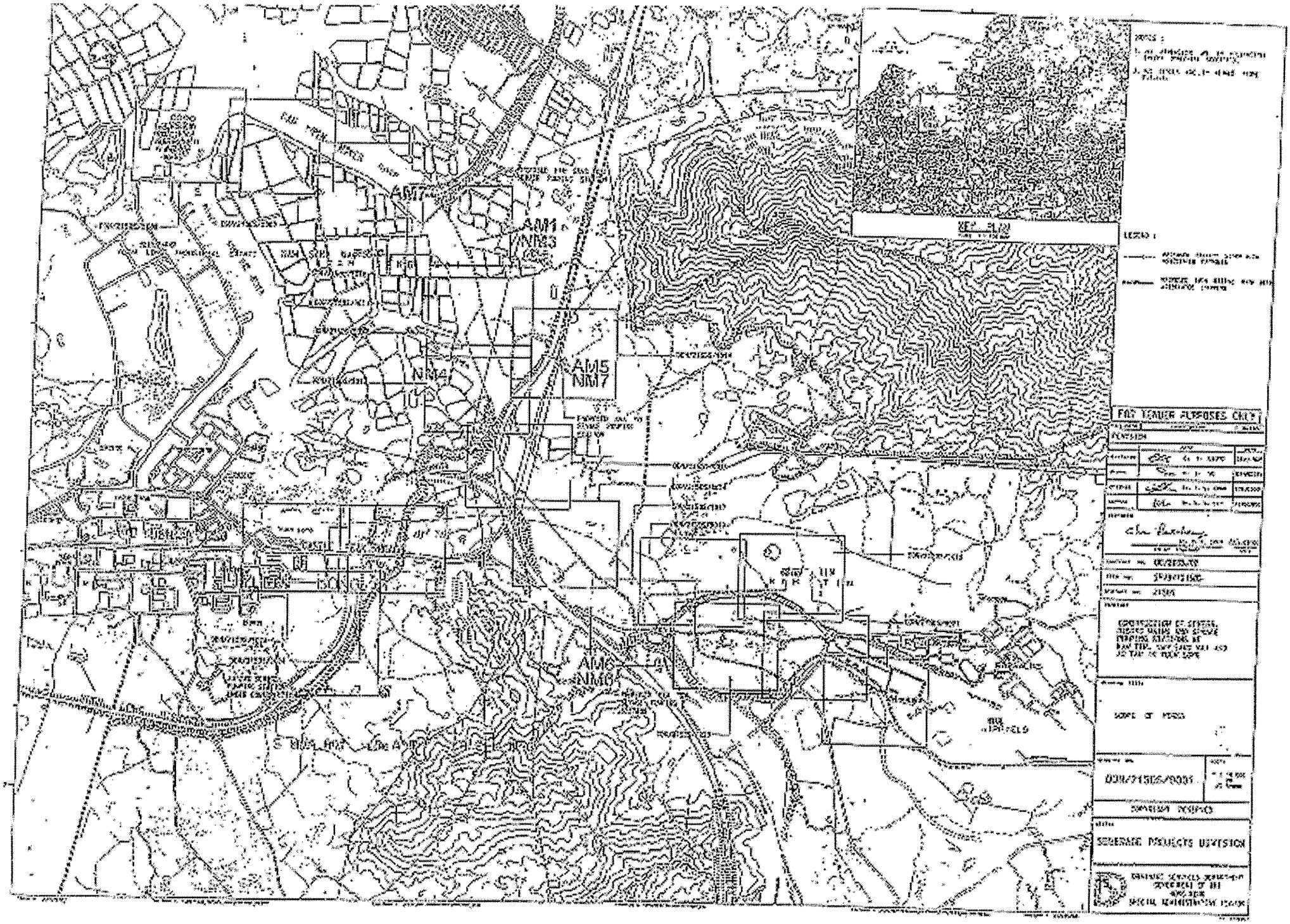
Annex D

Photographical Records – Noise Barrier On-Site



Annex E

Locations of Monitoring Stations


AM1
NM3
AM5
NM7
NM4
AM6
NM8
FOR TENDER PURPOSES ONLY
SEWERAGE PROJECTS DIVISION

