Highways Department

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

October 2002

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

Monthly Monitoring Report October 2002

Certified by the Environmental Team Leader
Environmental Resources Management

Signed: _____ Date: 10.10.2002

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Verified by the Independent Environmental Checker
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EXECUTIVE SUMMARY

This is the second monthly Environmental Monitoring and Audit (EM&A) report for the Project HY/2000/21 - Route 9 Ngong Shuen Chau Viaduct. This report presents the results of the EM&A works conducted during the month of September 2002 (between 29 August 2002 and 28 September 2002) in accordance with the EM&A Manual which forms part of the EIA Report (Register No. AEIAR-018/1999).

During the month of September 2002, the following construction activities have taken place:

- Site Clearance;
- Site investigation;
- Traffic and utilities diversions;
- Hoarding erection;
- Tree transplanting; and
- Bored piling at 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) during the reporting period.

Monitoring of 24-hour Total Suspended Particulates (TSP) and noise was performed and the results were checked and reviewed. Site audits were conducted on a weekly basis. The implementation of environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also reviewed.

Air Quality

For 1-hr. TSP monitoring, a total of 30 sets of measurement were carried out during the reporting month and all were below the Action and Limit (AL) Levels.

For 24-hr. TSP monitoring, a total of 10 sets of measurement were carried out during the reporting month and all were below the AL Levels.

Noise

Daytime Monitoring

A total of 10 sets of L_{eq}(30min) measurement during Daytime (i.e. 0700 to1900 hours on normal weekdays) were carried out during the reporting month and all measured levels were below the Action and Limit (AL) Levels.

Evening-time and night-time Monitoring

Since no construction works were undertaken during evening/night-time, therefore no noise monitoring was carried out for these periods during the reporting month.

Waste Management

Approximately 483 m^3 of Excavated Materials were produced on-site and have been delivered to the government approved public filling area in Tuen Mun Area 38 during the reporting month.

Approximate 113.79 tones of C&D Wastes were produced on-site and have been delivered to the WENT and SENT landfills during the reporting period.

Site Inspection

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

Item	Findings	Proposed Mitigation Measures	Environmental Outcome
1	Mud water overflow was observed at Area P1-SA13 (CC402).	Divert effluent for proper treatment before final discharge to public drains.	Temporary measures were employed. De-silting facilities being arranged by CHEC.
2	Accumulation of rubbish was observed next to the site office.	Rubbish shall be collected in waste skip and removed from site regularly.	Rubbish was removed from site.
3	Accumulation of water in bunds at chemical/fuel storage area was observed.	Contaminated water collected and disposed of properly.	The wastewater was collected and temporary stored at the chemical waste storage area.
4	Idling equipment was observed at P1-SA13 (CC402).	Idling equipment should be switched off whole not in use.	The idling equipment was switched off accordingly.
5	Site runoff accumulate on-site especially in wheel washing bays.	Site runoff should be diverted to temporary sedimentation tanks for treatment before discharge.	Temporary measures were employed. Permanent drainage system and new wheel washing bays being arranged by CHEC.
6	Bottom of the hoarding not properly sealed.	Bottom of the hoarding should be properly sealed to prevent seepage of surface runoff from the site.	Hoarding properly sealed accordingly.

IEC Audit was carried out on 24th September 2002 and the major observations are as follows:

Item	Findings	Proposed Mitigation Measures	Environmental Outcome
1	No protection was employed for the gully next to the pre-drilling area at Area P1-SA13, Lin Cheung Road (NB43)	Gully shall be surrounded with sandbags to avoid surface runoff from entering the drains.	Sandbags have been placed around the gully.
2	Stockpiles and exposed surface were not covered properly at Area P1-SA6 (facing KMB Depot)	Cover the stockpiles and exposed surface.	CHEC covered the stockpiles by tarpaulin accordingly.
3	No protection was employed for the u-channel next to the pre-drilling area (P1-SA13)	The u-channel shall be protected using bund/sandbags.	CHEC deployed sandbags around u-channel to avoid sand and silty water from going into the drain.
4	Accumulation of rubbish was	Rubbish shall be collected	Rubbish was removed from site

	observed next to the site office	in waste skip and removed from site regularly.	accordingly.
5	Oil stain near generator was observed at Area P1-SA13.	Clear up the oil stain and dispose of properly.	The collected waste was disposed of as chemical waste.
6	Engine oil bottles without drip trays were observed at Area P1-SA13.	Engine oil shall be stored properly and drip trays shall be provided.	The engine oil bottles were removed from the area.

Site inspections were conducted by EPD on 17 and 25 September 2002 and the Contractor was reminded to implement sufficient/adequate measures in order to properly handle the wastewater from the construction works and storm water runoff.

Environmental Licensing and Permitting

Permits granted to the Project include Environmental Permit for the Project and construction noise permits. Information of these permits is provided in ***Table 5.1***.

Complaint Log

One environmental complaint was received during the reporting period.

There were totally 2 complaints received for the Route 9 Phase 1 Ngong Shuen Chau Viaduct contract since the commencement of the construction. All the complaint cases were handled in accordance with the complaint investigation procedures.

Notification of Summons and 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 December 2002 are summarized as follows:

Construction Works	Major Impact Prediction	Control Measures
Bore Pilling, pre-drilling and excavation	Dust Impact	• Regularly watering of haul road and unpaved areas; • Regularly watering or covering the open area/stock piles with tarpaulin; • Maintain onsite machinery and vehicles regularly;
	Generation of silty water	• The wastewater produced will be collected and recycled on-site. • The footing of hoardings will be sealed to avoid untreated wastewater from entering 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" (hereinafter called the "Project").

Under the requirements of Section 4 of Environmental Permit EP085/2000/C, EM&A programme is required to be implemented as set out in the Environmental Monitoring and Audit (EM&A) Manual which forms part of the EIA Report (Register No. AEIAR-018/1999).

1.1 Purpose of the Report

This is the 2nd monthly EM&A report which presents the results and findings of all EM&A works for the Project between 29th August 2002 and 28th September 2002.

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 PROSECUTIONS DURING THE REPORTING PERIOD** – summarizes the complaints, notifications of summons and 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

The Design and Construction Consultancy Assignment "Agreement No. CE72/98 Route 9 between Tsing Yi and Cheung Sha Wan" was awarded to Ove Arup and Partners Hong Kong Ltd (Arup).

The construction of the 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 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 shown 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 August 2002 to 28 September 2002

Area	Details of Site Activities
P1-SA6	Excavation, Utility Diversion, Bore Piling and Site Investigation
P1-SA13 and 14	Hoarding Erection, Bored Piling 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 was performed using a TE-5170 Tisch Environmental Inc. High Volume Sampler (HVS) was installed at each of the above monitoring stations. The sampler composed of a motor, filter holder, flow controller and a sampling inlet. 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 Site Office 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 sampler 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 were 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 monitor 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 of 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 yearly.

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

Event/Action Plan

The Event/Action Plan for Noise impact is presented 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-UE0352-02	25/09/02	16/03/03	Lai Wan Interchange near West Kowloon Highway & Lai Po Road	Valid (Any day from 0700h - 2300h)
Construction Noise Permit	GW-UE0353-02	25/09/02	16/03/03	Hing Wah Street West between Container Port Road South Roundabout	Valid (Any day from 0700h - 2300h)

Description	Permit No.	Valid Period		Section	Status / Remarks
		From	To		
Construction Noise Permit	GW-UE0354-02	25/09/02	16/03/03	Construction Site below West Kowloon Highway near Hing Wah Street 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 Street. 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 Street. West off Kowloon 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 Road 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 29th August 2002 and 28th September 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	90	5.9 – 257.1	318	500
ASR2	111	2.5 – 256.0	324	500

24-hour TSP

24-hour TSP monitoring was carried out at 2 monitoring stations between 29th August 2002 and 28th September 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	83	29.1 – 130.9	163	260
ASR2	96	37.1 – 165.8	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 29th August 2002 and 28th September 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*	67 (64.5-68.8)	68 (65.5-70.0)	64 (62.8-64.2)
NSR2*	75 (74.0-74.8)	78 (77.5-78.9)	68 (67.9-68.9)

** Free-field measurement*

Restricted Hour Monitoring

No construction works was carried out during the 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 Sept 02**	**Handling Method**	**Handling Quantities in Sept 02**	**Storage Locations (if applicable)**
C&D material	(inert waste)	69 no. of Dump Truck	Deliver to Public Fill (Tuen Mun Area 38)	69 no. of Dump Truck	N/A
			Reuse on site for filing	N/A	N/A
	(non-inert waste)	N/A	To be recycled (paper)	N/A	N/A
		N/A	To be reused	N/A	N/A
		N/A	To be returned to supplier	N/A	N/A
		113.79 tones	Collected by licensed collector for disposal	113.79 tones	N/A
Chemical waste		N/A	N/A	N/A	Chemical Waste Storage Area in P1-SA10

7.4 Site Inspection by Environmental Team (ET)

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

- CHEC reported that permanent drainage system and new wheel washing bays will be in place soon. CHEC was advised to divert the effluent to temporary sedimentation tanks for proper treatment before final discharge.

- CHEC was advised to seal the bottom of the hoarding properly to prevent seepage of surface runoff from the site.

- Accumulation of rubbish was observed at P1-SA9 (site office) on 12 September 2002. CHEC had made arrangements to collect and dispose rubbish from the works area subsequently.

- Idling equipment was observed at P1-SA13 (CC402) on 4 September 2002. CHEC was advised to switch off idling equipment while not in use.

- Mud water overflow was observed at Area P1-SA13 (CC402) on 19 September 2002. CHEC had made arrangement to collect and settled the mud water in the sedimentation tank before discharge.

- Accumulation of water in bunds at chemical/fuel storage area was observed (19 September). Subsequently the water was collected and temporary stored at chemical waste storage area.

7.5 Site Inspection by Independent Environmental Checker (IEC)

IEC Audit was carried out on 24th September 2002 and the major observations are as follows:

- The gullies at Area P1-SA13 and Lin Cheung Road (NB42) were not protected properly. With respect to this situation, CHEC had made arrangement to surround the gullies with sandbags to avoid surface runoff from entering the drain.

- Stockpiles of excavated material and exposed earth were not covered properly at Area P1-SA6 (facing KMB Depot). With respect to this situation, CHEC had made arrangements to cover the stockpiles using tarpaulin accordingly.

- CHEC was advised to remove silt from the sedimentation tank regularly and when necessary.

- CHEC was advised to protect the u-channel next to the pre-drilling area at P1-SA13 by using bund/sandbags.

- Accumulation of rubbish was observed at P1-SA9 (site office). CHEC had made arrangements to collect and dispose rubbish from the works area subsequently.

- Engine oil containers were not stored properly at Area P1-SA13. CHEC had made arrangement to place all fuel/oil within a bunded chemical storage area.

- Oil stain near generator was observed at Area P1-SA13. The waste was collected and disposed of as chemical waste.

7.6 Site Inspection by Environmental Protection Department (EPD)

Site inspections were conducted by EPD on 17 and 25 September 2002 and the Contractor was reminded to implement sufficient/adequate measures in order properly handle the wastewater from the construction works and storm water runoff.

8. COMPLAINTS, NOTIFICATIONS OF SUMMONS AND PROSECUTIONS

8.1 Summary of Complaints

One complaint was received during the reporting period. 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 August and 28 September 2002

Case No. **Received Date (Complaint Mode)**	***EC2002/02*** **Formal complaint referred by EPD on 23 September 2002.**
Parameters	Noise and vibration nuisance from piling works of the Project.
Description	Complaint received by EPD on 9 September 2002 regarding noise and vibration nuisance perceived at the complainant's office, generated from the piling works at R9 site between Hing Wah Street West and Lai Po Road. EPD forwarded the complaint to the ET Leader (ERM) on 20 September 2002.
Follow-up Action	• Several vibration measures have been implemented since 27 August 2002 in order to reduce the vibration nuisance to the surrounding offices as a result of the Project's piling works; • Investigations were undertaken by ET Leader on 24 and 25 September 2002 • Site meeting held amongst EPD, ETL, RSS and CHEC on 25 September 2002. No further comment had been raised for the implemented mitigation measures.
Recommended Mitigation Measures	CHEC shall use a smaller power vibro hammer for casing installation, limit the casing installation operation to 7:00am-9:00am, 12:00-13:00pm and 17:00-19:00pm, and carry out vibration monitoring to ensure the magnitude of vibration during casing installation is within the specified limit.
Status/ Remarks	Closed • ET Leader submitted a comprehensive report to EPD on 30 September 2002.

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 Received

Total No. of Complaint Received	No. of complaint received within reporting period	No. of Active Complaint	No. of Inactive/Closed Complaint
2	1	0	2

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 diversion, 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 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/channel 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 collected 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 September to 28 December 2002 are attached in ***Appendix P***.

10. RECOMMENDATIONS AND CONCLUSIONS

10.1 Conclusions

This Environmental Monitoring and Audit (EM&A) report presents the EM&A works undertaken during the month from 29th August 2002 and 28th September 2002 in accordance with EM&A Manual which forms part of the EIA Report (Register No. AEIAR-018/1999).

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

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

One complaint was received during the reporting period. In total, two complaints were 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*** **,** ***7.5*** and ***7.6*** 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

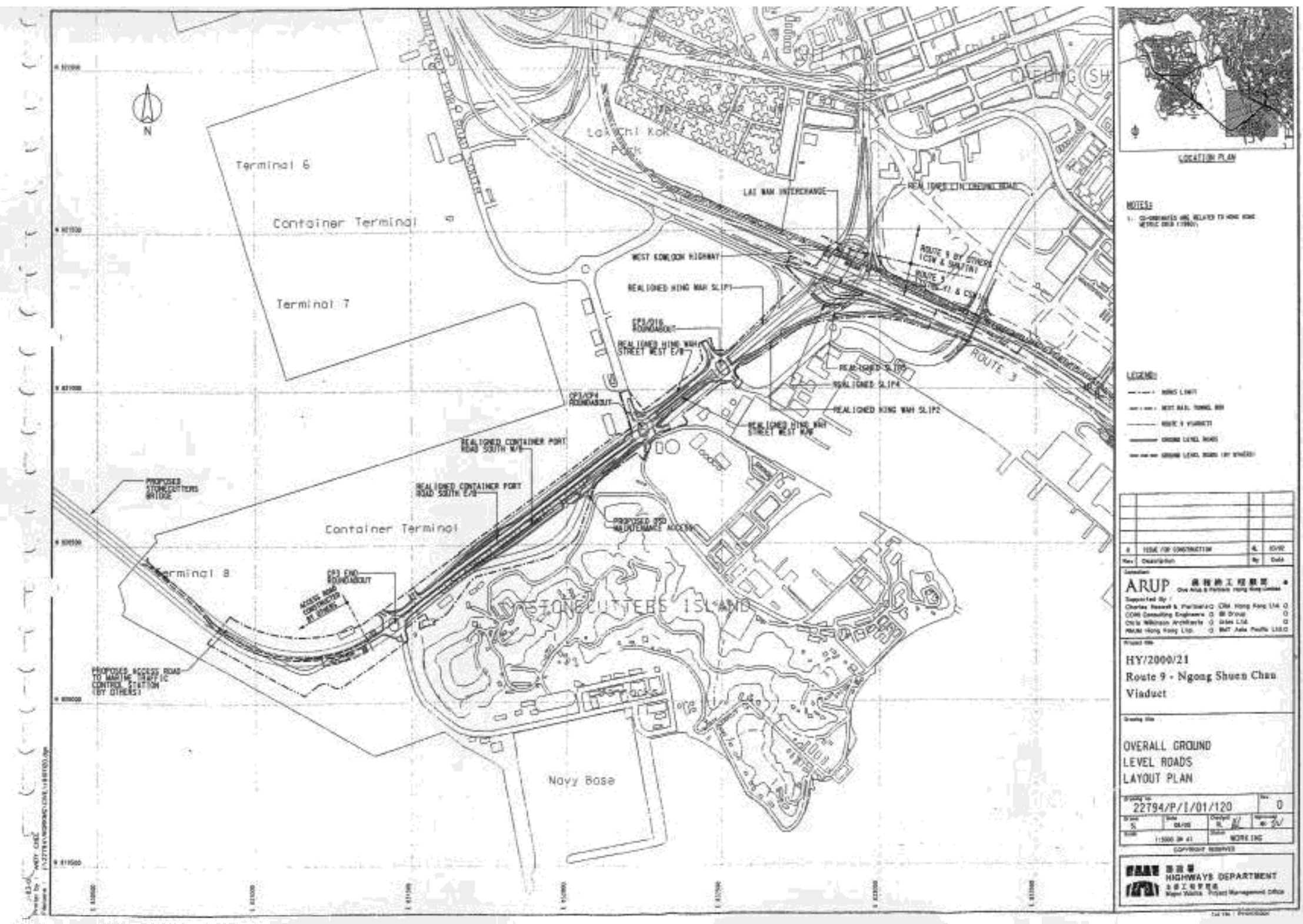
- All surface runoff/wastewater should be diverted to appropriate water treatment facility before disposal;
- Sedimentation tanks/basins should have adequate capacity for settling surface runoff;
- Vehicle and plant servicing area, wheel washing bay shall be connected to storm drains via a petrol interceptor;
- 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 collected and disposed of as chemical waste;
- All type of wastes should be collected by licensed waste collectors;
- Good housekeeping should be implemented.

Appendix A

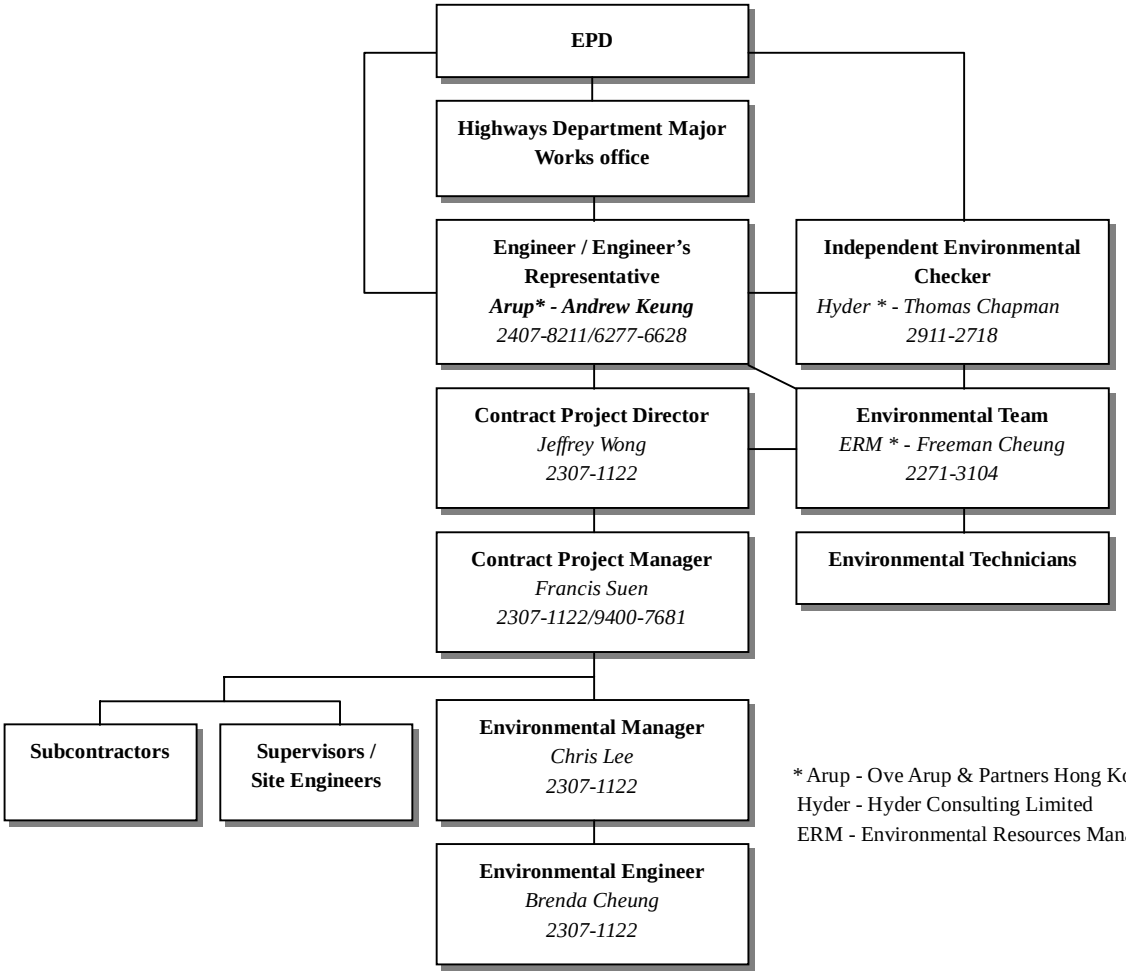
Site Layout Plan


N
Terminal 6
Container Terminal 6
Terminal 7
Container Terminal 7
Container Terminal 8
Lai Chi Kok Park
LAI WAN INTERCHANGE
WEST KOWLOON HIGHWAY
REALIGNED KING WAH SLIP1
CP2/D1B ROUNDABOUT
REALIGNED KING WAH STREET WEST E/B
REALIGNED SLIP3
REALIGNED SLIP4
REALIGNED KING WAH SLIP2
REALIGNED KING WAH STREET WEST W/B
CP1/C2H ROUNDABOUT
REALIGNED CONTAINER PORT ROAD SOUTH W/B
REALIGNED CONTAINER PORT ROAD SOUTH E/B
PROPOSED STONECUTTERS BRIDGE
PROPOSED 3RD MAINTENANCE ACCESS
CP3 END ROUNDABOUT
ACCESS ROAD CONSTRUCTED BY OTHERS
PROPOSED ACCESS ROAD TO MARITIME TRAFFIC CONTROL STATION (BY OTHERS)
STONECUTTERS ISLAND
Navy Base
ROUTE 9 BY OTHERS (CSW & SHATIN)
ROUTE 3 (CSW - TAI LAM TUNNEL & CSW)
ROUTE 3
REAL TIME KIN CHUNG ROAD
LOCATION PLAN
NOTES:
1. CO-ORDINATES ARE RELATED TO HONG KONG METRIC GRID (1980)
LEGEND:
HONG LIMIT
WEST RAIL TUNNEL BDY
ROUTE 9 (HARBOUR)
GROUND LEVEL ROADS
GROUND LEVEL ROADS (BY OTHERS)
0 ISSUE FOR CONSTRUCTION KL 10/08
Rev Description By Date
ARUP 奧雅納工程顧問
Supported By :
Charles Russell & Partners CRA Hong Kong Ltd
COWI Consulting Engineers BE Group
Chris Wilkinson Architects Gibbs Ltd
PAUM Hong Kong Ltd. MAT Asia Pacific Ltd
Project title
HY/2000/21
Route 9 - Ngong Shuen Chau Viaduct
Drawing title
OVERALL GROUND LEVEL ROADS LAYOUT PLAN
Drawing no. 22794/P/I/01/120 Rev 0
Drawn S Date 08/08 Checked KL Approved
Scale 1:5000 @ A1 Status WORKING
COPYRIGHT RESERVED
HIGHWAYS DEPARTMENT
Project Management Office

Appendix B

Project Organization Chart and Contact Details

Appendix B: Project Organization Chart and Contact Details

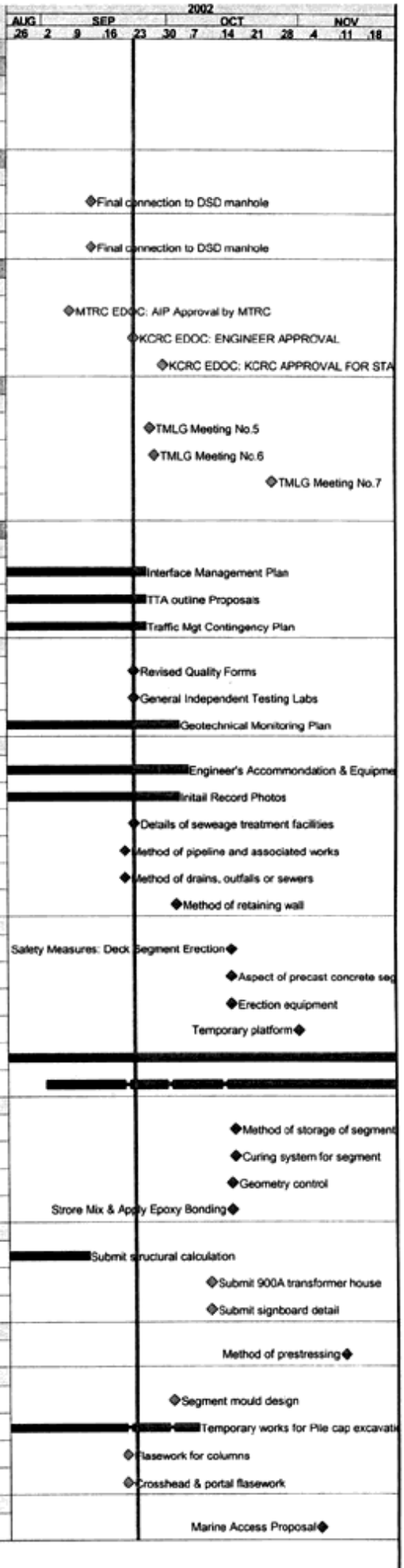


* Arup - Ove Arup & Partners Hong Kong Limited
Hyder - Hyder Consulting Limited
ERM - Environmental Resources Management

