THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

TERRITORY DEVELOPMENT DEPARTMENT
HK ISLAND & ISLANDS DEVELOPMENT OFFICE

Agreement No. CE 7/99

Northern Access Road for Cyberport Development Design and Construction

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT REPORT NO. 28

August 2003

Document No. R/2146/127/1 Issue 1

Babtie Asia
with sub-consultants

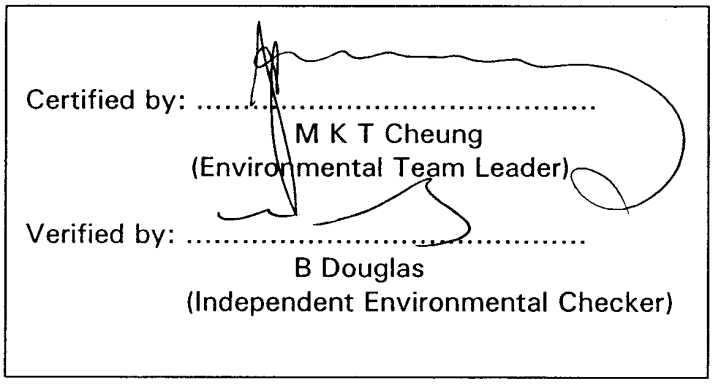
Urbis Ltd
Wilbur Smith Associates Ltd
BMT Reliability Ltd

Babtie Asia

R/2146/127/1
Issue 1
August 2003

Agreement No. CE 7/99
Northern Access Road for Cyberport Development
Design and Construction

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT REPORT NO. 28



Territory Development Department
Hong Kong Island and Islands Development Office
13/F North Point Government Offices Building
333 Java Road
North Point
HONG KONG

Babtie Asia Ltd
15/F, Cornwall House
Taikoo Place
979 King's Road
Quarry Bay
HONG KONG

Babtie Asia

R/2146/127/1
Issue 1
August 2003

Agreement No. CE 7/99
Northern Access Road for Cyberport Development
Design and Construction

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT REPORT NO. 28

Approved for Issue by:

A M Pearson

Position: Project Director

Date: 28/8/03

Territory Development Department
Hong Kong Island and Islands Development Office
13/F North Point Government Offices Building
333 Java Road
North Point
HONG KONG

Babtie Asia Ltd
15/F, Cornwall House
Taikoo Place
979 King's Road
Quarry Bay
HONG KONG

Agreement No. CE 7/99
Northern Access Road for Cyberport Development
Design and Construction

Monthly Environmental Monitoring and Audit Report No. 28
Contents

Figures

Drawings

Appendix

Agreement No. CE 7/99
Northern Access Road for Cyberport Development
Design and Construction

Monthly Environmental Monitoring and Audit Report No. 28

EXECUTIVE SUMMARY

This is the twenty-eighth Monthly Environmental Monitoring and Audit (EM&A) Report for the project of Northern Access Road for Cyberport Development. The contract entitled 'Contract No. HK10/2000, Northern Access Road for Cyberport Development at Telegraph Bay' was awarded to China Harbour Engineering Company (Group) on 31 October 2000 and the commencement date of construction was on 27 March 2001.

This report mainly presents the EM&A works for the project from 27 June 2003 to 26 July 2003.

Noise Level

24 hour continuous noise monitoring was carried out during the reporting period.

No noise level exceedance was recorded at both stations. However, the Contractor had erected a large noise barrier to shield the rock breaking activity. In addition, a semi-enclosure was erected along the demolished section of the existing bridge at Sha Wan Drive to mitigate the noise.

Air Quality

One 24-hour TSP and three 1-hour TSP were taken in every six-days for monitoring.

No measurement exceeding the action/ limit level was recorded from both stations. However, the Contractor installed the sprinkler system, increased spraying water and erected a shelter for excavation near the crest slope to depress dust from arising.

Others

No notification of summons nor successful prosecutions was received.

To mitigate the visual inspect, the Contractor placed the green tarpaulin along the coastline.

Future Key Issues

Future construction activities, such as rock breaking works, construction of Retained Earth Wall and Retaining Wall No. 2, demolition of existing bridge, Bridge No. 2 would be closely monitored to ensure the effects on air quality and noise levels are minimized.

1. ENVIRONMENTAL STATUS

1.1 Construction Programme

The contract consists of the construction of bridge foundations, bridge substructure, bridge deck, electric substation, retaining walls and cascade, demolition works, earthworks, roadwork, drainage works, watermains laying works and landscaping works.

The updated master construction programme is shown in Figure 1.1.

1.2 Project Organization and Management Structure

An environmental team (ET) has been established to carry out monitoring and audit and environmental management. In addition, an Independent Environmental Checker (IC(E)) has been employed to verify the overall environmental performance of the Project, including the implementation of environmental mitigation measures, submissions relating to environmental monitoring and auditing, and any other submissions required under the Environmental Permit.

The project organization chart of EM&A works is shown in figure 1.2 and the management structure of contractor is shown in figure 1.3.

1.3 Summary of Work Progress from 27 June 2003 to 26 July 2003

The major construction activities undertaken in the reporting month were as follows:-

1.3.1 Preliminaries

- Construction of semi-enclosure at the slope adjacent to Sha Wan Drive
- Traffic diversion at Sha Wan Drive
- Forming of haul road along the mid-hill between CH.50 & CH.300.
- A temporary footway has been formed along the crest line.
- The haul road from Sha Wan Drive to S3 has been maintained.

1.3.2 Utility & Services

- Preparation and Implementation for the temporary diversion of storm and sewer.
- Construction of slope surface channels at slope Nos. S2 & S4 substantially completed.
- Breaking of rock trench for watermains near CH.500 substantially completed.
- Construction of storm drain near Bridge 1 partially completed.

1.3.3 Construction Works

- Excavation for foundation works and construction of concrete footing for RE Wall were completed. Installation of precast panels is in progress.
- Footing, column and deck of staircase were completed.
- Substructure of Bridge No. 2 pier is in progress.
- Backfilling of R/W No. 1 in progress.
- Installation of soil nail of slope S2 was completed.
- Excavation of slope S3 and construction of temporary soil nail for temporary works for R/W was completed.
- Preparation for the construction of R/W No. 2.

- Construction of cascade No. 2 (CH.400) and cascade No. 1 (CH.350) in progress.
- Construction of Bridge No. 3 was completed.
- VO for boulder field between S7 & S8 to remove boulders and stabilize the slope was issued. Erection of temporary rock fall fence and boulder removal were completed. Bulk excavation works and soil nailing works mostly completed.
- Concrete works for Bridge No. 4 were completed. Preparation for the south abutment backfilling.

Location of Cyberport Development in Telegraph Bay & Northern Access Road is shown in Figure 1.4, and the general layout plans of Northern Access Road are shown in Drawing Nos. T/2146/1003 & T/2146/1004.

Two monitoring stations, both for noise and air quality, are located in Pine Court & Magnolia Villa as shown in Figure 1.5 and 1.6 respectively. ASR-NA1 represents the location of air quality monitoring station in Pine Court while ASR-A1 represents the location of air quality monitoring station in Magnolia Villa. NSR-3 represents the location of noise monitoring station in Pine Court while NSR-9 represents the location of noise monitoring station in Magnolia Villa.

2. IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES

Implementation Schedule of Environmental Mitigation Measures is shown in Appendix A.

3. MONITORING RESULTS

3.1 Noise

3.1.1 Monitoring Methodology

The Construction noise levels were measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq(30\ min)}$ was used as the monitoring parameter for the time period between 0700-1900 hours on normal weekdays. For all other time periods, $L_{eq(5\ min)}$ was measured for comparison with the Noise Control Ordinance (NCO) criteria.

As supplementary information for data auditing, statistical results such as L_{10} and L_{90} were also obtained for reference.

3.1.2 Monitoring Equipment

Integrating Sound Level Meter, Model No. B&K2238, complying with the requirement stated in Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO), was used for measurement. The Sound Level Meter is calibrated by the laboratory annually. A Sound Level Calibrator, Model No. B&K 4231, is used to calibrate the meter.

Copies of calibration certificates conducted by Wellab Ltd. for the sound level meters used in Pine Court and Magnolia Villa are included in Appendix B.

3.1.3 Noise Parameter

$L_{eq(30\ min)}$ was measured to determine the noise impact for the time period between 0700 – 1900 hours on normal weekdays and $L_{eq(5\ min)}$ was taken at times other than normal weekdays.

L_{10} and L_{90} were also recorded as supplementary information for reference.

The action and limit levels are shown in Appendix D.

The sound level meter at Pine Court and Magnolia Villa were broken down or taken down occasionally in this reporting period and was tabled in Appendix I.

Occationally, when the noise meter at the stations stopped functioning, a hand-held noise meter was used to spot check the noise level.

3.1.4 Monitoring Locations

Locations of Monitoring Station are shown in Figure 1.5, the same locations as set up for the Baseline Monitoring. These are as follows: -

NSR-3 Pine Court
NSR-9 Magnolia Villa

3.1.5 Noise Monitoring Results

No noise level exceedance was recorded at both stations. However, the Contractor had erected a large noise barrier to shield the rock breaking activity. In addition, a semi-enclosure was erected along the demolished section of the existing bridge at Sha Wan Drive to mitigate the noise.

Noise was mainly generated by plant / equipment operation on site, road traffic and container vessels and motor boats crossing East Lamma Channel.

The graphical representation of noise level at day time are shown in Appendix E.

Noise Monitoring results from 27 June 2003 to 26 July 2003 are summarized in Table 3.1.

Table 3.1 Results Summary of Noise Monitoring

	Location	
Time Period (Parameter)	Pine Court	Magnolia
Day time : 0700 – 1900 hrs on normal weekday ($L_{eq(30\ min)}$)	Maximum: 73.40 dB(A) Mean: 64.68 dB(A) Minimum: 50.80 dB(A)	Maximum: 74.60 dB(A) Mean: 67.48 dB(A) Minimum: 55.90 dB(A)
Evening-time : 0700-2300 hrs on holiday and 1900 – 2300 hrs on all other days ($L_{eq(5\ min)}$)	Maximum: 66.20 dB(A) Mean: 60.27 dB(A) Minimum: 47.70 dB(A)	Maximum: 70.10 dB(A) Mean: 64.15 dB(A) Minimum: 56.40 dB(A)
Night-time : 2300-0700 hrs Of next day ($L_{eq(5\ min)}$)	Maximum: 68.40 dB(A) Mean: 60.04 dB(A) Minimum: 44.40 dB(A)	Maximum: 69.40 dB(A) Mean: 63.91 dB(A) Minimum : 55.50 dB(A)

Detailed Monitoring Result are posted to the Cyberport Website regularly and a full set of data is stored on the CD-ROM attached to the report.

3.2 Air Quality

3.2.1 Monitoring Methodology

The TSP levels are measured in accordance with the standard high volume sampling method as established in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.

One set of 24-hour TSP level and three sets of 1-hour TSP are measured in every six days.

All relevant data including temperature, weather conditions, elapsed-time meter reading for the start and stop of the sample, identification and weight of the filter paper, and any other local atmospheric factors affecting or affected by site conditions etc. are recorded in detail.

3.2.2 Monitoring Equipment

A High Volume Sampler, Model No. GMW2310, for TSP sampling, complying the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B, is used for measurement, both for 24-hour and 1-hour TSP sampling. The High Volume Sampler is calibrated once every three months.

Its associated calibrator, Model No. GMW25, is used to calibrate the sampler.

A copy of calibration certificates of the high volume sampler in Pine Court & Magnolia Villa is included in Appendix C.

Samples are sent to the Government Chemist for measuring the weight of particulates and analysis, and the ER is responsible for handling the filter paper, conducting the tests and the calculation of TSP level.

3.2.3 Air Quality Parameter

Monitoring and audit of the Total Suspended Particulates (TSP) levels is carried out by the ER & ET to ensure that any deteriorating air quality can be readily detected and timely action is to be taken to rectify the situation.

Three 1-hour and one 24-hour TSP monitoring in every six-days is carried out to indicate the impacts of construction dust on air quality. The 24-hour TSP levels are conducted by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.

The action and limit levels are shown in Appendix D.

The air sampler was broken down at Magnolia Villa in this reporting period and was tabled in Appendix I.

3.2.4 Monitoring Location

Locations of monitoring stations are shown in Figure 1.6, the same set up as for the Baseline Monitoring. These are as follows:

ASR – NA1 Pine Court

ASR – A1 Magnolia Villa

3.2.5 Air Quality Monitoring Result

No measurement exceeding the action/ limit level was recorded from both stations.

Available air quality sampling results from 27 June 2003 to 26 July 2003 are summarized in Table 3.2.

The graphical representation of air quality monitoring data shown in Appendix F.

Table 3.2 Summary of Air Quality Monitoring Results

	Location			
	ASR-NA1 (μg/m^3)		ASR-A1(μg/m^3)	
24-hour monitoring	Maximum:	37.48	Maximum:	52.83
	Mean:	26.21	Mean:	30.61
	Minimum:	21.46	Minimum:	21.46
1-hour monitoring	Maximum:	117.73	Maximum:	220.13
	Mean:	68.08	Mean:	105.06
	Minimum:	31.85	Minimum:	38.66

Detailed monitoring results are posted to the Cyberport Website regularly and a full set of results are stored on the CD-ROM attached to the report.

4. RECORD OF NON-COMPLIANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION

4.1 Noncompliance and Deficiency

4.1.1 Air Quality

No measured impact was found to have exceeded the action/limit level from both stations. Sprinklers are still being operated to depress dust from arising in earthworks zone. The Environmental Team undertook the environmental weekly check on site.

4.1.2 Noise

No noise level exceedance was recorded at both stations. However, the Contractor had erected a large noise barrier to shield the rock breaking activity. In addition, a semi-enclosure was erected along the demolished section of the existing bridge at Sha Wan Drive to mitigate the noise.

The Environmental Team undertook the environmental weekly check on site, and no major deficiencies were found during the site inspection.

4.2 Complaint

No complaint was received in the reporting month.

To mitigate the visual impact, the Contractor had placed the green tarpaulin along the coastline and watered the hydroseeded area more frequently to enhance the growth of the grass.

4.3 Notification of Summons and Successful Prosecutions

No notification of summons or successful prosecution was received by the contractor in the reporting month. The relevant cumulative statistics are shown in Appendix G.

5. FUTURE KEY ISSUES AS VIEWED FROM THE WORKS PROGRAMME AND WORK METHOD STATEMENTS

The proposed construction works to be carried out in the next report period, which have a potential environmental impact and will require mitigation measures, are listed below:

1. Rock breaking Works
2. Slope Excavation Works
3. Soil Nail Works
4. Construction of Retaining Wall No. 2, Cascade 1 & 2
5. Construction of Bridge Nos. 1 & 2
6. Demolition of existing bridge in Sha Wan Drive

6. ADVICE ON THE SOLID AND LIQUID WASTE MANAGEMENT STATUS

The waste management plan was approved by EPD.

The 'trip-and-ticket' system has been implemented for the disposal of the construction and demolition waste.

Figures

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
1	Commencement date	0 days	Tue 31/10/00	Tue 31/10/00	Tue 31/10/00	Wed 31/10/01	100%
2	Possession of site except portion A	0 days	Tue 31/10/00	Tue 31/10/00	Tue 31/10/00	Tue 31/10/00	100%
3	Possession of site portion A	0 days	Tue 30/10/01	Tue 30/10/01	Mon 30/10/00	Mon 30/10/00	100%
4	Plant mobilization	30 days	Tue 31/10/00	Wed 29/11/00	Tue 31/10/00	Wed 29/11/00	100%
5	Erection of ER office	56 days	Tue 31/10/00	Mon 25/12/00	Tue 31/10/00	Mon 25/12/00	100%
6	Erection of Contractor office	60 days	Tue 31/10/00	Fri 29/12/00	Tue 31/10/00	Fri 29/12/00	100%
7	Submit draft safety plan	7 days	Tue 31/10/00	Mon 6/11/00	Tue 31/10/00	Mon 6/11/00	100%
8	**Section 1 & 2 of the works**	**991 days**	**Tue 31/10/00**	**Fri 18/7/03**	**Tue 31/10/00**	**NA**	**78%**
9	Commencement of section 1 of the works	0 days	Tue 31/10/00	Tue 31/10/00	Tue 31/10/00	Tue 31/10/00	100%
10	Site clearance	120 days	Mon 6/11/00	Mon 5/3/01	Mon 6/11/00	Mon 5/3/01	100%
11	**Noise control measures**	**132 days**	**Tue 31/10/00**	**Sun 11/3/01**	**Tue 31/10/00**	**Fri 6/4/01**	**100%**
12	Submission	30 days	Tue 31/10/00	Wed 29/11/00	Tue 31/10/00	Wed 29/11/00	100%
13	Placing order & delivery of monitoring equipment	30 days	Thu 30/11/00	Fri 29/12/00	Thu 30/11/00	Fri 29/12/00	100%
14	Erection of monitoring equipment	25 days	Sat 30/12/00	Tue 23/1/01	Sat 30/12/00	Fri 9/2/01	100%

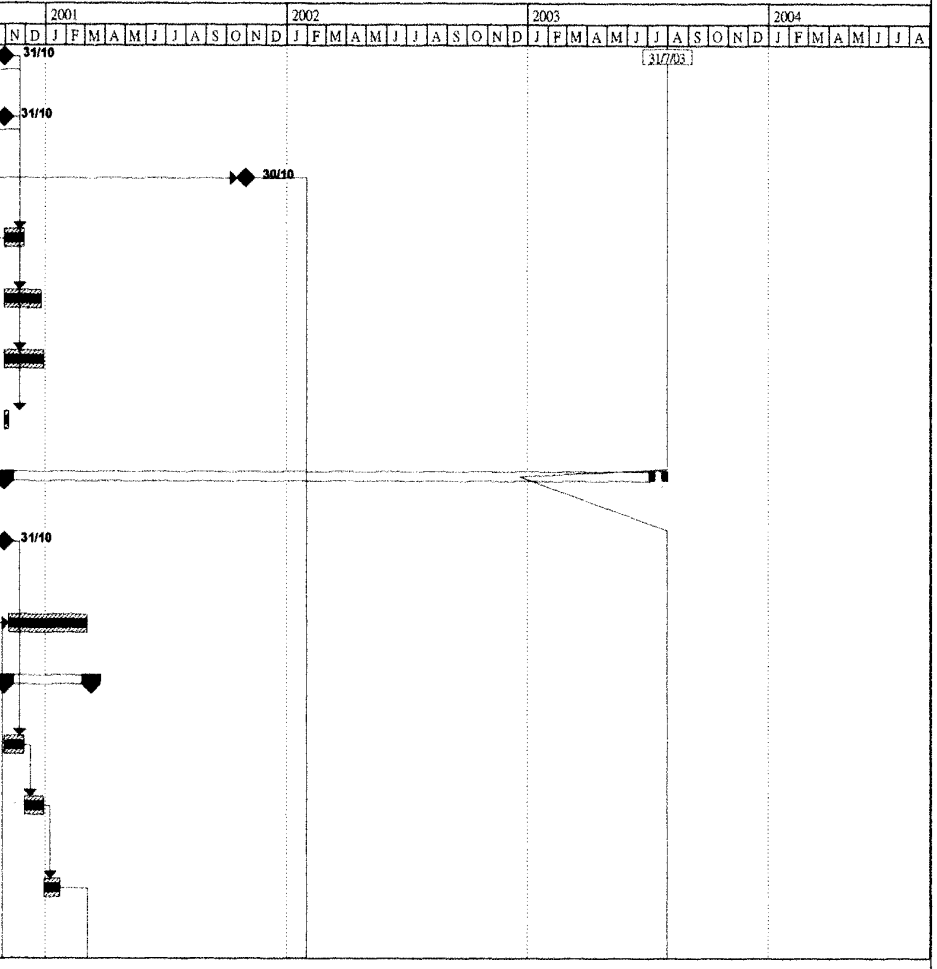


Figure 1.1

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
15	Erection of noise barrier at Sha Wan Drive	30 days	Sat 10/2/01	Sun 11/3/01	Sat 10/2/01	Fri 6/4/01	100%
16	Site investigate	45 days	Thu 21/12/00	Sat 3/2/01	Thu 21/12/00	Thu 19/4/01	100%
17	Installation of inclinometre and piezometre	30 days	Sun 4/2/01	Mon 5/3/01	Sun 4/2/01	Thu 3/5/01	100%
18	Installation of rock fall fence	45 days	Wed 4/6/03	Fri 18/7/03	NA	NA	100%
19	**Formation of temp. haul access**	**268 days**	**Mon 20/11/00**	**Tue 14/8/01**	**Mon 20/11/00**	**Wed 22/8/01**	**100%**
20	CH500-395	25 days	Mon 20/11/00	Thu 14/12/00	Mon 20/11/00	Thu 14/12/00	100%
21	CH395-350	30 days	Fri 15/12/00	Sat 13/1/01	Fri 15/12/00	Sat 13/1/01	100%
22	CH350-275	30 days	Sun 14/1/01	Mon 12/2/01	Sun 14/1/01	Mon 12/2/01	100%
23	CH275-116	45 days	Tue 13/2/01	Thu 29/3/01	Tue 13/2/01	Sat 6/4/02	100%
24	CH116-70	138 days	Fri 30/3/01	Tue 14/8/01	Fri 30/3/01	Wed 22/8/01	100%
25	**Traffic Diversion**	**95 days**	**Tue 7/11/00**	**Fri 9/2/01**	**Tue 7/11/00**	**Sat 17/2/01**	**100%**
26	Scheme submission	45 days	Tue 7/11/00	Thu 21/12/00	Tue 7/11/00	Thu 21/12/00	100%
27	TMLG's approval	30 days	Fri 22/12/00	Sat 20/1/01	Fri 22/12/00	Sat 20/1/01	100%
28	Set up of traffic diversion - 2 ways traffic in one lane at Sha Wan Drive	20 days	Sun 21/1/01	Fri 9/2/01	Sun 21/1/01	Sat 17/2/01	100%

