

Maeda Corporation

**Castle Peak Road
Improvement between
Sham Tseng and Ka
Loon Tsuen,
Tsuen Wan
West Contract No.
HY/99/18**

Monthly Environmental
Monitoring and Audit
Report
September 2006

Second Issue

Maeda Corporation

**West Contract No. HY/99/18
Castle Peak Road Improvement between
Sham Tseng and Ka Loon Tsuen, Tsuen Wan**

Environmental Monitoring and Audit

Monthly Environmental Monitoring and Audit Report – September 2006

October 2006

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12 October 2006

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Our 910-06/E06-52381
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For attention of: Mr. Sam Tsoi

Dear Mr. Tsoi

**Contract HY/99/18 West Contract
Castle Peak Road Improvement between Sham Tseng and Ka Loon Tsuen, Tsuen Wan
Monthly EM&A Report (September 2006)**

We refer to the electronic version of the captioned report and the revised text submitted by your Mr. Raymond Liu via e-mail on 10 October 2006. We do not have comment and we endorse the report.

Yours sincerely

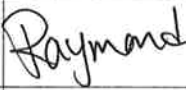
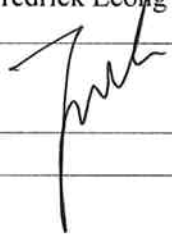
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ABBREVIATIONS AND ACTONYMS

A/L	Action or Limit Levels
AQO	Air Quality Objectives
Arup	Ove Arup & Partners Hong Kong Limited
ASR	Area Sensitive Rating
BOD	Biochemical Oxygen Demand
B&K	Brüel & Kjær
CFM	Cubic Feet per Minute
CNP	Construction Noise Permit
CT	Contractor
C&D	Construction & Demolition
DO	Dissolved Oxygen
DGPS	Differential Global Positioning System
EA	Environmental Auditor
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EP	Environmental Permit
EPD	Environmental Protection Department
ER	Engineer / Engineer's Representative
ET	Environmental Team
HKPSG	Hong Kong Planning Standards and Guidelines
HKSAR	Hong Kong Special Administrative Region
HOKLAS	The Hong Kong Laboratory accreditation Scheme
HVS	High Volume Sampler
IC(E)	Independent Checker (Environment)
IEC	International Electrotechnical Commission Publications
K	Degrees Kelvin
MC	Maeda Corporation
MHJV	Mouchel Halcrow Joint Venture
NAMAS	National Measurement accreditation Service
NTU	Nephelometric Turbidity Unit
NSR	Noise Sensitive Receiver
SCFM	Standard Cubic Feet per Minute
SS	Suspended Solids
TSP	Total Suspended Particulates
Tby	Turbidity

EXECUTIVE SUMMARY

This is the 56th monthly environmental monitoring and audit (EM&A) report presenting the progress of environmental monitoring and audit works for the period between 1 to 30 September 2006, including air quality monitoring and noise monitoring. Air quality was measured in terms of 1-hour Total Suspended Particulates (TSP) and 24-hour TSP. Noise was measured in terms of $L_{eq(30min)}$ with L_{10} and L_{90} measurements as references. Environmental works included the weekly environmental audit and the bi-weekly landscape and visual monitoring and audit. As the outstanding construction works were substantially completed in September 2006, the construction phase EM&A programme has been ceased since 1 October 2006. A 4-week post-project marine water quality monitoring will be conducted accordingly. A final EM&A Report will be prepared in accordance with Section 8.8 of the EM&A Manual, upon completion of the post-project marine water quality monitoring.

Air Quality

A total of 5 sets of 3 consecutive 1-hour TSP measurements were conducted during the reporting month. The highest 1-hour TSP level of $297.9\mu\text{g}/\text{m}^3$ was recorded on Podium, Sea Crest Villa (Phase 1 Block 1) (WA10) and G/F, Carpark, Lido Garden Tower 1 (WA11) on 21 September 2006 while the lowest 1-hour TSP level of $119.9\mu\text{g}/\text{m}^3$ was recorded on G/F, Carpark, Lido Garden Tower 1 (WA11) on 4 September 2006.

A total of 5 sets of 24-hour TSP measurements were conducted during the reporting month. The highest 24-hour TSP level of $183.8\mu\text{g}/\text{m}^3$ was recorded on G/F, Tsing Lung Tau Tin Hau Temple (WA6) on 26 September 2006 while the lowest 24-hour TSP level of $21.3\mu\text{g}/\text{m}^3$ was recorded on Podium, Sea Crest Villa (Phase 3 Block 8) (WA8) on 8 September 2006.

There was no exceedance of 1-hour and 24-hour TSP Action and Limit (A/L) Level recorded during the reporting period.

Noise

A total of 4 sets of daytime (0700 – 1900 hours) noise monitoring were conducted during the reporting month. The highest noise level of 69.7dB(A) was recorded on G/F, Hong Kong Garden (Regent Heights) (WN6) on 4 September 2006 while the lowest noise level of 59.7dB(A) was recorded on Podium, Sea Crest Villa (Phase 4 Block 12) on 27 September 2006 (WN12).

There was no exceedance of noise A/L Levels recorded during the monitoring period.

Marine Water Quality

Upon completion of the construction works for fishermen staircase at Tsing Lung Tau Pier in November 2005, the marine water quality monitoring has ceased since 1 December 2005.

Environmental Auditing

A total of 4 environmental site audits were conducted on a weekly basis in September 2006. No non-compliance with the environmental requirements was identified during the reporting period. The improvement actions against observations of the site audits for the CT included:

- **Waste Management:** Frequent clearing of construction waste and general refuse;
- **Mosquito Control:** Removal of stagnant water within the site.

Landscape and Visual

A total of 2 landscape and visual monitoring and audits were carried out on a biweekly basis in September 2006. The Registered Landscape Architect had recommended as follows:

- The Contractor was reminded to clear away all scattered litter, garbage, etc. as found on site, and keep the site in a tidy condition at all times.
- The Contractor was reminded to replace all defective and dead trees, and to provide mulching to planter beds as soon as possible.
- The Contractor was reminded to replace all dead whip plants on woodland planting slopes, and to carry out regular watering of plants during the dry periods. Also, the Contractor was reminded to remove the *Leucaena leucocephala* plants as soon as possible.
- The Contractor was reminded to provide tree ties to all pavement trees as soon as possible.

Waste Disposal

A total of 11 loads of Construction & Demolition (C&D) waste and a total of 118 loads of C&D materials (Public Fill) were disposed of at WENT Landfills and Public Filling Area in Tuen Mun respectively in September 2006. No chemical waste was disposed of in the reporting period.

Complaint Record

No environmental complaint was received during the reporting month.

Non-compliances

There was no non-compliance during reporting period.

Notification of Summons and Successful Prosecution

There was neither notification of summon nor prosecution received during the reporting month.

Environmental Licenses

There was no new CNP was granted during the reporting month.