Appendix C

Project Work Programme

Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
PRELIMINARIES, DESIGN & PROCUREMENT								
PROJECT MILESTONES								
Site Possession Dates								
CH0000190	Possession P1-SA11	0	0	21/12/02		0		
CH0000200	Possession P1-SA11A	0	0	21/12/02		0		
SITE ACCOMMODATION & TEMPORARY FACILITIES								
Contractor's Site Accommodation								
CH0010240	Final connection to DSD manhole	100	0		12/09/02A			
Engineer's Site Accommodation								
CH0015240	Final connection to DSD manhole	100	0		12/09/02A			
PERMITS & SUBMISSIONS								
Submissions: Method Statements & EDOC's								
CH0050120	MTRC EDOC: AIP Approval by MTRC	100	0		07/09/02A			
CH0050140	KCRC EDOC: ENGINEER APPROVAL	0	0		22/09/02	1,871		
CH0050150	KCRC EDOC: KCRC APPROVAL FOR START OF WORKS	0	0		29/09/02	1,871		
TMLG MEETING								
TMLG Meeting								
CH0052140	TMLG Meeting No.5	0	0		26/09/02*	323		
CH0052150	TMLG Meeting No.6	0	0		27/09/02*	44		
CH0052160	TMLG Meeting No.7	0	0		25/10/02*	46		
CH0052170	TMLG Meeting No.8	0	0		29/11/02*	1,810		
DESIGN & SUBMISSION								
Permits & Submissions: Traffic Related								
CH0053190	Interface Management Plan	97	100	29/06/02A	25/09/02	0		
CH0060300	TTA outline Proposals	97	100	30/04/02A	25/09/02	0		
CH0060310	Traffic Mgt Contingency Plan	70	10	19/04/02A	25/09/02	0		
Submissions: Project Controls Related								
CH0053280	Revised Quality Forms	0	0		22/09/02*	0		
CH0053310	General Independent Testing Labs	0	0		22/09/02*	0		
CH0060450	Geotechnical Monitoring Plan	78	50	13/06/02A	03/10/02	0		
Submission: Preliminaries								
CH0053150	Engineer's Accommondation & Equipment	78	60	31/05/02A	05/10/02	0		
CH0053180	Initail Record Photos	89	100	10/04/02A	03/10/02	0		
CH0053270	Details of seweage treatment facilities	0	0		22/09/02*	0		
CH0060370	Method of pipeline and associated works	0	0		20/09/02*	0		
CH0060380	Method of drains, outfalls or sewers	0	0		20/09/02*	0		
CH0060390	Method of retaining wall	0	0		02/10/02*	0		
Design: Segment Launching Gantry								
CH0053185	Safety Measures: Deck Segment Erection	0	0		15/10/02*	0		
CH0060160	Aspect of precast concrete segment erection	0	0		15/10/02*	0		
CH0060170	Erection equipment	0	0		15/10/02*	0		
CH0060180	Temporary platform	0	0		31/10/02*	0		
CH0060240	Launching girder design	40	272	04/04/02A	30/12/02	0		
CH0060260	Fabrication girder	10	140	02/09/02A	01/03/03	0		
Design: Segment Yard & Storage								
CH0060130	Method of storage of segment	0	0		16/10/02*	0		
CH0060140	Curing system for segment	0	0		16/10/02*	0		
CH0060150	Geometry control	0	0		15/10/02*	0		
CH0060190	Strore Mix & Apply Epoxy Bonding	0	0		15/10/02*	0		
Design: Public Works Regional Laboratory								
CHTPWR060	Submit structural calculation	100	90	02/07/02A	11/09/02A			
CHTPWR100	Submit 900A transformer house	0	0	11/10/02*		7		
CHTPWR130	Submit signboard detail	0	0	11/10/02*		4		
Design: Temporary Pre-stressing								
CH0060120	Method of prestressing	0	0		11/11/02*	0		
Design: Moulds, Formwork & Shutters								
CH0060200	Segment mould design	0	0		01/10/02*	23		
CH0060460	Temporary works for Pile cap excavation	0	10	20/05/02A	07/10/02	-45		
CH0060470	Flasework for columns	0	0		20/09/02*	31		
CH0060480	Crosshead & portal flasework	0	0		20/09/02*	53		
Design P1-SA9 Marine Access								
CH0060100	Marine Access Proposal	0	0		05/11/02*	0		



26 2 9 16 23 30 7 14 21 28 4 11 18
AUG SEP OCT NOV
2002

Start Date 04/04/02
Finish Date 11/01/06
Data Date 23/09/02
Run Date 02/10/02 15:06

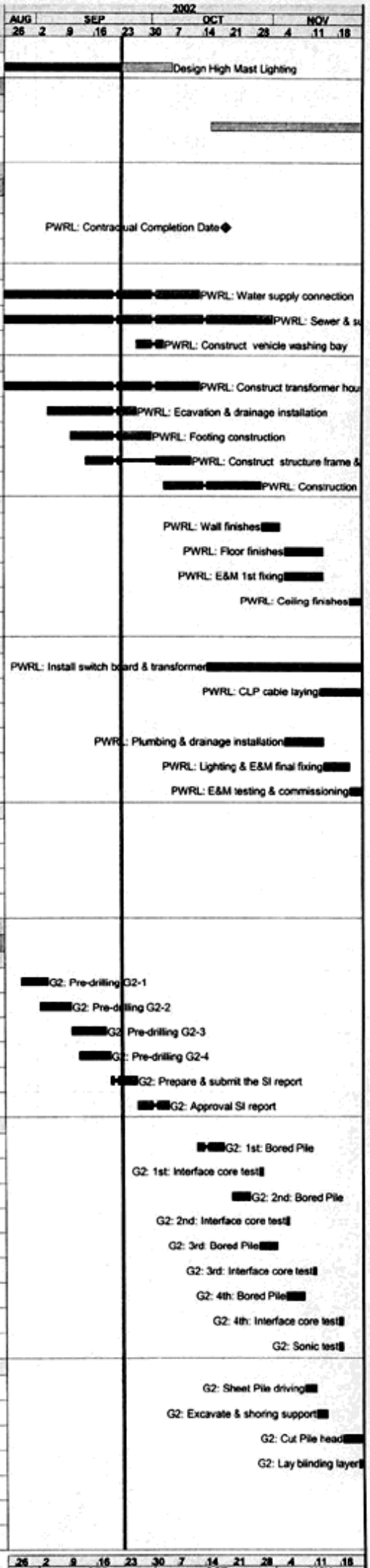
As-Planned Bar
Early Bar
Progress Bar
Critical Activity

0209 Sheet 1 of 18

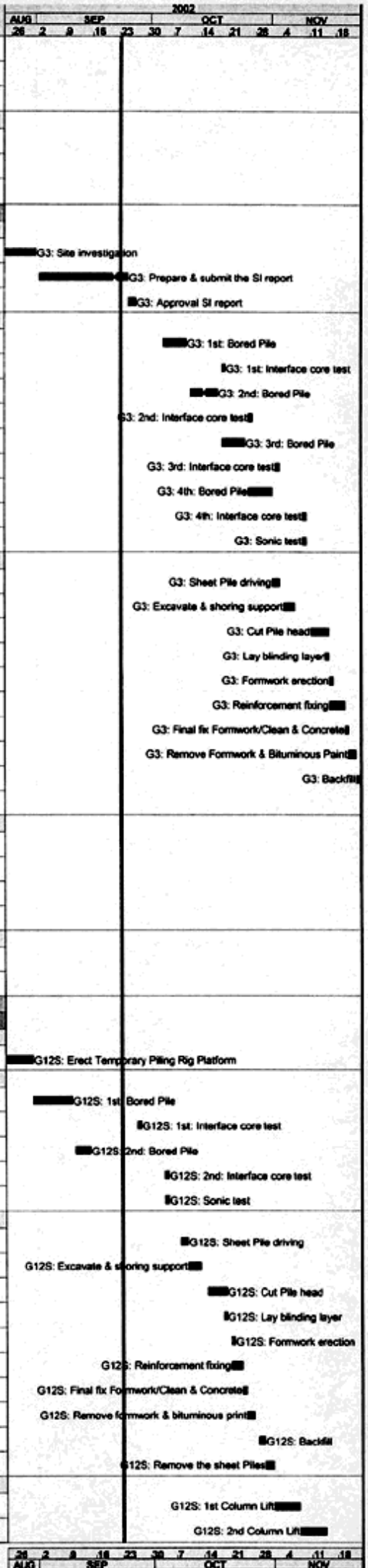
CHINA HARBOUR ENGINEERING COMPANY (GROUP)
ROUTE 9-NSCV
CONTRACT NO. HY/2000/21
3 Month Rolling Programme (cut off: 23-09-02)

Date	Revision	Checked	Approved

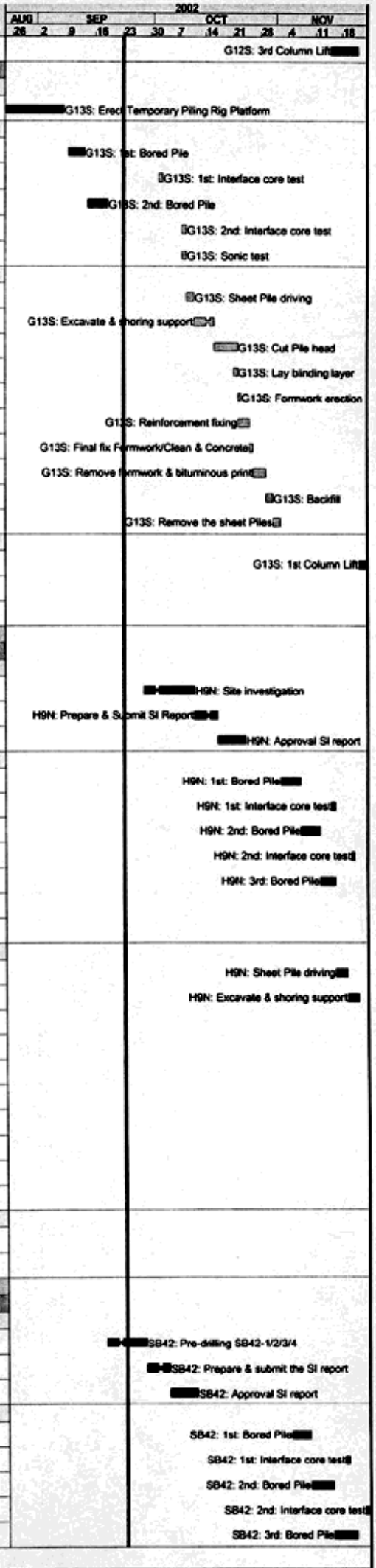
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
Street Lighting & High Mast Lighting								
CH0060320	Design High Mast Lighting	87	100	05/06/02A	05/10/02	43		
PROCUREMENT								
Pre-cast Segments Manufacture								
CH0060210	Fabricate Segment moulds & setup production	0	55	16/10/02	09/12/02	23		
CH0060220	Trial segment	0	26	10/12/02	04/01/03	23		
CONSTRUCT BUILDINGS								
TSUEN WAN PUBLIC WORKS REGIONAL LABORATORY (PWRL								
PWRL: KEY DATES								
CHTPWR031	PWRL: Contractual Completion Date	0	0		19/10/02*	0		
CHTPWR040	PWRL: Forecast Completion of Works	0	0		11/12/02*	-45		
Utilities, Services & Temporary Works								
CHTPWR170	PWRL: Water supply connection	58	40	06/06/02A	12/10/02	-21		
CHTPWR180	PWRL: Sewer & surface water connection	29	45	15/07/02A	31/10/02	-40		
CHTPWR380	PWRL: Construct vehicle washing bay	0	5	27/09/02	03/10/02	-7		
PWRL: Drainage, Foundations & Structure								
CHTPWR200	PWRL: Construct transformer house	43	30	15/07/02A	12/10/02	-45		
CHTPWR240	PWRL: Ecavation & drainage installation	60	4	04/09/02A	26/09/02	-38		
CHTPWR250	PWRL: Footing construction	60	7	10/09/02A	30/09/02	-38		
CHTPWR260	PWRL: Construct structure frame & panel	20	30	14/09/02A	10/10/02	-38		
CHTPWR390	PWRL: Construction ground slab & surface drainag	0	20	04/10/02	28/10/02	-7		
PWRL: 1st & 2nd Fixes								
CHTPWR270	PWRL: Wall finishes	0	5	29/10/02	02/11/02	-38		
CHTPWR280	PWRL: Floor finishes	0	9	04/11/02	13/11/02	-38		
CHTPWR290	PWRL: E&M 1st fixing	0	9	04/11/02	13/11/02	-38		
CHTPWR320	PWRL: Ceiling finishes	0	5	21/11/02	26/11/02	-38		
CHTPWR400	PWRL: Installation Chemical Waste Storage Room	0	2	02/12/02	03/12/02	-38		
PWRL: E & M Works								
CHTPWR210	PWRL: Install switch board & transformer	0	35	15/10/02	23/11/02	-45		
CHTPWR220	PWRL: CLP cable laying	0	25	13/11/02	11/12/02	-45		
CHTPWR230	PWRL: Transformer tesing & commissioning	0	7	04/12/02	11/12/02	-45		
CHTPWR300	PWRL: Plumbing & drainage installation	0	9	04/11/02	13/11/02	-38		
CHTPWR310	PWRL: Lighting & E&M final fixing	0	6	14/11/02	20/11/02	-38		
CHTPWR330	PWRL: E&M testing & commissioning	0	5	21/11/02	26/11/02	-32		
PWRL: Finshing Works								
CHTPWR340	PWRL: Furniture installation	0	3	27/11/02	29/11/02	-35		
CHTPWR350	PWRL: Installation New testing facilities	0	3	27/11/02	29/11/02	-35		
CHTPWR360	PWRL: Install Existing Equipment From Old Lab.	0	3	27/11/02	29/11/02	-38		
CHTPWR370	PWRL: Signboards installation	0	1	30/11/02	30/11/02	-38		
CONSTRUCT BRIDGE G1 - STAGE 1A WORKS								
BRIDGE G1: PIER G2 - STAGE 1A								
G1: Pier G2 SI Pre-drilling								
CH3010100	G2: Pre-drilling G2-1	100	5	28/08/02A	03/09/02A			
CH3010101	G2: Pre-drilling G2-2	100	5	02/09/02A	09/09/02A			
CH3010105	G2: Pre-drilling G2-3	100	8	10/09/02A	18/09/02A			
CH3010106	G2: Pre-drilling G2-4	100	5	12/09/02A	19/09/02A			
CH3010110	G2: Prepare & submit the SI report	0	4	20/09/02A	26/09/02	-87		
CH3010120	G2: Approval SI report	0	6	27/09/02	04/10/02	-87		
G1: Pier G2 Bored Piling								
CH3015100	G2: 1st: Bored Pile	0	5	12/10/02	18/10/02	-93		
CH3015110	G2: 1st: Interface core test	0	1	28/10/02	28/10/02	-44		
CH3015120	G2: 2nd: Bored Pile	0	5	21/10/02	25/10/02	-93		
CH3015130	G2: 2nd: Interface core test	0	1	04/11/02	04/11/02	-49		
CH3015140	G2: 3rd: Bored Pile	0	5	28/10/02	01/11/02	-93		
CH3015150	G2: 3rd: Interface core test	0	1	11/11/02	11/11/02	-54		
CH3015160	G2: 4th: Bored Pile	0	5	04/11/02	08/11/02	-59		
CH3015170	G2: 4th: Interface core test	0	1	18/11/02	18/11/02	-59		
CH3015180	G2: Sonic test	0	1	18/11/02	18/11/02	-59		
G1: Pier G2 Pile Cap								
CH3020100	G2: Sheet Pile driving	0	2	09/11/02	11/11/02	-56		
CH3020110	G2: Excavate & shoring support	0	3	12/11/02	14/11/02	-56		
CH3020120	G2: Cut Pile head	0	5	19/11/02	23/11/02	-59		
CH3020130	G2: Lay blinding layer	0	1	23/11/02	23/11/02	-59		
CH3020140	G2: Formwork erection	0	1	25/11/02	25/11/02	-59		
CH3020150	G2: Reinforcement fixing	0	7	25/11/02	02/12/02	-59		
CH3020160	G2: Final fix Formwork/Clean & Concrete	0	1	03/12/02	03/12/02	-59		



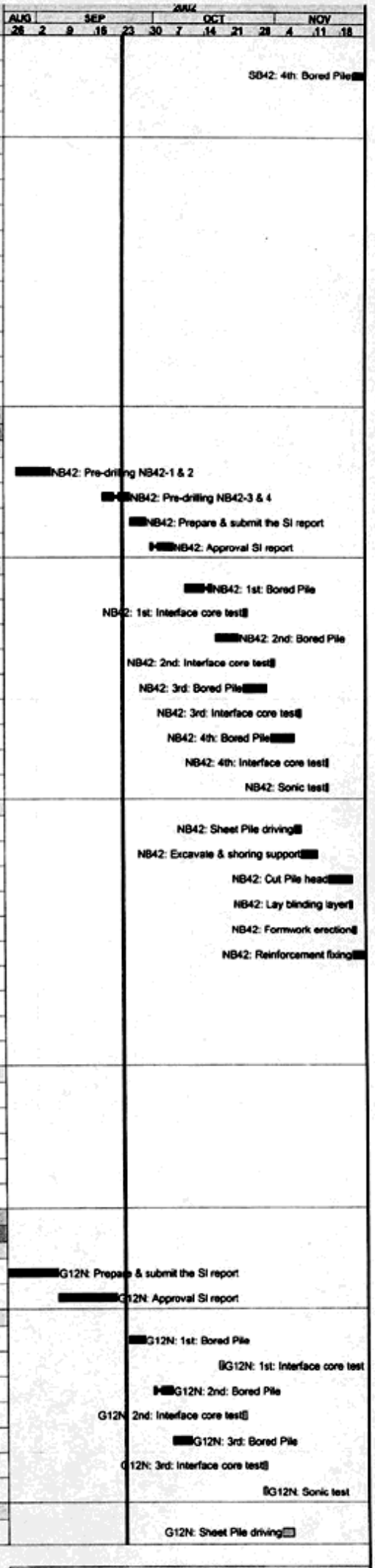
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH3020170	G2: Remove formwork & bituminous print	0	2	04/12/02	05/12/02	-59		
CH3020180	G2: Backfill	0	2	06/12/02	07/12/02	-59		
CH3020190	G2: Remove the sheet Piles	0	2	09/12/02	10/12/02	-59		
G1: Pier G2 Column (Type C3 hollow)								
CH3025100	G2: 1st Column Lift	0	4	11/12/02	14/12/02	-59		
CH3025110	G2: 2nd Column Lift	0	4	16/12/02	19/12/02	-59		
CH3025120	G2: 3rd Column Lift	0	4	20/12/02	24/12/02	-59		
BRIDGE G1: PIER G3 - STAGE 1A								
G1: Pier G3 SI Pre-Drilling								
CH3045100	G3: Site investigation	100	5	01/08/02A	31/08/02A			
CH3045110	G3: Prepare & submit the SI report	0	2	02/09/02A	24/09/02	-54		
CH3045120	G3: Approval SI report	0	2	25/09/02	26/09/02	-54		
G1: Pier G3 Bored Piling								
CH3050100	G3: 1st: Bored Pile	0	5	04/10/02	09/10/02	-59		
CH3050110	G3: 1st: Interface core test	0	1	19/10/02	19/10/02	-3		
CH3050120	G3: 2nd: Bored Pile	0	5	11/10/02	17/10/02	-59		
CH3050130	G3: 2nd: Interface core test	0	1	26/10/02	26/10/02	-8		
CH3050140	G3: 3rd: Bored Pile	0	5	19/10/02	24/10/02	-59		
CH3050150	G3: 3rd: Interface core test	0	1	02/11/02	02/11/02	-13		
CH3050160	G3: 4th: Bored Pile	0	5	26/10/02	31/10/02	-59		
CH3050170	G3: 4th: Interface core test	0	1	09/11/02	09/11/02	-18		
CH3050180	G3: Sonic test	0	1	09/11/02	09/11/02	-18		
G1: Pier G3 Pile Cap								
CH3055100	G3: Sheet Pile driving	0	2	01/11/02	02/11/02	-15		
CH3055110	G3: Excavate & shoring support	0	3	04/11/02	06/11/02	-15		
CH3055120	G3: Cut Pile head	0	5	11/11/02	15/11/02	-18		
CH3055130	G3: Lay blinding layer	0	1	15/11/02	15/11/02	-18		
CH3055140	G3: Formwork erection	0	1	16/11/02	16/11/02	-18		
CH3055150	G3: Reinforcement fixing	0	3	16/11/02	19/11/02	-18		
CH3055160	G3: Final fix Formwork/Clean & Concrete	0	1	20/11/02	20/11/02	-18		
CH3055170	G3: Remove Formwork & Bituminous Paint	0	2	21/11/02	22/11/02	-18		
CH3055180	G3: Backfill	0	2	23/11/02	25/11/02	-18		
CH3055190	G3: Remove the sheet Piles	0	2	26/11/02	27/11/02	-18		
G1: Pier G3 Column (Type C3S solid)								
CH3060100	G3: 1st Column Lift	0	4	28/11/02	02/12/02	-18		
CH3060110	G3: 2nd Column Lift	0	4	03/12/02	06/12/02	-18		
CH3060120	G3: 3rd Column Lift	0	4	07/12/02	11/12/02	-18		
CH3060125	G3: 4th Column Lift	0	4	12/12/02	16/12/02	-18		
G1: Pier G3 Crosshead (Type H5)								
CH3065100	G3: Erect working platform & support brackets	0	2	17/12/02	18/12/02	-18		
CH3065110	G3: Erect soffit formwork	0	3	19/12/02	21/12/02	-18		
CONSTRUCT BRIDGE G2 - STAGE 1A WORKS								
BRIDGE G2: PIER G12S								
G2: Pier G12S Utilities, Services & Roadworks								
CH3470103	G12S: Erect Temporary Piling Rig Platform	100	6	24/07/02A	30/08/02A			
G2: Pier G12S Bored Piling								
CH3480100	G12S: 1st: Bored Pile	100	4	31/08/02A	09/09/02A			
CH3480110	G12S: 1st: Interface core test	0	1	27/09/02	27/09/02	-39		
CH3480120	G12S: 2nd: Bored Pile	100	4	11/09/02A	14/09/02A			
CH3480130	G12S: 2nd: Interface core test	0	1	04/10/02	04/10/02	-43		
CH3480180	G12S: Sonic test	0	1	04/10/02	04/10/02	-43		
G2: Pier G12S Pile Cap								
CH2485100	G12S: Sheet Pile driving	0	2	08/10/02	09/10/02	-45		
CH2485110	G12S: Excavate & shoring support	0	3	10/10/02	12/10/02	-45		
CH2485120	G12S: Cut Pile head	0	5	15/10/02	19/10/02	-45		
CH2485130	G12S: Lay blinding layer	0	1	19/10/02	19/10/02	-45		
CH2485140	G12S: Formwork erection	0	1	21/10/02	21/10/02	-45		
CH2485150	G12S: Reinforcement fixing	0	3	21/10/02	23/10/02	-45		
CH2485160	G12S: Final fix Formwork/Clean & Concrete	0	1	24/10/02	24/10/02	-45		
CH2485170	G12S: Remove formwork & bituminous print	0	2	25/10/02	26/10/02	-45		
CH2485180	G12S: Backfill	0	2	28/10/02	29/10/02	-45		
CH2485190	G12S: Remove the sheet Piles	0	2	30/10/02	31/10/02	-45		
G2: Pier G12S Column (Type C5)								
CH3490100	G12S: 1st Column Lift	0	6	01/11/02	07/11/02	-1		
CH3490110	G12S: 2nd Column Lift	0	6	08/11/02	14/11/02	-1		



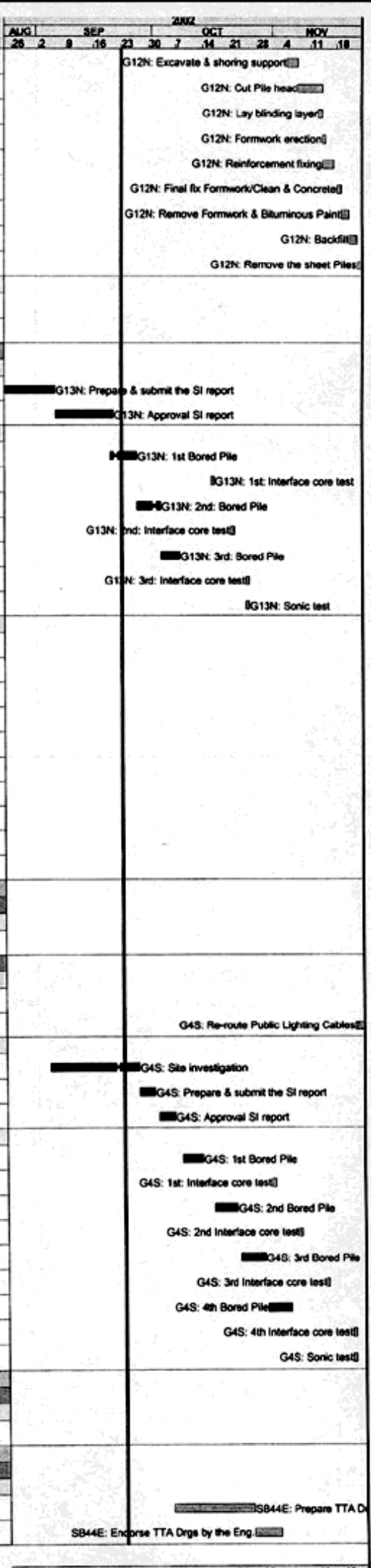
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH3490120	G12S: 3rd Column Lift	0	6	15/11/02	21/11/02	-1		
BRIDGE G2: PIER G13S								
G2: Pier G13S Utilities, Services & Roadworks								
CH3535103	G13S: Erect Temporary Piling Rig Platform	100	6	24/07/02A	07/09/02A			
G2: Pier G13S Bored Piling								
CH3545100	G13S: 1st: Bored Pile	100	4	09/09/02A	12/09/02A			
CH3545110	G13S: 1st: Interface core test	0	1	02/10/02	02/10/02	20		
CH3545120	G13S: 2nd: Bored Pile	100	4	14/09/02A	18/09/02A			
CH3545130	G13S: 2nd: Interface core test	0	1	08/10/02	08/10/02	16		
CH3545180	G13S: Sonic test	0	1	08/10/02	08/10/02	16		
G2: Pier G13S Pile Cap								
CH3550100	G13S: Sheet Pile driving	0	2	09/10/02	10/10/02	16		
CH3550110	G13S: Excavate & shoring support	0	3	11/10/02	15/10/02	16		
CH3550120	G13S: Cut Pile head	0	5	16/10/02	21/10/02	16		
CH3550130	G13S: Lay blinding layer	0	1	21/10/02	21/10/02	16		
CH3550140	G13S: Formwork erection	0	1	22/10/02	22/10/02	16		
CH3550150	G13S: Reinforcement fixing	0	3	22/10/02	24/10/02	16		
CH3550160	G13S: Final fix Formwork/Clean & Concrete	0	1	25/10/02	25/10/02	16		
CH3550170	G13S: Remove formwork & bituminous print	0	2	26/10/02	28/10/02	16		
CH3550180	G13S: Backfill	0	2	29/10/02	30/10/02	16		
CH3550190	G13S: Remove the sheet Piles	0	2	31/10/02	01/11/02	16		
G2: Pier G13S Column (Type C5)								
CH3555100	G13S: 1st Column Lift	0	6	22/11/02	28/11/02	-1		
CH3555110	G13S: 2nd Column Lift	0	6	29/11/02	05/12/02	-1		
CH3555120	G13S: 3rd Column Lift	0	6	06/12/02	12/12/02	-1		
CONSTARUCT BRIDGE H2 - STAGE 1A WORKS								
BRIDGE H2: PIER H9N - STAGE 1A								
H2: Pier H9N SI Pre-Drilling								
CH4335100	H9N: Site investigation	0	10	26/09/02	10/10/02	-51		
CH4335110	H9N: Prepare & Submit SI Report	0	4	11/10/02	16/10/02	-51		
CH4335120	H9N: Approval SI report	0	6	17/10/02	23/10/02	-51		
H2: Pier H9N Bored Piling								
CH4340100	H9N: 1st: Bored Pile	0	4	02/11/02	06/11/02	-59		
CH4340110	H9N: 1st: Interface core test	0	1	15/11/02	15/11/02	-53		
CH4340120	H9N: 2nd: Bored Pile	0	4	07/11/02	11/11/02	-59		
CH4340130	H9N: 2nd: Interface core test	0	1	20/11/02	20/11/02	-56		
CH4340140	H9N: 3rd: Bored Pile	0	4	12/11/02	15/11/02	-59		
CH4340150	H9N: 3rd: Interface core test	0	1	26/11/02	25/11/02	-59		
CH4340180	H9N: Sonic test	0	1	25/11/02	25/11/02	-59		
H2: Pier H9N Pile Cap								
CH4345100	H9N: Sheet Pile driving	0	2	18/11/02	18/11/02	-56		
CH4345110	H9N: Excavate & shoring support	0	3	19/11/02	21/11/02	-56		
CH4345120	H9N: Cut Pile head	0	5	26/11/02	30/11/02	-59		
CH4345130	H9N: Lay blinding layer	0	1	30/11/02	30/11/02	-59		
CH4345140	H9N: Formwork erection	0	1	02/12/02	02/12/02	-59		
CH4345150	H9N: Reinforcement fixing	0	3	02/12/02	04/12/02	-59		
CH4345160	H9N: Final fix Formwork/Clean & Concrete	0	1	05/12/02	05/12/02	-59		
CH4345170	H9N: Strike Formwork & Bituminous Paint	0	2	06/12/02	07/12/02	-59		
CH4345180	H9N: Backfill	0	2	09/12/02	10/12/02	-59		
CH4345190	H9N: Remove the sheet Piles	0	2	11/12/02	12/12/02	-59		
H2: Pier H9N Column (Type C5 solid)								
CH4350100	H9N: 1st Column Lift	0	6	13/12/02	19/12/02	-59		
CH4350110	H9N: 2nd Column Lift	0	6	20/12/02	28/12/02	-59		
CONSTRUCT BRIDGE ML15 - STAGE 1A WORKS								
BRIDGE ML15: PIER SB42								
ML15: Pier SB42 SI Pre-Drilling								
CH6888100	SB42: Pre-drilling SB42-1/2/3/4	15	5	18/09/02A	27/09/02	-74		
CH6888110	SB42: Prepare & submit the SI report	0	4	28/09/02	03/10/02	-74		
CH6888120	SB42: Approval SI report	0	6	04/10/02	10/10/02	-74		
ML15: Pier SB42 Bored Piling								
CH6891100	SB42: 1st: Bored Pile	0	5	04/11/02	08/11/02	-93		
CH6891110	SB42: 1st: Interface core test	0	1	18/11/02	18/11/02	-81		
CH6891120	SB42: 2nd: Bored Pile	0	5	09/11/02	14/11/02	-93		
CH6891130	SB42: 2nd: Interface core test	0	1	23/11/02	23/11/02	-85		
CH6891140	SB42: 3rd: Bored Pile	0	5	15/11/02	20/11/02	-93		