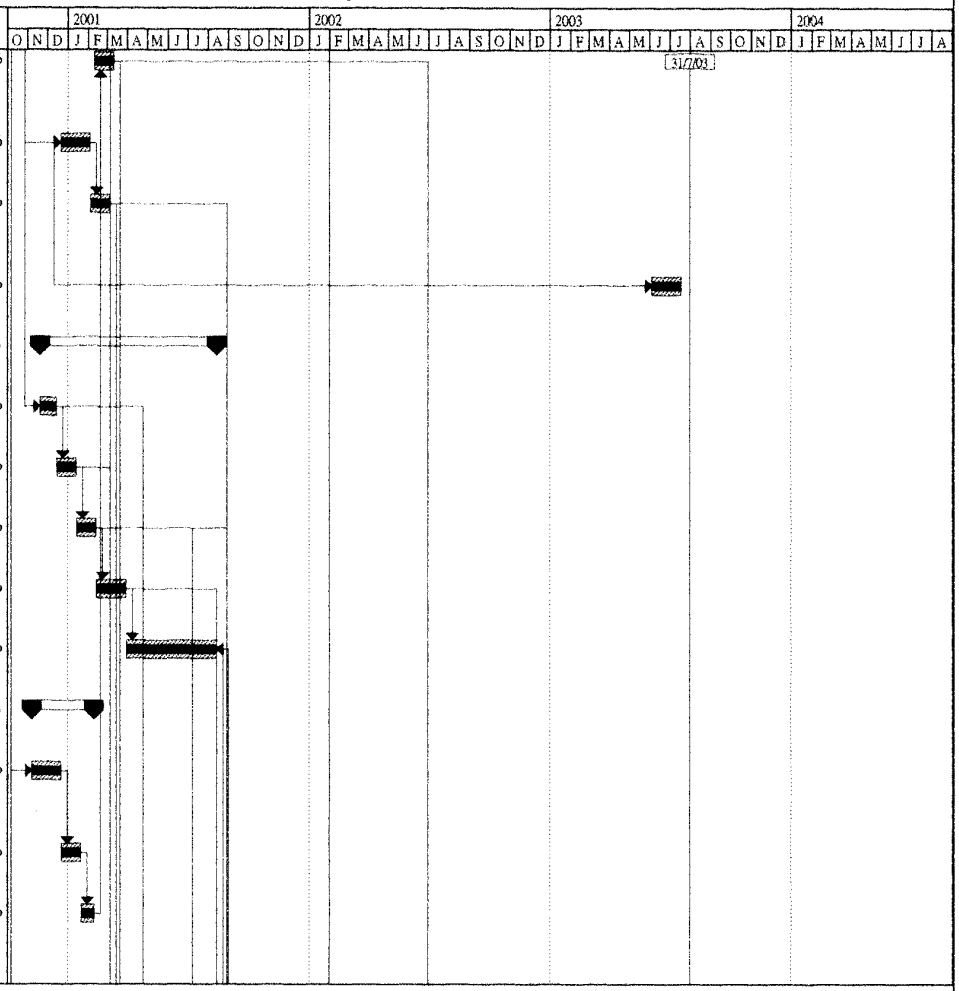
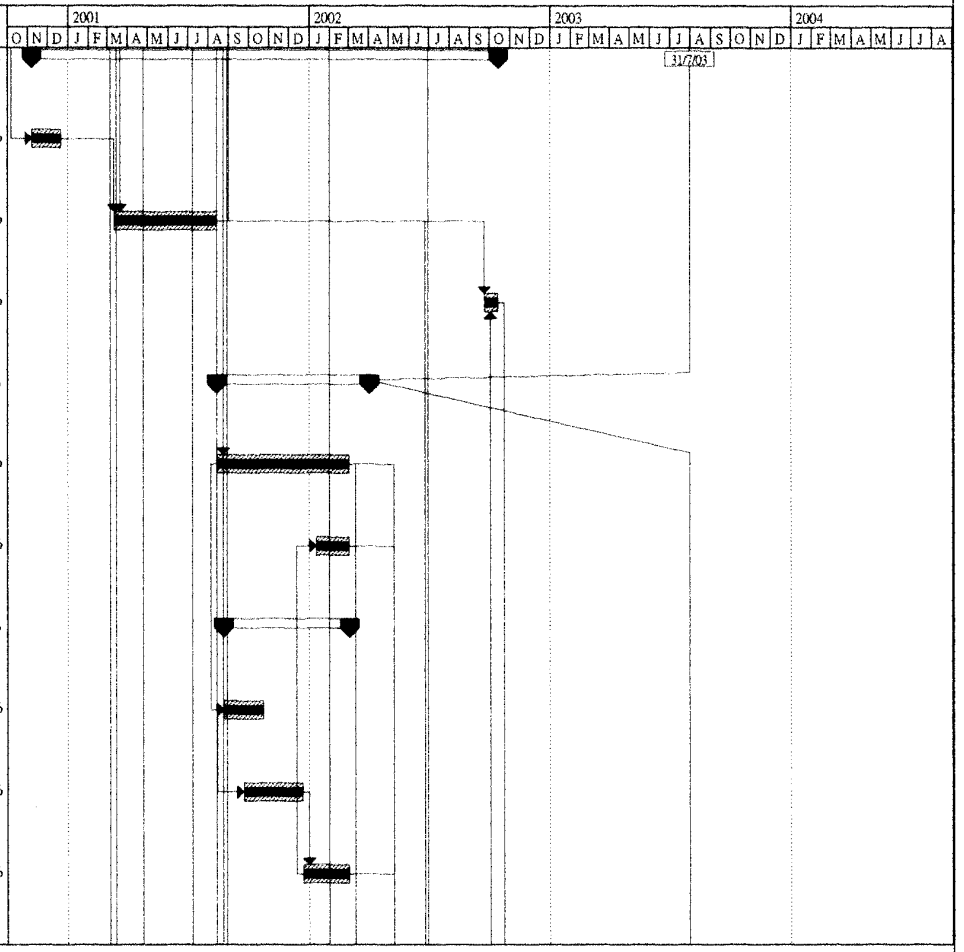


Figure 1.1

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID		Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
29	✓	**Watermains & existing utilities diversion**	**707 days**	**Tue 7/11/00**	**Mon 14/10/02**	**Tue 7/11/00**	**Wed 15/8/01**	**100%**
30	✓	Submission & liaison	45 days	Tue 7/11/00	Thu 21/12/00	Tue 7/11/00	Thu 21/12/00	100%
31	✓	Diversion works (Stage 1)	156 days	Mon 12/3/01	Tue 14/8/01	Mon 12/3/01	Wed 15/8/01	100%
32	✓	Diversion work (Stage 2)	21 days	Tue 24/9/02	Mon 14/10/02	NA	NA	100%
33		**Rock Slope works at ch.0 - 120**	**231 days**	**Wed 15/8/01**	**Tue 2/4/02**	**Wed 9/5/01**	**NA**	**99%**
34	✓	Excavation of slope S1	200 days	Wed 15/8/01	Sat 2/3/02	Wed 9/5/01	NA	100%
35	✓	Slope Work Above & Below RW1	50 days	Sat 12/1/02	Sat 2/3/02	Sat 9/3/02	NA	100%
36	✓	**Retaining wall No.1**	**190 days**	**Sat 25/8/01**	**Sat 2/3/02**	**Mon 2/7/01**	**NA**	**100%**
37	✓	Excavation & Temporary Work	60 days	Sat 25/8/01	Tue 23/10/01	Mon 2/7/01	NA	100%
38	✓	R C Structure	90 days	Mon 24/9/01	Sat 22/12/01	Mon 28/1/02	NA	100%
39	✓	Backfilling	70 days	Sun 23/12/01	Sat 2/3/02	Tue 30/7/02	NA	100%



Project: HK10/2000
Date: Tu
Alternative (Actual) 31 July 2003

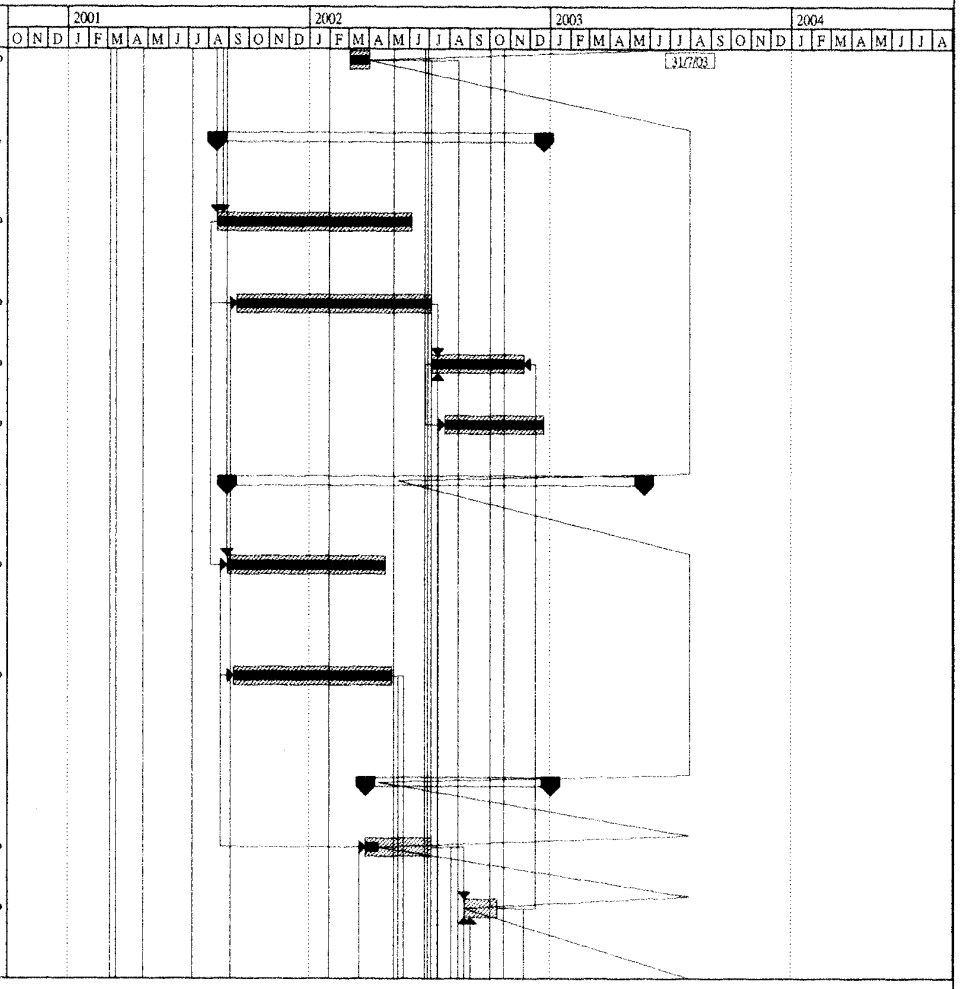
Task | Split | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Split | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Critical Tasks | External Milestone | External Milestone | Deadline

Figure 1.1

Page 3

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
40	Drainage - slope S1	31 days	Sun 3/3/02	Tue 2/4/02	Wed 4/9/02	NA	95%
41	**Earth slope works S2 at CH70-120 & CH120-220**	**495 days**	**Wed 15/8/01**	**Sun 22/12/02**	**Wed 9/5/01**	**NA**	**100%**
42	Excavation @ earth slope S2 CH70-210	295 days	Wed 15/8/01	Wed 5/6/02	Wed 9/5/01	NA	100%
43	Soil nail works CH70-210	295 days	Fri 14/9/01	Fri 5/7/02	Mon 23/7/01	NA	100%
44	Backfilling @ earth slope S2 CH210-220	140 days	Sat 6/7/02	Fri 22/11/02	NA	NA	100%
45	Soil nail work CH210-220	150 days	Fri 26/7/02	Sun 22/12/02	Mon 26/11/01	NA	100%
46	**Retaining wall No. 2 & Slope S3 CH220-300**	**632 days**	**Thu 30/8/01**	**Fri 23/5/03**	**Mon 19/11/01**	**NA**	**49%**
47	Excavation	240 days	Thu 30/8/01	Fri 26/4/02	Mon 19/11/01	NA	100%
48	temporary soil nail(From 60mPD to 19 mPD. Approx. 20 deg. Inclination into rock	240 days	Sun 9/9/01	Mon 6/5/02	Mon 26/11/01	NA	100%
49	**Construction of RW2-Bay 1**	**280 days**	**Thu 28/3/02**	**Wed 1/1/03**	**NA**	**NA**	**11%**
50	RC structure	100 days	Thu 28/3/02	Fri 5/7/02	NA	NA	20%
51	Rockfill	50 days	Sun 25/8/02	Sun 13/10/02	NA	NA	0%



Project: HK10/2000
Date: Tue 5/8/03
Alternative (Actual) 31 July 2003

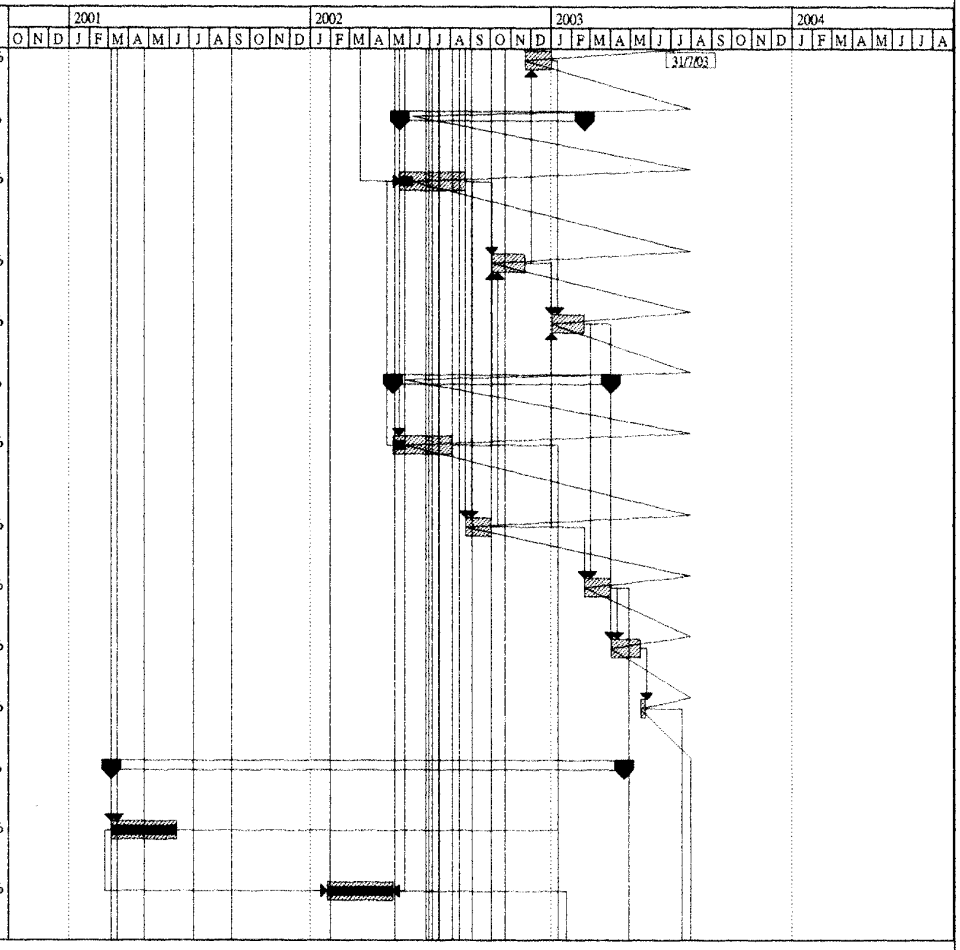
Task · Split · Progress · Milestone · Summary · Rolled Up Task · Rolled Up Split · Rolled Up Milestone · Rolled Up Progress · External Tasks · Project Summary · Critical Tasks · External Milestone · External Milestone · Deadline

Page 4

Figure 1.1

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
52	Soil Cement Fill	40 days	Sat 23/11/02	Wed 1/1/03	NA	NA	0%
53	**Construction of RW2-Bay 2**	**280 days**	**Fri 17/5/02**	**Thu 20/2/03**	**NA**	**NA**	**10%**
54	RC structure	100 days	Fri 17/5/02	Sat 24/8/02	NA	NA	20%
55	Rockfill	50 days	Fri 4/10/02	Fri 22/11/02	NA	NA	0%
56	Soil Cement Fill	50 days	Thu 2/1/03	Thu 20/2/03	NA	NA	0%
57	**Construction of RW2-Bay 3**	**330 days**	**Tue 7/5/02**	**Tue 1/4/03**	**NA**	**NA**	**11%**
58	RC structure	90 days	Tue 7/5/02	Sun 4/8/02	NA	NA	20%
59	Rockfill	40 days	Sun 25/8/02	Thu 3/10/02	NA	NA	0%
60	Soil Cement Fill	40 days	Fri 21/2/03	Tue 1/4/03	NA	NA	0%
61	Drainage	45 days	Wed 2/4/03	Fri 16/5/03	NA	NA	0%
62	Hydroseeding	7 days	Sat 17/5/03	Fri 23/5/03	NA	NA	0%
63	**Earth slope S4 at CH.300 - 339**	**777 days**	**Tue 6/3/01**	**Mon 21/4/03**	**Mon 16/7/01**	**NA**	**100%**
64	Excavation of slope S4 CH310-339	100 days	Tue 6/3/01	Wed 13/6/01	Mon 16/7/01	NA	100%
65	Soil nail works CH310-339	100 days	Sun 27/1/02	Mon 6/5/02	Wed 1/8/01	NA	100%



Project: HK10/2000
Date: Tu
Alternative (Actual) 31 July 2003

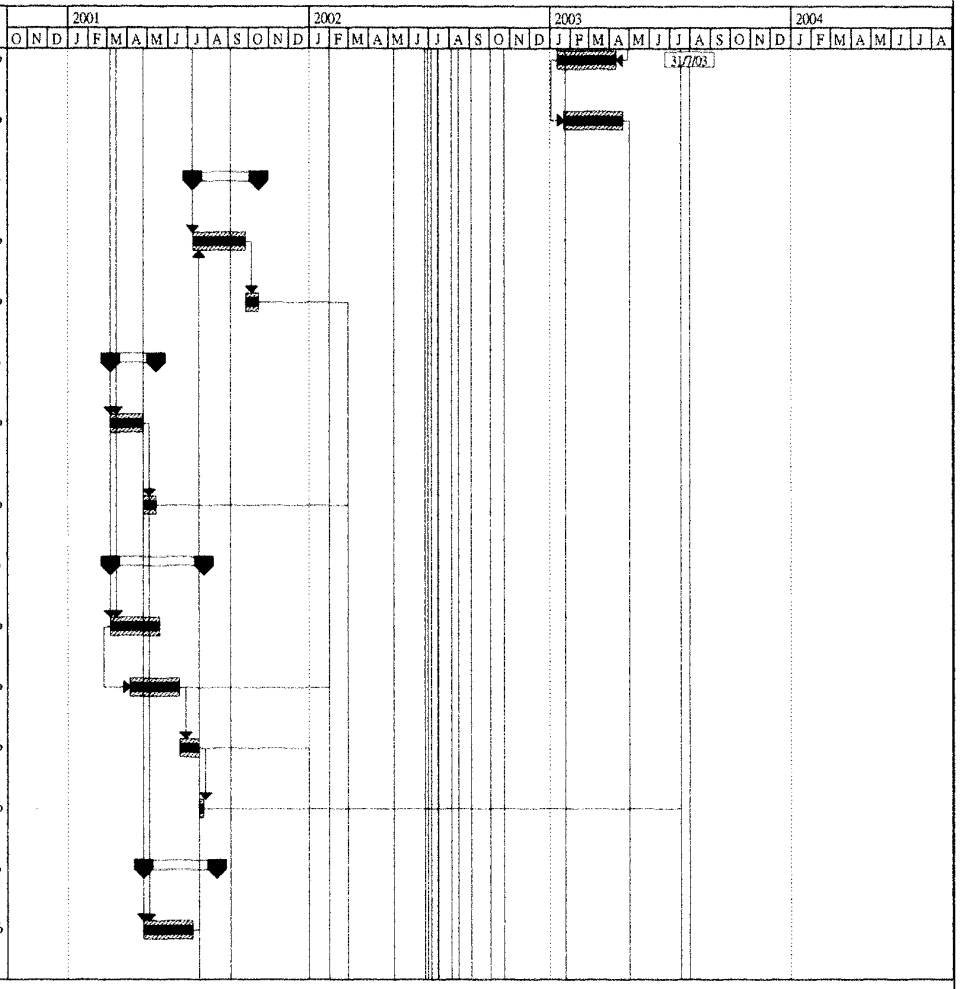
Task | Split | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Split | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Critical Tasks | External Milestone | External Milestone | Deadline

Figure 1.1

Page 5

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
66	Back filling of slope CH300-310	90 days	Sun 12/1/03	Fri 11/4/03	NA	NA	100%
67	Soil nail work CH300-310	90 days	Wed 22/1/03	Mon 21/4/03	Tue 26/2/02	NA	100%
68	**Rock slope S5 at CH.300-339**	**100 days**	**Mon 9/7/01**	**Tue 16/10/01**	**Sat 1/12/01**	**NA**	**100%**
69	Excavation of rock slope	80 days	Mon 9/7/01	Wed 26/9/01	Sat 1/12/01	NA	100%
70	Drainage	20 days	Thu 27/9/01	Tue 16/10/01	Sat 1/12/01	NA	100%
71	**Rock slope S6 at CH.351-395**	**70 days**	**Tue 6/3/01**	**Mon 14/5/01**	**Tue 13/3/01**	**NA**	**100%**
72	Excavation of rock slope	50 days	Tue 6/3/01	Tue 24/4/01	Tue 13/3/01	NA	100%
73	Drainage	20 days	Wed 25/4/01	Mon 14/5/01	Wed 28/3/01	NA	100%
74	**Earth slope S7 at CH.400-445**	**142 days**	**Tue 6/3/01**	**Wed 25/7/01**	**Sat 7/4/01**	**NA**	**100%**
75	Excavation of slope S7	75 days	Tue 6/3/01	Sat 19/5/01	Sat 7/4/01	NA	100%
76	Soil nail works	75 days	Thu 5/4/01	Mon 18/6/01	Tue 17/7/01	Fri 30/11/01	100%
77	Drainage	30 days	Tue 19/6/01	Wed 18/7/01	Tue 19/6/01	NA	100%
78	Hydroseeding	7 days	Thu 19/7/01	Wed 25/7/01	Thu 19/7/01	NA	100%
79	**Rock slope S8 at CH.470 - 500**	**112 days**	**Wed 25/4/01**	**Tue 14/8/01**	**Sat 24/3/01**	**NA**	**100%**
80	Excavation	75 days	Wed 25/4/01	Sun 8/7/01	Sat 24/3/01	NA	100%



Project: HK10/2000
Date: Tue 5/8/03
Alternative (Actual) 31 July 2003

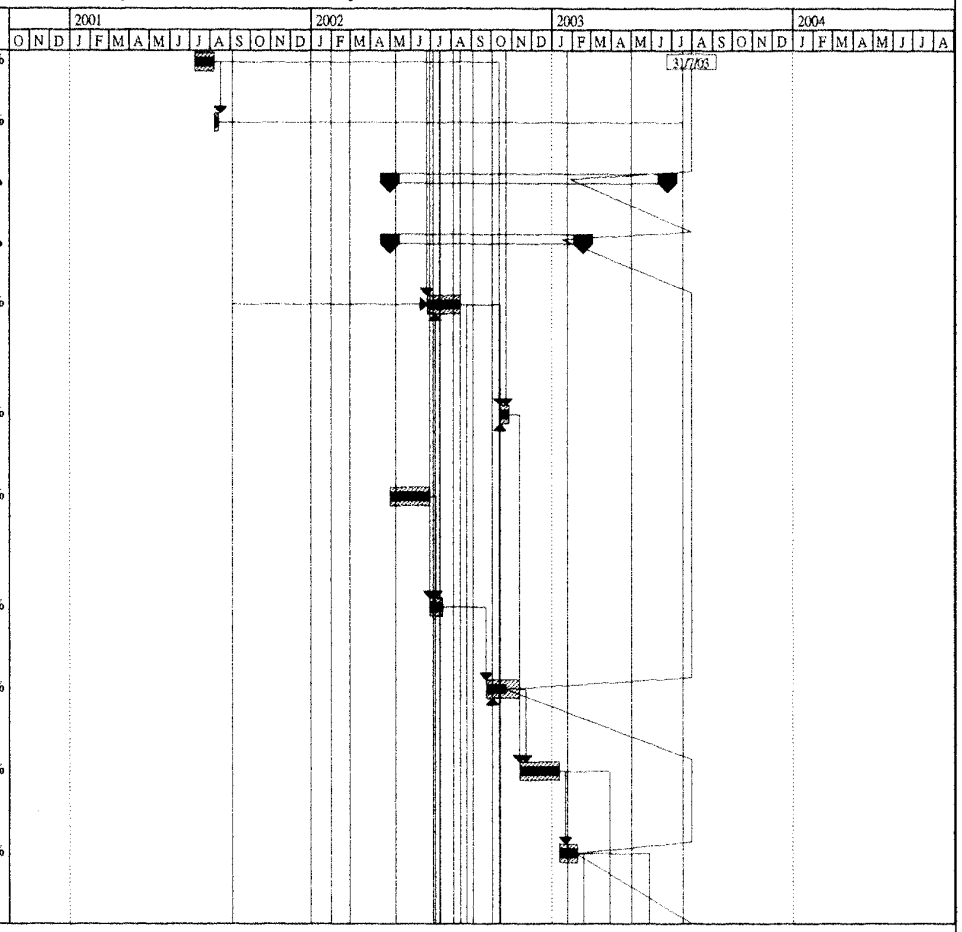
Task | Milestone | Rolled Up Split | External Tasks | External Milestone
Split | Summary | Rolled Up Milestone | Project Summary | External Milestone
Progress | Rolled Up Task | Rolled Up Progress | Critical Tasks | Deadline