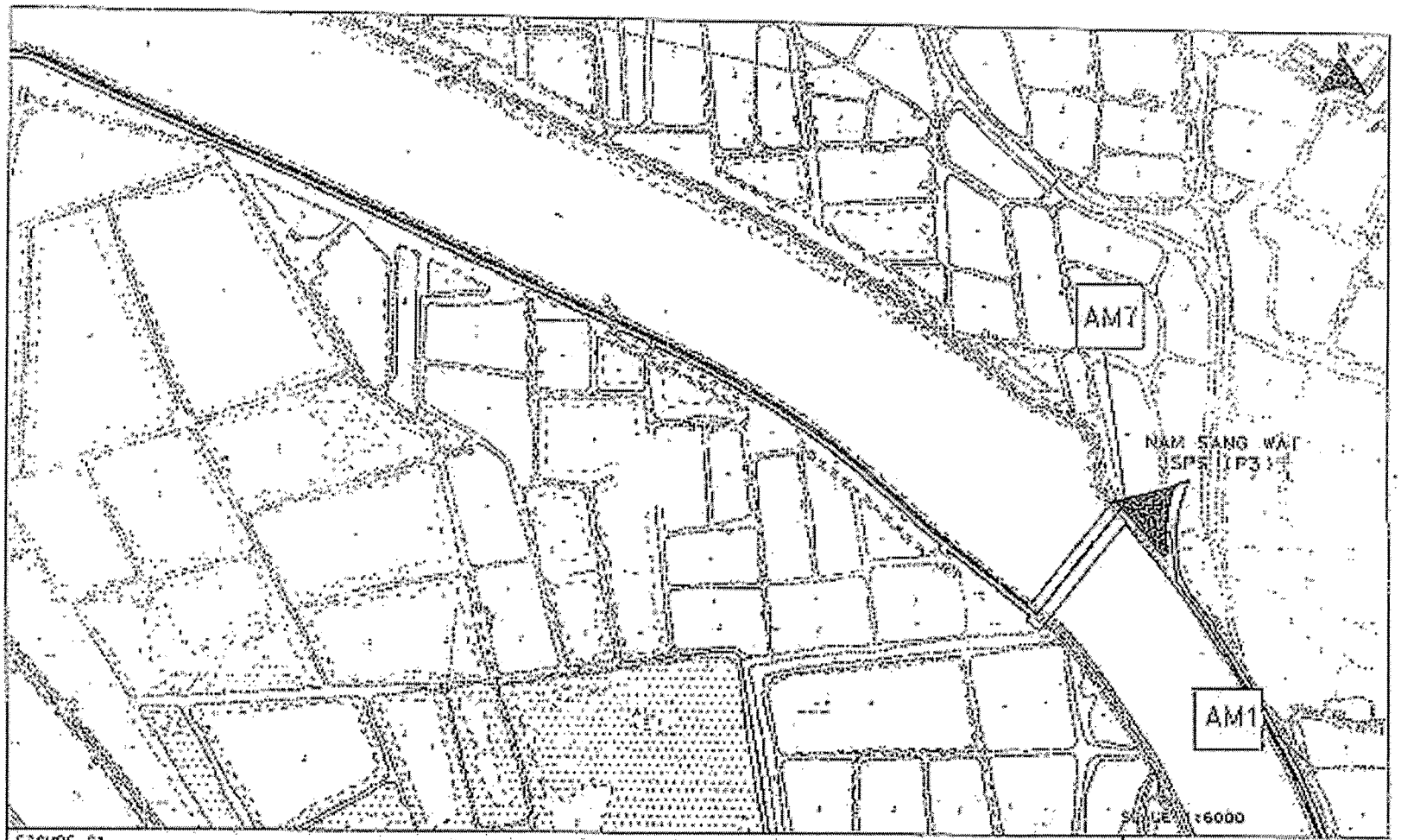


FIGURE C1

LOCATION OF DUST MONITORING STATIONS (AM1, AM2 & AM7)

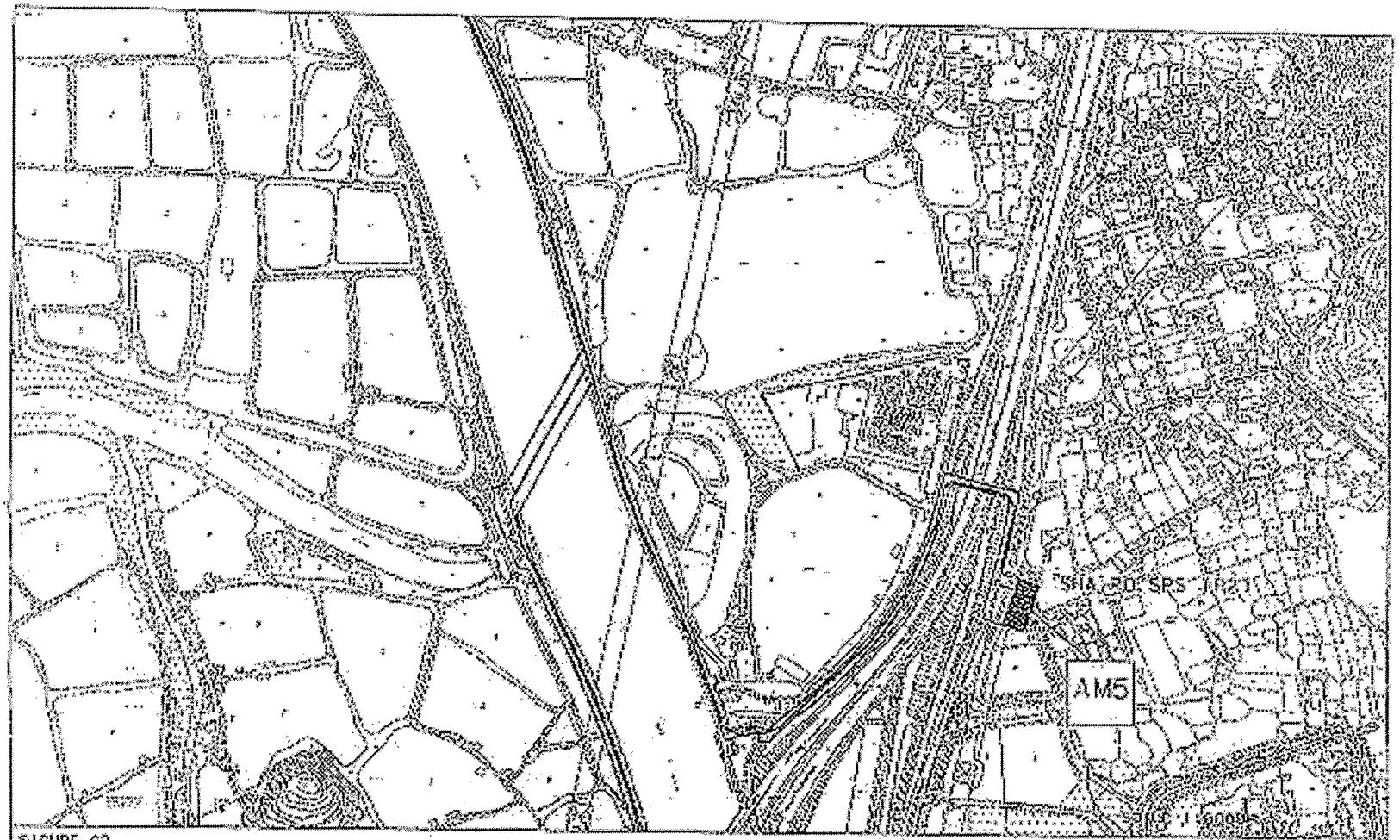


FIGURE G2

LOCATION OF DUST MONITORING STATION (AM5)