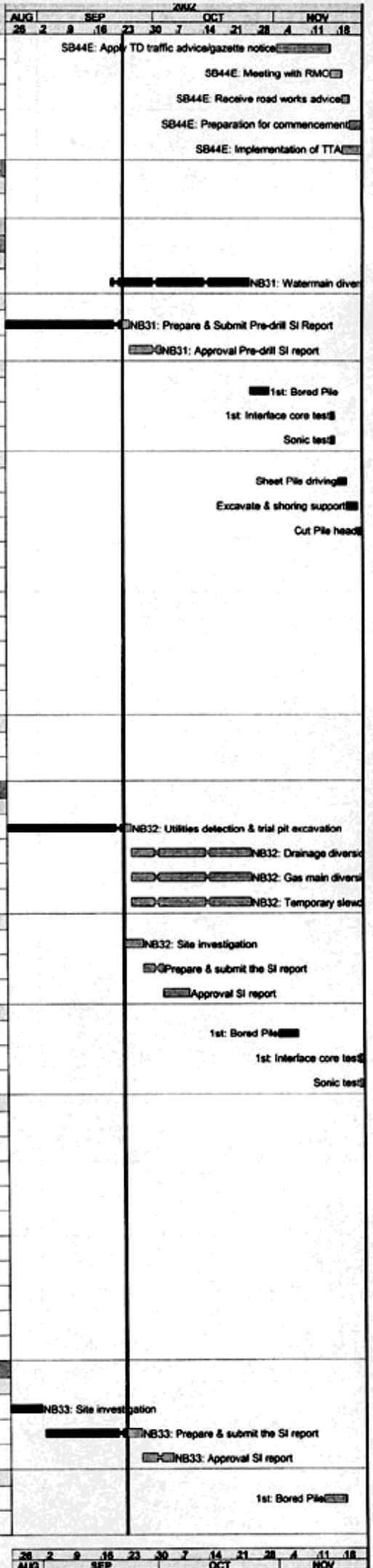
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH6891150	SB42: 3rd: Interface core test	0	1	29/11/02	29/11/02	-89		
CH6891160	SB42: 4th: Bored Pile	0	5	21/11/02	26/11/02	-93		
CH6891170	SB42: 4th: Interface core test	0	1	05/12/02	05/12/02	-93		
CH6891180	SB42: Sonic test	0	1	05/12/02	05/12/02	-93		
ML15: Pier SB42 Pile Cap								
CH6894100	SB42: Sheet Pile driving	0	2	27/11/02	28/11/02	-90		
CH6894110	SB42: Excavate & shoring support	0	3	29/11/02	02/12/02	-90		
CH6894120	SB42: Cut Pile head	0	3	06/12/02	09/12/02	-93		
CH6894130	SB42: Lay blinding layer	0	1	09/12/02	09/12/02	-93		
CH6894140	SB42: Formwork erection	0	1	10/12/02	10/12/02	-93		
CH6894150	SB42: Reinforcement fixing	0	5	10/12/02	14/12/02	-93		
CH6894160	SB42: Final fix Formwork/Clean & Concrete	0	1	16/12/02	16/12/02	-93		
CH6894170	SB42: Strike Formwork & Bituminous Paint	0	2	17/12/02	18/12/02	-93		
CH6894180	SB42: Backfill within Sheet Piles	0	2	19/12/02	20/12/02	-93		
CH6894190	SB42: Remove Sheet Piles Around Pile Cap	0	2	21/12/02	23/12/02	-93		
CONSTRUCT BRIDGE ML16 - STAGE 1A WORKS								
BRIDGE ML16: PIER NB42								
ML16: Pier NB42 SI Pre-Drilling								
CH7002100	NB42: Pre-drilling NB42-1 & 2	100	10	27/08/02A	04/09/02A			
CH7002101	NB42: Pre-drilling NB42-3 & 4	70	10	18/09/02A	24/09/02	-91		
CH7002110	NB42: Prepare & submit the SI report	0	4	25/09/02	28/09/02	-91		
CH7002120	NB42: Approval SI report	0	5	30/09/02	05/10/02	-91		
ML16: Pier NB42 Bored Piling								
CH7005100	NB42: 1st: Bored Pile	0	5	09/10/02	15/10/02	-93		
CH7005110	NB42: 1st: Interface core test	0	1	24/10/02	24/10/02	-37		
CH7005120	NB42: 2nd: Bored Pile	0	5	17/10/02	22/10/02	-93		
CH7005130	NB42: 2nd: Interface core test	0	1	31/10/02	31/10/02	-42		
CH7005140	NB42: 3rd: Bored Pile	0	5	24/10/02	29/10/02	-93		
CH7005150	NB42: 3rd: Interface core test	0	1	07/11/02	07/11/02	-47		
CH7005160	NB42: 4th: Bored Pile	0	5	31/10/02	05/11/02	-93		
CH7005170	NB42: 4th: Interface core test	0	1	14/11/02	14/11/02	-52		
CH7005180	NB42: Sonic test	0	1	14/11/02	14/11/02	-52		
ML16: Pier NB42 Pile Cap								
CH7008100	NB42: Sheet Pile driving	0	2	06/11/02	07/11/02	-49		
CH7008110	NB42: Excavate & shoring support	0	3	08/11/02	11/11/02	-49		
CH7008120	NB42: Cut Pile head	0	5	15/11/02	20/11/02	-52		
CH7008130	NB42: Lay blinding layer	0	1	20/11/02	20/11/02	-52		
CH7008140	NB42: Formwork erection	0	1	21/11/02	21/11/02	-52		
CH7008150	NB42: Reinforcement fixing	0	3	21/11/02	23/11/02	-52		
CH7008160	NB42: Final fix Formwork/Clean & Concrete	0	1	25/11/02	25/11/02	-52		
CH7008170	NB42: Strike Formwork & Bituminous Paint	0	2	26/11/02	27/11/02	-52		
CH7008180	NB42: Backfill	0	2	28/11/02	29/11/02	-52		
CH7008190	NB42: Remove Sheet Piles	0	2	30/11/02	02/12/02	-52		
ML16: Pier NB42 Column (Type C3 hollow)								
CH7011100	NB42: 1st Column Lift	0	4	03/12/02	06/12/02	-52		
CH7011110	NB42: 2nd Column Lift	0	4	07/12/02	11/12/02	-52		
CH7011120	NB42: 3rd Column Lift	0	4	12/12/02	16/12/02	-52		
CH7011122	NB42: 4th Column Lift	0	4	17/12/02	20/12/02	-52		
CH7011124	NB42: 5th Column Lift	0	4	21/12/02	27/12/02	-52		
CONTRUCT BRIDGE G2 - STAGE 1 WORKS								
BRIDGE G2: PIER G12N								
G2: Pier G12N SI Pre-Drilling								
CH3445110	G12N: Prepare & submit the SI report	100	4	30/07/02A	05/09/02A			
CH3445120	G12N: Approval SI report	100	6	06/09/02A	20/09/02A			
G2: Pier G12N Bored Piling								
CH3450100	G12N: 1st: Bored Pile	0	4	24/09/02	27/09/02	-92		
CH3450110	G12N: 1st: Interface core test	0	1	17/10/02	17/10/02	156		
CH3450120	G12N: 2nd: Bored Pile	0	4	30/09/02	04/10/02	-93		
CH3450130	G12N: 2nd: Interface core test	0	1	23/10/02	23/10/02	152		
CH3450140	G12N: 3rd: Bored Pile	0	4	05/10/02	09/10/02	-93		
CH3450150	G12N: 3rd: Interface core test	0	1	28/10/02	28/10/02	149		
CH3450180	G12N: Sonic test	0	1	28/10/02	28/10/02	149		
G2: Pier G12N Pile Cap								
CH3455100	G12N: Sheet Pile driving	0	2	02/11/02	04/11/02	145		



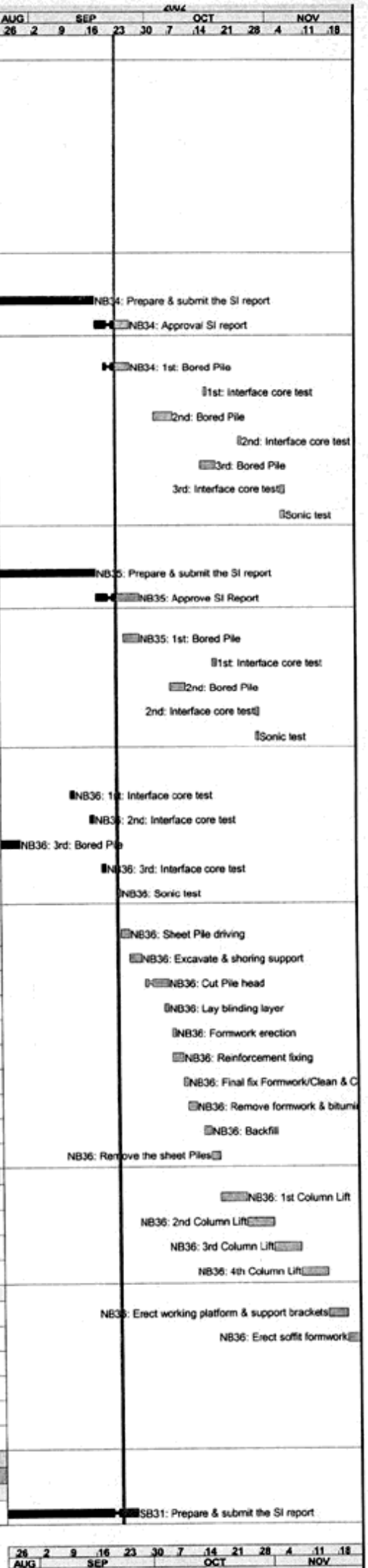
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH3455110	G12N: Excavate & shoring support	0	3	05/11/02	07/11/02	145		
CH3455120	G12N: Cut Pile head	0	5	08/11/02	13/11/02	145		
CH3455130	G12N: Lay blinding layer	0	1	13/11/02	13/11/02	145		
CH3455140	G12N: Formwork erection	0	1	14/11/02	14/11/02	145		
CH3455150	G12N: Reinforcement fixing	0	3	14/11/02	16/11/02	145		
CH3455160	G12N: Final fix Formwork/Clean & Concrete	0	1	18/11/02	18/11/02	145		
CH3455170	G12N: Remove Formwork & Bituminous Paint	0	2	19/11/02	20/11/02	145		
CH3455180	G12N: Backfill	0	2	21/11/02	22/11/02	145		
CH3455190	G12N: Remove the sheet Piles	0	2	23/11/02	25/11/02	145		
G2: Pier G12N Column (Type C5)								
CH3460100	G12N: 1st Column Lift	0	6	13/12/02	19/12/02	148		
CH3460110	G12N: 2nd Column Lift	0	6	20/12/02	26/12/02	148		
BRIDGE G2: PIER G13N								
G2: Pier G13N SI Pre-Drilling								
CH3510110	G13N: Prepare & submit the SI report	100	4	04/06/02A	05/09/02A			
CH3510120	G13N: Approval SI report	100	6	06/09/02A	20/09/02A			
G2: Pier G13N Bored Piling								
CH3515100	G13N: 1st Bored Pile	20	4	20/09/02A	26/09/02	-93		
CH3515110	G13N: 1st: Interface core test	0	1	16/10/02	16/10/02	177		
CH3515120	G13N: 2nd: Bored Pile	0	4	27/09/02	02/10/02	-93		
CH3515130	G13N: 2nd: Interface core test	0	1	21/10/02	21/10/02	174		
CH3515140	G13N: 3rd: Bored Pile	0	4	03/10/02	07/10/02	-93		
CH3515150	G13N: 3rd: Interface core test	0	1	25/10/02	25/10/02	171		
CH3515180	G13N: Sonic test	0	1	25/10/02	25/10/02	171		
G2: Pier G13N Pile Cap								
CH3520100	G13N: Sheet Pile driving	0	2	26/11/02	27/11/02	145		
CH3520110	G13N: Excavate & shoring support	0	3	28/11/02	30/11/02	145		
CH3520120	G13N: Cut Pile head	0	5	02/12/02	06/12/02	145		
CH3520130	G13N: Lay blinding layer	0	1	06/12/02	06/12/02	145		
CH3520140	G13N: Formwork erection	0	1	07/12/02	07/12/02	145		
CH3520150	G13N: Reinforcement fixing	0	3	07/12/02	10/12/02	145		
CH3520160	G13N: Final fix Formwork/Clean & Concrete	0	1	11/12/02	11/12/02	145		
CH3520170	G13N: Remove Formwork & Bituminous Paint	0	2	12/12/02	13/12/02	145		
CH3520180	G13N: Backfill	0	2	14/12/02	16/12/02	145		
CH3520190	G13N: Remove the sheet Piles	0	2	17/12/02	18/12/02	145		
CONSTRUCT BRIDGE G1 - STAGE 2 WORKS								
BRIDGE G1: PIER G5								
G1: Pier G5 Utilities & Services Diversions								
CH3140100	G5: Utilities detection & trial pit excavation	0	4	21/12/02	27/12/02	7		
BRIDGE G1: PIER G4S (04/170)								
G1: Pier G4S Utilities & Services Diversions								
CH3105100	G4S: Utilities Detection & Dig Trial Pit	100	4	19/06/02A				
CH3105101	G4S: Re-route Public Lighting Cables	0	21	22/11/02	16/12/02	167		
G1: Pier G4S SI Pre-Drilling								
CH3110100	G4S: Site investigation	75	12	04/09/02A	26/09/02	-58		
CH3110110	G4S: Prepare & submit the SI report	0	3	27/09/02	30/09/02	-58		
CH3110120	G4S: Approval SI report	0	4	02/10/02	05/10/02	-58		
G1: Pier G4S Bored Piling								
CH3115100	G4S: 1st Bored Pile	0	5	08/10/02	12/10/02	-59		
CH3115110	G4S: 1st: Interface core test	0	1	31/10/02	31/10/02	203		
CH3115120	G4S: 2nd Bored Pile	0	5	16/10/02	21/10/02	-59		
CH3115130	G4S: 2nd Interface core test	0	1	07/11/02	07/11/02	198		
CH3115140	G4S: 3rd Bored Pile	0	5	23/10/02	28/10/02	-59		
CH3115150	G4S: 3rd Interface core test	0	1	14/11/02	14/11/02	193		
CH3115160	G4S: 4th Bored Pile	0	5	30/10/02	04/11/02	-59		
CH3115170	G4S: 4th Interface core test	0	1	21/11/02	21/11/02	188		
CH3115180	G4S: Sonic test	0	1	21/11/02	21/11/02	167		
CONSTRUCT BRIDGE G2 - STAGE 2 WORKS								
BRIDGE G2: PIER G7								
G2: Pier G7 Utilities & Services Diversions								
CH3265100	G7: Utilities detection & trial pit excavation	0	4	21/12/02	27/12/02	11		
CONSTRUCT BRIDGE ML15 - STAGE 2 WORKS								
BRIDGE ML15: PIER SB44E								
ML15: Pier SB44E TTA Implementation								
CH6924100	SB44E: Prepare TTA Drgs (SB44E Cap)	0	21	05/10/02*	25/10/02	46		
CH6924110	SB44E: Endorse TTA Drgs by the Eng.	0	7	26/10/02	01/11/02	46		



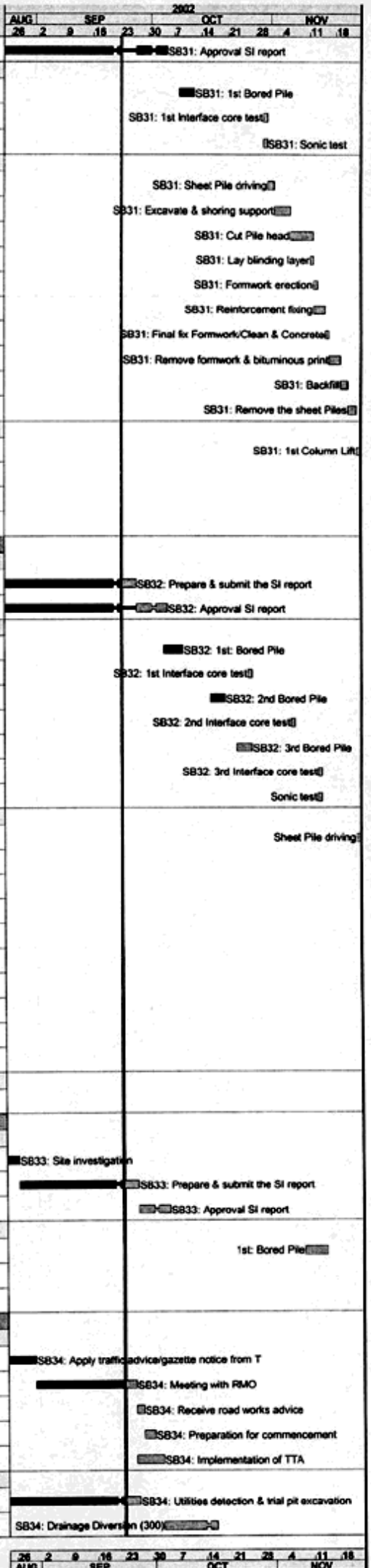
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH6924120	SB44E: Apply TD traffic advice/gazette notice	0	14	02/11/02	15/11/02	46		
CH6924130	SB44E: Meeting with RMO	0	3	16/11/02	18/11/02	46		
CH6924140	SB44E: Receive road works advice	0	2	19/11/02	20/11/02	46		
CH6924150	SB44E: Preparation for commencement	0	3	21/11/02	23/11/02	48		
CH6924160	SB44E: Implementation of TTA	0	7	19/11/02	25/11/02	46		
BRIDGE ML15: PIER SB44W								
ML15: Pier SB44W Utilities & Services Diversions								
CH6945100	SB44W: Utilities Detection & Dig Trial Pit	0	4	21/12/02	27/12/02	11		
CONSTRUCT BRIDGE ML12								
BRIDGE ML12: PIER NB31								
ML12: Pier NB31 Utilities & Services Diversions								
CH6406110	NB31: Watermain diversion (400D.I)	10	27	20/09/02A	25/10/02	0		
ML12: Pier NB31 SI Pre-Drilling								
CH6411110	NB31: Prepare & Submit Pre-drill SI Report	50	4	01/06/02A	24/09/02	19		
CH6411120	NB31: Approval Pre-drill SI report	0	6	25/09/02	02/10/02	19		
ML12: Pier NB31 Bored Piling								
CH6414100	1st: Bored Pile	0	4	26/10/02	30/10/02	0		
CH6414110	1st: Interface core test	0	1	16/11/02	16/11/02	0		
CH6414180	Sonic test	0	1	16/11/02	16/11/02	0		
ML12: Pier NB31 Pile Cap								
CH6417100	Sheet Pile driving	0	2	18/11/02	19/11/02	0		
CH6417110	Excavate & shoring support	0	3	20/11/02	22/11/02	0		
CH6417120	Cut Pile head	0	5	23/11/02	28/11/02	0		
CH6417130	Lay blinding layer	0	1	28/11/02	28/11/02	0		
CH6417140	Formwork erection	0	1	29/11/02	29/11/02	0		
CH6417150	Reinforcement fixing	0	3	29/11/02	02/12/02	0		
CH6417160	Final fix Formwork/Clean & Concrete	0	1	03/12/02	03/12/02	0		
CH6417170	Remove formwork & bituminous print	0	2	04/12/02	05/12/02	0		
CH6417180	Backfill	0	2	06/12/02	07/12/02	0		
CH6417190	Remove the sheet Piles	0	2	09/12/02	10/12/02	0		
ML12: Pier NB31 Column (Type C3/H1B hollow)								
CH6420100	1st Column Lift	0	6	11/12/02	17/12/02	0		
CH6420110	2nd Column Lift	0	6	18/12/02	24/12/02	0		
BRIDGE ML12: PIER NB32								
ML12: Pier NB32 Utilities & Services Diversions								
CH6429100	NB32: Utilities detection & trial pit excavation	50	4	20/04/02A	24/09/02	9		
CH6429110	NB32: Drainage diversion (900)	0	25	25/09/02	25/10/02	9		
CH6429130	NB32: Gas main diversion (315PE)	0	25	25/09/02	25/10/02	9		
CH6429140	NB32: Temporary slewd the cable	0	21	25/09/02A	25/10/02	9		
ML12: Pier NB32 SI Pre-Drilling								
CH6432100	NB32: Site investigation	0	5	23/09/02	27/09/02	22		
CH6432110	Prepare & submit the SI report	0	3	28/09/02	02/10/02	22		
CH6432120	Approval SI report	0	6	03/10/02	09/10/02	22		
ML12: Pier NB32 Bored Piling								
CH6435100	1st: Bored Pile	0	4	02/11/02	06/11/02	3		
CH6435110	1st: Interface core test	0	1	23/11/02	23/11/02	18		
CH6435180	Sonic test	0	1	23/11/02	23/11/02	18		
ML12: Pier NB32 Pile Cap								
CH6438100	Sheet Pile driving	0	2	25/11/02	26/11/02	18		
CH6438110	Excavate & shoring support	0	3	27/11/02	29/11/02	18		
CH6438120	Cut Pile head	0	5	30/11/02	05/12/02	18		
CH6438130	Lay blinding layer	0	1	05/12/02	05/12/02	18		
CH6438140	Formwork erection	0	1	06/12/02	06/12/02	18		
CH6438150	Reinforcement fixing	0	3	06/12/02	09/12/02	18		
CH6438160	Final fix Formwork/Clean & Concrete	0	1	10/12/02	10/12/02	18		
CH6438170	Remove formwork & bituminous print	0	2	11/12/02	12/12/02	18		
CH6438180	Backfill	0	2	13/12/02	14/12/02	18		
CH6438190	Remove the sheet Piles	0	2	16/12/02	17/12/02	18		
BRIDGE ML12: PIER NB33								
ML12: Pier NB33 SI Pre-Drilling								
CH6453100	NB33: Site investigation	100	20	21/08/02A	31/08/02A			
CH6453110	NB33: Prepare & submit the SI report	0	4	02/09/02A	26/09/02	60		
CH6453120	NB33: Approval SI report	0	6	27/09/02	04/10/02	60		
ML12: Pier NB33 Bored Piling								
CH6456100	1st: Bored Pile	0	5	13/11/02	18/11/02	28		
CH6456110	1st: Interface core test	0	1	05/12/02	05/12/02	28		