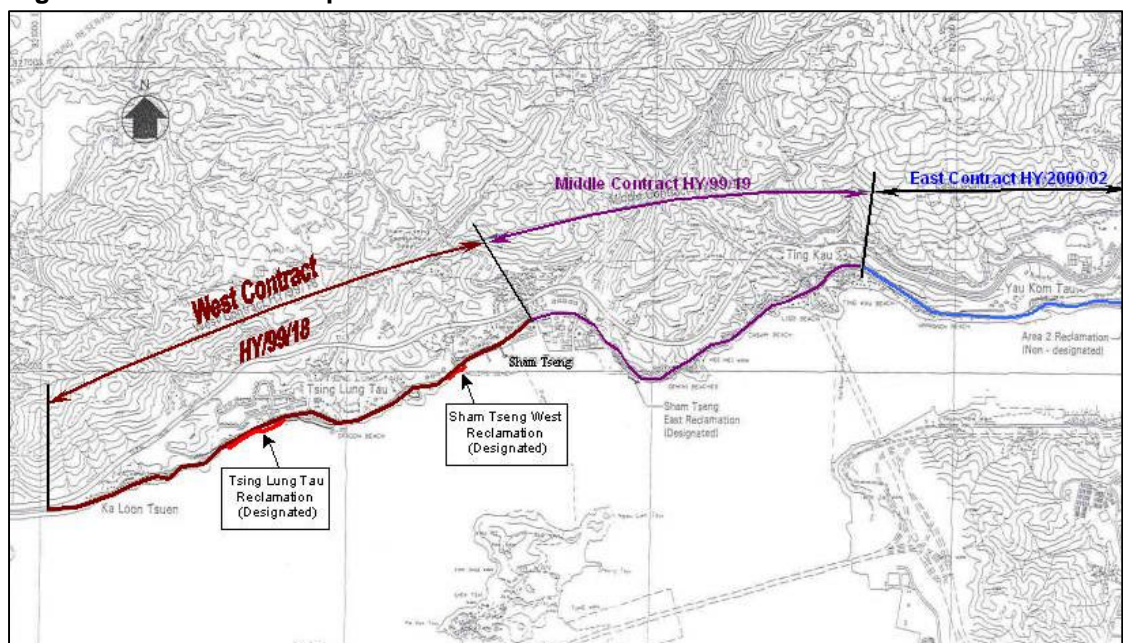
1. INTRODUCTION

Ove Arup & Partners Hong Kong Limited (Arup) was appointed by the Contractor - Maeda Corporation (MC) as the Environmental Team (ET) for *Contract No. HY/99/18 Castle Peak Road Improvement between Sham Tseng and Ka Loon Tsuen, Tsuen Wan* (hereafter called the “Project”). Environmental parameters including air quality, construction noise, water quality and landscape & visual issues were drafted for the impact monitoring for the Project. The construction period of the Project was commenced in December 2001 and major construction works were completed in May 2006. The construction phase EM&A programme has been ceased since 1 October 2006, as agreed by the Engineer (ref.: HY/99/18/M45/200-10678 dated 20 September 2006) and IEC (ref.: 910-06/E06-51493 dated 5 October 2006). A 4-week post-project marine water quality monitoring will be conducted accordingly. A final EM&A Report will be prepared in accordance with Section 8.8 of the EM&A Manual, upon completion of the post-project marine water quality monitoring.

1.1 Project Background

The Castle Peak Road improvement works consists of upgrading the existing Castle Peak Road to provide a dual two-lane carriageway of “Rural Road A” classification between Area 2, Tsuen Wan and Ka Loon Tsuen, and all associated utility, junction and pedestrian facilities. The Castle Peak Road Improvement project is divided into three contracts. This Environmental Monitoring and Audit (EM&A) programme was conducted for the West Contract No. HY/99/18 between Sham Tseng and Ka Loon Tsuen, Tsuen Wan. Figure 1-1 shows the site location plan and the detailed site layout plans are provided in Appendix A.

Figure 1-1 Site location plan



The scope of the construction work includes:

- Improvement to Castle Peak Road between Area 2 and Ka Loon Tsuen, Tsuen Wan to a dual two-lane carriageway;
- Provision of pedestrian facilities in the form of footpaths, subways, footbridges and Crossings;
- Road junction and signal design and the re-provision of access roads and connections to existing road networks;
- Construction of associated drainage and landscaping works;
- Environmental mitigation measures;
- Design and construction of watermains;
- Construction of entrusted sewerage works; and
- Dredging and reclamation (designated project – see also Section 1.2)

1.2 Designated Project

The marine reclamation and the construction of the associated seawall at Tsing Lung Tau and Sham Tseng West within Contract No. HY/99/18 were classified as designated projects under the Environmental Permits No. EP-093/2001 and EP-094/2001 respectively.

1.3 Impact EM&A Requirements

The impact environmental monitoring and audit included air quality monitoring (both 1-hour and 24-hour TSP), noise, water quality, landscape and visual monitoring, and site environmental audit.

1.4 Purpose of the Report

The purpose of the monthly EM&A report is to provide the information on monitoring methodology, monitoring results, environmental permit status, site audit findings, recommendations and conclusions.

This is the fifty-sixth monthly EM&A report prepared by Arup for the submission to Maeda Corporation summarising the monitoring methodology, locations, periods, frequencies, results and any observation from the air quality, noise, marine water quality, and landscape and visual monitoring and audit from 1 to 30 September 2006.

2. ENVIRONMENTAL STATUS

2.1 Construction Programme

The construction work was commenced in February 2002 and major construction works were completed in May 2006.

2.2 Construction Activities of the Month

The major construction activities carried out by the Contractor (CT) in September 2006 included:

- Landscape works; and
- Road Finishing & Reinstatement Works.

The major sea works at level below +2.5mPD were completed in July 2003 and sand placement activities at Seawall B were completed on 13 August 2004.

3. SUMMARY OF EM&A REQUIREMENTS

Air quality, construction noise, marine water quality and landscape and visual issues are significant environmental impacts identified for the construction period of the project. In accordance with the Project specific EM&A Manual^[1], air quality, noise, water quality, landscape and visual monitoring and audit shall be performed by an ET at all specified monitoring locations during the construction and operational stages. Upon completion of the construction works for fishermen staircase at Tsing Lung Tau Pier in November 2005, the marine water quality monitoring has ceased since 1 December 2005. The outstanding construction works were substantially completed in September 2006. The construction phase EM&A programme has been ceased since 1 October 2006.

The monitoring schedule for September is attached in Appendix B.

3.1 Air Quality Monitoring

3.1.1 Monitoring Parameters

Air quality monitoring was measured in terms of TSP levels for both 24-hour and 1-hour periods.

3.1.2 Monitoring Frequency

24-hour TSP and 1-hour TSP levels were monitored during the course of construction in accordance with the EM&A Manual. The monitoring parameters and frequency are specified in Table 3-1.

Table 3-1 Air quality monitoring parameters and frequency

Parameters	Monitoring Frequency	Time Period	No. of measurement for each monitoring
24-hour TSP	Once every six days	0000 - 2400	1
1-hour TSP	Three times per every six days	0700 - 1900	1

3.1.3 Monitoring Locations

A total of eleven locations were specified in the EM&A Manual for the air quality monitoring and they are given in Table 3-2 and presented in Figures 3-1a to 3-1d.

Table 3-2 Air quality monitoring locations

Air Monitoring Station No.	Location	Location description
WA1	Bayside Villas	G/F, Bayside Villas (Temporary Suspended)
WA2	Grand Bay Villas	G/F, Grand Bay Villas (Temporary Suspended)
WA3	Hong Kong Garden	G/F, Hong Kong Garden (Regent Heights)
WA4	Hong Kong Garden	G/F, Hong Kong Garden (Between Blk 1 & 2)

Air Monitoring Station No.	Location	Location description
WA5	Hong Kong Garden	G/F, Hong Kong Garden (Block 4)
WA6	Tsing Lung Tau Tin Hau Temple	G/F, Tsing Lung Tau Tin Hau Temple
WA7	Sea Crest Villa	Podium, Sea Crest Villa (Phase 4 Block 12)
WA8	Sea Crest Villa	Podium, Sea Crest Villa (Phase 3 Block 8)
WA9	Sea Crest Villa	Car Park (L3), Sea Crest Villa (Phase 2 Block 6)
WA10	Sea Crest Villa	Podium, Sea Crest Villa (Phase 1 Block 1)
WA11	Lido Garden	G/F, Carpark, Lido Garden Tower 1

Note: Bayside Villas (WA1) and Grand Bay Villas (WA2) are no longer the air sensitive receivers as all residents of Bayside Villas and Grand Bay Villas were moved out since September 2002. Therefore, the air quality monitoring at Bayside Villas and Grand Bay Villas were temporary suspended since October 2002 after approval from IC(E) and EPD.

3.1.4 Wind Monitoring

Wind monitoring data, which included the wind speed and wind directions are extracted from the Hong Kong Observatory – Tsing Yi Wind Monitoring Station.

3.2 Construction Noise Monitoring

3.2.1 Monitoring Parameters

Construction noise monitoring was measured in terms of A-weighted equivalent continuous sound pressure level (L_{eq}). The L_{10} and L_{90} will also be recorded as supplementary reference information for data auditing.

3.2.2 Monitoring Frequency

Construction noise monitoring was conducted on a weekly basis in accordance with the EM&A Manual. The monitoring periods, monitoring parameters and frequency are specified in Table 3-3.

Table 3-3 Construction noise monitoring parameters and frequency

Time Period (when construction activity is found)	Parameters	Monitoring Frequency	No. of Measurements for Each Monitoring
Between 0700-1900 hours on normal weekdays	$L_{eq(30\text{ min})}$	Once per week	1
Between 1900-2300 hours on normal weekdays	$L_{eq(5\text{ min})}^*$		3 (consecutive)
Between 2300-0700 hours of next day			
Between 0700-1900 hours on holidays			

Remarks: * The $L_{eq(5\text{ min})}$ will only be measured if construction activities are conducted in holidays and between the period of 1900 and 0700 hours during normal weekdays.