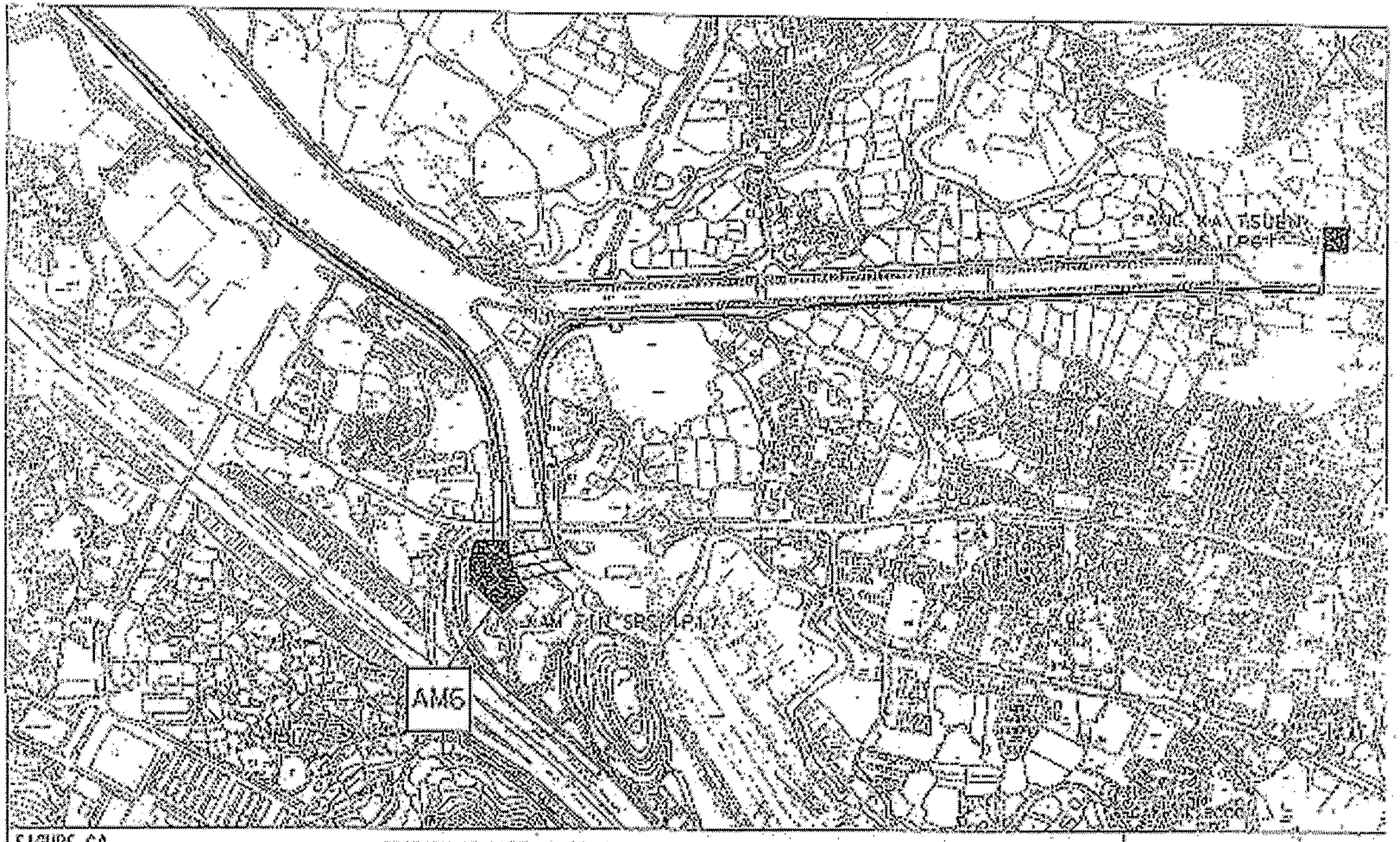


FIGURE C9

LOCATION OF DUST MONITORING STATIONS (AM6, AM5 & AM10)

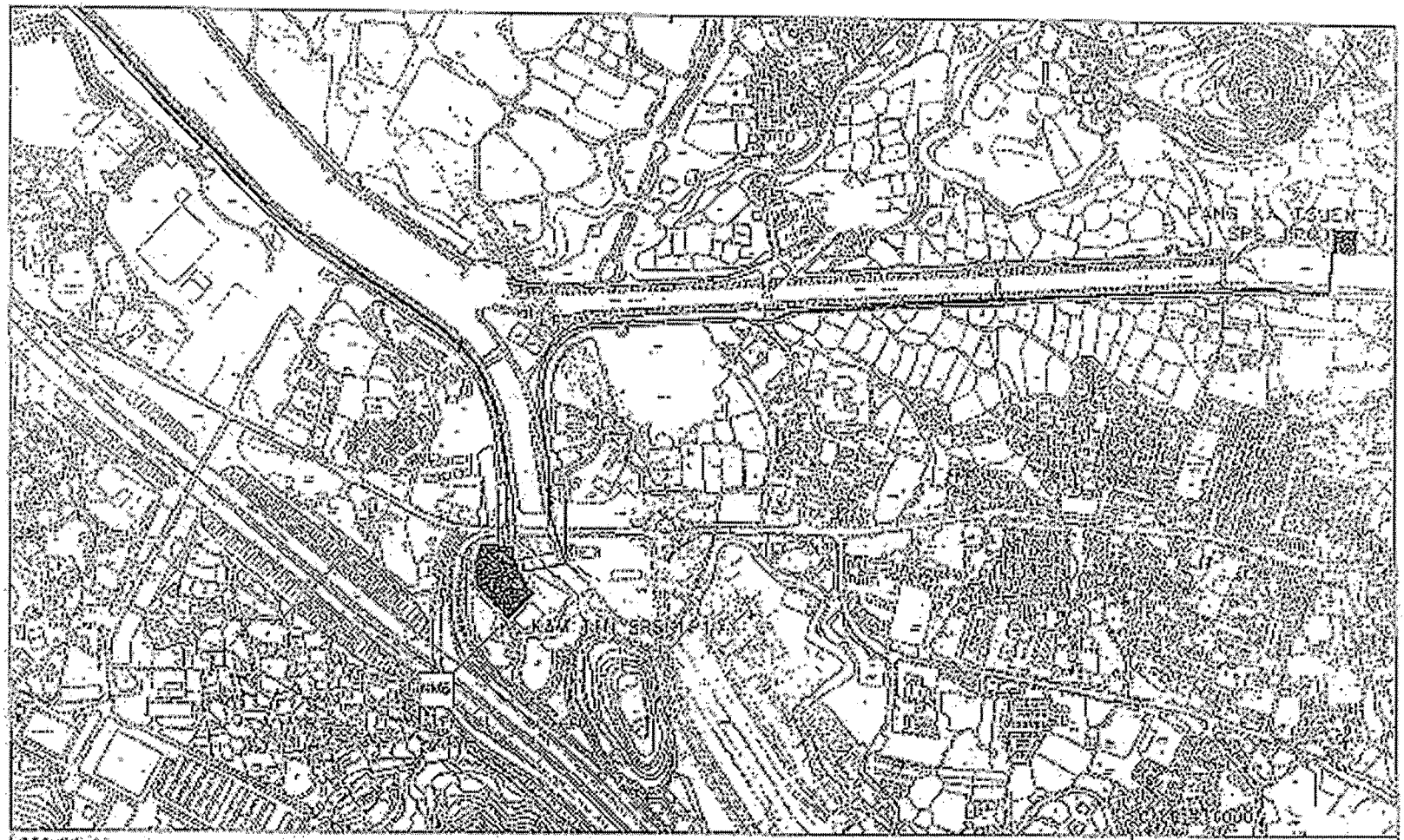


FIGURE 6.2

LOCATION OF NOISE MONITORING STATIONS (KM1, KM6, KM8, KM9)