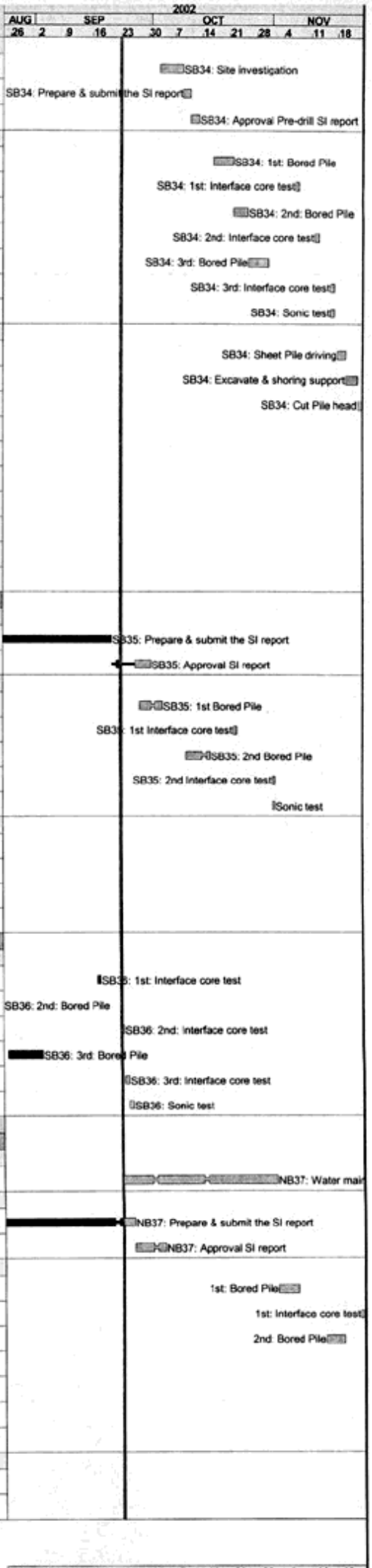
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH6456180	Sonic test	0	1	05/12/02	05/12/02	28		
ML12: Pier NB33 Pile Cap								
CH6459100	Sheet Pile driving	0	2	06/12/02	07/12/02	28		
CH6459110	Excavate & shoring support	0	3	09/12/02	11/12/02	28		
CH6459120	Cut Pile head	0	5	12/12/02	17/12/02	28		
CH6459130	Lay blinding layer	0	1	17/12/02	17/12/02	28		
CH6459140	Formwork erection	0	1	18/12/02	18/12/02	28		
CH6459150	Reinforcement fixing	0	3	19/12/02	20/12/02	28		
CH6459160	Final fix Formwork/Clean & Concrete	0	1	21/12/02	21/12/02	28		
BRIDGE ML12: PIER NB34								
ML12: Pier NB34 SI Pre-Drilling								
CH6474110	NB34: Prepare & submit the SI report	100	4	21/06/02A	17/09/02A			
CH6474120	NB34: Approval SI report	0	6	18/09/02A	26/09/02	11		
ML12: Pier NB34 Bored Piling								
CH6477100	NB34: 1st: Bored Pile	0	4	20/09/02A	26/09/02	11		
CH6477110	1st: Interface core test	0	1	15/10/02	16/10/02	89		
CH6477120	2nd: Bored Pile	0	4	03/10/02	07/10/02	11		
CH6477130	2nd: Interface core test	0	1	25/10/02	25/10/02	82		
CH6477140	3rd: Bored Pile	0	4	15/10/02	18/10/02	11		
CH6477150	3rd: Interface core test	0	1	05/11/02	05/11/02	74		
CH6477180	Sonic test	0	1	05/11/02	05/11/02	74		
BRIDGE ML12: PIER NB35(M)								
ML12: Pier NB35 SI Pre-Drilling								
CH6495110	NB35: Prepare & submit the SI report	100	4	25/06/02A	17/09/02A			
CH6495120	NB35: Approve SI Report	0	6	18/09/02A	28/09/02	11		
ML12: Pier NB35 Bored Piling								
CH6498100	NB35: 1st: Bored Pile	0	4	25/09/02	28/09/02	11		
CH6498110	1st: Interface core test	0	1	18/10/02	18/10/02	112		
CH6498140	2nd: Bored Pile	0	4	07/10/02	10/10/02	11		
CH6498150	2nd: Interface core test	0	1	29/10/02	29/10/02	104		
CH6498180	Sonic test	0	1	29/10/02	29/10/02	104		
BRIDGE ML12: PIER NB36(M)								
ML12: Pier NB36 Bored Piling								
CH6519110	NB36: 1st: Interface core test	100	1	11/09/02A	11/09/02A			
CH6519130	NB36: 2nd: Interface core test	100	1	16/09/02A	16/09/02A			
CH6519140	NB36: 3rd: Bored Pile	100	4	22/08/02A	28/08/02A			
CH6519150	NB36: 3rd: Interface core test	100	1	19/09/02A	19/09/02A			
CH6519180	NB36: Sonic test	0	1	23/09/02	23/09/02	21		
ML12: Pier NB36 Pile Cap								
CH6522100	NB36: Sheet Pile driving	0	2	24/09/02	25/09/02	21		
CH6522110	NB36: Excavate & shoring support	0	3	26/09/02	28/09/02	21		
CH6522120	NB36: Cut Pile head	0	5	30/09/02	05/10/02	21		
CH6522130	NB36: Lay blinding layer	0	1	05/10/02	05/10/02	21		
CH6522140	NB36: Formwork erection	0	1	07/10/02	07/10/02	21		
CH6522150	NB36: Reinforcement fixing	0	3	07/10/02	09/10/02	21		
CH6522160	NB36: Final fix Formwork/Clean & Concrete	0	1	10/10/02	10/10/02	21		
CH6522170	NB36: Remove formwork & bituminous print	0	2	11/10/02	12/10/02	21		
CH6522180	NB36: Backfill	0	2	15/10/02	16/10/02	21		
CH6522190	NB36: Remove the sheet Piles	0	2	17/10/02	18/10/02	21		
ML12: Pier NB36 Column (Type C3/T3M hollow)								
CH6525100	NB36: 1st Column Lift	0	6	19/10/02	25/10/02	21		
CH6525110	NB36: 2nd Column Lift	0	6	26/10/02	01/11/02	21		
CH6525120	NB36: 3rd Column Lift	0	6	02/11/02	08/11/02	21		
CH6525125	NB36: 4th Column Lift	0	6	09/11/02	15/11/02	21		
ML12: Crosshead NB36 (Type H3B(M))								
CH6528100	NB36: Erect working platform & support brackets	0	4	16/11/02	20/11/02	203		
CH6528110	NB36: Erect soffit formwork	0	5	21/11/02	26/11/02	203		
CH6528120	NB36: Erect Side Panel	0	5	27/11/02	02/12/02	203		
CH6528130	NB36: Reinforcement fixing	0	5	03/12/02	07/12/02	203		
CH6528140	NB36: Concreting	0	1	09/12/02	09/12/02	203		
CH6528150	NB36: Remove Side Panel & Cure Crosshead	0	28	10/12/02	06/01/03	253		
CONSTRUCT BRIDGE ML11								
BRIDGE ML11: PIER SB31								
ML11: Pier SB31 SI Pre-Drilling								
CH6264110	SB31: Prepare & submit the SI report	0	4	27/05/02A	26/09/02	2		



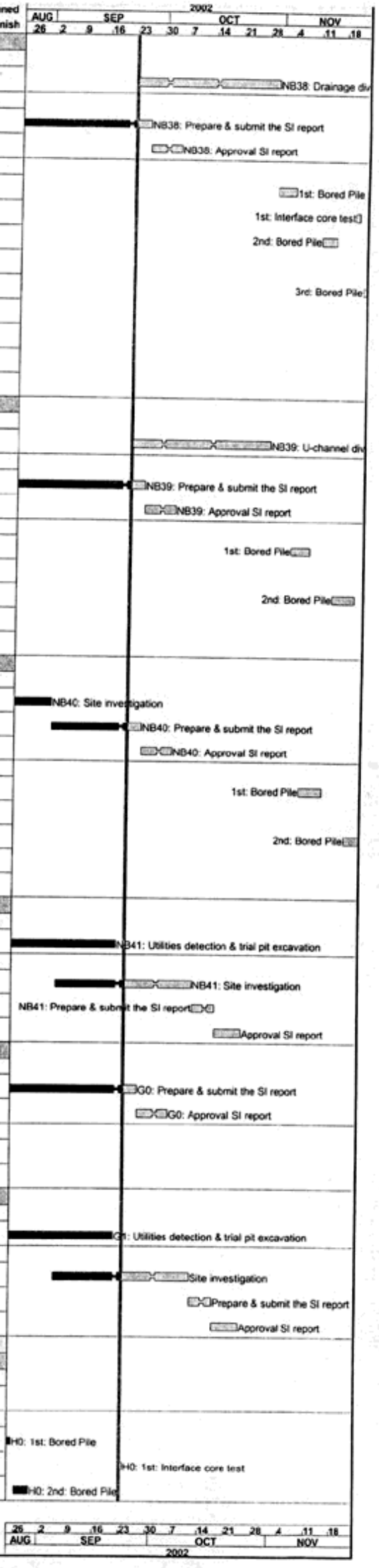
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH6264120	SB31: Approval SI report	0	6	21/08/02A	04/10/02	2		
ML11: Pier SB31 Bored Piling								
CH6267140	SB31: 1st Bored Pile	0	4	08/10/02	11/10/02	0		
CH6267150	SB31: 1st Interface core test	0	1	30/10/02	30/10/02	15		
CH6267160	SB31: Sonic test	0	1	30/10/02	30/10/02	15		
ML11: Pier SB31 Pile Cap								
CH6270100	SB31: Sheet Pile driving	0	2	31/10/02	01/11/02	15		
CH6270110	SB31: Excavate & shoring support	0	3	02/11/02	05/11/02	15		
CH6270120	SB31: Cut Pile head	0	5	05/11/02	11/11/02	15		
CH6270130	SB31: Lay blinding layer	0	1	11/11/02	11/11/02	15		
CH6270140	SB31: Formwork erection	0	1	12/11/02	12/11/02	15		
CH6270150	SB31: Reinforcement fixing	0	3	12/11/02	14/11/02	15		
CH6270160	SB31: Final fix Formwork/Clean & Concrete	0	1	15/11/02	15/11/02	15		
CH6270170	SB31: Remove formwork & bituminous print	0	2	15/11/02	18/11/02	15		
CH6270180	SB31: Backfill	0	2	19/11/02	20/11/02	15		
CH6270190	SB31: Remove the sheet Piles	0	2	21/11/02	22/11/02	15		
ML11: Pier SB31 Column (Type C3/H1B hollow)								
CH6273100	SB31: 1st Column Lift	0	6	23/11/02	29/11/02	15		
CH6273110	SB31: 2nd Column Lift	0	6	30/11/02	06/12/02	15		
CH6273120	SB31: 3rd Column Lift	0	6	07/12/02	13/12/02	15		
CH6273125	SB31: 4th Column Lift	0	6	14/12/02	20/12/02	15		
BRIDGE ML11: PIER SB32								
ML11: Pier SB32 SI Pre-Drilling								
CH6282110	SB32: Prepare & submit the SI report	0	4	30/05/02A	26/09/02	1,527		
CH6282120	SB32: Approval SI report	0	6	21/08/02A	04/10/02	1,527		
ML11: Pier SB32 Bored Piling								
CH6285100	SB32: 1st: Bored Pile	0	4	04/10/02	08/10/02	0		
CH6285110	SB32: 1st Interface core test	0	1	26/10/02	26/10/02	56		
CH6285120	SB32: 2nd Bored Pile	0	4	18/10/02	19/10/02	0		
CH6285130	SB32: 2nd Interface core test	0	1	06/11/02	06/11/02	48		
CH6285160	SB32: 3rd Bored Pile	0	4	23/10/02	26/10/02	43		
CH6285170	SB32: 3rd Interface core test	0	1	13/11/02	13/11/02	43		
CH6285180	Sonic test	0	1	13/11/02	13/11/02	43		
ML11: Pier SB32 Pile Cap								
CH6288100	Sheet Pile driving	0	2	23/11/02	25/11/02	35		
CH6288110	Excavate & shoring support	0	3	26/11/02	28/11/02	35		
CH6288120	Cut Pile head	0	5	29/11/02	04/12/02	35		
CH6288130	Lay blinding layer	0	1	04/12/02	04/12/02	35		
CH6288140	Formwork erection	0	1	05/12/02	05/12/02	35		
CH6288150	Reinforcement fixing	0	3	05/12/02	07/12/02	35		
CH6288160	Final fix Formwork/Clean & Concrete	0	1	09/12/02	09/12/02	35		
CH6288170	Remove formwork & bituminous print	0	2	10/12/02	11/12/02	35		
CH6288180	Backfill	0	2	12/12/02	13/12/02	35		
CH6288190	Remove the sheet Piles	0	2	14/12/02	16/12/02	35		
ML11: Pier SB32 Column (Type C3/Portal NSB32 hol								
CH6291100	1st Column Lift	0	6	21/12/02	30/12/02	31		
BRIDGE ML11: PIER SB33								
ML11: Pier SB33 SI Pre-Drilling								
CH6300100	SB33: Site investigation	100	20	14/08/02A	26/08/02A			
CH6300110	SB33: Prepare & submit the SI report	0	4	27/08/02A	26/09/02	57		
CH6300120	SB33: Approval SI report	0	6	27/09/02	04/10/02	57		
ML11: Pier SB33 Bored Piling								
CH6303100	1st: Bored Pile	0	5	09/11/02	14/11/02	28		
CH6303110	1st: Interface core test	0	1	02/12/02	02/12/02	59		
CH6303180	Sonic test	0	1	02/12/02	02/12/02	59		
BRIDGE ML11: PIER SB34								
ML11: Pier SB34 TTA Implementation								
CH6312120	SB34: Apply traffic advice/gazette notice from T	100	14	19/08/02A	30/08/02A			
CH6312130	SB34: Meeting with RMO	0	3	31/08/02A	25/09/02	16		
CH6312140	SB34: Receive road works advice	0	2	26/09/02	27/09/02	16		
CH6312150	SB34: Preparation for commencement	0	3	28/09/02	30/09/02	18		
CH6312160	SB34: Implementation of TTA	0	7	26/09/02	02/10/02	16		
ML11: Pier SB34 Utilities & Services Diversions								
CH6315100	SB34: Utilities detection & trial pit excavation	0	4	25/04/02A	26/09/02	17		
CH6315110	SB34: Drainage Diversion (300)	0	11	03/10/02	16/10/02	13		



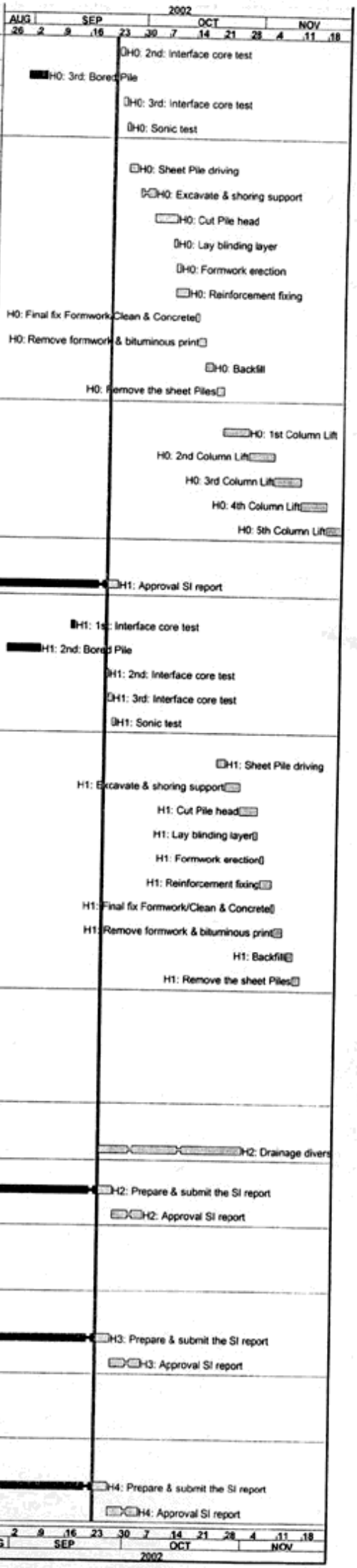
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
ML11: Pier SB34 SI Pre-Drilling								
CH6318100	SB34: Site investigation	0	5	03/10/02	08/10/02	13		
CH6318110	SB34: Prepare & submit the SI report	0	2	09/10/02	10/10/02	13		
CH6318120	SB34: Approval Pre-drill SI report	0	2	11/10/02	12/10/02	13		
ML11: Pier SB34 Bored Piling								
CH6321100	SB34: 1st: Bored Pile	0	4	17/10/02	21/10/02	11		
CH6321110	SB34: 1st: Interface core test	0	1	07/11/02	07/11/02	18		
CH6321120	SB34: 2nd: Bored Pile	0	4	22/10/02	25/10/02	11		
CH6321130	SB34: 2nd: Interface core test	0	1	12/11/02	12/11/02	15		
CH6321140	SB34: 3rd: Bored Pile	0	4	26/10/02	30/10/02	11		
CH6321150	SB34: 3rd: Interface core test	0	1	16/11/02	16/11/02	12		
CH6321180	SB34: Sonic test	0	1	16/11/02	16/11/02	12		
ML11: Pier SB34 Pile Cap								
CH6324100	SB34: Sheet Pile driving	0	2	18/11/02	19/11/02	12		
CH6324110	SB34: Excavate & shoring support	0	3	20/11/02	22/11/02	12		
CH6324120	SB34: Cut Pile head	0	5	23/11/02	28/11/02	12		
CH6324130	SB34: Lay blinding layer	0	1	28/11/02	28/11/02	12		
CH6324140	SB34: Formwork erection	0	1	29/11/02	29/11/02	12		
CH6324150	SB34: Reinforcement fixing	0	3	29/11/02	02/12/02	12		
CH6324160	SB34: Final fix Formwork/Clean & Concrete	0	1	03/12/02	03/12/02	12		
CH6324170	SB34: Remove formwork & bituminous print	0	2	04/12/02	05/12/02	12		
CH6324180	SB34: Backfill	0	2	06/12/02	07/12/02	12		
CH6324190	SB34: Remove the sheet Piles	0	2	09/12/02	10/12/02	12		
BRIDGE ML11: PIER SB35(M)								
ML11: Pier SB35 SI Pre-Drilling								
CH6336110	SB35: Prepare & submit the SI report	100	4	18/06/02A	20/09/02A			
CH6336120	SB35: Approval SI report	0	6	21/09/02A	30/09/02	1,530		
ML11: Pier SB35 Bored Piling								
CH6339100	SB35: 1st Bored Pile	0	4	26/09/02	03/10/02	11		
CH6339110	SB35: 1st Interface core test	0	1	22/10/02	22/10/02	53		
CH6339140	SB35: 2nd Bored Pile	0	4	10/10/02	15/10/02	11		
CH6339150	SB35: 2nd Interface core test	0	1	01/11/02	01/11/02	45		
CH6339180	Sonic test	0	1	01/11/02	01/11/02	45		
ML11: Pier SB35 Pile Cap								
CH6342100	Sheet Pile driving	0	2	11/12/02	12/12/02	12		
CH6342110	Excavate & shoring support	0	3	13/12/02	16/12/02	12		
CH6342120	Cut Pile head	0	5	17/12/02	21/12/02	12		
CH6342130	Lay blinding layer	0	1	21/12/02	21/12/02	12		
BRIDGE ML11: PIER SB36(M)								
ML11: Pier SB36 Bored Piling								
CH6357110	SB36: 1st: Interface core test	100	1	17/09/02A	17/09/02A			
CH6357120	SB36: 2nd: Bored Pile	100	4	17/08/02A	23/08/02A			
CH6357130	SB36: 2nd: Interface core test	0	1	23/09/02	23/09/02	95		
CH6357140	SB36: 3rd: Bored Pile	100	4	25/08/02A	02/09/02A			
CH6357150	SB36: 3rd: Interface core test	0	1	24/09/02	24/09/02	95		
CH6357180	SB36: Sonic test	0	1	25/09/02	25/09/02	95		
CONSTRUCT BRIDGE ML14								
BRIDGE ML14: PIER NB37								
ML14: Pier NB37 Utilities & Services Diversions								
CH6684120	NB37: Water main diversion (300D.I) (FW40)	0	33	23/09/02	01/11/02	11		
ML14: Pier NB37 SI Pre-Drilling								
CH6687110	NB37: Prepare & submit the SI report	50	4	29/07/02A	25/09/02	35		
CH6687120	NB37: Approval SI report	0	6	26/09/02	03/10/02	35		
ML14: Pier NB37 Bored Piling								
CH6690100	1st: Bored Pile	0	4	02/11/02	06/11/02	11		
CH6690110	1st: Interface core test	0	1	23/11/02	23/11/02	98		
CH6690120	2nd: Bored Pile	0	4	14/11/02	18/11/02	11		
CH6690130	2nd: Interface core test	0	1	05/12/02	05/12/02	89		
CH6690140	3rd: Bored Pile	0	4	26/11/02	29/11/02	11		
CH6690150	3rd: Interface core test	0	1	17/12/02	17/12/02	80		
CH6690180	Sonic test	0	1	17/12/02	17/12/02	80		
ML14: Pier NB37 Pile Cap								
CH6693100	Sheet Pile driving	0	2	18/12/02	19/12/02	80		
CH6693110	Excavate & shoring support	0	3	20/12/02	23/12/02	80		



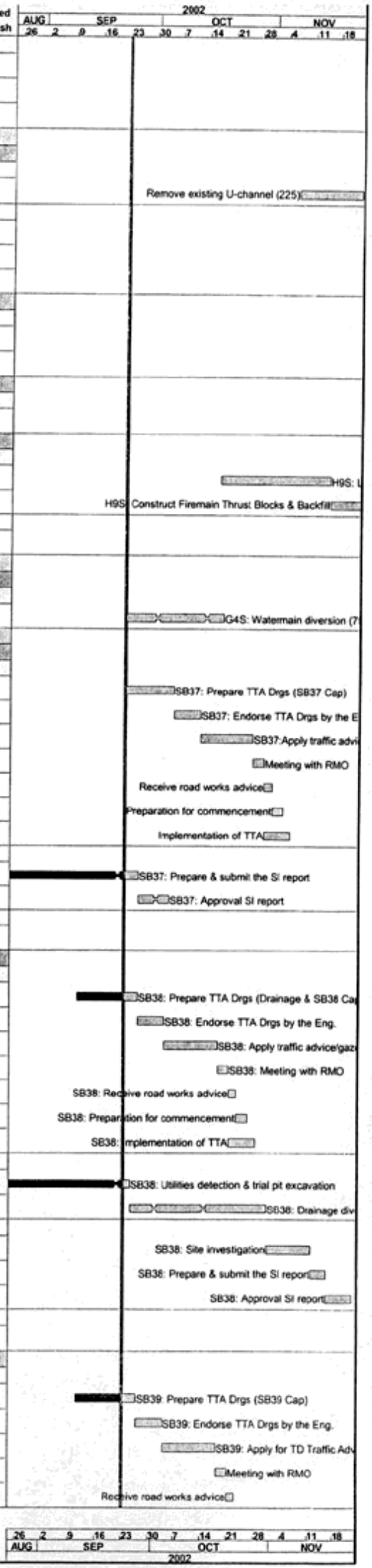
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
BRIDGE ML14: PIER NB38								
ML14: Pier NB38 Utilities & Services Diversions								
CH6705120	NB38: Drainage diversion (750)	0	31	23/09/02	30/10/02	11		
ML14: Pier NB38 SI Pre-Drilling								
CH6708110	NB38: Prepare & submit the SI report	0	4	26/07/02A	26/09/02	32		
CH6708120	NB38: Approval SI report	0	6	27/09/02	04/10/02	32		
ML14: Pier NB38 Bored Piling								
CH6711100	1st: Bored Pile	0	4	31/10/02	04/11/02	11		
CH6711110	1st: Interface core test	0	1	21/11/02	21/11/02	124		
CH6711120	2nd: Bored Pile	0	4	12/11/02	15/11/02	11		
CH6711130	2nd: Interface core test	0	1	03/12/02	03/12/02	115		
CH6711140	3rd: Bored Pile	0	4	23/11/02	27/11/02	11		
CH6711150	3rd: Interface core test	0	1	14/12/02	14/12/02	106		
CH6711160	4th: Bored Pile	0	4	28/11/02	02/12/02	11		
CH6711170	4th: Interface core test	0	1	19/12/02	19/12/02	103		
CH6711180	Sonic test	0	1	19/12/02	19/12/02	103		
BRIDGE ML14: PIER NB39								
ML14: Pier NB39 Utilities & Services Diversions								
CH6726120	NB39: U-channel diversion (300)	0	30	23/09/02	29/10/02	1,507		
ML14: Pier NB39 SI Pre-Drilling								
CH6729110	NB39: Prepare & submit the SI report	0	4	17/08/02A	26/09/02	36		
CH6729120	NB39: Approval SI report	0	6	27/09/02	04/10/02	36		
ML14: Pier NB39 Bored Piling								
CH6732100	1st: Bored Pile	0	5	05/11/02	09/11/02	11		
CH6732110	1st: Interface core test	0	1	27/11/02	27/11/02	146		
CH6732140	2nd: Bored Pile	0	5	16/11/02	21/11/02	11		
CH6732150	2nd: Interface core test	0	1	09/12/02	09/12/02	137		
CH6732180	Sonic test	0	1	09/12/02	09/12/02	137		
BRIDGE ML14: PIER NB40								
ML14: Pier NB40 SI Pre-Drilling								
CH6750100	NB40: Site investigation	100	15	10/08/02A	02/09/02A			
CH6750110	NB40: Prepare & submit the SI report	0	4	03/09/02A	26/09/02	39		
CH6750120	NB40: Approval SI report	0	6	27/09/02	04/10/02	39		
ML14: Pier NB40 Bored Piling								
CH6753100	1st: Bored Pile	0	5	08/11/02	13/11/02	11		
CH6753110	1st: Interface core test	0	1	30/11/02	30/11/02	165		
CH6753140	2nd: Bored Pile	0	5	20/11/02	25/11/02	11		
CH6753150	2nd: Interface core test	0	1	12/12/02	12/12/02	156		
CH6753180	Sonic test	0	1	12/12/02	12/12/02	156		
BRIDGE ML14: PIER NB41								
ML14: Pier NB41 Utilities & Services Diversions								
CH6768100	NB41: Utilities detection & trial pit excavation	99	4	31/07/02A	20/09/02	11		
ML14: Pier NB41 SI Pre-Drilling								
CH6771100	NB41: Site investigation	33	15	05/09/02A	10/10/02	62		
CH6771110	NB41: Prepare & submit the SI report	0	4	11/10/02	16/10/02	62		
CH6771120	Approval SI report	0	6	17/10/02	23/10/02	62		
BRIDGE ML14: PIER G0								
ML14: Pier G0 SI Pre-Drilling								
CH6792110	G0: Prepare & submit the SI report	0	4	14/08/02A	26/09/02	64		
CH6792120	G0: Approval SI report	0	6	27/09/02	04/10/02	64		
ML14: Pier G0 Bored Piling								
CH6795100	1st: Bored Pile	0	5	07/12/02	12/12/02	11		
CH6795140	2nd: Bored Pile	0	5	17/12/02	21/12/02	11		
BRIDGE ML14: PIER G1(M)								
ML14: Pier G1(M) Utilities & Services Diversions								
CH6810100	G1: Utilities detection & trial pit excavation	99	4	31/07/02A	20/09/02	11		
ML14: Pier G1(M) SI Pre-Drilling								
CH6813100	Site investigation	50	15	05/09/02A	10/10/02	65		
CH6813110	Prepare & submit the SI report	0	4	11/10/02	16/10/02	65		
CH6813120	Approval SI report	0	6	17/10/02	23/10/02	65		
CONSTRUCT BRIDGE H1								
BRIDGE H1: PIER H0								
H1: Pier H0 SI Pre-Drilling								
CH4010120	H0: Approval SI report	100	6	08/08/02A				
H1: Pier H0 Bored Piling								
CH4015100	H0: 1st: Bored Pile	100	4	08/08/02A	24/08/02A			
CH4015110	H0: 1st: Interface core test	0	1	23/09/02	23/09/02	222		
CH4015120	H0: 2nd: Bored Pile	100	4	26/08/02A	29/08/02A			



