Highways Department

Route 9 Between Tsing Yi and Cheung Sha Wan - Phase 1 Ngong Shuen Chau Viaduct: *Monthly Monitoring Report*

September 2002

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EP - 085/2000/B
Route 9 Between Tsing Yi and Cheung Sha Wan Phase 1 Ngong Shuen Chau Viaduct

Monthly Monitoring Report September 2002

Certified by the Environmental Team Leader
Environmental Resources Management

Signed: _____ Date: 9. 9. 2002

Mr Freeman Cheung
Executive Director

Verified by the Independent Environmental Checker
Hyder Consulting Ltd, Environmental Division

Signed: _____ Date: 9/9/02

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EXECUTIVE SUMMARY

The construction work of the "HY/2000/21 - Route 9 Ngong Shuen Chau Viaduct Contract" commenced on 29 July 2002. This monthly Environmental Monitoring and Audit (EM&A) report presents the EM&A works that has been carried out during the month from 29 July 2002 to 28 August 2002 in accordance with the EM&A Manual specified under Appendix M of the Particular Specification (PS).

Summary of Construction Works Undertaken During the Reporting Period

The major construction works were carried out during normal working hours (i.e. Monday to Saturday exclude public holidays from 0700 to1900 hours) included site clearance, mobilization of equipment, construction of site office in Area P1-SA9, erection of hoarding, site investigation and bored piling in Area P1-SA6 and P1-SA13.

No construction works were carried out during the restricted hours (General Holiday including Sundays between 0700 to 0700 hours of next day and any day not being a general holiday between 1900 to 0700 hours of next day) in the reporting period.

Air Quality

For 1-hr. TSP monitoring, a total of 30 sets of measurement were carried out during the reporting period and all measurement results were lower than the corresponding Action/Limit Levels. No Notification of Exceedance was issued during the reporting period.

For 24-hr. TSP monitoring, a total of 10 sets of measurement were carried out during the reporting period and all measurement results were lower than the corresponding Action/Limit Levels. No Notification of Exceedance was issued during the reporting period.

Noise

For L_{eq}(30min) measurement, a total of 10 sets of measurement at Daytime (i.e. 0700 to1900 hours on normal weekdays) were carried out during the reporting period and all measurement results were below the Action/Limit Level. No Notification of Exceedance was issued during the reporting period.

Waste Management

For Excavated Materials, approximate 2,120 m^3 were produced at the site during the reporting period. About 1,260 m^3 of the inert excavated materials were reused on-site and about 860 m^3 were delivered to the government approved public filling area in Tuen Mun Area 38.

For C&D Waste, approximate 242 tones were produced at the site during the reporting period and they have been delivered to WENT and SENT landfills. At the reporting month, about 372 kg paper was collected by a licensed recycle collector.

For Chemical Waste, about 600 liters of spent oil were produced at the site during the reporting period and they were collected by a licensed chemical waste collector.

Site Inspection

Weekly site inspections were conducted by the ET and the major findings are summarized as follows:

Item	Findings	Proposed Mitigation Measures	Environmental Outcome
1	Muddy/silty water from wheel washing bay discharged to gullies at P1-SA6 (Lai Po Road).	Divert effluent for proper treatment before final discharge to public drains.	Temporary measures were employed. De-silting facilities being arranged by CHEC.
2	Stockpiles excavated material were not covered properly at Area P1-SA15.	Cover the stockpiles.	CHEC covered the stockpiles by tarpaulin accordingly.
3	Surface water contaminated with oil/petrol was observed at Area P1-SA6.	Contaminated water collected and disposed of properly.	The collected waste was disposed of as chemical waste.

IEC Audit was carried out on 27th August 2002 and the major observations are as follows:

Item	Findings	Proposed Mitigation Measures	Environmental Outcome
1	Site hoarding at Area P1-SA6, Lai Po Road was not tightly sealed at the bottom.	Seal the bottom of the hoarding properly.	The bottom of the hoarding was sealed properly to prevent seepage of surface runoff from the site.
2	Muddy/silty water from wheel washing activities discharged to gullies at P1-SA6 (Lai Po Road).	Divert the effluent for proper treatment before final discharge.	Temporary measures were employed. De-silting facilities being arranged by CHEC.

No site inspection was conducted by EPD during the reporting month.

Complaint Log

One environmental complaint was received during the reporting period.

Notification of Summons and Successful Prosecutions

No notification of summons and prosecutions regarding non-compliance of environmental performance of the construction site was received during the reporting period.

Future Key Issues

The tentative program of major site activities as well as the impact prediction and control measures for the coming three months, i.e. September to November 2002 are summarized as follows:

Construction Works	Major Impact Predication	Control Measures
Bore Pilling, pre-drilling and excavation	Generation of silty water	• The wastewater produced will be collected and recycled for cooling on-site. • The footing of hoardings shall be sealed to avoid untreated wastewater drained into the existing drainage system. • Divert the collected effluent to de-silting facilities for treatment before discharge to public drains.
	Noise Impact	• Schedule of works if necessary to avoid persistent noisy operation. • Control the number of plant use on site.

1. INTRODUCTION

Environmental Resource Management Hong Kong Limited (ERM) was appointed by the Highways Department to undertake the role of the Environmental Team Leader for "Route 9 between Tsing Yi and Cheung Sha Wan Phase 1 – Ngong Shuen Chau Viaduct" to carry out baseline and impact monitoring.

1.1 Purpose of the Report

The propose of this report is to present the results and findings of all EM&A works which have been carried out during the reporting period from 29th July 2002 to 28th August 2002 in accordance with the EM&A Manual specified under the Appendix M of the PS.

1.2 Structure of the Report

The structure of the report is as follows:

Section 1: **INTRODUCTION** – details the scope and structure of the report.

Section 2: **PROJECT INFORMATION** – summarizes the background and scope of the project, project organization, construction programme and the construction works undertaken during the reporting period.

Section 3: **ENVIRONMENTAL MONITORING REQUIREMENTS** – summarizes the monitoring programmes, Action and Limit Levels, Event Action Plans, environmental mitigation measures as recommended in the EIA Report and relevant environmental requirements.

Section 4: **IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS** – summarizes the implementation of environmental protection measures during the reporting period.

Section 5: **ENVIRONMENTAL LICENCE AND PERMITTING REQUIREMENTS** – summarizes the environmental licences and permits obtained or being applied during the reporting period.

Section 6: **MONITORING RESULTS** – reports the monitoring results obtained in the reporting period.

Section 7: **AUDIT RESULTS –** summarizes the audit findings in the reporting period.

Section 8: **COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS DURING THE REPORTING PERIOD** – summarizes the complaints, notifications of summons and successful prosecutions recorded during the reporting period.

Section 9: **FUTURE KEY ISSUES –** summarizes the future key issues as reviewed from the works programme and work method statements.

Section 10: **RECOMMENDATIONS AND CONCLUSIONS**

2. PROJECT INFORMATION

2.1 Background

Ove Arup and Partners Hong Kong Ltd (Arup) has been awarded the Design and Construction Consultancy Assignment "Agreement No. CE72/98 R9T between Tsing Yi and Cheung Sha Wan".

Phase 1 of the Route 9 Project comprises of the Ngong Shuen Chau Viaduct and its link with CT8, R9T Cheung Sha Wan – Shatin, and West Kowloon Highway, has been awarded to China Harbour Engineering Company (Group) (CHEC) on 10 April 2002. The Phase 1 construction works was commenced on 29th July 2002 and is scheduled to be completed by December 2006.

2.2 Site Description

Phase 1 works area is located in urban area; the sensitive receivers are mainly residential buildings and schools at Mei Foo Sun Chuen and the dwellings at Stonecutters Military Base. The works area is illustrated in ***Appendix A***.

2.3 Project Organisation

The project organization chart and contact details are shown in ***Appendix B***.

2.4 Project Work Programme

The project works programme for the coming three months is presented in ***Appendix C***. The major site activities undertaken during the reporting month are summaries in ***Table 2.1***.

Table 2.1 Site Activities undertaken from 29 July 2002 to 28 August 2002

Area	Details of Site Activities
P1-SA6	Bore Piling, Site Investigation and Hoarding Erection.
P1-SA9	Erection of site office.
P1-SA13 and 14	Mobilization of Equipment and Site Investigation.
P1-SA15	Stockpile of excavated material to be reused on site.

3. ENVIRONMENTAL MONITORING REQUIREMENTS

3.1 Air Quality

Monitoring Requirements

Monitoring of 1-hour and 24-hour TSP was conducted to monitor the construction dust impact. ***Appendix D1*** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Frequency and Schedule

The monitoring parameters and frequency are summarized in ***Table 3.1***. The monitoring schedule for the reporting period is shown in ***Appendix E***.

Table 3.1 TSP Monitoring Parameter and Frequency

Parameters	Duration / hour	Frequency
24-hour TSP	24	Once Every Six Days
1-hour TSP	1	Three Times Every Six Days

Monitoring Locations

In accordance with the EM&A Manual and project specifications, two air quality monitoring locations were selected. Both 1 hour and 24-hour TSP monitoring were performed in the reporting month. The locations of the two monitoring stations are listed in ***Table 3.2*** and are shown in ***Appendix F***.

Table 3.2 TSP Monitoring Locations

Location I.D.	Description
ASR1	Lai Chi Kok Park at Mei Foo Sun Chuen (at the roof of the toilet block)
ASR2	DSD Pumping Station (in the proximity of Stonecutters Military Base)

Wind data monitoring was carried out at a conspicuous location for logging wind speed and wind direction near the dust monitoring locations. Weather station has been established at the Area P1-SA10 and the wind data was monitored since June 2002.

Monitoring Equipment

Continuous 24-hour and 1- hour TSP air quality monitoring were performed using a TE-5170 Tisch Environmental Inc. High Volume Sampler (HVS) installed at each of the monitoring stations. The sampler is composed of a motor, filter holder, flow controller and a sampling inlet and its performance specification complies with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

Wind data in terms of wind speed and direction was measured using wind data monitor. Details of the monitoring equipment are given in ***Table 3.3***. A copy of the calibration certificate for the HVS and wind data monitor are attached in ***Appendix G1*** and ***Appendix G2*** respectively.

Table 3.3 Air Quality Monitoring Equipment

Equipment	Model	Qty.
HVS Sampler	TE-5170 Tisch Environmental Inc.	2
Calibrator	TE-5028A Tisch Environmental Inc.	1

Monitoring Procedures and Calibration Details

Calibration Procedures

Calibration procedures of HVS were as follows:

- A certified orifice transfer standard with a calibration curve was used for the calibration.
- The transfer standard was connected to the inlet of the sampler. The orifice manometer was then connected to the orifice pressure port. The manometer's connecting tubing was inspected to make sure that there are no leaks between the orifice unit and the sampler.
- The motor was then disconnected from the flow controller and plugged directly to an AC power source.
- A weather station has been setup at the CRE Temporary Accommodation to measure and record the ambient temperature, Ta (K) and the barometer pressure Pa (mmHg) during calculation.
- The sampler was allowed to run for at least 2 minutes to re-establish the run temperature conditions. The pressure drop across the orifice and the well-type manometer reading was recorded during calibration. The variable resistance was adjusted to repeat recording for four different flow rates.

- The best fit straight line was determined by linear regression and find the slope (m1), intercept (b1) and correlation coefficient (r).

Certificates for calibration is attached in ***Appendix G3***.

Operating/Analytical Procedures

- The flow rate of the high volume sampler was set to about 1.1 m^3/min - 1.7 m^3/min prior to commencement of the dust sampling in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

- The samplers was located such that:

  - the filter was about 1.3 meters above ground.
  - it was greater than 20 meters away from trees.
  - it was separated from any obstacle by at least twice the height of the obstacle protruding above the sampler.
  - it has unrestricted airflow 270° around the sampler.

- Fibreglass filters were used for TSP sampling (G810) [Note: these filters have a collection efficiency of > 99% for particles of 0.3 mm diameter].

- All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was between 25°C and 30°C and not vary by more than ±3°C; the relative humidity was < 50% and not vary by more than ±5%.

- A new filter was placed with stamped number upward on a supporting screen.

- The filter was properly aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter.

- Shelter lid closed and catch secured with the aluminium strip.

- The samplers was then allowed to run for at least 5 minutes to establish run-temperature conditions.

- The flow indicator reading was recorded and the sampler flow rate was determined.

- The programmable timer was set and the starting sampling time, weather condition and the filter number was recorded.

- At the end of sampling, the filter was transferred from the filter holder of the HVS to a sealable plastic bag and sent to the laboratory for weighing. The elapsed time was also recorded.

- Before weighing, all filters were equilibrated in a desiccator for 24 hours with temperature of 25°C±3°C and the relative humidity (RH) 50%±5%, preferably 40%.

Maintenance

- The volume sampler and their accessories were maintained in good working condition, include replacing motor brushes routinely and checking electrical wiring to ensure continuous power supply.

- The high volume samplers was calibrated at bi-monthly intervals using TE-5028A Tisch Environmental Inc. Calibration Kit throughout all stages of the air quality monitoring.

Event/Action Plan

The Event/Action Plan for Air Quality is shown in ***Appendix H1***.

3.2 Noise Quality

Monitoring Requirements

Noise monitoring was conducted at two monitoring stations to monitoring the construction noise impact. ***Appendix D2*** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Frequency and Schedule

Noise monitoring was conducted during the period 07:00 to 19:00. The monitoring schedule is shown in ***Appendix E***. The frequency and parameters of noise measurement are presented in Table 3.4.

Table 3.4 Noise Monitoring Frequency and Parameters

Time Period	Duration / min.	Parameters	Frequency
Daytime (0700 to 1900)	30 (6 consecutive L_{eq}(5min) in average)	L_{eq}, L_{90} & L_{10}	Once per week

Monitoring Locations

In accordance with the EM&A Manual and project specifications, two noise monitoring stations (as detailed in ***Table 3.5*** and shown in ***Appendix F***) were selected for noise measurement.

Table 3.5 Location of the Noise Monitoring Stations

Location I.D.	Description	Type of measurement
NSR1	Lai Chi Kok Park at Mei Foo Sun Chuen (at the roof of the toilet block)	Free Field
NSR2	DSD Pumping Station (in the proximity of Stonecutters Military Base)	Free Field

Monitoring Equipment

Integrating Sound Level Meters were used for noise monitoring which were Type 1 sound level meters capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x). They comply with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). Also, a portable electronic wind speed indicator capable of measuring wind speed in m/s was used to monitor the wind speed. ***Table 3.6*** summarises the noise monitoring equipment used.

Table 3.6 Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	SC-30, CESVA
Calibrator	CB-5, CESVA
Portable Wind Speed Indicator	PWM1, Dwyer

Monitoring Procedures and Calibration Details

Field Monitoring

- The microphone of the Sound Level Meter (with weatherproof kit) was mounted on a tripod at a height of 2m above ground level.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces.
- AC power supply was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement : 30 minutes / 5 minutes
- Prior to and after each noise measurement, the meter was calibrated using the Calibrator for 94 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB (A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the L_{eq}, L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

Maintenance and Calibration

- The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- The meter was sent to the supplier to check and calibrate at yearly intervals.

Calibration certificates are presented in ***Appendix G3***.

Event/Action Plan

The Event/Action Plan for Noise impact is shown in ***Appendix H2***.

4. IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status during the reporting period is summarized in ***Appendix I***.

5. ENVIRONMENTAL LICENCE AND PERMITTING REQUIREMENTS

The status of the permits, licenses and EPD notifications for all relevant environmental issues for this project is summarized in ***Table 5.1*** of the reporting period.

Table 5.1 Summary of Environmental Licensing, Notification and Permit Status

Description	Permit No.	Valid Period		Section	Status / Remarks
		From	To		
Environmental Permit	EP-085/2000 B	15/04/02	-	Whole work site	Valid
Chemical Waste Producer Registration	WPN – 5213-269-C3215-01	15/04/02	-	Whole construction site	Valid (for disposal of empty fuel/lubricant drums, scrap batteries, spent lubricating oil, diesel, mineral oil and solvent)
Waste Water Discharge License	EP482/269/0038/I	15/04/02	30/06/07	Whole construction site	Valid (carry out analyses on a quarterly basis)
Construction Noise Permit	GW-UE0138-02	09/05/02	24/10/02	Lai Wan Interchange	Valid (Any day from 0700h - 2300h)
Construction Noise Permit	GW-UE0139-02	09/05/02	24/10/02	Hing Wah St. West between Container Port Rd. South Roundabout No.7 and La Po Rd.	Valid (Any day from 0700h - 2300h)

Description	Permit No.	Valid Period		Section	Status / Remarks
		From	To		
Construction Noise Permit	GW-UE0140-02	09/05/02	24/10/02	West Kln. Highway near Hing Wah St. West	Valid (Any day from 0700h - 2300h)
Construction Noise Permit	PP-UE0051-02	13/07/02	08/01/03	West Kowloon Highway Flyover near Hing Wah St. West	Valid (Any day not being a general holiday from 0700h-1900h)
Construction Noise Permit	PP-UE0055-02	13/07/02	08/01/03	Hing Wah St. West off Kln. Refuse Transfer Station	Valid (Any day not being a general holiday from 0800h-0930h, 1230h-1400h, 1700h-1900h)
Construction Noise Permit	PP-UE0063-02	10/08/02	30/01/03	Lai Po Rd off KMB Depot	Valid (Any day not being a general holiday from 0700h-1900h)

6. MONITORING RESULTS

6.1 Air Quality

1-hour TSP

1-hour TSP monitoring was carried out at 2 monitoring stations between 29 July 2002 and 28 August 2002. All monitoring data is presented in ***Appendix J***. A summary of the measured 1-hour TSP levels is given in ***Table 6.1***. Graphical presentation of the 1-hour TSP monitoring results for the reporting month is shown in ***Appendix K***.

No exceedance of the Action/Limit Levels of 1-hour TSP was recorded during the reporting period.

Table 6.1 Summary of 1-hour TSP Impact Monitoring Results

Location I.D.	**1-hour TSP(μg/m^3)**		**Action Level (μg/m^3)**	**Limit Level (μg/m^3)**
	Mean	Range		
ASR1	107.4	17.5-177.6	318	500
ASR2	123.2	40.4-237.0	324	500

24-hour TSP

24-hour TSP monitoring was carried out at 2 monitoring stations between 29 July 2002 and 28 August 2002. All monitoring data is presented in ***Appendix J***. A summary of the measured results is given in ***Table 6.2***. Graphical presentation of the results is shown in ***Appendix K***.

Table 6.2 Summary of 24-hour TSP Impact Monitoring Results

Location I.D.	**24-hour TSP (μg/m^3)**		**Action Level (μg/m^3)**	**Limit Level (μg/m^3)**
	Mean	**Range**		
ASR1	64.2	36.8-132.7	163	260
ASR2	79.1	27.9-161.4	178	260

The wind data monitoring results recorded during the reporting period are summarised in ***Appendix L***.

Observations

There are several significant dust sources identified during the reporting period and they are mainly contributed by the following activities:

- Site clearance;
- Excavation;
- Other construction activities nearby; and
- Traffic.

6.2 Noise

Normal Hour Monitoring

Noise monitoring was carried out at all the noise monitoring stations between 29 July 2002 and 28 August 2002. A 3 dB(A) façade correction was made to the free field measurements at the monitoring stations. All corrected noise levels are presented in ***Appendix M***. A summary of the results is given in ***Table 6.3***. Graphical presentation of the monitoring results for the reporting month is shown in ***Appendix N***.

Table 6.3 Summary of Corrected Impact Noise Levels

Daytime 0700-1900 hrs on normal weekdays	**Noise Level, dB(A) Mean (Range)**		
	Leq	**L_{10}**	**L_{90}**
NSR1*	71.1 (67.9-72.8)	73.0 (69.5-74.6)	68.9 (65.6-70.6)
NSR2*	74.5 (74.0-74.9)	77.3 (76.9-77.8)	69.9 (68.1-71.9)

** Free-field measurement*

Restricted Hour Monitoring

No construction works was carried out during restricted hours (General Holiday including Sundays between 0700-2300 hours and any day not being a general holiday between 1900-2300 hours) during the reporting month.

Observations

The major noise sources during the reporting period were dominated by the following activities:

- Bored piling;
- Excavation;
- Traffic noise; and
- Other construction works nearby.

7. AUDIT RESULTS

7.1 Air Quality

The 1-hour and 24-hour TSP measurements at the air monitoring locations were all below the corresponding Action/Limit Levels.

7.2 Noise

For $L_{eq(30min)}$ measurement, a total of 10 sets of readings measured during daytime (i.e. 0700 to 1900 from Monday to Saturday) were carried out during the reporting period and all measurement results were below the Limit Level.

7.3 Waste Management

Wastes from this Project include construction and demolition (C&D) waste, excavated materials, chemical waste and general refuse. The EIA Study has stated that with the implementation of appropriate mitigation measures, impact from wastes would be unacceptable. The Waste Management Plan has recommended procedures for handling of C&D waste, excavated materials, chemical waste and general refuse.

Based on the information provided by CHEC with respect to relevant handling records and trip tickets of this project, the quantities of different wastes and their handling are summarized in ***Table 7.1***.

Table 7.1 Summary of Different Categories of Waste during the Reporting Period

Material Type		**Quantity Produced in Aug 02**	**Handling Method**	**Handling Quantities in Aug 02**	**Storage Locations (if applicable)**
C&D material	(inert waste)	2121 m^3	Deliver to Public Fill (Tuen Mun Area 38)	861 m^3	N/A
			Reuse on site for filing	1260 m^3	P1-SA15
	(non-inert waste)	372 kg	To be recycled (paper)	372 kg	N/A
		N/A	To be reused	N/A	N/A
		N/A	To be returned to supplier	N/A	N/A
		242.62 tones	Collected by licensed collector for disposal	242.62 tones	N/A
Chemical waste		600 liters	To be collected by licenced chemical waste collector for disposal	600 liters	Chemical Waste Storage Area in P1-SA10

7.4 Site Inspection by Environmental Team (ET)

- Unsatisfactory discharge of effluent produced from wheel-washing activities in Area P1-SA6 (Lai Po Road) was observed (31st July, 7th, 14th and 21st August). CHEC had made arrangements to divert the effluent for proper treatment before final discharge.

- Stockpiles of excavated material were not covered properly at Area P1-SA15 (14th and 21st August). CHEC had made arrangements to cover the stockpiles using tarpaulin accordingly.

- Surface water, contaminated with oil or petrol was observed at Area P1-SA6, Lai Po Road (21st August). Subsequently the contaminated water was colleted and disposed of as chemical waste.

- CHEC was advised to provide sedimentation tanks with adequate capacity for settling site surface water runoff.

- CHEC has agreed that areas such as wheel washing bay shall be connected to storm drains via a petrol interceptor.

7.5 Site Inspection by Independent Environmental Checker (IEC)

- Site hoarding at Area P1-SA6, Lai Po Road was not tightly sealed at the bottom. For this CHEC had made arrangement to seal the bottom of the hoarding properly to prevent seepage of surface runoff from the site.

- Water from surface runoff and wheel washing activities was not collected in a sedimentation tank for treatment prior to discharge at Area P1-SA6, Lai Po Road. With respect to this situation, CHEC had made arrangement to collect wastewater to de-silting facilities for treatment before final discharge to public drains.

- The wheel washing facilities at the site entrance/exit were not satisfactory and surface runoff was discharged directly into storm drain outside the site entrance at Area P1-SA6, Lai Po Road. With respect to this situation, the wheel washing facilities and temporary drainage system are currently being reviewed by CHEC. Temporary sandbags barriers are employed and a concrete ramp across the site entrance are provided as temporary measures in order to prevent surface runoff entering the public drain directly.

7.6 Site Inspection by Environmental Protection Department (EPD)

No site inspection was conducted by EPD during the reporting period.

8. COMPLAINTS, NOTIFICATIONS OF SUMMONS AND PROSECUTIONS

8.1 Summary of Complaints

One complaint was received during this reporting periods. The details of the complaints and the follow up actions are presented in ***Table 8.1***.

Table 8.1 Summary of Complaints Received between 29 July and 28 August 2002

Case No. **Received Date (Complaint Mode)**	***EC2002/01*** **Telephone complaint received on 19 August 2002 referred by HyD subsequently.**
Parameters	Illegal Dumping (Soil and mud/C&D waste)
Description	A substantial amount of building debris / waste material was found along side of Lai Po Road near the site entrance of KMB Depot.
Follow-up Action	• After investigation, it was confirmed that the debris was within the Project site boundary. However, they were illegally dumped by others. • The illegal dumping was cleared by CHEC in the afternoon on 19 August 2002. • Follow-up phone call was made to the complainant on 20 August 2002. The complainant was satisfied of our prompt action.
Recommended Mitigation Measures	CHEC was asked to look after their site more closely to avoid illegal dumping within the Project area in future.
Status/ Remarks	Closed (Investigations were undertaken by ET on 20 and 21 August 2002. The waste was cleaned up and no illegal dumping was found)

The summary for all the complaints received since the commencement of the Contract is presented in ***Table 8.2***. The details of previous complaints and statistics are attached in ***Appendices in O1*** and ***O2*** respectively.