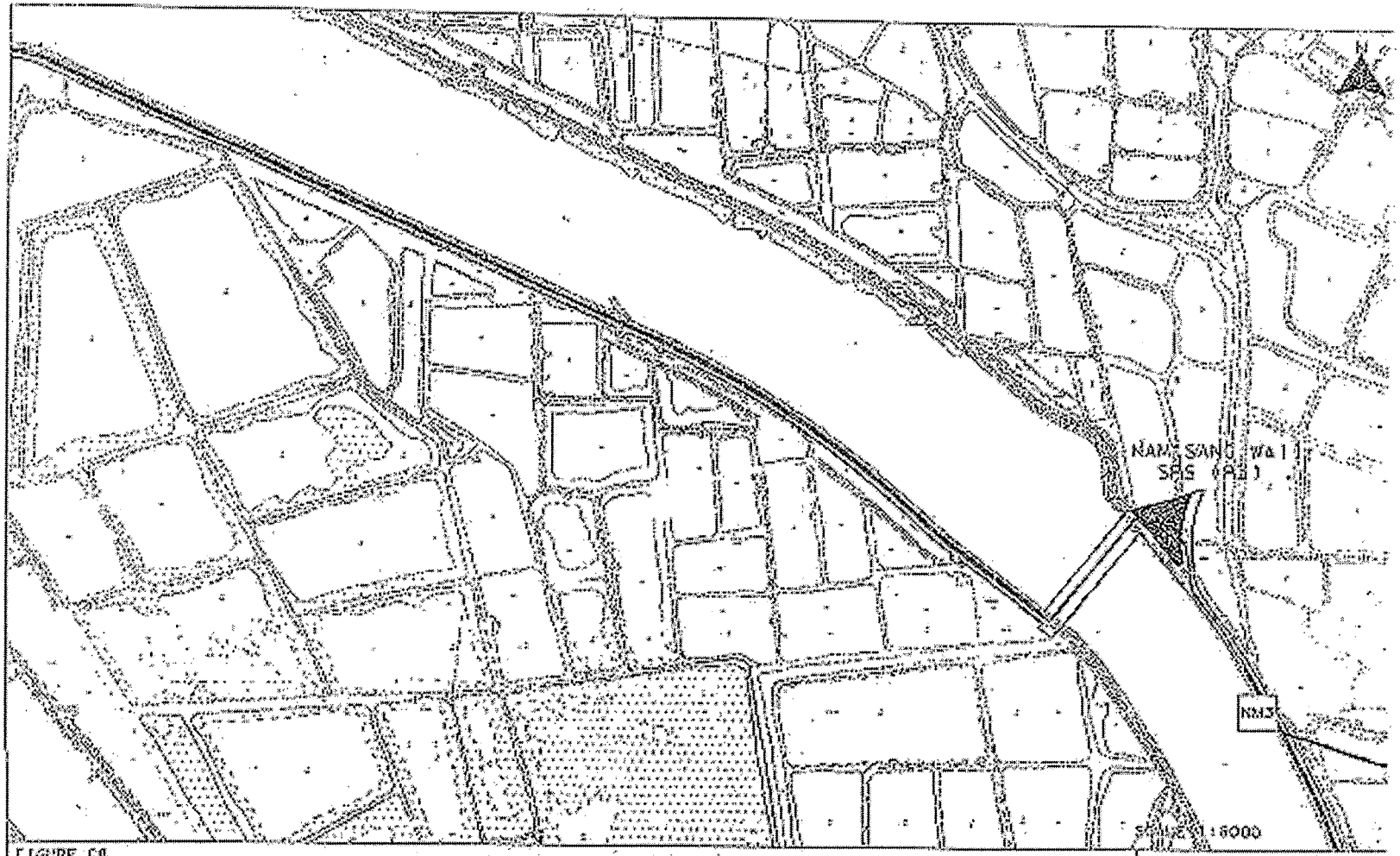


FIGURE C8

LOCATION OF NOISE MONITORING STATIONS (NM3, NM5)

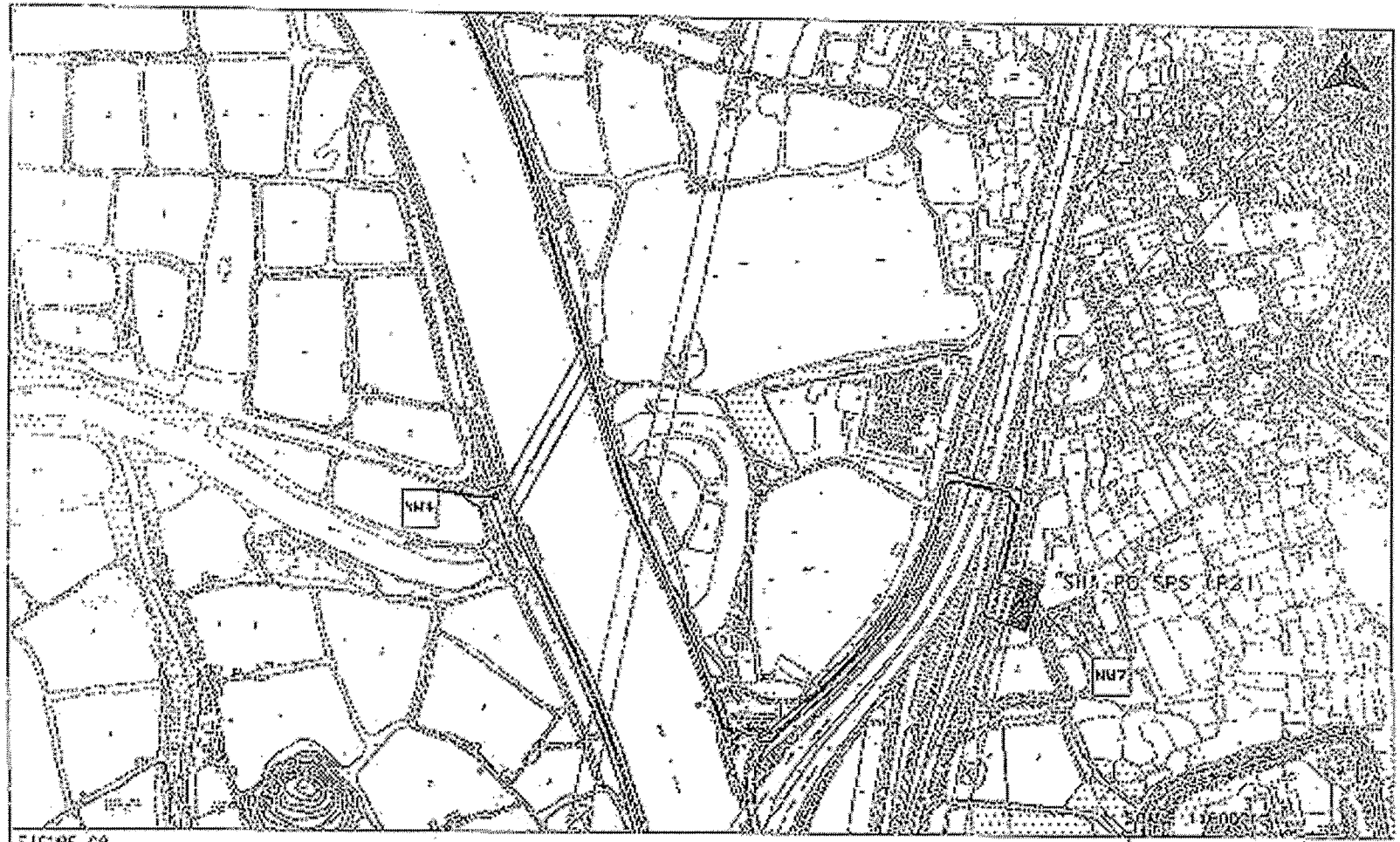


FIGURE 6.9

LOCATION OF NOISE MONITORING STATIONS (NM4, NM7)