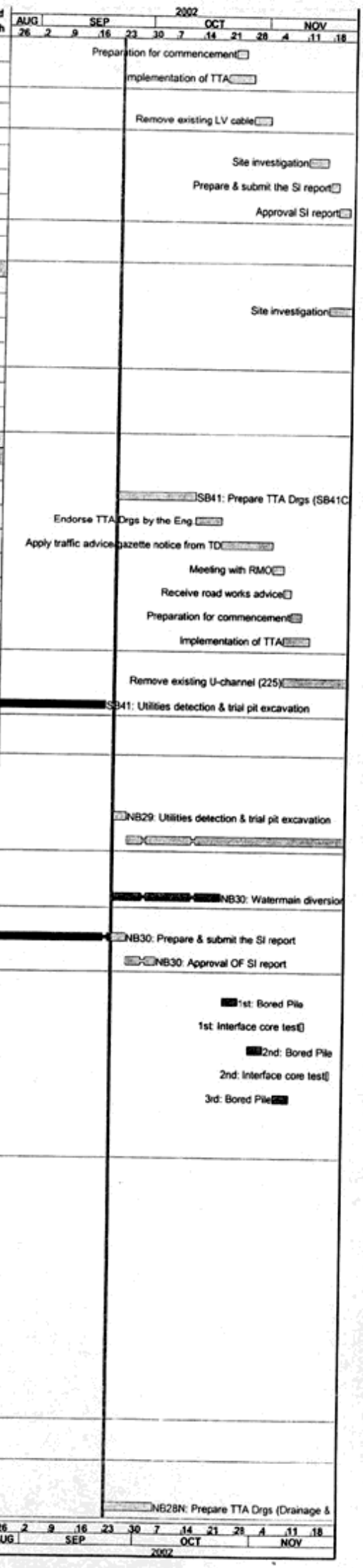
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH4015130	H0: 2nd: Interface core test	0	1	24/09/02	24/09/02	222		
CH4015140	H0: 3rd: Bored Pile	100	4	31/08/02A	04/09/02A			
CH4015150	H0: 3rd: Interface core test	0	1	25/09/02	25/09/02	222		
CH4015180	H0: Sonic test	0	1	26/09/02	26/09/02	222		
H1: Pier H0 Pile Cap								
CH4020100	H0: Sheet Pile driving	0	2	27/09/02	28/09/02	222		
CH4020110	H0: Excavate & shoring support	0	3	30/09/02	03/10/02	222		
CH4020120	H0: Cut Pile head	0	5	04/10/02	09/10/02	222		
CH4020130	H0: Lay blinding layer	0	1	09/10/02	09/10/02	222		
CH4020140	H0: Formwork erection	0	1	10/10/02	10/10/02	222		
CH4020150	H0: Reinforcement fixing	0	3	10/10/02	12/10/02	222		
CH4020160	H0: Final fix Formwork/Clean & Concrete	0	1	15/10/02	15/10/02	222		
CH4020170	H0: Remove formwork & bituminous print	0	2	16/10/02	17/10/02	222		
CH4020180	H0: Backfill	0	2	18/10/02	19/10/02	222		
CH4020190	H0: Remove the sheet Piles	0	2	21/10/02	22/10/02	222		
H1: Pier H0 Column (Type C3/T3M hollow)								
CH4025100	H0: 1st Column Lift	0	6	23/10/02	29/10/02	222		
CH4025110	H0: 2nd Column Lift	0	6	30/10/02	05/11/02	222		
CH4025120	H0: 3rd Column Lift	0	6	06/11/02	12/11/02	222		
CH4025122	H0: 4th Column Lift	0	6	13/11/02	19/11/02	222		
CH4025124	H0: 5th Column Lift	0	6	20/11/02	26/11/02	222		
BRIDGE H1: PIER H1								
H1: Pier H1 SI Pre-Drilling								
CH4040120	H1: Approval SI report	50	6	08/08/02A	25/09/02	1,534		
H1: Pier H1 Bored Piling								
CH4045110	H1: 1st: Interface core test	100	1	14/09/02A	14/09/02A			
CH4045120	H1: 2nd: Bored Pile	100	4	28/08/02A	05/09/02A			
CH4045130	H1: 2nd: Interface core test	0	1	23/09/02	23/09/02	253		
CH4045150	H1: 3rd: Interface core test	0	1	24/09/02	24/09/02	253		
CH4045180	H1: Sonic test	0	1	25/09/02	25/09/02	253		
H1: Pier H1 Pile Cap								
CH4050100	H1: Sheet Pile driving	0	2	23/10/02	24/10/02	232		
CH4050110	H1: Excavate & shoring support	0	3	25/10/02	28/10/02	232		
CH4050120	H1: Cut Pile head	0	5	29/10/02	02/11/02	232		
CH4050130	H1: Lay blinding layer	0	1	02/11/02	02/11/02	232		
CH4050140	H1: Formwork erection	0	1	04/11/02	04/11/02	232		
CH4050150	H1: Reinforcement fixing	0	3	04/11/02	06/11/02	232		
CH4050160	H1: Final fix Formwork/Clean & Concrete	0	1	07/11/02	07/11/02	232		
CH4050170	H1: Remove formwork & bituminous print	0	2	08/11/02	09/11/02	232		
CH4050180	H1: Backfill	0	2	11/11/02	12/11/02	232		
CH4050190	H1: Remove the sheet Piles	0	2	13/11/02	14/11/02	232		
H1: Pier H1 Column (Type C3/T3 hollow)								
CH4055100	H1: 1st Column Lift	0	6	27/11/02	03/12/02	222		
CH4055110	H1: 2nd Column Lift	0	6	04/12/02	10/12/02	222		
CH4055120	H1: 3rd Column Lift	0	6	11/12/02	17/12/02	222		
CH4055122	H1: 4th Column Lift	0	6	18/12/02	24/12/02	222		
RIDGE H1: PIER H2								
H1: Pier H2 Utilities & Services Diversions								
CH4065120	H2: Drainage diversion (750)	0	31	23/09/02	30/10/02	41		
H1: Pier H2 SI Pre-Drilling								
CH4070110	H2: Prepare & submit the SI report	0	4	24/07/02A	26/09/02	62		
CH4070120	H2: Approval SI report	0	6	27/09/02	04/10/02	62		
H1: Pier H2 Bored Piling								
CH4075100	1st: Bored Pile	0	4	05/12/02	09/12/02	11		
CH4075160	2nd: Bored Pile	0	4	14/12/02	18/12/02	11		
RIDGE H1: PIER H3								
H1: Pier H3 SI Pre-Drilling								
CH4100110	H3: Prepare & submit the SI report	0	4	10/08/02A	26/09/02	60		
CH4100120	H3: Approval SI report	0	6	27/09/02	04/10/02	60		
H1: Pier H3 Bored Piling								
CH4105100	1st: Bored Pile	0	5	03/12/02	07/12/02	11		
CH4105140	2nd: Bored Pile	0	5	12/12/02	17/12/02	11		
RIDGE H1: PIER H4								
H1: Pier H4 SI Pre-Drilling								
CH4130110	H4: Prepare & submit the SI report	0	4	22/08/02A	26/09/02	58		
CH4130120	H4: Approval SI report	0	6	27/09/02	04/10/02	58		



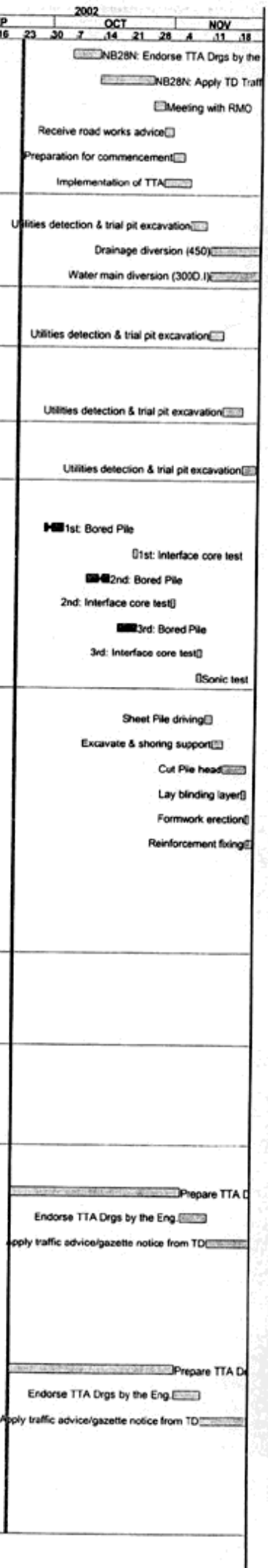
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
H1: Pier H4 Bored Piling								
CH4135100	1st: Bored Pile	0	5	30/11/02	05/12/02	11		
CH4135120	2nd: Bored Pile	0	5	10/12/02	14/12/02	11		
CH4135140	3rd: Bored Pile	0	5	19/12/02	24/12/02	11		
CONSTRUCT BRIDGE H2								
BRIDGE H2: PIER H5								
H2: Pier H5 Utilities & Services Diversions								
CH4210100	Remove existing U-channel (225)	0	15	07/11/02	23/11/02	24		
H2: Pier H5 SI Pre-Drilling								
CH4215100	Site investigation	0	10	25/11/02	05/12/02	24		
CH4215110	Prepare & submit the SI report	0	4	05/12/02	10/12/02	33		
CH4215120	Approval SI report	0	6	11/12/02	17/12/02	33		
BRIDGE H6: PIER H6								
H2: Pier H6 SI Pre-Drilling								
CH4245100	Site investigation	0	10	06/12/02	17/12/02	24		
CH4245110	Prepare & submit the SI report	0	4	18/12/02	21/12/02	26		
BRIDGE H7: PIER H7								
H2: Pier H7 SI Pre-Drilling								
CH4275100	H7: H7: Site investigation	0	10	18/12/02	31/12/02	24		
BRIDGE H2: PIER H9S (STAGE 3)								
H2: Pier H9S Utilities & Services Diversions								
CH4365103	H9S: LCR: H9S - Firemain Diversion (Stage 3)	0	25	18/10/02	15/11/02	49		
CH4365104	H9S: Construct Firemain Thrust Blocks & Backfill	0	15	16/11/02	03/12/02	49		
H2: Pier H9S SI Pre-Drilling								
CH4370100	H9S: SI Pre-drilling	0	10	21/12/02	04/01/03	34		
CONSTRUCT BRIDGE G1 - STAGE 4 WORKS								
BRIDGE G1: PIER G4S (04/176)								
G1: Pier G4S Utilities & Services Diversions								
CH3105110	G4S: Watermain diversion (75)	0	21	23/09/02	18/10/02	1,516		
CONSTRUCT BRIDGE ML13								
BRIDGE ML13: PIER SB37								
ML13: Pier SB37 TTA Implementation								
CH6564100	SB37: Prepare TTA Drgs (SB37 Cap)	0	13	23/09/02*	05/10/02	85		
CH6564101	SB37: Endorse TTA Drgs by the Eng.	0	7	06/10/02	12/10/02	119		
CH6564102	SB37:Apply traffic advice/gazette notice from TD	0	14	13/10/02	26/10/02	119		
CH6564103	Meeting with RMO	0	3	27/10/02	29/10/02	119		
CH6564104	Receive road works advice	0	2	30/10/02	31/10/02	119		
CH6564105	Preparation for commencement	0	3	01/11/02	03/11/02	121		
CH6564106	Implementation of TTA	0	7	30/10/02	05/11/02	119		
ML13: Pier SB37 SI Pre-Drilling								
CH6570110	SB37: Prepare & submit the SI report	0	4	02/08/02A	26/09/02	122		
CH6570120	SB37: Approval SI report	0	6	27/09/02	04/10/02	122		
ML13: Pier SB37 Bored Piling								
CH6573100	SB37: 1st Bored Pile	0	4	16/12/02	19/12/02	62		
BRIDGE ML13: PIER SB38								
ML13: Pier SB38 TTA Implementation								
CH6585100	SB38: Prepare TTA Drgs (Drainage & SB38 Cap)	0	13	11/09/02A	26/09/02	85		
CH6585101	SB38: Endorse TTA Drgs by the Eng.	0	7	27/09/02	03/10/02	85		
CH6585102	SB38: Apply traffic advice/gazette notice from T	0	14	04/10/02	17/10/02	124		
CH6585103	SB38: Meeting with RMO	0	3	18/10/02	20/10/02	124		
CH6585104	SB38: Receive road works advice	0	2	21/10/02	22/10/02	124		
CH6585105	SB38: Preparation for commencement	0	3	23/10/02	25/10/02	126		
CH6585106	SB38: Implementation of TTA	0	7	21/10/02	27/10/02	124		
ML13: Pier SB38 Utilities & Services Diversions								
CH6588110	SB38: Utilities detection & trial pit excavation	50	4	07/05/02A	24/09/02	62		
CH6588120	SB38: Drainage diversion (750)	0	29	25/09/02	30/10/02	62		
ML13: Pier SB38 SI Pre-Drilling								
CH6591100	SB38: Site investigation	0	10	31/10/02	11/11/02	62		
CH6591110	SB38: Prepare & submit the SI report	0	4	12/11/02	15/11/02	78		
CH6591120	SB38: Approval SI report	0	6	16/11/02	22/11/02	78		
ML13: Pier SB38 Bored Piling								
CH6594100	SB38: 1st: Bored Pile	0	4	12/12/02	16/12/02	62		
BRIDGE ML13: PIER SB39								
ML13: Pier SB39 TTA Implementation								
CH6606100	SB39: Prepare TTA Drgs (SB39 Cap)	0	13	11/09/02A	26/09/02	85		
CH6606101	SB39: Endorse TTA Drgs by the Eng.	0	7	27/09/02	03/10/02	85		
CH6606102	SB39: Apply for TD Traffic Advice/Gazette Notice	0	14	04/10/02	17/10/02	85		
CH6606103	Meeting with RMO	0	3	18/10/02	20/10/02	85		
CH6606104	Receive road works advice	0	2	21/10/02	22/10/02	85		



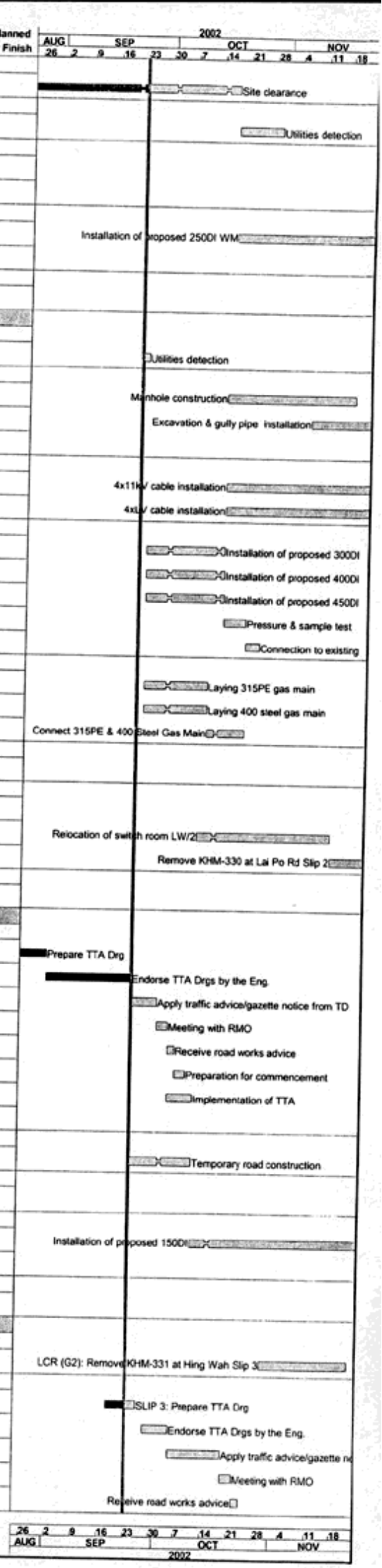
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH6606105	Preparation for commencement	0	3	23/10/02	25/10/02	87		
CH6606106	Implementation of TTA	0	7	21/10/02	27/10/02	85		
ML13: Pier SB39 Utilities & Services Diversions								
CH6609120	Remove existing LV cable	0	5	28/10/02	01/11/02	70		
ML13: Pier SB39 SI Pre-Drilling								
CH6612100	Site investigation	0	5	12/11/02	16/11/02	62		
CH6612110	Prepare & submit the SI report	0	2	18/11/02	19/11/02	75		
CH6612120	Approval SI report	0	3	20/11/02	22/11/02	75		
ML13: Pier SB39 Bored Piling								
CH6615100	SB39: 1st Bored Pile	0	5	09/12/02	13/12/02	62		
BRIDGE ML13: PIER SB40								
ML13: Pier SB40 SI Pre-Drilling								
CH6633100	Site investigation	0	10	18/11/02	28/11/02	62		
CH6633110	Prepare & submit the SI report	0	2	29/11/02	30/11/02	62		
CH6633120	Approval SI report	0	3	02/12/02	04/12/02	62		
ML13: Pier SB40 Bored Piling								
CH6636100	SB40: 1st Bored Pile	0	5	05/12/02	10/12/02	62		
CH6636120	SB40: 2nd Bored Pile	0	5	19/12/02	24/12/02	62		
ONSTRUCT BRIDGE ML15 - STAGE 3 WORKS								
BRIDGE ML15: PIER SB41								
ML15: Pier SB41 TTA Implementation								
CH6861100	SB41: Prepare TTA Drgs (SB41CAP)	0	21	23/09/02*	13/10/02	28		
CH6861110	Endorse TTA Drgs by the Eng.	0	7	14/10/02	20/10/02	28		
CH6861120	Apply traffic advice/gazette notice from TD	0	14	21/10/02	03/11/02	28		
CH6861130	Meeting with RMO	0	3	04/11/02	06/11/02	28		
CH6861140	Receive road works advice	0	2	07/11/02	08/11/02	28		
CH6861150	Preparation for commencement	0	3	09/11/02	11/11/02	30		
CH6861160	Implementation of TTA	0	7	07/11/02	13/11/02	28		
ML15: Pier SB41 Utilities & Services Diversions								
CH6864100	Remove existing U-channel (225)	0	30	07/11/02	11/12/02	24		
CH6864110	SB41: Utilities detection & trial pit excavation	99	4	14/08/02A	20/09/02	91		
ML15: Pier SB41 SI Pre-Drilling								
CH6867100	Site investigation	0	10	12/12/02	23/12/02	24		
ONSTRUCT BRIDGE ML10								
BRIDGE ML10: PIER NB29(M)								
ML10: Pier NB29 Utilities & Services Diversions								
CH6150100	NB29: Utilities detection & trial pit excavation	0	4	23/09/02	26/09/02	323		
CH6150110	NB29: Water main diversion (150S.V)	0	51	27/09/02	27/11/02	323		
BRIDGE ML10: PIER NB30(M)								
ML10: Pier NB30 Utilities & Services Diversions								
CH6171110	NB30: Watermain diversion (400D.I)	0	23	23/09/02	21/10/02	1		
ML10: Pier NB30 SI Pre-Drilling								
CH6174110	NB30: Prepare & submit the SI report	0	4	22/06/02A	26/09/02	14		
CH6174120	NB30: Approval OF SI report	0	6	27/09/02	04/10/02	14		
ML10: Pier NB30 Bored Piling								
CH6177100	1st: Bored Pile	0	4	23/10/02	28/10/02	0		
CH6177110	1st: Interface core test	0	1	13/11/02	13/11/02	13		
CH6177120	2nd: Bored Pile	0	4	30/10/02	02/11/02	3		
CH6177130	2nd: Interface core test	0	1	20/11/02	20/11/02	8		
CH6177140	3rd: Bored Pile	0	4	06/11/02	09/11/02	3		
CH6177150	3rd: Interface core test	0	1	27/11/02	27/11/02	3		
CH6177180	Sonic test	0	1	27/11/02	27/11/02	3		
ML10: Pier NB30 Pile Cap								
CH6180100	Sheet Pile driving	0	2	28/11/02	29/11/02	3		
CH6180110	Excavate & shoring support	0	3	30/11/02	03/12/02	3		
CH6180120	Cut Pile head	0	5	04/12/02	09/12/02	3		
CH6180130	Lay blinding layer	0	1	09/12/02	09/12/02	3		
CH6180140	Formwork erection	0	1	10/12/02	10/12/02	3		
CH6180150	Reinforcement fixing	0	3	10/12/02	12/12/02	3		
CH6180160	Final fix Formwork/Clean & Concrete	0	1	13/12/02	13/12/02	3		
CH6180170	Remove formwork & bituminous print	0	2	14/12/02	16/12/02	3		
CH6180180	Backfill	0	2	17/12/02	18/12/02	3		
CH6180190	Remove the sheet Piles	0	2	19/12/02	20/12/02	3		
ML10: Pier NB30 Column (Type C3 hollow)								
CH6183100	1st Column Lift	0	6	21/12/02	30/12/02	3		
BRIDGE ML10: PIER NB28N								
ML10: Pier NB28N TTA Implementation								
CH6108100	NB28N: Prepare TTA Drgs (Drainage & NB28N Cap)	0	13	23/09/02*	05/10/02	314		



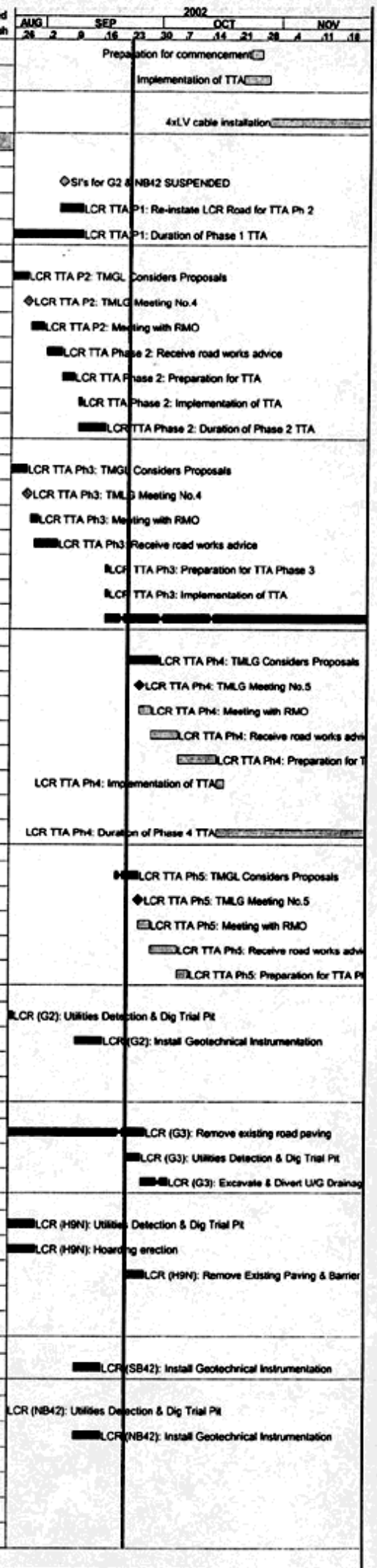
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH6108110	NB28N: Endorse TTA Drgs by the Eng.	0	7	06/10/02	12/10/02	314		
CH6108120	NB28N: Apply TD Traffic Advice/Gazette Notice	0	14	13/10/02	26/10/02	314		
CH6108130	Meeting with RMO	0	3	27/10/02	29/10/02	314		
CH6108140	Receive road works advice	0	2	30/10/02	31/10/02	314		
CH6108150	Preparation for commencement	0	3	01/11/02	03/11/02	316		
CH6108160	Implementation of TTA	0	7	30/10/02	05/11/02	314		
ML10: Pier NB28N Utilities & Services Diversions								
CH6111100	Utilities detection & trial pit excavation	0	4	06/11/02	09/11/02	254		
CH6111110	Drainage diversion (450)	0	32	11/11/02	17/12/02	286		
CH6111120	Water main diversion (300D.I)	0	32	11/11/02	17/12/02	286		
BRIDGE ML10: PIER NB28S(M)								
ML10: Pier NB28S Utilities & Services Diversions								
CH6129100	Utilities detection & trial pit excavation	0	4	11/11/02	14/11/02	254		
CH5916100	Utilities detection & trial pit excavation	0	4	15/11/02	19/11/02	270		
CH5934100	Utilities detection & trial pit excavation	0	4	20/11/02	23/11/02	286		
CH5958100	1st: Bored Pile	0	4	30/09/02*	04/10/02	0		
CH5958110	1st: Interface core test	0	1	23/10/02	23/10/02	31		
CH5958120	2nd: Bored Pile	0	4	11/10/02	16/10/02	0		
CH5958130	2nd: Interface core test	0	1	02/11/02	02/11/02	23		
CH5958140	3rd: Bored Pile	0	4	19/10/02	23/10/02	0		
CH5958150	3rd: Interface core test	0	1	09/11/02	09/11/02	18		
CH5958180	Sonic test	0	1	09/11/02	09/11/02	18		
CH5961100	Sheet Pile driving	0	2	11/11/02	12/11/02	18		
CH5961110	Excavate & shoring support	0	3	13/11/02	15/11/02	18		
CH5961120	Cut Pile head	0	5	16/11/02	21/11/02	18		
CH5961130	Lay blinding layer	0	1	21/11/02	21/11/02	18		
CH5961140	Formwork erection	0	1	22/11/02	22/11/02	18		
CH5961150	Reinforcement fixing	0	3	22/11/02	25/11/02	18		
CH5961160	Final fix Formwork/Clean & Concrete	0	1	26/11/02	26/11/02	18		
CH5961170	Remove formwork & bituminous print	0	2	27/11/02	28/11/02	18		
CH5961180	Backfill	0	2	29/11/02	30/11/02	18		
CH5961190	Remove the sheet Piles	0	2	02/12/02	03/12/02	18		
CH5964100	1st Column Lift	0	6	04/12/02	10/12/02	18		
CH5964110	2nd Column Lift	0	6	11/12/02	17/12/02	18		
CH5964120	3rd Column Lift	0	6	18/12/02	24/12/02	18		
CH3470120	Installation deflector barrier at G12S	0	10	13/12/02	24/12/02	-1		
CH3535120	Installation deflector barrier at G13S	0	10	13/12/02	24/12/02	-1		
CH8400170	Prepare TTA Drg (for gully pipe)	0	44	23/09/02*	05/11/02	1,089		
CH8400180	Endorse TTA Drgs by the Eng.	0	7	06/11/02	12/11/02	1,089		
CH8400190	Apply traffic advice/gazette notice from TD	0	14	13/11/02	26/11/02	1,089		
CH8400200	Meeting with RMO	0	3	27/11/02	29/11/02	1,089		
CH8400210	Receive road works advice	0	2	30/11/02	01/12/02	1,089		
CH8400220	Preparation for commencement	0	3	02/12/02	04/12/02	1,091		
CH8400230	Implementation of TTA	0	7	30/11/02	06/12/02	1,089		
CH8400240	Prepare TTA Drg (for cross road cable)	0	43	23/09/02*	04/11/02	1,011		
CH8400250	Endorse TTA Drgs by the Eng.	0	7	05/11/02	11/11/02	1,011		
CH8400260	Apply traffic advice/gazette notice from TD	0	14	12/11/02	25/11/02	1,011		
CH8400270	Meeting with RMO	0	3	26/11/02	28/11/02	1,011		
CH8400280	Receive road works advice	0	2	29/11/02	30/11/02	1,011		
CH8400290	Preparation for commencement	0	3	01/12/02	03/12/02	1,013		
CH8400300	Implementation of TTA	0	7	29/11/02	05/12/02	1,011		