Table 8.2 Summary of Total Complaint Cases

Total No. of Complaint	No. of complaint received within reporting period	No. of Active Complaint	No. of Inactive/Closed Complaint
1	1	0	1

8.2 Summary of Notification of Summon and Prosecution

No notification of summons or prosecutions was received regarding the non-compliance of the environmental performance of the construction site since the commencement of works.

9. FUTURE KEY ISSUES

9.1 Key Issues for the Coming Month

Works taken for the coming monitoring period will be similar to the previous month as follows:

- Utilities detection and trial pit excavation;
- Hoarding Erection
- Pre-drilling
- Equipment mobilization for piling works
- Bored piling

Potential environmental impacts arising from the above construction activities are mainly associated with dust, noise and site runoff. However, with the implementation of the following mitigation measures, potential impacts to the surrounding sensitive receivers could be minimised:

Construction Dust

- Regularly watering of haul road and unpaved areas;
- Prohibit any open burning on site;
- Investigate other dust sources near air sensitive receivers;
- Regularly watering or covering the open area/stock piles with tarpaulin;
- Hydroseed or covering the inactive sandfill area with impervious sheeting if necessary;
- Maintain onsite machinery and vehicles regularly;
- Follow up any exceedance of TSP levels caused by the construction works.

Construction Noise

- Identify noise sources arising within or outside worksite;
- To follow up any exceedance caused by the construction works.

Construction Runoff

- Identify sources of wastewater generate from the site;
- Provide sandbags/bunds to direct site surface run-off to silt/sand removal facilities;
- Treat wastewater and surface run-off prior to disposal.

Construction Waste Management

- Avoid accumulation of waste materials or rubbish on site;
- Chemical waste or oil will be corrected and disposed of as chemical waste.
- Remove waste materials on site regularly.

9.2 Monitoring Schedule for the Coming Three Months

The tentative schedules for dust and noise monitoring from 29 August to 28 November 2002 are attached in ***Appendix P***.

10. RECOMMENDATIONS AND CONCLUSIONS

10.1 Conclusion

This Environmental Monitoring and Audit (EM&A) report presents the EM&A works undertaken during the month from 29 July 2002 to 28 August 2002 in accordance with the EM&A Manual specified under Appendix M of the Particular Specification (PS).

All 1-hour and 24-hour TSP monitoring were carried out at 2 monitoring stations and their results were well below the Action/Limit Levels.

Noise monitoring of $L_{eq(30min)}$ was carried out at 2 monitoring stations and their results were well below the Action/Limit Levels.

One complaint was received during the reporting period. In total, one complaint was received since the commencement of construction works.

No prosecution or summons was received for this Contract since the commencement of construction works.

The environmental monitoring results indicated that the site activities undertaken by the Contractor during the reporting period were in general comply with the relevant environmental requirements, except for deficiencies found during site audits as stated in Section 7.4 and 7.5 of this report.

10.2 Recommendations

According to the environmental audits undertaken during the reporting month, the following recommendations are made:

Construction Dust

- Site access road and bare soil should be watered regularly to ensure the soil surface is wet;
- Frequent watering of dusty areas during hot/dry weather;
- Stockpiles of excavated material should be covered properly by tarpaulin;
- All onsite plant and vehicles should be maintained regularly to avoid emission of black smoke.

Construction Noise

- The number of plant operating should not exceed the allowable plant number for each construction activity stated in the Construction Noise Permit;
- Noisy equipment should be located away from nearby NSRs.

Water Quality

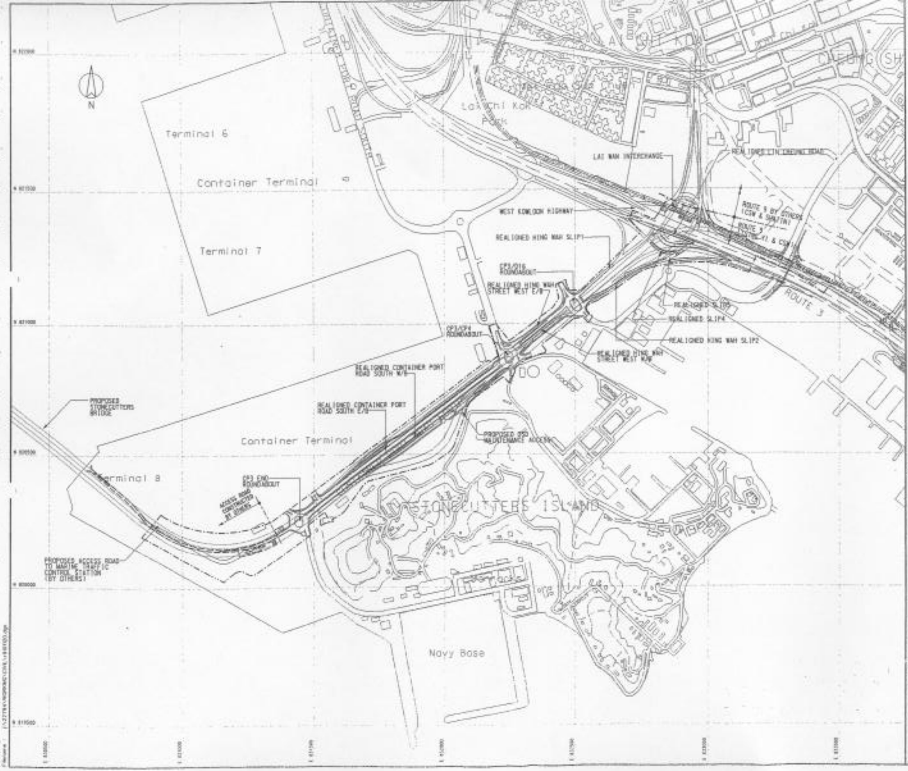
- All surface runoff/wastewater should be diverted to appropriate water treatment facility before disposal;
- Sedimentation tanks/basins should have adequate capacity for settling surface runoff;
- Wheel washing bay shall be connected to storm drains via a petrol interceptor;
- Site hoarding should be tightly sealed at the bottom to prevent seepage of surface runoff from the site.

Waste Management

- Surface water which contaminated with oil or petrol should be colleted and disposed of as chemical waste;
- All type of wastes should be collected by licensed waste collectors;
- Good housekeeping should be implemented.

Appendix A

Site Layout Plan



LOCATION PLAN

NOTES:

1. CO-ORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980).

LEGEND:

- WORKS LIMIT
- WEST RAIL TUNNEL BOX
- ROUTE 9 VIADUCT
- GROUND LEVEL ROADS
- GROUND LEVEL ROADS (BY OTHERS)

Rev	Description	By	Date
0	ISSUE FOR CONSTRUCTION	AL	10/02

Consultant

ARUP 奧雅納工程顧問 Ove Arup & Partners Hong Kong Limited

Supported by: Charles Haswell & Partners; CDM Hong Kong Ltd; COWI Consulting Engineers; BI Group; Chris Wilkinson Architects; Gibb Ltd; RMJM Hong Kong Ltd; BMT Asia Pacific Ltd

Project title

HY/2000/21
Route 9 - Ngong Shuen Chau Viaduct

Drawing title

OVERALL GROUND LEVEL ROADS LAYOUT PLAN

Drawing no.	Rev.
22794/P/I/01/120	0

Drawn	Date	Checked	Approved
SL	08/00	RL	SV

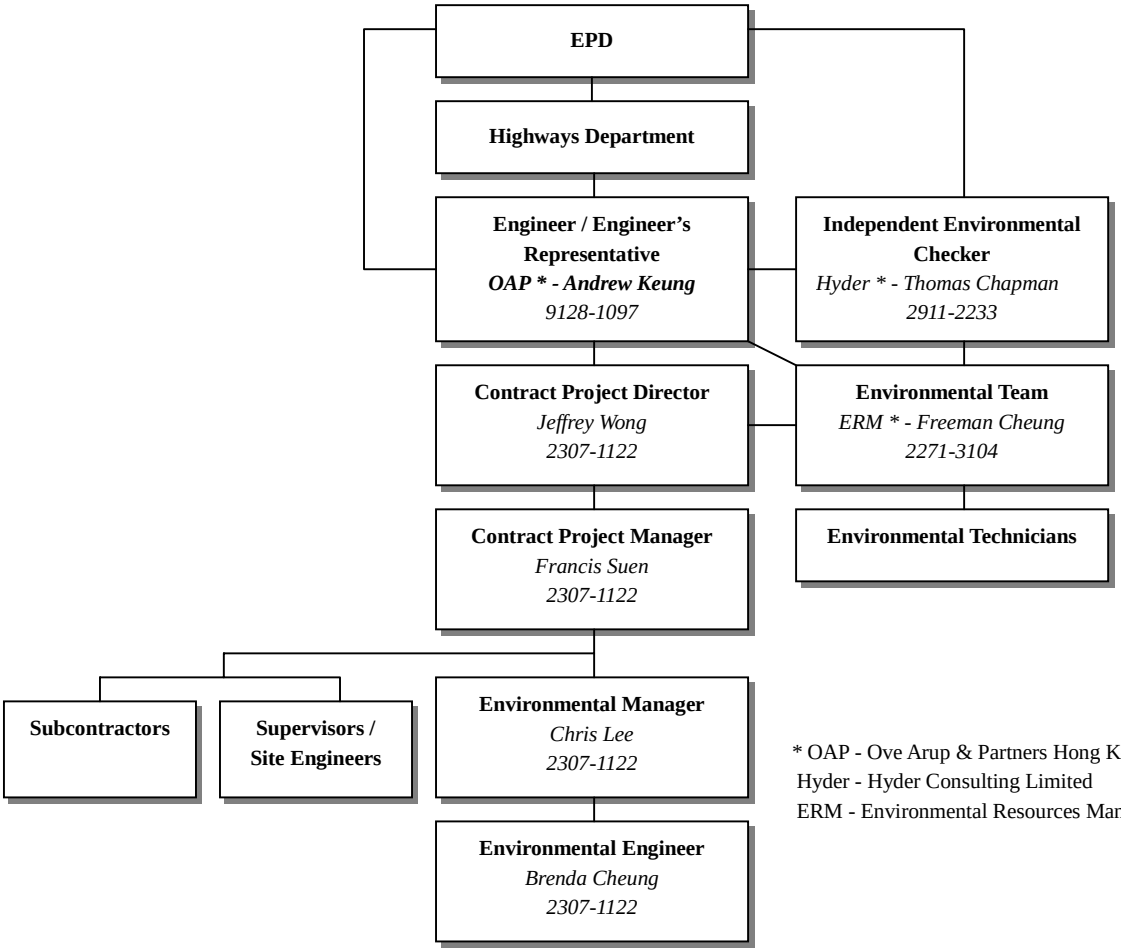
Scale	Status
1:5000 @ A1	WORKING

路政署 HIGHWAYS DEPARTMENT
主要工程管理處 Major Works Project Management Office

Appendix B

Project Organization Chart and Contact Detail

Project Organization Chart and Contact Details



* OAP - Ove Arup & Partners Hong Kong Limited
Hyder - Hyder Consulting Limited
ERM - Environmental Resources Management

Appendix C

Project Work Programme

Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
PRELIMINARIES, DESIGN & PROCUREMENT						
SITE ACCOMMODATION & TEMPORARY FACILITIES						
Contractor's Site Accommodation						
0010-00150	Sanitary fitting	100	10	19/07/02A	29/07/02A	
0010-00160	E&M and network system final fixing	100	4	22/07/02A	05/08/02A	
0010-00190	Plumbing & drainage installation	100	7	19/07/02A	31/07/02A	
0010-00200	Flooring tile	100	4	17/07/02A	31/07/02A	
0010-00210	Door panel installation	100	4	29/07/02A	31/07/02A	
0010-00220	Furniture Installation	100	4	03/08/02A	04/08/02A	
0010-00230	Server & Computer Installation	100	7	03/08/02A	04/08/02A	
0010-00240	Final connection to DSD manhole	0	0		20/09/02*	1,880
Engineer's Site Accommodation						
0015-00100	Structure frame	100	10	15/07/02A	07/08/02A	
0015-00110	External panel & roof panel installation	100	7	18/07/02A	09/08/02A	
0015-00120	Windows installation	100	3	26/07/02A	10/08/02A	
0015-00130	Door frame & internal partition wall installation	100	3	26/07/02A	10/08/02A	
0015-00140	Ceiling grid installation	100	3	30/07/02A	10/08/02A	
0015-00150	Sanitary fitting	100	4	31/07/02A	11/08/02A	
0015-00160	E&M wiring	100	3	26/07/02A	10/08/02A	
0015-00170	Network system wiring	100	2	07/08/02A	11/08/02A	
0015-00180	E&M and network system final fixing	100	1	01/08/02A	11/08/02A	
0015-00190	Plumbing & drainage installation	100	2	03/08/02A	11/08/02A	
0015-00200	Flooring tile	100	2	01/08/02A	09/08/02A	
0015-00210	Door panel installation	100	1	03/08/02A	10/08/02A	
0015-00220	Furniture installation	100	1	02/08/02A	10/08/02A	
0015-00230	Server & Computer Installation	100	1	03/08/02A	11/08/02A	
0015-00240	Final connection to DSD manhole	0	0		20/09/02*	1,880
PERMITS & SUBMISSIONS						
Submissions: Method Statements & EDOC's						
0050-00120	MTRC EDOC: Approval by MTRC	0	0		22/09/02	-39
0050-00140	KCRC EDOC: Approval by Engineer	0	0		22/09/02	-9
0050-00150	KCRC EDOC: Approval by KCRC	0	0		29/09/02	-9
TMLG MEETING						
TMLG Meeting						
0052-00130	TMLG Meeting No.4	100	0		09/08/02A	
0052-00140	TMLG Meeting No.5	0	0		30/08/02*	295
0052-00150	TMLG Meeting No.6	0	0		27/09/02*	144
0052-00160	TMLG Meeting No.7	0	0		25/10/02*	43
DESIGN & SUBMISSION						
Permits & Submissions: Traffic Related						
0053-00300	Interface Management Plan	97	100	29/05/02A	25/08/02	0
0060-00300	TTA outline Proposals	97	100	30/04/02A	25/08/02	0
0060-00310	Traffic Mgt Contingency Plan	70	10	19/04/02A	25/08/02	0
Submissions: Project Controls Related						
0053-00120	Detail Works Programme	100	50	17/06/02A	31/07/02A	
0053-00130	Summary Programme	100	50	17/06/02A	31/07/02A	
0053-00280	Revised Quality Forms	0	0		30/08/02*	0
0053-00310	General Independent Testing Labs	0	0		30/08/02*	0
0060-00430	Submit method statement for piling works	100	50	03/06/02A	31/08/02A	
0060-00450	Geotechnical Monitoring Plan	78	50	13/06/02A	02/09/02	0
Submission: Preliminaries						
0053-00150	Engineer's Accommodation & Equipment	78	60	31/05/02A	04/09/02	0
0053-00160	Initial Record Photos	89	100	10/04/02A	02/09/02	0
0053-00200	NSCV Model	100	0		17/08/02A	
0053-00260	Details of wheel washing facilities	100	0		06/08/02A	
0053-00270	Details of sewage treatment facilities	0	0		30/08/02*	0
0060-00370	Method of pipeline and associated works	0	0		23/08/02*	0
0060-00380	Method of drains, outfalls or sewers	0	0		23/08/02*	0
0060-00390	Method of retaining wall	0	0		02/10/02*	0
Design: Segment Launching Gantry						
0060-00185	Safety measures for erection of deck segments	0	0		30/08/02*	0
0060-00160	Aspect of precast concrete segment erection	0	0		30/08/02*	0
0060-00170	Erection equipment	0	0		30/08/02*	0
0060-00180	Temporary platform	0	0		30/08/02*	0
0060-00240	Launching girder design	40	272	04/04/02A	31/01/03	-16
0060-00260	Fabrication girder	0	140	03/10/02	22/03/03	-14
Design: Segment Yard & Storage						
0060-00130	Method of storage of segment	0	0		30/08/02*	0
0060-00140	Curing system for segment	0	0		30/08/02*	0
0060-00150	Geometry control	0	0		30/08/02*	0
0060-00190	Stroage mixing & application of epoxy bonding	0	0		30/08/02*	0
Design: Public Works Regional Laboratory						
TPWRL-0060	Submit structural calculation	0	0	23/08/02*		1
TPWRL-0070	Submit dangerous good store/chemical	0	0	31/08/02*		29
TPWRL-0080	Submit Guard booth	0	0	31/08/02*		29

Start Date	04/04/02
Finish Date	26/01/06
Data Date	23/08/02
Run Date	03/09/02 10:52

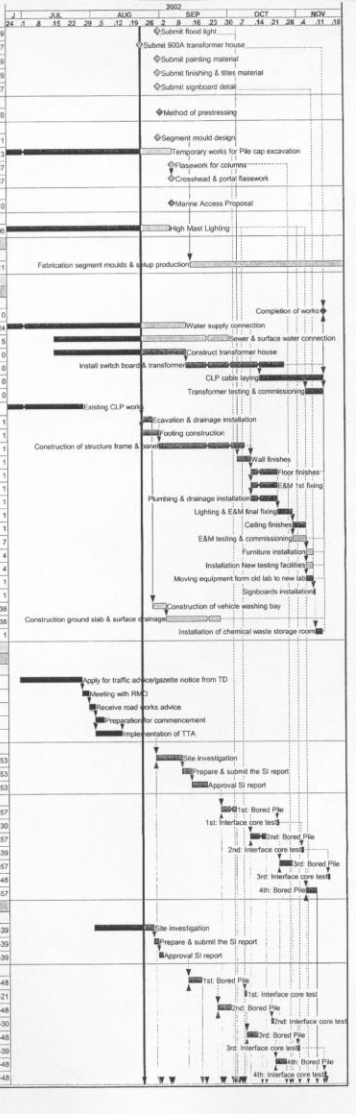
Early Bar
Progress Bar
Critical Activity

Sheet 1 of 13

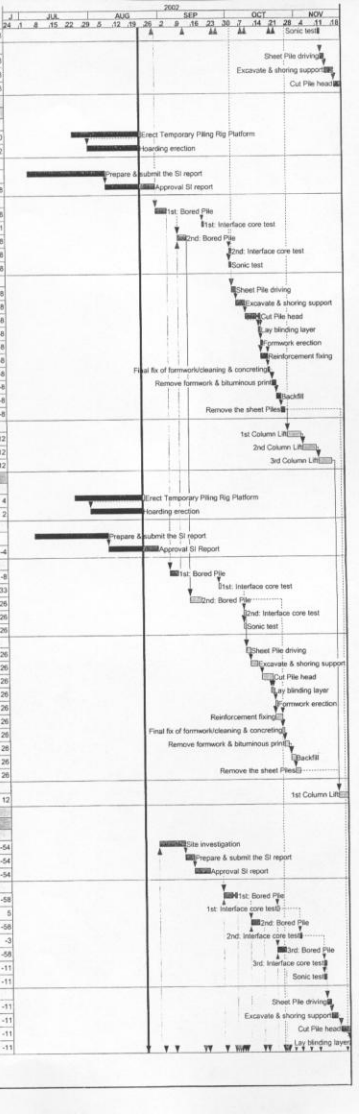
CHINA HARBOUR ENGINEERING COMPANY (GROUP)
ROUTE 9-NSCV
CONTRACT NO. HY/2000/21
SMRP

Date	Revision	Checked	Approved

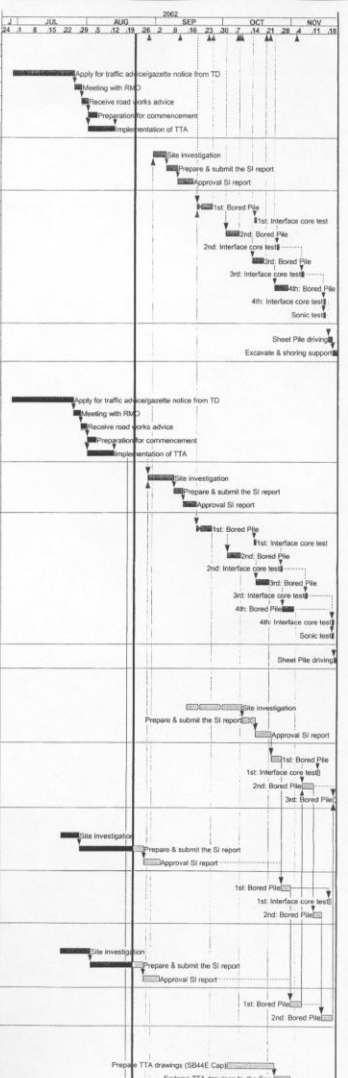
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
TPWRL-0090	Submit flood light	0	0	31/08/02*		29
TPWRL-0100	Submit 900A transformer house	0	0	23/08/02*		67
TPWRL-0110	Submit painting material	0	0	31/08/02*		29
TPWRL-0120	Submit finishing & titles material	0	0	31/08/02*		29
TPWRL-0130	Submit signboard detail	0	0	31/08/02*		57
Design: Temporary Pre-stressing						
0060-00120	Method of prestressing	0	0		31/08/02*	0
Design: Moulds, Formwork & Shutters						
0060-00200	Segment mould design	0	0		30/08/02*	11
0080-00490	Temporary works for Pile cap excavation	0	10	29/05/02A	05/09/02	13
0080-00470	Flasework for columns	0	0		05/09/02*	47
0080-00480	Crosshead & portal flasework	0	0		05/09/02*	47
Design: Pt-SAS Marine Access						
0080-00100	Marine Access Proposal	0	0		05/09/02*	0
Street Lighting & High Mast Lighting						
0060-00320	High Mast Lighting	87	100	05/06/02A	04/09/02	196
PROCUREMENT						
Pre-cast Segments Manufacture						
0080-00210	Fabrication segment moulds & setup production	0	78	14/09/02	30/11/02	11
CONSTRUCT BUILDINGS						
TSUEN WAN PUBLIC WORKS REGIONAL LABORATORY (PWRL						
TPWRL-0040	Completion of works	0	0		12/11/02*	0
TPWRL-0170	Water supply connection	58	40	06/06/02A	11/09/02	24
TPWRL-0180	Sewer & surface water connection	29	45	15/07/02A	30/09/02	5
TPWRL-0200	Construct transformer house	43	30	15/07/02A	11/09/02	0
TPWRL-0210	Install switch board & transformer	0	35	12/09/02	25/10/02	0
TPWRL-0220	CLP cable laying	0	25	15/10/02	12/11/02	0
TPWRL-0230	Transformer testing & commissioning	0	7	05/11/02	12/11/02	0
TPWRL-0235	Existing CLP works	100	98	04/04/02A	27/07/02A	
TPWRL-0240	Ecavation & drainage installation	0	4	23/08/02	27/08/02	1
TPWRL-0250	Footing construction	0	7	23/08/02	30/08/02	1
TPWRL-0260	Construction of structure frame & panel	0	30	31/08/02	07/10/02	1
TPWRL-0270	Wall finishes	0	5	05/10/02	10/10/02	1
TPWRL-0280	Floor finishes	0	9	11/10/02	22/10/02	1
TPWRL-0290	E&M 1st fixing	0	9	11/10/02	22/10/02	1
TPWRL-0300	Plumbing & drainage installation	0	9	11/10/02	22/10/02	1
TPWRL-0310	Lighting & E&M final fixing	0	6	23/10/02	29/10/02	1
TPWRL-0320	Ceiling finishes	0	5	30/10/02	04/11/02	1
TPWRL-0330	E&M testing & commissioning	0	5	30/10/02	04/11/02	7
TPWRL-0340	Furniture installation	0	3	05/11/02	07/11/02	4
TPWRL-0350	Installation New testing facilities	0	3	05/11/02	07/11/02	4
TPWRL-0360	Moving equipment form old lab to new lab	0	3	05/11/02	07/11/02	1
TPWRL-0370	Signboards installation	0	1	08/11/02	08/11/02	1
TPWRL-0380	Construction of vehicle washing bay	0	5	28/08/02	02/09/02	38
TPWRL-0390	Construction ground slab & surface drainage	0	20	03/09/02	26/09/02	38
TPWRL-0400	Installation of chemical waste storage room	0	2	09/11/02	11/11/02	1
CONSTRUCT BRIDGE G1 - STAGE 1A WORKS						
BRIDGE G1: PIER G2 - STAGE 1A						
G1: Pier G2 TTA Implementation						
3000-00120	Apply for traffic advice/gazette notice from TD	100	14	29/05/02A	26/07/02A	
3000-00130	Meeting with RMO	100	3	27/07/02A	29/07/02A	
3000-00140	Receive road works advice	100	2	30/07/02A	01/08/02A	
3000-00150	Preparation for commencement	100	3	02/08/02A	05/08/02A	
3000-00160	Implementation of TTA	100	7	02/08/02A	13/08/02A	
G1: Pier G2 SI Pre-Drilling						
3010-00100	Site investigation	0	10	29/08/02	09/09/02	-53
3010-00110	Prepare & submit the SI report	0	4	10/09/02	13/09/02	-53
3010-00120	Approval SI report	0	6	14/09/02	20/09/02	-53
G1: Pier G2 Bored Piling						
3015-00100	1st: Bored Pile	0	5	27/09/02	03/10/02	-57
3015-00110	1st: Interface core test	0	1	22/10/02	22/10/02	-30
3015-00120	2nd: Bored Pile	0	5	10/10/02	16/10/02	-57
3015-00130	2nd: Interface core test	0	1	02/11/02	02/11/02	-39
3015-00140	3rd: Bored Pile	0	5	23/10/02	29/10/02	-57
3015-00150	3rd: Interface core test	0	1	14/11/02	14/11/02	-48
3015-00160	4th: Bored Pile	0	5	04/11/02	08/11/02	-57
BRIDGE G1: PIER G3 - STAGE 1A						
G1: Pier G3 SI Pre-Drilling						
3045-00100	Site investigation	25	5	01/08/02A	27/08/02	-39
3045-00110	Prepare & submit the SI report	0	2	28/08/02	29/08/02	-39
3045-00120	Approval SI report	0	2	30/08/02	31/08/02	-39
G1: Pier G3 Bored Piling						
3050-00100	1st: Bored Pile	0	5	12/09/02	17/09/02	-48
3050-00110	1st: Interface core test	0	1	07/10/02	07/10/02	-21
3050-00120	2nd: Bored Pile	0	5	25/09/02	30/09/02	-48
3050-00130	2nd: Interface core test	0	1	19/10/02	19/10/02	-30
3050-00140	3rd: Bored Pile	0	5	08/10/02	12/10/02	-48
3050-00150	3rd: Interface core test	0	1	31/10/02	31/10/02	-39
3050-00160	4th: Bored Pile	0	5	21/10/02	25/10/02	-48
3050-00170	4th: Interface core test	0	1	12/11/02	12/11/02	-48