Annex F

Event and Action Plan

Event and Action Plan for Construction Phase Air Quality

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

Event and Action Plan for Construction Phase Air Quality

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

Event and Action Plan for Construction Noise

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

Annex G

Mitigation Implementation Schedule

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

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage*				Relevant Legislation & Guidelines
						Des	C	O	Dec	
3.5	A6	• where a vehicle leaving a construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;	To control potential dust impacts during material transportation.	Site wide and throughout the full duration of the construction contract.	The Contractor		✓			*Dust) Regulations Part IV, Clause 21, (2), Air Pollution Control (Construction Dust) Regulations*
3.5	A7	**Power-driven drilling, and cutting** • 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*
3.5	A8	**Excavation and earth moving** • 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*
3.5	A9	**Construction of the superstructure of a building** • 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*								
4.7.1	B1	***General Site Clearance – Demolition Works*** • 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*
4.7.1	B2	***Construction of Sewage Pumping Stations P1, P2 & P3*** • 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*
4.7.1	B3	***Sewers and Rising Mains using Open Trench Method*** • 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.						
4.7.1	B6	***Sewers and Rising Mains using Pipe Jacking Method*** • 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*
4.7.1	B7	***Road Pavement and Finishes*** • 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.								
6.6.2	D1	**WASTE - *Construction Phase*** The Contractor shall obtain the necessary waste disposal permits from the appropriate authorities for the disposal of chemical and C&D waste, • Chemical Waste Producer and Chemical Waste Disposal Licence *(Waste Disposal (Chemical Waste) (General) Regulations); and* • Dumping Licence (*Land (Miscellaneous Provisions) Ordinance (Cap 28))*	To monitor the collection, handling and disposal of chemical waste and C&D waste, and in compliance with relevant Hong Kong Standards and Regulations.	Site wide and throughout the full duration of the construction contract.	The Contractor	✓	✓			*Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste)(General) Regulation (Cap 354), the Land (Miscellaneous Provisions) Ordinance (Cap 28))*

EIA* Ref.	EM&A Ref	Environmental Protection Measures	Objectives of the Recommended Measures & Main Concerns	Location of the measure	Implementation Agent	Implementation Stage**				Relevant Legislation & Guidelines
						Des	C	O	Dec	
6.6.2	D2	***Chemical Waste*** 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*
6.6.2	D3	**Storage, Packaging and Labelling of Chemical Waste** Containers used for storage of chemical wastes should: • be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.	To ensure the proper storage, packaging and labelling of chemical waste in accordance with the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			*Part IV, (9, 10, 11 & 12) Waste Disposal (Chemical Waste) (General) Regulation*
6.6.2	D4	**Storage of chemical waste** The storage area for chemical wastes should: • be clearly labelled and used solely for the storage of chemical waste; • be enclosed on at least 3 sides; • have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; • have adequate ventilation; • be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste, if necessary); and • be arranged so that incompatible materials are	To ensure the proper storage of chemical waste in accordance with the Regulations.	To be implemented at all worksites throughout the full duration of the construction phase.	The Contractor		✓			*Part IV, (13,14, 15, 16, 17, & 18) Waste Disposal (Chemical Waste) (General) Regulation*

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

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

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

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

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

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

Des = Design, C = Construction, O = Operation, Dec = Decommissioning

Annex H

Equipment Calibration Certificates

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

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

Item	Aspect	Description of Equipment	Serial No.	Date of Calibration	Date of Next Calibration
1	Air	Greasby Anderson GMWS2310 High Volume Sampler	AM1	21 Aug 06	21 Nov 06
2		Greasby Anderson GMWS2310 High Volume Sampler	AM7	21 Aug 06	21 Nov 06
3	Noise	Bruel & Kjaer 4231 Acoustical Calibrator	2292167	13 Apr 06	13 Apr 07
4		Bruel & Kjaer 2238 Integrating Sound Level Meter	2285721	24 Apr 06	24 Apr 07

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

Annex I

Meteorological Data

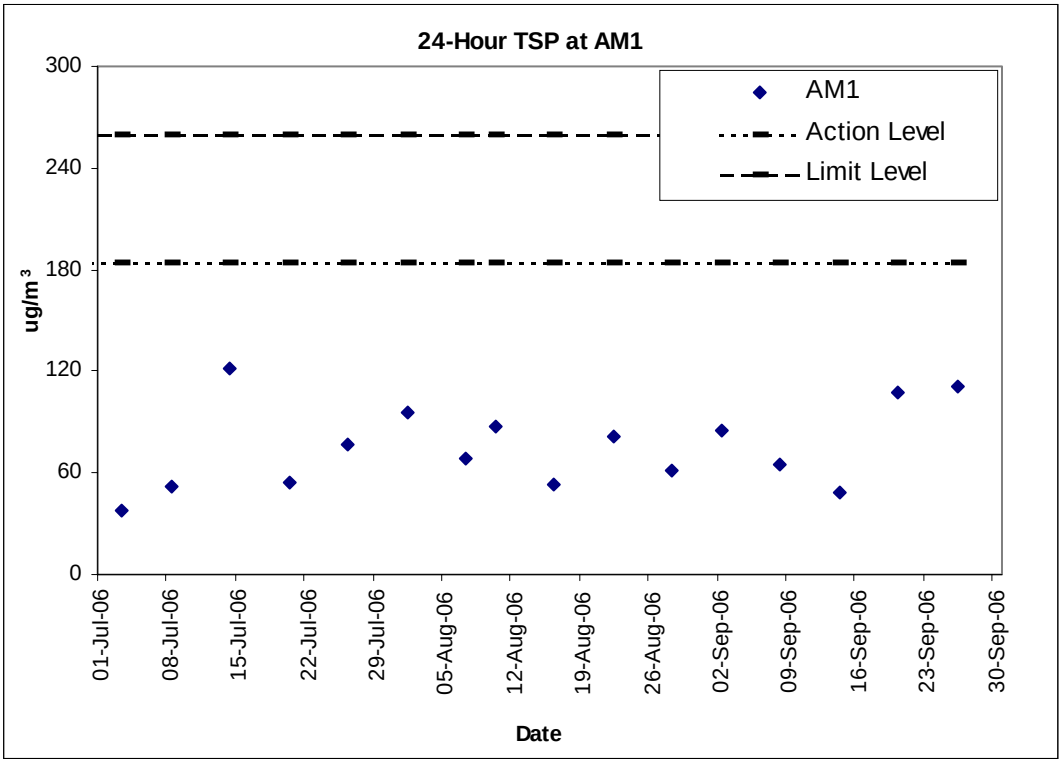
Meteorological Data Extracted From The HK Observatory at Lau Fau Shan Weather Station