Figure 1.1

Page 6

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
81	Drainage	30 days	Mon 9/7/01	Tue 7/8/01	Wed 25/4/01	NA	100%
82	Hydroseeding	7 days	Wed 8/8/01	Tue 14/8/01	Wed 8/8/01	NA	100%
83	**Bridge No.1**	**421 days**	**Wed 1/5/02**	**Wed 25/6/03**	**Tue 21/5/02**	**NA**	**68%**
84	**Construction of western Portion of Bridge No. 1**	**293 days**	**Wed 1/5/02**	**Mon 17/2/03**	**Tue 21/5/02**	**NA**	**91%**
85	Construct RE Wall-between Bridge 1 and Bridge 2 (CH0-116)	50 days	Wed 26/6/02	Thu 15/8/02	Tue 21/5/02	NA	100%
86	Demolition of existing staircase	14 days	Tue 15/10/02	Mon 28/10/02	NA	NA	100%
87	Construct RE Wall for Bridge 1 up to 2m below soffit level between B1 & Staircase	60 days	Wed 1/5/02	Sat 29/6/02	Tue 19/3/02	NA	100%
88	Temporary support to existing bridge	20 days	Sun 30/6/02	Fri 19/7/02	Thu 19/9/02	NA	100%
89	Demolition of Western portion bridge	50 days	Tue 24/9/02	Tue 12/11/02	NA	NA	60%
90	Construct the remaining RE wall for Bridge No. 1	60 days	Wed 13/11/02	Sat 11/1/03	NA	NA	100%
91	Road work for western portion	28 days	Sun 12/1/03	Sat 8/2/03	NA	NA	90%



Project: HK10/2000
Date: Tu
Alternative (Actual) 31 July 2003

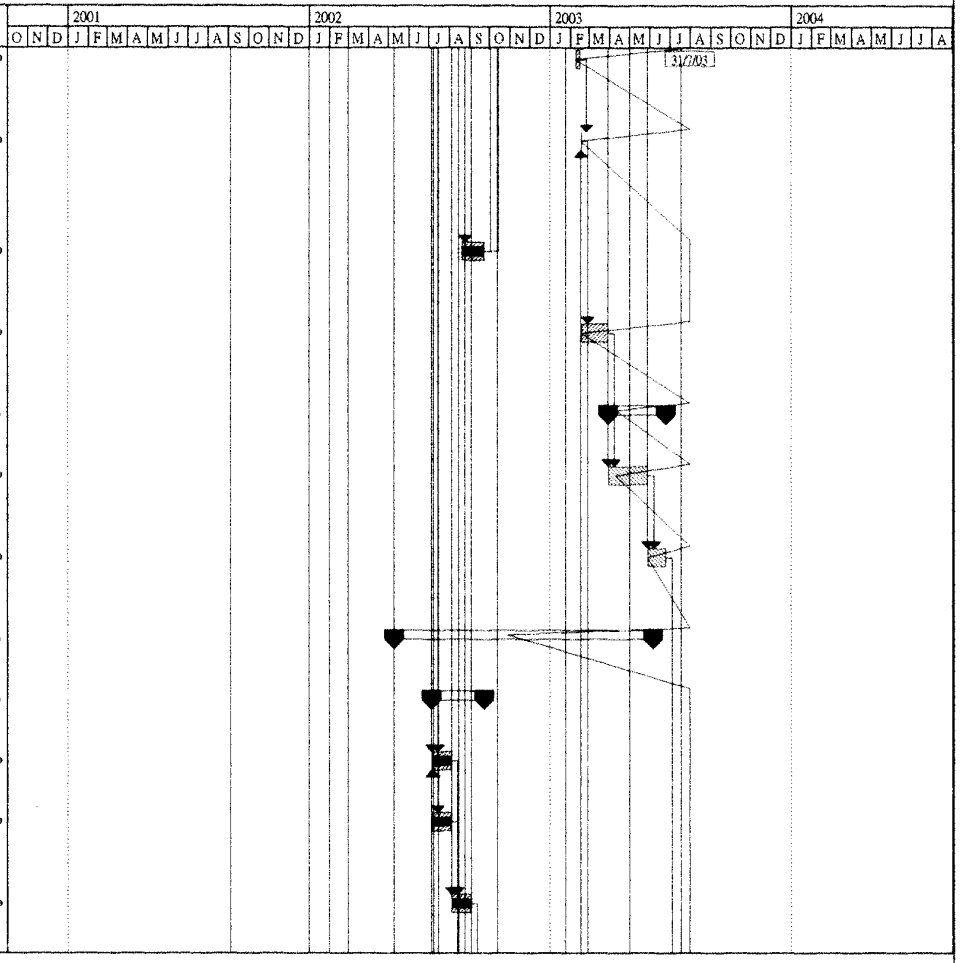
Task — Milestone — Rolled Up Split — External Tasks — External Milestone
Split — Summary — Rolled Up Milestone — Project Summary — External Milestone
Progress — Rolled Up Task — Rolled Up Progress — Critical Tasks — Deadline

Page 7

Figure 1.1

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
92	Blacktop & road marking W portion of bridge	7 days	Sun 9/2/03	Sat 15/2/03	NA	NA	0%
93	Divert traffic onto the new portion of structure	1 day	Mon 17/2/03	Mon 17/2/03	NA	NA	0%
94	Construction of Staircase	35 days	Tue 20/8/02	Mon 23/9/02	Mon 24/6/02	NA	100%
95	Demolition of remainder of existing bridge	40 days	Tue 18/2/03	Sat 29/3/03	NA	NA	0%
96	**Construction of eastern portion of bridge**	**88 days**	**Sun 30/3/03**	**Wed 25/6/03**	**NA**	**NA**	**14%**
97	Road work for eastern portion	60 days	Sun 30/3/03	Wed 28/5/03	NA	NA	20%
98	Street furniture & lighting w portion of bridge	28 days	Thu 29/5/03	Wed 25/6/03	NA	NA	0%
99	**Bridge No. 2**	**392.1 days**	**Thu 9/5/02**	**Thu 5/6/03**	**Wed 20/3/02**	**NA**	**55%**
100	**Piling works**	**80 days**	**Sat 6/7/02**	**Mon 23/9/02**	**Tue 30/4/02**	**NA**	**100%**
101	P2/1(10 nos.)	30 days	Sat 6/7/02	Sun 4/8/02	Mon 12/8/02	NA	100%
102	Excavation to pile cut off level (P2/2)	30 days	Sat 6/7/02	Sun 4/8/02	NA	NA	100%
103	P2/2 (10 nos.)	30 days	Mon 5/8/02	Tue 3/9/02	Thu 8/11/01	NA	100%



Project: HK10/2000
Date: Tue 5/8/03
Alternative (Actual) 31 July 2003

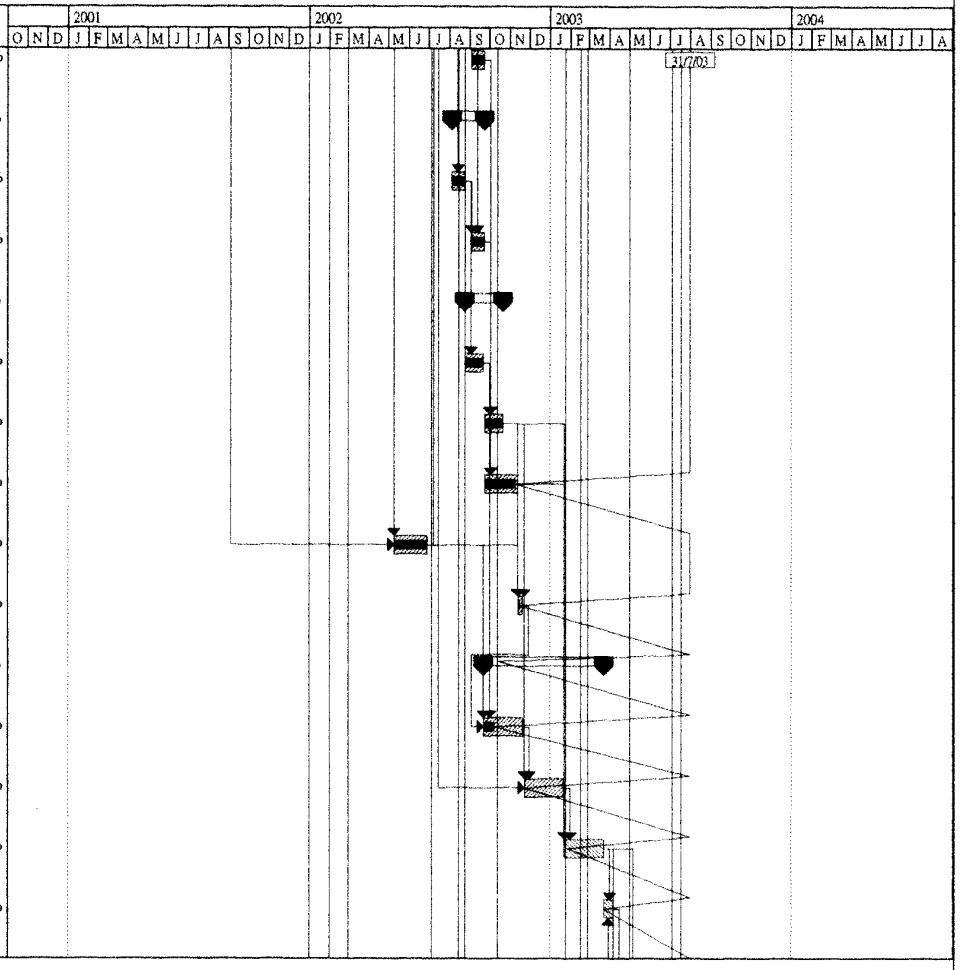
Task | Split | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Split | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Critical Tasks | External Milestone | External Milestone | Deadline

Figure 1.1

Page 8

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
104	A2/S (4 nos.)	20 days	Wed 4/9/02	Mon 23/9/02	Mon 23/9/02	NA	100%
105	**Sub-structure**	**50 days**	**Mon 5/8/02**	**Mon 23/9/02**	**NA**	**NA**	**100%**
106	P2/1	20 days	Mon 5/8/02	Sat 24/8/02	NA	NA	100%
107	P2/2	20 days	Wed 4/9/02	Mon 23/9/02	NA	NA	100%
108	**Columns**	**58 days**	**Sun 25/8/02**	**Mon 21/10/02**	**NA**	**NA**	**100%**
109	P2/1	28 days	Sun 25/8/02	Sat 21/9/02	NA	NA	100%
110	P2/2	28 days	Tue 24/9/02	Mon 21/10/02	NA	NA	100%
111	South abutment & wing walls	50 days	Tue 24/9/02	Tue 12/11/02	NA	NA	93%
112	North abutment & wing walls	50 days	Thu 9/5/02	Fri 28/6/02	Mon 8/4/02	NA	100%
113	Installation of bearings	7 days	Wed 13/11/02	Tue 19/11/02	NA	NA	40%
114	**Super-structure**	**182 days**	**Sun 22/9/02**	**Sat 22/3/03**	**NA**	**NA**	**13%**
115	Span A2N - P2/1	60 days	Sun 22/9/02	Wed 20/11/02	NA	NA	28%
116		60 days	Sat 23/11/02	Tue 21/1/03	NA	NA	0%
117	Span P2/1 - P2/2	60 days	Wed 22/1/03	Sat 22/3/03	NA	NA	10%
118	Parapet and facia panel	15 days	Sun 23/3/03	Sun 6/4/03	NA	NA	0%



Project: HK10/2000
Date: Tu
Alternative (Actual) 31 July 2003

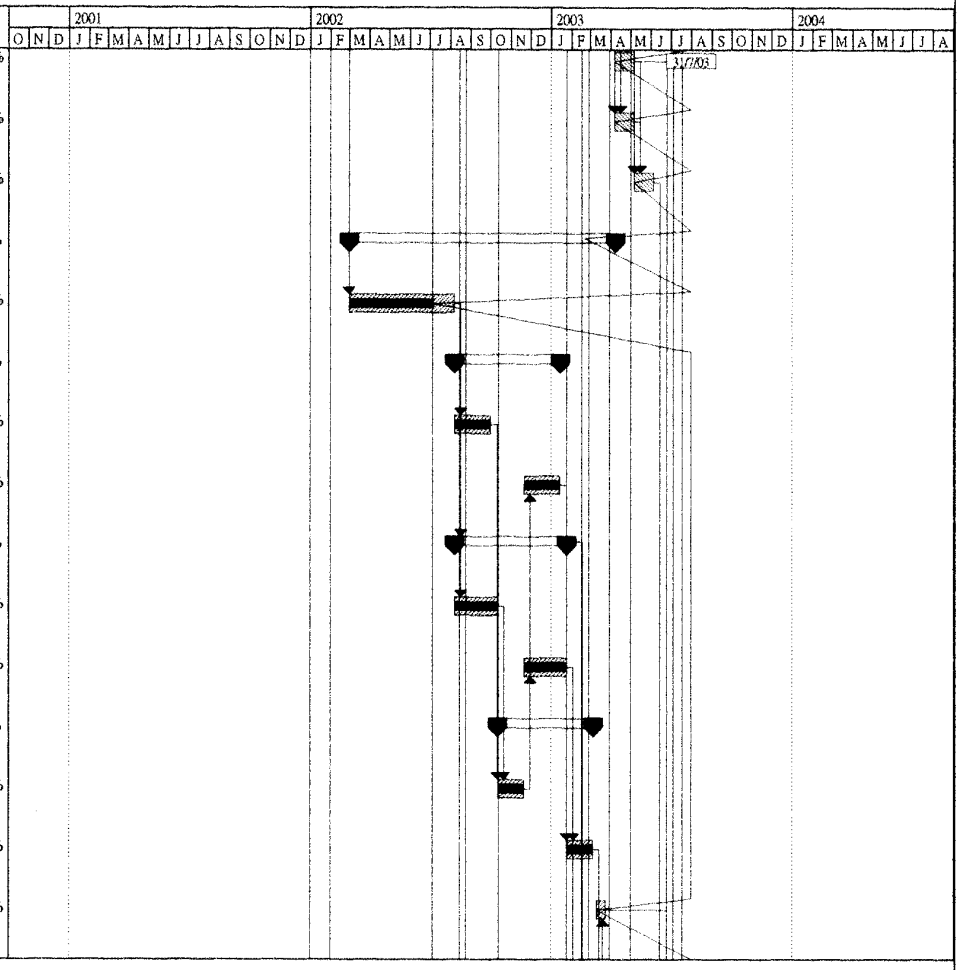
Task · Split · Progress · Milestone · Summary · Rolled Up Task · Rolled Up Split · Rolled Up Milestone · Rolled Up Progress · External Tasks · Project Summary · Critical Tasks · External Milestone · External Milestone · Deadline

Page 9

Figure 1.1

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
119	Street furniture & road lighting	30 days	Mon 7/4/03	Tue 6/5/03	NA	NA	0%
120	Watermain	30 days	Mon 7/4/03	Tue 6/5/03	NA	NA	0%
121	Utilities	30 days	Wed 7/5/03	Thu 5/6/03	NA	NA	0%
122	**Bridge No. 3**	**404 days**	**Fri 1/3/02**	**Tue 8/4/03**	**Fri 15/3/02**	**NA**	**88%**
123	Construction of cascade 1	160 days	Fri 1/3/02	Wed 7/8/02	Fri 5/10/01	NA	80%
124	**North abutment**	**160 days**	**Thu 8/8/02**	**Tue 14/1/03**	**Fri 15/3/02**	**NA**	**100%**
125	Eastern Portion	55 days	Thu 8/8/02	Tue 1/10/02	Fri 15/3/02	NA	100%
126	Western Portion	55 days	Thu 21/11/02	Tue 14/1/03	Fri 15/3/02	NA	100%
127	**South abutment**	**170 days**	**Thu 8/8/02**	**Fri 24/1/03**	**Fri 15/3/02**	**NA**	**100%**
128	Eastern Portion	65 days	Thu 8/8/02	Fri 11/10/02	Fri 15/3/02	NA	100%
129	Western Portion	65 days	Thu 21/11/02	Fri 24/1/03	Fri 15/3/02	NA	100%
130	**Supper structure**	**145 days**	**Sat 12/10/02**	**Wed 5/3/03**	**Sat 31/8/02**	**NA**	**100%**
131	Eastern Portion	40 days	Sat 12/10/02	Wed 20/11/02	Sat 31/8/02	NA	100%
132	Western Portion	40 days	Sat 25/1/03	Wed 5/3/03	Sat 31/8/02	NA	100%
133	Street furniture & road lighting	14 days	Tue 11/3/03	Mon 24/3/03	NA	NA	0%



Project: HK10/2000
Date: Tue 5/8/03
Alternative (Actual) 31 July 2003

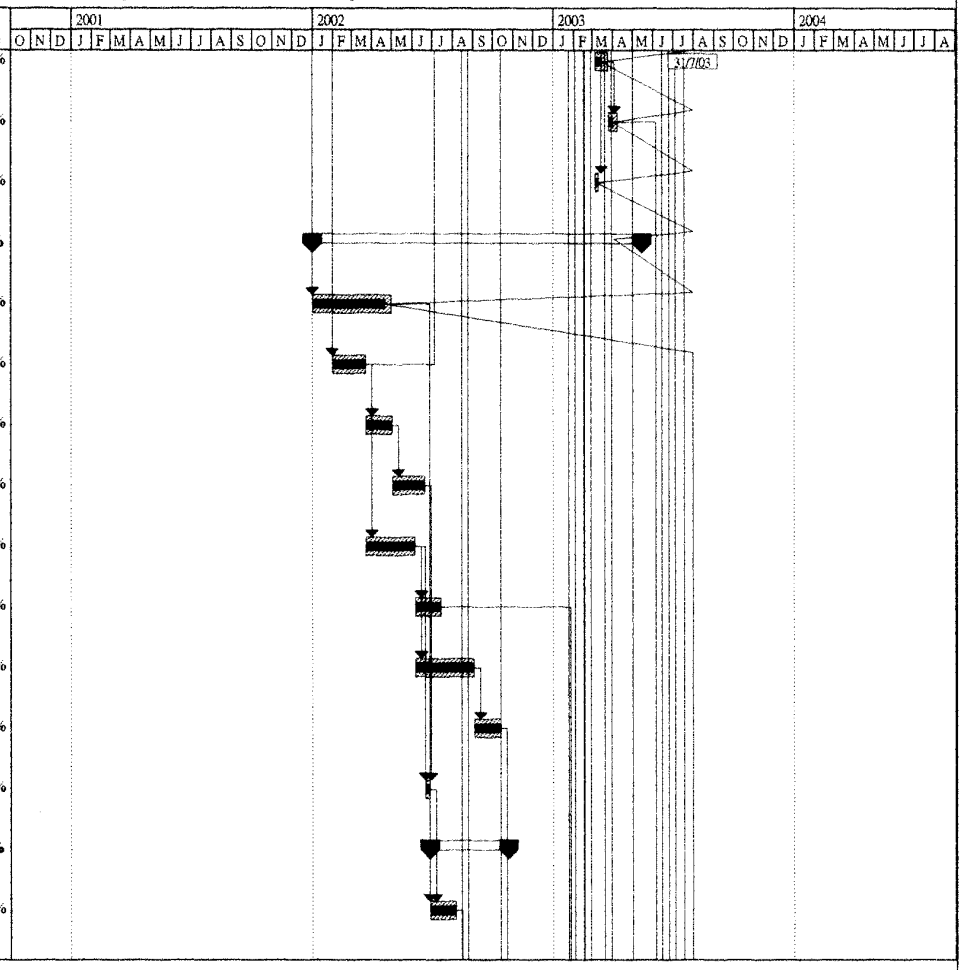
Task | Milestone | Rolled Up Split | External Tasks | External Milestone
Split | Summary | Rolled Up Milestone | Project Summary | External Milestone
Progress | Rolled Up Task | Rolled Up Progress | Critical Tasks | Deadline

Figure 1.1

Page 10

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
134	Watermain	20 days	Thu 6/3/03	Tue 25/3/03	NA	NA	50%
135	Utilities	14 days	Wed 26/3/03	Tue 8/4/03	NA	NA	50%
136	Parapet and facia panel	5 days	Thu 6/3/03	Mon 10/3/03	NA	NA	45%
137	**Bridge No. 4**	**499 days**	**Tue 1/1/02**	**Wed 14/5/03**	**Thu 13/9/01**	**NA**	**93%**
138	Construction of cascade 2	120 days	Tue 1/1/02	Tue 30/4/02	Thu 13/9/01	NA	92%
139	Piling works	50 days	Fri 1/2/02	Fri 22/3/02	Sat 1/12/01	NA	100%
140	Sub-structure	40 days	Sat 23/3/02	Wed 1/5/02	Thu 3/1/02	NA	100%
141	Columns	50 days	Thu 2/5/02	Thu 20/6/02	Thu 11/4/02	NA	100%
142	North Abutment	75 days	Sat 23/3/02	Wed 5/6/02	Thu 3/1/02	NA	100%
143	Wing wall of N Abutment	40 days	Thu 6/6/02	Mon 15/7/02	Tue 14/5/02	NA	100%
144	South Abutment	90 days	Thu 6/6/02	Tue 3/9/02	NA	NA	100%
145	Wing wall of S Abutment	40 days	Wed 4/9/02	Sun 13/10/02	Sun 28/4/02	NA	100%
146	Installation of bearings	7 days	Fri 21/6/02	Thu 27/6/02	Thu 18/7/02	NA	100%
147	**Super-structure**	**120 days**	**Fri 28/6/02**	**Fri 25/10/02**	**Wed 12/6/02**	**NA**	**100%**
148	Span 1	40 days	Fri 28/6/02	Tue 6/8/02	Wed 12/6/02	NA	100%



Project: HK10/2000
Date: Tu
Alternative (Actual) 31 July 2003

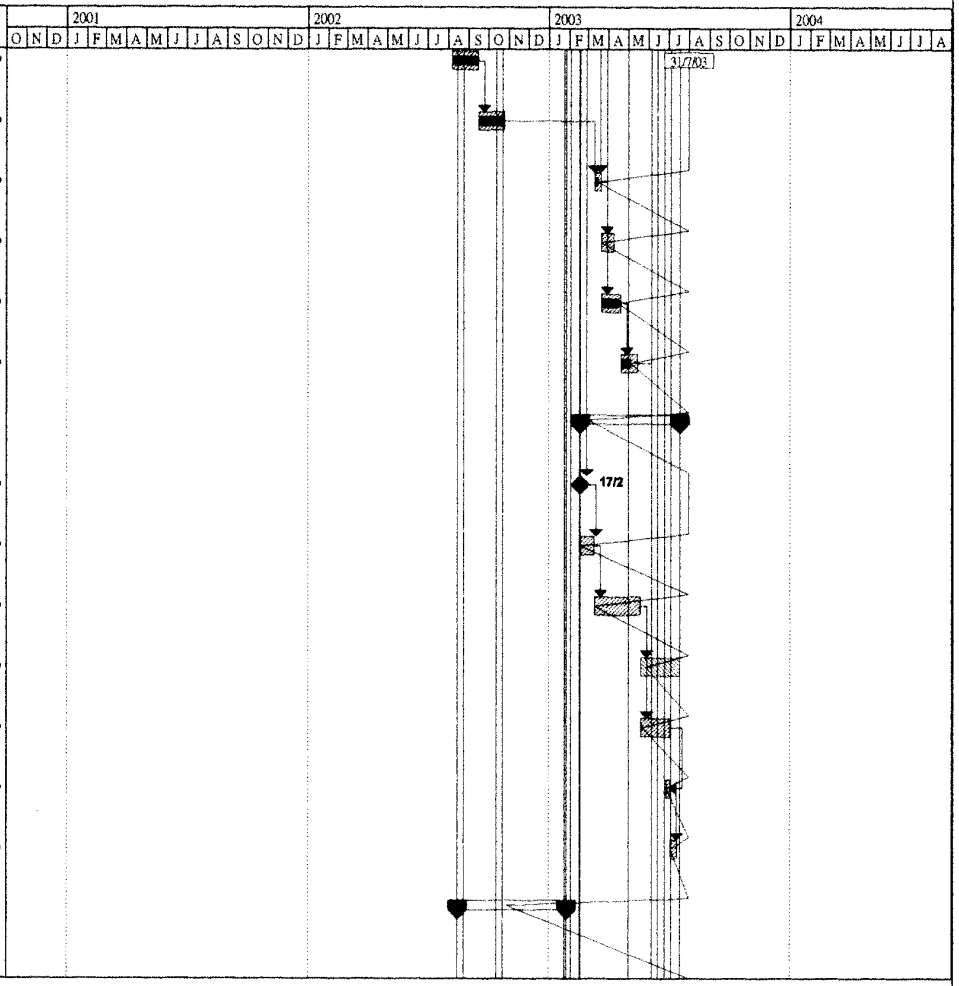
Task | Split | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Split | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Critical Tasks | External Milestone | External Milestone | Deadline