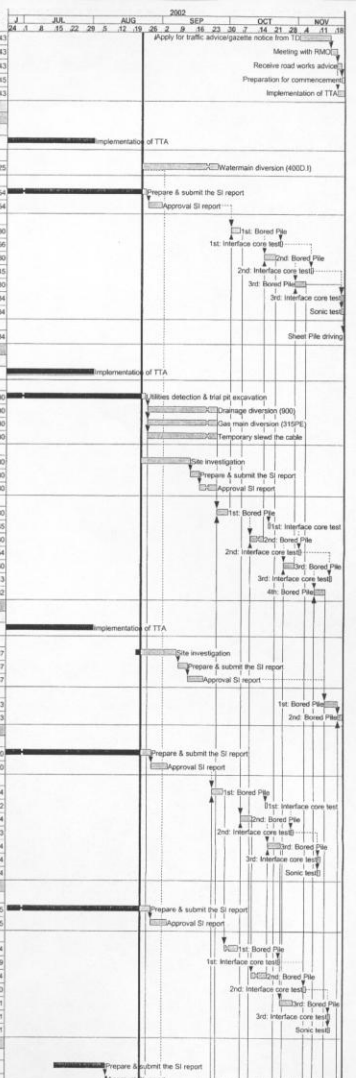
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
3050-00180	Sonic test	0	1	12/11/02	12/11/02	-48
G1: Pier G3 Pile Cap						
3055-00100	Sheet Pile driving	0	2	13/11/02	14/11/02	-48
3055-00110	Excavate & shoring support	0	3	15/11/02	18/11/02	-48
3055-00120	Cut Pile head	0	5	19/11/02	23/11/02	-48
CONSTRUCT BRIDGE G2 - STAGE 1A WORKS						
BRIDGE G2: PIER G12S						
G2: Pier G12S Utilities, Services & Roadworks						
3470-00103	Erect Temporary Piling Rig Platform	90	6	24/07/02A	23/08/02	0
3470-00110	Hoarding erection	90	4	31/07/02A	22/08/02	-2
G2: Pier G12S SI Pre-Drilling						
3475-00100	Prepare & submit the SI report	100	4	04/07/02A	07/08/02A	
3475-00120	Approval SI report	0	6	08/08/02A	29/08/02	-8
G2: Pier G12S Bored Piling						
3480-00100	1st: Bored Pile	0	4	30/08/02	03/09/02	-8
3480-00110	1st: Interface core test	0	1	20/09/02	20/09/02	-1
3480-00120	2nd: Bored Pile	0	4	09/09/02	12/09/02	-8
3480-00130	2nd: Interface core test	0	1	02/10/02	02/10/02	-8
3480-00180	Sonic test	0	1	02/10/02	02/10/02	-8
G2: Pier G12S Pile Cap						
2485-00100	Sheet Pile driving	0	2	03/10/02	04/10/02	-8
2485-00110	Excavate & shoring support	0	3	05/10/02	08/10/02	-8
2485-00120	Cut Pile head	0	5	09/10/02	15/10/02	-8
2485-00130	Lay blinding layer	0	1	15/10/02	15/10/02	-8
2485-00140	Formwork erection	0	1	16/10/02	16/10/02	-8
2485-00150	Reinforcement fixing	0	3	15/10/02	18/10/02	-8
2485-00160	Final fix of formwork/cleaning & concreting	0	1	19/10/02	19/10/02	-8
2485-00170	Remove formwork & bituminous print	0	2	21/10/02	22/10/02	-8
2485-00180	Backfill	0	2	23/10/02	24/10/02	-8
2485-00190	Remove the sheet Piles	0	2	25/10/02	26/10/02	-8
G2: Pier G12S Column (Type C5)						
3490-00100	1st Column Lift	0	6	28/10/02	02/11/02	12
3490-00110	2nd Column Lift	0	6	04/11/02	09/11/02	12
3490-00120	3rd Column Lift	0	6	11/11/02	16/11/02	12
BRIDGE G2: PIER G13S						
G2: Pier G13S Utilities, Services & Roadworks						
3535-00103	Erect Temporary Piling Rig Platform	90	6	24/07/02A	23/08/02	4
3535-00110	Hoarding erection	90	4	31/07/02A	22/08/02	2
G2: Pier G13S SI Pre-Drilling						
3540-00110	Prepare & submit the SI report	100	4	26/07/02A	07/08/02A	
3540-00120	Approval SI Report	0	6	08/08/02A	29/08/02	-4
G2: Pier G13S Bored Piling						
3545-00100	1st: Bored Pile	0	4	04/09/02	07/09/02	-8
3545-00110	1st: Interface core test	0	1	26/09/02	26/09/02	33
3545-00120	2nd: Bored Pile	0	4	13/09/02	17/09/02	26
3545-00130	2nd: Interface core test	0	1	07/10/02	07/10/02	26
3545-00180	Sonic test	0	1	07/10/02	07/10/02	26
G2: Pier G13S Pile Cap						
3550-00100	Sheet Pile driving	0	2	08/10/02	09/10/02	26
3550-00110	Excavate & shoring support	0	3	10/10/02	12/10/02	26
3550-00120	Cut Pile head	0	5	15/10/02	19/10/02	26
3550-00130	Lay blinding layer	0	1	19/10/02	19/10/02	26
3550-00140	Formwork erection	0	1	21/10/02	21/10/02	26
3550-00150	Reinforcement fixing	0	3	21/10/02	23/10/02	26
3550-00160	Final fix of formwork/cleaning & concreting	0	1	24/10/02	24/10/02	26
3550-00170	Remove formwork & bituminous print	0	2	25/10/02	26/10/02	26
3550-00180	Backfill	0	2	28/10/02	29/10/02	26
3550-00190	Remove the sheet Piles	0	2	30/10/02	31/10/02	26
G2: Pier G13S Column (Type C5)						
3555-00100	1st Column Lift	0	6	18/11/02	23/11/02	12
CONSTARUCT BRIDGE H2 - STAGE 1A WORKS						
BRIDGE H2: PIER H9N - STAGE 1A						
H2: Pier H9N SI Pre-Drilling						
4335-00100	Site investigation	0	10	29/08/02	09/09/02	-54
4335-00110	Prepare & submit the SI report	0	4	10/09/02	13/09/02	-54
4335-00120	Approval SI report	0	6	14/09/02	20/09/02	-54
H2: Pier H9N Bored Piling						
4340-00100	1st: Bored Pile	0	4	27/09/02	02/10/02	-58
4340-00110	1st: Interface core test	0	1	21/10/02	21/10/02	5
4340-00120	2nd: Bored Pile	0	4	09/10/02	12/10/02	-58
4340-00130	2nd: Interface core test	0	1	31/10/02	31/10/02	-3
4340-00140	3rd: Bored Pile	0	4	21/10/02	24/10/02	-58
4340-00150	3rd: Interface core test	0	1	11/11/02	11/11/02	-11
4340-00180	Sonic test	0	1	11/11/02	11/11/02	-11
H2: Pier H9N Pile Cap						
4345-00100	Sheet Pile driving	0	2	12/11/02	13/11/02	-11
4345-00110	Excavate & shoring support	0	3	14/11/02	18/11/02	-11
4345-00120	Cut Pile head	0	5	19/11/02	23/11/02	-11
4345-00130	Lay blinding layer	0	1	23/11/02	23/11/02	-11



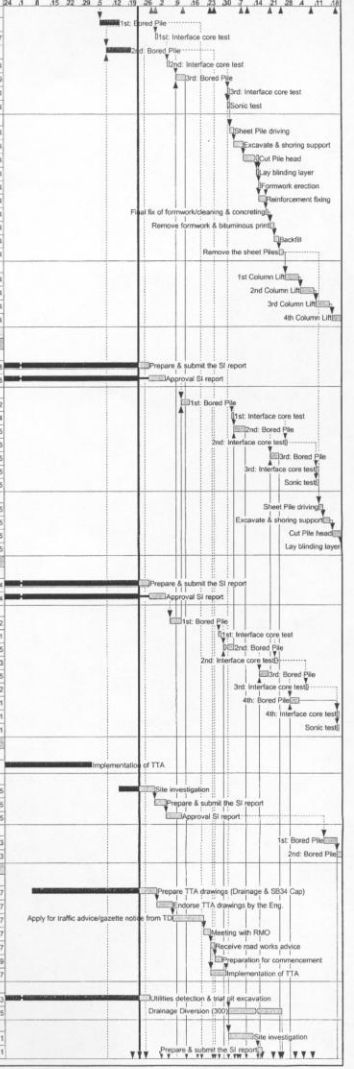
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
CONSTRUCT BRIDGE ML15 - STAGE 1A WORKS						
BRIDGE ML15: PIER SB42						
ML15: Pier SB42 TTA Implementation						
6882-00120	Apply for traffic advice/gazette notice from TD	100	14	29/06/02A	26/07/02A	
6882-00130	Meeting with RMO	100	3	27/07/02A	29/07/02A	
6882-00140	Receive road works advice	100	2	30/07/02A	01/08/02A	
6882-00150	Preparation for commencement	100	3	02/08/02A	05/08/02A	
6882-00160	Implementation of TTA	100	7	02/08/02A	13/08/02A	
ML15: Pier SB42 SI Pre-Drilling						
6888-00100	Site investigation	0	5	31/08/02	05/09/02	-56
6888-00110	Prepare & submit the SI report	0	4	06/09/02	10/09/02	-56
6888-00120	Approval SI report	0	6	11/09/02	17/09/02	-56
ML15: Pier SB42 Bored Piling						
6891-00100	1st: Bored Pile	0	5	20/09/02	26/09/02	-58
6891-00110	1st: Interface core test	0	1	16/10/02	16/10/02	-34
6891-00120	2nd: Bored Pile	0	5	03/10/02	08/10/02	-58
6891-00130	2nd: Interface core test	0	1	26/10/02	26/10/02	-42
6891-00140	3rd: Bored Pile	0	5	15/10/02	19/10/02	-58
6891-00150	3rd: Interface core test	0	1	06/11/02	06/11/02	-50
6891-00160	4th: Bored Pile	0	5	25/10/02	30/10/02	-58
6891-00170	4th: Interface core test	0	1	16/11/02	16/11/02	-58
6891-00180	Sonic test	0	1	16/11/02	16/11/02	-58
ML15: Pier SB42 Pile Cap						
6894-00100	Sheet Pile driving	0	2	18/11/02	19/11/02	-58
6894-00110	Excavate & shoring support	0	3	20/11/02	22/11/02	-58
CONSTRUCT BRIDGE ML16 - STAGE 1A WORKS						
BRIDGE ML16: PIER NB42						
ML16: Pier NB42 TTA Implementation						
6996-00120	Apply for traffic advice/gazette notice from TD	100	14	29/06/02A	26/07/02A	
6996-00130	Meeting with RMO	100	3	27/07/02A	29/07/02A	
6996-00140	Receive road works advice	100	2	30/07/02A	01/08/02A	
6996-00150	Preparation for commencement	100	3	02/08/02A	05/08/02A	
6996-00160	Implementation of TTA	100	7	02/08/02A	13/08/02A	
ML16: Pier NB42 SI Pre-Drilling						
7002-00100	Site investigation	0	10	29/08/02	09/09/02	-58
7002-00110	Prepare & submit the SI report	0	4	10/09/02	13/09/02	-58
7002-00120	Approval SI report	0	5	14/09/02	19/09/02	-58
ML16: Pier NB42 Bored Piling						
7005-00100	1st: Bored Pile	0	5	20/09/02	26/09/02	-58
7005-00110	1st: Interface core test	0	1	16/10/02	16/10/02	-2
7005-00120	2nd: Bored Pile	0	5	04/10/02	09/10/02	-57
7005-00130	2nd: Interface core test	0	1	28/10/02	28/10/02	-11
7005-00140	3rd: Bored Pile	0	5	17/10/02	22/10/02	-57
7005-00150	3rd: Interface core test	0	1	08/11/02	08/11/02	-20
7005-00160	4th: Bored Pile	0	5	29/10/02	02/11/02	-57
7005-00170	4th: Interface core test	0	1	20/11/02	20/11/02	-29
7005-00180	Sonic test	0	1	20/11/02	20/11/02	-29
ML16: Pier NB42 Pile Cap						
7008-00100	Sheet Pile driving	0	2	21/11/02	22/11/02	-29
CONTRUCT BRIDGE G2 - STAGE 1 WORKS						
BRIDGE G2: PIER G11						
G2: Pier G11 SI Pre-Drilling						
3410-00100	Site investigation	0	29	16/09/02*	10/10/02	106
3410-00110	Prepare & submit the SI report	0	4	11/10/02	16/10/02	106
3410-00120	Approval SI report	0	6	17/10/02	23/10/02	106
G2: Pier G11 Bored Piling						
3415-00100	1st: Bored Pile	0	4	24/10/02	28/10/02	106
3415-00110	1st: Interface core test	0	1	14/11/02	14/11/02	171
3415-00120	2nd: Bored Pile	0	4	07/11/02	11/11/02	106
3415-00140	3rd: Bored Pile	0	4	21/11/02	25/11/02	106
BRIDGE G2: PIER G12N						
G2: Pier G12N SI Pre-Drilling						
3445-00100	Site investigation	100	15	22/07/02A	29/07/02A	
3445-00110	Prepare & submit the SI report	0	4	30/07/02A	27/08/02	150
3445-00120	Approval SI report	0	6	28/08/02	03/09/02	150
G2: Pier G12N Bored Piling						
3450-00100	1st: Bored Pile	0	4	29/10/02	01/11/02	106
3450-00110	1st: Interface core test	0	1	19/11/02	19/11/02	128
3450-00120	2nd: Bored Pile	0	4	12/11/02	15/11/02	106
BRIDGE G2: PIER G13N						
G2: Pier G13N SI Pre-Drilling						
3510-00100	Site investigation	100	15	22/07/02A	03/08/02A	
3510-00110	Prepare & submit the SI report	0	4	04/08/02A	27/08/02	154
3510-00120	Approval SI report	0	6	28/08/02	03/09/02	154
G2: Pier G13N Bored Piling						
3515-00100	1st: Bored Pile	0	4	02/11/02	06/11/02	106
3515-00120	2nd: Bored Pile	0	4	16/11/02	20/11/02	106
CONSTRUCT BRIDGE ML15 - STAGE 2 WORKS						
BRIDGE ML15: PIER SB44E						
ML15: Pier SB44E TTA Implementation						
6924-00100	Prepare TTA drawings (SB44E Cap)	0	21	05/10/02*	25/10/02	43
6924-00110	Endorse TTA drawings by the Eng.	0	7	26/10/02	01/11/02	43



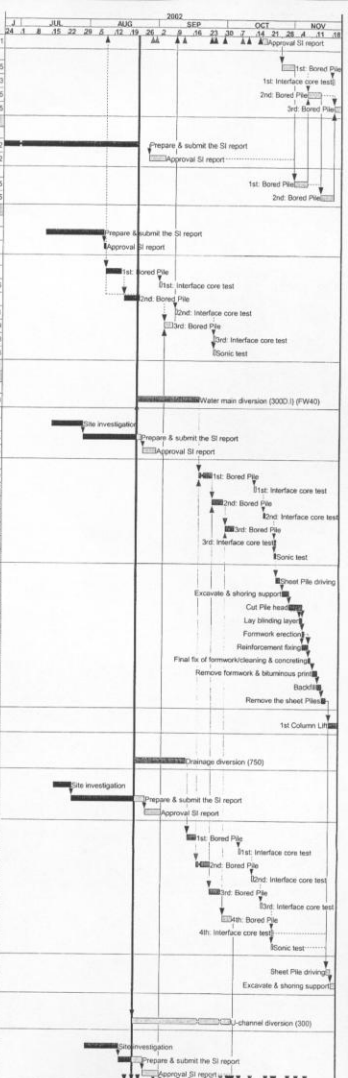
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
6924-00120	Apply for traffic advice/gazette notice from TD	0	14	02/11/02	15/11/02	43
6924-00130	Meeting with RMC	0	3	16/11/02	18/11/02	43
6924-00140	Receive road works advice	0	2	19/11/02	20/11/02	43
6924-00150	Preparation for commencement	0	3	21/11/02	23/11/02	45
6924-00160	Implementation of TTA	0	7	19/11/02	25/11/02	43
CONSTRUCT BRIDGE ML12						
BRIDGE ML12: PIER NB31						
ML12: Pier NB31	TTA Implementation					
6405-00106	Implementation of TTA	100	7	10/06/02A	01/08/02A	
ML12: Pier NB31	Utilities & Services Diversions					
6408-00110	Watermain diversion (400D.I)	0	28	23/08/02	25/09/02	25
ML12: Pier NB31	SI Pre-Drilling					
6411-00110	Prepare & submit the SI report	50	4	01/06/02A	24/08/02	54
6411-00120	Approval SI report	0	6	26/08/02	31/08/02	54
ML12: Pier NB31	Bored Piling					
6414-00100	1st: Bored Pile	0	4	02/10/02	05/10/02	30
6414-00110	1st: Interface core test	0	1	24/10/02	24/10/02	56
6414-00120	2nd: Bored Pile	0	4	17/10/02	21/10/02	30
6414-00130	2nd: Interface core test	0	1	07/11/02	07/11/02	45
6414-00140	3rd: Bored Pile	0	4	31/10/02	04/11/02	30
6414-00150	3rd: Interface core test	0	1	21/11/02	21/11/02	34
6414-00160	Sonic test	0	1	21/11/02	21/11/02	34
ML12: Pier NB31	Pile Cap					
6417-00100	Sheet Pile driving	0	2	22/11/02	23/11/02	34
BRIDGE ML12: PIER NB32						
ML12: Pier NB32	TTA Implementation					
6426-00106	Implementation of TTA	100	7	10/06/02A	01/08/02A	
ML12: Pier NB32	Utilities & Services Diversions					
6429-00100	Utilities detection & trial pit excavation	50	4	20/04/02A	24/08/02	30
6429-00110	Drainage diversion (900)	0	26	26/08/02	25/09/02	30
6429-00130	Gas main diversion (315PE)	0	26	26/08/02	25/09/02	30
6429-00140	Temporary slewd the cable	0	26	26/08/02	25/09/02	30
ML12: Pier NB32	SI Pre-Drilling					
6432-00100	Site investigation	0	19	23/08/02	13/09/02	30
6432-00110	Prepare & submit the SI report	0	3	14/09/02	17/09/02	30
6432-00120	Approval SI report	0	6	18/09/02	25/09/02	30
ML12: Pier NB32	Bored Piling					
6435-00100	1st: Bored Pile	0	4	26/09/02	30/09/02	30
6435-00110	1st: Interface core test	0	1	19/10/02	19/10/02	65
6435-00120	2nd: Bored Pile	0	4	11/10/02	16/10/02	30
6435-00130	2nd: Interface core test	0	1	02/11/02	02/11/02	54
6435-00140	3rd: Bored Pile	0	4	26/10/02	30/10/02	30
6435-00150	3rd: Interface core test	0	1	16/11/02	16/11/02	43
6435-00160	4th: Bored Pile	0	4	09/11/02	13/11/02	32
BRIDGE ML12: PIER NB33						
ML12: Pier NB33	TTA Implementation					
6447-00106	Implementation of TTA	100	7	10/06/02A	01/08/02A	
ML12: Pier NB33	SI Pre-Drilling					
6453-00100	Site investigation	30	20	21/08/02A	07/09/02	87
6453-00110	Prepare & submit the SI report	0	4	09/09/02	12/09/02	87
6453-00120	Approval SI report	0	6	13/09/02	19/09/02	87
ML12: Pier NB33	Bored Piling					
6456-00100	1st: Bored Pile	0	5	14/11/02	19/11/02	43
6456-00120	2nd: Bored Pile	0	5	20/11/02	25/11/02	43
BRIDGE ML12: PIER NB34						
ML12: Pier NB34	SI Pre-Drilling					
6474-00110	Prepare & submit the SI report	0	4	21/06/02A	27/08/02	120
6474-00120	Approval SI report	0	6	28/08/02	03/09/02	120
ML12: Pier NB34	Bored Piling					
6477-00100	1st: Bored Pile	0	5	24/09/02	28/09/02	104
6477-00110	1st: Interface core test	0	1	18/10/02	18/10/02	122
6477-00120	2nd: Bored Pile	0	5	07/10/02	11/10/02	104
6477-00130	2nd: Interface core test	0	1	30/10/02	30/10/02	113
6477-00140	3rd: Bored Pile	0	5	19/10/02	24/10/02	104
6477-00150	3rd: Interface core test	0	1	11/11/02	11/11/02	104
6477-00160	Sonic test	0	1	11/11/02	11/11/02	104
BRIDGE ML12: PIER NB35(M)						
ML12: Pier NB35	SI Pre-Drilling					
6495-00110	Prepare & submit the SI report	0	4	25/06/02A	27/08/02	125
6495-00120	Approval SI report	0	6	28/08/02	03/09/02	125
ML12: Pier NB35	Bored Piling					
6498-00100	1st: Bored Pile	0	5	30/09/02	05/10/02	104
6498-00110	1st: Interface core test	0	1	24/10/02	24/10/02	159
6498-00120	2nd: Bored Pile	0	5	12/10/02	18/10/02	104
6498-00130	2nd: Interface core test	0	1	05/11/02	05/11/02	150
6498-00140	3rd: Bored Pile	0	5	25/10/02	30/10/02	141
6498-00150	3rd: Interface core test	0	1	16/11/02	16/11/02	141
6498-00160	Sonic test	0	1	16/11/02	16/11/02	141
BRIDGE ML12: PIER NB36(M)						
ML12: Pier NB36	SI Pre-Drilling					
6516-00110	Prepare & submit the SI report	100	4	16/07/02A	07/08/02A	
6516-00120	Approval SI report	100	6	08/08/02A	08/08/02A	