3.2.3 Monitoring Locations

A total of sixteen noise monitoring locations were specified in the EM&A Manual. They are presented in Table 3-4 and presented in Figures 3-1a to 3-1d. The measurements were taken at a position 1m from the exterior of building façade and at a position of 1.2m above ground.

Table 3-4 Construction noise monitoring locations

Noise Monitoring Station No.	Location	Monitoring Point
WN1	Ka Loon Tsuen	House No.3, Ka Loon Tsuen
WN2	Ka Loon Tsuen	House No.15, Ka Loon Tsuen
WN3	Bayside Villas	Upper G/F, Bayside Villas (Temporary Suspended)
WN4	Bayside Villas	Lower G/F, Bayside Villas (Temporary Suspended)
WN5	Grand Bay Villas	G/F, Grand Bay Villas (Temporary Suspended)
WN6	Hong Kong Garden	G/F, Hong Kong Garden (Regent Heights)
WN7	Hong Kong Garden	G/F, Hong Kong Garden (Between Blk 1 & 2)
WN8	Hong Kong Garden	G/F, Hong Kong Garden (Block 4)
WN9	Tsing Lung Tau Village	House 1, Tsing Lung Tau Village
WN10	Tsing Lung Tau Village	House 60-64, Tsing Lung Tau Village
WN11	Villa Alfavista	G/F, Villa Alfavista
WN12	Sea Crest Villa	Podium, Sea Crest Villa (Phase 4 Block 12)
WN13	Sea Crest Villa	Podium, Sea Crest Villa (Phase 3 Block 8)
WN14	Sea Crest Villa	Car Park (L3), Sea Crest Villa (Phase 2 Block 6)
WN15	Sea Crest Villa	Podium, Sea Crest Villa (Phase 1 Block 1)
WN16	Lido Garden	G/F, Carpark, Lido Garden Tower 1

Note: Bayside Villas (WN3 and WN4) and Grand Bay Villas (WN5) are no longer the noise sensitive receivers as all residents of Bayside Villas and Grand Bay Villas were moved out since September 2002. Therefore, the noise monitoring at Bayside Villas and Grand Bay Villas were temporary suspended since October 2002 after approval from IC(E) and EPD.

3.3 Marine Water Quality (Designated Project)

3.3.1 Monitoring Parameters

Marine water quality monitoring includes Turbidity (Tby) in the unit of NTU, Dissolved Oxygen (DO) in the unit of mg/L and Suspended Solids (SS) in the unit of mg/L. In addition to the water quality parameters, other relevant data, such as monitoring location/position, time, water depth, water temperature, salinity, DO saturation, weather conditions, sea conditions, tidal stage will be recorded including any special phenomena, work underway at the construction site, etc.

3.3.2 Monitoring Frequency

Marine water quality monitoring during the impact stage was conducted three times per week, during mid-flood and mid-ebb tides and at sixteen designated sampling. The interval between two sets of monitoring will not be less than 36 hours except where exceedances above the Action Level or Limit Level were detected (see also Section 3.5). In these cases, the monitoring frequency will be increased.

3.3.3 Monitoring Locations

Sixteen locations, 9 for impact and 7 for control were originally selected for marine water quality monitoring and the locations are given in Table 3-5a and presented in Figure 3-1b to 3-1e.

The new marine water quality monitoring programme, was commenced on 12 February 2003 and suspended on 10 October 2003, as agreed by the IC(E) and EPD. A total of twelve locations, 8 for impact and 4 for control were selected for the new marine water quality monitoring programme and the locations are given in Table 3-5b and presented in Figure 3-1b to Figure 3-1e.

Table 3-5a Marine water quality monitoring locations (Original)

Water Monitoring Station No.		Location	
		Eastings	Northings
Tsing Lung Tau	WW1 (Impact Station)	822260	824491
	WR1 (Control Station)	822278	824459
Tsing Lung Tau	WW2 (Impact Station)	822352	824538
	WR2 (Control Station)	822363	824505
Tsing Lung Tau	WW3 (Impact Station)	822506	824609
	WR3 (Control Station)	822518	824578
Tsing Lung Tau	WW4 (Impact Station)	822820	824640
	WR4 (Control Station)	822800	824603
Angler's Beach: Sham Tseung	WW5 (Impact Station)	823697	824937
	WR5 (Control Station)	823700	824905
Angler's Beach: Sham Tseung	WW6 (Impact Station)	823775	824991
	WW7 (Impact Station)	823797	825042
	WR6/WR7 (Control Station)	823797	824964
Angler's Beach	WW8 (Impact station)	823994	825141
	WR8 (Control Station)	824006	825107
Ma Wan Fish Culture Zone	FCZ1 (Impact Station)	823500	823870

Table 3-5b Marine water quality monitoring locations (New)

Water Monitoring Station No.		Location	
		Eastings	Northings
Tsing Lung Tau	WW1 (Impact Station)	822306	824405
	WW2 (Impact Station)	822377	824462
	WW3 (Impact Station)	822529	824500
	WW4 (Impact Station)	822775	824560
	WR-E-1234 (Control Station for Mid-Ebb Tide)	822204	824312
	WR-F-1234 (Control Station for Mid-Flood Tide)	822850	824519
Angler's Beach: Sham Tseung West	WW5 (Impact Station)	823700	824905
	WW6/7 (Impact Station)	823797	824964
	WW8 (Impact Station)	823900	825023
	WR-E-5678 (Control Station for Mid-Ebb Tide)	823590	824830
	WR-F-5678 (Control Station for Mid-Flood Tide)	823994	825034
Ma Wan Fish Culture Zone	FCZ1 (Impact Station)	823500	823870