Figure 1.1

Page 11

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
149	Span 2	40 days	Wed 7/8/02	Sun 15/9/02	NA	NA	100%
150	Span 3	40 days	Mon 16/9/02	Fri 25/10/02	NA	NA	100%
151	Parapet and facia panel	10 days	Tue 11/3/03	Thu 20/3/03	NA	NA	45%
152	Street furniture	20 days	Fri 21/3/03	Wed 9/4/03	NA	NA	0%
153	Watermain	30 days	Fri 21/3/03	Sat 19/4/03	NA	NA	90%
154	Utilities	25 days	Sun 20/4/03	Wed 14/5/03	NA	NA	60%
155	**Relocation of QMHE sub-station**	**151 days**	**Mon 17/2/03**	**Fri 18/7/03**	**NA**	**NA**	**6%**
156	Commencement of section 2 of works	0 days	Mon 17/2/03	Mon 17/2/03	NA	NA	100%
157	Formation	21 days	Tue 18/2/03	Mon 10/3/03	NA	NA	0%
158	Sub-station structure	70 days	Tue 11/3/03	Mon 19/5/03	NA	NA	0%
159	E&M works	60 days	Tue 20/5/03	Fri 18/7/03	NA	NA	15%
160	Utilities by HEC	45 days	Tue 20/5/03	Thu 3/7/03	Tue 18/12/01	NA	5%
161	Connection of existing cables to new station by HEC	7 days	Fri 27/6/03	Thu 3/7/03	Tue 18/12/01	NA	20%
162	Demolition of existing QMHE sub-station	10 days	Fri 4/7/03	Sun 13/7/03	NA	NA	0%
163	**Road & drains works between bridge 1,2 CH.0-116**	**165 days**	**Thu 15/8/02**	**Mon 27/1/03**	**NA**	**NA**	**46%**



Project: HK10/2000
Date: Tue 5/8/03
Alternative (Actual) 31 July 2003

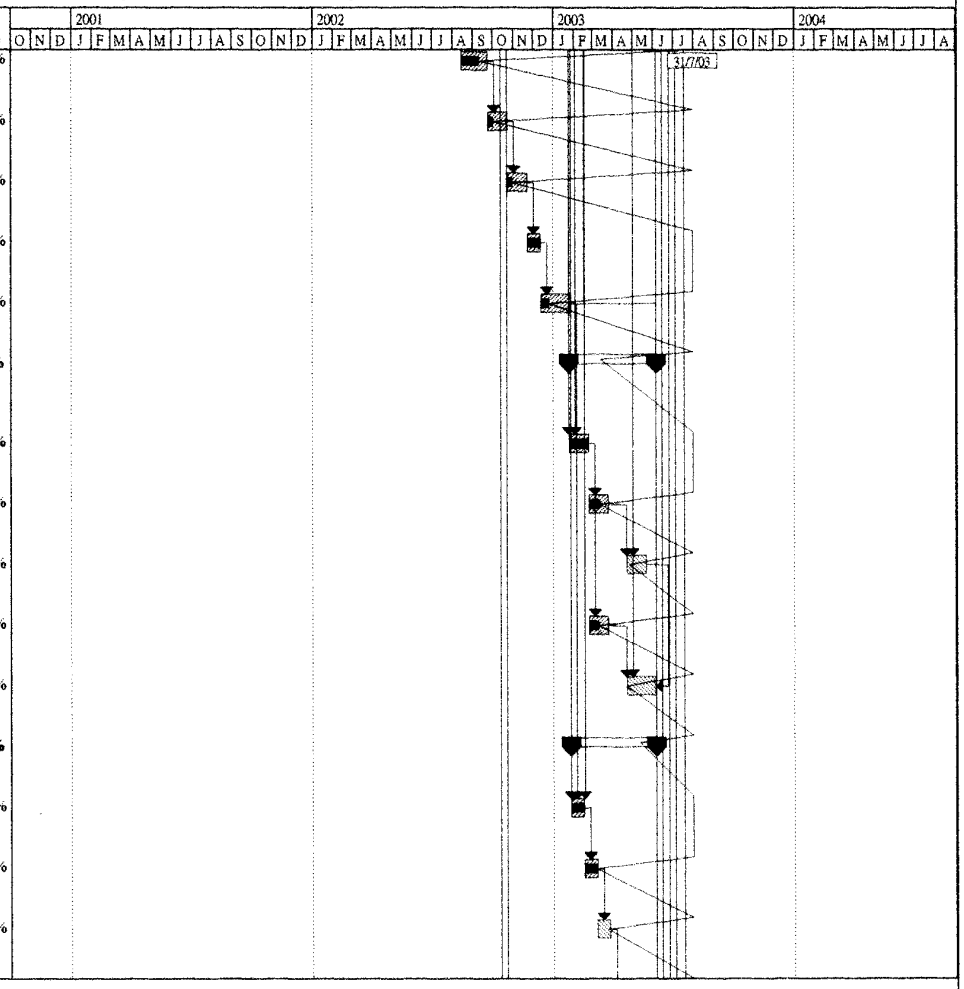
Task · Split · Progress · Milestone · Summary · Rolled Up Task · Rolled Up Split · Rolled Up Milestone · Rolled Up Progress · External Tasks · Project Summary · Critical Tasks · External Milestone · External Milestone · Deadline

Figure 1.1

Page 12

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
164	Drainage	40 days	Thu 15/8/02	Tue 24/9/02	Tue 18/12/01	NA	67%
165	Watermain	30 days	Tue 24/9/02	Thu 24/10/02	NA	NA	28%
166	Utilities	30 days	Thu 24/10/02	Sat 23/11/02	NA	NA	25%
167	Road formation works	20 days	Sat 23/11/02	Fri 13/12/02	NA	NA	100%
168	Road works	45 days	Fri 13/12/02	Mon 27/1/03	NA	NA	28%
169	**Road & drains works between bridge 2&3 CH.339-275**	**132 days**	**Sat 25/1/03**	**Thu 5/6/03**	**NA**	**NA**	**40%**
170	Road formation works	30 days	Sat 25/1/03	Sun 23/2/03	NA	NA	100%
171	Drainage	30 days	Mon 24/2/03	Tue 25/3/03	NA	NA	57%
172	Watermain	30 days	Tue 22/4/03	Wed 21/5/03	NA	NA	14%
173	Utilities	30 days	Mon 24/2/03	Tue 25/3/03	NA	NA	50%
174	Road works	45 days	Tue 22/4/03	Thu 5/6/03	NA	NA	0%
175	**Road & drains works between bridge 3&4 CH.351-395**	**129.6 days**	**Mon 27/1/03**	**Thu 5/6/03**	**NA**	**NA**	**81%**
176	Road formation works	20 days	Mon 27/1/03	Sun 16/2/03	NA	NA	100%
177	Drainage	20 days	Sun 16/2/03	Sat 8/3/03	NA	NA	95%
178	Watermain	20 days	Sat 8/3/03	Thu 27/3/03	Thu 20/2/03	NA	85%



Project: HK10/2000
Date: Tu
Alternative (Actual) 31 July 2003

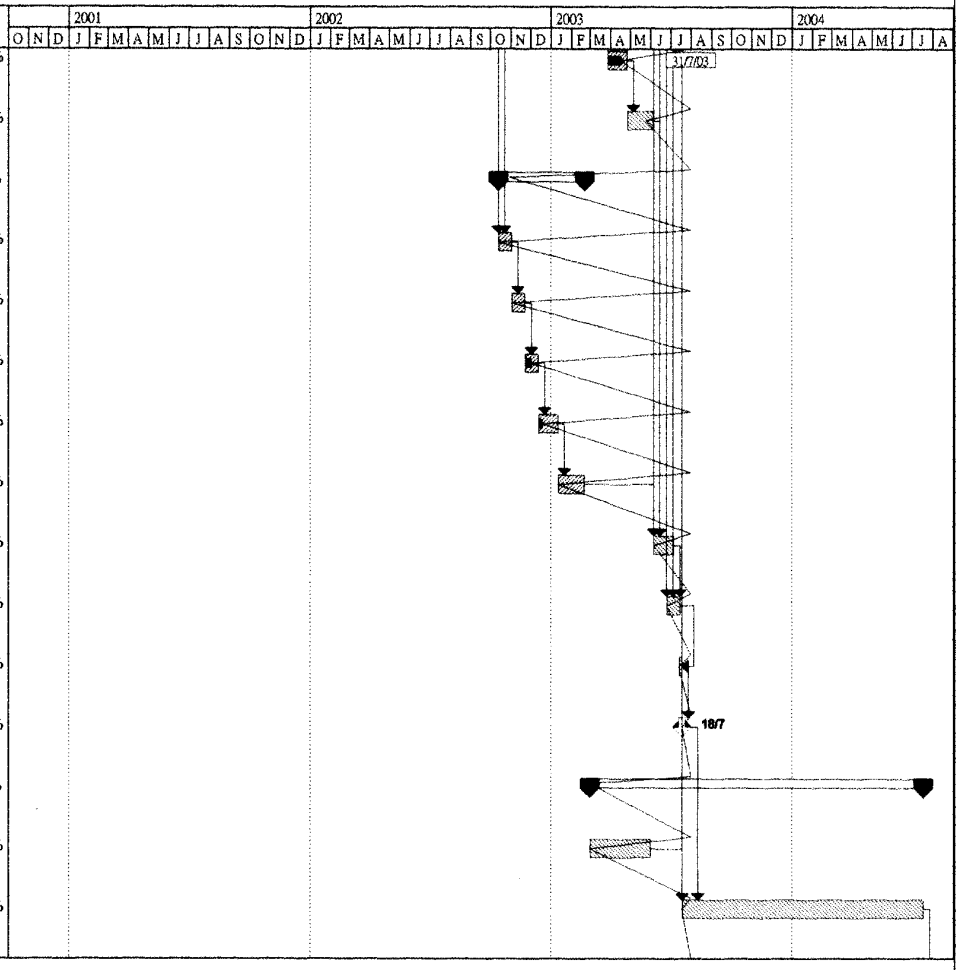
Task | Split | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Split | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Critical Tasks | External Milestone | External Milestone | Deadline

Figure 1.1

Page 13

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
179	Utilities	30 days	Fri 28/3/03	Sat 26/4/03	NA	NA	70%
180	Road works	40 days	Sun 27/4/03	Thu 5/6/03	NA	NA	70%
181	**Road & drains works at end of bridge 4 CH.465-500**	**130 days**	**Mon 14/10/02**	**Thu 20/2/03**	**NA**	**NA**	**12%**
182	Road formation works	20 days	Mon 14/10/02	Sat 2/11/02	NA	NA	0%
183	Drainage	20 days	Sun 3/11/02	Fri 22/11/02	NA	NA	0%
184	Watermain	20 days	Sat 23/11/02	Thu 12/12/02	Sat 22/9/01	NA	47%
185	Utilities	30 days	Fri 13/12/02	Sat 11/1/03	NA	NA	22%
186	Road works	40 days	Sun 12/1/03	Thu 20/2/03	NA	NA	0%
187	Installation of street furniture	30 days	Fri 6/6/03	Sat 5/7/03	NA	NA	0%
188	Blacktop laying & Road marking for the whole project	20 days	Thu 26/6/03	Tue 15/7/03	NA	NA	0%
189	Site clerance works prior to handing over	5 days	Mon 14/7/03	Fri 18/7/03	NA	NA	0%
190	Completion of Section 1 of works	0 days	Fri 18/7/03	Fri 18/7/03	NA	NA	0%
191	**Section 3 of works**	**505 days**	**Sat 1/3/03**	**Sat 17/7/04**	**NA**	**NA**	**0%**
192	Landscape soft works	92 days	Sat 1/3/03	Sat 31/5/03	NA	NA	0%
193	Establishment works	365 days	Sat 19/7/03	Sat 17/7/04	NA	NA	0%



Project: HK10/2000
Date: Tue 5/8/03
Alternative (Actual) 31 July 2003

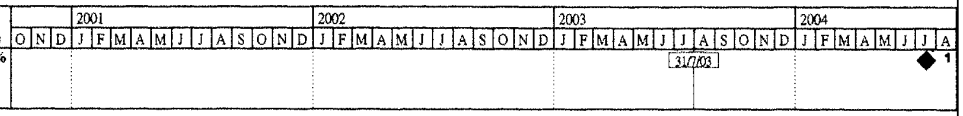
Task | Split | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Split | Rolled Up Milestone | Rolled Up Progress | External Tasks | Project Summary | Critical Tasks | External Milestone | External Milestone | Deadline

Figure 1.1

Page 14

Northern Access Road for Cyberport Development at Telegraph Bay
Contract No. HK 10/2000
China Harbour Engineering Company (Group)
Proposed Programme for Alternative Work - Actual Completion % as at end 31 July 2003

ID	Task Name	Duration	Start	Finish	Act. Start	Act. Finish	% Complete
194	Overall completion	0 days	Sat 17/7/04	Sat 17/7/04	NA	NA	0%



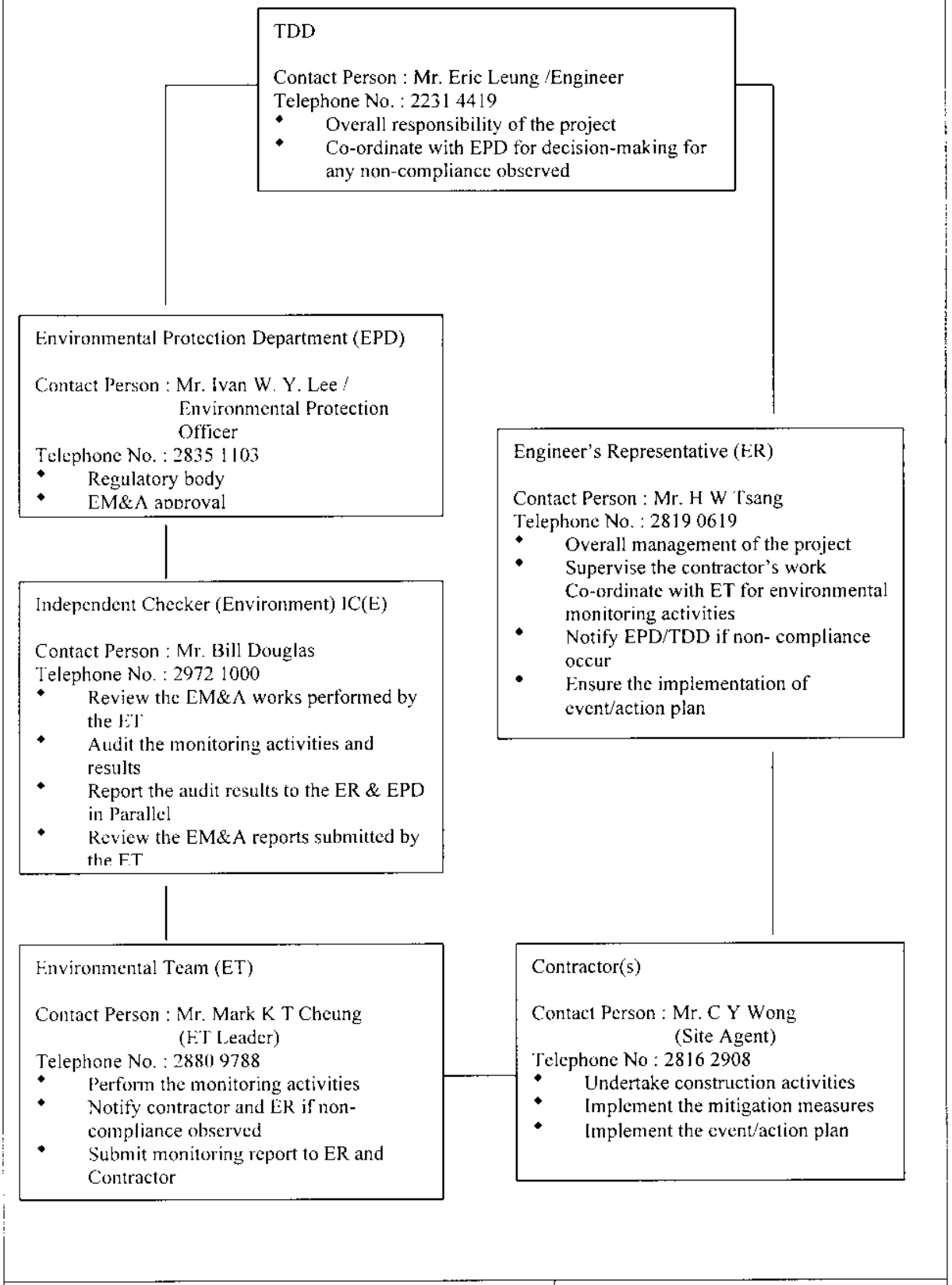
Project: HK10/2000
Date: Tu
Alternative (Actual) 31 July 2003

Task | Milestone | Rolled Up Split | External Tasks | External Milestone
Split | Summary | Rolled Up Milestone | Project Summary | External Milestone
Progress | Rolled Up Task | Rolled Up Progress | Critical Tasks | Deadline

Figure 1.1

Page 15

T.D.D. Contract No. HK10/2000



Project Organization of EM&A Works

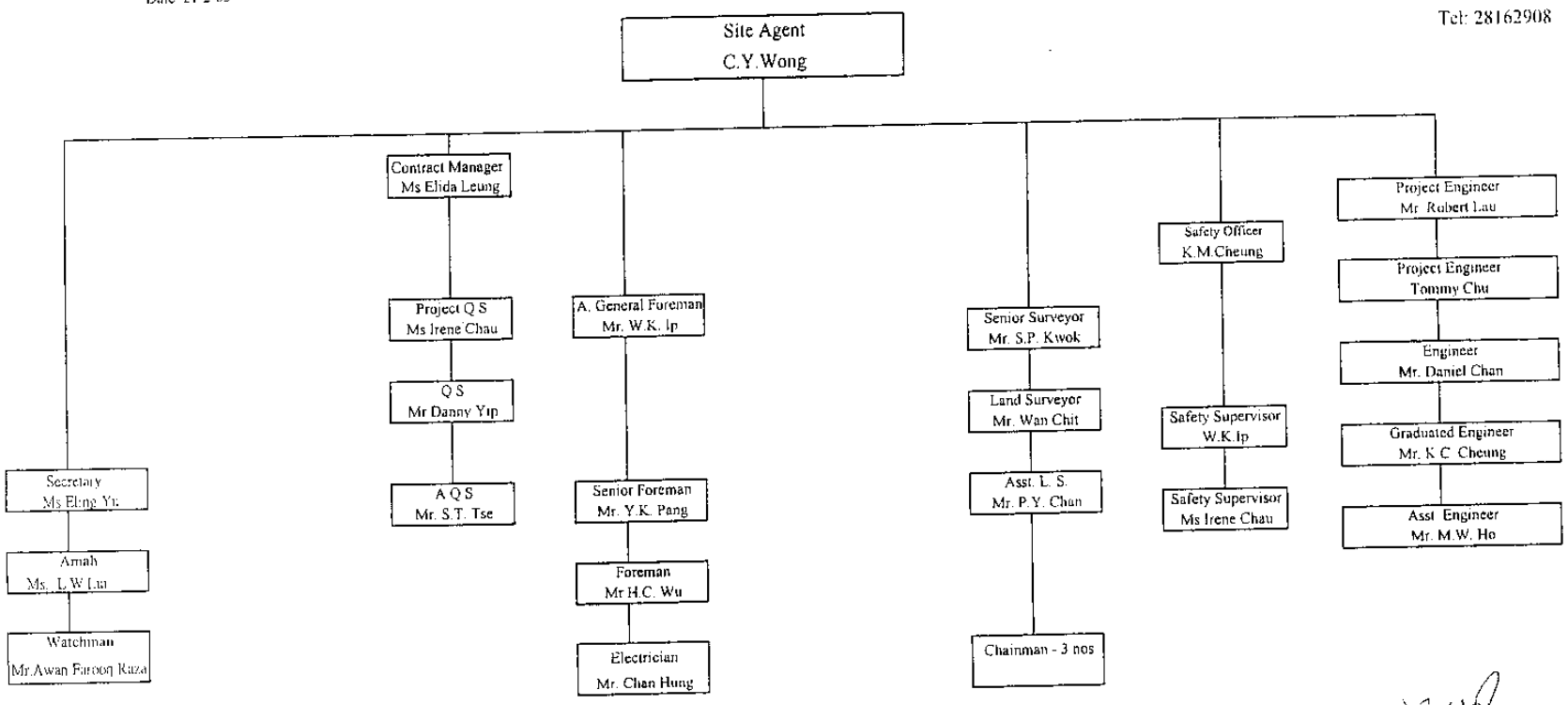
Figure 1.2

Babtie Asia Ltd
Multi Discliplinary Consultancy

Rev.5
Date 21-2-03

Organization Chart of China Harbour Engineering Co. (Group)
in Project HK10/2000

Tel: 28162908



Certified By:

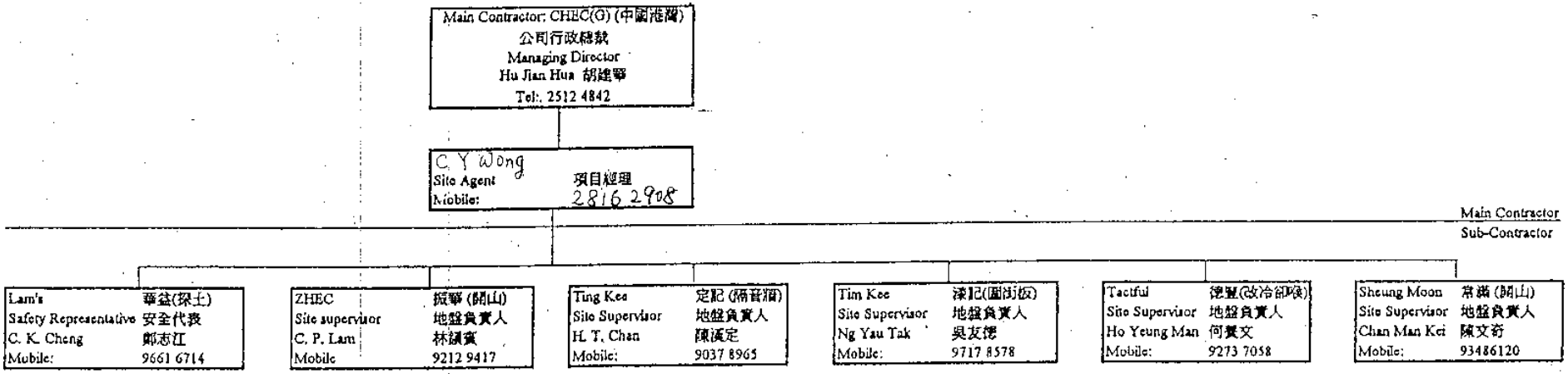
Date :

Management Structure of the Contractor

Figure 1.3
(Sheet 1 of 2)