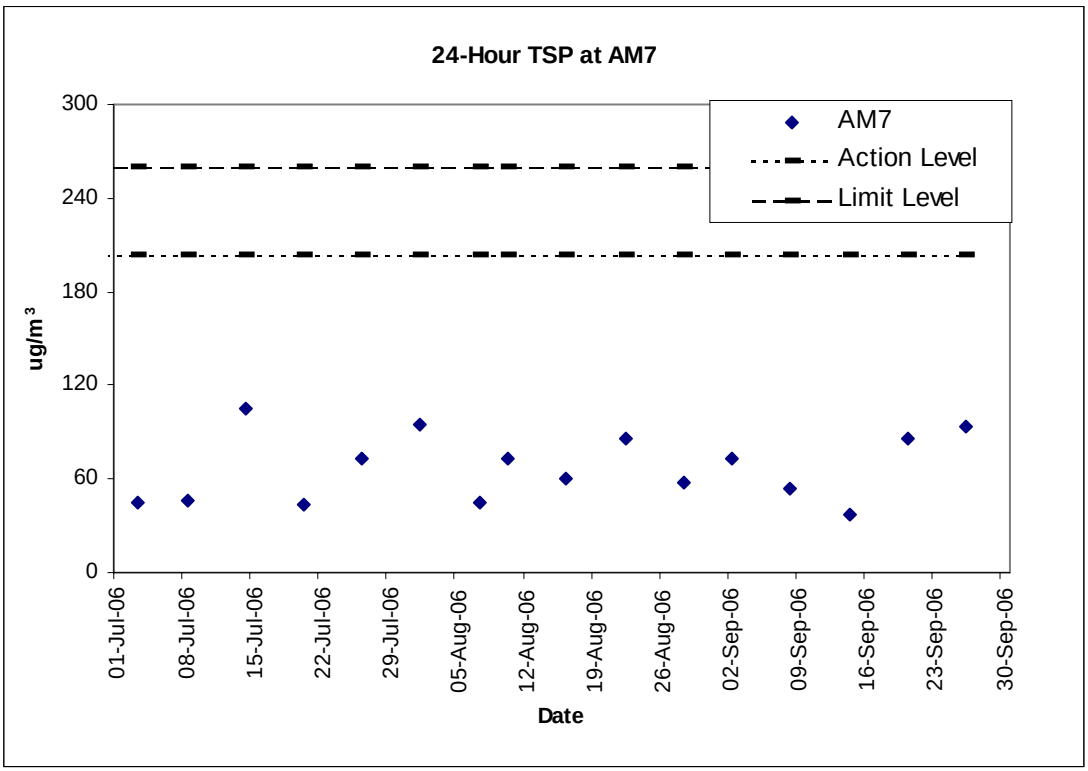
Date		Weather	Total Rainfall (mm)	Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative (%)	Wind Direction
1-Sep-06	Fri	fine/ showers/ hot/ moderate	-	30	16	85	SW/W
2-Sep-06	Sat	hot/ showers/ sunny/ thunderstorms	Trace	30.3	9	90	SW/W
3-Sep-06	Sun	sunny/ showers	Trace	28.4	6	85	SW/W
4-Sep-06	Mon	cloudy/ showers/ thunderstorms	0.6	28.2	9	90	SE/S
5-Sep-06	Tue	hot/ sunny/ showers/ moderate	3.2	29.4	9	85	S/SW
6-Sep-06	Wed	showers/ sunny/ moderate	4.9	27.4	15	95	SW/W
7-Sep-06	Thu	cloudy/ showers/ thunderstorms	35.1	25.8	9	95	SE/S
8-Sep-06	Fri	cloudy/ showers/ thunderstorms	11.8	27.6	6	90	SE/S
9-Sep-06	Sat	-	92.4	25	-	-	-
10-Sep-06	Sun	-	3.5	23.5	23	75	N/NE
11-Sep-06	Mon	sunny/ cloudy/ moderate	Trace	23.5	20	80	N/NE
12-Sep-06	Tue	cloudy/ rain/ moderate	5	20.6	19	95	N/NE
13-Sep-06	Wed	cloudy/ rain/ thunderstorms	248.3	22.2	22	97	NE/E
14-Sep-06	Thu	cloudy/ showers/ moderate	12.9	26.1	12	90	E
15-Sep-06	Fri	hazy/ showers/ moderate/ sunny	1	27	15	95	NE/E
16-Sep-06	Sat	cloudy/ showers/ haze/ moderate	Trace	27	12	80	N/NE
17-Sep-06	Sun	fine/ haze/ showers	-	26	21	55	N/NE
18-Sep-06	Mon	sunny/ haze/ moderate	-	25.8	12	70	E
19-Sep-06	Tue	fine/ haze/ moderate	-	26.4	11	90	E
20-Sep-06	Wed	fine/ haze/ moderate	-	25.9	9	70	E/SE
21-Sep-06	Thu	fine/ dry/ moderate/ haze	-	26.7	6	75	E/SE
22-Sep-06	Fri	fine/ haze/ moderate	-	26.8	14	80	E/SE
23-Sep-06	Sat	fine/ dry	-	27.7	14	85	E
24-Sep-06	Sun	cloudy/ sunny/ rain	0.9	26	20	75	E/SE
25-Sep-06	Mon	cloudy/ sunny	Trace	27.1	19	75	E/SE
26-Sep-06	Tue	fine/ dry/ moderate	-	27.1	19	55	E/SE
27-Sep-06	Wed	fine/ dry/ moderate	-	26.8	12	80	E/SE
28-Sep-06	Thu	fine/ dry/ moderate	-	27	18	80	E
29-Sep-06	Fri	fine/ dry/ cloudy/ moderate	-	28.1	12	55	NE/E
30-Sep-06	Sat	cloudy/ rain	0.6	26.6	20	70	E