Figure 3-1a Monitoring locations



Figure 3-1b Monitoring locations

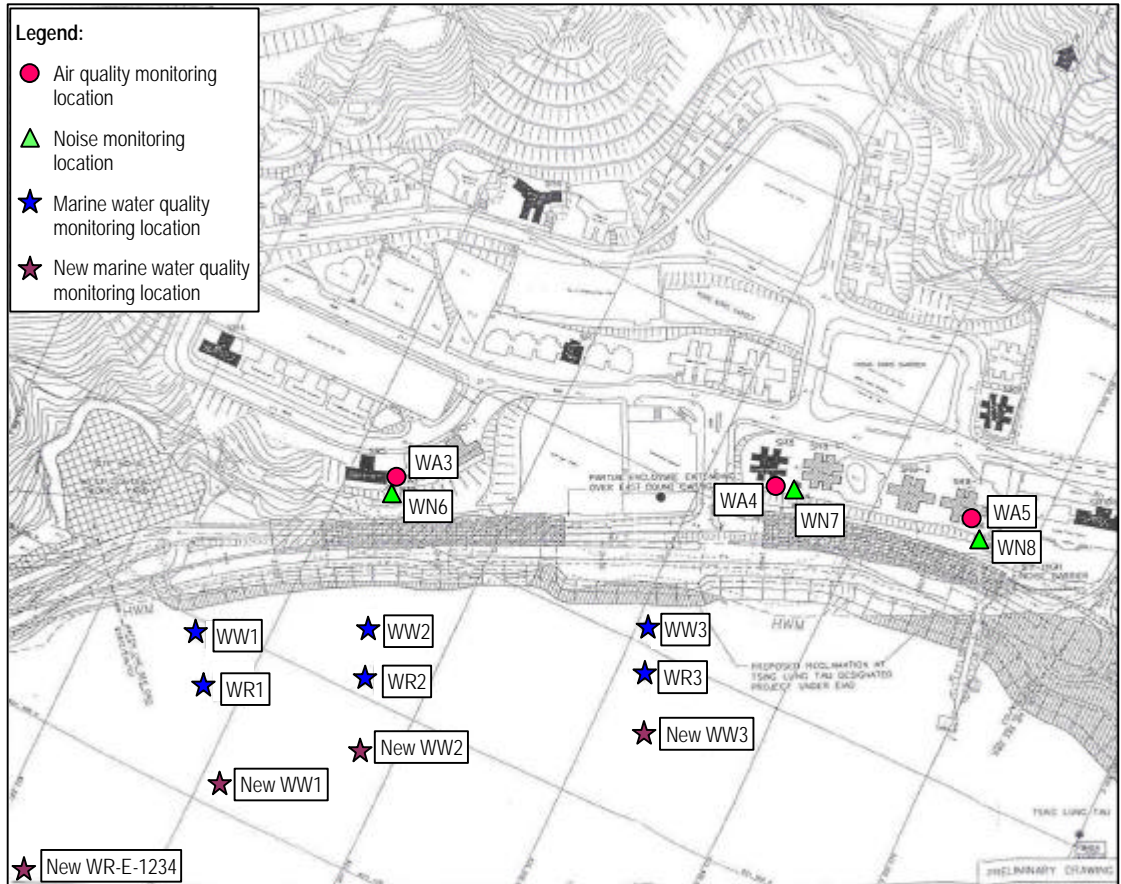


Figure 3-1c Monitoring locations

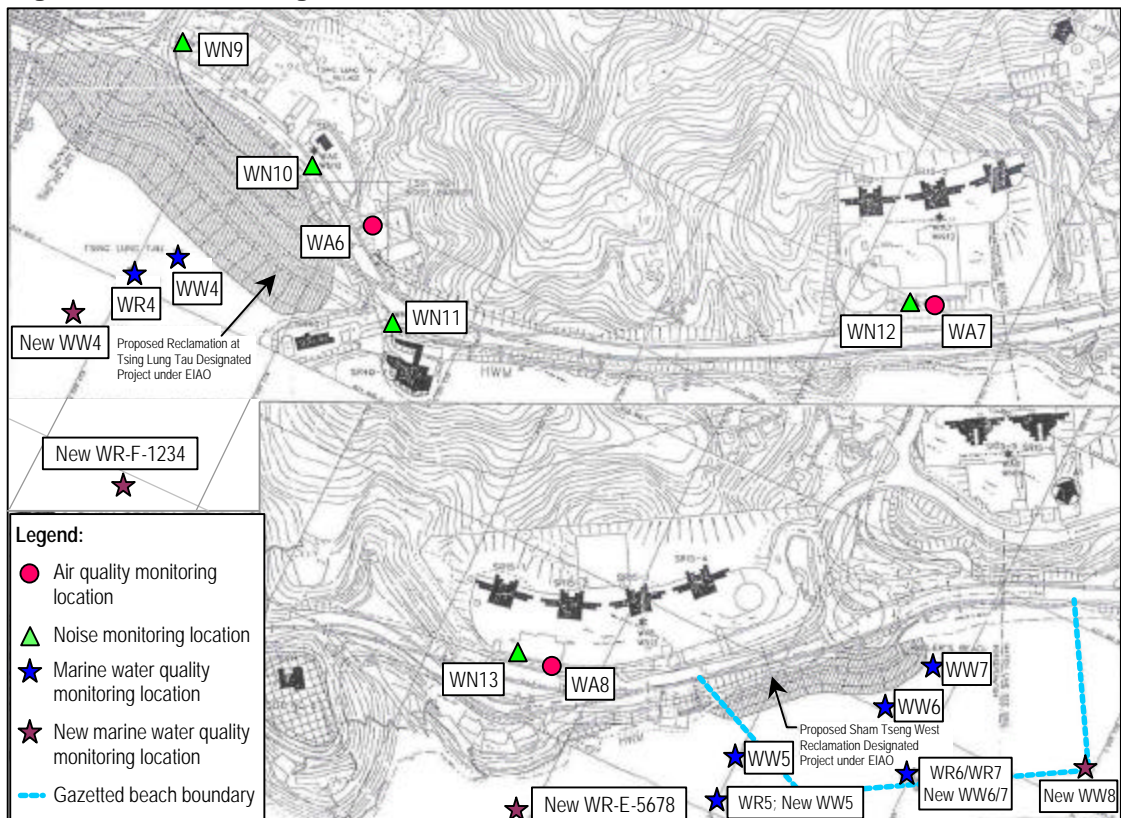


Figure 3-1d Monitoring locations

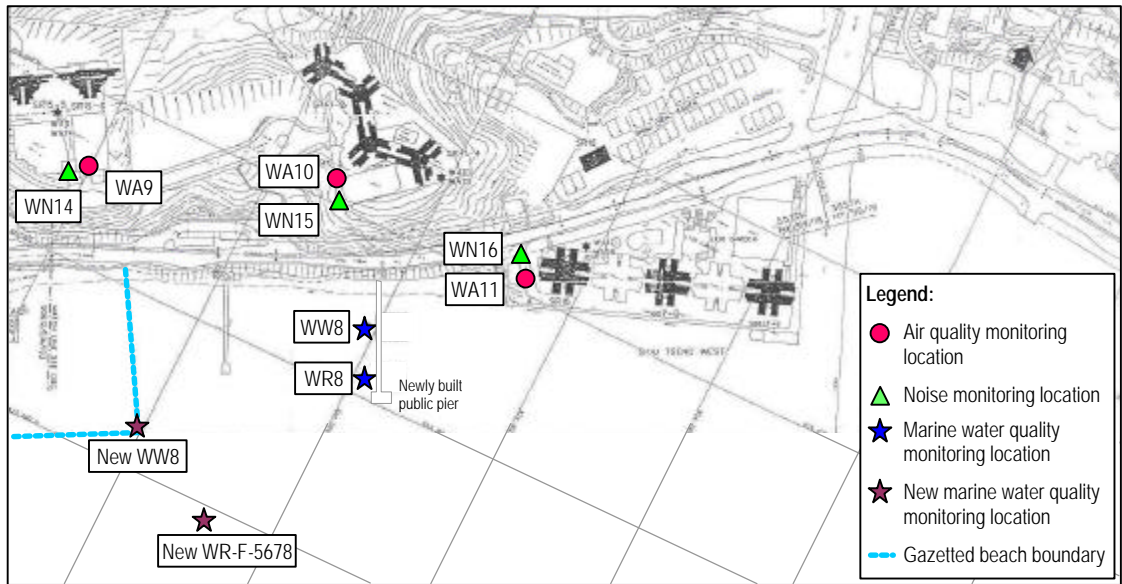
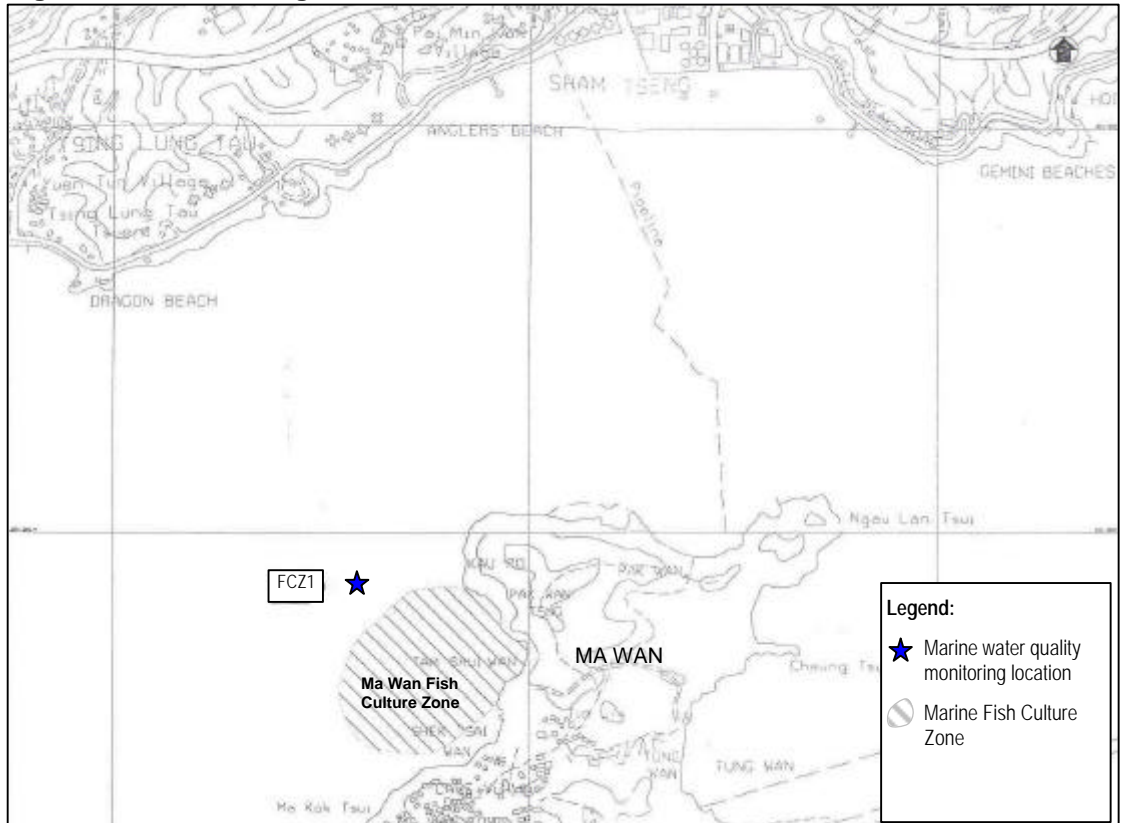


Figure 3-1e Monitoring locations



3.4 Landscape and Visual Monitoring and Audit

3.4.1 Audit Parameters

All landscape and visual mitigation measures undertaken by both the CT and the Landscape Contractor during the construction phase and during the first year of the operational phase shall be audited by a Registered Landscape Architect, to ensure that the implementation of the landscape and visual mitigation measures are in full compliance with the requirements.