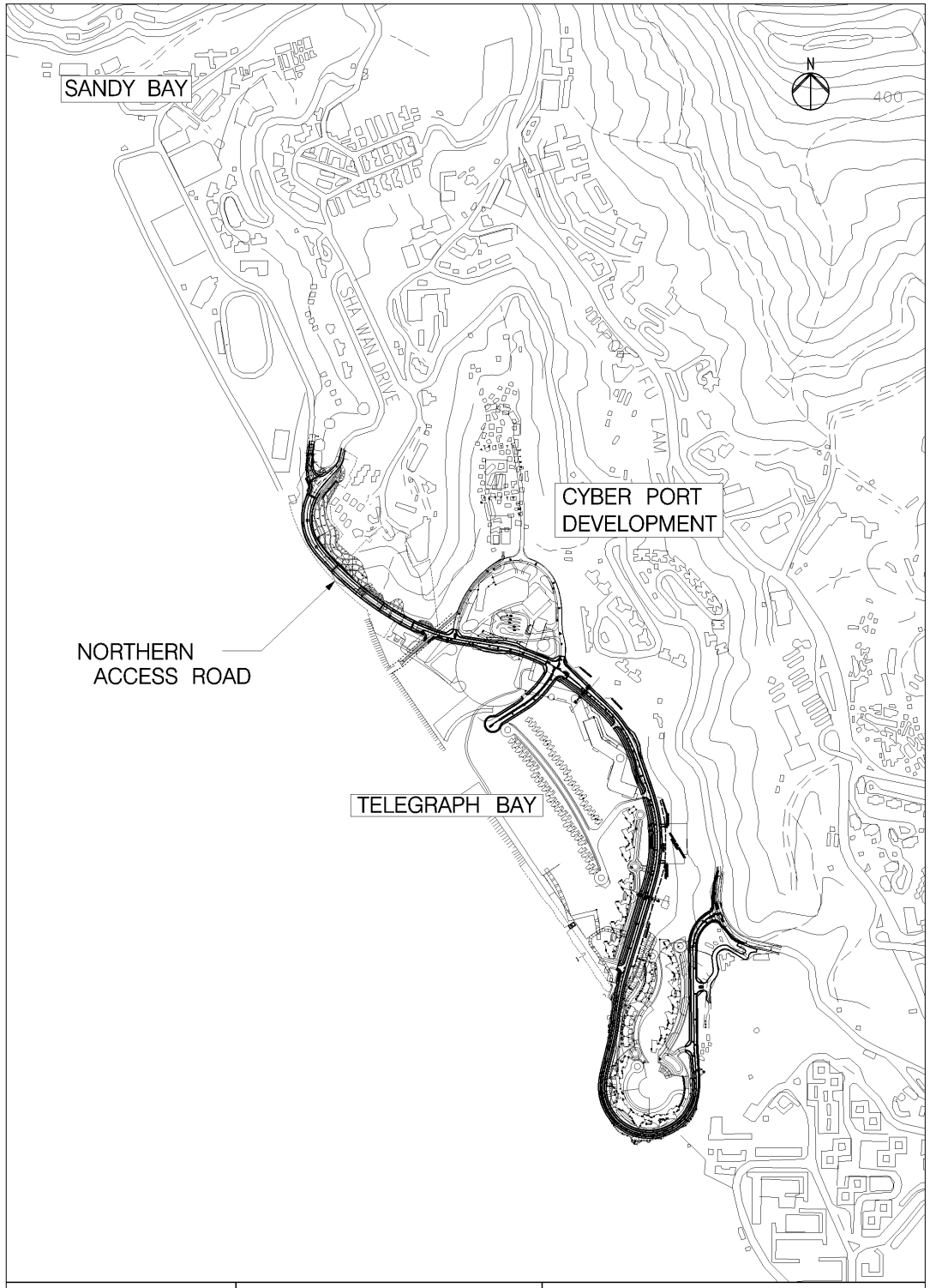
Contract No. HK/10/2000
Northern Access Road for Cyberport
Development at Telegraph Bay
Date: 10/5/01

Sub-Contractor Organization Chart



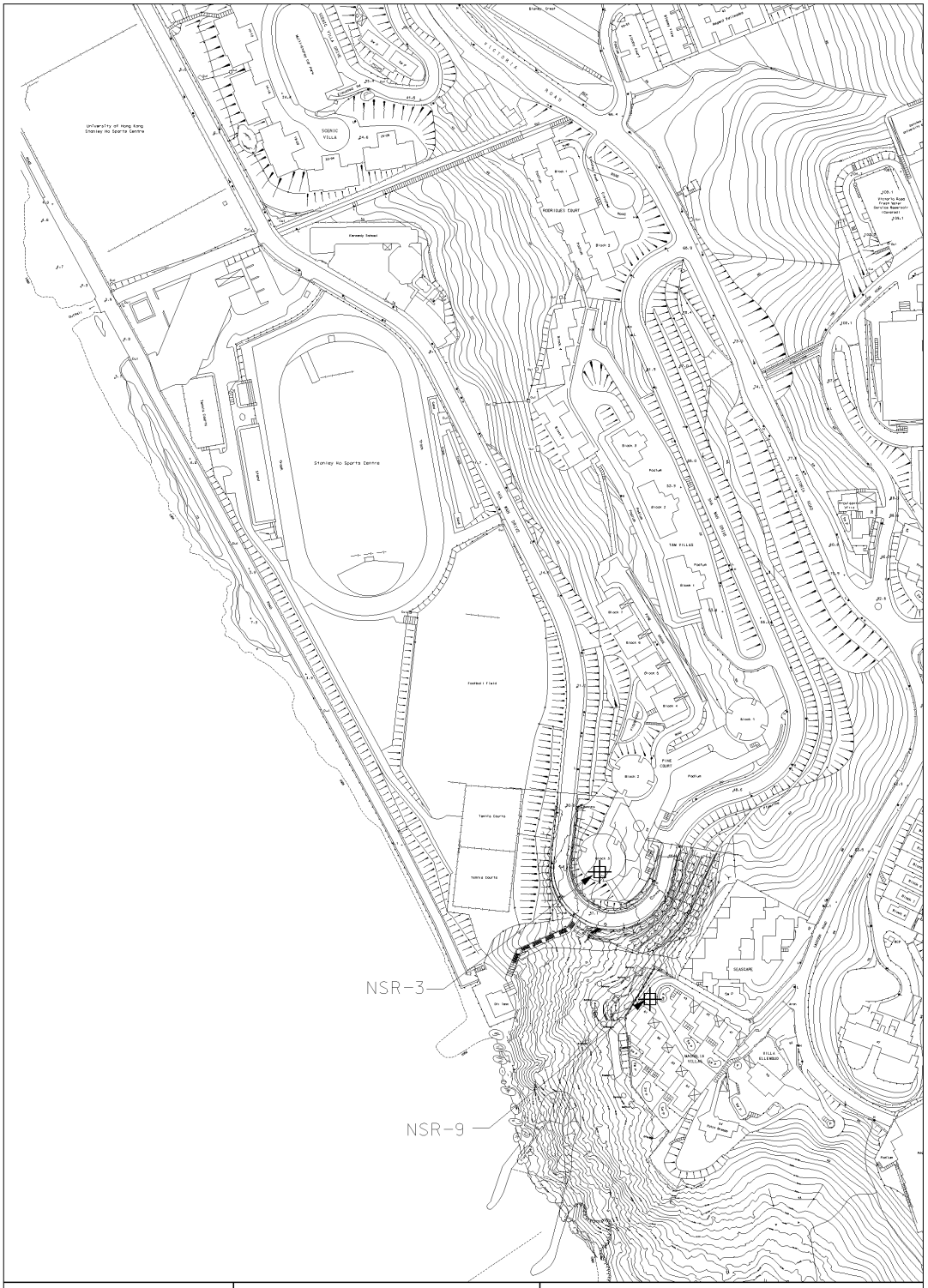
Management Structure of the Contractor

Figure 1.3
(Sheet 2 of 2)



K:/KTC/2146/USTATION/S19/FIG-1.2.DGN

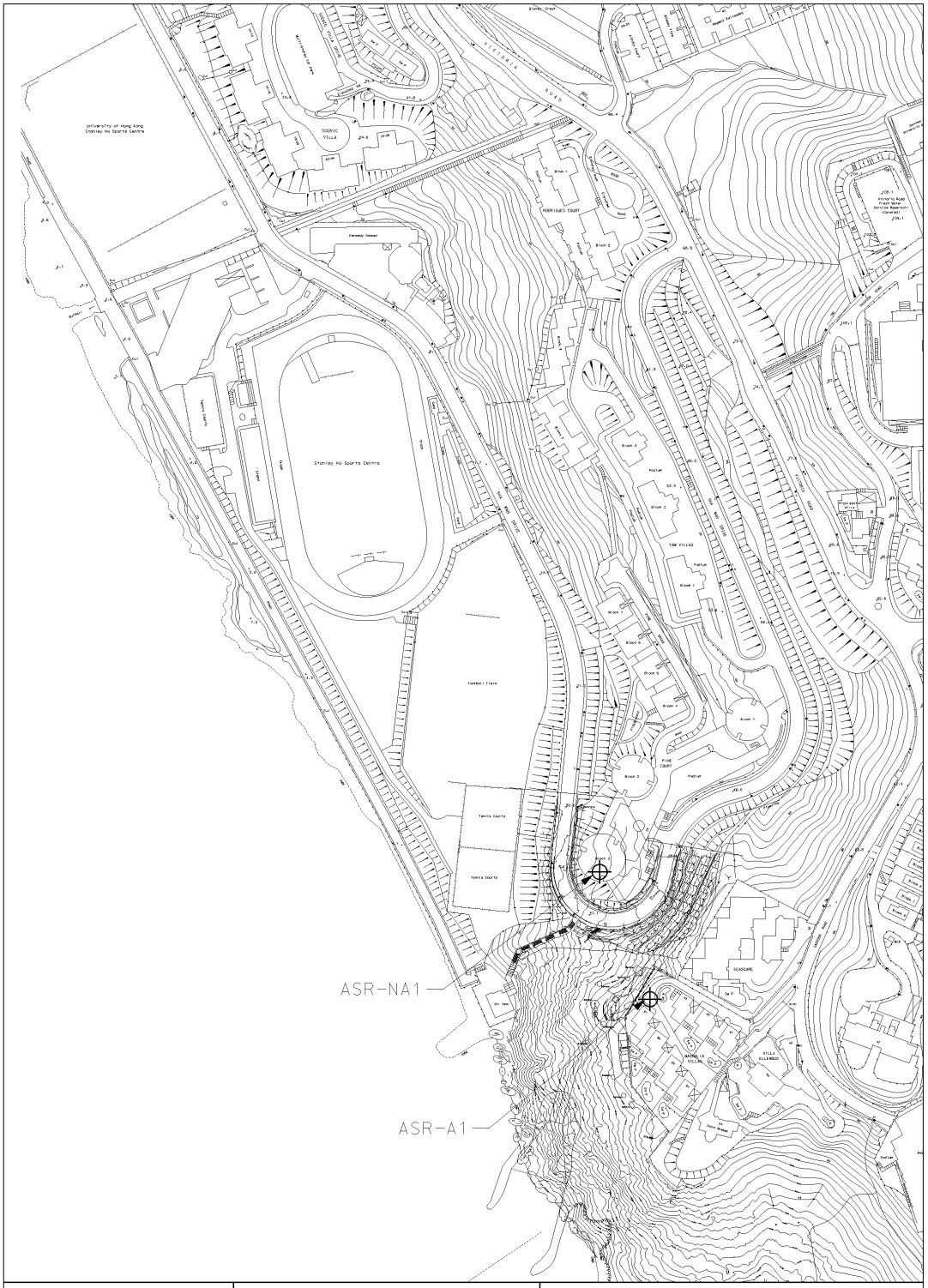
Babtie Asia technical and management consultants	Project: NORTHERN ACCESS ROAD FOR CYBERPORT DEVELOPMENT AT TELEGRAPH BAY				Title: LOCATIONS OF CYBERPORT DEVELOPMENT IN TELEGRAPH BAY AND NORTHERN ACCESS ROAD		
	Designed: ALG	Drawn: MW	Checked: ALG	Approved: AMP	Scale: 1:10000	Drawing No.: FIGURE 1.4	Revision:



K:/KTC/2146/USTATION/EMA#2/FIG-1.5.DGN

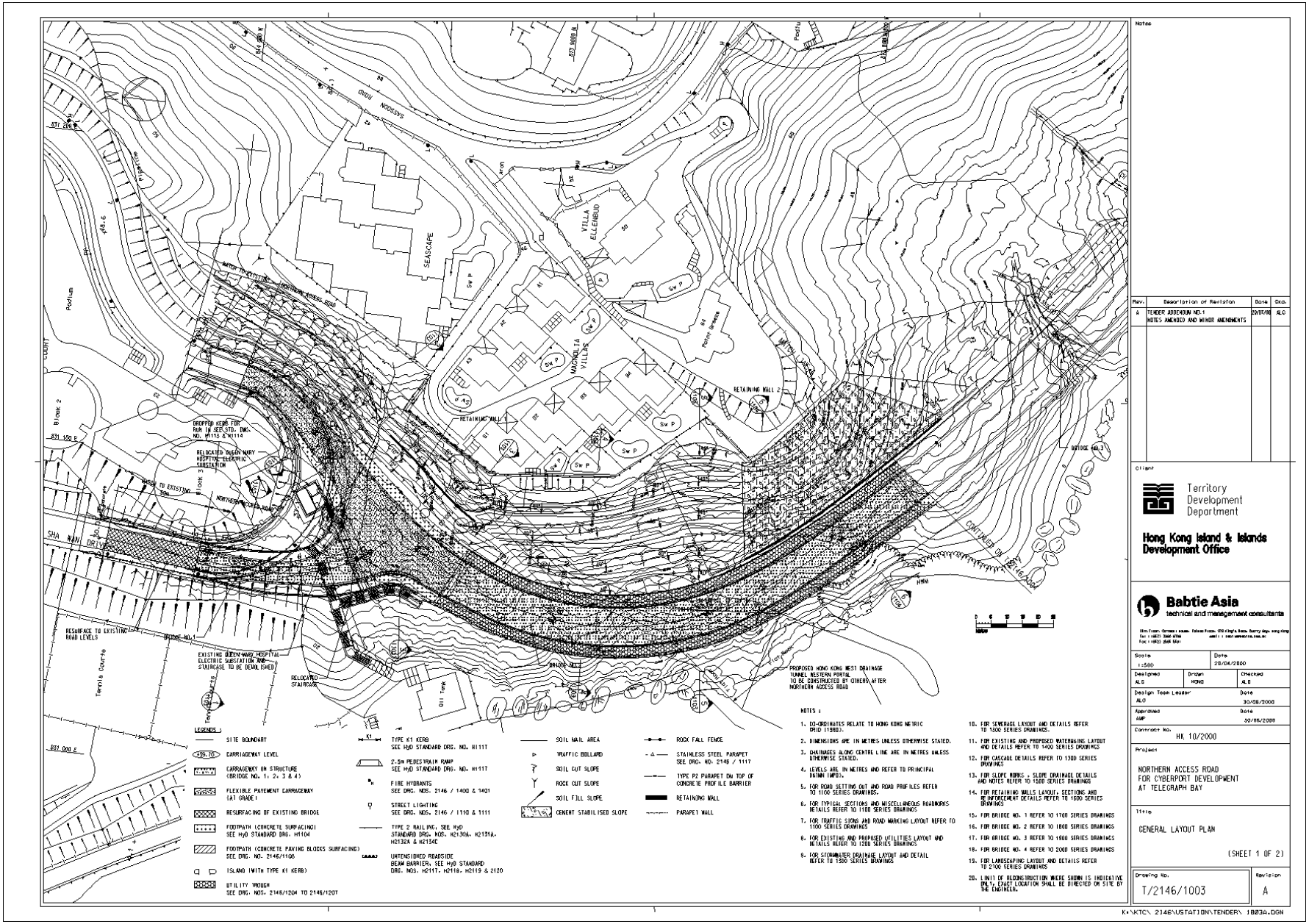
Babtie Asia
technical and management consultans

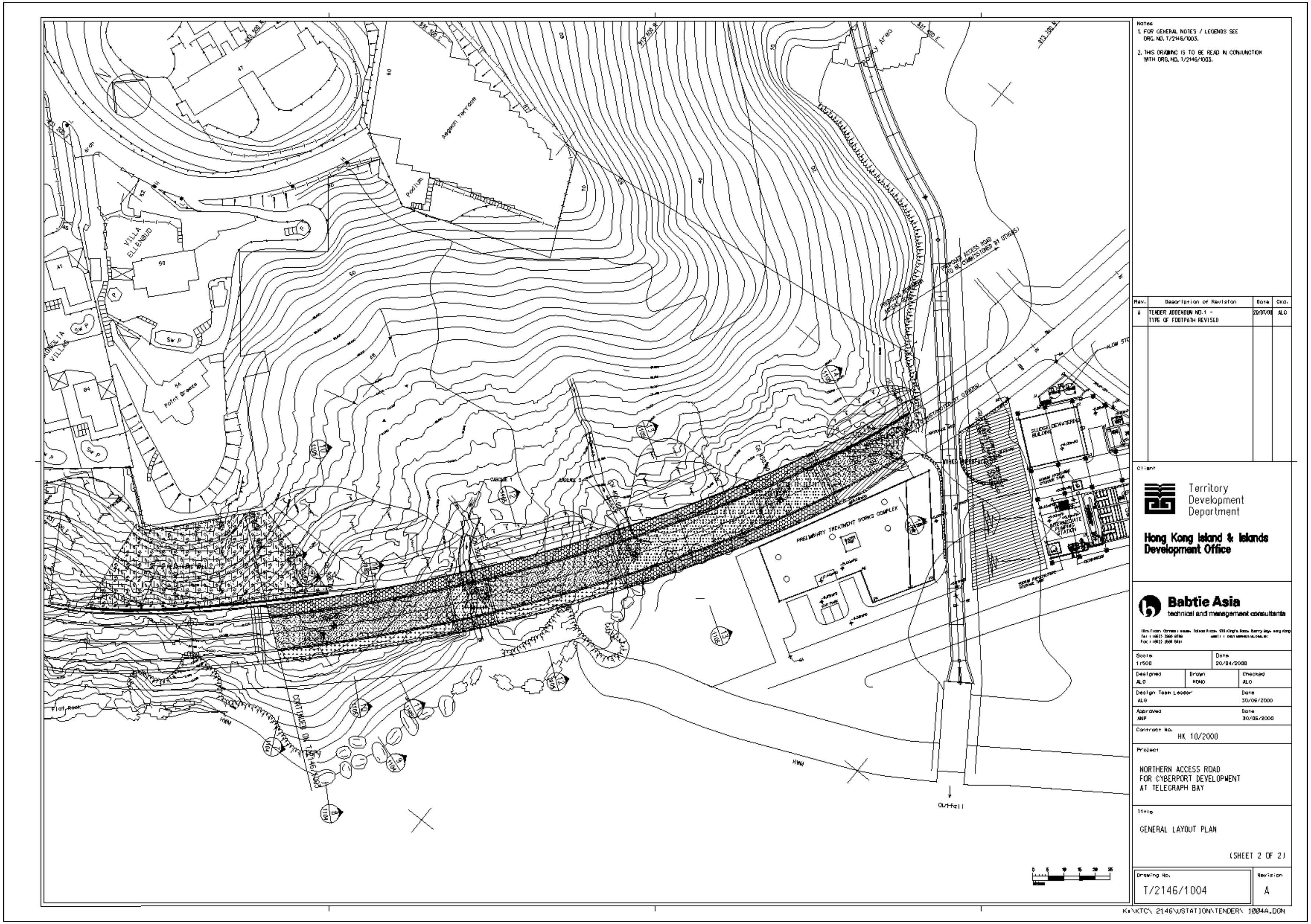
Project				Title		
NORTHERN ACCESS ROAD FOR CYBERPORT DEVELOPMENT AT TELEGRAPH BAY				LOCATIONS OF NOISE MONITORING STATIONS		
Designed	Drawn	Checked	Approved	Scale	Drawing No.	Revision
ALG	MW	ALG	AMP	1:3000	FIGURE 1.5	



Babtie Asia technical and management consultans	Project: NORTHERN ACCESS ROAD FOR CYBERPORT DEVELOPMENT AT TELEGRAPH BAY			Title: LOCATIONS OF AIR QUALITY MONITORING STATIONS		
Designed: ALG	Drawn: MW	Checked: ALG	Approved: AMP	Scale: 1:3000	Drawing No.: FIGURE 1.6	Revision:

Drawings


SEASCAPE
VILLA ELLENSOO
MAGNOLIA VILLAS
SHA WAN DRIVE
RETAINING WALL 2
RETAINING WALL
BRIDGE NO.1
BRIDGE NO.3
EXISTING QUEEN MARY HOSPITAL ELECTRIC SUBSTATION AND STAIRCASE TO BE DEMOLISHED
RELOCATED STAIRCASE
RESURFACE TO EXISTING ROAD LEVELS
PROPOSED HONG KONG WEST DRAINAGE TUNNEL WESTERN PORTAL TO BE CONSTRUCTED BY OTHERS, AFTER NORTHERN ACCESS ROAD
LEGENDS :
SITE BOUNDARY
CARRIAGEWAY LEVEL
CARRIAGEWAY ON STRUCTURE (BRIDGE NO. 1, 2, 3 & 4)
FLEXIBLE PAVEMENT CARRIAGEWAY (AT GRADE)
RESURFACING OF EXISTING BRIDGE
FOOTPATH (CONCRETE SURFACING) SEE HyD STANDARD DRG. H1104
FOOTPATH (CONCRETE PAVING BLOCKS SURFACING) SEE DRG. NO. 2146/1108
ISLAND (WITH TYPE K1 KERB)
UTILITY TROUGH SEE DRG. NOS. 2146/1204 TO 2146/1207
TYPE K1 KERB SEE HyD STANDARD DRG. NO. H111T
2.5m PEDESTRAIN RAMP SEE HyD STANDARD DRG. NO. H1117
FIRE HYDRANTS SEE DRG. NOS. 2146 / 1400 & 1401
STREET LIGHTING SEE DRG. NOS. 2146 / 1110 & 1111
TYPE 2 RAILING, SEE HyD STANDARD DRG. NOS. H2130A, H2131A, H2132A & H2134C
UNTENSIONED ROADSIDE BEAM BARRIER, SEE HyD STANDARD DRG. NOS. H2117, H2118, H2119 & 2120
SOIL NAIL AREA
TRAFFIC BOLLARD
SOIL CUT SLOPE
ROCK CUT SLOPE
SOIL FILL SLOPE
CEMENT STABILISED SLOPE
ROCK FALL FENCE
STAINLESS STEEL PARAPET SEE DRG. NO. 2146 / 1117
TYPE P2 PARAPET ON TOP OF CONCRETE PROFILE BARRIER
RETAINING WALL
PARAPET WALL
NOTES :
1. CO-ORDINATES RELATE TO HONG KONG METRIC GRID (1980).
2. DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
3. CHAINAGES ALONG CENTRE LINE ARE IN METRES UNLESS OTHERWISE STATED.
4. LEVELS ARE IN METRES AND REFER TO PRINCIPAL DATUM (MPD).
5. FOR ROAD SETTING OUT AND ROAD PROFILES REFER TO 1100 SERIES DRAWINGS.
6. FOR TYPICAL SECTIONS AND MISCELLANEOUS ROADWORKS DETAILS REFER TO 1100 SERIES DRAWINGS
7. FOR TRAFFIC SIGNS AND ROAD MARKING LAYOUT REFER TO 1100 SERIES DRAWINGS
8. FOR EXISTING AND PROPOSED UTILITIES LAYOUT AND DETAILS REFER TO 1200 SERIES DRAWINGS
9. FOR STORMWATER DRAINAGE LAYOUT AND DETAIL REFER TO 1300 SERIES DRAWINGS
10. FOR SEWERAGE LAYOUT AND DETAILS REFER TO 1300 SERIES DRAWINGS.
11. FOR EXISTING AND PROPOSED WATERMAINS LAYOUT AND DETAILS REFER TO 1400 SERIES DRAWINGS
12. FOR CASCADE DETAILS REFER TO 1300 SERIES DRAWINGS
13. FOR SLOPE WORKS & SLOPE DRAINAGE DETAILS AND NOTES REFER TO 1500 SERIES DRAWINGS
14. FOR RETAINING WALLS LAYOUT, SECTIONS AND REINFORCEMENT DETAILS REFER TO 1600 SERIES DRAWINGS
15. FOR BRIDGE NO. 1 REFER TO 1700 SERIES DRAWINGS
16. FOR BRIDGE NO. 2 REFER TO 1800 SERIES DRAWINGS
17. FOR BRIDGE NO. 3 REFER TO 1900 SERIES DRAWINGS
18. FOR BRIDGE NO. 4 REFER TO 2000 SERIES DRAWINGS
19. FOR LANDSCAPING LAYOUT AND DETAILS REFER TO 2100 SERIES DRAWINGS
20. LIMIT OF RECONSTRUCTION WHERE SHOWN IS INDICATIVE ONLY, EXACT LOCATION SHALL BE DIRECTED ON SITE BY THE ENGINEER.
Notes
Rev. | Description of Revision | Date | Chkd.
A | TENDER ADDENDUM NO.1 NOTES AMENDED AND MINOR AMENDMENTS | 20/07/00 | ALC
Client
Territory Development Department
Hong Kong Island & Islands Development Office
Babtie Asia
technical and management consultants
Scale 1:500
Date 28/04/2000
Designed ALS
Drawn HONG
Checked ALC
Design Team Leader ALC
Date 30/06/2000
Approved AMP
Date 30/06/2000
Contract No. HK 10/2000
Project
NORTHERN ACCESS ROAD FOR CYBERPORT DEVELOPMENT AT TELEGRAPH BAY
Title
GENERAL LAYOUT PLAN
(SHEET 1 OF 2)
Drawing No. T/2146/1003
Revision A
K:\KTC\ 2146\USTATION\TENDER\ 1003A.DGN