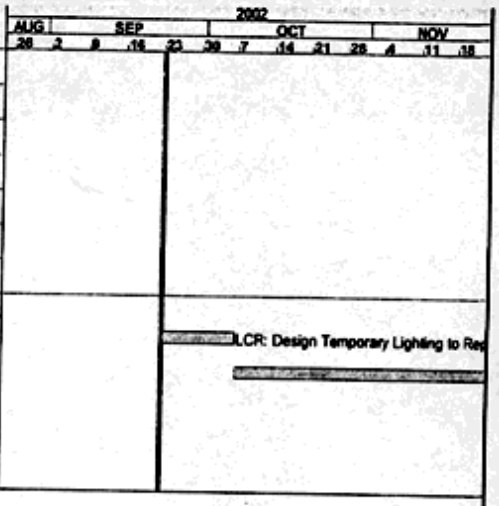
Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
HWW E/B: Site Clearance								
CH8405100	Site clearance	90	20	12/06/02A	17/10/02	809		
HWW E/B: Utilities & Services Diversions								
CH8410110	Utilities detection	0	10	18/10/02	29/10/02	890		
HWW E/B: HV Power Supply Civil Provision								
CH8420100	4x11kV cable installation	0	35	16/12/02	28/01/03	809		
CH8420110	4xLV cable installation	0	35	16/12/02	28/01/03	1,432		
HWW E/B: Water Mains								
CH8430100	Installation of proposed 250DI WM	0	50	18/10/02	14/12/02	809		
CH8430110	Pressure & sample test	0	14	16/12/02	03/01/03	922		
HWW E/B: Street Lighting								
CH8450100	Construct street light ducting/drawpit	0	14	11/12/02	28/12/02	854		
REALIGNMENT OF HING WAH STREET WEST W/B (HWW W/B								
HWW W/B: Utilities & Services Diversions								
CH8510110	Utilities detection	0	2	23/09/02	24/09/02	811		
HWW W/B: Drainage								
CH8515115	Manhole construction	0	30	16/10/02	19/11/02	926		
CH8515120	Excavation & gully pipe installation	0	40	08/11/02	24/12/02	926		
CH8515130	Gully pit installation	0	30	02/12/02	08/01/03	926		
HWW W/B: HV Power Supply Civil Provision								
CH8520140	4x11kV cable installation	0	35	16/10/02	25/11/02	826		
CH8520150	4xLV cable installation	0	35	16/10/02	25/11/02	826		
HWW W/B: Water Mains								
CH8530160	Installation of proposed 300DI	0	16	25/09/02	15/10/02	811		
CH8530162	Installation of proposed 400DI	0	16	25/09/02	15/10/02	926		
CH8530164	Installation of proposed 450DI	0	16	25/09/02	15/10/02	926		
CH8530170	Pressure & sample test	0	5	16/10/02	21/10/02	983		
CH8530180	Connection to existing	0	4	22/10/02	25/10/02	983		
HWW W/B: Gas Mains								
CH8535190	Laying 315PE gas main	0	14	25/09/02	11/10/02	20		
CH8535192	Laying 400 steel gas main	0	14	25/09/02	11/10/02	928		
CH8535200	Connect 315PE & 400 Steel Gas Main	0	7	12/10/02	21/10/02	987		
HWW W/B: Telecommunications Civil Provision								
CH8540220	Construct NTTC ducting/drawpit	0	14	11/12/02	28/12/02	888		
HWW W/B: Street Lighting								
CH8550260	Construct street light ducting/drawpit	0	14	25/11/02	10/12/02	854		
CHHIGH110	Relocation of switch room LW/2	0	30	10/10/02	14/11/02	1,472		
CHHIGH120	Remove KHM-330 at Lai Po Rd Slip 2	0	21	15/11/02	09/12/02	1,472		
HWW W/B: Road Signs, Markings & Bollards								
CH8565350	Sign board foundation construction	0	30	25/11/02	31/12/02	891		
REALIGNMENT OF HING WAH SLIP2 (HWS2)								
HWS2: TTA's								
CH8800100	Prepare TTA Drg	100	13	15/08/02A	30/08/02A			
CH8800101	Endorse TTA Drgs by the Eng.	0	7	31/08/02A	22/09/02	924		
CH8800102	Apply traffic advice/gazette notice from TD	0	7	23/09/02	29/09/02	924		
CH8800103	Meeting with RMO	0	3	30/09/02	02/10/02	924		
CH8800104	Receive road works advice	0	2	03/10/02	04/10/02	924		
CH8800105	Preparation for commencement	0	3	05/10/02	07/10/02	926		
CH8800106	Implementation of TTA	0	7	03/10/02	09/10/02	924		
CH8800110	Prepare TTA Drg	0	43	20/12/02*	31/01/03	973		
HWS2: Temporary road construction								
CH8802100	Temporary road construction	0	14	23/09/02	09/10/02	746		
HWS2: Drainage								
CH8815100	Manhole construction	0	30	09/12/02	15/01/03	746		
HWS2: Water Mains								
CH8830100	Installation of proposed 150DI	0	50	10/10/02	07/12/02	746		
CH8830110	Pressure & sample test	0	14	09/12/02	24/12/02	798		
HWS2: Street Lighting								
CH8840140	Construct street light ducting/drawpit	0	14	09/12/02	24/12/02	767		
REALIGNED SLIP 3 (S3)								
3005								
CHHIGH130	LCR (G2): Remove KHM-331 at Hing Wah Slip 3	0	21	29/10/02	21/11/02	1,127		
S3: TTA's								
CH8900100	SLIP 3: Prepare TTA Drg	0	44	18/09/02A	25/09/02	1,142		
CH8900110	Endorse TTA Drgs by the Eng.	0	7	26/09/02	04/10/02	1,140		
CH8900120	Apply traffic advice/gazette notice from TD	0	14	05/10/02	18/10/02	1,140		
CH8900130	Meeting with RMO	0	3	19/10/02	21/10/02	1,140		
CH8900140	Receive road works advice	0	2	22/10/02	23/10/02	1,140		



Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH8900150	Preparation for commencement	0	3	24/10/02	26/10/02	1,142		
CH8900160	Implementation of TTA	0	7	22/10/02	28/10/02	1,140		
S3: HV Power Supply Civil Provision								
CH8920100	4xLV cable installation	0	60	29/10/02	09/01/03	925		
STAGE 1A: REALIGNMENT OF LIN CHEUNG ROAD (LCR)								
LCR TTA Phase 1: 1st Fast Lane Closure								
CH3004116	SI's for G2 & NB42 SUSPENDED	100	0		05/09/02A			
CH3004117	LCR TTA P1: Re-instate LCR Road for TTA Ph 2	100	5	05/09/02A	10/09/02A			
CH3004118	LCR TTA P1: Duration of Phase 1 TTA	100	24*	14/08/02A	10/09/02A			
LCR TTA Phase 2: 1st Slow Lane Closure								
CH3006104	LCR TTA P2: TMGL Considers Proposals	100	7	17/08/02A	27/08/02A			
CH3006106	LCR TTA P2: TMLG Meeting No.4	100	0	28/08/02A				
CH3006108	LCR TTA P2: Meeting with RMO	100	3	29/08/02A	31/08/02A			
CH3006110	LCR TTA Phase 2: Receive road works advice	100	2	02/09/02A	05/09/02A			
CH3006112	LCR TTA Phase 2: Preparation for TTA	100	7	06/09/02A	08/09/02A			
CH3006114	LCR TTA Phase 2: Implementation of TTA	100	1	10/09/02A	10/09/02A			
CH3006116	LCR TTA Phase 2: Duration of Phase 2 TTA	100	6*	10/09/02A	16/09/02A			
LCR TTA Phase 3: 2nd Fast Lane Closure								
CH3007104	LCR TTA Ph3: TMGL Considers Proposals	100	7	17/08/02A	27/08/02A			
CH3007106	LCR TTA Ph3: TMLG Meeting No.4	100	0	28/08/02A				
CH3007108	LCR TTA Ph3: Meeting with RMO	100	3	29/08/02A	30/08/02A			
CH3007110	LCR TTA Ph3: Receive road works advice	100	7	30/08/02A	04/09/02A			
CH3007112	LCR TTA Ph3: Preparation for TTA Phase 3	100	3	17/09/02A	17/09/02A			
CH3007116	LCR TTA Ph3: Implementation of TTA	100	2	17/09/02A	17/09/02A			
CH3007118	LCR TTA Ph3: Duration of Phase 3 TTA	0	173*	17/09/02A	21/04/03	-92		
LCR TTA Phase 4: Slow Lane Closure at H9S								
CH3008100	LCR TTA Ph4: TMLG Considers Proposals	0	7	23/09/02	30/09/02	-4		
CH3008102	LCR TTA Ph4: TMLG Meeting No.5	0	0	26/09/02*		0		
CH3008104	LCR TTA Ph4: Meeting with RMO	0	3	26/09/02	28/09/02	57		
CH3008106	LCR TTA Ph4: Receive road works advice	0	7	29/09/02	05/10/02	57		
CH3008108	LCR TTA Ph4: Preparation for TTA Phase 4	0	10	06/10/02	15/10/02	57		
CH3008110	LCR TTA Ph4: Implementation of TTA	0	2	16/10/02	17/10/02	57		
CH3008111	LCR TTA Ph4 Works Complete	0	0		20/12/02	34		
CH3008112	LCR TTA Ph4: Duration of Phase 4 TTA	0	57*	16/10/02	20/12/02	34		
LCR TTA Phase 5: 3rd Slow Lane Closure								
CH3009100	LCR TTA Ph5: TMGL Considers Proposals	51	7	20/09/02A	25/09/02	0		
CH3009102	LCR TTA Ph5: TMLG Meeting No.5	0	0	26/09/02*		0		
CH3009104	LCR TTA Ph5: Meeting with RMO	0	3	26/09/02	28/09/02	372		
CH3009106	LCR TTA Ph5: Receive road works advice	0	7	29/09/02	05/10/02	372		
CH3009108	LCR TTA Ph5: Preparation for TTA Phase 4	0	3	06/10/02	08/10/02	372		
Pier G2: Utilities, Services & Roadworks								
CH3005100	LCR (G2): Utilities Detection & Dig Trial Pit	100	4	22/08/02A	24/08/02A			
CH3005121	LCR (G2): Install Geotechnical Instrumentation	100	10	10/09/02A	16/09/02A			
CH3005130	LCR (G2): Excavation for Retaining Wall Footing	0	1	20/12/02	20/12/02	-18		
CH3005140	LCR (G2): Lay Retaining Wall Blinding Concrete	0	1	21/12/02	21/12/02	-18		
Pier G3 Utilities, Services & Roadworks								
CH3040115	LCR (G3): Remove existing road paving	50	5	17/08/02A	27/09/02	-59		
CH3040120	LCR (G3): Utilities Detection & Dig Trial Pit	0	4	23/09/02	26/09/02	-59		
CH3040130	LCR (G3): Excavate & Divert U/G Drainage	0	5	27/09/02	03/10/02	-59		
Pier H9N Utilities, Services & Roadworks								
CH4332100	LCR (H9N): Utilities Detection & Dig Trial Pit	100	4	21/08/02A	30/08/02A			
CH4332110	LCR (H9N): Hoarding erection	100	5	14/08/02A	30/08/02A			
CH4332120	LCR (H9N): Remove Existing Paving & Barrier	0	5	23/09/02	27/09/02	-51		
CH4332130	LCR (H9N): Excavation for Retaining Wall Footing	0	1	20/12/02	20/12/02	-28		
CH4332140	LCR (H9N): Lay RW Footing Blinding Concrete	0	1	21/12/02	21/12/02	-28		
Pier SB42 Utilities, Services & Roadworks								
CH8885113	LCR (SB42): Install Geotechnical Instrumentation	100	10	10/09/02A	16/09/02A			
Pier NB42 Utilities, Services & Roadworks								
CH6999100	LCR (NB42): Utilities Detection & Dig Trial Pit	100	4	20/08/02A	23/08/02A			
CH6999121	LCR (NB42): Install Geotechnical Instrumentation	100	10	10/09/02A	16/09/02A			
CH6999130	LCR (NB42): Excavation for retaining footing	0	1	07/12/02	07/12/02	-7		
CH6999140	LCR (NB42): Laying blinding concrete	0	1	09/12/02	09/12/02	-7		
CH6999150	LCR (NB42): Rebar for footing	0	1	10/12/02	10/12/02	-7		
CH6999160	LCR (NB42): Formwork for footing	0	1	11/12/02	11/12/02	-7		



Activity ID	Activity Description	% Comp	Orig Dur	Early Start	Early Finish	Total Float	As-planned Early Start	As-planned Early Finish
CH6999170	LCR (NB42): Concreting	0	1	12/12/02	12/12/02	-7		
CH6999180	LCR (NB42): Formwork for retaining wall	0	1	13/12/02	13/12/02	-7		
CH6999190	LCR (NB42): Reinforcement for retaining wall	0	1	14/12/02	14/12/02	-7		
CH6999200	LCR (NB42): final fixing for retaining wall	0	2	16/12/02	17/12/02	-7		
CH6999210	LCR (NB42): Concreting	0	1	18/12/02	18/12/02	-7		
CH6999220	LCR (NB42): Strike Formwork & Waterproof	0	2	19/12/02	20/12/02	-7		
CH6999230	LCR (NB42): Backfill	0	1	21/12/02	21/12/02	-7		
LCR: Street Lighting								
CHHIGH151	LCR: Design Temporary Lighting to Replace KHM322	0	14	23/09/02	05/10/02	43		
CHHIGH152	LCR: Lighting Div. Submission to Replace KHM322	0	60	07/10/02	05/12/02	43		
CHHIGH153	LCR SL: Install Temp. Lighting to Replace KHM322	0	5	06/12/02	11/12/02	34		
CHHIGH190	LCR Slow Lane: Remove KHM-322 at Pile Cap H9S	0	5	12/12/02	17/12/02	34		
CHHIGH193	LCR Slow Lane Verge: Reinstate Street Lighting	0	3	18/12/02	20/12/02	34		



26 2 9 16 23 30 7 14 21 28 4 11 18
AUG SEP OCT NOV
2002

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 August to 28 September 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	2-Sep 1hr-TSP (ASR2) Noise	3-Sep *1hr-TSP (ASR1)	4-Sep	5-Sep	6-Sep 24hrs-TSP	7-Sep 1hr-TSP
8-Sep	9-Sep	10-Sep	11-Sep	12-Sep 24hrs-TSP	13-Sep 1hr-TSP	14-Sep Noise
15-Sep	16-Sep	17-Sep	18-Sep 24hrs-TSP	19-Sep 1hr-TSP Noise	20-Sep	21-Sep
22-Sep	23-Sep	24-Sep 24hrs-TSP (ASR1)	25-Sep 1hr-TSP Noise **24hrs-TSP (ASR2)	26-Sep	27-Sep	28-Sep

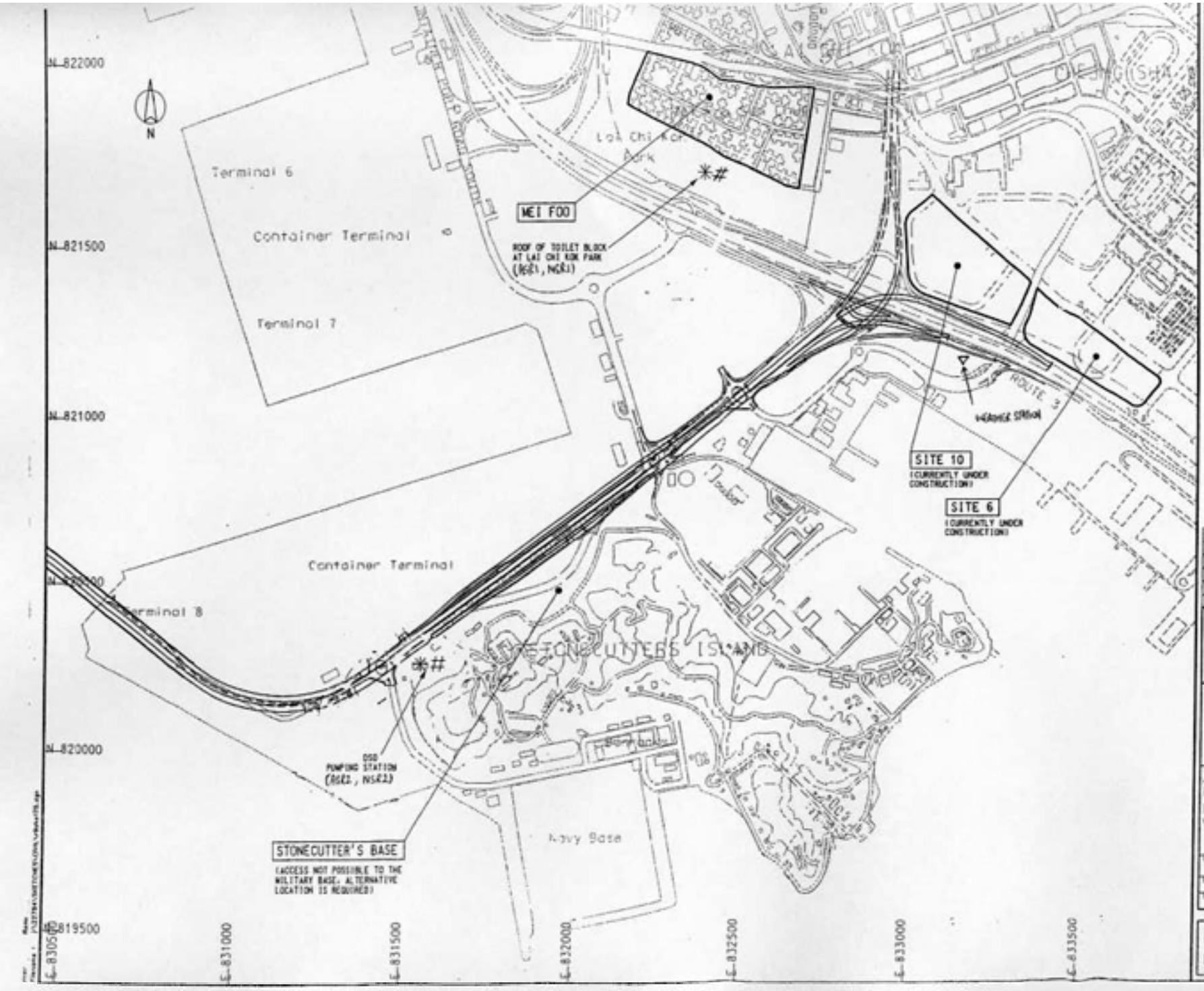
1hr-TSP	3 x 1 hour TSP monitoring at ASR1 and ASR2 during 09:00~18:00.
24hrs-TSP	24 hours TSP monitoring at ASR1 and ASR2
Noise	Leq_{30} measurement at NSR1 and NSR2 during 07:00~19:00.

* No electricity supply at ASR1 on 2 September 2002, the 24-hr TSP monitoring was postponed to 3 September 2002.

** No electricity supply at ASR2 on 24 September 2002, the 24-hr TSP monitoring was postponed to 25 September 2002.

Appendix F

Locations of Monitoring Stations



LOCATION PLAN

LEGEND

- SENSITIVE RECEIVER IDENTIFIED IN EIAO MANUAL
- PROPOSED AIR MONITORING STATION
- PROPOSED NOISE MONITORING STATION
- WEATHER STATION

Rev	Description	By	Date

ARUP

HY/2000/21

Route 9 - Ngong Shuen Chau Viaduct

PROPOSED AIR AND NOISE MONITORING LOCATIONS AND WEATHER STATIONS

FIGURE 1a

PRELIMINARY

HIGHWAYS DEPARTMENT

Appendix G1

Calibration Certificates for HVS

ARUP

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

Calibration Date	28-Sep-02	**Next Calibration Date**	**28-Nov-02**
Station	ASR1	Equipment no.	E.HVS.01

Ambient Condition			
Temperature, Ta (K)	301.4	Pressure, Pa (mmHg)	759.1

Orifice Transfer Standard Information			
Equipment no.	E.CAL.01		
Slope, mo	1.5507	Intercept, co	-0.00514
Last Calibration Date	07-May-02	Next Calibration Date	07-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	7.3	2.69
2	5.9	1.56	6.1	2.45
3	4.8	1.41	5.0	2.22
4	3.8	1.25	3.9	1.96
5	3.0	1.11	3.0	1.72

By Liner Regression of y on x

Slope, mh = 1.6145 Intercept, ch = -0.0647

*Correction Coefficient, R = 0.9996

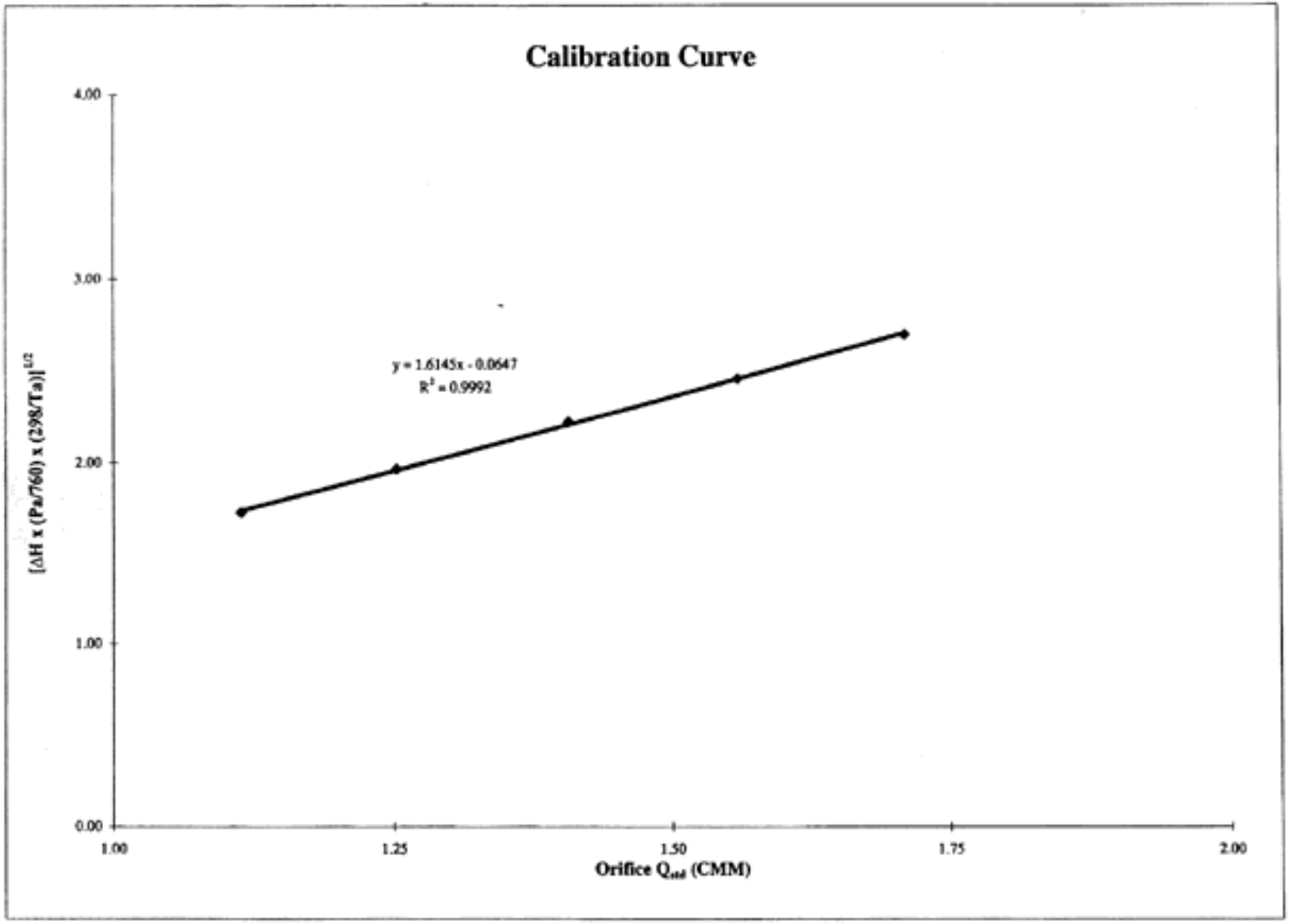
Calibration Result: ACCEPT

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

Remark: _____

Calibrated By: _____ Date: 30-9-2002

Checked By: _____ Date: 30-9-2002


Calibration Curve
4.00
3.00
2.00
1.00
0.00
y = 1.6145x - 0.0647
R² = 0.9992
[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	28-Sep-02	**Next Calibration Date**	**28-Nov-02**
Station	ASR2	Equipment no.	E.HVS.02

Ambient Condition			
Temperature, Ta (K)	301.6	Pressure, Pa (mmHg)	759.2

Orifice Transfer Standard Information			
Equipment no.	E.CAL.01		
Slope, mo	1.5507	Intercept, co	-0.00514
Last Calibration Date	07-May-02	Next Calibration Date	07-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	7.3	1.73	7.1	2.65
2	6.3	1.61	6.1	2.45
3	5.1	1.45	5.0	2.22
4	4.1	1.30	4.1	2.01
5	3.2	1.15	3.1	1.75

By Liner Regression of y on x

Slope, mh = 1.5113 Intercept, ch = 0.0266

*Correction Coefficient, R = 0.9993

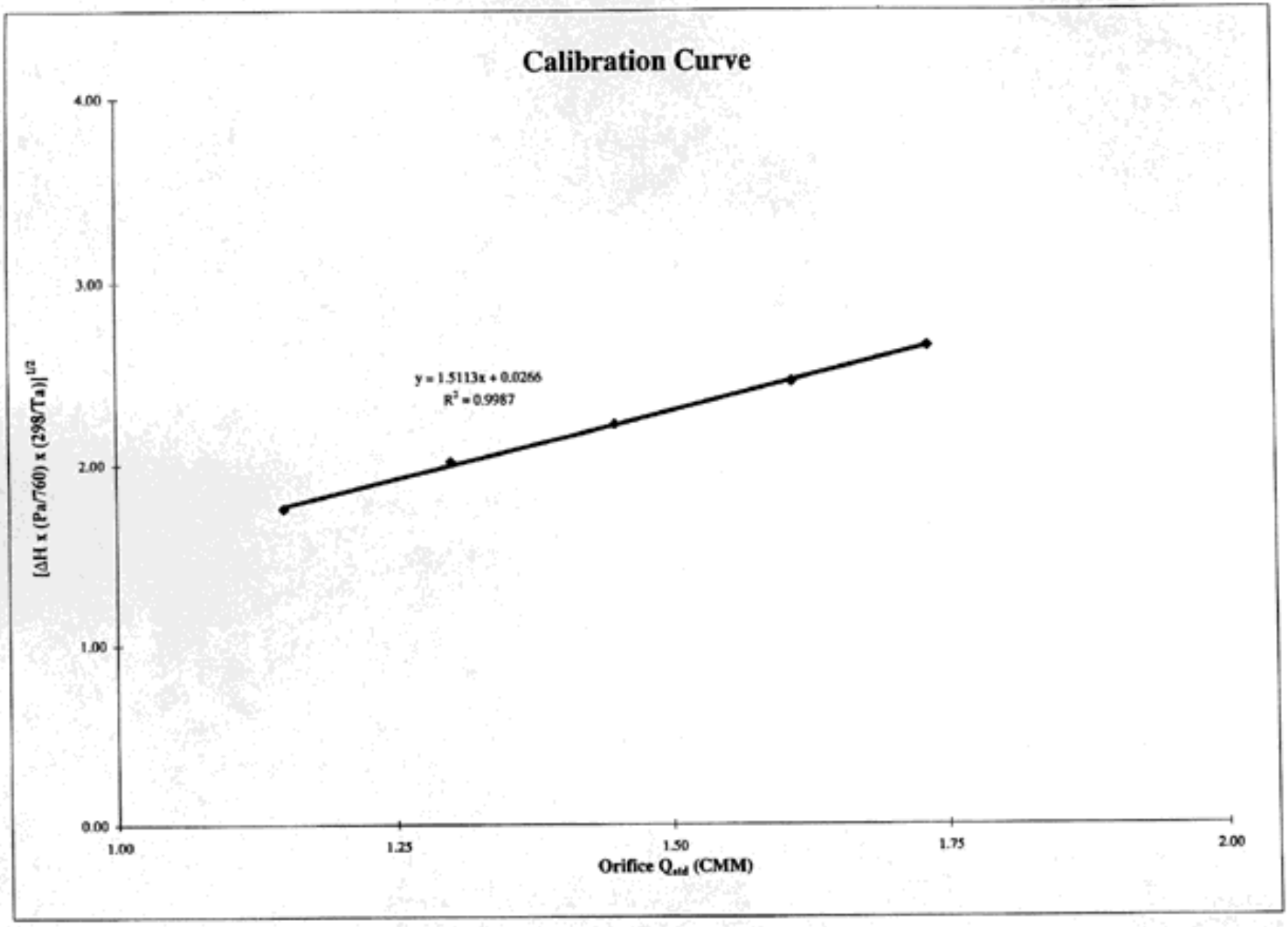
Calibration Result: **ACCEPT**

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

Remark: _____

Calibrated By: _____ Date: 30-9-2002

Checked By: _____ Date: 30-9-2002


Calibration Curve
4.00
3.00
2.00
1.00
0.00
[ΔH x (Pa/760) x (298/Ta)]^1/2
y = 1.5113x + 0.0266
R² = 0.9987
1.00
1.25
1.50
1.75
2.00
Orifice Q_std (CMM)