Annex J

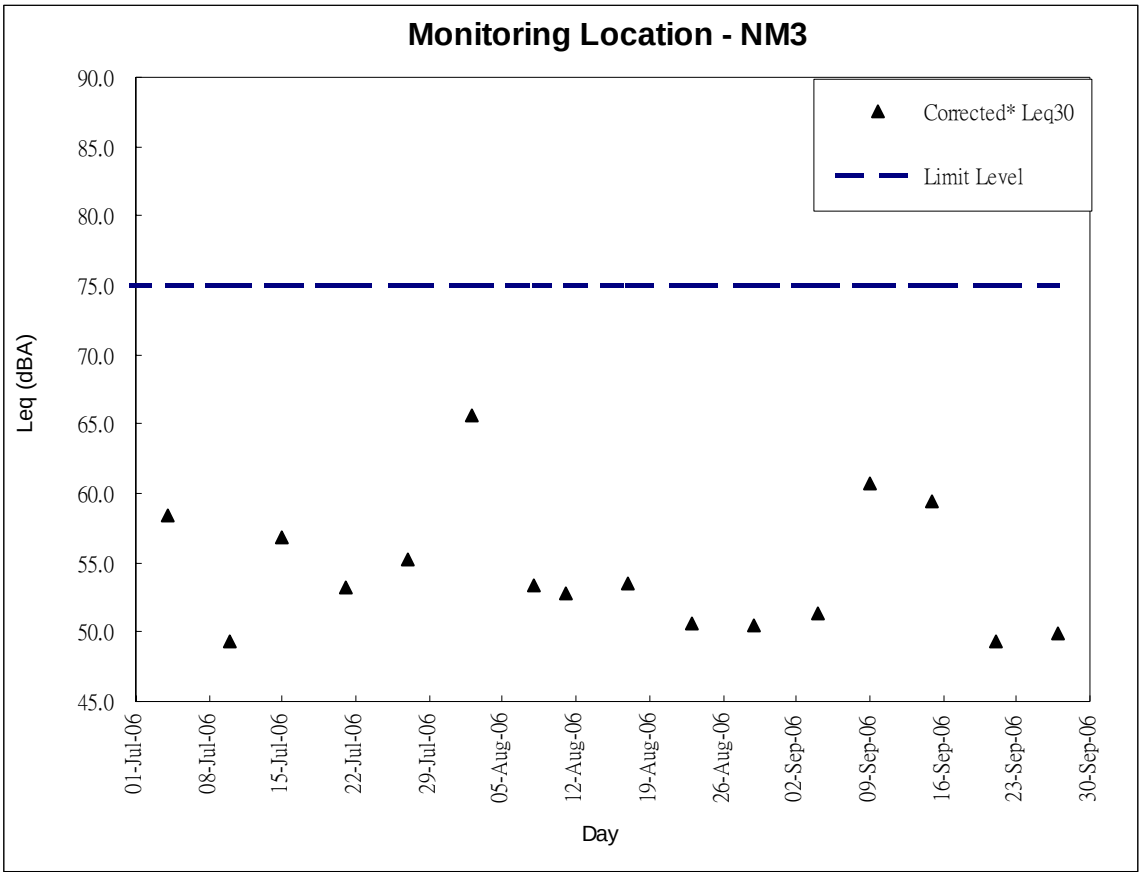
Graphical Plots of Air Quality and Noise Monitoring Results

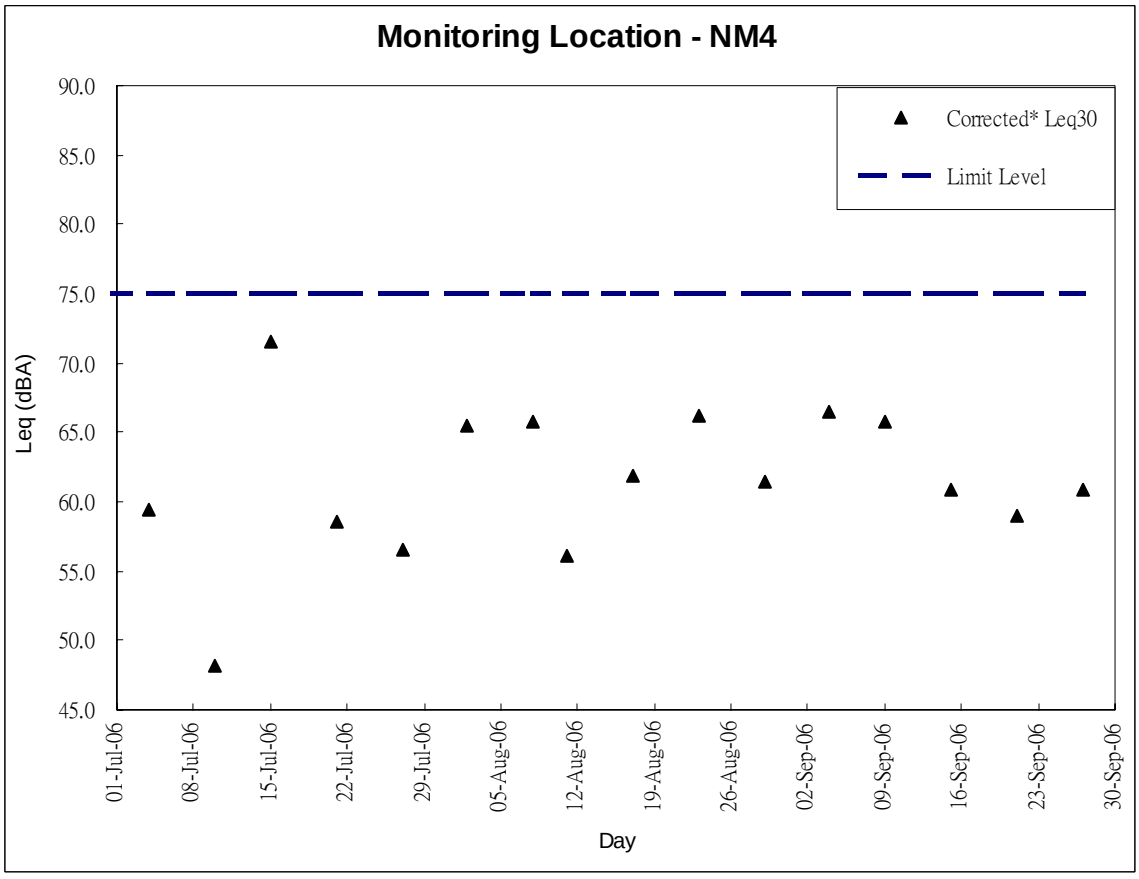
Air Quality Monitoring Results





Construction Noise Monitoring Results





Annex K

Proforma of Site Inspection and IEC Audit in September 2006

AUES

Site Inspection Checklist (SF-17)

Project	DC/2005/02 Construction of Sewers, Rising Mains & Sewage Pumping Station at Kam Tin, Nam Sang Wai and Au Tau in Yuen Long	**Contractor:**	Leader Civil Engineering Corp. Ltd
		Engineer:	Babtie Asia Ltd
Inspected by:	**ET Auditor:** Ken Wong	**IEC:**	Mott Connell Ltd
	Contractor Rep: Patrick Wong / Benny Lam	**Env. Team:**	Action-United Env. Services & Consulting
	IEC's Rep: Nil	**Inspection Date & Time:**	01 September 2006 at 14:00
	RE's Rep: Mr. S L Hui	**Inspection Ref:**	EM&A (01September06)

General Meteorological Information

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

Temp: [30] °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?	✓					
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?	✓					
Is 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 of site [ ] Construction activities outside of site [ ] Others