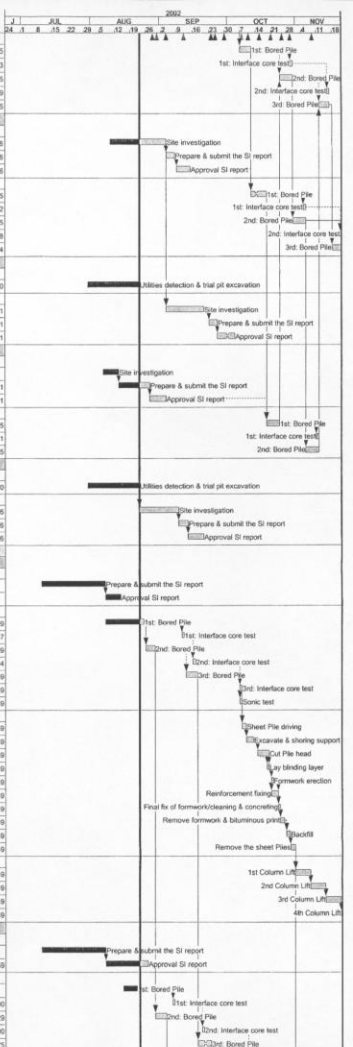
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
ML12: Pier NB36 Bored Piling						
6519-00100	1st: Bored Pile	100	4	06/08/02A	14/08/02A	
6519-00110	1st: Interface core test	0	1	31/08/02	31/08/02	57
6519-00120	2nd: Bored Pile	100	4	09/08/02A	19/08/02A	
6519-00130	2nd: Interface core test	0	1	05/09/02	05/09/02	54
6519-00140	3rd: Bored Pile	0	4	09/09/02	12/09/02	29
6519-00150	3rd: Interface core test	0	1	02/10/02	02/10/02	34
6519-00160	Sonic test	0	1	02/10/02	02/10/02	34
ML12: Pier NB36 Pile Cap						
6522-00100	Sheet Pile driving	0	2	03/10/02	04/10/02	34
6522-00110	Excavate & shoring support	0	3	05/10/02	08/10/02	34
6522-00120	Cut Pile head	0	5	09/10/02	15/10/02	34
6522-00130	Lay blinding layer	0	1	15/10/02	15/10/02	34
6522-00140	Formwork erection	0	1	16/10/02	16/10/02	34
6522-00150	Reinforcement fixing	0	3	16/10/02	18/10/02	34
6522-00160	Final fix of formwork/cleaning & concreting	0	1	19/10/02	19/10/02	34
6522-00170	Remove formwork & bituminous print	0	2	21/10/02	22/10/02	34
6522-00180	Backfill	0	2	23/10/02	24/10/02	34
6522-00190	Remove the sheet Piles	0	2	25/10/02	26/10/02	34
ML12: Pier NB36 Column (Type C3/T3M hollow)						
6525-00100	1st Column Lift	0	6	28/10/02	02/11/02	34
6525-00110	2nd Column Lift	0	6	04/11/02	09/11/02	34
6525-00120	3rd Column Lift	0	6	11/11/02	16/11/02	34
6525-00125	4th Column Lift	0	6	18/11/02	23/11/02	34
CONSTRUCT BRIDGE ML11						
BRIDGE ML11: PIER SB31						
ML11: Pier SB31 SI Pre-Drilling						
6264-00110	Prepare & submit the SI report	0	4	27/05/02A	27/08/02	32
6264-00120	Approval SI report	0	6	21/06/02A	03/09/02	32
ML11: Pier SB31 Bored Piling						
6267-00100	1st: Bored Pile	0	4	11/09/02	14/09/02	32
6267-00110	1st: Interface core test	0	1	04/10/02	04/10/02	54
6267-00120	2nd: Bored Pile	0	4	05/10/02	09/10/02	25
6267-00130	2nd: Interface core test	0	1	28/10/02	28/10/02	36
6267-00140	3rd: Bored Pile	0	4	21/10/02	24/10/02	25
6267-00150	3rd: Interface core test	0	1	11/11/02	11/11/02	25
6267-00160	Sonic test	0	1	11/11/02	11/11/02	25
ML11: Pier SB31 Pile Cap						
6270-00100	Sheet Pile driving	0	2	12/11/02	13/11/02	25
6270-00110	Excavate & shoring support	0	3	14/11/02	18/11/02	25
6270-00120	Cut Pile head	0	5	18/11/02	22/11/02	25
6270-00130	Lay blinding layer	0	1	22/11/02	22/11/02	25
BRIDGE ML11: PIER SB32						
ML11: Pier SB32 SI Pre-Drilling						
6282-00110	Prepare & submit the SI report	0	4	30/05/02A	27/08/02	34
6282-00120	Approval SI report	0	6	21/06/02A	03/09/02	34
ML11: Pier SB32 Bored Piling						
6285-00100	1st: Bored Pile	0	4	06/09/02*	10/09/02	32
6285-00110	1st: Interface core test	0	1	28/09/02	28/09/02	81
6285-00120	2nd: Bored Pile	0	4	30/09/02	04/10/02	25
6285-00130	2nd: Interface core test	0	1	23/10/02	23/10/02	63
6285-00140	3rd: Bored Pile	0	4	16/10/02	19/10/02	25
6285-00150	3rd: Interface core test	0	1	06/11/02	06/11/02	52
6285-00160	4th: Bored Pile	0	4	30/10/02	02/11/02	41
6285-00170	4th: Interface core test	0	1	20/11/02	20/11/02	41
6285-00180	Sonic test	0	1	20/11/02	20/11/02	41
BRIDGE ML11: PIER SB33						
ML11: Pier SB33 TTA Implementation						
6294-00106	Implementation of TTA	100	7	10/06/02A	01/08/02A	
ML11: Pier SB33 SI Pre-Drilling						
6300-00100	Site investigation	70	20	14/08/02A	29/08/02	95
6300-00110	Prepare & submit the SI report	0	4	30/08/02	03/09/02	95
6300-00120	Approval SI report	0	6	04/09/02	10/09/02	95
ML11: Pier SB33 Bored Piling						
6303-00100	1st: Bored Pile	0	5	14/11/02	19/11/02	43
6303-00120	2nd: Bored Pile	0	5	20/11/02	25/11/02	43
BRIDGE ML11: PIER SB34						
ML11: Pier SB34 TTA Implementation						
6312-00100	Prepare TTA drawings (Drainage & SB34 Cap)	62	21	06/07/02A	30/08/02	7
6312-00110	Endorse TTA drawings by the Eng.	0	7	31/08/02	06/09/02	7
6312-00120	Apply for traffic advice/gazette notice from TD	0	14	07/09/02	20/09/02	7
6312-00130	Meeting with RMO	0	3	21/09/02	23/09/02	7
6312-00140	Receive road works advice	0	2	24/09/02	25/09/02	7
6312-00150	Preparation for commencement	0	3	26/09/02	28/09/02	9
6312-00160	Implementation of TTA	0	7	24/09/02	30/09/02	7
ML11: Pier SB34 Utilities & Services Diversions						
6315-00100	Utilities detection & trial pit excavation	0	4	25/04/02A	27/08/02	33
6315-00110	Drainage Diversion (300)	0	20	02/10/02	25/10/02	5
ML11: Pier SB34 SI Pre-Drilling						
6318-00100	Site investigation	0	10	02/10/02	12/10/02	11
6318-00110	Prepare & submit the SI report	0	2	15/10/02	16/10/02	11



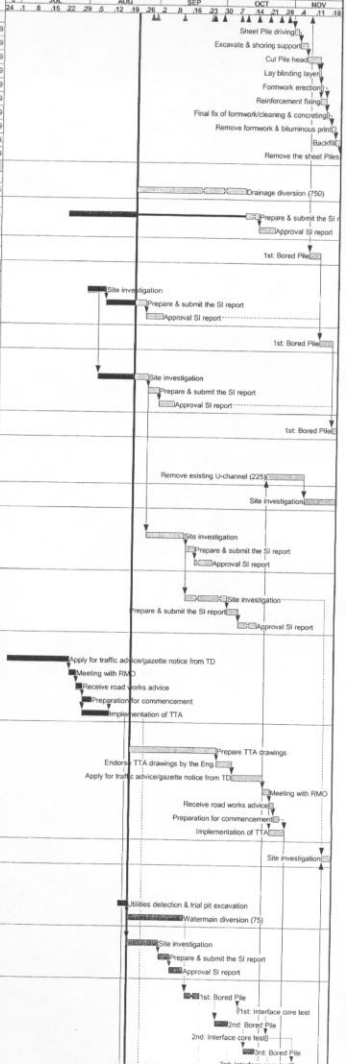
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
6318-00120	Approval SI report	0	2	17/10/02	18/10/02	11
ML11: Pier SB34 Bored Piling						
6321-00100	1st: Bored Pile	0	5	26/10/02	31/10/02	5
6321-00110	1st: Interface core test	0	1	18/11/02	18/11/02	23
6321-00120	2nd: Bored Pile	0	5	07/11/02	12/11/02	5
6321-00140	3rd: Bored Pile	0	5	19/11/02	23/11/02	5
BRIDGE ML11: PIER SB35(M)						
ML11: Pier SB35 SI Pre-Drilling						
6336-00110	Prepare & submit the SI report	90	4	18/06/02A	27/08/02	52
6336-00120	Approval SI report	0	6	28/08/02	03/09/02	52
ML11: Pier SB35 Bored Piling						
6339-00100	1st: Bored Pile	0	5	01/11/02	06/11/02	5
6339-00120	2nd: Bored Pile	0	5	13/11/02	18/11/02	5
BRIDGE ML11: PIER SB36(M)						
ML11: Pier SB36 SI Pre-Drilling						
6354-00110	Prepare & submit the SI report	100	4	13/07/02A	07/08/02A	
6354-00120	Approval SI report	100	6	08/08/02A	08/08/02A	
ML11: Pier SB36 Bored Piling						
6357-00100	1st: Bored Pile	100	4	09/08/02A	15/08/02A	
6357-00110	1st: Interface core test	0	1	02/09/02	02/09/02	126
6357-00120	2nd: Bored Pile	100	4	17/08/02A	23/08/02A	
6357-00130	2nd: Interface core test	0	1	09/09/02	09/09/02	121
6357-00140	3rd: Bored Pile	0	4	04/09/02	07/09/02	29
6357-00150	3rd: Interface core test	0	1	26/09/02	26/09/02	108
6357-00160	Sonic test	0	1	26/09/02	26/09/02	108
CONSTRUCT BRIDGE ML14						
BRIDGE ML14: PIER NB37						
ML14: Pier NB37 Utilities & Services Diversions						
6684-00120	Water main diversion (300D.I) (FW40)	0	24	23/08/02	19/09/02	0
ML14: Pier NB37 SI Pre-Drilling						
6687-00100	Site investigation	100	10	16/07/02A	29/07/02A	
6687-00110	Prepare & submit the SI report	50	4	30/07/02A	24/08/02	16
6687-00120	Approval SI report	0	6	26/08/02	31/08/02	16
ML14: Pier NB37 Bored Piling						
6690-00100	1st: Bored Pile	0	4	20/09/02	25/09/02	0
6690-00110	1st: Interface core test	0	1	15/10/02	15/10/02	6
6690-00120	2nd: Bored Pile	0	4	26/09/02	30/09/02	0
6690-00130	2nd: Interface core test	0	1	19/10/02	19/10/02	3
6690-00140	3rd: Bored Pile	0	4	02/10/02	05/10/02	0
6690-00150	3rd: Interface core test	0	1	24/10/02	24/10/02	0
6690-00160	Sonic test	0	1	24/10/02	24/10/02	0
ML14: Pier NB37 Pile Cap						
6693-00100	Sheet Pile driving	0	2	25/10/02	28/10/02	0
6693-00110	Excavate & shoring support	0	3	28/10/02	30/10/02	0
6693-00120	Cut Pile head	0	5	31/10/02	05/11/02	0
6693-00130	Lay blinding layer	0	1	05/11/02	05/11/02	0
6693-00140	Formwork erection	0	1	06/11/02	06/11/02	0
6693-00150	Reinforcement fixing	0	3	06/11/02	08/11/02	0
6693-00160	Final fix of formwork/cleaning & concreting	0	1	09/11/02	09/11/02	0
6693-00170	Remove formwork & bituminous print	0	2	11/11/02	12/11/02	0
6693-00180	Backfill	0	2	13/11/02	14/11/02	0
6693-00190	Remove the sheet Piles	0	2	15/11/02	16/11/02	0
ML14: Pier NB37 Column (Type C3 hollow)						
6696-00100	1st Column Lift	0	6	18/11/02	23/11/02	0
BRIDGE ML14: PIER NB38						
ML14: Pier NB38 Utilities & Services Diversions						
6705-00120	Drainage diversion (750)	0	20	23/08/02	14/09/02	0
ML14: Pier NB38 SI Pre-Drilling						
6708-00100	Site investigation	100	20	18/07/02A	25/07/02A	
6708-00110	Prepare & submit the SI report	0	4	26/07/02A	27/08/02	10
6708-00120	Approval SI report	0	6	28/08/02	03/09/02	10
ML14: Pier NB38 Bored Piling						
6711-00100	1st: Bored Pile	0	4	18/09/02*	19/09/02	0
6711-00110	1st: Interface core test	0	1	09/10/02	09/10/02	33
6711-00120	2nd: Bored Pile	0	4	20/09/02	25/09/02	0
6711-00130	2nd: Interface core test	0	1	15/10/02	15/10/02	30
6711-00140	3rd: Bored Pile	0	4	26/09/02	30/09/02	0
6711-00150	3rd: Interface core test	0	1	19/10/02	19/10/02	27
6711-00160	4th: Bored Pile	0	4	02/10/02	05/10/02	15
6711-00170	4th: Interface core test	0	1	24/10/02	24/10/02	24
6711-00180	Sonic test	0	1	24/10/02	24/10/02	24
ML14: Pier NB38 Pile Cap						
6714-00100	Sheet Pile driving	0	2	18/11/02	19/11/02	4
6714-00110	Excavate & shoring support	0	3	20/11/02	22/11/02	4
BRIDGE ML14: PIER NB39						
ML14: Pier NB39 Utilities & Services Diversions						
6726-00120	U-channel diversion (300)	0	36	23/08/02	05/10/02	1,526
ML14: Pier NB39 SI Pre-Drilling						
6729-00100	Site investigation	100	15	02/08/02A	16/08/02A	
6729-00110	Prepare & submit the SI report	0	4	17/08/02A	27/08/02	41
6729-00120	Approval SI report	0	6	28/08/02	03/09/02	41



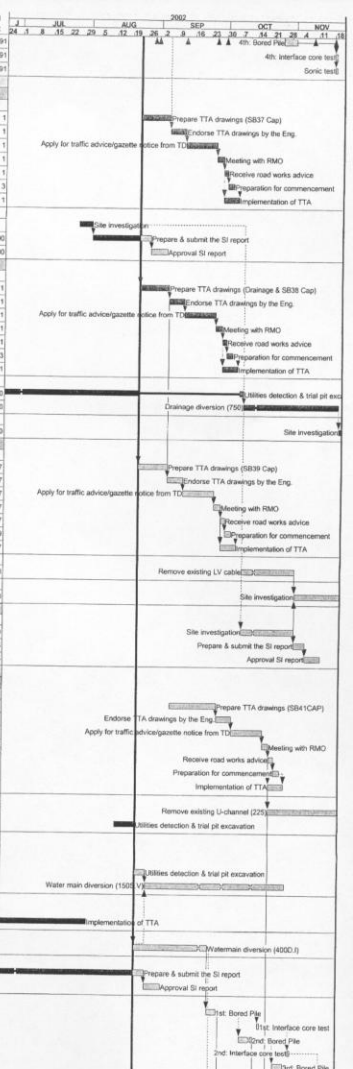
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
ML14: Pier NB39 Bored Piling						
6732-00100	1st: Bored Pile	0	5	07/10/02	11/10/02	15
6732-00110	1st: Interface core test	0	1	30/10/02	30/10/02	43
6732-00120	2nd: Bored Pile	0	5	25/10/02	30/10/02	15
6732-00130	2nd: Interface core test	0	1	15/11/02	15/11/02	29
6732-00140	3rd: Bored Pile	0	5	12/11/02	16/11/02	15
BRIDGE ML14: PIER NB40						
ML14: Pier NB40 SI Pre-Drilling						
6750-00100	Site investigation	33	15	10/08/02A	03/09/02	36
6750-00110	Prepare & submit the SI report	0	4	04/09/02	07/09/02	36
6750-00120	Approval SI report	0	6	09/09/02	14/09/02	36
ML14: Pier NB40 Bored Piling						
6753-00100	1st: Bored Pile	0	5	12/10/02	18/10/02	15
6753-00110	1st: Interface core test	0	1	05/11/02	05/11/02	142
6753-00120	2nd: Bored Pile	0	5	31/10/02	05/11/02	15
6753-00130	2nd: Interface core test	0	1	22/11/02	22/11/02	128
6753-00140	3rd: Bored Pile	0	5	18/11/02	22/11/02	114
BRIDGE ML14: PIER NB41						
ML14: Pier NB41 Utilities & Services Diversions						
6768-00100	Utilities detection & trial pit excavation	99	4	31/07/02A	22/08/02	0
ML14: Pier NB41 SI Pre-Drilling						
6771-00100	Site investigation	0	15	04/09/02	20/09/02	161
6771-00110	Prepare & submit the SI report	0	4	23/09/02	26/09/02	161
6771-00120	Approval SI report	0	6	27/09/02	04/10/02	161
BRIDGE ML14: PIER G0						
ML14: Pier G0 SI Pre-Drilling						
6792-00100	Site investigation	100	15	07/08/02A	13/08/02A	
6792-00110	Prepare & submit the SI report	0	4	14/08/02A	27/08/02	51
6792-00120	Approval SI report	0	6	28/08/02	03/09/02	51
ML14: Pier G0 Bored Piling						
6795-00100	1st: Bored Pile	0	5	19/10/02	24/10/02	15
6795-00110	1st: Interface core test	0	1	11/11/02	11/11/02	161
6795-00120	2nd: Bored Pile	0	5	06/11/02	11/11/02	15
BRIDGE ML14: PIER G1(M)						
ML14: Pier G1(M) Utilities & Services Diversions						
6810-00100	Utilities detection & trial pit excavation	99	4	31/07/02A	22/08/02	0
ML14: Pier G1(M) SI Pre-Drilling						
6813-00100	Site investigation	0	15	23/08/02	09/09/02	176
6813-00110	Prepare & submit the SI report	0	4	10/09/02	13/09/02	176
6813-00120	Approval SI report	0	6	14/09/02	20/09/02	176
CONSTRUCT BRIDGE H1						
BRIDGE H1: PIER H0						
H1: Pier H0 SI Pre-Drilling						
4010-00110	Prepare & submit the SI report	100	4	19/07/02A	07/08/02A	
4010-00120	Approval SI report	100	6	08/08/02A		
H1: Pier H0 Bored Piling						
4015-00100	1st: Bored Pile	50	4	08/08/02A	24/08/02	29
4015-00110	1st: Interface core test	0	1	11/09/02	11/09/02	67
4015-00120	2nd: Bored Pile	0	4	25/08/02	29/08/02	29
4015-00130	2nd: Interface core test	0	1	16/09/02	16/09/02	64
4015-00140	3rd: Bored Pile	0	4	13/09/02	17/09/02	49
4015-00150	3rd: Interface core test	0	1	07/10/02	07/10/02	49
4015-00160	Sonic test	0	1	07/10/02	07/10/02	49
H1: Pier H0 Pile Cap						
4020-00100	Sheet Pile driving	0	2	08/10/02	09/10/02	49
4020-00110	Excavate & shoring support	0	3	10/10/02	12/10/02	49
4020-00120	Cut Pile head	0	5	15/10/02	19/10/02	49
4020-00130	Lay blinding layer	0	1	19/10/02	19/10/02	49
4020-00140	Formwork erection	0	1	21/10/02	21/10/02	49
4020-00150	Reinforcement fixing	0	3	21/10/02	23/10/02	49
4020-00160	Final fix of formwork/cleaning & concreting	0	1	24/10/02	24/10/02	49
4020-00170	Remove formwork & bituminous print	0	2	25/10/02	26/10/02	49
4020-00180	Backfill	0	2	28/10/02	29/10/02	49
4020-00190	Remove the sheet Piles	0	2	30/10/02	31/10/02	49
H1: Pier H0 Column (Type C3/T3M hollow)						
4025-00100	1st Column Lift	0	6	01/11/02	07/11/02	49
4025-00110	2nd Column Lift	0	6	08/11/02	14/11/02	49
4025-00120	3rd Column Lift	0	6	15/11/02	21/11/02	49
4025-00122	4th Column Lift	0	6	22/11/02	28/11/02	49
BRIDGE H1: PIER H1						
H1: Pier H1 SI Pre-Drilling						
4040-00110	Prepare & submit the SI report	100	4	19/07/02A	07/08/02A	
4040-00120	Approval SI report	50	6	08/08/02A	26/08/02	1,559
H1: Pier H1 Bored Piling						
4045-00100	1st: Bored Pile	100	4	16/08/02A	21/08/02A	
4045-00110	1st: Interface core test	0	1	07/09/02	07/09/02	100
4045-00120	2nd: Bored Pile	0	4	30/08/02	03/09/02	29
4045-00130	2nd: Interface core test	0	1	20/09/02	20/09/02	90
4045-00140	3rd: Bored Pile	0	4	18/09/02	23/09/02	75
4045-00150	3rd: Interface core test	0	1	11/10/02	11/10/02	75
4045-00160	Sonic test	0	1	11/10/02	11/10/02	75



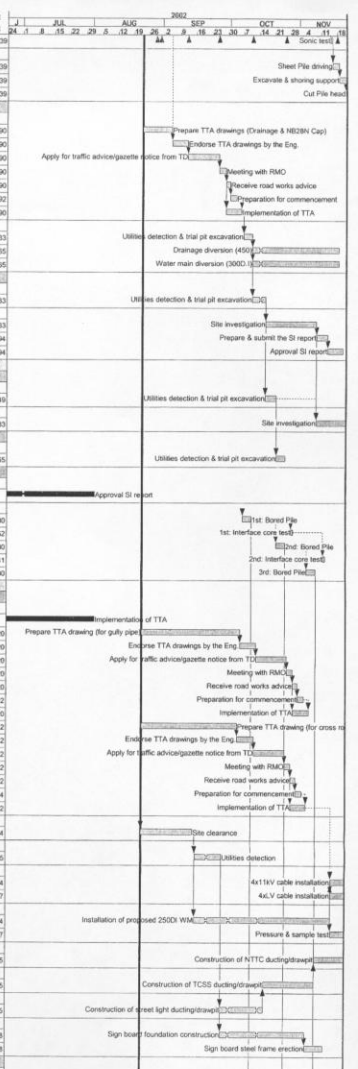
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
H1: Pier H1 Pile Cap						
4050-00100	Sheet Pile driving	0	2	01/11/02	02/11/02	59
4050-00110	Excavate & shoring support	0	3	04/11/02	06/11/02	59
4050-00120	Cut Pile head	0	5	07/11/02	12/11/02	59
4050-00130	Lay blinding layer	0	1	12/11/02	12/11/02	59
4050-00140	Formwork erection	0	1	13/11/02	13/11/02	59
4050-00150	Reinforcement fixing	0	3	13/11/02	15/11/02	59
4050-00160	Final fix of formwork/cleaning & concreting	0	1	16/11/02	16/11/02	59
4050-00170	Remove formwork & bituminous print	0	2	18/11/02	19/11/02	59
4050-00180	Backfill	0	2	20/11/02	21/11/02	59
4050-00190	Remove the sheet Piles	0	2	22/11/02	23/11/02	59
BRIDGE H1: PIER H2						
H1: Pier H2 Utilities & Services Diversions						
4065-00120	Drainage diversion (750)	0	40	23/08/02	10/10/02	35
H1: Pier H2 SI Pre-Drilling						
4070-00110	Prepare & submit the SI report	0	4	24/07/02A	16/10/02	35
4070-00120	Approval SI report	0	6	17/10/02	23/10/02	35
H1: Pier H2 Bored Piling						
4075-00100	1st: Bored Pile	0	4	09/11/02	13/11/02	21
BRIDGE H1: PIER H3						
H1: Pier H3 SI Pre-Drilling						
4100-00100	Site investigation	100	15	02/08/02A	09/08/02A	
4100-00110	Prepare & submit the SI report	0	4	10/08/02A	27/08/02	79
4100-00120	Approval SI report	0	6	28/08/02	03/09/02	79
H1: Pier H3 Bored Piling						
4105-00100	1st: Bored Pile	0	5	14/11/02	19/11/02	21
BRIDGE H1: PIER H4						
H1: Pier H4 SI Pre-Drilling						
4130-00100	Site investigation	66	15	07/08/02A	28/08/02	79
4130-00110	Prepare & submit the SI report	0	4	29/08/02	02/09/02	79
4130-00120	Approval SI report	0	6	03/09/02	09/09/02	79
H1: Pier H4 Bored Piling						
4135-00100	1st: Bored Pile	0	5	20/11/02	25/11/02	21
CONSTRUCT BRIDGE H2						
BRIDGE H2: PIER H5						
H2: Pier H5 Utilities & Services Diversions						
4210-00100	Remove existing U-channel (225)	0	15	22/10/02	07/11/02	118
H2: Pier H5 SI Pre-Drilling						
4215-00100	Site investigation	0	15	08/11/02	25/11/02	118
BRIDGE H2: PIER H7						
H2: Pier H7 SI Pre-Drilling						
4275-00100	Site investigation	0	15	29/08/02	14/09/02	149
4275-00110	Prepare & submit the SI report	0	4	16/09/02	19/09/02	169
4275-00120	Approval SI report	0	6	20/09/02	27/09/02	169
BRIDGE H2: PIER H8						
H2: Pier H8 SI Pre-Drilling						
4305-00100	Site investigation	0	15	16/09/02	04/10/02	149
4305-00110	Prepare & submit the SI report	0	4	05/10/02	09/10/02	159
4305-00120	Approval SI report	0	6	10/10/02	17/10/02	159
BRIDGE H2: PIER H8N - STAGE 1A						
H2: Pier H8N TTA Implementation						
4325-00120	Apply for traffic advice/gazette notice from TD	100	14	29/06/02A	26/07/02A	
4325-00130	Meeting with RMO	100	3	27/07/02A	29/07/02A	
4325-00140	Receive road works advice	100	2	30/07/02A	01/08/02A	
4325-00150	Preparation for commencement	100	3	02/08/02A	05/08/02A	
4325-00160	Implementation of TTA	100	7	02/08/02A	13/08/02A	
BRIDGE H2: PIER H9S						
H2: Pier H9S TTA Implementation						
4360-00100	Prepare TTA drawings	0	39	23/08/02	30/09/02	139
4360-00110	Endorse TTA drawings by the Eng.	0	7	01/10/02	07/10/02	139
4360-00120	Apply for traffic advice/gazette notice from TD	0	14	08/10/02	21/10/02	139
4360-00130	Meeting with RMO	0	3	22/10/02	24/10/02	139
4360-00140	Receive road works advice	0	2	25/10/02	26/10/02	139
4360-00150	Preparation for commencement	0	3	27/10/02	29/10/02	141
4360-00160	Implementation of TTA	0	7	25/10/02	31/10/02	139
H2: Pier H9S SI Pre-Drilling						
4370-00100	Site investigation	0	15	18/11/02	04/12/02	113
CONSTRUCT BRIDGE G1 - STAGE 4 WORKS						
BRIDGE G1: PIER G4S (94/176)						
G1: Pier G4S Utilities & Services Diversions						
3105-00100	Utilities detection & trial pit excavation	100	4	19/08/02A		
3105-00110	Watermain diversion (75)	0	21	23/08/02	16/09/02	-47
G1: Pier G4S SI Pre-Drilling						
3110-00100	Site investigation	0	12	23/08/02	05/09/02	-47
3110-00110	Prepare & submit the SI report	0	4	06/09/02	10/09/02	-47
3110-00120	Approval SI report	0	5	11/09/02	16/09/02	-47
G1: Pier G4S Bored Piling						
3115-00100	1st: Bored Pile	0	5	18/09/02	24/09/02	-48
3115-00110	1st: Interface core test	0	1	12/10/02	12/10/02	218
3115-00120	2nd: Bored Pile	0	5	02/10/02	07/10/02	-48
3115-00130	2nd: Interface core test	0	1	25/10/02	25/10/02	209
3115-00140	3rd: Bored Pile	0	5	15/10/02	19/10/02	-48
3115-00150	3rd: Interface core test	0	1	05/11/02	06/11/02	200