Notes
1. FOR GENERAL NOTES / LEGENDS SEE DRG. NO. T/2146/1003.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH DRG. NO. T/2146/1003.
Rev. | Description of Revision | Date | Ckd.
A | TENDER ADDENDUM NO.1 - TYPE OF FOOTPATH REVISED | 20/07/00 | ALG
Client
Territory Development Department
Hong Kong Island & Islands Development Office
Babtie Asia
technical and management consultants
Scale 1:500
Date 20/04/2000
Designed ALG
Drawn HOHO
Checked ALG
Design Team Leader ALG
Date 30/06/2000
Approved ANP
Date 30/06/2000
Contract No. HK 10/2000
Project
NORTHERN ACCESS ROAD FOR CYBERPORT DEVELOPMENT AT TELEGRAPH BAY
Title
GENERAL LAYOUT PLAN
(SHEET 2 OF 2)
Drawing No. T/2146/1004
Revision A
K:\KTC\ 2146\USTATION\TENDER\ 1004A.DGN
PRELIMINARY TREATMENT WORKS COMPLEX
Outfall
Flat Rock
VILLA ELLENBIO
Point Breeze
Aegean Terrace
Podium
CONTINUED ON T/2146/1003

Appendix A

Implementation Schedule of Environmental Mitigation Measures

APPENDIX A Implementation Schedule of Mitigation Measures for Noise Control

EM&A Ref*	Environmental Protection Measures	Timing	Implementation Agent	Implementation Stages **			
				Des	C	O	Dec
	Construction Phase						
3.7	The plant inventory described in Annex A of the Environmental Permit, or the equivalent combination of plant in terms of noise levels generated which has been verified by the ET leader and approved by the IEC, shall be strictly followed for relevant areas of work.	During construction	Contractor		√		
3.7	The temporary noise barrier shall be constructed and implemented in accordance with the approved design drawings as specified by Condition 2.5 of the Environmental Permit before the commencement of any construction works except site clearance works for Sha Wan Drive, Bridge No. 1, Bridge No. 2, Bridge No. 3 or Bridge No. 4.	During construction	Contractor		√		
3.7	The semi-enclosure for the pneumatic breakers shall be constructed in accordance with the approved design drawings as specified by Condition 2.5 of the Environmental Permit. The semi-enclosure shall be properly in place before any noisy operation of any pneumatic breaker in accordance with the plant inventory in Annex A of the Environmental Permit.	During construction	Contractor		√		
3.7	Noisy equipment shall be sited as far away as possible from any NSRs.	During construction	Contractor		√		
3.7	Machines and plant (such at trucks) that may be in intermittent use shall be shut down between work periods or shall be throttled down to a minimum.	During construction	Contractor		√		
3.7	Only well-maintained plant shall be operated on-site and be properly maintained.	During construction	Contractor		√		
3.7	Silencers or mufflers on construction equipment shall be utilized and be properly maintained.	During construction	Contractor		√		
3.7	Acoustic barriers shall be used when undertaking noisy works. The barriers shall be placed between the noise sources and receivers and as close to the source as possible.	During construction	Contractor		√		

3.7	Adoption of silenced equipment, such as compressors and generators, or use of alternative equipment, such as hand held equipment instead of automatic machinery.	During construction	Contractor		√		
3.7	Careful supervision, non-concurrent scheduling of work, and reduction in the percentage usage of equipment where practical.	During construction	Contractor	√			
3.7	Avoidance of working outside normal working hours.	During construction	Contractor		√		
3.7	Adoption of standard quiet plant.	During construction	Contractor		√		
3.7	Reduction in number of pneumatic breaker working at a particular time.	During construction	Contractor		√		
3.7	Siting of noisy equipment should be as far as possible from NSRs.	During construction	Contractor		√		
3.7	Making use of the screening effect of the material stockpiles and temporary structures such as site offices.	During construction	Contractor		√		
3.7	Regular maintenance of plant, including lubricating moving parts, tightening loose parts and replacing worn out components.	During construction	Contractor		√		

* EM&A Ref = section number of EM&A Manual

** Des = design, C = construction, O = operation, Dec = decommissioning

APPENDIX A Implementation Schedule of Mitigation Measures for Air Quality Control

EM&A Ref*	Environmental Protection Measures	Timing	Implementation Agent	Implementation Stages **			
				Des	C	O	Dec
2.8	Effective spraying water on dusty materials before loading or unloading, and on excavation areas as well as the roads on site, a watering programme of once every 2 hours in normal weather conditions, and hourly in dry/windy conditions, and hourly in dry/windy conditions is proposed.	Throughout construction	Contractor		√		
2.8	Covering or sheltering any stockpile of dusty materials and any dusty load on trucks.	Throughout construction	Contractor		√		
2.8	Controlling speed of vehicles in site area to 10km/h in all sites.	Throughout construction	Contractor		√		
2.8	Hydroseeding the reinstated landscapes as soon as construction is completed.	Throughout construction	Contractor		√		
2.8	Providing and maintaining wheel washing facilities at the exit of the site to minimise the quantity of material deposited on public roads.	Throughout construction	Contractor		√		
2.8	Good site practice to minimise the air quality impacts from construction.	Throughout construction	Contractor		√		

* EM&A Ref = section number of EM&A Manual

** Des = design, C = construction, O = operation, Dec = decommissioning

APPENDIX A Implementation Schedule of Mitigation Measures for Water Pollution Control

EM&A Ref*	Environmental Protection Measures	Timing	Implementation Agent	Implementation Stages **			
				Des	C	O	Dec
4.2	The boundaries of the sites shall be marked and the earthworks shall be surrounded by dykes or embankments for flood protection.	During construction	Contractor		√		
4.2	Perimeter channels should be provided at the site boundary to intercept storm runoff offsite. These channels should be constructed in advance of site formation works and any earthworks.	During construction	Contractor		√		
4.2	Sediment traps and settlement tanks should be used for silt retention. These facilities must be regularly cleaned and maintained by the contractor. Daily inspection of such facilities should be specified during the work contract.	During construction	Contractor		√		
4.2	Traps should also incorporate oil and grease removal facilities such as plant yards or workshop facilities where application.	During construction	Contractor		√		
4.2	Existing manhole should be adequately covered or temporarily sealed during the construction.	During construction	Contractor		√		
4.2	Open material storage stockpiles should be covered with tarpaulin or similar fabric to prevent erosion.	During construction	Contractor		√		
4.2	Exposed soil areas should be minimised to reduce the potential for increased station and contamination of runoff.	During construction	Contractor		√		
4.2	As much construction as possible should be undertaken between September and April to take advantage of optimal (dry season) conditions for construction.	During construction	Contractor		√		
4.2	Waste water from site plants and wheel washing facilities should be adequately treated prior to discharge into stormwater drains.	During construction	Contractor		√		
4.2	Portable toilets and handwashing facilities should be provided for on-site construction workforce.	During construction	Contractor		√		

* EM&A Ref = section number of EM&A Manual

** Des = design, C = construction, O = operation, Dec = decommissioning

APPENDIX A Implementation Schedule of Ecological Mitigation Measures

EM&A Ref*	Environmental Protection Measures	Timing	Implementation Agent	Implementation Stages **			
				Des	C	O	Dec
5.2	Boundary of woodland and construction area shall be separated by hoarding. There should also be no lighting of fires within the working area.	During construction	Contractor		√		
5.2	Good housekeeping practices shall be followed, including water spraying at working area surfaces on site, covering of spoils, suitable storage of waste materials.	During construction	Contractor		√		
5.2	Introduction of hoarding along the perimeter of the construction site.	During construction	Contractor		√		
5.2	Surface run-off should be diverted to pass through the silt/sand traps and re-used on-site where practicable.	During construction	Contractor		√		
5.2	Oil separation should be provided for run-off from areas with potential oil or grease contamination.	During construction	Contractor		√		
5.2	Sewage shall not be discharged on site or to natural water courses.	During construction	Contractor		√		
5.2	Site monitoring to ensure that measures to mitigate the effects of construction are in place and working successfully. Remedial action to correct problems where these have arisen.	During construction	Contractor		√		

* EM&A Ref = section number of EM&A Manual

** Des = design, C = construction, O = operation, Dec = decommissioning

APPENDIX A Implementation Schedule of Mitigation Measures for Waste Management

EM&A Ref*	Environmental Protection Measures	Timing	Implementation Agent	Implementation Stages **			
				Des	C	O	Dec
	Construction Waste Management						
6.2	Implementation of good site management, planning and design consideration to reduce over-ordering and waste generation.	Throughout construction	Contractor		√		
6.2	Where possible, construction waste materials, such as wood and metal should be separated out from other wastes for reuse and recycling as much as possible.	Throughout construction	Contractor		√		
6.2	All recyclable materials should be clearly segregated and stored in appropriate skip/containers or stockpiled for reuse and recycling.	Throughout construction	Contractor		√		
6.2	Only when material can not be reused should it be disposed of to a public filling area (< 20% non-inert materials) or, as a last resort, landfill.	Throughout construction	Contractor		√		
	Chemical Waste Management						
6.2	Chemical wastes should be stored in a locked, fully bunded area which is impermeable to both water and the waste being stored. The waste storage area should also be covered to prevent rainfall from accumulating within the bunded areas. The bunded area must have a volume of either 110% of the largest container or 20% by volume of the chemical waste stored in that area. Appropriate spill absorption material should be stored near the storage area in order to clean up any minor spill events.	Throughout construction	Contractor		√		
6.2	All chemical wastes should be disposed of to the Chemical Treatment Centre (CWTC) at Tsing Yi. If chemical wastes are to be generated, the contractor will need to register with EPD as a chemical waste producer and observe the requirements for chemical waste storage, labelling, transportation and disposal.	Throughout construction	Contractor		√		
6.2	The contractor will also need to consider the guidance in "A Guide to Chemical Waste Control Scheme: A Guide to the Registration of Chemical Waste Producers" and the "Code of Practice on the	Throughout construction	Contractor		√		

	Packing, Labelling and Storage of Chemical Wastes".						
6.2	Where appropriate, recycling/reprocessing opportunities for certain waste liquids (i.e. oils and solvents) should be identified to reduce overall volumes.	Throughout construction	Contractor		√		
6.2	Material that is not acceptable to the CWTC such as spent batteries should be sent to a co-disposal landfill such as SENT Landfill.	Throughout construction	Contractor		√		
	Municipal/Sewage Wastes Management						
6.2	A temporary refuse collection facility should be set-up by the Contractor. Waste should be stored in appropriate containers prior to collection and disposal. A private waste collection firm may be commissioned by the site Contractor to remove the waste regularly, to the satisfaction of the Engineer.	Throughout construction	Contractor		√		
6.2	Sewage generated on the site should be controlled through the use of chemical toilets or sewage holding tanks. Either would require regular cleaning with the resulting sewage disposed of appropriately (i.e. sewage treatment works).	Throughout construction	Contractor		√		
	Statutory Division						
6.2	Application for permits/licenses of follow instructions in handing and disposal of wastes general from the site under Hong Kong's Ordinance.	Throughout construction	Contractor		√		

* EM&A Ref = section number of EM&A Manual

** Des = design, C = construction, O = operation, Dec = decommissioning

Appendix B

Calibration Certificates of the Sound Level Meters at Pine Court and Magnolia Villa

Brüel & Kjær

SPECTRIS CHINA LIMITED
思百吉中國有限公司

CERTIFICATE OF CALIBRATION

Certificate No. : 2KS030325-1 **Page 1 of 2**

Calibration of :

Description	:	Sound Level Meter	,	Microphone
Manufacture	:	Brüel & Kjær		
Type No.	:	2238	,	4188
Serial No.	:	2255678	,	2250421

Client :

CHINA HARBOUR ENGINEERING CO (GROUP)
19/F., CHINA HARBOUR BLDG.,
370-374 KING'S ROAD, NORTH POINT,
HONG KONG.

Calibration Conditions :

Air Temperature	:	23.0	**°C**
Air Pressure	:	101.3	**kPa**
Relative Humidity	:	61	**%**

Test Specifications :

The Sound Level Meter has been calibrated in accordance with the requirements as specified in IEC 60651 and IEC 60804 type 1, and vendor specific procedures.

The measurements has been performed with the assistance of :
Brüel & Kjær's Sound Level Meter Calibration System B&K 9600 CAL2238A, Ver.25.10.1999
The standard(s) and instrument(s) used in the calibration are traceable to international standard and are calibrated on a schedule which is adjusted to maintain the required accuracy level.

Test Result :

A list of the performed (sub) tests is stated on page 2 of this certificate. Actual Measurement are documented on worksheet.

Date of Calibration : 29 April, 2003
Calibrated By :

Fox Ng

Certificate issued : 30 April, 2003
Approved signatory :

Daniel Ho

Unit 706 7/F., Miramar Tower, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong
香港九龍尖沙咀彌敦道132號美麗華大廈7樓706室
Tel : (852) 2548 7486
Fax : (852) 2858 1168

Spectris Offices in China: Beijing • Guangzhou • Hong Kong • Shanghai • Shenyang
Technical Centres in China : Guangzhou • Wuhan
Web Site: www.bksv.com

Brüel & Kjær

SPECTRIS CHINA LIMITED
思百吉中國有限公司

CERTIFICATE OF CALIBRATION

Certificate No. : 2KS030202-2 **Page 1 of 2**

Calibration of :

Description	:	Sound Level Meter	,	Microphone
Manufacture	:	Brüel & Kjær		
Type No.	:	2238 F	,	4188
Serial No.	:	2160253	,	2157150

Client :

Spectris China Limited
Unit 706 7/F, Miramar Tower,
132 Nathan Road, TST,
Kowloon, Hong Kong.

Calibration Conditions :

Air Temperature	:	23.0	**°C**
Air Pressure	:	101.6	**kPa**
Relative Humidity	:	62	**%**

Test Specifications :

The Sound Level Meter has been calibrated in accordance with the requirements as specified in IEC 60651 and IEC 60804 type 1, and vendor specific procedures.

The measurements has been performed with the assistance of :
Brüel & Kjær's Sound Level Meter Calibration System B&K 9600 CAL2238A, Ver.25.10.1999
The standard(s) and instrument(s) used in the calibration are traceable to international standard and are calibrated on a schedule which is adjusted to maintain the required accuracy level.

Test Result :

A list of the performed (sub) tests is stated on page 2 of this certificate. Actual Measurement are documented on worksheet.

Date of Calibration : 10 February, 2003
Calibrated By :

Fox Ng

Certificate issued : 10 February, 2003
Approved signatory :

Daniel Ho

Unit 706 7/F., Miramar Tower, 132 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong
香港九龍尖沙咀彌敦道132號美麗華大廈7樓706室
Tel : (852) 2548 7486
Fax : (852) 2858 1168

Spectris Offices in China: Beijing • Guangzhou • Hong Kong • Shanghai • Shenyang
Technical Centres in China : Guangzhou • Wuhan

Appendix C

Calibration Certificates of the High Volume Samplers at Pine Court and Magnolia Villa

Stanger Asia

1. INTRODUCTION

Stanger Asia Ltd was requested by China Harbour Engineering Company (Group) to provide calibration service for High Volume Samplers at TDD contract No.HK10/2000 - Northern Access Road for Cyberport Development at Telegraph Bay. Stanger Asia Ltd was responsible for the provision of manpower and reporting in order to execute the above-mentioned activities.

2. METHODOLOGY

High Volume Samplers was calibrated by following the standard high volume sampling method as set out in High Volume Method for Total Suspended Particulates. Part 50 Chapter 1 Appendix B, Title 40 of the Code of Federal Regulations of the USEPA.

3. RESULT SUMMARY

The calibration certificate of the calibrator and calibration results are attached in Appendix I.

Flow rate, $Q_{std} = 1/m_s((Iav)[Sqrt\ (\ Pav/760)\ (\ 298/Tav)]-b_s)$

where:

Tav = daily average temperature , K (K = 273 + °C)
Pav = daily average barometric pressure during calibration, mm Hg
m_s = sampler slope which obtained from calibration graph.
b_s = sampler intercept which obtained from calibration graph.
Iav = average chart response
Q_{std} = standard flow rate in m^3/min

For High Volume Sampler at ***Magnolia***.

$Q_{std} = [1/(37.7257)]\{[Iav][Sqrt\ (\ Pav/760)\ (\ 298/Tav)] + 3.7812\}$

For High Volume Sampler at ***Pine Court***.

$Q_{std} = [1/(37.4629)]\{[Iav][Sqrt\ (\ Pav/760)\ (\ 298/Tav)] + 20.4282\}$

Prepared by

Dennis Tsui
Environmental Scientist
For Stanger Asia Ltd

Approved by:

Chris Shenfield
Senior Environmental Scientist
For Stanger Asia Ltd

G/F., 1/F., & 3/F., Din Wai Industrial Building, 13 On Chuen Street, Fanling, New Territories, HONG KONG. Tel: 852-2682 1203 Fax: 852-2682 0046 E-mail address: stanger@stanger.com.hk

Stanger Asia

APPENDIX I

CALIBRATION RESULTS AND CALIBRATION CERTIFICATE OF CALIBRATOR

Stanger Asia

SOMP ENV052 : CALIBRATION RECORD OF HIGH VOLUME SAMPLER (TSP)

Date: 21/05/2003

Temp.: 29 °C

At. Press: 758 mm Hg

Calibrated by: Dennis Tsui

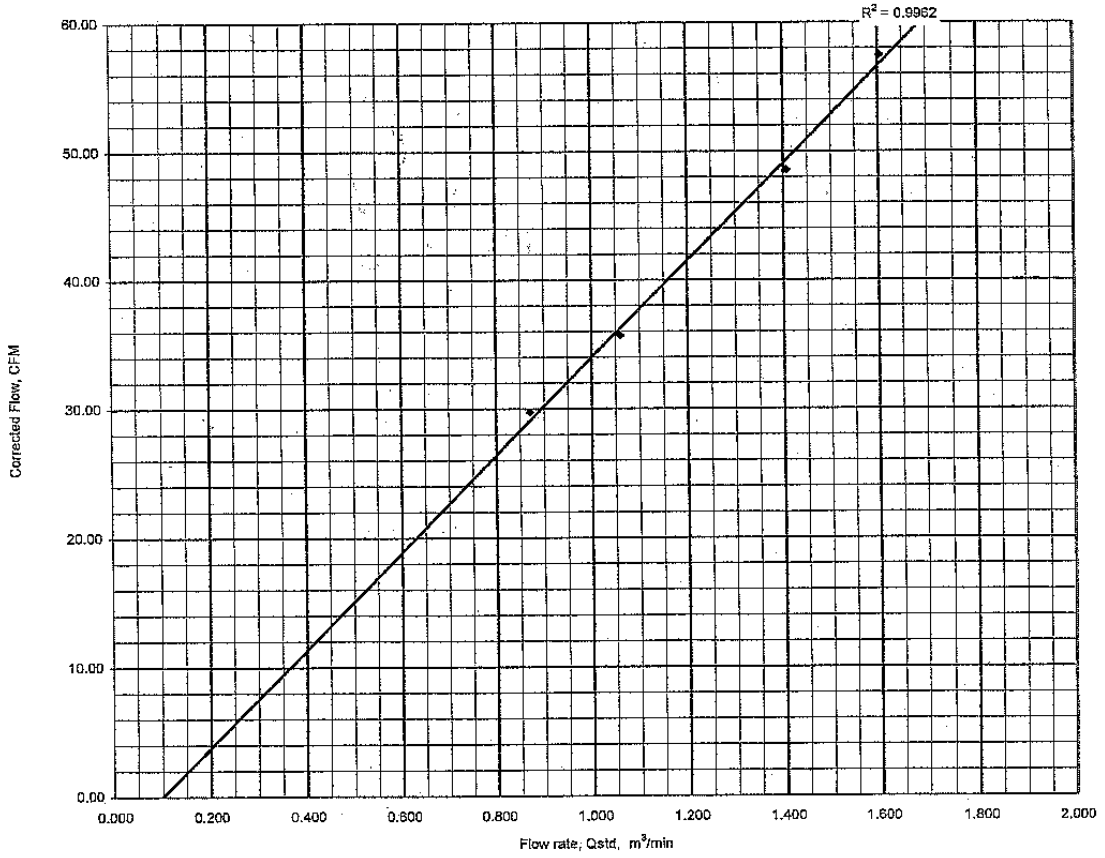
Next Calibration Due Date:

Equipment No.:
Serial No.:
Calibration No.:

Plate	Flow Rate (m^3/min)	True In.H2O	Corrected Flow (CFM)
13	1.604	9.8	57.44
10	1.407	7.5	48.53
7	1.060	4.2	35.65
5	0.871	2.8	29.71

Remarks: The correlation coefficient is larger than 0.99 indicates the calibration is linear.
Slope= 37.7257
Intercept= -3.781208

Location : Magnolia



Tester: Dennis Tsui

Checked By: Chris Shenfield

G/F., 1/F., & 3/F., Din Wai Industrial Building, 13 On Chuen Street, Fanling, New Territories, HONG KONG. Tel: 852-2682 1203 Fax: 852-2682 0046 E-mail address: stanger@stanger.com.hk

Stanger Asia

SOMP ENV052 : CALIBRATION OF HIGH VOLUME AIR SAMPLER (TSP)

Date: 21/05/2003

Temp.: 29 °C

At. Press: 758 mm Hg

Calibrated by: Dennis Tsui

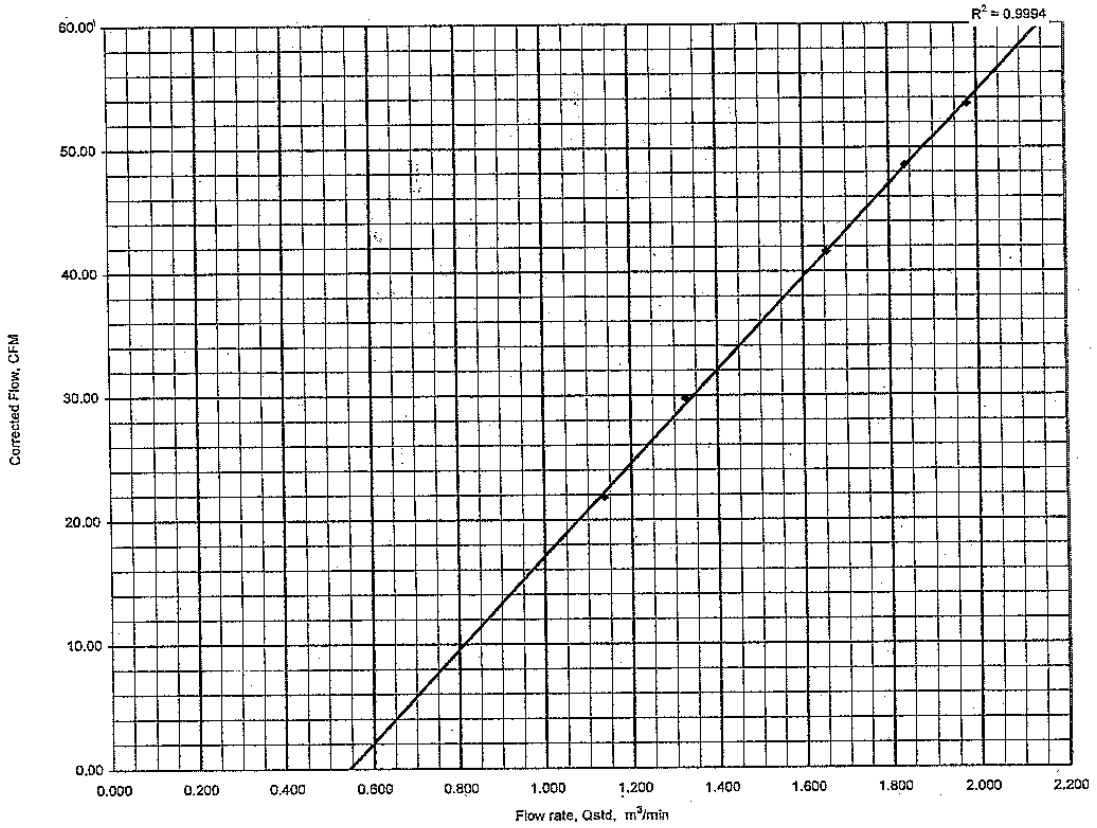
Recommended Next Calibration Due Date:

Equipment No.:
Serial No.:
Calibration No.:

Plate	Flow Rate (m^3/min)	True in.H2O	Corrected Flow (CFM)
18	1.979	11.2	53.48
13	1.838	9.4	48.53
10	1.654	7.3	41.60
7	1.326	4.2	29.71
5	1.137	2.8	21.79

Remarks: The correlation coefficient is larger than 0.99 indicates the calibration is linear.
Slope= 37.462925
Intercept= -20.42815

Location : Pine Court



Dennis Tsui

Checked By:

Chris Shenfield

Andersen Instruments, Inc.