3.4.2 Audit Frequency

The landscape and visual monitoring and audit shall be undertaken at least once every two weeks throughout the construction period and once every two months during the operational phase.

3.4.3 Audit Location

The landscape and visual monitoring and audit shall be conducted throughout the entire site area.

3.5 Performance Limits and Event-Action Plans

The monitoring results shall be checked against appropriate standards and requirements. A two-tier system performance limits have been established in the Project specific EM&A Manual. The “Action” and “Limit” (A/L) Level are established according to the EPD requirements. ET, ER, IC(E), and CT will take corresponding actions in accordance with the Event-Action Plans if the monitoring results exceed the performance limits.

3.5.1 Air Quality

The A/L Levels for air quality were established during the baseline monitoring and are summarised in Table 3-6.

Table 3-6 Action and Limit Levels for air quality

Air Monitoring Station No.	1-hour TSP Level in $\mu\text{g}/\text{m}^3$		24-hour TSP Level in $\mu\text{g}/\text{m}^3$	
	Action Level	Limit Level	Action Level	Limit Level
WA1	350	500	187	260
WA2	362		192	
WA3	353		190	
WA4	362		187	
WA5	346		185	
WA6	362		204	
WA7	351		187	
WA8	347		188	
WA9	345		182	
WA10	352		183	
WA11	357		195	

Table 3-7 summarises the details action required to be taken by different parties in case of exceedance of performance limits being recorded.

3.5.2 Construction Noise Impact

The A/L Levels for the construction noise extracted from the Baseline Monitoring Report^[2] are summarised in Table 3-8.

Table 3-8 Action and Limit Levels for construction noise

Time Period	Action	Limit
0700 - 1900 hours on any day not being a Sunday or public holiday	When one documented complaint is received	75dB(A) ⁽¹⁾
19:00 - 23:00 hours on all days and 07:00 - 23:00 on general holidays (including Sundays)		55 ⁽²⁾ / 70 ⁽³⁾
23:00 - 07:00 hours on all days		40 ⁽²⁾ / 55 ⁽³⁾

- Remarks:**
- (1) For educational establishments the limit level shall be 70dB(A) and reduced to 65dB(A) during examination periods.
 - (2) Refers to the types of Plant regulated under the Technical Memorandum on Noise from Construction Work in Designated Areas (DA-TM).
 - (3) Refers to the types of Plant regulated under the Technical Memorandum on Noise Other than Percussive Piling (GW-TM).
 - (4) Owing to the high background noise level recorded at WN5, WN9, and WN10, the noise impact monitoring results at these 3 locations will be corrected by its background using the following background correction equation: $L_{eq(30min)} = 10 \log (10^{m/10} - 10^{b/10})$ as m= Measured $L_{eq(30min)}$, b=Average Baseline $L_{eq(30min)}$. Only up to the maximum of 3dB(A) is allowed to be deducted after the background correction.

Table 3-9 summarises the details action required to be taken by different parties in the case of an exceedance of performance limits being recorded.

Table 3-7 Event/Action plan for air quality

Event	Action			
	ET Leader	IC(E)	ER	CT
Action Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> Identify the source. Inform the IC(E) and the ER. Repeat measurement to confirm finding. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> Check monitoring data submitted by the ET Leader. Check CT's working method. 	<ol style="list-style-type: none"> Notify the CT. 	<ol style="list-style-type: none"> Rectify any unacceptable practice. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> Identify the source. Inform the IC(E) and the ER. Repeat measurements to confirm findings. Increase monitoring frequency to daily. Discuss with the IC(E) and the CT on remedial actions required. If exceedance continues, arrange meeting with the IC(E) and the ER. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> Check monitoring data submitted by the ET Leader. Check the CT's working method. Discuss with the ET Leader and the CT on possible remedial measures. Advise the ER on the effectiveness of the proposed remedial measures. Supervisor implementation of remedial measures. 	<ol style="list-style-type: none"> Confirm receipt of notification of failure in writing. Notify the CT. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> Submit proposals for remedial actions to IC(E) within 3 working days of notification. Implement the agreed proposals. Amend proposal if appropriate.
Limit Level				
1. Exceedance for one sample	<ol style="list-style-type: none"> Identify the source. Inform the ER and the EPD. Repeat measurement to confirm finding. Increase monitoring frequency to daily. Assess effectiveness of CT's remedial actions and keep the IC(E), the EPD and the ER informed of the results. 	<ol style="list-style-type: none"> Check monitoring data submitted by the ET Leader. Check the CT's working method. Discuss with the ET Leader and the CT on possible remedial measures. Advise the ER on the effectiveness of the proposed remedial measures. Supervisor implementation of remedial measures. 	<ol style="list-style-type: none"> Confirm receipt of notification of failure in writing. Notify the CT. Ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> Take immediate action to avoid further exceedance. Submit proposals for remedial actions to IC(E) within 3 working days of notification. Implement the agreed proposals. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> Notify the IC(E), the ER, the EPD and the CT. Identify the source. Repeat measurements to confirm findings. Increase monitoring frequency to daily. Carry out analysis of the CT's working procedures to determine possible mitigation to be implemented. Arrange meeting the IC(E) and the ER to discuss the remedial actions to be taken. Assess effectiveness of the CT's remedial actions and keep the IC(E), the EPD and the ER informed of the results. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> Discuss amongst the ER, the ET Leader and the CT on the potential remedial actions. Review the CT's remedial actions whenever necessary and advise the ER accordingly. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> Confirm receipt of notification of failure in writing. Notify the CT. In consultation with the IC(E), agree with the remedial measures to be implemented. Ensure remedial measures are properly implemented. If exceedance continues, consider what activity of the work is responsible and instruct the CT to stop that activity of work until the exceedance is abated. 	<ol style="list-style-type: none"> Take immediate action to avoid further exceedance. Submit proposals for remedial actions to IC(E) within 3 working days of notification. Implement the agreed proposals. Resubmit proposals if problem still not under control. Stop the relevant activity of works as determined by the ER until the exceedance is abated.

Table 3-9 Event/Action plan for construction noise

Event	Action			
	ET Leader	IC(E)	ER	CT
Action Level	<ol style="list-style-type: none"> 1. Notify the IC(E) and the CT. 2. Carry out investigation. 3. Report the results of investigation to the IC(E) and the CT. 4. Discuss with the CT and formulate remedial measures. 5. Increase monitoring frequency to check mitigation measures. 	<ol style="list-style-type: none"> 1. Review with analysed results submitted by the ET. 2. Review the proposed remedial measures by the CT and advise the ER accordingly. 3. Supervise the implement of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify the CT. 3. Require the CT to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IC(E). 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Notify the IC(E), the ER, the EPD and the CT. 2. Identify the source. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of CT's working procedures to determine possible mitigation to be implemented. 6. Inform the IC(E), the ER, and the EPD the causes & actions taken for the exceedances. 7. Assess effectiveness of the CT's remedial actions and keep the IC(E), the EPD and the ER informed of the results. 8. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Discuss amongst the ER, the ET Leader and the CT on the potential remedial actions. 2. Review the CT's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify the CT. 3. Require the CT to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what activity of the work is responsible and instruct the CT to stop that activity of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problem still not under control. 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.

3.5.3 Water Quality (Designated Project)

The A/L levels for the water quality were established in accordance with the EM&A Manual and approved by EPD on 15 October 2002. The application of “Direct Comparison” method for evaluation of the marine water quality exceedance was agreed with EPD and IC(E) on 10 April 2003. The A/L levels were revised in April 2003 and are presented in Table 3-10.