Appendix G2

Calibration Certificate for the 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*
G. LUFFT Gutenbergstraße 20 70736 Fellbach Postfach 4352	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
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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 / 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 4255 70732 Fellbach	06.05.02		Lufft GmbH

LUFFT Mess- und Regeltechnik GmbH
Gutenbergstraße 20
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Internet: www.lufft.de

Geschäftsführer
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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)
1.0005	0.7915	1.2285
0.9967	1.0318	1.5860
0.9948	1.1267	1.7374
0.9931	1.2096	1.8766
0.9837	1.5867	2.4570

Qstd slope (m) = 1.55070
intercept (b) = -0.00514
coefficient (r) = 0.99978

y axis = SQRT[H2O(Pa/760)(298/Ta)]

Va	(x axis) Qa	(y axis)
0.9944	0.7867	0.7646
0.9906	1.0255	0.9871
0.9888	1.1198	1.0813
0.9870	1.2022	1.1679
0.9777	1.5770	1.5291

Qa slope (m) = 0.97102
intercept (b) = -0.00320
coefficient (r) = 0.99978

y axis = SQRT[H2O(Ta/Pa)]

CALCULATIONS

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

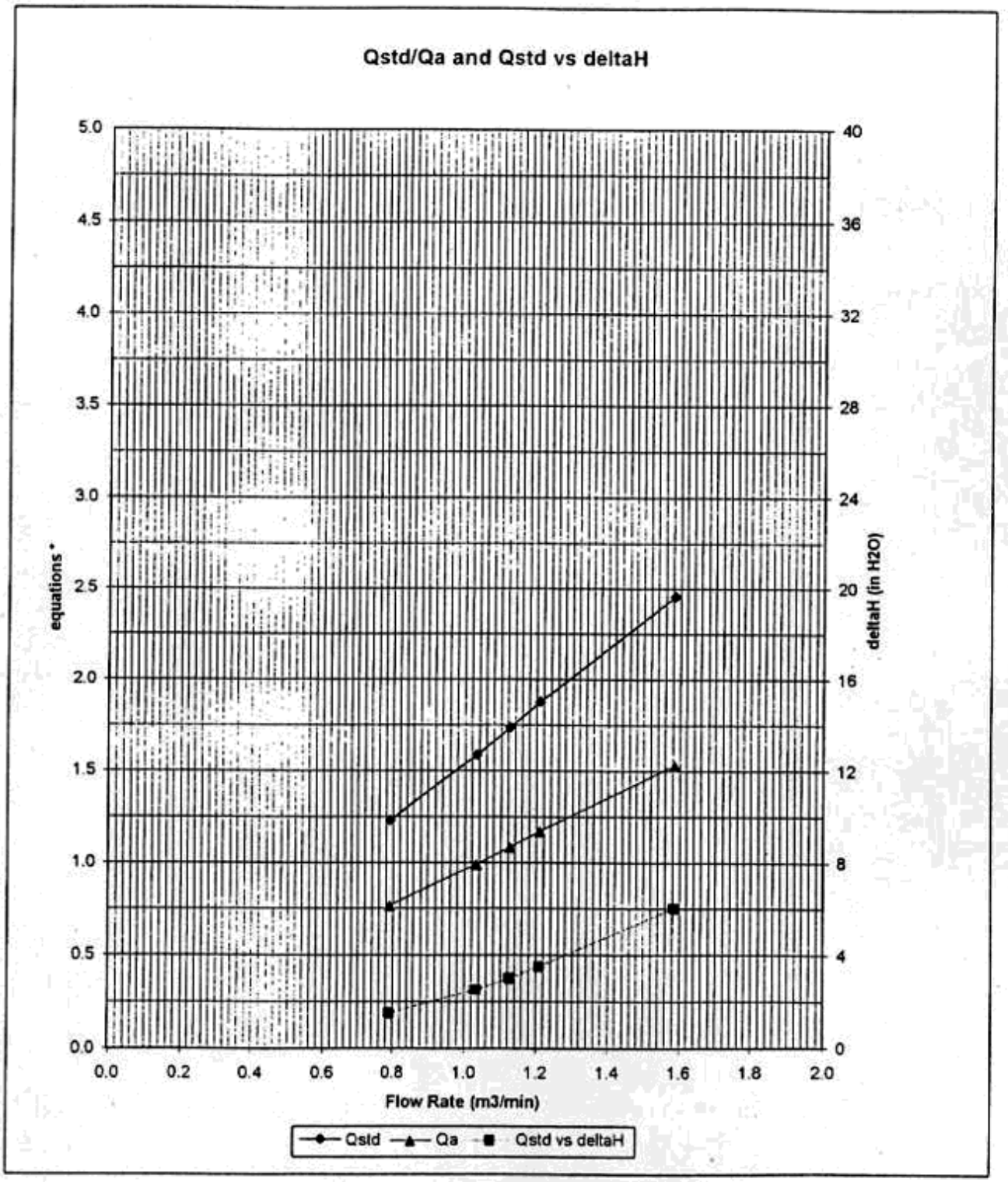
Va = Diff Vol [(Pa-Diff Hg)/Pa]
Qa = Va/Time

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: **02/00382**

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: **02/00381**

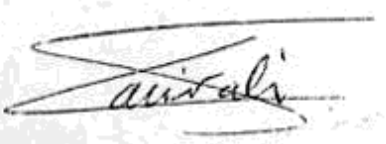
DICESVA S.L.
Calibration laboratory

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: **02/00380**

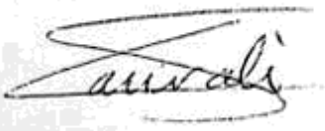
DICESVA S.L.
Calibration laboratory

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	29/8/02 to 28/9/02
Landscape and visual	Erection, painting and maintenance of site hoardings around works and storage areas.	Throughout the construction period	√ (not all)	√ (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	N/A
	Avoidance of chunam or shotcreting slope treatments.		√	√ (not all)
	Conservation of topsoil where practical.		√	√ (not all)
	Site litter patrols and regular site waste collection.		√	▲
	Maintenance of planting.		√	√
Ecological Impact	Minimise damage outside works areas		√	√
Construction:				
Material Storage	Covers for dusty stockpiles	Throughout the construction period	√ (not all)	√ (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)	√ (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	N/A

* N/A = Not Applicable
✓ = Implemented
▲ = Rectified

Environmental Protection Measures		Timing	Implementation Stages*	
Plant maintenance	All plant shall be maintained to prevent any undue noise nuisance.	Throughout the construction period	√	√
Wheel wash	All wheel wash water shall be diverted to a sediment pit.		√ (Not all)	√ (Not all, in progress)
Concrete Truck Washout	All concrete trucks shall wash out into a lined pit.		√ (Not all)	√ (Not all)
Surface water diversion	All clean surface water shall be diverted around the site.		√ (Not all)	√ (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)	√ (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.		√	√ (Not all)
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.		√	√ (Not all)
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.		√	√

* N/A = Not Applicable
✓ = Implemented
▲ = Rectified

Environmental Protection Measures		Timing	Implementation Stages*	
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.	Throughout the construction period	√	▲
Neighborhood nuisance	All complaints regarding construction works shall be relayed to the Environmental Team.		√	√
Legal requirements	Different types of waste should be segregated, stored, transported and disposed of in accordance with the relevant legislative requirements and guidelines		√	√
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.		√	√ (in progress)
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)	√ (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
▲ = Rectified

Appendix J

1-hour and 24-hour TSP Monitoring Results

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
03-Sep-02	10:28	52.20	1.39	1.39	1.39	72.58	2.8299	2.8438	191.5
03-Sep-02	11:17	60.00	1.35	1.34	1.34	80.69	2.8225	2.8300	93.0
03-Sep-02	13:30	60.00	1.34	1.34	1.34	80.54	2.8158	2.8258	124.2
07-Sep-02	9:21	54.00	1.32	1.32	1.32	71.18	2.8212	2.8395	257.1
07-Sep-02	10:19	52.80	1.33	1.33	1.33	70.27	2.8207	2.8340	189.3
07-Sep-02	11:15	54.00	1.33	1.34	1.34	72.15	2.8454	2.8617	225.9
13-Sep-02	10:31	54.00	1.33	1.32	1.33	71.58	2.7711	2.7740	40.5
13-Sep-02	11:31	56.40	1.34	1.34	1.34	75.54	2.7560	2.7590	39.7
13-Sep-02	14:12	55.80	1.40	1.40	1.40	77.98	2.7789	2.7804	19.2
19-Sep-02	13:27	61.20	1.40	1.40	1.40	85.41	2.7647	2.7699	60.9
19-Sep-02	14:29	55.80	1.40	1.40	1.40	77.90	2.7675	2.7684	11.6
19-Sep-02	15:25	62.40	1.35	1.35	1.35	84.37	2.7559	2.7564	5.9
25-Sep-02	9:42	60.00	1.36	1.36	1.36	81.74	2.7621	2.7644	28.1
25-Sep-02	10:44	55.80	1.36	1.36	1.36	75.96	2.7550	2.7563	17.1
25-Sep-02	11:46	60.00	1.36	1.36	1.36	81.62	2.7622	2.7653	38.0

The Summary of 24-hrs TSP Concentration (μg/m^3) at Mei Foo Sun Chuen (ASR1)

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
31-Aug-02	0:00	1438.20	1.39	1.39	1.39	2000.91	2.8234	3.0853	130.9
06-Sep-02	0:00	1406.40	1.39	1.39	1.39	1957.36	2.8085	3.0584	127.7
12-Sep-02	0:00	1437.00	1.31	1.33	1.32	1896.00	2.7605	2.8169	29.7
18-Sep-02	9:37	1438.80	1.40	1.40	1.40	2011.67	2.7585	2.8682	54.5
24-Sep-02	0:00	1431.60	1.32	1.33	1.33	1899.34	2.7611	2.8999	73.1

The Summary of 1-hr TSP Concentration (μg/m^3) at Stonecutters Base (ASR2)

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
02-Sep-02	9:38	59.40	1.39	1.39	1.39	82.40	2.8136	2.8293	190.5
02-Sep-02	10:41	60.60	1.39	1.39	1.39	83.98	2.8102	2.8317	256.0
02-Sep-02	11:43	70.80	1.39	1.39	1.39	98.14	2.8258	2.8461	206.9
07-Sep-02	9:07	54.00	1.36	1.37	1.37	73.86	2.8067	2.8255	254.5
07-Sep-02	10:02	54.60	1.37	1.37	1.37	74.94	2.8378	2.8561	244.2
07-Sep-02	11:00	54.60	1.37	1.37	1.37	74.86	2.8231	2.8422	255.1
13-Sep-02	10:04	57.00	1.41	1.42	1.42	80.84	2.7711	2.7740	35.9
13-Sep-02	11:03	52.20	1.42	1.42	1.42	74.32	2.7577	2.7595	24.2
13-Sep-02	13:55	54.00	1.43	1.44	1.44	77.52	2.7544	2.7569	32.2
19-Sep-02	13:13	60.00	1.39	1.39	1.39	83.49	2.7432	2.7456	28.7
19-Sep-02	14:15	58.20	1.39	1.39	1.39	81.04	2.7580	2.7582	2.5
19-Sep-02	15:15	60.00	1.39	1.39	1.39	83.52	2.7504	2.7510	7.2
25-Sep-02	10:53	60.00	1.40	1.40	1.40	84.07	2.7547	2.7573	30.9
25-Sep-02	11:54	46.20	1.40	1.40	1.40	64.71	2.7654	2.7697	66.5
25-Sep-02	13:30	54.00	1.40	1.40	1.40	75.72	2.7611	2.7635	31.7

The Summary of 24-hrs TSP Concentration (μg/m^3) at Stonecutters Base (ASR2)

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
31-Aug-02	0:00	1464.60	1.36	1.36	1.36	1992.96	2.8124	3.1425	165.6
06-Sep-02	0:00	1428.00	1.43	1.43	1.43	2043.22	2.8214	3.1601	165.8
12-Sep-02	0:00	1396.20	1.36	1.37	1.36	1902.02	2.7690	2.8848	60.9
18-Sep-02	9:19	1393.80	1.41	1.42	1.42	1973.40	2.7673	2.8709	52.5
25-Sep-02	14:21	1456.80	1.40	1.39	1.40	2037.53	2.7500	2.8255	37.1

The Summary of 1-hr TSP Concentration (μg/m^3) at Mei Foo Sun Chuen (ASR1)

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
02-Aug-02	9:36	56.40	1.35	1.35	1.35	76.02	2.7481	2.7550	90.8
02-Aug-02	10:35	63.00	1.33	1.33	1.33	83.96	2.7386	2.7469	98.9
02-Aug-02	11:38	55.20	1.35	1.34	1.35	74.26	2.7651	2.7664	17.5
08-Aug-02	14:13	61.80	1.38	1.38	1.38	85.06	2.8192	2.8276	98.8
08-Aug-02	15:18	69.00	1.42	1.42	1.42	97.88	2.8204	2.8303	101.1
08-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
03-Sep-02	10:28	52.20	1.39	1.39	1.39	72.58	2.8299	2.8438	191.5
03-Sep-02	11:17	60.00	1.35	1.34	1.34	80.69	2.8225	2.8300	93.0
03-Sep-02	13:30	60.00	1.34	1.34	1.34	80.54	2.8158	2.8258	124.2
07-Sep-02	9:21	54.00	1.32	1.32	1.32	71.18	2.8212	2.8395	257.1
07-Sep-02	10:19	52.80	1.33	1.33	1.33	70.27	2.8207	2.8340	189.3
07-Sep-02	11:15	54.00	1.33	1.34	1.34	72.15	2.8454	2.8617	225.9
13-Sep-02	10:31	54.00	1.33	1.32	1.33	71.58	2.7711	2.7740	40.5
13-Sep-02	11:31	56.40	1.34	1.34	1.34	75.54	2.7560	2.7590	39.7
13-Sep-02	14:12	55.80	1.40	1.40	1.40	77.98	2.7789	2.7804	19.2
19-Sep-02	13:27	61.20	1.40	1.40	1.40	85.41	2.7647	2.7699	60.9
19-Sep-02	14:29	55.80	1.40	1.40	1.40	77.90	2.7675	2.7684	11.6
19-Sep-02	15:25	62.40	1.35	1.35	1.35	84.37	2.7559	2.7564	5.9
25-Sep-02	9:42	60.00	1.36	1.36	1.36	81.74	2.7621	2.7644	28.1
25-Sep-02	10:44	55.80	1.36	1.36	1.36	75.96	2.7550	2.7563	17.1
25-Sep-02	11:46	60.00	1.36	1.36	1.36	81.62	2.7622	2.7653	38.0

The Summary of 24-hrs TSP Concentration (μg/m^3) at Mei Foo Sun Chuen (ASR1)

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
03-Aug-02	0:00	1429.80	1.33	1.33	1.33	1899.51	2.8221	2.8995	40.7
09-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
31-Aug-02	0:00	1438.20	1.39	1.39	1.39	2000.91	2.8234	3.0853	130.9
06-Sep-02	0:00	1406.40	1.39	1.39	1.39	1957.36	2.8085	3.0584	127.7
12-Sep-02	0:00	1437.00	1.31	1.33	1.32	1896.00	2.7605	2.8169	29.7
18-Sep-02	9:37	1438.80	1.40	1.40	1.40	2011.67	2.7585	2.8682	54.5
24-Sep-02	0:00	1431.60	1.32	1.33	1.33	1899.34	2.7611	2.8999	73.1

The Summary of 1-hr TSP Concentration (μg/m^3) at Stonecutters Base (ASR2)

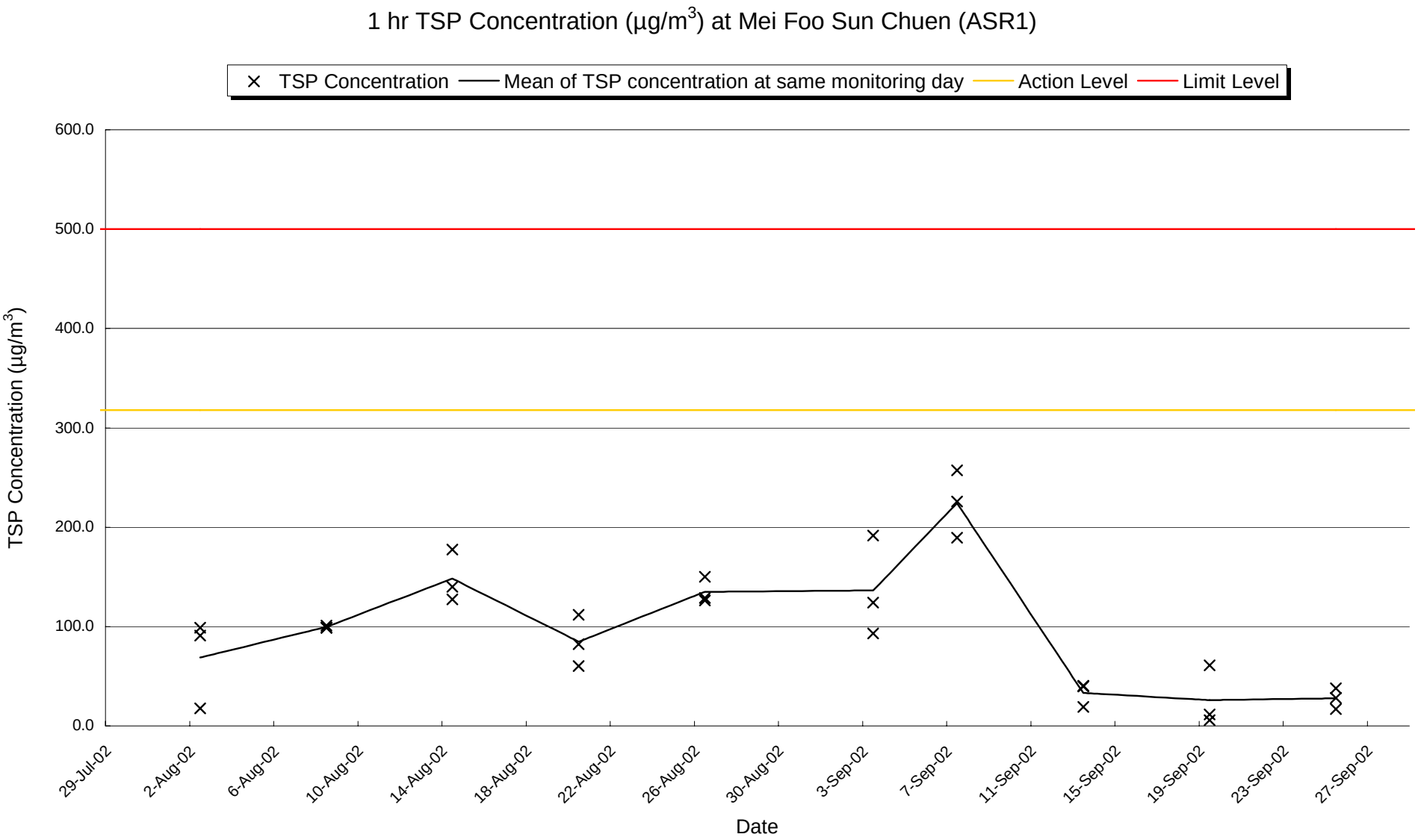
Date	Sampling Time	Elapsed Time (min)	Initial Standard Flow Rate (m^3/min)	Final Standard Flow Rate (m^3/min)	Averaged Standard Flow Rate (m^3/min)	Total Standard Volume (m^3)	Initial Filter Weight (g)	Final Filter Weight (g)	TSP Concentration μg/m^3
02-Aug-02	9:15	60.00	1.48	1.48	1.48	89.06	2.7425	2.7461	40.4
02-Aug-02	10:19	64.20	1.48	1.49	1.48	95.31	2.7318	2.7383	68.2
02-Aug-02	11:26	55.20	1.47	1.47	1.47	81.17	2.7672	2.7755	102.3
08-Aug-02	14:00	58.80	1.50	1.50	1.50	88.50	2.8258	2.8346	99.9
08-Aug-02	15:01	62.40	1.42	1.42	1.42	88.34	2.8207	2.8299	104.1
08-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
02-Sep-02	9:38	59.40	1.39	1.39	1.39	82.40	2.8136	2.8293	190.5
02-Sep-02	10:41	60.60	1.39	1.39	1.39	83.98	2.8102	2.8317	256.0
02-Sep-02	11:43	70.80	1.39	1.39	1.39	98.14	2.8258	2.8461	206.9
07-Sep-02	9:07	54.00	1.36	1.37	1.37	73.86	2.8067	2.8255	254.5
07-Sep-02	10:02	54.60	1.37	1.37	1.37	74.94	2.8378	2.8561	244.2
07-Sep-02	11:00	54.60	1.37	1.37	1.37	74.86	2.8231	2.8422	255.1
13-Sep-02	10:04	57.00	1.41	1.42	1.42	80.84	2.7711	2.7740	35.9
13-Sep-02	11:03	52.20	1.42	1.42	1.42	74.32	2.7577	2.7595	24.2
13-Sep-02	13:55	54.00	1.43	1.44	1.44	77.52	2.7544	2.7569	32.2
19-Sep-02	13:13	60.00	1.39	1.39	1.39	83.49	2.7432	2.7456	28.7
19-Sep-02	14:15	58.20	1.39	1.39	1.39	81.04	2.7580	2.7582	2.5
19-Sep-02	15:15	60.00	1.39	1.39	1.39	83.52	2.7504	2.7510	7.2
25-Sep-02	10:53	60.00	1.40	1.40	1.40	84.07	2.7547	2.7573	30.9
25-Sep-02	11:54	46.20	1.40	1.40	1.40	64.71	2.7654	2.7697	66.5
25-Sep-02	13:30	54.00	1.40	1.40	1.40	75.72	2.7611	2.7635	31.7

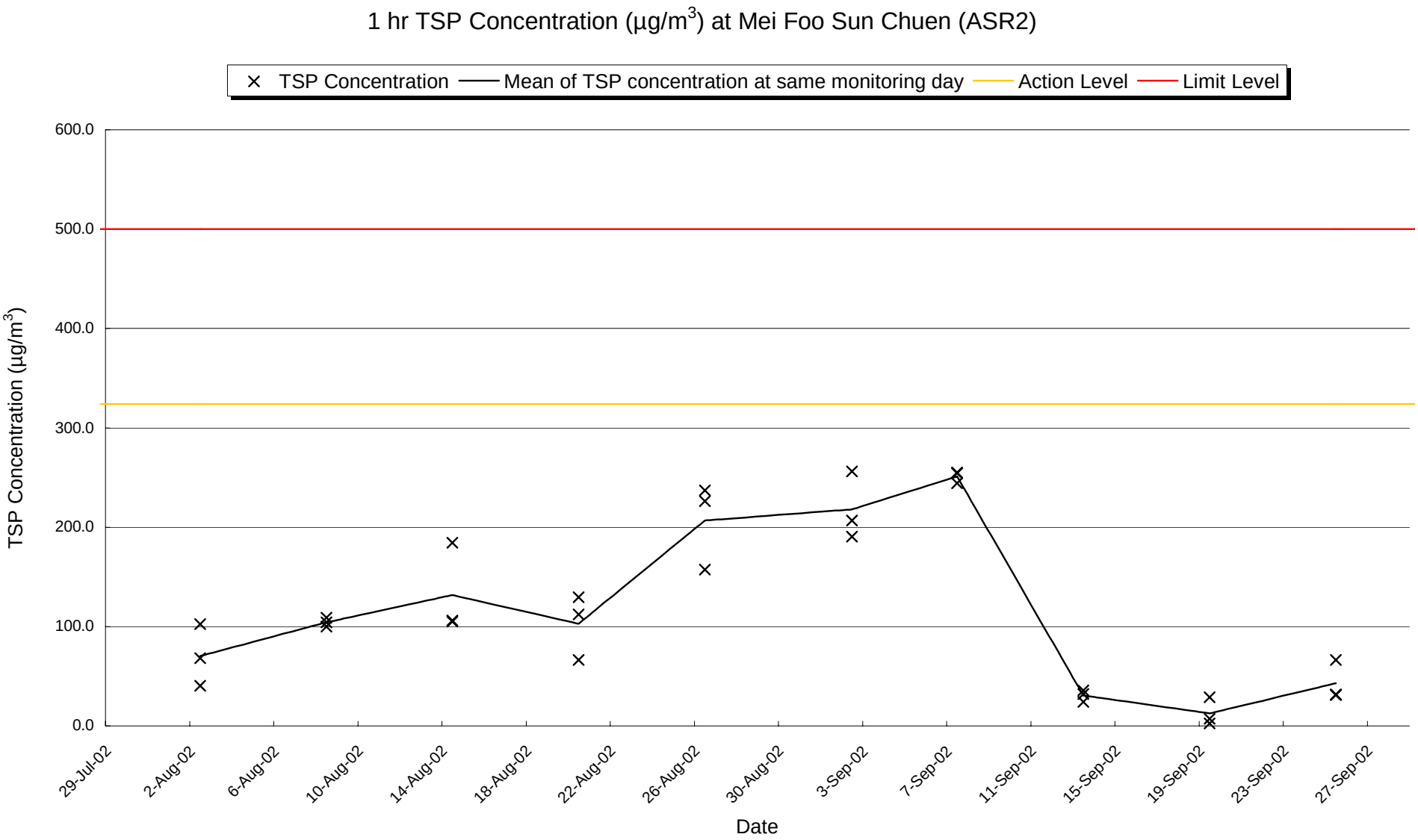
The Summary of 24-hrs TSP Concentration (μg/m^3) at Stonecutters Base (ASR2)