Orifice Transfer Standard Certification Worksheet

Date: 04/09/2003 **Rootsmeter S/N:** 9736553 **Ta:** 21.00 C
Operator: Ron **Calibrator S/N:** 1573 **Pa:** 749.8 mm Hg
Calibrator Model #: G25A **Placed in service:**

Run	Vol. Init. (m3)	Vol. Final (m3)	Δ Vol. (m3)	Δ Time (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1.00	2.00	1.00	1.386	3.18	2.00
2	3.00	4.00	1.00	0.982	6.17	4.00
3	5.00	6.00	1.00	0.880	7.66	5.00
4	7.00	8.00	1.00	0.832	8.59	5.50
5	9.00	10.00	1.00	0.690	12.33	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H(Ta/Pa)}$ (y-axis)
0.996	0.718	1.414	0.996	0.718	0.886
0.992	1.010	2.000	0.992	1.010	1.253
0.990	1.125	2.236	0.990	1.125	1.401
0.989	1.188	2.345	0.989	1.188	1.469
0.984	1.425	2.828	0.984	1.425	1.772
	m =	1.9975		m =	1.2512
	b =	-0.019200		b =	-0.012026
	r =	0.999926		r =	0.999926

Calculations

$$Vstd = \Delta Vol((Pa - \Delta P)/Pstd)(Tstd/Ta) \qquad Va = \Delta Vol((Pa - \Delta P)/Pa)$$

$$Qstd = Vstd/\Delta Time \qquad Qa = Va/\Delta Time$$

For subsequent flow rate calculations:

$$Qstd = 1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right) - b\right) \qquad Qa = 1/m\left(\left(\sqrt{\Delta H(Ta/Pa)}\right) - b\right)$$

Standard Conditions:
Tstd: 298.18 ° K
Pstd: 760 mm Hg

where:
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (° K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

For additional information consult:
1. The Federal Register, Vol. 47, No.234, pp. 54896-54921, Dec. 6, 1982
2. Quality Assurance Handbook, Vol II (EPA 60074-77-277a), Section 2.11
3. Andersen Instruments, Inc. Instruction Manual

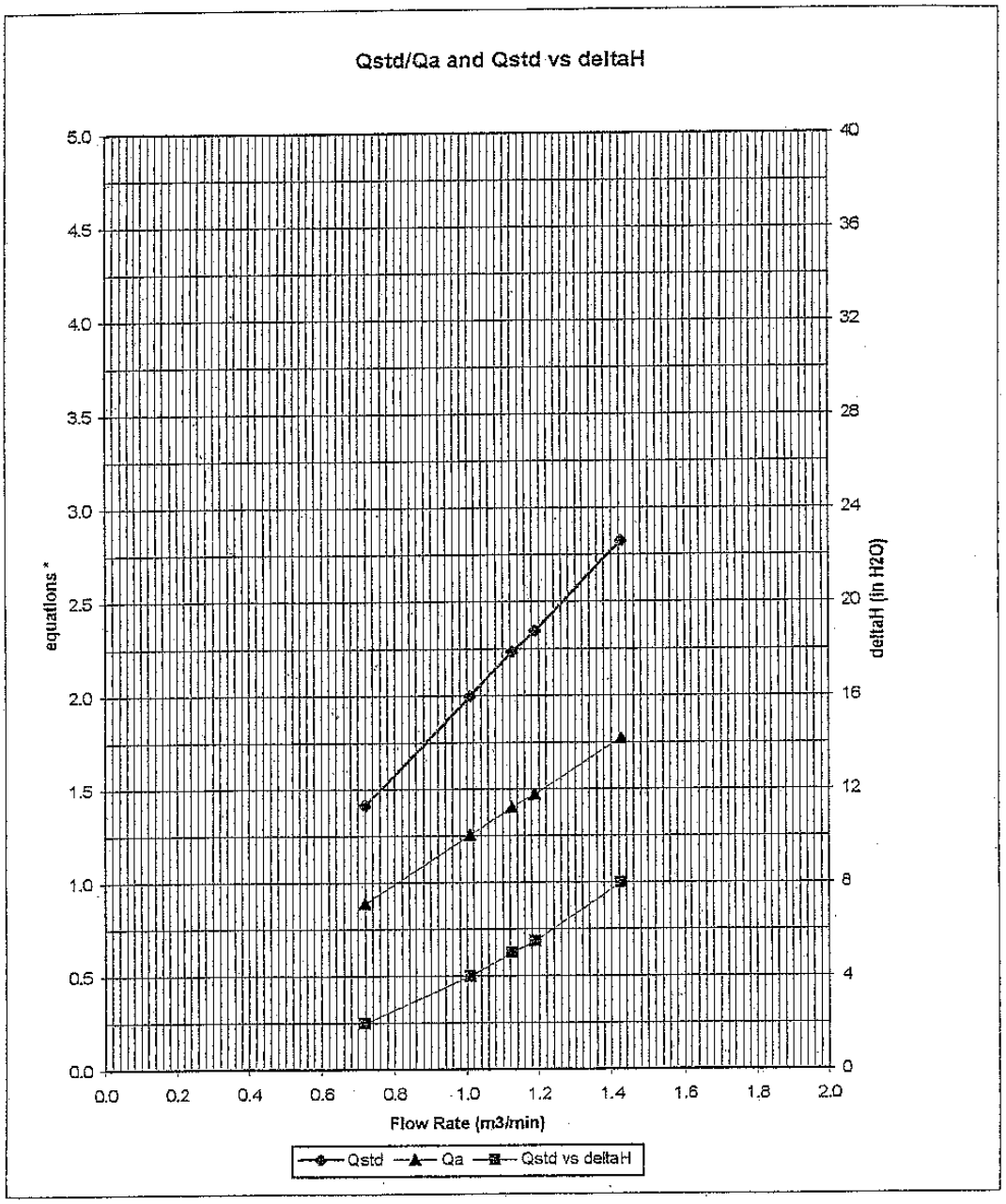
Notes:
1. Copies of this calibration are not kept on file.
2. EPA recommends calibrators should be recalibrated after one year of use.

CERTIFIED TRUE COPY

NAME: S.C.F. LAU/Y.Y. PANG
For Stanger Asia Limited

Andersen Instruments, Inc.
Orifice Transfer Standard Certification

Model:G25A SN:1573 page 2



* y-axis equations:

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

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

Appendix D

Action and Limit Levels

Action and Limit Level

Noise

The Action and Limit Level for construction noise in EM&A Manual is outlined in Table D1. Limit Level is based on Area Sensitivity Rating specified on the Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO).

Table D1 Action and Limit Levels for Construction Noise

Time Period	Action Level	Limit Level
0700 – 1900 hrs on normal weekday	When one documented complaint is received	75* dB(A)
0700 – 2300 hrs on holidays; and 1900 – 2300 hrs on all other days		60/65/70** dB(A)
2300 – 0700 hrs of next day		45/50/55** dB(A)

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

** to be selected based on Area Sensitivity Rating.

Air Quality

The Action and Limit Levels for air quality is outlined in Table D2 & Table D3, the Action Level was derived from the results of baseline monitoring.

Table D2 Action and Limit Levels for 1-hour TSP

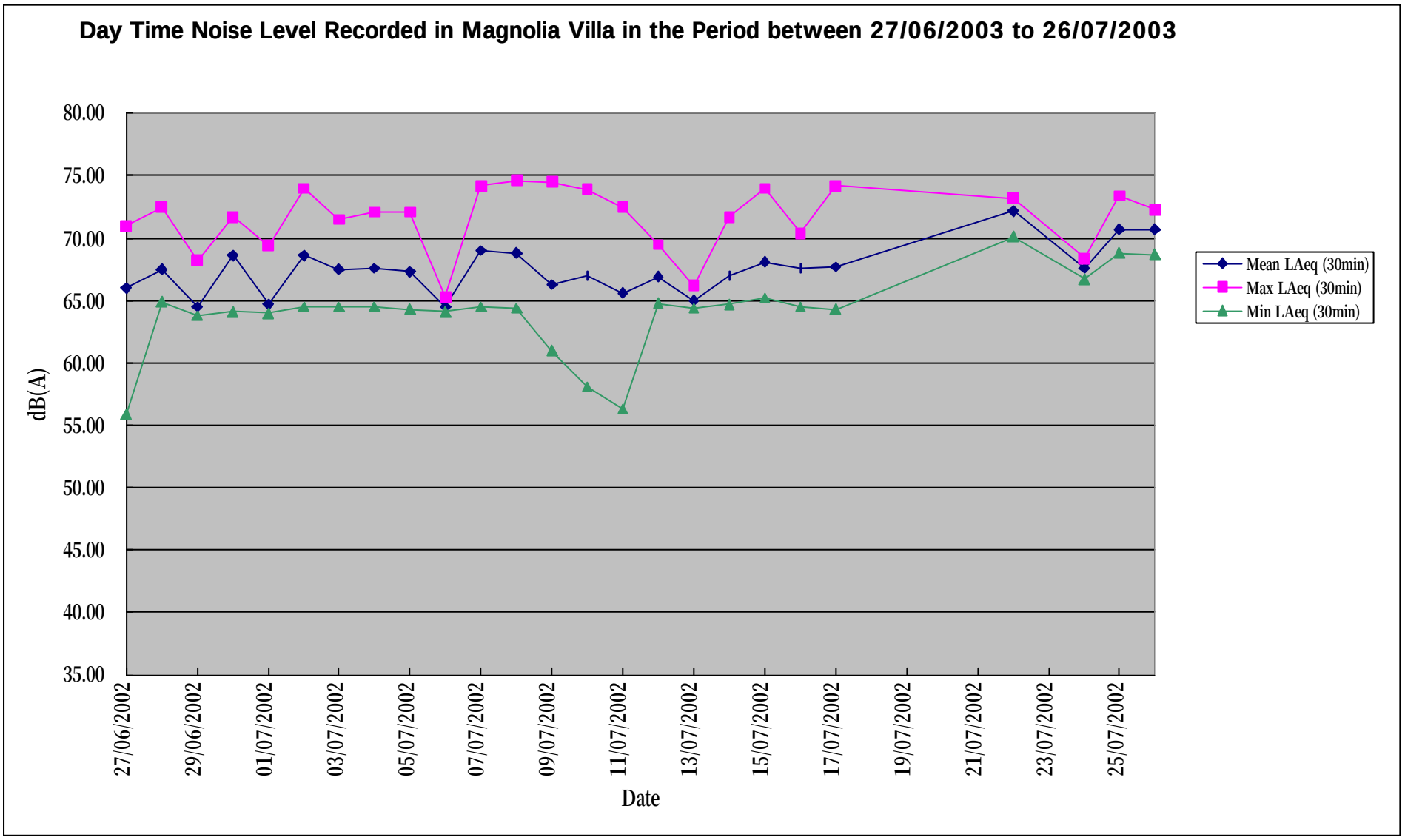
Location	Action Level, $\mu g/m^3$	Limit Level
ASR-NA1	427	500
ASR-A1	423	

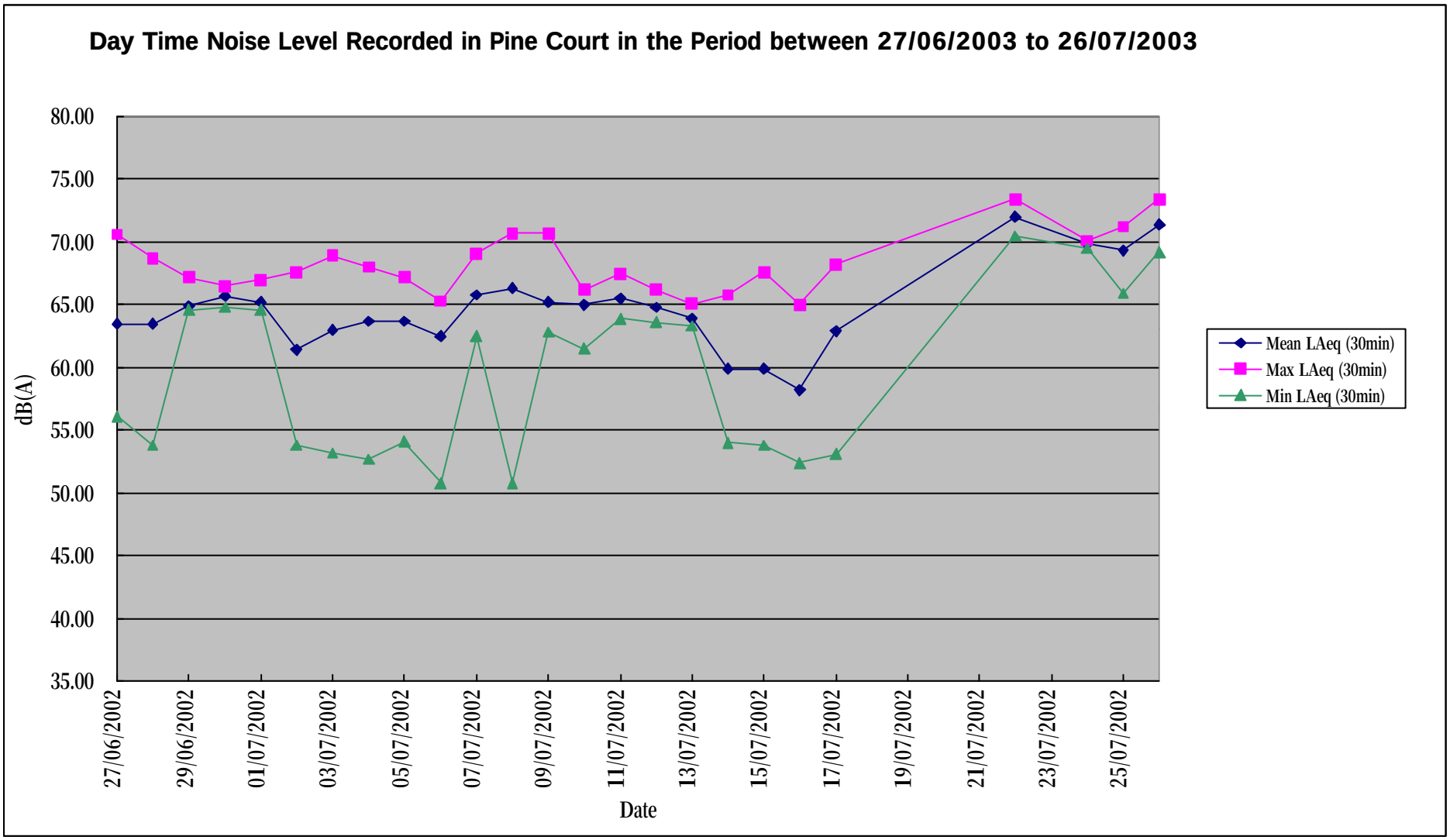
Table D3 Action and Limit Levels for 24-hour TSP

Location	Action Level, $\mu g/m^3$	Limit Level, $\mu g/m^3$
ASR-NA1	160	260
ASR-A1	153	

Appendix E

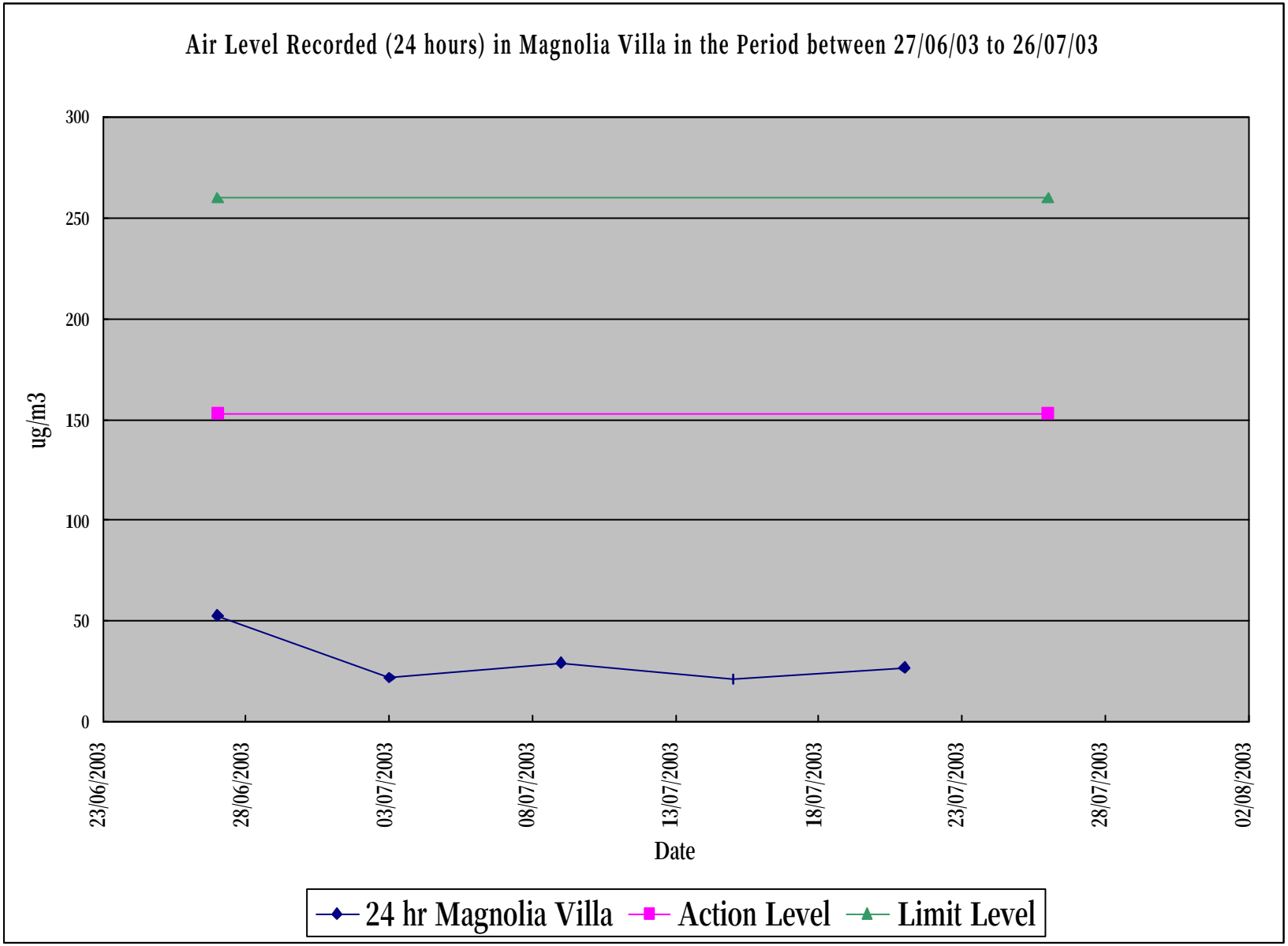
Graphical Representation of Noise Monitoring Data

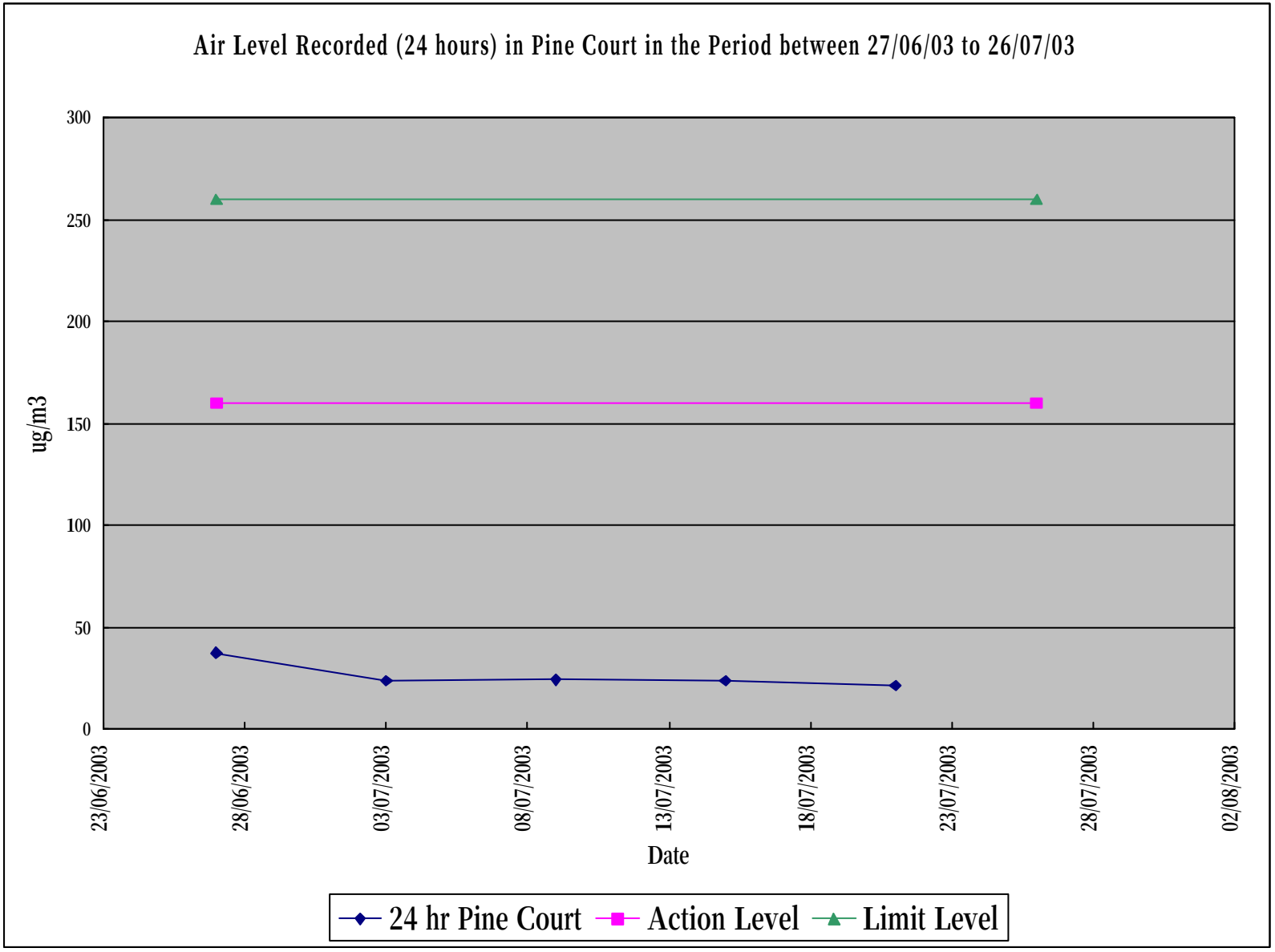

Day Time Noise Level Recorded in Magnolia Villa in the Period between 27/06/2003 to 26/07/2003
80.00
75.00
70.00
65.00
60.00
55.00
50.00
45.00
40.00
35.00
dB(A)
27/06/2002
29/06/2002
01/07/2002
03/07/2002
05/07/2002
07/07/2002
09/07/2002
11/07/2002
13/07/2002
15/07/2002
17/07/2002
19/07/2002
21/07/2002
23/07/2002
25/07/2002
Date
Mean LAeq (30min)
Max LAeq (30min)
Min LAeq (30min)