Table 3-10 Action and Limit Levels of water quality

Parameters		Monitoring Location			
		WW1 to WW8		FCZ1	
		Action Level	Limit Level	Action Level	Limit Level
Mid-Ebb					
DO (mg/L)	Surface & Middle	4.9	4.8	4.7	4.6
	Bottom	4.8	4.8	4.0	4.0
SS (mg/L) (Depth-averaged)		17.0	23.4	For EPD: 12.9 For AFCD: 12.9 and 120% of upstream control station's SS at the same tide of the same day	For EPD: 14.0 For AFCD: 14.0 and 130% of upstream control station's SS at the same tide of the same day
Tby (NTU) (Depth-averaged)		12.0	13.6	For EPD: 9.1 For AFCD: 9.1 and 120% of upstream control station's Tby at the same tide of the same day	For EPD: 10.3 For AFCD: 10.3 and 130% of upstream control station's Tby at the same tide of the same day.
Mid-Flood					
DO (mg/L)	Surface & Middle	4.3	4.2	4.5	4.4
	Bottom	4.3	4.1	4.1	4.1
SS (mg/L) (Depth-averaged)		25.3	28.7	For EPD: 23.3 For AFCD: 23.3 and 120% of upstream control station's SS at the same tide of the same day	For EPD: 25.9 For AFCD: 25.9 and 130% of upstream control station's SS at the same tide of the same day
Tby (NTU) (Depth-averaged)		25.2	31.5	For EPD: 18.7 For AFCD: 18.7 and 120% of upstream control station's Tby at the same tide of the same day	For EPD: 22.3 For AFCD: 22.3 and 130% of upstream control station's Tby at the same tide of the same day.

Notes: “Depth-averaged” is calculated by taking the arithmetic means of reading of all three depths.
For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.

In order to better differentiate between exceedance caused by the contract works and elevated readings arising from causes unrelated to contract works, all parties agreed to introduce a term “Reaching of Trigger Value” to represent the scenario where the A/L levels were exceeded by the “Direct Comparison” evaluation method. Upon the detection of “Reaching of Trigger Value”, an initial analysis would be carried out to

determine whether it was caused by contract works. Exceedance and non-compliance should only be recorded in case where the “Reaching of Trigger Value” was caused by the contract works.

Table 3-11 summarises the details action required to be taken by different parties in the case of water quality exceedance of performance limits being recorded. The revised Event/Action Plan for water quality has been endorsed by IC(E) in June 2003.

3.5.4 Landscape and Visual

The Final Tree Survey Report^[3] approved in April 2001 was adopted as the framework of the baseline landscape condition of this road section. In addition, a supplementary tree survey was carried out in December 2001. The Supplementary Tree Survey Report (Revision A)^[4] completed in March 2002 is also adopted to provide supplementary information of the baseline landscape condition of this road section.

If any non-conformity on landscape and visual issue is observed, the actions in accordance with Event-Action Plan shown in Table 3-12 shall be carried out.

Table 3-12 Event-Action plan for landscape and visual impact

Event	Action			
	ET Leader	IC(E)	ER	CT
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Identify Source(s). 2. Inform the IC(E) and the ER. 3. Discuss mitigation actions with the IC(E), the ER and the CT. 4. Monitor remedial actions until rectification has been completed. 	<ol style="list-style-type: none"> 1. Check report. 2. Check the CT's working method. 3. Discuss with the ET Leader and the CT on possible remedial measures. 4. Advise the ER on effectiveness of proposed remedial measures. 5. Check implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Notify the CT. 2. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Amend working method. 2. Rectify damage and undertaken any necessary replacement.
Repeated Non-conformity	<ol style="list-style-type: none"> 1. Identify Source(s). 2. Inform the IC(E) and the ER. 3. Increase monitoring frequency 4. Discuss mitigation actions with the IC(E), the ER and the CT. 5. Monitor remedial actions until rectification has been completed. 6. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Check monitoring report 2. Check the CT's working method 3. Discuss with the ET Leader and the CT on possible remedial measures. 4. Advise the ER on effectiveness of proposed remedial measures. 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Notify the CT. 2. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Amend working method. 2. Rectify damage and undertaken any necessary replacement.

Table 3-11 Event-Action plan for water quality

Event	Action			
	ET Leader	IC(E)	ER	CT
Trigger Value				
1. Trigger Value being surpassed for one sampling day	<ol style="list-style-type: none"> Repeat in-situ measurement to confirm findings. Conduct investigation to identify the source(s) of impact. Check monitoring data, all plant, equipment, mitigation measures and the CT's working methods. Inform the IC(E), ER, EPD, HyD, CT and AFCD (if required) the investigation results. If exceedance is confirmed as caused by the construction works, take relevant actions as detailed in "Action Level" and "Limit Level" 	<ol style="list-style-type: none"> If exceedance is confirmed as caused by the construction works, take relevant actions as detailed in "Action Level" and "Limit Level" 	<ol style="list-style-type: none"> If exceedance is confirmed as caused by the construction works, take relevant actions as detailed in "Action Level" and "Limit Level" 	<ol style="list-style-type: none"> If exceedance is confirmed as caused by the construction works, take relevant actions as detailed in "Action Level" and "Limit Level"
Action Level				
1. Action level being exceeded by one sampling day and is caused by the construction works	<ol style="list-style-type: none"> Discuss the current mitigation measures with the IC(E) and the CT. Pay attention on the monitoring results collected on the subsequent scheduled monitoring date to see if an exceedance, caused by the same or related construction works, is recurring. 	<ol style="list-style-type: none"> Discuss with the ET Leader and the CT on the current mitigation measures. Assess the effectiveness of the current mitigation measures and advised the ER accordingly. 	<ol style="list-style-type: none"> Discuss with the IC(E) on the current mitigation measures. 	<ol style="list-style-type: none"> Inform the ER and confirm notification of the exceedance in writing. Rectify unacceptable practice. Check all plants and equipment. Consider changes of working methods. Discuss with the ET Leader and the IC(E) on the current mitigation measures.
2. Action level being exceeded by more than one consecutive days and is cause by the construction works	<ol style="list-style-type: none"> Discuss mitigation measures with the IC(E) and the CT. Ensure the proposed mitigation measures are implemented. Further evaluation of the monitoring results on the next scheduled monitoring day and report to all concerned parties, if the affected monitoring stations are still being affected (or are no longer affected) by the construction works. Prepare to increase the monitoring frequency to daily, if the Limit Level is exceeded as below. 	<ol style="list-style-type: none"> Discuss with the ET Leader and the CT on the proposed mitigation measures. Review proposals on mitigation measures submitted by the CT and advised the ER accordingly. Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> Discuss with IC(E), the ET Leader and the CT on the proposed mitigation measures. Make agreement on the proposed mitigation measures to be implemented. Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> Inform the ER and confirm notification of the consecutive exceedance in writing. Rectify unacceptable practice. Check all plants and equipment. Consider changes of working methods. Discuss with the ET Leader and the IC(E) and propose mitigation measures to the IC(E) and the ER within 3 working day. Implement the agreed mitigation measures.
Limit Level				
1. Limit level being exceeded by one sampling day and is cause by the construction works	<ol style="list-style-type: none"> Discuss mitigation measures with the IC(E), the ER and the CT. Ensure the proposed mitigation measures are implemented. Prepare to increase the monitoring frequency to daily if further exceedances of the Limit Level are detected on the next sampling day. 	<ol style="list-style-type: none"> Discuss with the ET Leader and the CT on the proposed mitigation measures. Review proposals on mitigation measures submitted by the CT and advised the ER accordingly. Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> Discuss with IC(E), the ET Leader and the CT on the proposed mitigation measures. Request the CT to Critically review the working methods. Make agreement on the proposed mitigation measures to be implemented. Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> Inform the ER and confirm notification of the exceedance in writing. Rectify unacceptable practice. Check all plants and equipment. Consider changes of working methods. Discuss with the ET Leader, the IC(E) and the ER, and propose mitigation measures to the IC(E) and the ER within 3 working days. Implement the agreed mitigation measures.