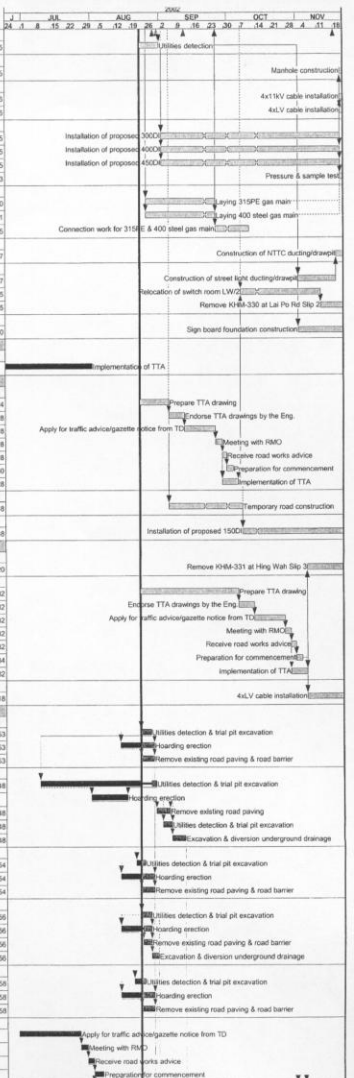
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
3115-00160	4th: Bored Pile	0	5	26/10/02	31/10/02	191
3115-00170	4th: Interface core test	0	1	18/11/02	18/11/02	191
3115-00180	Sonic test	0	1	18/11/02	18/11/02	191
CONSTRUCT BRIDGE ML13						
BRIDGE ML13: PIER SB37						
ML13: Pier SB37 TTA Implementation						
5564-00100	Prepare TTA drawings (SB37 Cap)	0	13	23/08/02*	04/09/02	1
5564-00101	Endorse TTA drawings by the Eng.	0	7	05/09/02	11/09/02	1
5564-00102	Apply for traffic advice/gazette notice from TD	0	14	12/09/02	25/09/02	1
5564-00103	Meeting with RMO	0	3	26/09/02	28/09/02	1
5564-00104	Receive road works advice	0	2	29/09/02	30/09/02	1
5564-00105	Preparation for commencement	0	3	01/10/02	03/10/02	3
5564-00106	Implementation of TTA	0	7	29/09/02	05/10/02	1
ML13: Pier SB37 SI Pre-Drilling						
6570-00100	Site investigation	100	20	27/07/02A	01/08/02A	
6570-00110	Prepare & submit the SI report	0	4	02/08/02A	27/08/02	90
6570-00120	Approval SI report	0	6	28/08/02	03/09/02	90
BRIDGE ML13: PIER SB38						
ML13: Pier SB38 TTA Implementation						
6585-00100	Prepare TTA drawings (Drainage & SB38 Cap)	0	13	23/08/02	04/09/02	1
6585-00101	Endorse TTA drawings by the Eng.	0	7	05/09/02	11/09/02	1
6585-00102	Apply for traffic advice/gazette notice from TD	0	14	12/09/02	25/09/02	1
6585-00103	Meeting with RMO	0	3	26/09/02	28/09/02	1
6585-00104	Receive road works advice	0	2	29/09/02	30/09/02	1
6585-00105	Preparation for commencement	0	3	01/10/02	03/10/02	3
6585-00106	Implementation of TTA	0	7	29/09/02	05/10/02	1
ML13: Pier SB38 Utilities & Services Diversions						
6588-00110	Utilities detection & trial pit excavation	50	4	07/05/02A	08/10/02	0
6588-00120	Drainage diversion (750)	0	36	09/10/02	20/11/02	0
ML13: Pier SB38 SI Pre-Drilling						
6591-00100	Site investigation	0	20	21/11/02	13/12/02	0
BRIDGE ML13: PIER SB39						
ML13: Pier SB39 TTA Implementation						
6606-00100	Prepare TTA drawings (SB39 Cap)	0	13	23/08/02	04/09/02	27
6606-00101	Endorse TTA drawings by the Eng.	0	7	05/09/02	11/09/02	27
6606-00102	Apply for traffic advice/gazette notice from TD	0	14	12/09/02	25/09/02	27
6606-00103	Meeting with RMO	0	3	26/09/02	28/09/02	27
6606-00104	Receive road works advice	0	2	29/09/02	30/09/02	27
6606-00105	Preparation for commencement	0	3	01/10/02	03/10/02	29
6606-00106	Implementation of TTA	0	7	29/09/02	05/10/02	27
ML13: Pier SB39 Utilities & Services Diversions						
6609-00120	Remove existing LV cable	0	20	09/10/02	01/11/02	20
ML13: Pier SB39 SI Pre-Drilling						
6612-00100	Site investigation	0	20	02/11/02	25/11/02	20
BRIDGE ML13: PIER SB40						
ML13: Pier SB40 SI Pre-Drilling						
6633-00100	Site investigation	0	20	09/10/02	01/11/02	20
6633-00110	Prepare & submit the SI report	0	4	02/11/02	06/11/02	45
6633-00120	Approval SI report	0	6	07/11/02	13/11/02	45
CONSTRUCT BRIDGE ML15 - STAGE 3 WORKS						
BRIDGE ML15: PIER SB41						
ML15: Pier SB41 TTA Implementation						
6861-00100	Prepare TTA drawings (SB41CAP)	0	21	07/09/02*	27/09/02	144
6861-00110	Endorse TTA drawings by the Eng.	0	7	28/09/02	04/10/02	144
6861-00120	Apply for traffic advice/gazette notice from TD	0	14	05/10/02	18/10/02	144
6861-00130	Meeting with RMO	0	3	19/10/02	21/10/02	144
6861-00140	Receive road works advice	0	2	22/10/02	23/10/02	144
6861-00150	Preparation for commencement	0	3	24/10/02	26/10/02	146
6861-00160	Implementation of TTA	0	7	22/10/02	28/10/02	144
ML15: Pier SB41 Utilities & Services Diversions						
6864-00100	Remove existing U-channel (225)	0	30	22/10/02	25/11/02	118
6864-00110	Utilities detection & trial pit excavation	99	4	14/08/02A	22/08/02	211
CONSTRUCT BRIDGE ML10						
BRIDGE ML10: PIER NB29(M)						
ML10: Pier NB29 Utilities & Services Diversions						
6150-00100	Utilities detection & trial pit excavation	0	4	23/08/02	27/08/02	302
6150-00110	Water main diversion (150S.V)	0	51	28/08/02	29/10/02	302
BRIDGE ML10: PIER NB30(M)						
ML10: Pier NB30 TTA Implementation						
6168-00160	Implementation of TTA	100	7	10/06/02A	01/08/02A	
ML10: Pier NB30 Utilities & Services Diversions						
6171-00110	Watermain diversion (400D.I)	0	27	23/08/02	24/09/02	25
ML10: Pier NB30 SI Pre-Drilling						
6174-00110	Prepare & submit the SI report	0	4	22/06/02A	27/08/02	42
6174-00120	Approval SI report	0	6	28/08/02	03/09/02	42
ML10: Pier NB30 Bored Piling						
6177-00100	1st: Bored Pile	0	4	25/09/02	28/09/02	25
6177-00110	1st: Interface core test	0	1	18/10/02	18/10/02	61
6177-00120	2nd: Bored Pile	0	4	10/10/02	15/10/02	25
6177-00130	2nd: Interface core test	0	1	01/11/02	01/11/02	50
6177-00140	3rd: Bored Pile	0	4	25/10/02	29/10/02	39
6177-00150	3rd: Interface core test	0	1	15/11/02	15/11/02	39



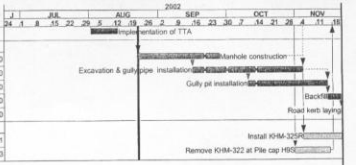
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
6177-00180	Sonic test	0	1	15/11/02	15/11/02	39
ML10: Pier NB30 Pile Cap						
6180-00100	Sheet Pile driving	0	2	16/11/02	18/11/02	39
6180-00110	Excavate & shoring support	0	3	19/11/02	21/11/02	39
6180-00120	Cut Pile head	0	5	22/11/02	27/11/02	39
BRIDGE ML10: PIER NB28N						
ML10: Pier NB28N TTA Implementation						
6108-00100	Prepare TTA drawings (Drainage & NB28N Cap)	0	13	23/08/02*	04/09/02	290
6108-00110	Endorse TTA drawings by the Eng.	0	7	05/09/02	11/09/02	290
6108-00120	Apply for traffic advice/gazette notice from TD	0	14	12/09/02	25/09/02	290
6108-00130	Meeting with RMO	0	3	26/09/02	28/09/02	290
6108-00140	Receive road works advice	0	2	29/09/02	30/09/02	290
6108-00150	Preparation for commencement	0	3	01/10/02	03/10/02	282
6108-00160	Implementation of TTA	0	7	29/09/02	05/10/02	290
ML10: Pier NB28N Utilities & Services Diversions						
6111-00100	Utilities detection & trial pit excavation	0	4	07/10/02	10/10/02	233
6111-00110	Drainage diversion (450)	0	32	11/10/02	18/11/02	265
6111-00120	Water main diversion (300D.I)	0	32	11/10/02	18/11/02	265
BRIDGE ML10: PIER NB28S(M)						
ML10: Pier NB28S Utilities & Services Diversions						
6129-00100	Utilities detection & trial pit excavation	0	4	11/10/02	16/10/02	233
ML10: Pier NB28S SI Pre-Drilling						
6132-00100	Site investigation	0	20	17/10/02	08/11/02	233
6132-00110	Prepare & submit the SI report	0	4	09/11/02	13/11/02	394
6132-00120	Approval SI report	0	8	14/11/02	29/11/02	394
CONSTRUCT BRIDGE ML9						
BRIDGE ML9: PIER SB28						
ML9: Pier SB29 Utilities & Services Diversions						
5916-00100	Utilities detection & trial pit excavation	0	4	17/10/02	21/10/02	249
ML9: Pier SB28 SI Pre-Drilling						
5919-00100	Site investigation	0	20	08/11/02	02/12/02	233
BRIDGE ML9: PIER SB29						
ML9: Pier SB29 Utilities & Services Diversions						
5934-00100	Utilities detection & trial pit excavation	0	4	22/10/02	25/10/02	265
BRIDGE ML9: PIER SB30 (M)						
ML9: Pier SB30 SI Pre-Drilling						
5955-00120	Approval SI report	100	6	21/06/02A	01/08/02A	
ML9: Pier SB30 Bored Piling						
5958-00100	1st: Bored Pile	0	4	07/10/02	10/10/02	30
5958-00110	1st: Interface core test	0	1	29/10/02	29/10/02	52
5958-00120	2nd: Bored Pile	0	4	22/10/02	25/10/02	30
5958-00130	2nd: Interface core test	0	1	12/11/02	12/11/02	41
5958-00140	3rd: Bored Pile	0	4	05/11/02	08/11/02	30
GROUND LEVEL ROAD WORKS						
REALIGNMENT OF HING WAH STREET WEST E/B (HWW E/B)						
HWW E/B: TTA's						
8400-00160	Implementation of TTA	100	7	10/06/02A	01/08/02A	
8400-00170	Prepare TTA drawing (for gully pipe)	0	44	23/08/02*	05/10/02	1,120
8400-00180	Endorse TTA drawings by the Eng.	0	7	06/10/02	12/10/02	1,120
8400-00190	Apply for traffic advice/gazette notice from TD	0	14	13/10/02	26/10/02	1,120
8400-00200	Meeting with RMO	0	3	27/10/02	29/10/02	1,120
8400-00210	Receive road works advice	0	2	30/10/02	31/10/02	1,120
8400-00220	Preparation for commencement	0	3	01/11/02	03/11/02	1,122
8400-00230	Implementation of TTA	0	7	30/10/02	05/11/02	1,120
8400-00240	Prepare TTA drawing (for cross road cable)	0	43	23/08/02*	04/10/02	1,042
8400-00250	Endorse TTA drawings by the Eng.	0	7	05/10/02	11/10/02	1,042
8400-00260	Apply for traffic advice/gazette notice from TD	0	14	12/10/02	25/10/02	1,042
8400-00270	Meeting with RMO	0	3	26/10/02	28/10/02	1,042
8400-00280	Receive road works advice	0	2	29/10/02	30/10/02	1,042
8400-00290	Preparation for commencement	0	3	31/10/02	02/11/02	1,044
8400-00300	Implementation of TTA	0	7	29/10/02	04/11/02	1,042
HWW E/B: Site Clearance						
8405-00100	Site clearance	0	20	23/08/02	14/09/02	834
HWW E/B: Utilities & Services Diversions						
8410-00110	Utilities detection	0	10	16/09/02	27/09/02	915
HWW E/B: HV Power Supply Civil Provision						
8420-00100	4x11kV cable installation	0	35	16/11/02	28/12/02	834
8420-00110	4xLV cable installation	0	35	16/11/02	28/12/02	1,457
HWW E/B: Water Mains						
8430-00100	Installation of proposed 250DI WM	0	50	16/09/02	15/11/02	834
8430-00110	Pressure & sample test	0	14	16/11/02	02/12/02	947
HWW E/B: Telecommunications Civil Provision						
8440-00100	Construction of NTTC ducting/drawpit	0	14	09/11/02	25/11/02	915
HWW E/B: TCSS Civil Provision						
8455-00100	Construction of TCSS ducting/drawpit	0	20	17/10/02	08/11/02	915
HWW E/B: Street Lighting						
8450-00100	Construction of street light ducting/drawpit	0	14	28/09/02	16/10/02	915
HWW E/B: Road Signs, Markings & Bollards						
8465-00100	Sign board foundation construction	0	30	28/09/02	04/11/02	968
8465-00110	Sign board steel frame erection	0	7	05/11/02	12/11/02	968
REALIGNMENT OF HING WAH STREET WEST W/B (HWW W/B						
HWW W/B: TTA's						
8500-00160	Implementation of TTA	100	7	10/06/02A	01/08/02A	



Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
HWW W/B: Utilities & Services Diversions						
8510-00110	Utilities detection	0	8	23/08/02	31/08/02	895
HWW W/B: Drainage						
8515-00115	Manhole construction	0	30	21/11/02	27/12/02	895
HWW W/B: HV Power Supply Civil Provision						
8520-00140	4x11kV cable installation	0	35	21/11/02	03/01/03	926
8520-00150	4xLV cable installation	0	35	21/11/02	03/01/03	926
HWW W/B: Water Mains						
8530-00160	Installation of proposed 300DI	0	66	02/09/02	20/11/02	895
8530-00162	Installation of proposed 400DI	0	66	02/09/02	20/11/02	895
8530-00164	Installation of proposed 450DI	0	66	02/09/02	20/11/02	895
8530-00170	Pressure & sample test	0	14	21/11/02	06/12/02	943
HWW W/B: Gas Mains						
8535-00190	Laying 315PE gas main	0	26	26/08/02	25/09/02	30
8535-00192	Laying 400 steel gas main	0	26	26/08/02	25/09/02	941
8535-00200	Connection work for 315PE & 400 steel gas main	0	12	26/09/02	10/10/02	995
HWW W/B: Telecommunications Civil Provision						
8540-00220	Construction of NTTC ducting/drawpit	0	14	19/11/02	04/12/02	907
HWW W/B: Street Lighting						
8550-00260	Construction of street light ducting/drawpit	0	14	02/11/02	18/11/02	907
HIGH-00110	Relocation of switch room LW/2	0	30	07/10/02	11/11/02	1,475
HIGH-00120	Remove KHM-330 at Lai Po Rd Slip 2	0	21	12/11/02	05/12/02	1,475
HWW W/B: Road Signs, Markings & Bollards						
8565-00350	Sign board foundation construction	0	30	02/11/02	05/12/02	940
CP3/D16 ROUNDABOUT (CP3/D16)						
CP3/D16: TTA's						
8600-00160	Implementation of TTA	100	7	19/06/02A	01/08/02A	
REALIGNMENT OF HING WAH SLIP 2 (HWS2)						
HWS2: TTA's						
8800-00100	Prepare TTA drawing	0	13	23/08/02*	04/09/02	924
8800-00101	Endorse TTA drawings by the Eng.	0	7	05/09/02	11/09/02	928
8800-00102	Apply for traffic advice/gazette notice from TD	0	14	12/09/02	25/09/02	928
8800-00103	Meeting with RMO	0	3	26/09/02	28/09/02	928
8800-00104	Receive road works advice	0	2	29/09/02	30/09/02	928
8800-00105	Preparation for commencement	0	3	01/10/02	03/10/02	930
8800-00106	Implementation of TTA	0	7	29/09/02	05/10/02	928
HWS2: Temporary road construction						
8802-00100	Temporary road construction	0	26	05/09/02	07/10/02	748
HWS2: Water Mains						
8830-00100	Installation of proposed 150DI	0	50	08/10/02	05/12/02	748
REALIGNED SLIP 3 (S3)						
Pier G2 Utilities, Services & Roadworks						
HIGH-00130	Remove KHM-331 at Hing Wah Slip 3	0	21	06/11/02	29/11/02	1,120
S3: TTA's						
8900-00100	Prepare TTA drawing	0	44	23/08/02*	05/10/02	1,132
8900-00110	Endorse TTA drawings by the Eng.	0	7	06/10/02	12/10/02	1,132
8900-00120	Apply for traffic advice/gazette notice from TD	0	14	13/10/02	26/10/02	1,132
8900-00130	Meeting with RMO	0	3	27/10/02	29/10/02	1,132
8900-00140	Receive road works advice	0	2	30/10/02	31/10/02	1,132
8900-00150	Preparation for commencement	0	3	01/11/02	03/11/02	1,134
8900-00160	Implementation of TTA	0	7	30/10/02	05/11/02	1,132
S3: HV Power Supply Civil Provision						
8920-00100	4xLV cable installation	0	60	08/11/02	17/01/03	918
STAGE 1A: REALIGNMENT OF LIN CHEUNG ROAD (LCR)						
Pier G2 Utilities, Services & Roadworks						
3005-00100	Utilities detection & trial pit excavation	0	4	23/08/02	27/08/02	-53
3005-00110	Hoarding erection	0	5	14/08/02A	28/08/02	-53
3005-00120	Remove existing road paving & road barrier	0	5	23/08/02	28/08/02	-53
Pier G3 Utilities, Services & Roadworks						
3040-00100	Utilities detection & trial pit excavation	50	4	09/07/02A	29/08/02	-48
3040-00110	Hoarding erection	100	5	01/08/02A	16/08/02A	
3040-00115	Remove existing road paving	0	5	30/08/02	04/09/02	-48
3040-00120	Utilities detection & trial pit excavation	0	4	02/09/02	05/09/02	-48
3040-00130	Excavation & diversion underground drainage	0	5	06/09/02	11/09/02	-48
Pier H9N Utilities, Services & Roadworks						
4332-00100	Utilities detection & trial pit excavation	50	4	21/08/02A	24/08/02	-54
4332-00110	Hoarding erection	0	5	14/08/02A	28/08/02	-54
4332-00120	Remove existing road paving & road barrier	0	5	23/08/02	28/08/02	-54
Pier SB42 Utilities, Services & Roadworks						
6885-00050	Utilities detection & trial pit excavation	0	4	23/08/02	27/08/02	-56
6885-00060	Hoarding erection	0	3	14/08/02A	27/08/02	-56
6885-00070	Remove existing road paving & road barrier	0	3	24/08/02	27/08/02	-56
6885-00110	Excavation & diversion underground drainage	0	3	28/08/02	30/08/02	-56
Pier NB42 Utilities, Services & Roadworks						
6999-00100	Utilities detection & trial pit excavation	50	4	20/08/02A	24/08/02	-58
6999-00110	Hoarding erection	0	5	14/08/02A	28/08/02	-58
6999-00120	Remove existing road paving & road barrier	0	5	23/08/02	28/08/02	-58
LCR: TTA's						
9100-00120	Apply for traffic advice/gazette notice from TD	100	14	29/06/02A	26/07/02A	
9100-00130	Meeting with RMO	100	3	27/07/02A	29/07/02A	
9100-00140	Receive road works advice	100	2	30/07/02A	01/08/02A	
9100-00150	Preparation for commencement	100	3	02/08/02A	05/08/02A	



Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float
9100-00160	Implementation of TTA	100	7	02/08/02A	13/08/02A	
LCR: LCR: Drainage						
9115-00100	Manhole construction	0	30	23/08/02	27/09/02	0
9115-00110	Excavation & gully pipe installation	0	40	16/09/02	04/11/02	0
9115-00120	Gully pit installation	0	30	11/10/02	15/11/02	0
9155-00100	Backfill	0	5	16/11/02	21/11/02	0
9155-00110	Road kerb laying	0	12	22/11/02	05/12/02	0
LCR: Street Lighting						
HIGH-00140	Install KHM-325R	0	30	05/11/02	09/12/02	1,091
HIGH-00190	Remove KHM-322 at Pile cap H9S	0	14	01/11/02	18/11/02	113



Appendix D1

Action/Limit Levels for Air Quality

Appendix D1: Action /Limit Levels for Air Quality

ACTION AND LIMIT LEVELS FOR 24-HOUR TSP

Location	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
ASR1	163	260
ASR2	178	260

ACTION AND LIMIT LEVELS FOR 1-HOUR TSP

Location	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
ASR1	318	500
ASR2	324	500

Appendix D2

Action/Limit Levels for Noise

Appendix D2: Action/Limit Levels for Noise

Action and Limit Levels for Construction Noise

Time Period	Action	Limit
0700-1900 hrs on normal weekdays	When one documented complaint is received	75dB(A)*
0700-2300 hrs on holidays; and 1900-2300 hrs on all other days	When one documented complaint is received	70 dB(A)
2300-0700 hrs of next day	When one documented complaint is received	55 dB(A)

* Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

Appendix E

Environmental Monitoring Schedule from 29 July to 28 August 2002

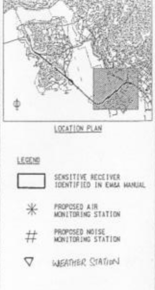
Environmental Monitoring Schedule between 29-July and 28-August 2002

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	29-Jul	30-Jul	31-Jul	1-Aug	2-Aug 1hr-TSP Noise	3-Aug 24hrs-TSP
4-Aug $Noise_{PH}$	5-Aug	6-Aug	7-Aug	8-Aug 1hr-TSP Noise	9-Aug 24hrs-TSP	10-Aug
11-Aug $Noise_{PH}$	12-Aug	13-Aug	14-Aug 1hr-TSP Noise	15-Aug 24hrs-TSP	16-Aug	17-Aug
18-Aug $Noise_{PH}$	19-Aug	20-Aug 1hr-TSP Noise	21-Aug 24hrs-TSP	22-Aug	23-Aug	24-Aug
25-Aug $Noise_{PH}$	26-Aug 1hr-TSP Noise	27-Aug 24hrs-TSP	28-Aug			

1hr-TSP	1 hour TSP monitoring at ASR1 and ASR2 during 09:00~10:00, 13:00~14:00 and 17:00~18:00.
24hrs-TSP	24 hours TSP monitoring at ASR1 and ASR2 during 00:00~00:00 of next day
Noise	Leq_{30} measurement at NSR1 and NSR2 during 07:00~19:00. 6 x Leq_5 and 4 x Leq_5 will be measured during 19:00~23:00 and 23:00~07:00 of next day (if construction activities are undertaken)
$Noise_{PH}$	6 x leq_5 will be measured during 07:00~19:00 (if construction activities are undertaken)

Appendix F

Locations of Monitoring Locations



Rev	Description	By	Date

Consultant

ARUP 奧雅納工程顧問 Ove Arup & Partners Hong Kong Limited

Supported By :
Charles Haswell & Partners · ERM Hong Kong Ltd.
COWI Consulting Engineers · IBI Group
Chris Wilkinson Architects · Urbis Ltd.
RMJM Hong Kong Ltd. · BMT Asia Pacific Ltd.