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?			✓				OBS 1
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?		✓				OBS 2
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities regularly inspected and maintained?				✓			
Are toilets provided on site? If so, are they properly maintained?		✓					
Are manholes covered and sealed?		✓					
Is oil leakage or spillage avoided?		✓					
Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?	✓					
	Is proper sorting and recycling implemented?	✓					
Construction Waste:	Is generation of construction waste minimized?	✓					
	Is waste sorting implemented on site?	✓					
	Is construction waste reused where practicable?	✓					
	Is construction waste properly disposed of?	✓					
	Are disposal records available for inspection?	✓					
Chemical waste/waste oil	Is there designated storage area?			✓			
	Is chemical waste stored properly?			✓			
	Is there proper disposal?			✓			
	Is chemical waste license available for inspection?			✓			
Excavated Materials	Do excavated materials appear uncontaminated?	✓					
	Are appropriate procedures followed if contaminated materials exist?	✓					
	Are disposal records available for inspection?	✓					
Chemical/Fuel	Is chemical/fuel stored in 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:

Nil

Observations:

OBS 1.
Soil runoff into the U-channel next to the sedimentation tanks was observed at the Ko Bo Road Portion H. The contractor was reminded to clean up and maintain the drainage system in proper condition.

OBS 2.
Stagnant water accumulated in the idle sedimentation tank was found at the Kam Tai Road construction site. To prevent any mosquito breeding, the contractor was reminded to clean up the water after each rainy day.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
			
Name: Ken 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:** Ken Wong	**IEC:**	Mott Connell Ltd
	Contractor Rep: Benny Lam / Edwin	**Environmental Team:**	Action-United Env. Services & Consulting
	IEC's Rep: Nil	**Inspection Date & Time:**	15 September 2006 at 14:00
	RE's Rep: Mr. S L Hui	**Checklist Reference No.:**	DSD-AT150906

General Meteorological Information

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

Temp: [30] °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?		✓				OBS 1
Are the excavated or stockpile of dusty materials kept wet?		✓				OBS 3
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?	✓					
Is 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 of site [ ] Construction activities outside of site [ ] Others

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?			✓				OBS 2
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?		✓				OBS 2
	Free from silt and sediment?	✓					
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities regularly inspected and maintained?				✓			
Are toilets provided on site? If so, are they properly maintained?		✓					
Are manholes covered and sealed?		✓					
Is oil leakage or spillage avoided?		✓					

Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?	✓					
	Is proper sorting and recycling implemented?	✓					
Construction Waste:	Is generation of construction waste minimized?	✓					
	Is waste sorting implemented on site?	✓					
	Is construction waste reused where practicable?	✓					
	Is construction waste properly disposed of?	✓					
	Are disposal records available for inspection?	✓					
Chemical waste/waste oil	Is there designated storage area?			✓			
	Is chemical waste stored properly?			✓			
	Is there proper disposal?			✓			
	Is chemical waste license available for inspection?			✓			
Excavated Materials	Do excavated materials appear uncontaminated?	✓					
	Are appropriate procedures followed if contaminated materials exist?	✓					
	Are disposal records available for inspection?	✓					
Chemical/Fuel	Is chemical/fuel stored in 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:

Checklist (01Sep06) OBS 1.
Excavation soil accumulated into the U-channel next to the sedimentation tanks at the Ko Bo Road Portion H had been clean.

Checklist (01Sep06) OBS 2.
Stagnant water accumulated in the idle sedimentation tank at the Kam Tai Road construction site had been removed.

Observations Recorded in this Site Inspection:

OBS 1.
Grouting platform without entirely surrounded by the tarpaulin sheet was observed at the Portion F A1. To prevent any fugitive dust emission from the dusty activities, the contractor was reminded to maintain tarpaulin sheet cover for the grouting platform in proper condition.

OBS 2.
Silty water discharge from the sedimentation tanks into the drainage system was observed at the Kam Tai Road working site. The contractor was reminded to provide regular maintenance and enough sedimentation tanks on-site to improve the efficiencies of the treatment system.

OBS 3.
Stockpile of the excavation soil accumulated on-site without covered by the tarpaulin sheet was found at the Castle Peak Road working site. To prevent any muddy water flow on public road during the rainy day, the contractor was reminded to remove the excavated soil on-site at end of each working day or provided tarpaulin sheet cover in the rainy days.

Signatures:

Env. Auditor	Contractor's Representative	IC(E) Auditor	Resident Site Staff
			
Name: Ken 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:** Ben Tam	**IEC:**	Mott Connell Ltd
	Contractor Rep: Benny Lam / Edwin	**Environmental Team:**	Action-United Env. Services & Consulting
	IEC's Rep: Nil	**Inspection Date & Time:**	19 September 2006 at 10:00
	RE's Rep: Mr. S L Hui	**Checklist Reference No.:**	DSD-AT190906

General Meteorological Information

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

Temp: [30] °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?	✓					
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?	✓					
Is 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 of site [ ] Construction activities outside of site [ ] Others

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?		✓					Remarks 1
Is drainage adequate?		✓					
Is drainage system well maintained?			✓				Remarks 3
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?	✓					Remarks 1
	Free from silt and sediment?		✓				Remarks 2
Are there neutralization tanks for concrete batching/mixing discharge?				✓			
Are there oil interceptors in drainage system?				✓			
Is wheel wash facility provided at every site exit?		✓					
Are vehicles and plant cleaned of earth, mud & debris before leaving the site?		✓					
Are wheel washing facilities regularly inspected and maintained?				✓			
Are toilets provided on site? If so, are they properly maintained?		✓					
Are manholes covered and sealed?		✓					
Is oil leakage or spillage avoided?		✓					

Waste Management and Potential Land Contamination							
General Refuse:	Are receptacles (rubbish bins) available?	✓					
	Is there regular and proper disposal?	✓					
	Is proper sorting and recycling implemented?	✓					
Construction Waste:	Is generation of construction waste minimized?	✓					
	Is waste sorting implemented on site?	✓					
	Is construction waste reused where practicable?	✓					
	Is construction waste properly disposed of?	✓					
	Are disposal records available for inspection?	✓					
Chemical waste/waste oil	Is there designated storage area?			✓			
	Is chemical waste stored properly?			✓			
	Is there proper disposal?			✓			
	Is chemical waste license available for inspection?			✓			
Excavated Materials	Do excavated materials appear uncontaminated?	✓					
	Are appropriate procedures followed if contaminated materials exist?	✓					
	Are disposal records available for inspection?	✓					
Chemical/Fuel	Is chemical/fuel stored in 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. Sedimentation tanks were provided in the Kam Tai Road construction site.

Observations Recorded in this Site Inspection:

2. Sedimentation tank in Portion F was observed full of sediment, the contractor was reminded to clear the sediment regularly.

3. U-channel in Kam Tai Road was observed full of sediment, the contractor was reminded to provide the sand bag to prevent the sediment flowing into the channel.

Signatures:

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