Event	Action			
	ET Leader	IC(E)	ER	CT
2. Limit level being exceeded by more than one consecutive days and is cause by the construction works	<ol style="list-style-type: none"> 1. Discuss further mitigation measures with the IC(E), the ER and the CT. 2. Ensure the proposed further mitigation measures are implemented. 3. Increase the monitoring frequency to daily until no exceedance of the Limit Level. 	<ol style="list-style-type: none"> 1. Discuss with the ET Leader and the CT on the proposed further mitigation measures. 2. Review proposals on further mitigation measures submitted by the CT and advised the ER accordingly. 3. Assess the effectiveness of the implemented further mitigation measures. 	<ol style="list-style-type: none"> 1. Discuss with IC(E), the ET Leader and the CT on the proposed further mitigation measures. 2. Request the CT to Critically review the working methods. 3. Make agreement on the further mitigation measures to be implemented. 4. Assess the effectiveness of the implemented further mitigation measures. 5. Consider and instruct, if necessary, the CT to slow down or to stop all or part of the marine work until no exceedance of Limit Level. 	<ol style="list-style-type: none"> 1. Inform the ER and confirm notification of the consecutive exceedance in writing. 2. Rectify unacceptable practice. 3. Check all plants and equipment. 4. Consider changes of working methods. 5. Discuss with the ET Leader, the IC(E) and the ER, and propose further mitigation measures to the IC(E) and the ER within 3 working days. 6. Implement the agreed further mitigation measures. 7. As directed by the ER, slow down or stop all or part of the construction activities.

3.6 Site Inspection and Environmental Complaint Handling

3.6.1 Site Inspection Frequency and Areas Covered

Regular site inspections will be carried out on a weekly basis. The areas of inspection cover the different environmental impacts, such as air quality, noise, water quality and waste, and their pollution controls and mitigation measures for both within and outside the site area. Site inspection for landscape and visual impact will be carried out on a bi-weekly basis.

Ad hoc site inspection will be carried out if significant environmental non-compliance is identified. Inspections may also be carried out subsequent to receipt of any environmental complaints, or as part of the investigation work, as specified in the Event-Action Plans.

3.6.2 Site Inspection Procedures

- a) The CT and/or ER will advise the Environmental Auditor (EA) for all information on any environmental related aspects.
- b) The EA will discuss with the CT and/or ER to sort out and forecast any potential environmental impact.
- c) The EA will conduct a site walk with the CT and/or ER, particularly the areas with extensive construction works.
- d) The EA will conduct inspection for the main environmental facilities and measures such as the wheel washing facilities located at the site exits, water spraying truck, temporary noise barrier, and the internal noise-reducing measures of the heavy equipment etc, to ensure that these environmental facilities operate normally and effectively.
- e) The EA will fill up a site inspection checklist during the site inspection for recording of any special observations.
- f) The EA will conduct post-discussion with the CT and/or ER for the establishment of additional/special measures if any non-conformance is found. The completion date for such additional measures will be confirmed during the post-discussion.
- g) The EA will propose a reasonable timeframe together with the CT and/or ER, for the preparation of the proposal for the remediation of environmental non-compliance.
- h) The completed site inspection checklist will be signed by the EA, the CT and/or ER, for reference and for taking actions in accordance with the agreed procedures, reporting systems and time frame.

3.6.3 Environmental Complaints

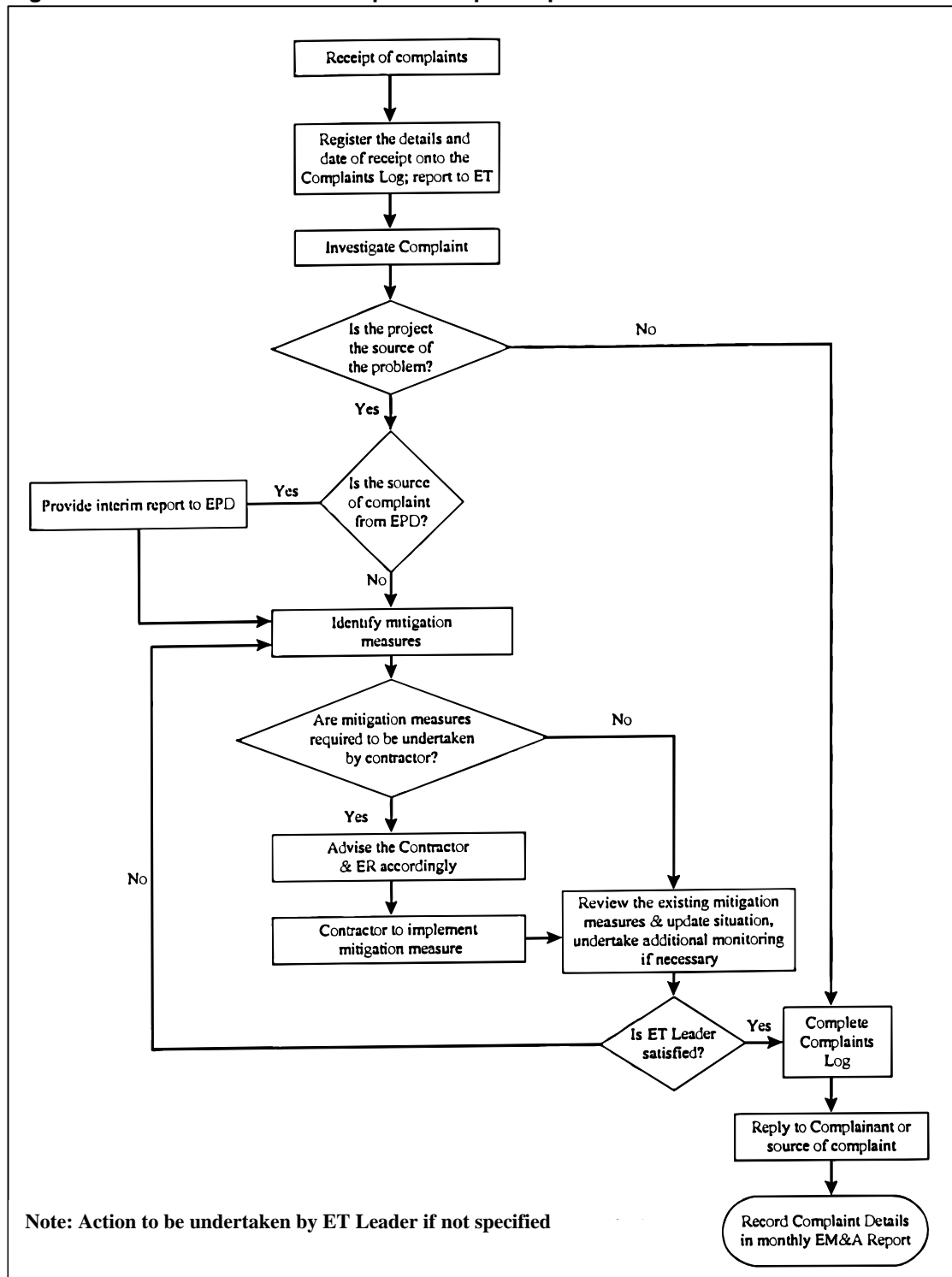
In accordance with the EM&A Manual, environmental complaints will be referred to the ET for initiation of the complaint investigation procedures. The ET will undertake the following procedures upon receipt of the complaints:

- a) The ET will record the details of the complaint and the date of receipt onto the complaint database, and inform ER immediately.
- b) The ET will perform compliant investigation to determine its validity, and to assess whether the source of the problem is due to work activities.
- c) The ER will instruct the CT to identify mitigation measures in consultation with the ET, if the compliant is valid and due to works.
- d) The ET will liaise with the CT on their mitigation measure proposals and implementation, if required.
- e) The ET will conduct review of the CT's response on the identified mitigation measures, and of the updated situation.
- f) The ET will submit interim report to EPD if the complaint is received via EPD. The interim report will clearly state the status of the complaint investigation and the follow-up action within the time frame assigned by EPD.
- g) The ET will undertake additional monitoring and audit to verify the situation if necessary, and ensure that any valid reason for complaint does not recur.
- h) The ET will report on the investigation results and the subsequent actions to the source of complaint for responding to the complainant (If the source of complaint is via EPD, the results will be reported within the time frame assigned by EPD).
- i) The ET will record the details of the complaint, investigation, subsequent actions and results in the monthly EM&A reports.

During the complaint investigation work undertaken by the ET, the CT and ER shall cooperate with the ET on providing all the necessary information and assistance for completion of the investigation. If mitigation measures are identified as necessary after the investigation, the CT shall promptly carry out the required mitigation to the satisfaction of ET. The ER shall ensure that the CT has carried out such identified measures.

A flow chart of the complaint response procedures is shown in Figure 3-2 for reference.