Project title

HY/2000/21
Route 9 - Ngong Shuen Chau Viaduct

Drawing title

PROPOSED AIR AND NOISE MONITORING LOCATIONS AND WEATHER STATIONS

Drawing no.		Rev.	
FIGURE 1a		—	
Drawn: RT	Date: 12/00	Checked	Approved
Scale: 1:5000		Status: PRELIMINARY	

路政署 HIGHWAYS DEPARTMENT
主要工程管理處 Major Works Project Management Office

Appendix G1

Calibration Certificates for HVS

ARUP

TSP - Total Suspended Particulates High Volume Sampler
In-situ Calibration Report

Calibration Date	31-Jul-02	**Next Calibration Date**	**30-Sep-02**
Station	ASR2	Equipment no.	E.HVS.02

Ambient Condition			
Temperature, Ta (K)	300.9	Pressure, Pa (mmHg)	752.7

Orifice Transfer Standard Information			
Equipment no.	E.CAL.01		
Slope, mo	1.5507	Intercept, co	-0.00514
Last Calibration Date	7-May-02	Next Calibration Date	7-May-03

$$mo \times Q_{std} + co = [\Delta O \times (Pa/760) \times (298/Ta)]^{1/2}$$

$$Q_{std} = \{[\Delta O \times (Pa/760) \times (298/Ta)]^{1/2} - co\} / mo$$

Calibration Point	Orifice Manometer Reading, ΔO (inch)	Orifice Q_{std} (CMM) x-axis	HVS Manometer Reading, ΔH (inch)	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ y-axis
1	7.1	1.71	7.1	2.64
2	6.1	1.58	6.1	2.45
3	5.0	1.43	5.0	2.21
4	4.0	1.28	4.0	1.98
5	3.1	1.13	3.0	1.72

By Liner Regression of y on x

Slope, mh = 1.5905 Intercept, ch = -0.0675

*Correction Coefficient, R = 0.9997

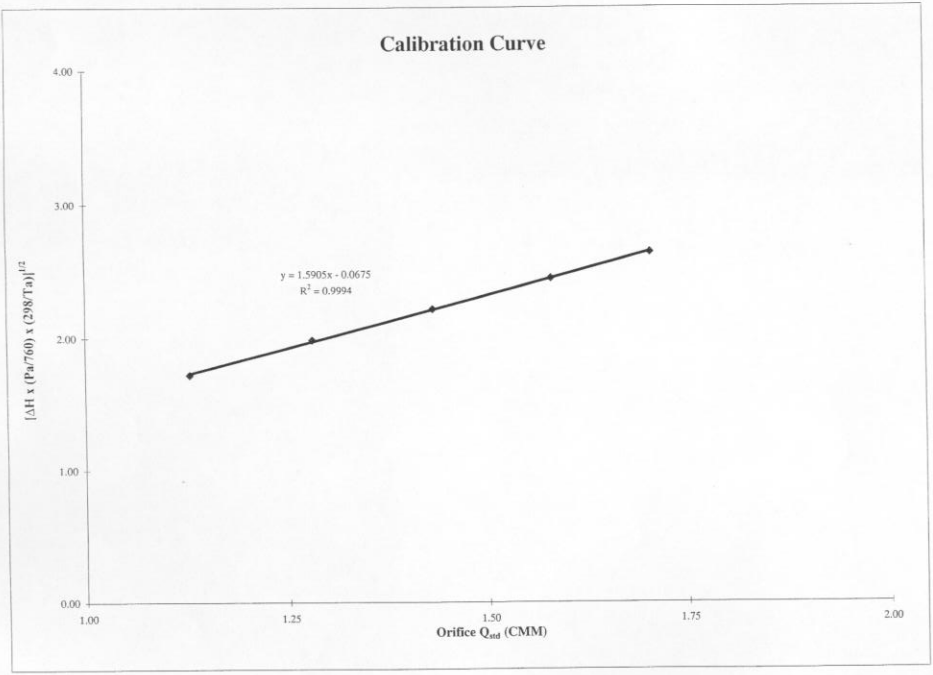
Calibration Result: **ACCEPT**

* If the Correlation Coefficient, R is < 0.9900. Checking and Recalibration are require.

Remark: _____

Calibrated By: A Wing Date: 31-7-2002

Checked By: [illegible] Date: 01/08/02


Calibration Curve
4.00
3.00
2.00
1.00
0.00
y = 1.5905x - 0.0675
R² = 0.9994
[ΔH x (Pa/760) x (298/Ta)]^1/2
1.00
1.25
1.50
1.75
2.00
Orifice Qstd (CMM)

ARUP

TSP - Total Suspended Particulates High Volume Sampler
In-situ Calibration Report

Calibration Date	31-Jul-02	**Next Calibration Date**	**30-Sep-02**
Station	ASR1	Equipment no.	E.HVS.01

Ambient Condition			
Temperature, Ta (K)	300.3	Pressure, Pa (mmHg)	753.5

Orifice Transfer Standard Information			
Equipment no.	E.CAL.01		
Slope, mo	1.5507	Intercept, co	-0.00514
Last Calibration Date	7-May-02	Next Calibration Date	7-May-03

$$mo \times Q_{std} + co = [\Delta O \times (Pa/760) \times (298/Ta)]^{1/2}$$

$$Q_{std} = \{[\Delta O \times (Pa/760) \times (298/Ta)]^{1/2} - co\} / mo$$

Calibration Point	Orifice Manometer Reading, ΔO (inch)	Orifice Q_{std} (CMM) x-axis	HVS Manometer Reading, ΔH (inch)	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ y-axis
1	6.8	1.67	7.0	2.62
2	5.7	1.53	6.0	2.43
3	4.7	1.39	5.0	2.22
4	3.7	1.23	3.9	1.96
5	2.9	1.09	3.1	1.75

By Liner Regression of y on x

Slope, mh = 1.5319 Intercept, ch = 0.0758

*Correction Coefficient, R = 0.9996

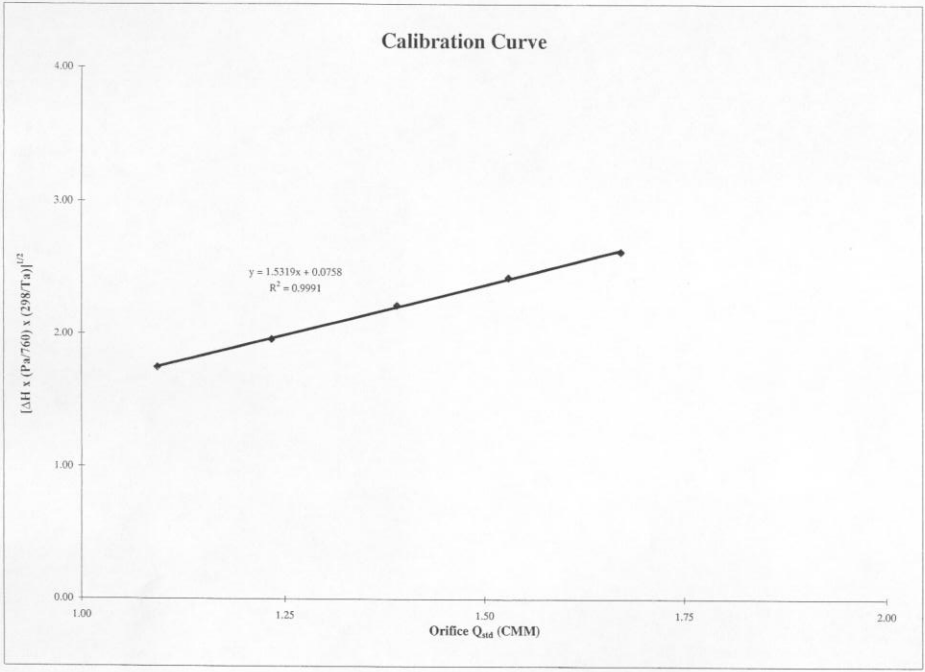
Calibration Result: **ACCEPT**

* If the Correlation Coefficient, R is < 0.9900. Checking and Recalibration are require.

Remark: _____

Calibrated By: _____ Date: 31-7-2002

Checked By: _____ Date: 01/08/02


Calibration Curve
4.00
3.00
2.00
1.00
0.00
y = 1.5319x + 0.0758
R² = 0.9991
[ΔH x (Pa/760) x (298/Ta)]^1/2
1.00
1.25
1.50
1.75
2.00
Orifice Q_std (CMM)

Appendix G2

Calibration Certificates for Weather Station

Werkszeugnis nach DIN EN 10204/2.2

Test report according to DIN EN 10204/2.2

ZERTIFIZIERT
DIN ISO 9001
NR 70100 F 222
CERTIFIED

Lufft

Geräte-Typ Model type Type d'instrument	**8160.TF**

Modell Model Modèle	**Temperature sensor**

Anzahl number nombre	**1**

Genauigkeit Accuracy Précision	**± 0,2 °C (-30°C...+70°C)**

Hiermit bescheinigen wir, daß dieses LUFFT-Erzeugnis in Übereinstimmung mit dem QM-Handbuch der LUFFT Mess-und Regeltechnik GmbH nach DIN EN ISO 9001 gefertigt wurde. Die Bestellvorgaben wurden eingehalten. Die Ausführung und Anzeigegenauigkeit der Geräte / Systeme wurde im Rahmen der LUFFT-Qualitätssicherungsmaßnahmen überwacht. Die Qualitätsprüfung ergab keine Beanstandung.

This is to certify, that this Lufft product has been tested according to the TQM of the LUFFT Mess- und Regeltechnik GmbH manual in accordance with DIN EN ISO 9001. Ordering specifications are complied with. Execution of instruments / systems as well as testing of accuracy was carried out following LUFFT quality assurance procedures. Quality inspection was successfully passed.

Par ce document, nous certifions que le produit correspondant a bien été testé suivant les normes TQM de Lufft Mess- und Regeltechnik GmbH en accord avec la norme DIN EN ISO 9001. Les conditions stipulées dans la commande ont été remplies. La réalisation des appareils / systèmes ainsi que les tests de précision ont été fait en concordance avec les procédés de qualité Lufft.

Stempel *Seal*	Datum *Date*	Prüfer *Checked by*	Qualitätsmanagement *quality management*
	06.05.02		Lufft GmbH

LUFFT Mess- und Regeltechnik GmbH
Gutenbergstraße 20
70736 Fellbach
Tel.: 0711-51822-0
Fax: 0711-51822-41
email: info@lufft.de
Internet: www.lufft.de

Geschäftsführer
Dipl.-Wirtsch.-Ing. Klaus Hirzel
Dipl.-Ing. Axel Schmitz-Hübsch

Postbank Stuttgart
Konto 857-702
BLZ 600 100 70

Südwestbank AG, Stuttgart
Konto 21839
BLZ 600 602 01

Deutsche Bank AG, Stuttgart
S.W.I.F.T.Code: DEUT DE SS
Konto 1325 794

Werkszeugnis nach DIN EN 10204/2.2
Test report according to DIN EN 10204/2.2

ZERTIFIZIERT
DIN ISO 9001
NR 70100 F 222
CERTIFIED

Lufft

Geräte-Typ Model type Type d'instrument	**8355.03**

Modell Model Modèle	**Air pressure sensor**

Anzahl number nombre	**1**

Genauigkeit Accuracy Précision	**± 0,2 % of final value** **optimal accuracy at 1010 hPa**

Hiermit bescheinigen wir, daß dieses LUFFT-Erzeugnis in Übereinstimmung mit dem QM-Handbuch der LUFFT Mess-und Regeltechnik GmbH nach DIN EN ISO 9001 gefertigt wurde. Die Bestellvorgaben wurden eingehalten. Die Ausführung und Anzeigegenauigkeit der Geräte / Systeme wurde im Rahmen der LUFFT-Qualitätssicherungsmaßnahmen überwacht. Die Qualitätsprüfung ergab keine Beanstandung.

This is to certify, that this Lufft product has been tested according to the TQM of the LUFFT Mess- und Regeltechnik GmbH manual in accordance with DIN EN ISO 9001. Ordering specifications are complied with. Execution of instruments / systems as well as testing of accuracy was carried out following LUFFT quality assurance procedures. Quality inspection was successfully passed.

Par ce document, nous certifions que le produit correspondant a bien été testé suivant les normes TQM de Lufft Mess- und Regeltechnik GmbH en accord avec la norme DIN EN ISO 9001. Les conditions stipulées dans la commande ont été remplies. La réalisation des appareils / systèmes ainsi que les tests de précision ont été fait en concordance avec les procédés de qualité Lufft.

Stempel *Seal*	Datum *Date*	Prüfer *Checked by*	Qualitätsmanagement *quality management*
G. LUFFT Mess- u. Regeltechnik GmbH Gutenbergstraße 20 70736 Fellbach Postfach 4252	06.05.02		Lufft GmbH

LUFFT Mess- und Regeltechnik GmbH
Gutenbergstraße 20
70736 Fellbach
Tel.: 0711-51822-0
Fax: 0711-51822-41
email: info@lufft.de
Internet: www.lufft.de

Geschäftsführer
Dipl.-Wirtsch.-Ing. Klaus Hirzel
Dipl.-Ing. Axel Schmitz-Hübsch

Postbank Stuttgart
Konto 857-702
BLZ 600 100 70

Südwestbank AG, Stuttgart
Konto 21839
BLZ 600 602 01

Deutsche Bank AG, Stuttgart
S.W.I.F.T.Code: DEUT DE SS
Konto 1325 794

Werkszeugnis nach DIN EN 10204/2.2

Test report according to DIN EN 10204/2.2

ZERTIFIZIERT
DIN ISO 9001
NR 70100 F 222
CERTIFIED

Lufft

Geräte-Typ Model type Type d'instrument	**8352.00**

Modell Model Modèle	**Wind sensor for speed and direction**

Anzahl number nombre	**1**

Genauigkeit Accuracy Précision	**Speed: ± 0, 5 m/s or 3%** **Direction ± 5°**

Hiermit bescheinigen wir, daß dieses LUFFT-Erzeugnis in Übereinstimmung mit dem QM-Handbuch der LUFFT Mess-und Regeltechnik GmbH nach DIN EN ISO 9001 gefertigt wurde. Die Bestellvorgaben wurden eingehalten. Die Ausführung und Anzeigegenauigkeit der Geräte / Systeme wurde im Rahmen der LUFFT-Qualitätssicherungsmaßnahmen überwacht. Die Qualitätsprüfung ergab keine Beanstandung.

This is to certify, that this Lufft product has been tested according to the TQM of the LUFFT Mess- und Regeltechnik GmbH manual in accordance with DIN EN ISO 9001. Ordering specifications are complied with. Execution of instruments / systems as well as testing of accuracy was carried out following LUFFT quality assurance procedures. Quality inspection was successfully passed.

Par ce document, nous certifions que le produit correspondant a bien été testé suivant les normes TQM de Lufft Mess- und Regeltechnik GmbH en accord avec la norme DIN EN ISO 9001. Les conditions stipulées dans la commande ont été remplies. La réalisation des appareils / systémes ainsi que les tests de précision ont été fait en concordance avec les procédés de qualité Lufft.

Stempel *Seal*	Datum *Date*	Prüfer *Checked by*	Qualitätsmanagement *quality management*
G. LUFFT Mess- u. Regeltechnik GmbH Gutenbergstraße 20 70736 Fellbach Postfach 40 52 Fellbach	06.05.02		Lufft GmbH

LUFFT Mess- und Regeltechnik GmbH
Gutenbergstraße 20
70736 Fellbach
Tel.: 0711-51822-0
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email: info@lufft.de
Internet: www.lufft.de

Geschäftsführer
Dipl.-Wirtsch.-Ing. Klaus Hirzel
Dipl.-Ing. Axel Schmitz-Hübsch

Postbank Stuttgart
Konto 857-702
BLZ 600 100 70

Südwestbank AG, Stuttgart
Konto 21839
BLZ 600 602 01

Deutsche Bank AG, Stuttgart
S.W.I.F.T Code: DEUT DE SS
Konto 1325 794

Appendix G3

Calibration Certificates for High Volume Orifice Calibrator

TISCH ENVIRONMENTAL, INC.
145 SOUTH MIAMI AVE.
VILLAGE OF CLEVES, OH 45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5028A

Date - May 07, 2002 Rootsmeter S/N 9833620 Ta (K) - 293
Operator Tisch Orifice I.D. - 0491 Pa (mm) - 751.84

PLATE OR VDC #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.2640	4.2	1.50
2	NA	NA	1.00	0.9660	7.0	2.50
3	NA	NA	1.00	0.8830	8.4	3.00
4	NA	NA	1.00	0.8210	9.7	3.50
5	NA	NA	1.00	0.6200	16.7	6.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
1.0005	0.7915	1.2285		0.9944	0.7867	0.7646
0.9967	1.0318	1.5860		0.9906	1.0255	0.9871
0.9948	1.1267	1.7374		0.9888	1.1198	1.0813
0.9931	1.2096	1.8766		0.9870	1.2022	1.1679
0.9837	1.5867	2.4570		0.9777	1.5770	1.5291
Qstd slope (m) =		1.55070		Qa slope (m) =		0.97102
intercept (b) =		-0.00514		intercept (b) =		-0.00320
coefficient (r) =		0.99978		coefficient (r) =		0.99978
y axis = SQRT[H2O(Pa/760)(298/Ta)]				y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta)
Qstd = Vstd/Time

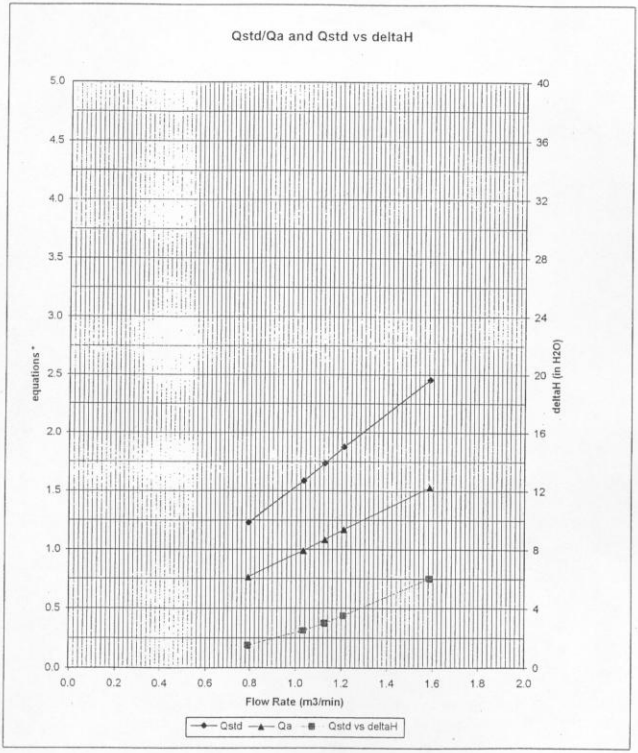
Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{ [SQRT(H2O(Pa/760)(298/Ta))]- b}
Qa = 1/m{ [SQRT H2O(Ta/Pa)]- b}

TISCH ENVIRONMENTAL, INC.
145 SOUTH MIAMI AVE.
VILLAGE OF CLEVES, OH 45002
513.467.9000
877.263.7610 TOLL FREE
513.467.9009 FAX
WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT



* y-axis equations:

Qstd series: $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$

Qa series: $\sqrt{(\Delta H\ (Ta\ /\ Pa))}$

#0491

Appendix G4

Calibration Certificates for Sound Level Meter and Calibrator

DICESVA S.L.
Calibration laboratory

CERTIFICATE OF VERIFICATION

NUMBER: **02/00379**

DICESVA S.L.
Calibration laboratory

Villar, 20
08041 BARCELONA
SPAIN
Phone number 934 335 240 / Fax 933 479 310

The calibration has been performed following calibration procedure P015 (Revision 01) for acoustic tests and P016 (Revision 01) for electrical tests, based on standards IEC60651:1979/A1:1993 and IEC60804:1985/A1:1989/A2:1993.

INSTRUMENT:	**Integrating-averaging sound level meter**
MANUFACTURER:	**CESVA**
MODEL:	**SC-30**
SERIAL NUMBER:	**T215638**
MICROPHONE:	**C-130, serial number 6154**
TYPE:	**1**
DATE OF CALIBRATION:	**2002-05-24**
DATE OF ISSUE:	**2002-05-27**
CALIBRATION RESULT:	**Within the specifications in the values measured**

LABORATORY MANAGER

Xavier Solà Gimeno

DICESVA S.L.
Calibration laboratory

CERTIFICATE OF VERIFICATION

NUMBER: **02/00381**

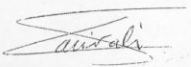
DICESVA S.L.
Calibration laboratory

Villar, 20
08041 BARCELONA
SPAIN
Phone number 934 335 240 / Fax 933 479 310

The calibration has been performed following calibration procedure P015 (Revision 01) for acoustic tests and P016 (Revision 01) for electrical tests, based on standards IEC60651:1979/A1:1993 and IEC60804:1985/A1:1989/A2:1993.

INSTRUMENT:	**Integrating-averaging sound level meter**
MANUFACTURER:	**CESVA**
MODEL:	**SC-30**
SERIAL NUMBER:	**T215622**
MICROPHONE:	**C-130, serial number 6147**
TYPE:	**1**
DATE OF CALIBRATION:	**2002-05-24**
DATE OF ISSUE:	**2002-05-27**
CALIBRATION RESULT:	**Within the specifications in the values measured**

LABORATORY MANAGER



Xavier Solà Gimeno

DICESVA S.L.
Calibration laboratory

CERTIFICATE OF VERIFICATION

NUMBER: **02/00382**

DICESVA S.L.
Calibration laboratory

Villar, 20
08041 BARCELONA
SPAIN
Phone number 934 335 240 / Fax 933 479 310

The calibration has been performed following calibration procedure P017 (Revision 02) , based on standard IEC942:1988.

INSTRUMENT:	**Sound calibrator**
MANUFACTURER:	**CESVA**
MODEL:	**CB-5**
SERIAL NUMBER:	**0032450**
TYPE:	**1L**
DATE OF CALIBRATION:	**2002-05-09**
DATE OF ISSUE:	**2002-05-27**
CALIBRATION RESULT:	**Within the specifications in the values measured**

LABORATORY MANAGER

Xavier Solà Gimeno

DICESVA S.L.
Calibration laboratory

CERTIFICATE OF VERIFICATION

NUMBER: **02/00380**

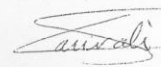
DICESVA S.L.
Calibration laboratory

Villar, 20
08041 BARCELONA
SPAIN
Phone number 934 335 240 / Fax 933 479 310

The calibration has been performed following calibration procedure P017 (Revision 02) , based on standard IEC942:1988.