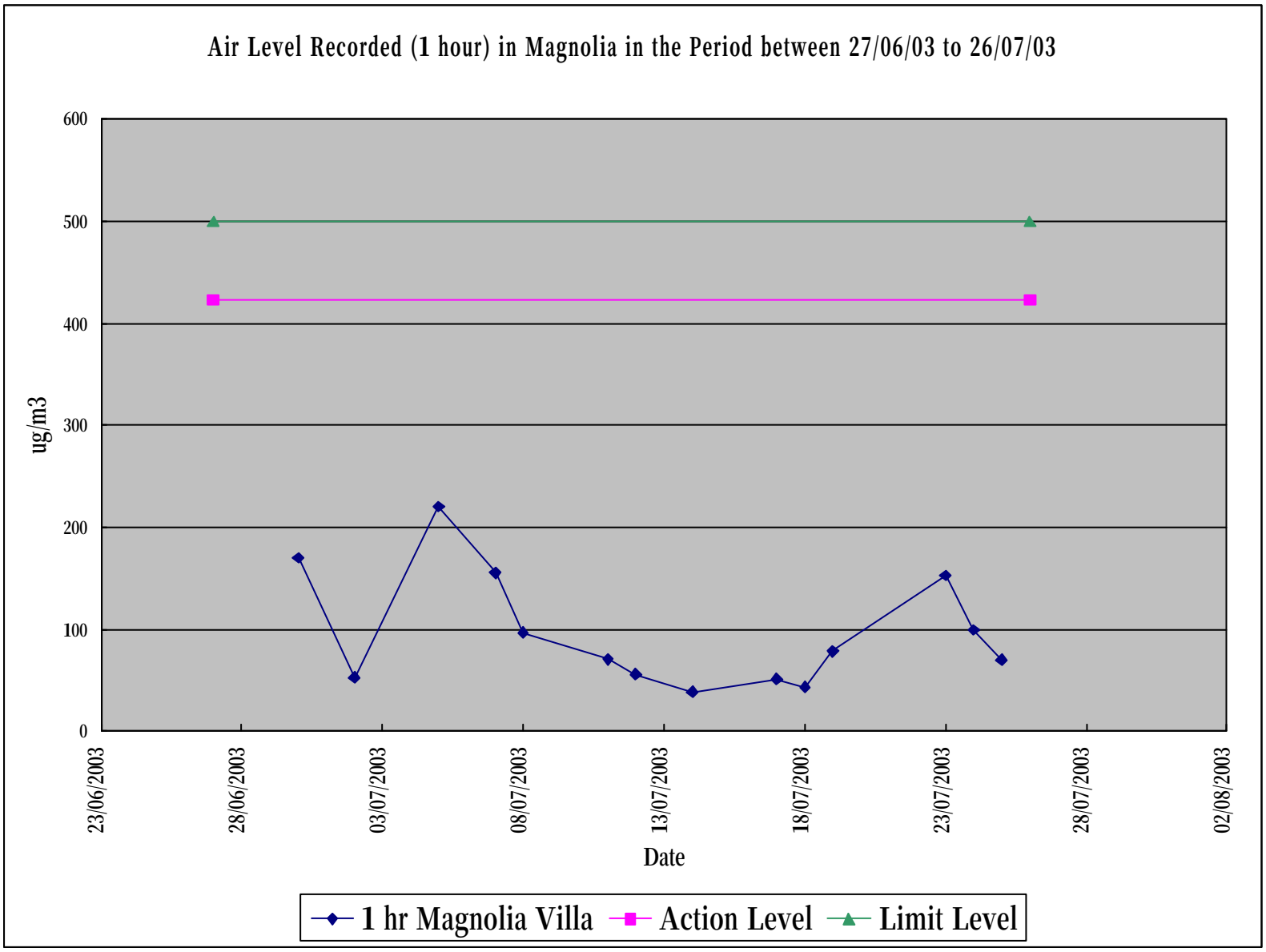

Day Time Noise Level Recorded in Pine Court in the Period between 27/06/2003 to 26/07/2003
80.00
75.00
70.00
65.00
60.00
55.00
50.00
45.00
40.00
35.00
dB(A)
27/06/2002
29/06/2002
01/07/2002
03/07/2002
05/07/2002
07/07/2002
09/07/2002
11/07/2002
13/07/2002
15/07/2002
17/07/2002
19/07/2002
21/07/2002
23/07/2002
25/07/2002
Date
Mean LAeq (30min)
Max LAeq (30min)
Min LAeq (30min)

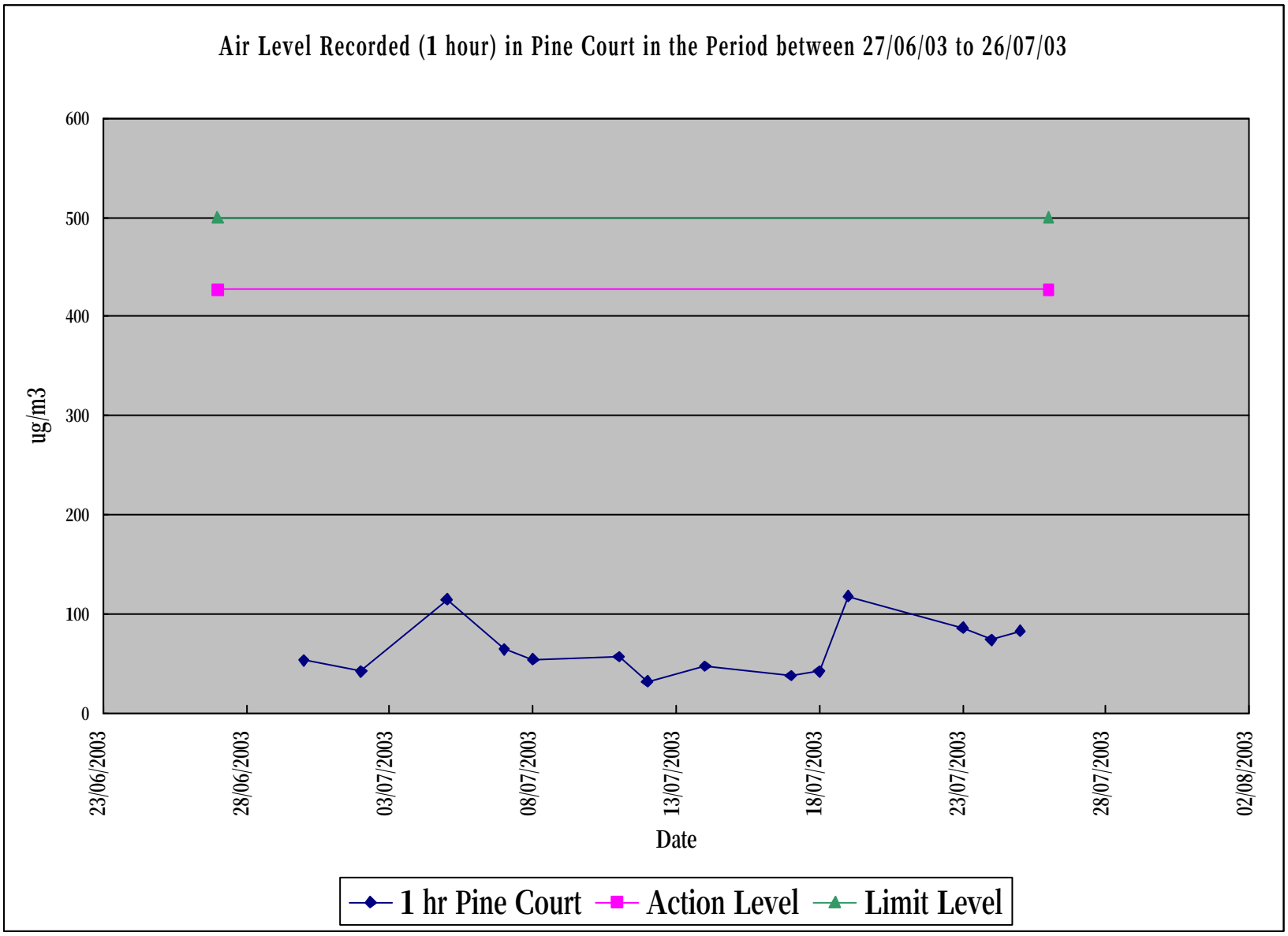
Appendix F

Graphical Representation of Air Quality Monitoring Data


Air Level Recorded (24 hours) in Magnolia Villa in the Period between 27/06/03 to 26/07/03
300
250
200
150
100
50
0
ug/m3
23/06/2003
28/06/2003
03/07/2003
08/07/2003
13/07/2003
18/07/2003
23/07/2003
28/07/2003
02/08/2003
Date
24 hr Magnolia Villa
Action Level
Limit Level

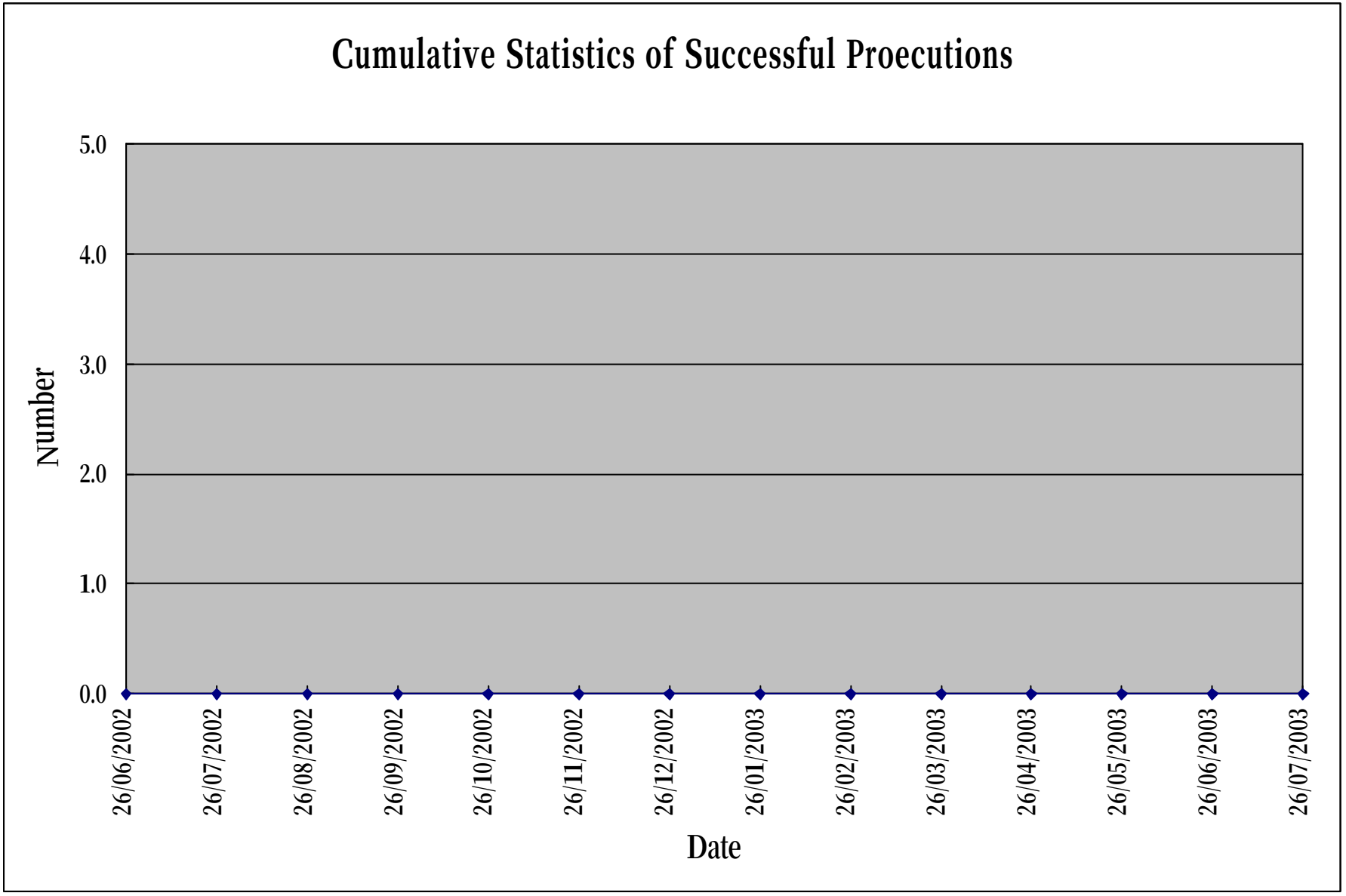

Air Level Recorded (24 hours) in Pine Court in the Period between 27/06/03 to 26/07/03
300
250
200
150
100
50
0
ug/m3
23/06/2003
28/06/2003
03/07/2003
08/07/2003
13/07/2003
18/07/2003
23/07/2003
28/07/2003
02/08/2003
Date
24 hr Pine Court
Action Level
Limit Level

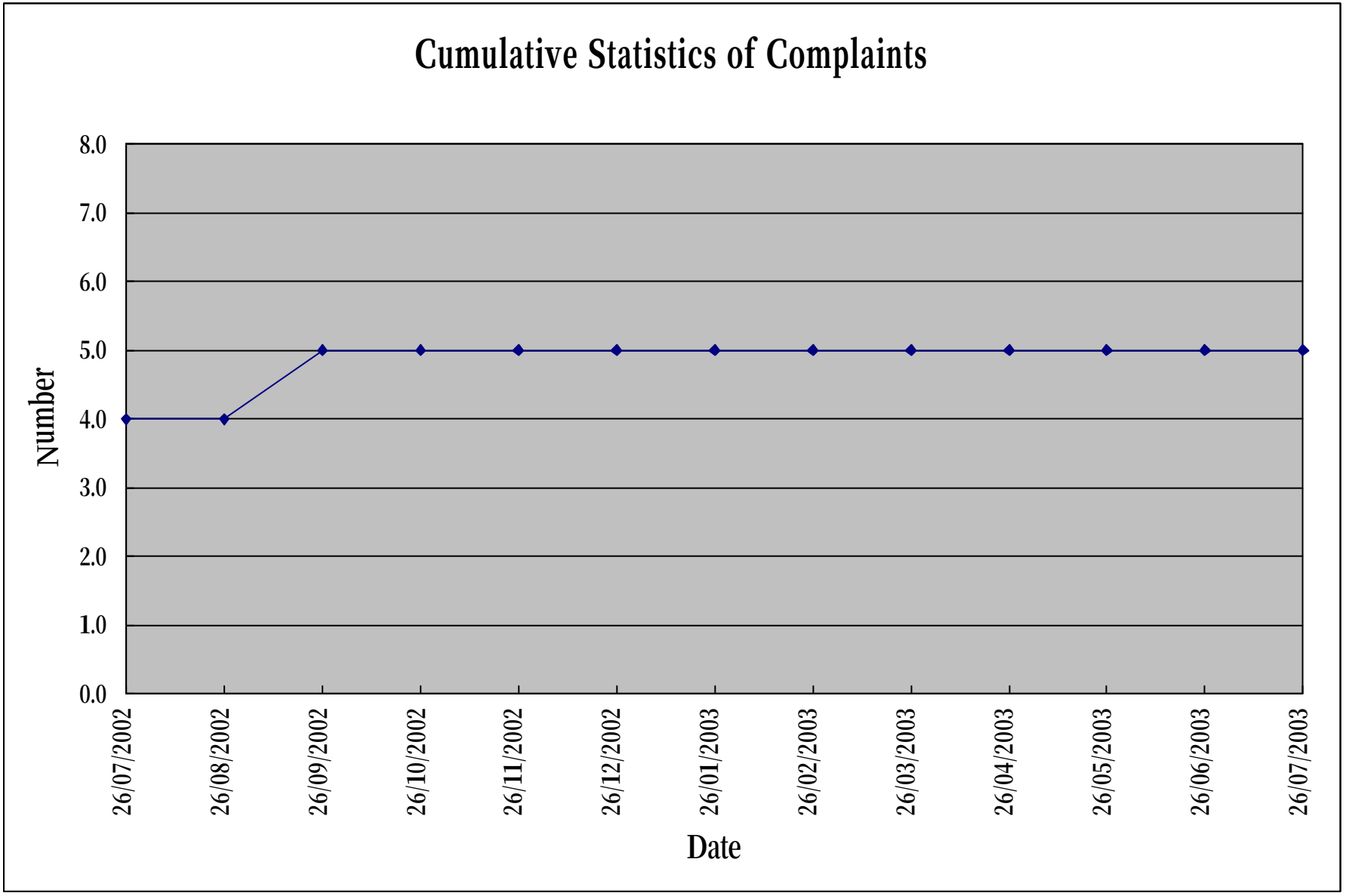

Air Level Recorded (1 hour) in Magnolia in the Period between 27/06/03 to 26/07/03
600
500
400
300
200
100
0
ug/m3
23/06/2003
28/06/2003
03/07/2003
08/07/2003
13/07/2003
18/07/2003
23/07/2003
28/07/2003
02/08/2003
Date
1 hr Magnolia Villa
Action Level
Limit Level

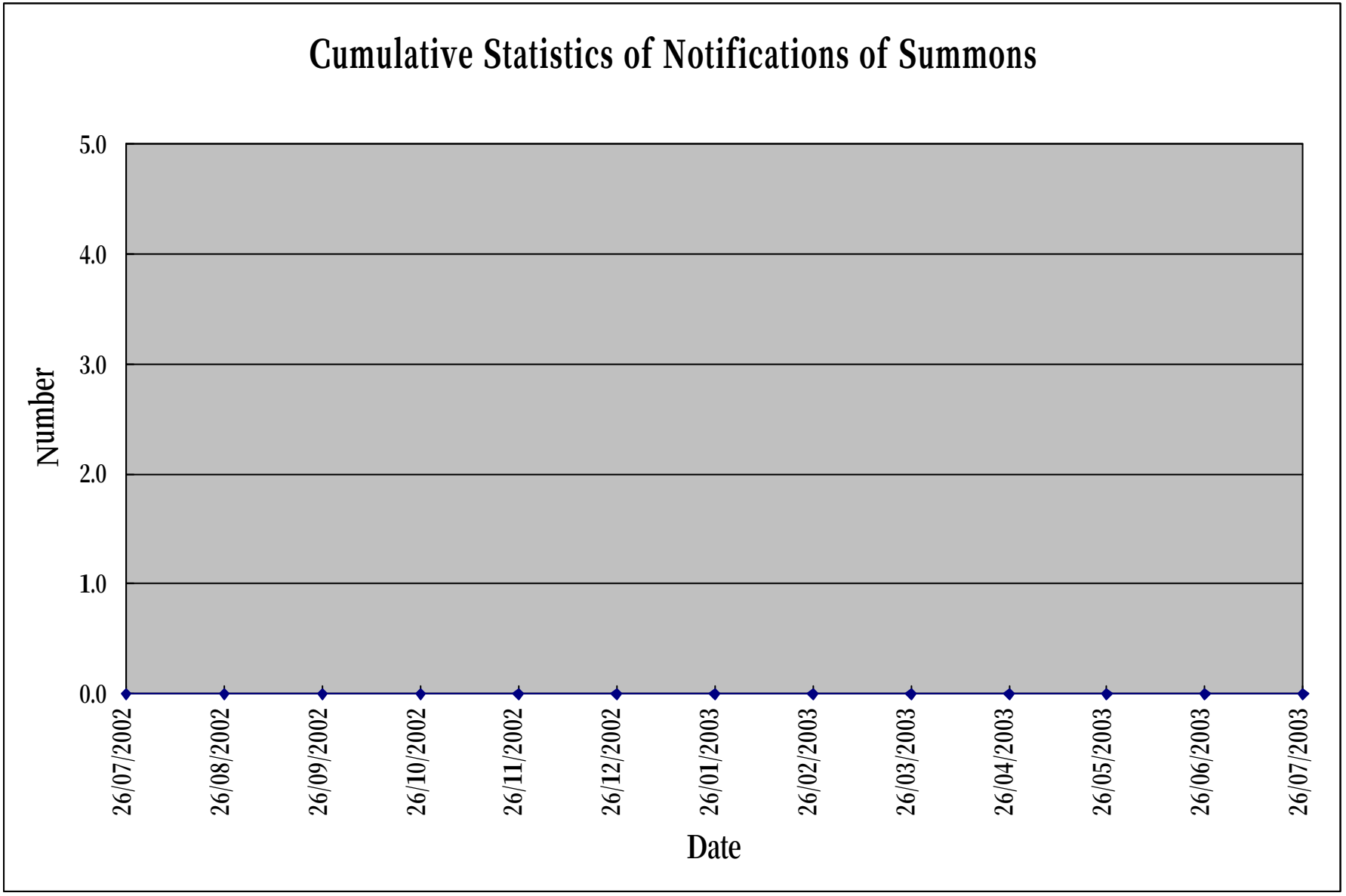

Air Level Recorded (1 hour) in Pine Court in the Period between 27/06/03 to 26/07/03
600
500
400
300
200
100
0
ug/m3
23/06/2003
28/06/2003
03/07/2003
08/07/2003
13/07/2003
18/07/2003
23/07/2003
28/07/2003
02/08/2003
Date
1 hr Pine Court
Action Level
Limit Level

Appendix G

Cumulative Statistics on Complaints, Notifications of Summon and Successful Prosecutions


Cumulative Statistics of Successful Proecutions
5.0
4.0
3.0
2.0
1.0
0.0
Number
26/06/2002
26/07/2002
26/08/2002
26/09/2002
26/10/2002
26/11/2002
26/12/2002
26/01/2003
26/02/2003
26/03/2003
26/04/2003
26/05/2003
26/06/2003
26/07/2003
Date


Cumulative Statistics of Complaints
Number
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
26/07/2002
26/08/2002
26/09/2002
26/10/2002
26/11/2002
26/12/2002
26/01/2003
26/02/2003
26/03/2003
26/04/2003
26/05/2003
26/06/2003
26/07/2003
Date


Cumulative Statistics of Notifications of Summons
5.0
4.0
3.0
2.0
1.0
0.0
Number
26/07/2002
26/08/2002
26/09/2002
26/10/2002
26/11/2002
26/12/2002
26/01/2003
26/02/2003
26/03/2003
26/04/2003
26/05/2003
26/06/2003
26/07/2003
Date

Appendix H

Weather Conditions

Northern Access Road for Cyberport Development at Telegraph Bay

27 June 2003 to 26 July 2003

Date	Day	Weather
27-Jun-2003	Fri	Cloudy , Cloudy
28-Jun-2003	Sat	Fine , Fine
29-Jun-2003	Sun	Fine , Fine
30-Jun-2003	Mon	Fine , Fine
01-Jul-2003	Tue	Fine , Fine
02-Jul-2003	Wed	Fine , Fine
03-Jul-2003	Thu	Fine , Fine
04-Jul-2003	Fri	Fine , Fine
05-Jul-2003	Sat	Fine , Fine
06-Jul-2003	Sun	Fine , Fine
07-Jul-2003	Mon	Fine , Fine
08-Jul-2003	Tue	Fine , Fine
09-Jul-2003	Wed	Fine , Fine
10-Jul-2003	Thu	Shower , Fine
11-Jul-2003	Fri	Fine , Fine
12-Jul-2003	Sat	Fine , Fine
13-Jul-2003	Sun	Fine , Fine
14-Jul-2003	Mon	Fine , Fine
15-Jul-2003	Tue	Fine , Fine
16-Jul-2003	Wed	Fine , Fine
17-Jul-2003	Thu	Fine , Fine
18-Jul-2003	Fri	Fine , Fine
19-Jul-2003	Sat	Fine , Fine
20-Jul-2003	Sun	Fine , Fine
21-Jul-2003	Mon	Fine , Fine
22-Jul-2003	Tue	Fine , Shower
23-Jul-2003	Wed	Fine , Rain
24-Jul-2003	Thu	Cloudy , Cloudy
25-Jul-2003	Fri	Fine , Fine
26-Jul-2003	Sat	Fine , Fine

Appendix I

Equipment Breakdown

Noise Meter Break Down between 27/06/2003 to 26/07/2003

Date	Time	Location
No Noise Meter was broken down on this reporting period		

Air Sampler Break Down between 27/06/2003 to 26/07/2003

Date	Average TSP Results	Location
No air sampler was broken down on this reporting period		