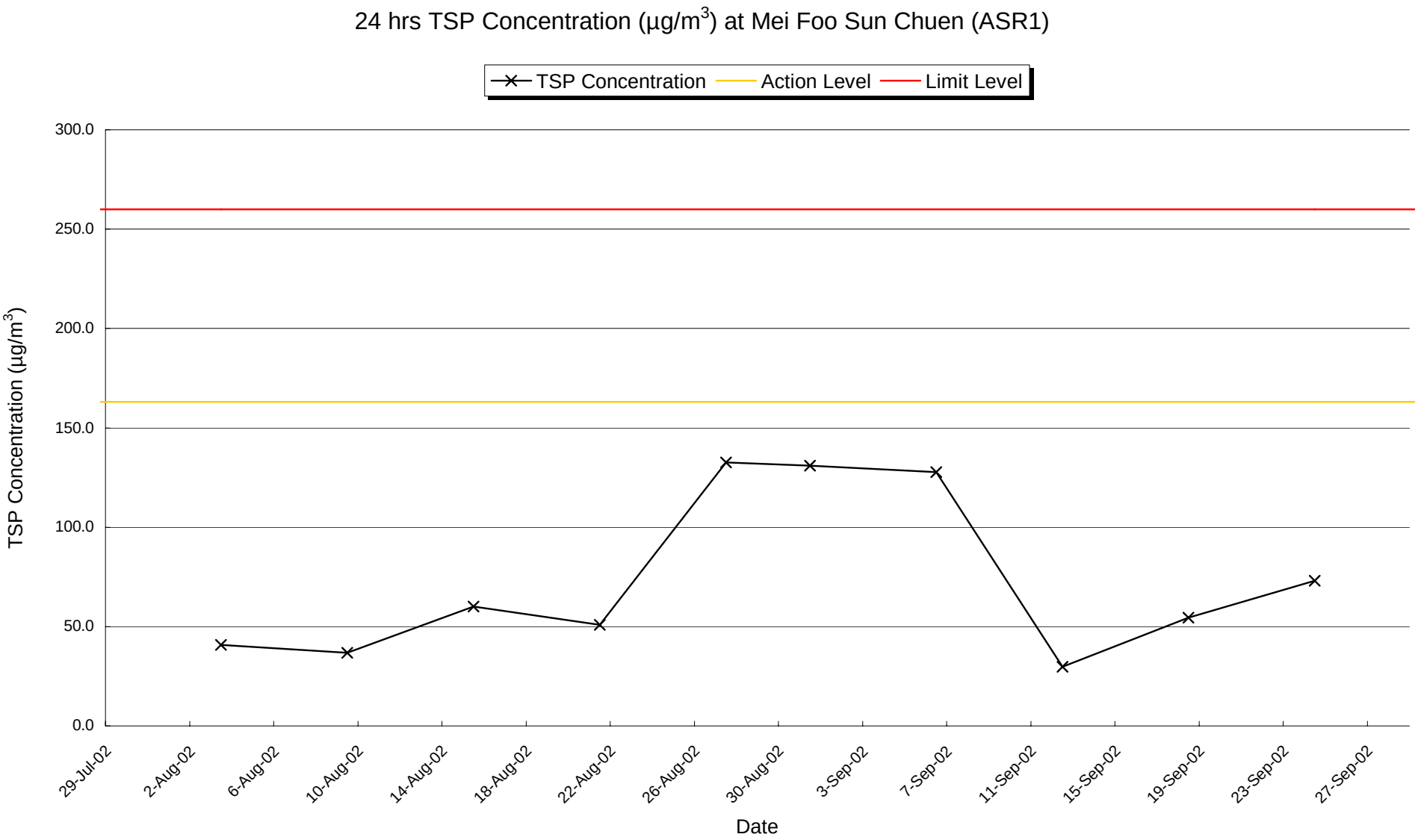
Date	Sampling Time	Elapsed Time (min)	Initial Standard Flow Rate (m^3/min)	Final Standard Flow Rate (m^3/min)	Averaged Standard Flow Rate (m^3/min)	Total Standard Volume (m^3)	Initial Filter Weight (g)	Final Filter Weight (g)	TSP Concentration μg/m^3
03-Aug-02	0:00	1447.20	1.48	1.48	1.48	2142.51	2.7368	2.8609	57.9
09-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
31-Aug-02	0:00	1464.60	1.36	1.36	1.36	1992.96	2.8124	3.1425	165.6
06-Sep-02	0:00	1428.00	1.43	1.43	1.43	2043.22	2.8214	3.1601	165.8
12-Sep-02	0:00	1396.20	1.36	1.37	1.36	1902.02	2.7690	2.8848	60.9
18-Sep-02	9:19	1393.80	1.41	1.42	1.42	1973.40	2.7673	2.8709	52.5
25-Sep-02	14:21	1456.80	1.40	1.39	1.40	2037.53	2.7500	2.8255	37.1

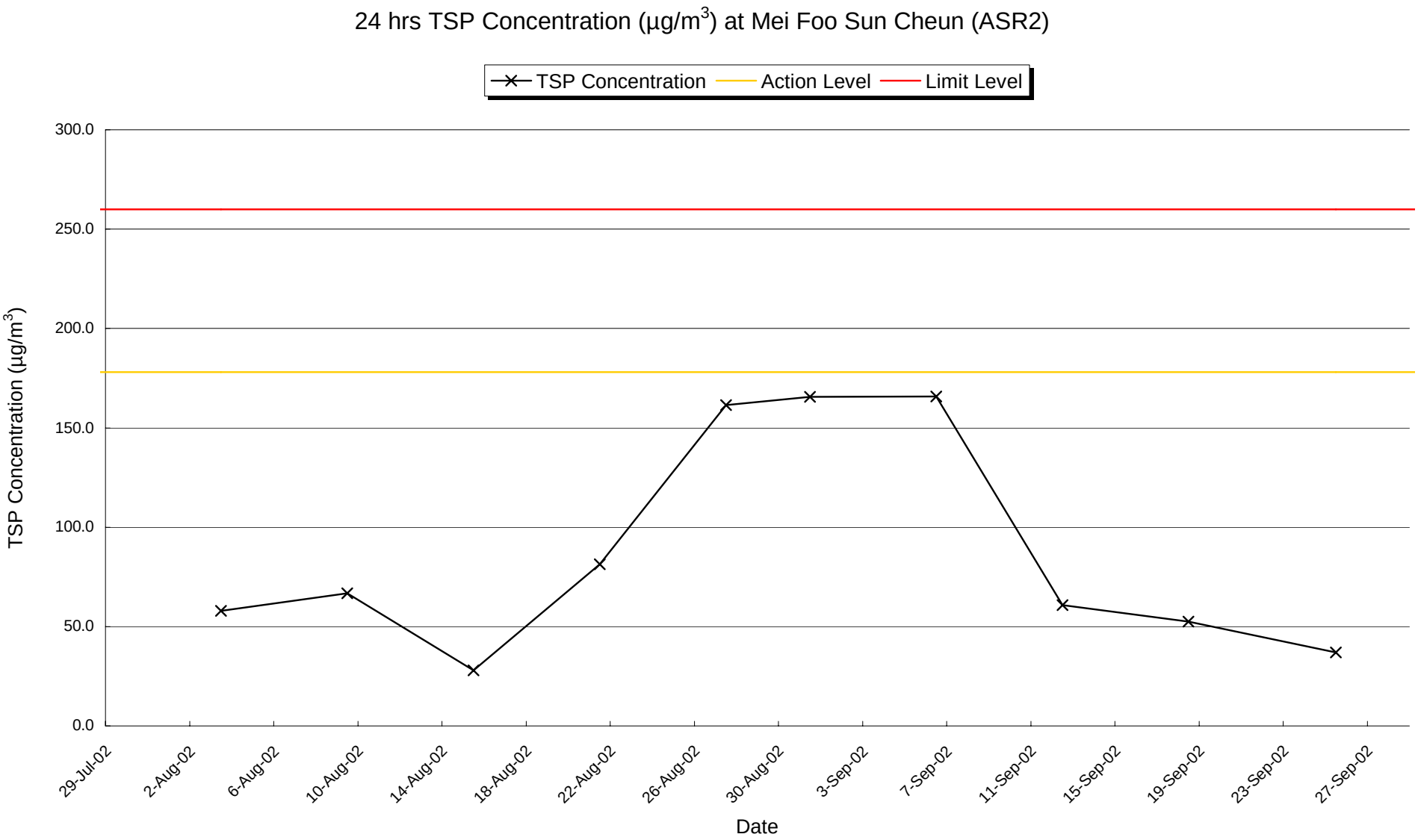
Appendix K

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


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
TSP Concentration (µg/m3)
600.0
500.0
400.0
300.0
200.0
100.0
0.0
29-Jul-02
2-Aug-02
6-Aug-02
10-Aug-02
14-Aug-02
18-Aug-02
22-Aug-02
26-Aug-02
30-Aug-02
3-Sep-02
7-Sep-02
11-Sep-02
15-Sep-02
19-Sep-02
23-Sep-02
27-Sep-02
Date


1 hr TSP Concentration (µg/m3) at Mei Foo Sun Chuen (ASR2)
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
2-Aug-02
6-Aug-02
10-Aug-02
14-Aug-02
18-Aug-02
22-Aug-02
26-Aug-02
30-Aug-02
3-Sep-02
7-Sep-02
11-Sep-02
15-Sep-02
19-Sep-02
23-Sep-02
27-Sep-02
Date


24 hrs TSP Concentration (µg/m3) at Mei Foo Sun Chuen (ASR1)
TSP Concentration
Action Level
Limit Level
TSP Concentration (µg/m3)
300.0
250.0
200.0
150.0
100.0
50.0
0.0
29-Jul-02
2-Aug-02
6-Aug-02
10-Aug-02
14-Aug-02
18-Aug-02
22-Aug-02
26-Aug-02
30-Aug-02
3-Sep-02
7-Sep-02
11-Sep-02
15-Sep-02
19-Sep-02
23-Sep-02
27-Sep-02
Date


24 hrs TSP Concentration (µg/m3) at Mei Foo Sun Cheun (ASR2)
TSP Concentration
Action Level
Limit Level
TSP Concentration (µg/m3)
300.0
250.0
200.0
150.0
100.0
50.0
0.0
29-Jul-02
2-Aug-02
6-Aug-02
10-Aug-02
14-Aug-02
18-Aug-02
22-Aug-02
26-Aug-02
30-Aug-02
3-Sep-02
7-Sep-02
11-Sep-02
15-Sep-02
19-Sep-02
23-Sep-02
27-Sep-02
Date

Appendix L

Wind Data Monitoring Results

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
31-Aug-02	0	0	0	0	0	0	0	13	105	71	17	6	6	0	0	0
2-Sep-02	0	0	0	0	0	0	0	3	61	61	33	36	1	0	0	0
3-Sep-02	0	0	0	0	0	0	0	2	38	63	55	18	0	0	0	0
6-Sep-02	0	0	1	2	0	0	0	0	0	3	4	16	11	5	1	1
7-Sep-02	2	1	9	1	0	0	0	0	0	0	0	0	39	35	9	5
12-Sep-02	0	0	0	55	75	4	0	3	11	7	2	1	0	0	0	0
13-Sep-02	1	0	0	39	108	1	0	0	0	0	0	0	0	0	0	0
18-Sep-02	1	0	8	144	67	0	0	0	0	0	0	0	0	0	1	2
19-Sep-02	0	0	12	179	59	0	0	0	0	0	0	0	0	0	0	0
24-Sep-02	0	0	3	129	24	0	0	0	0	0	0	0	0	0	0	0
25-Sep-02	0	0	0	58	52	0	0	0	0	0	0	0	0	0	0	0

Appendix L: Wind Data Monitoring Result

Wind Speed during Impact Noise Monitoring

		Wind Speed m/s	
Date	Time	Mean	Max
2-Sep-02	09:30~10:00	1.7	2.1
2-Sep-02	10:31~11:01	1.0	1.2
14-Sep-02	09:00~09:30	1.0	1.7
14-Sep-02	10:01~10:31	0.6	1.1
19-Sep-02	13:44~14:14	3.3	3.8
19-Sep-02	14:30~15:00	3.1	3.5
25-Sep-02	11:00~11:30	0.1	0.7
25-Sep-02	14:30~15:00	1.2	2.5

Appendix M

Noise Monitoring Results

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

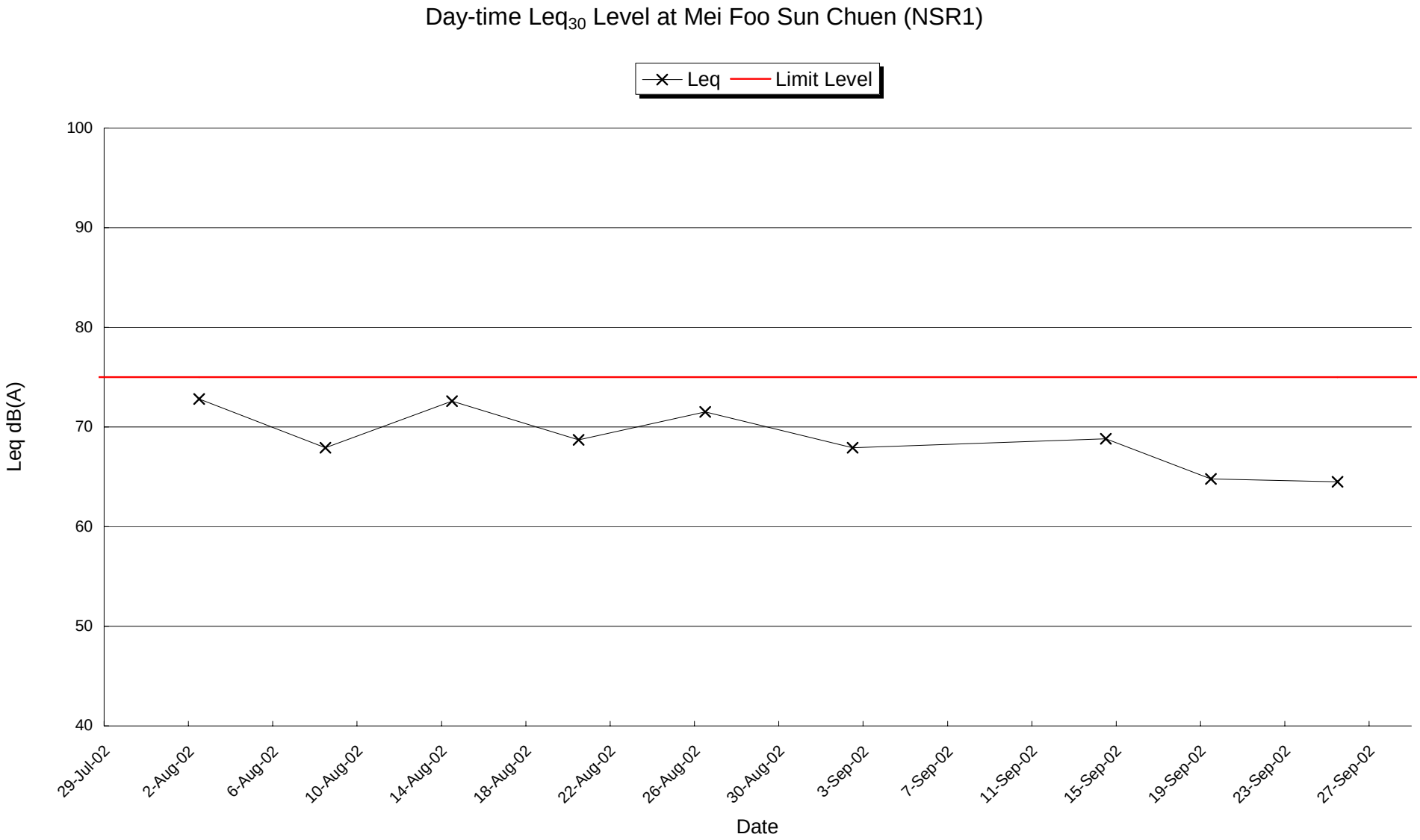
Date	Monitoring Time	Duration min	Leq dB(A)	L10 dB(A)	L90 dB(A)	Limit Level dB(A)
2-Aug-02	10:00	30	72.8	74.6	70.6	75.0
8-Aug-02	11:04	30	67.9	70.1	65.6	75.0
14-Aug-02	09:31	30	72.6	74.6	70.2	75.0
20-Aug-02	14:02	30	68.7	69.5	66.4	75.0
26-Aug-02	10:03	30	71.5	73.7	69.6	75.0
2-Sep-02	09:30	30	67.9	69.2	63.9	75.0
14-Sep-02	09:00	30	68.8	70.0	64.2	75.0
19-Sep-02	14:30	30	64.8	66.1	63.1	75.0
25-Sep-02	11:00	30	64.5	65.5	62.8	75.0

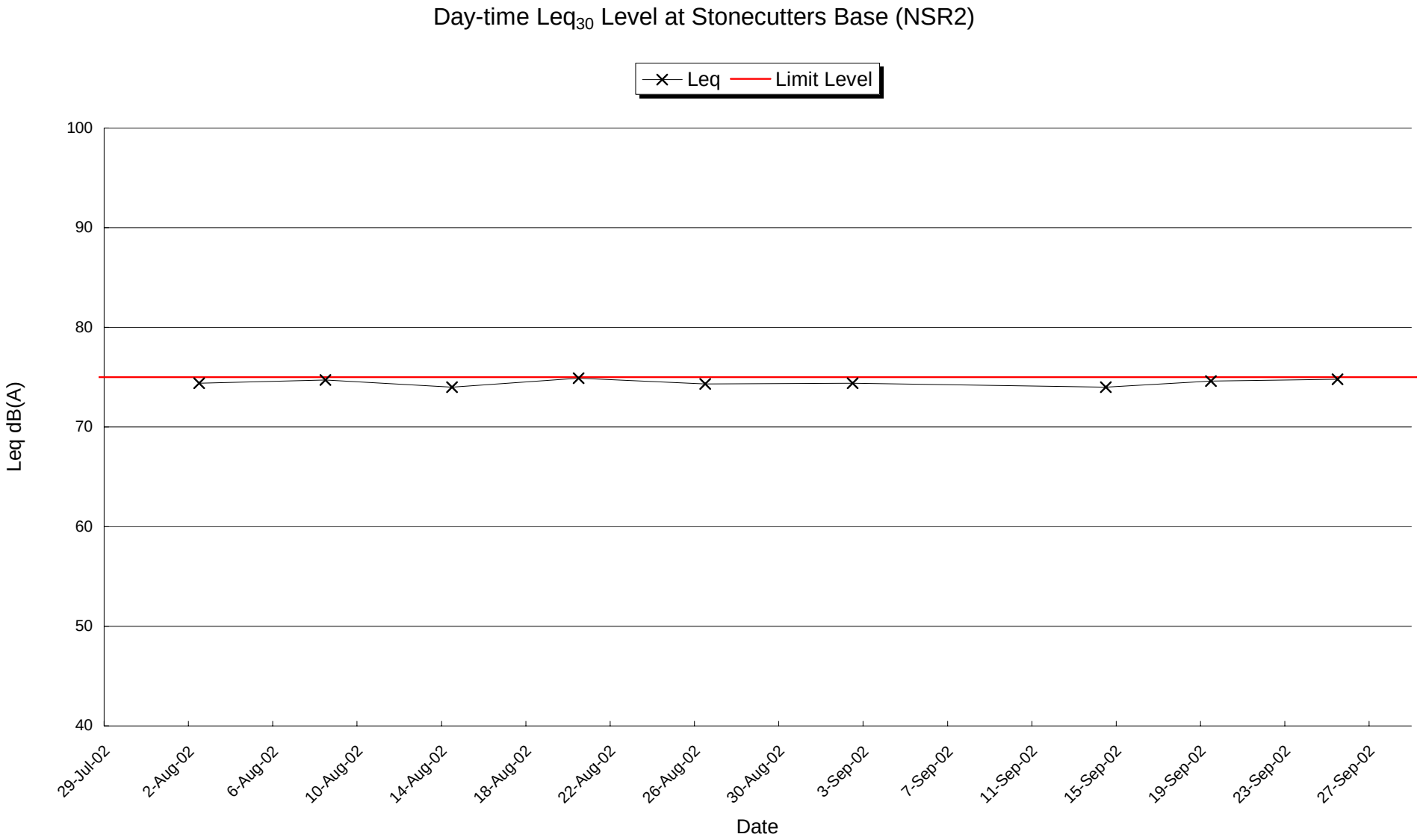
The Summary of Day-time Leq_{30} Level at Stonecutters Base (NSR 2)

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
2-Sep-02	10:31	30	74.4	78.4	68.9	75.0
14-Sep-02	10:01	30	74.0	78.9	68.4	75.0
19-Sep-02	13:44	30	74.6	77.5	67.9	75.0
25-Sep-02	14:30	30	74.8	78.5	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
Leq dB(A)
100
90
80
70
60
50
40
29-Jul-02
2-Aug-02
6-Aug-02
10-Aug-02
14-Aug-02
18-Aug-02
22-Aug-02
26-Aug-02
30-Aug-02
3-Sep-02
7-Sep-02
11-Sep-02
15-Sep-02
19-Sep-02
23-Sep-02
27-Sep-02
Date


Day-time Leq30 Level at Stonecutters Base (NSR2)
Leq
Limit Level
Leq dB(A)
100
90
80
70
60
50
40
29-Jul-02
2-Aug-02
6-Aug-02
10-Aug-02
14-Aug-02
18-Aug-02
22-Aug-02
26-Aug-02
30-Aug-02
3-Sep-02
7-Sep-02
11-Sep-02
15-Sep-02
19-Sep-02
23-Sep-02
27-Sep-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	Recommended Mitigation Measures	Follow-up Action	Status/Remarks
E2002-01	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 boundary in a.m. on 19-Aug-02. CHEC cleared up the soil and waste in p.m. on 19-Aug-02.	Closed. Follow-up phone call to complainant on 20-Aug-02. The complainant was satisfied to our prompt action.
						Investigations were undertaken by ET on 20 and 21 Aug 02. The waste was cleared up and no further illegal dumping was found at the same location.	
EC2002-02	20-Sep-02	9-Sep-02	Complaint was referred by EPD on 20-Sept-02.	Noise and vibration at the complainant's office generated from the piling works at the site between Hing Wah Street West and Lai Po Road.	Several vibration measures were implemented since 27 August 2002. The Contractor used a smaller power vibro hammer for casing installation, limit the casing installation operation to 7:00am-9:00am, 12:00-13:00pm and 17:00 -19:00pm, and carry out vibration monitoring to ensure the magnitude of vibration during casing installation is within the specified limit.	Site investigation by ET Leader on 24 and 25 September 2002.	Closed. Site meeting with EPD on 25 September 2002 and they had no further comment for the carried out mitigation measures. ET Leader send a comprehensive report to EPD on 30 September 2002.
						No noise exceedance was recorded at the two designated location since the commencement of construction work.	

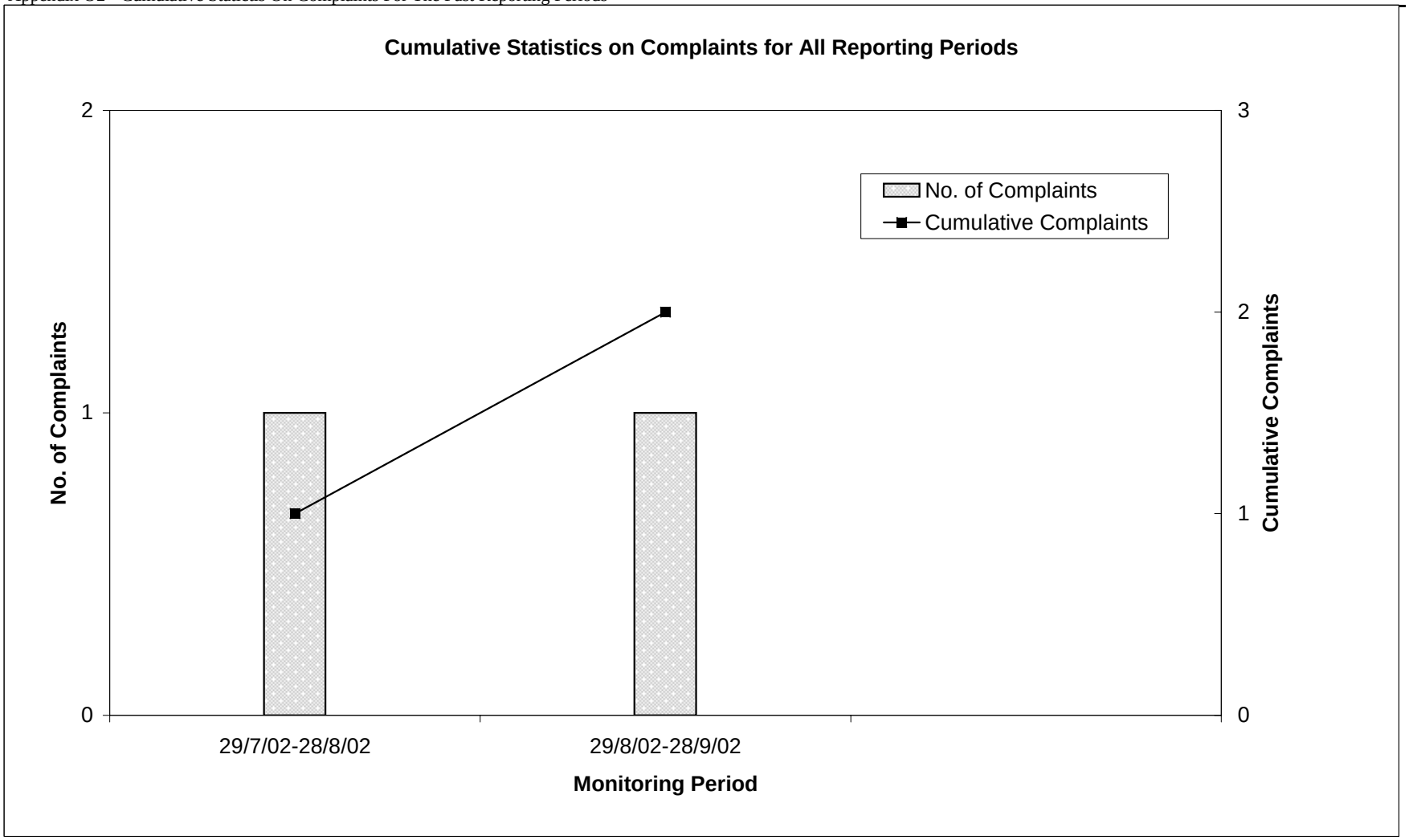
Appendix O2

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 September to 28 December 2002

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)

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

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

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)

Appendix Q

Response to IEC's Comment

Appendix Q: Response to IEC's Comment

Item No.	Document Reference	Comment	Response
1	ES – Future Key Issues	As mentioned in Section 9, dust impact should be included in the table.	Amended accordingly.