INSTRUMENT:	**Sound calibrator**
MANUFACTURER:	**CESVA**
MODEL:	**CB-5**
SERIAL NUMBER:	**0032456**
TYPE:	**1L**
DATE OF CALIBRATION:	**2002-05-09**
DATE OF ISSUE:	**2002-05-27**
CALIBRATION RESULT:	**Within the specifications in the values measured**

LABORATORY MANAGER



Xavier Solà Gimeno

Appendix H1

Event/Action Plan for Air Quality

Appendix H1: Event/Action Plan for Air Quality

Event Level	Action		
	ET	**ER**	**CONTRACTOR**
Action Level			
Exceedance for one sample	• Identify source • Inform ER • Repeat Measurement to confirm finding • Increase monitoring frequency to daily	• Notify Contractor • Check mortaring data and Contractor's working methods	• Rectify any unacceptable practice • Amend working methods if appropriate
Exceedance for two or more consecutive samples	1. Identify source 2. Inform ER 3. Repeat measurements to confirm findings 4. Increase monitoring frequency to daily 5. Discuss with ER for remedial actions required 6. If exceedance continues arrange meeting with ER 7. If exceedance stops, cease additional monitoring	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Check monitoring data and Contractor's working methods 4. Discuss with Environmental Team and Contractor on potential remedial actions 5. Ensure remedial actions properly implemented	1. Submit proposals for remedial actions to ER within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate
Limit Level			
Exceedance for one sample	1. Identify source 2. Inform ER and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess effectiveness of Contractor's remedial actions and keep EPD and ER informed of the results	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Check monitoring data and Contractor's working methods 4. Discuss with Environmental Team Leader and Contractor potential remedial actions 5. Ensure remedial actions properly implemented	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to ER within 3 working days of notification 3. Implements the agreed proposals 4. Amend proposal if appropriate

Event Level	Action		
	ET	ER	CONTRACTOR
Action Level			
Exceedance for two or more consecutive samples	1. Identify source 2. Inform ER and EPD the causes & actions taken for the exceedances 3. Repeat measurement to confirm findings 4. Increase monitoring frequency to daily 5. Investigate the causes of exceedance 6. Arrange meeting with EPD and ER to discuss the remedial actions to be taken 7. Assess effectiveness of Contractor's remedial actions and keep EPD and ER informed of the results & if exceedance stops, cease additional monitoring	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented 4. Discuss amongst Environmental Team Leader and the Contractor potential remedial actions 5. Review Contractor's remedial actions whenever necessary to assure their effectiveness 6. If exceedance continues consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	1. Take immediate action avoid further exceedance 2. Submit proposals for remedial actions to ER within 3 working days of notification 3. Implements the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Appendix H2

Event/Action Plan for Noise

Appendix H2: Event/Action Plan for Construction Noise

Event	Action		
	ET Leader	**ER**	**Contractor**
Action Level	1. Notify ER 2. Analyse investigation 3. Increase monitoring frequency to check mitigation effectiveness	1. Notify Contractor 2. Require Contractor to propose measures* for the analysed noise problem	1. Submit noise mitigation proposals to Environmental Team 2. Implement noise mitigation proposals*
Limit Level	1. Notify ER 2. Notify EPD	1. Notify Contractor 2. Require contractor to implement mitigation measures* Increase monitoring frequency to check mitigation effectiveness	1. Implement mitigation measures 2. Prove to Environmental Team Leader ER effectiveness of measures applied
*	*Mitigation Measures may include:* • *Relocation of noise emitting plant* • *Use of silenced or super-silenced equipment* • *Use of acoustic sheds or screens* • *Limit quantity of plant operating* • *Change working technique*		

Appendix I

Implementation Status of Environmental Protection Requirements

Appendix I: Implementation Status of Environmental Protection Requirement

Environmental Protection Measures		Timing	Implementation Stages*
Activities			29/7/02 to 28/8/02
Landscape and visual	Erection, painting and maintenance of site hoardings around works and storage areas.	Throughout the construction period	√ (not all)
	Restrictions on the height of material/spoil stockpiles.		√
	Prompt hydro-seeding of disturbed areas and cut/fill slopes prior to the permanent landscaping works.		N/A
	Avoidance of chunam or shotcreting slope treatments.		√
	Conservation of topsoil where practical.		√
	Site litter patrols and regular site waste collection.		√
	Maintenance of planting.		√
Ecological Impact	Minimise damage outside works areas	Throughout the construction period	√
Construction:			
Material Storage	Covers for dusty stockpiles	Throughout the construction period	√ (not all)
Vehicle movement	Haul road watering, vehicle wheel wash prior to exit. Where practical, access roads should be protected with crushed gravel.		√ (not all)
Plant maintenance	All plant shall be maintained to prevent any undue air emissions.		√
All plant activity	Reference should be made the EM&A Manual Action Plan for measures for consideration when Noise Limit Levels are not met.		N/A
Plant maintenance	All plant shall be maintained to prevent any undue noise nuisance.		√

* N/A = Not Applicable
✓ = Implemented

Environmental Protection Measures		Timing	Implementation Stages*
Wheel wash	All wheel wash water shall be diverted to a sediment pit.	Throughout the construction period	√ (Not all)
Concrete Truck Washout	All concrete trucks shall wash out into a lined pit.		√ (Not all)
Surface water diversion	All clean surface water shall be diverted around the site.		√ (Not all)
Sediment control	Sediment removal facilities shall be provided and be maintained and excavated as necessary to prevent sedimentation of the channel. Perimeter channels shall be provided. Works shall be programmed for the dry season where feasible.		√ (Not all, in progress)
Fuel can storage	All fuel cans shall be placed within a bundled area. Any fuel spills shall be mopped up as necessary.		√
Slope covers	Finished slopes and other slopes near drainage areas shall be covered prior to rains to reduce sedimentation of runoff. Slopes should be hydroseeded or shotcreted as early as possible to prevent erosion.		√
Excavation works	Excavation works shall avoid sensitive areas.	Throughout the excavation work period	√
Material, plant movement and fuel can refilling.	Any fuel or oil spills shall be excavated and disposed of.	Throughout the construction period	√
Generators	All generators shall be placed within a bundled area. Any fuel spills shall be mopped up as necessary.		√ (not all)
Material containers	All empty bags and containers shall be collected for disposal.		√
Worker generated litter and Waste	Litter receptacles shall be placed around the site. Litter shall be taken regularly to the refuse collection points. Chemical toilets (or suitable equivalent) should be provided for workers. Any canteens should have grease-traps.		√
Neighborhood nuisance	All complaints regarding construction works shall be relayed to the Environmental Team.		√

* N/A = Not Applicable
✓ = Implemented

Environmental Protection Measures		Timing	Implementation Stages*
Legal requirements	Different types of waste should be segregated, stored, transported and disposed of in accordance with the relevant legislative requirements and guidelines	Throughout the construction period	√
On-site separation	On-site separation of municipal solid waste and construction/demolition wastes should be conducted as far as possible in order to minimize the amount of solid waste to be disposed to landfill.		√
Temporary storage area	Separated wastes should be stored in different containers, skips, or stockpiles to enhance reuse or recycling of materials and encourage their proper disposal.		√
Record of wastes	Records of quantities of wastes generated, recycled and disposed (with locations) should be properly kept.		√ (in progress)
Trip-ticket system	To monitor the disposal of waste at landfills and control fly-tipping, a "trip-ticket" system for all solid waste transfer/disposal operations should be implemented. The system should be included as a contractual requirement, and monitored by the Environmental Team and audited by the Independent Environmental Checker.		√

* N/A = Not Applicable
✓ = Implemented

Appendix J

1-hour and 24-hour TSP Monitoring Result

The Summary of 1-hr TSP Concentration (μg/m^3) at Mei Foo Sun Chuen (ASR 1)

Date	Sampling Time	Elapsed Time (min)	Initial Standard Flow Rate (m^3/min)	Final Standard Flow Rate (m^3/min)	Averaged Standard Flow Rate (m^3/min)	Total Standard Volume (m^3)	Initial Filter Weight (g)	Final Filter Weight (g)	TSP Concentration μg/m^3
2-Aug-02	9:36	56.40	1.35	1.35	1.35	76.02	2.7481	2.7550	90.8
2-Aug-02	10:35	63.00	1.33	1.33	1.33	83.96	2.7386	2.7469	98.9
2-Aug-02	11:38	55.20	1.35	1.34	1.35	74.26	2.7651	2.7664	17.5
8-Aug-02	14:13	61.80	1.38	1.38	1.38	85.06	2.8192	2.8276	98.8
8-Aug-02	15:18	69.00	1.42	1.42	1.42	97.88	2.8204	2.8303	101.1
8-Aug-02	16:44	66.00	1.38	1.38	1.38	90.93	2.8271	2.8361	99.0
14-Aug-02	9:32	56.40	1.29	1.30	1.29	73.01	2.8166	2.8259	127.4
14-Aug-02	10:30	55.20	1.35	1.34	1.35	74.31	2.8131	2.8263	177.6
14-Aug-02	11:24	70.20	1.35	1.34	1.34	94.39	2.8223	2.8355	139.9
20-Aug-02	13:38	58.20	1.35	1.35	1.35	78.59	2.8133	2.8221	112.0
20-Aug-02	14:37	78.60	1.40	1.40	1.40	109.72	2.8508	2.8574	60.2
20-Aug-02	15:40	75.60	1.40	1.40	1.40	105.54	2.8376	2.8463	82.4
26-Aug-02	8:54	60.00	1.32	1.32	1.32	79.23	2.8278	2.8397	150.2
26-Aug-02	9:55	54.00	1.32	1.32	1.32	71.31	2.8193	2.8283	126.2
26-Aug-02	10:55	59.40	1.32	1.32	1.32	78.44	2.8232	2.8333	128.8

The Summary of 24-hrs TSP Concentration (μg/m^3) at Mei Foo Sun Chuen (ASR 1)

Date	Sampling Time	Elapsed Time (min)	Initial Standard Flow Rate (m^3/min)	Final Standard Flow Rate (m^3/min)	Averaged Standard Flow Rate (m^3/min)	Total Standard Volume (m^3)	Initial Filter Weight (g)	Final Filter Weight (g)	TSP Concentration μg/m^3
3-Aug-02	0:00	1429.80	1.33	1.33	1.33	1899.51	2.8221	2.8995	40.7
9-Aug-02	9:44	1411.80	1.39	1.39	1.39	1962.23	2.8217	2.8940	36.8
15-Aug-02	10:46	1437.00	1.37	1.37	1.37	1971.66	2.8240	2.9425	60.1
21-Aug-02	11:32	1474.20	1.40	1.40	1.40	2057.95	2.8260	2.9306	50.8
27-Aug-02	11:08	1449.00	1.32	1.31	1.32	1907.77	2.8225	3.0756	132.7

The Summary of 1-hr TSP Concentration (μg/m^3) at Stonecutters Base (ASR 2)

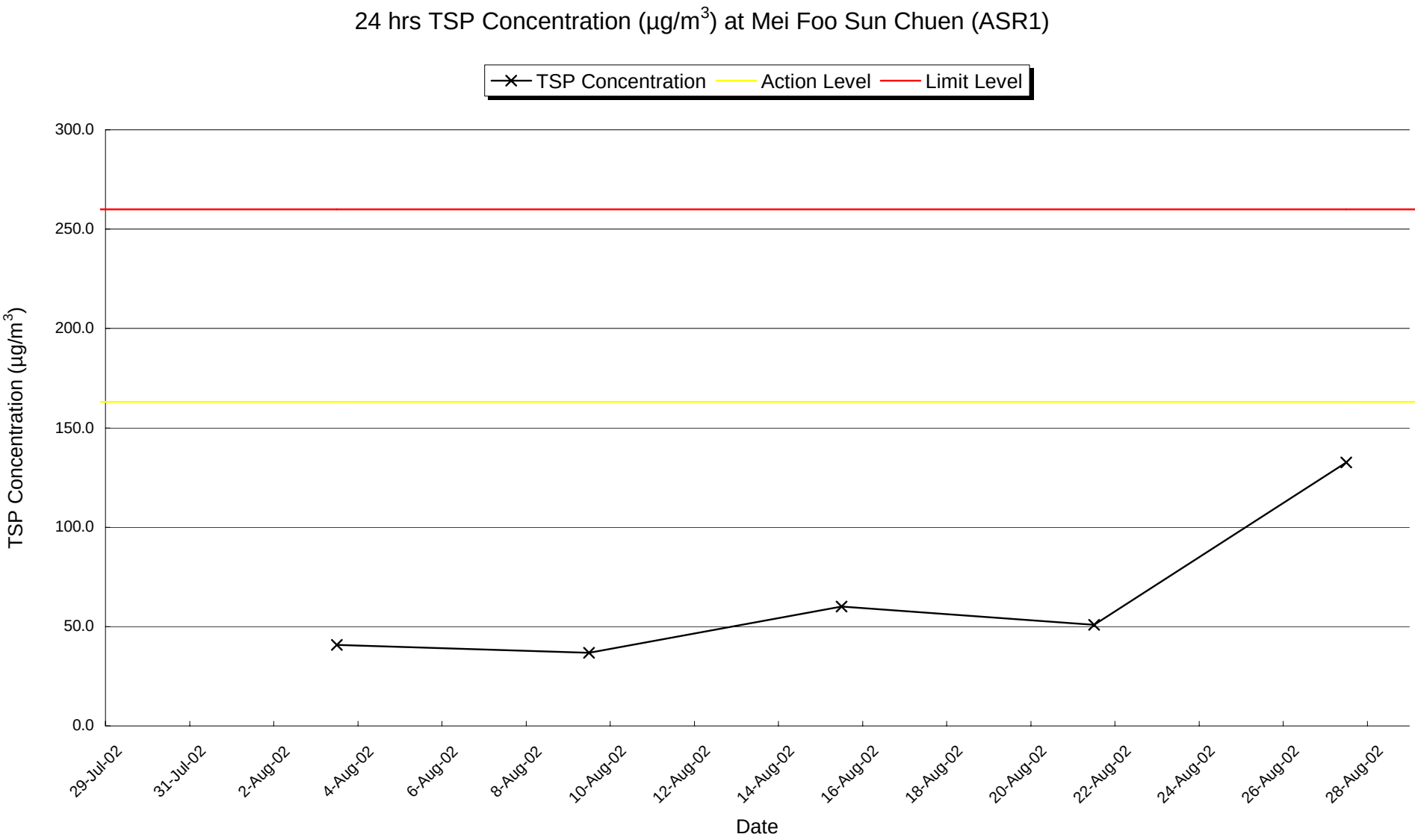
Date	Sampling Time	Elapsed Time (min)	Initial Standard Flow Rate (m^3/min)	Final Standard Flow Rate (m^3/min)	Averaged Standard Flow Rate (m^3/min)	Total Standard Volume (m^3)	Initial Filter Weight (g)	Final Filter Weight (g)	TSP Concentration μg/m^3
2-Aug-02	9:15	60.00	1.48	1.48	1.48	89.06	2.7425	2.7461	40.4
2-Aug-02	10:19	64.20	1.48	1.49	1.48	95.31	2.7318	2.7383	68.2
2-Aug-02	11:26	55.20	1.47	1.47	1.47	81.17	2.7672	2.7755	102.3
8-Aug-02	14:00	58.80	1.50	1.50	1.50	88.50	2.8258	2.8346	99.9
8-Aug-02	15:01	62.40	1.42	1.42	1.42	88.34	2.8207	2.8299	104.1
8-Aug-02	16:28	56.40	1.42	1.42	1.42	79.87	2.8208	2.8295	108.9
14-Aug-02	9:18	54.00	1.34	1.34	1.34	72.58	2.8383	2.8460	106.1
14-Aug-02	10:12	54.60	1.34	1.34	1.34	73.35	2.8272	2.8349	105.0
14-Aug-02	11:06	63.00	1.34	1.34	1.34	84.55	2.8221	2.8377	184.5
20-Aug-02	13:51	64.80	1.35	1.35	1.35	87.30	2.8265	2.8378	129.4
20-Aug-02	14:57	61.20	1.35	1.36	1.36	82.97	2.8407	2.8500	112.1
20-Aug-02	15:59	54.60	1.35	1.35	1.35	73.68	2.8250	2.8299	66.5
26-Aug-02	8:43	59.40	1.36	1.36	1.36	80.93	2.8187	2.8370	226.1
26-Aug-02	9:43	57.00	1.36	1.36	1.36	77.62	2.8231	2.8415	237.0
26-Aug-02	10:32	54.60	1.36	1.36	1.36	74.39	2.8138	2.8255	157.3

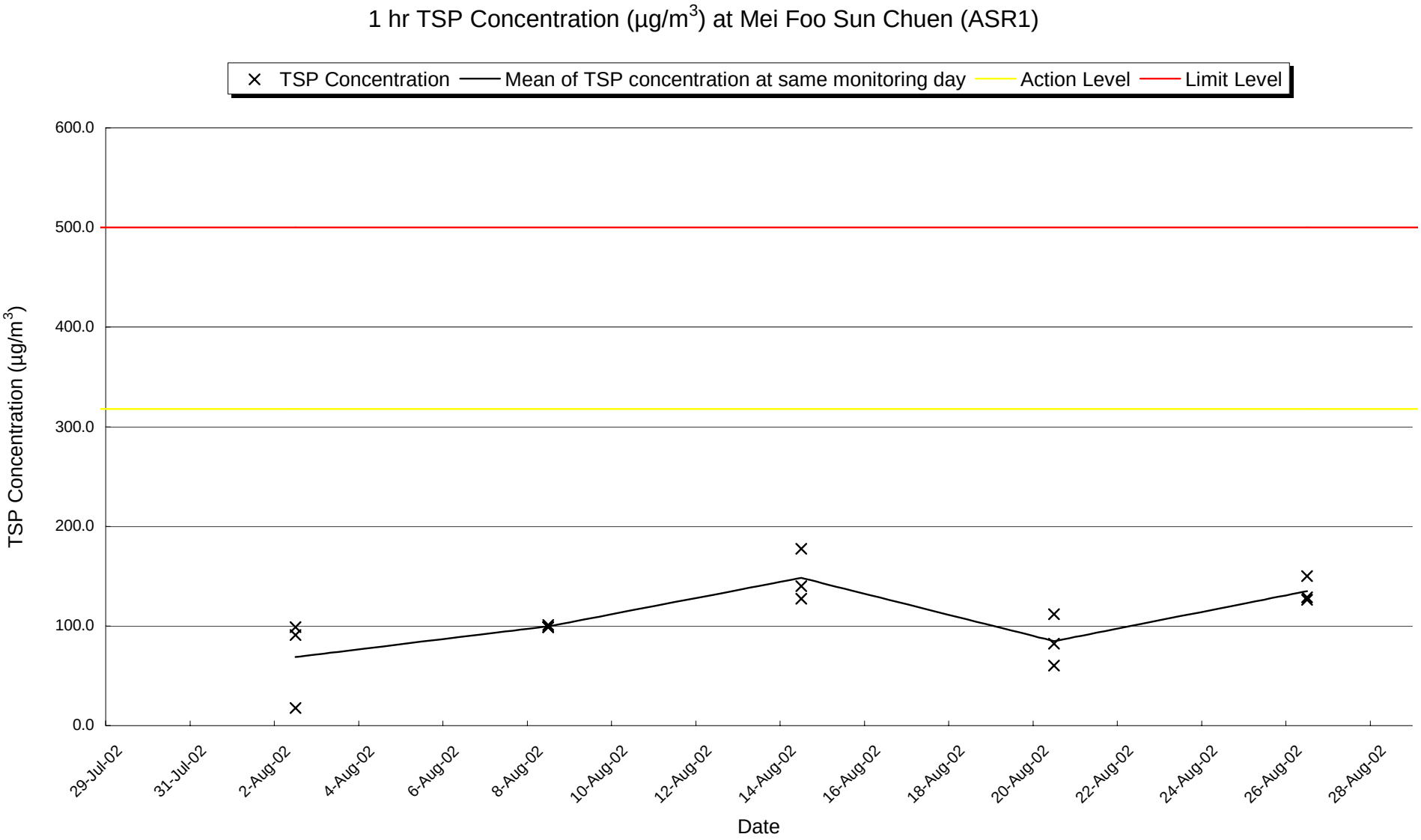
The Summary of 24-hrs TSP Concentration (μg/m^3) at Stonecutters Base (ASR 2)

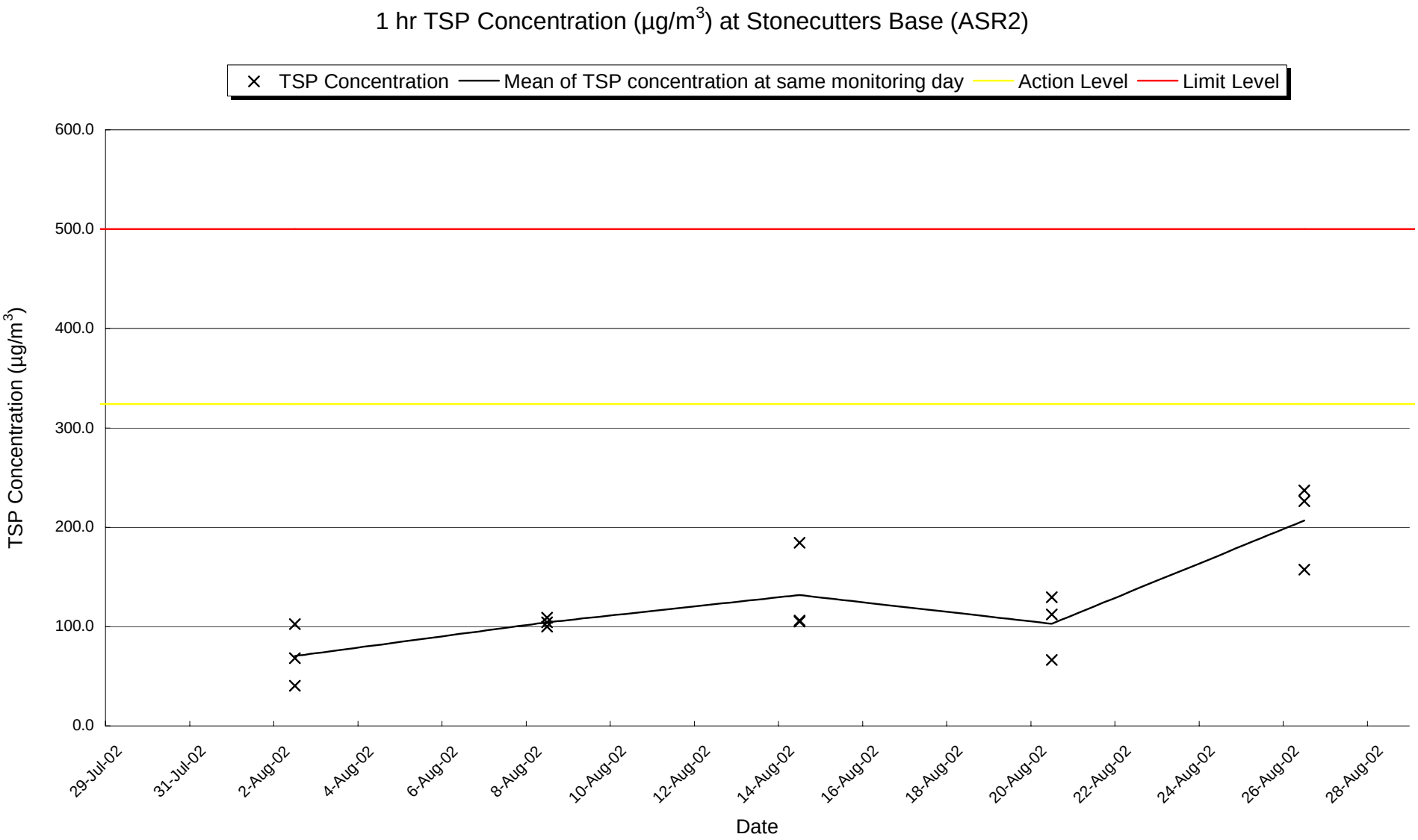
Date	Sampling Time	Elapsed Time (min)	Initial Standard Flow Rate (m^3/min)	Final Standard Flow Rate (m^3/min)	Averaged Standard Flow Rate (m^3/min)	Total Standard Volume (m^3)	Initial Filter Weight (g)	Final Filter Weight (g)	TSP Concentration μg/m^3
3-Aug-02	0:00	1447.20	1.48	1.48	1.48	2142.51	2.7368	2.8609	57.9
9-Aug-02	9:15	1444.80	1.43	1.43	1.43	2064.12	2.8284	2.9662	66.8
15-Aug-02	10:29	1460.40	1.34	1.34	1.34	1956.29	2.8288	2.8834	27.9
21-Aug-02	11:02	1450.20	1.33	1.33	1.33	1934.54	2.8193	2.9766	81.3
27-Aug-02	10:52	1482.00	1.36	1.36	1.36	2013.81	2.8250	3.1500	161.4

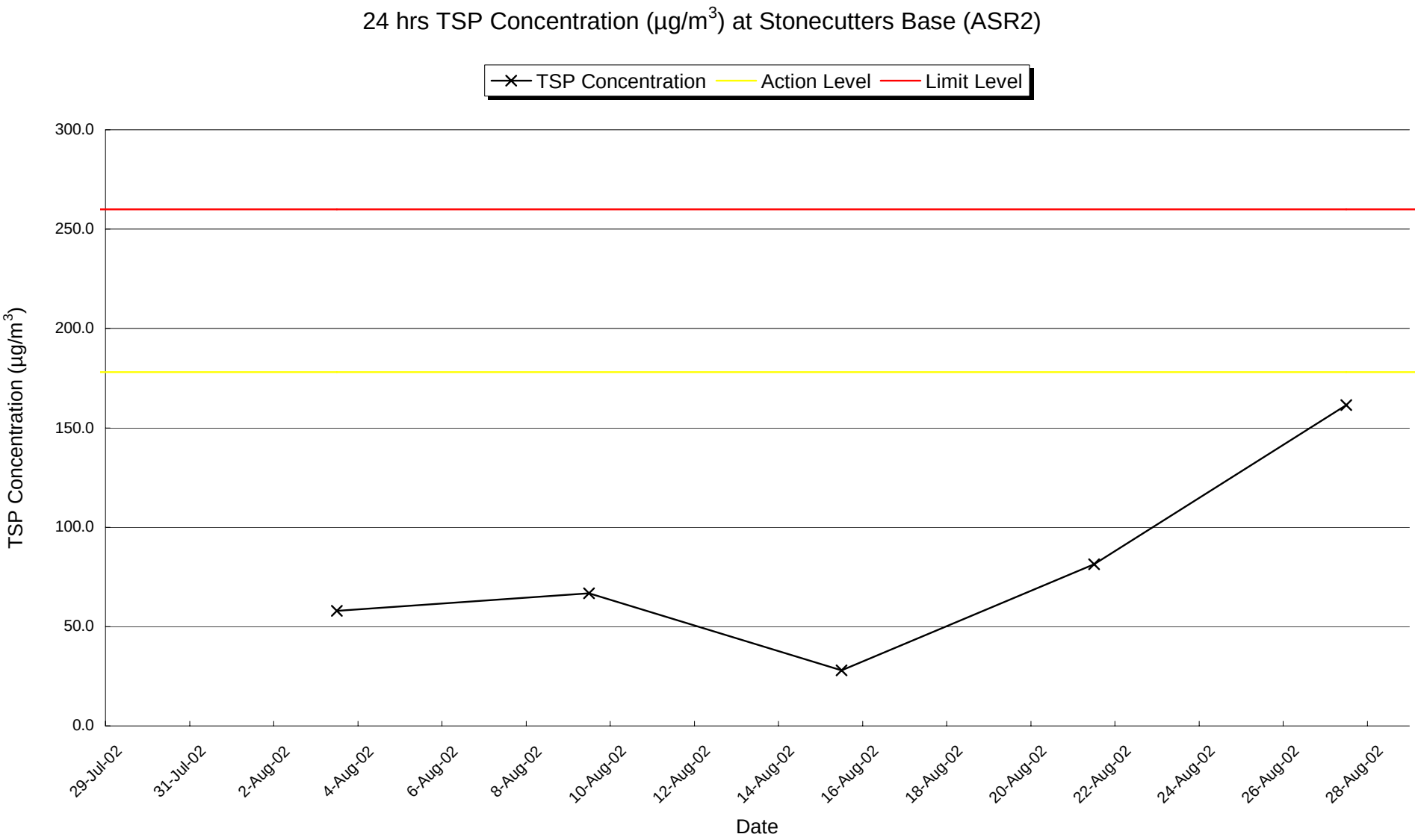
Appendix K

Graphical Presentation of 1-hour and 24-hour TSP Monitoring Result


24 hrs TSP Concentration (µg/m3) at Mei Foo Sun Chuen (ASR1)
TSP Concentration
Action Level
Limit Level
300.0
250.0
200.0
150.0
100.0
50.0
0.0
TSP Concentration (µg/m3)
29-Jul-02
31-Jul-02
2-Aug-02
4-Aug-02
6-Aug-02
8-Aug-02
10-Aug-02
12-Aug-02
14-Aug-02
16-Aug-02
18-Aug-02
20-Aug-02
22-Aug-02
24-Aug-02
26-Aug-02
28-Aug-02
Date


1 hr TSP Concentration (µg/m3) at Mei Foo Sun Chuen (ASR1)
TSP Concentration
Mean of TSP concentration at same monitoring day
Action Level
Limit Level
600.0
500.0
400.0
300.0
200.0
100.0
0.0
TSP Concentration (µg/m3)
29-Jul-02
31-Jul-02
2-Aug-02
4-Aug-02
6-Aug-02
8-Aug-02
10-Aug-02
12-Aug-02
14-Aug-02
16-Aug-02
18-Aug-02
20-Aug-02
22-Aug-02
24-Aug-02
26-Aug-02
28-Aug-02
Date


1 hr TSP Concentration (µg/m3) at Stonecutters Base (ASR2)
TSP Concentration
Mean of TSP concentration at same monitoring day
Action Level
Limit Level
TSP Concentration (µg/m3)
600.0
500.0
400.0
300.0
200.0
100.0
0.0
29-Jul-02
31-Jul-02
2-Aug-02
4-Aug-02
6-Aug-02
8-Aug-02
10-Aug-02
12-Aug-02
14-Aug-02
16-Aug-02
18-Aug-02
20-Aug-02
22-Aug-02
24-Aug-02
26-Aug-02
28-Aug-02
Date


24 hrs TSP Concentration (µg/m3) at Stonecutters Base (ASR2)
TSP Concentration
Action Level
Limit Level
300.0
250.0
200.0
150.0
100.0
50.0
0.0
TSP Concentration (µg/m3)
29-Jul-02
31-Jul-02
2-Aug-02
4-Aug-02
6-Aug-02
8-Aug-02
10-Aug-02
12-Aug-02
14-Aug-02
16-Aug-02
18-Aug-02
20-Aug-02
22-Aug-02
24-Aug-02
26-Aug-02
28-Aug-02
Date

Appendix L

Wind Data Monitoring Results

Appendix L: Wind Data Monitoring Result

Wind Speed during Impact Noise Monitoring

		Wind Speed m/s	
Date	Time	Mean	Max
2-Aug-02	10:00~10:30	0.0	0.0
2-Aug-02	11:00~11:30	0.0	0.0
8-Aug-02	10:00~10:30	0.0	0.0
8-Aug-02	11:04~11:34	0.0	0.0
14-Aug-02	08:33~09:03	0.0	0.0
14-Aug-02	09:31~10:01	0.0	0.0
20-Aug-02	14:02~14:32	2.7	3.3
20-Aug-02	16:31~17:01	3.0	3.6
26-Aug-02	09:01~09:31	1.8	2.2
26-Aug-02	10:03~10:33	2.0	2.4

Appendix L: Wind Data Monitoring Result

Wind Direction during Impact Air Monitoring
- Frequency of Wind Direction at 5 minute Interval

Date	Wind Direction (Degree)															
	0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0	202.5	225.0	247.5	270.0	292.5	315.0	337.5
2-Aug-02	0	0	0	0	1	0	3	2	9	49	27	43	4	1	0	0
3-Aug-02	1	6	10	4	0	1	0	0	0	1	1	15	3	9	4	2
8-Aug-02	0	0	0	0	0	0	0	19	81	99	12	3	2	0	0	0
9-Aug-02	0	0	0	1	2	16	5	0	9	7	11	8	6	1	0	0
14-Aug-02	0	0	10	65	75	7	0	0	0	0	0	0	0	0	0	0
15-Aug-02	0	1	18	88	62	0	0	0	0	0	0	1	0	0	0	0
20-Aug-02	0	0	0	18	264	5	0	0	0	0	0	0	0	0	0	0
21-Aug-02	0	0	0	12	200	14	0	0	0	0	0	0	0	0	0	0
26-Aug-02	0	0	0	0	0	0	0	1	91	124	18	2	0	0	0	0
27-Aug-02	0	0	0	0	0	0	0	13	105	71	17	6	6	0	0	0

Appendix M

Noise Monitoring Results

The Summary of Day-time Leq_{30} Level at Mei Foo Sun Chuen (NSR 1)

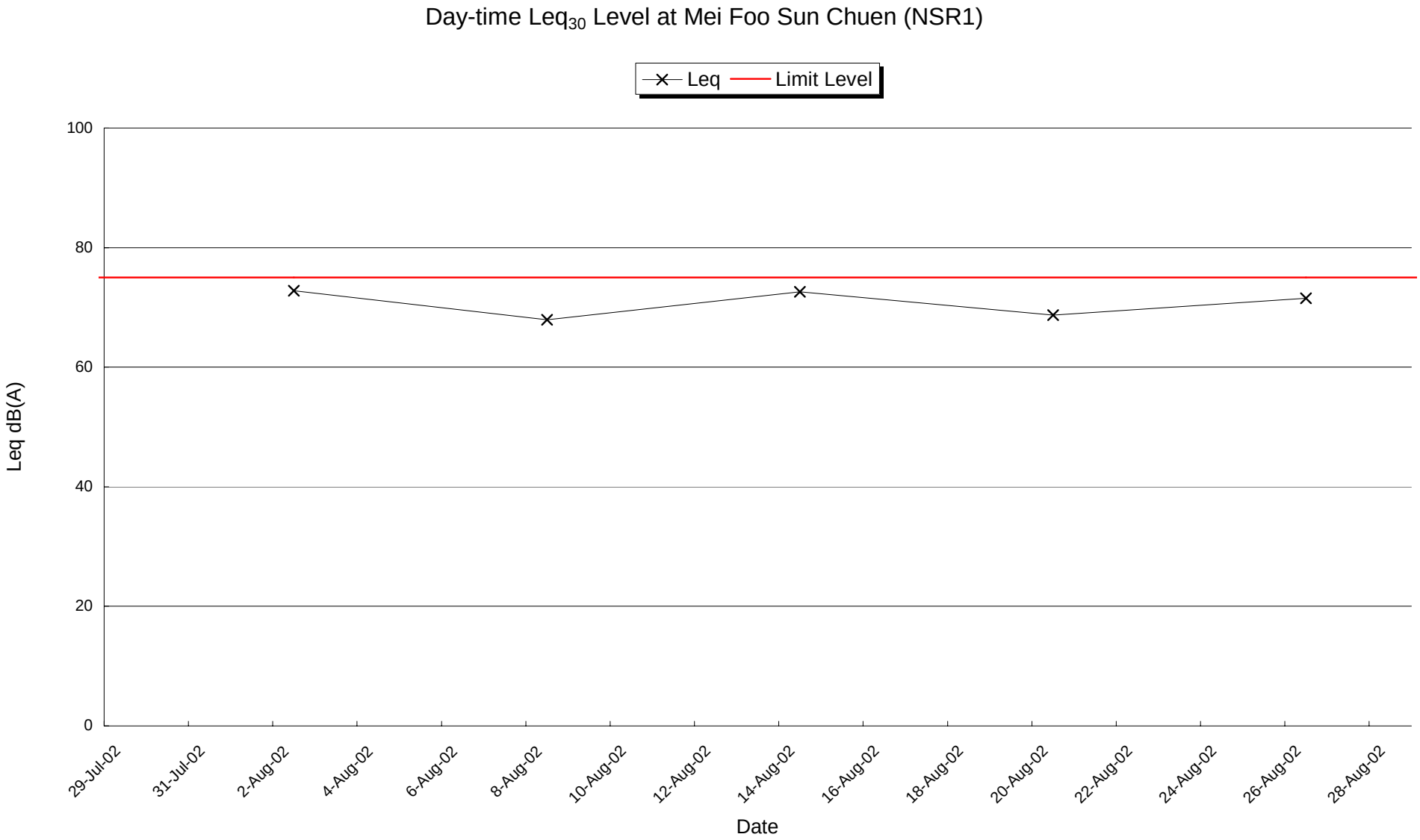
Date	Monitoring Time	Duration min	Leq dB(A)	L10 dB(A)	L90 dB(A)	Limit Level dB(A)
2-Aug-02	10:00	30	72.8	74.6	70.6	75.0
8-Aug-02	11:04	30	67.9	70.1	65.6	75.0
14-Aug-02	09:31	30	72.6	74.6	70.2	75.0
20-Aug-02	14:02	30	68.7	69.5	66.4	75.0
26-Aug-02	10:03	30	71.5	73.7	69.6	75.0

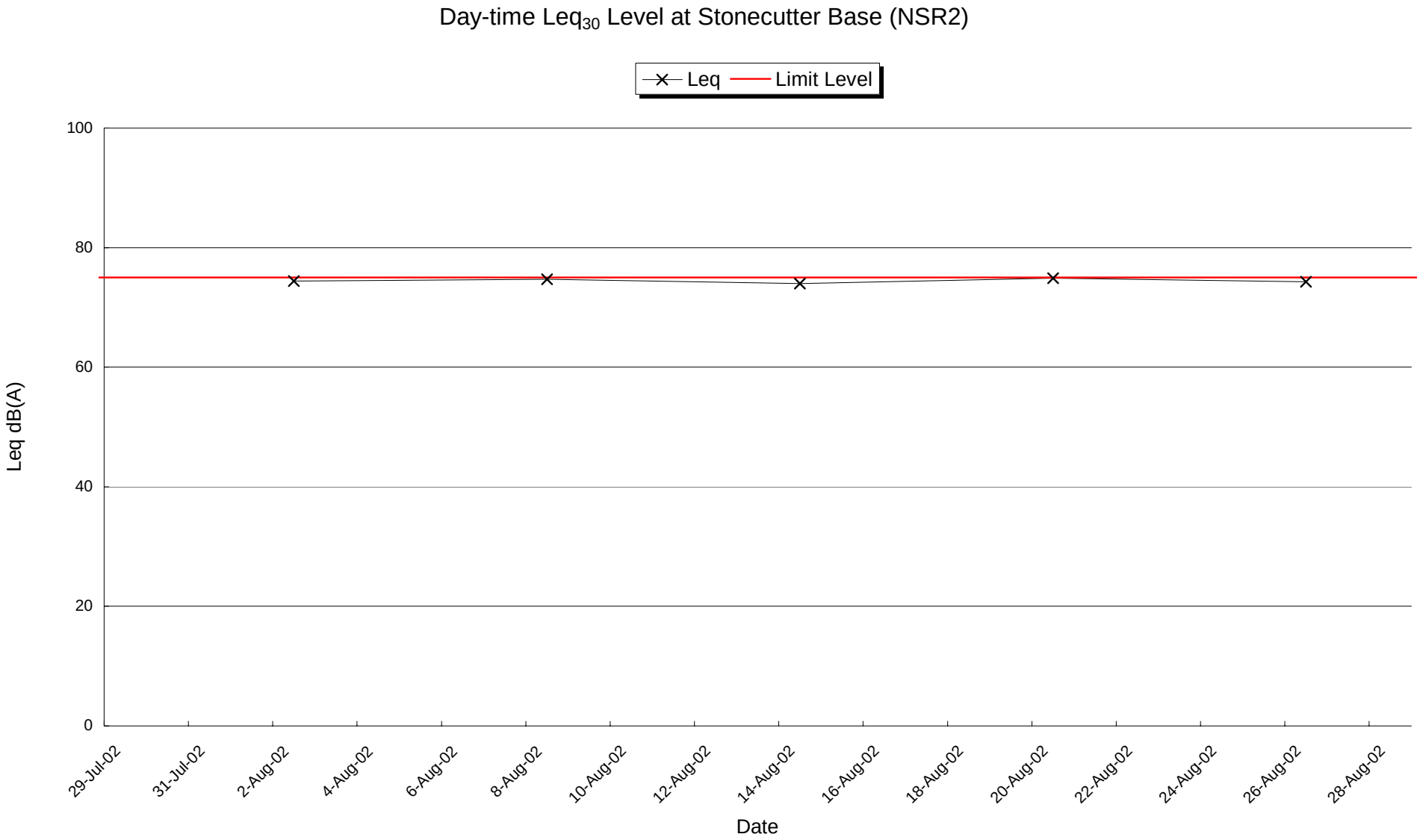
The Summary of Day-time Leq_{30} Level at Stonecutters Base (NSR 2)

Date	Monitoring Time	Duration min	Leq dB(A)	L10 dB(A)	L90 dB(A)	Limit Level dB(A)
2-Aug-02	11:00	30	74.4	77.8	69.4	75.0
8-Aug-02	10:00	30	74.7	77.0	71.9	75.0
14-Aug-02	08:33	30	74.0	77.6	70.6	75.0
20-Aug-02	16:31	30	74.9	77.0	68.3	75.0
26-Aug-02	09:01	30	74.3	76.9	68.1	75.0

Appendix N

Graphical Presentation of Noise Monitoring Results


Day-time Leq30 Level at Mei Foo Sun Chuen (NSR1)
Leq
Limit Level
100
80
60
40
20
0
Leq dB(A)
29-Jul-02
31-Jul-02
2-Aug-02
4-Aug-02
6-Aug-02
8-Aug-02
10-Aug-02
12-Aug-02
14-Aug-02
16-Aug-02
18-Aug-02
20-Aug-02
22-Aug-02
24-Aug-02
26-Aug-02
28-Aug-02
Date


Day-time Leq30 Level at Stonecutter Base (NSR2)
Leq
Limit Level
Leq dB(A)
100
80
60
40
20
0
29-Jul-02
31-Jul-02
2-Aug-02
4-Aug-02
6-Aug-02
8-Aug-02
10-Aug-02
12-Aug-02
14-Aug-02
16-Aug-02
18-Aug-02
20-Aug-02
22-Aug-02
24-Aug-02
26-Aug-02
28-Aug-02
Date

Appendix O1

Environmental Complaint Log Book

Appendix O1-Summary of Previous Complaints Details

Case No	Date of Received	Date of Complaint	Complainant's information	Detail's of complaint	Recommeded Mitigation Measures	Follow-up Action	Status/Remarks
Aug02-01	19-Aug-02	19-Aug-02	Complaint was referred by HyD on 19-Aug-02	Illegal Dumping (Soil and mud/C&D waste) on Lai Po Road; near the site entrance of KMB Depot on 19-Aug-02. Suspect not due to the Project's work.	Clear up the illegal dumping on site.	CHEC and RSS report that the illegal dumping were found within the site bourdary in a.m. on 19-Aug-02. CHEC cleared up the soil and waste in p.m. on 19-Aug-02. Investigations were undertaken by ET on 20 and 21 Aug 02. The waste was cleared up and no futher illegal dumping was found at the same location.	Closed. Follow-up phone call to complainant on 20-Aug-02. The complainant was satisfied to our prompt action.

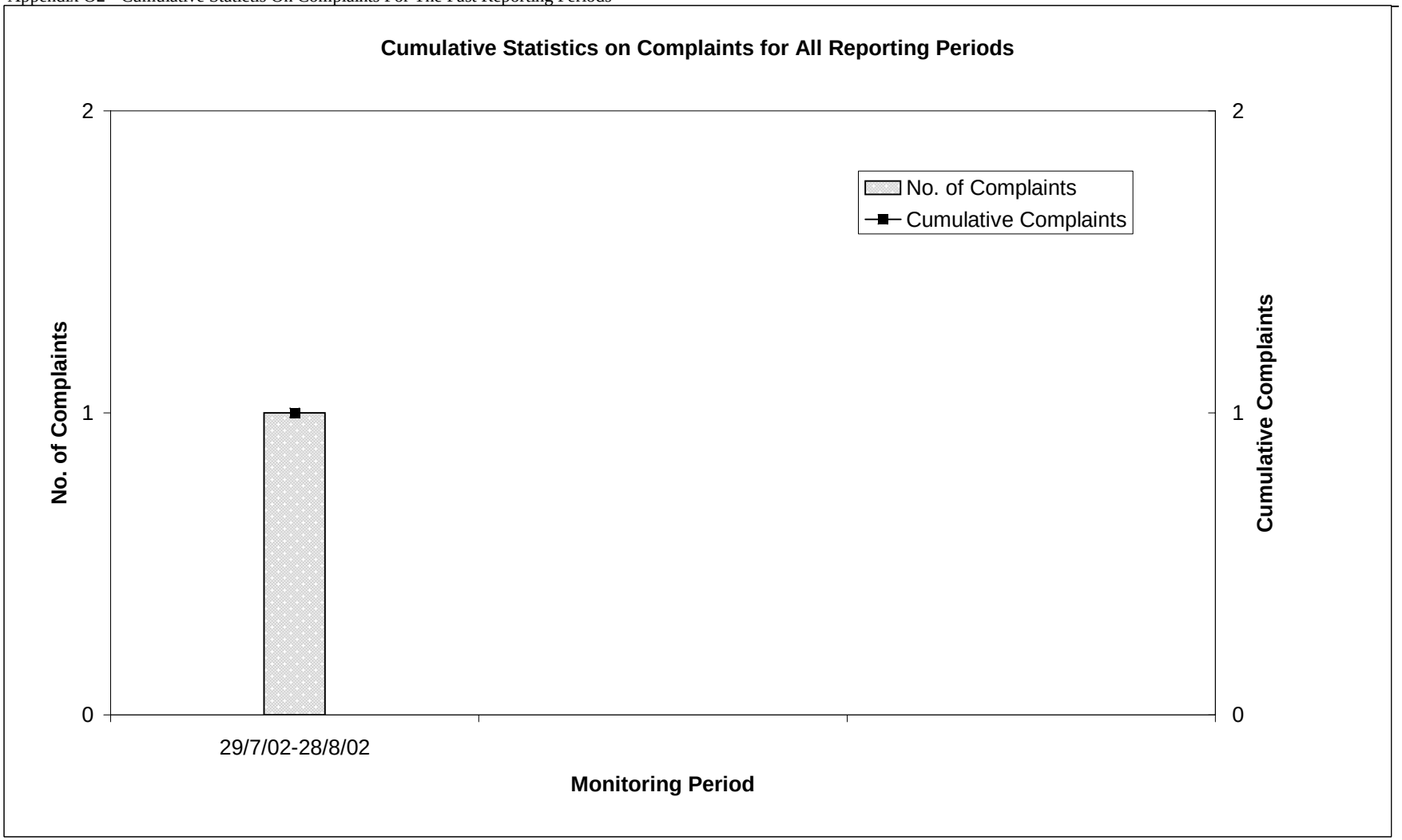
Appendix O2

Cumulative Statistics for Environmental Complaint

Appendix O2 - Cumulative Statistics of Complaints

Route 9 Ngong Shuen Chau Viaduct

Appendix O2 - Cumulative Statictis On Complaints For The Past Reporting Periods



Appendix P

Tentative Environmental Monitoring Schedule from 29 August to 28 November 2002

Environmental Monitoring Schedule between 29-August and 28-September 2002

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				29-Aug	30-Aug	31-Aug 24hrs-TSP
1-Sep $Noise_{PH}$	2-Sep 1hr-TSP Noise	3-Sep	4-Sep	5-Sep	6-Sep 24hrs-TSP	7-Sep 1hr-TSP
8-Sep $Noise_{PH}$	9-Sep	10-Sep	11-Sep	12-Sep 24hrs-TSP	13-Sep 1hr-TSP Noise	14-Sep
15-Sep $Noise_{PH}$	16-Sep	17-Sep	18-Sep 24hrs-TSP	19-Sep 1hr-TSP Noise	20-Sep	21-Sep
22-Sep $Noise_{PH}$	23-Sep	24-Sep 24hrs-TSP	25-Sep 1hr-TSP Noise	26-Sep	27-Sep	28-Sep

1hr-TSP	3 x 1 hour TSP monitoring at ASR1 and ASR2 during 09:00~18:00.
24hrs-TSP	24 hours TSP monitoring at ASR1 and ASR2
Noise	Leq_{30} measurement at NSR1 and NSR2 during 07:00~19:00. 6 x Leq_5 and 4 x Leq_5 will be measured during 19:00~23:00 and 23:00~07:00 of next day (if construction activities are undertaken)
$Noise_{PH}$	6 x leq_5 will be measured during 07:00~19:00 (if construction activities are undertaken)

Tentative Environmental Monitoring Schedule between 29-September and 28-October 2002

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29-Sep $Noise_{PH}$	30-Sep 24hrs-TSP	1-Oct	2-Oct 1hr-TSP Noise	3-Oct	4-Oct	5-Oct 24hrs-TSP
6-Oct $Noise_{PH}$	7-Oct 1hr-TSP Noise	8-Oct	9-Oct	10-Oct	11-Oct 24hrs-TSP	12-Oct 1hr-TSP
13-Oct $Noise_{PH}$	14-Oct	15-Oct	16-Oct	17-Oct 24hrs-TSP	18-Oct 1hr-TSP Noise	19-Oct
20-Oct $Noise_{PH}$	21-Oct	22-Oct	23-Oct 24hrs-TSP	24-Oct 1hr-TSP Noise	25-Oct	26-Oct
27-Oct $Noise_{PH}$	28-Oct					

1hr-TSP	3 x 1 hour TSP monitoring at ASR1 and ASR2 during 09:00~18:00.
24hrs-TSP	24 hours TSP monitoring at ASR1 and ASR2
Noise	Leq_{30} measurement at NSR1 and NSR2 during 07:00~19:00. 6 x Leq_5 and 4 x Leq_5 will be measured during 19:00~23:00 and 23:00~07:00 of next day (if construction activities are undertaken)
$Noise_{PH}$	6 x leq_5 will be measured during 07:00~19:00 (if construction activities are undertaken)

Tentative Environmental Monitoring Schedule between 29-October and 28-November 2002

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		29-Oct 24hrs-TSP	30-Oct 1hr-TSP Noise	31-Oct	1-Nov	2-Nov
3-Nov $Noise_{PH}$	4-Nov 24hrs-TSP	5-Nov 1hr-TSP Noise	6-Nov	7-Nov	8-Nov	9-Nov 24hrs-TSP
10-Nov $Noise_{PH}$	11-Nov 1hr-TSP Noise	12-Nov	13-Nov	14-Nov	15-Nov 24hrs-TSP	16-Nov 1hr-TSP
17-Nov $Noise_{PH}$	18-Nov	19-Nov	20-Nov	21-Nov 24hrs-TSP	22-Nov 1hr-TSP Noise	23-Nov
24-Nov $Noise_{PH}$	25-Nov	26-Nov	27-Nov 24hrs-TSP	28-Nov 1hr-TSP Noise		

1hr-TSP	3 x 1 hour TSP monitoring at ASR1 and ASR2 during 09:00~18:00.
24hrs-TSP	24 hours TSP monitoring at ASR1 and ASR2
Noise	Leq_{30} measurement at NSR1 and NSR2 during 07:00~19:00. 6 x Leq_5 and 4 x Leq_5 will be measured during 19:00~23:00 and 23:00~07:00 of next day (if construction activities are undertaken)
$Noise_{PH}$	6 x leq_5 will be measured during 07:00~19:00 (if construction activities are undertaken)