Figure 3-2 Flow chart of the complaint response procedure



4. AIR QUALITY

4.1 Monitoring Parameters and Equipment

Impact air quality monitoring was conducted in terms of both 1-hour and 24-hour TSP using a direct reading meter, MIE Data-RAM Portable Real Time Aerosol Monitor (MIE) and High Volume Sampler (HVS) respectively. Table 4-1 shows the equipment list for air quality monitoring.

Table 4-1 Equipment list for air quality monitoring

Equipment	Manufacturer & Model No.	Measurement Parameter	Qty.
High Volume Sampler	GS-2310105 & TE-5170	24-hour TSP	9
Fibreglass Filter	G810		--
HVS Calibration Kit	GMW-2535		1
Photometric Aerosol Monitor	MIE <i>persona</i> /DataRAM	1-hour TSP	8
Hand Held Barometer	Cole-Parmer EB833	Pa, Temperature	2

4.2 Methodology

4.2.1 1-hour TSP Monitoring

The procedure for 1-hour TSP monitoring is described as follows:

The MIE monitor was switched on by pressing the ON/OFF button. The NEXT button was pressed to select Run or Ready mode.

The NEXT button was pressed subsequently to check the following settings:

- i. data logging function: on
- ii. log period: 5 minutes
- iii. tag number: storage
- iv. analogue output: 0-4.000mg/m³
- v. calibration factor: 1.0
- vi. averaging time: 10s
- vii. battery charge: ≥50%
- viii. remaining memory: ≥10%

The monitoring was started by pressing ENTER. The real-time concentration would display “CONC” and the time-averaged concentration would display “TWA”.

The monitoring was stopped by pressing EXIT and ENTER buttons.

The date and start time, weather, site condition and the downloaded monitoring results were recorded on specified field record sheet.

4.2.2 24-hour TSP Monitoring

24-hour TSP by using a High Volume Sampler (HVS). The HVS should be in compliance with the following specifications:

- 0.6 – 1.7 m³/min (20 – 60SCFM);
- equipped with a timing/control device with +/- 5 minutes accuracy for 24 hours operation;
- installed with elapsed time meter with +/- 2 minutes accuracy for 24 hours operation;
- capable of providing a minimum exposed area of 406 cm²(63in²);
- flow control accuracy: +/-2.5% deviation over 24-hr sampling period;
- equipped with a shelter to protect the filter and sampler;
- incorporated with an electronic mass flow rate controller or other equivalent devices;
- equipped with a flow recorder for continuous monitoring;
- provided with a peaked roof inlet;
- incorporated with a manometer;
- able to hold and seal the filter paper to the sampler housing at horizontal position;
- easy to change the filter; and
- capable of operating continuously for a 24-hour period.

4.2.3 Maintenance and Calibration

The HVS and their accessories were frequently checked and maintained in accordance with the manufacturer's operation & maintenance manual. Maintenance includes the checking of the supporting screen and the gasket, and routine replacement of motor carbon brushes for the blower motor. The power cords and power supply were checked each time before sampling to ensure proper operation.

The HVS are calibrated at 2-month intervals using GMW-2535 Calibration Kit.

The calibration kit will be re-calibrated by the manufacturer after one year of use. The calibration certificates of the HVS and the calibration kit are provided in Appendix C.

The MIE monitor and its accessories were frequently checked and maintained in accordance with the manufacturer's operation & maintenance manual to ensure proper operation. Maintenance includes the checking of batteries, zero and sensitive adjustment and filter replacement.

The MIE monitor is returned to the manufacturer for calibration bi-annually. The calibration certificates are provided in Appendix D. The next calibration dates for the MIE monitors are given in Table 4-2.

Table 4-2 Calibration dates of 1-hour TSP monitoring equipment

1-hour TPS monitoring equipment	Serial number	Last calibration date	Next calibration date (on or before)
MIE Data-RAM Portable Real Time Aerosol Monitor	4492	10-Apr-06	10-Apr-08
	4243	10-Apr-06	10-Apr-08
	4615	22-Jun-06	22-Jun-08
	4715	10-Apr-06	10-Apr-08
	4705	11-Apr-06	11-Apr-08
	4496	21-Jun-06	21-Jun-08

4.3 Results and Observations

4.3.1 Weather conditions and other factors

No adverse weather conditions, in particular adverse wind speed and wind direction that may significantly affect or invalidate the collected air quality monitoring data, were registered during the reporting period.

Neither unusual operation of the construction site nor abnormal TSP source was observed during the reporting period.

4.3.2 Summary of Results

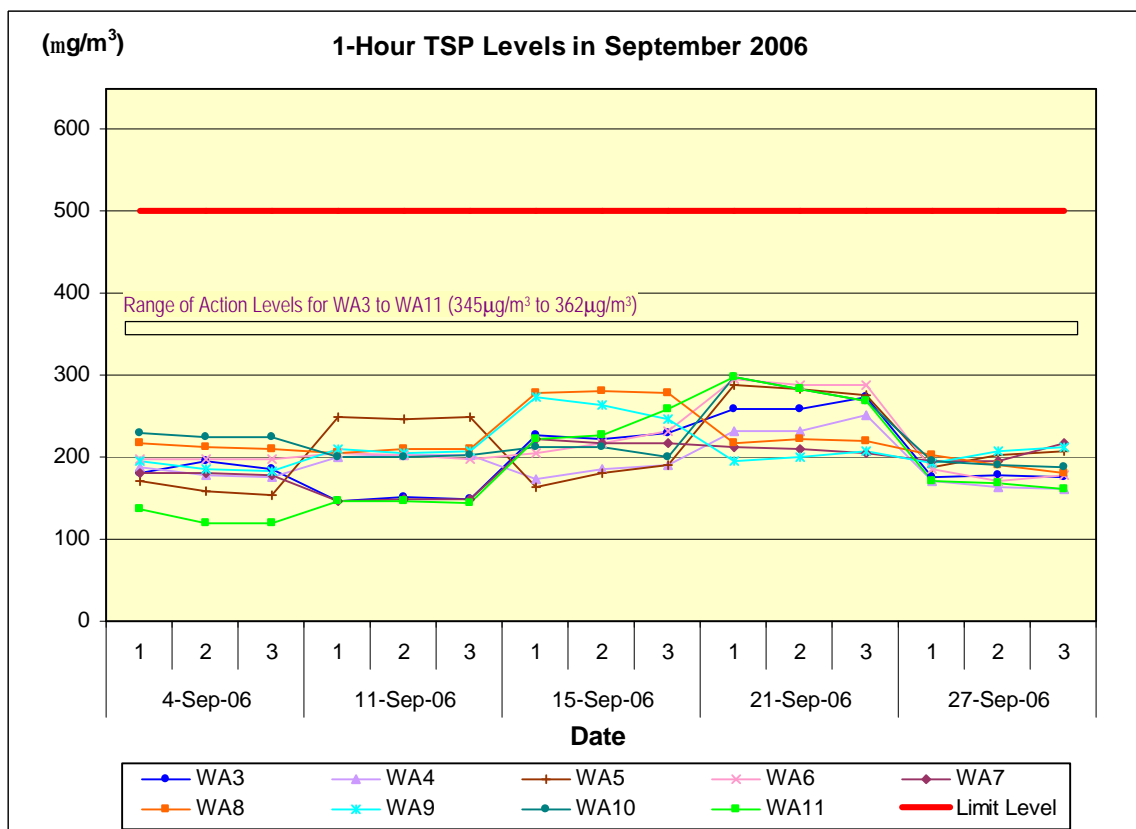
1-hour TSP

A total of 5 sets of 3 consecutive 1-hour TSP measurements were conducted on 4, 11, 15, 21 and 27 September 2006.

The highest 1-hour TSP level of $297.9\mu\text{g}/\text{m}^3$ was recorded on Podium, Sea Crest Villa (Phase 1 Block 1) (WA10) and G/F, Carpark, Lido Garden Tower 1 (WA11) on 21 September 2006 while the lowest 1-hour TSP level of $119.9\mu\text{g}/\text{m}^3$ was recorded on G/F, Carpark, Lido Garden Tower 1 (WA11) on 4 September 2006. There was no exceedance of the A/L Level during the reporting period.

Detailed monitoring results of 1-hour TSP are attached in Appendix E and graphical presentation of the 1-hour TSP levels at each monitoring location is illustrated in Figure 4-1.

Figure 4-1 Graphical Presentation of 1-Hour TSP Levels for September 2006



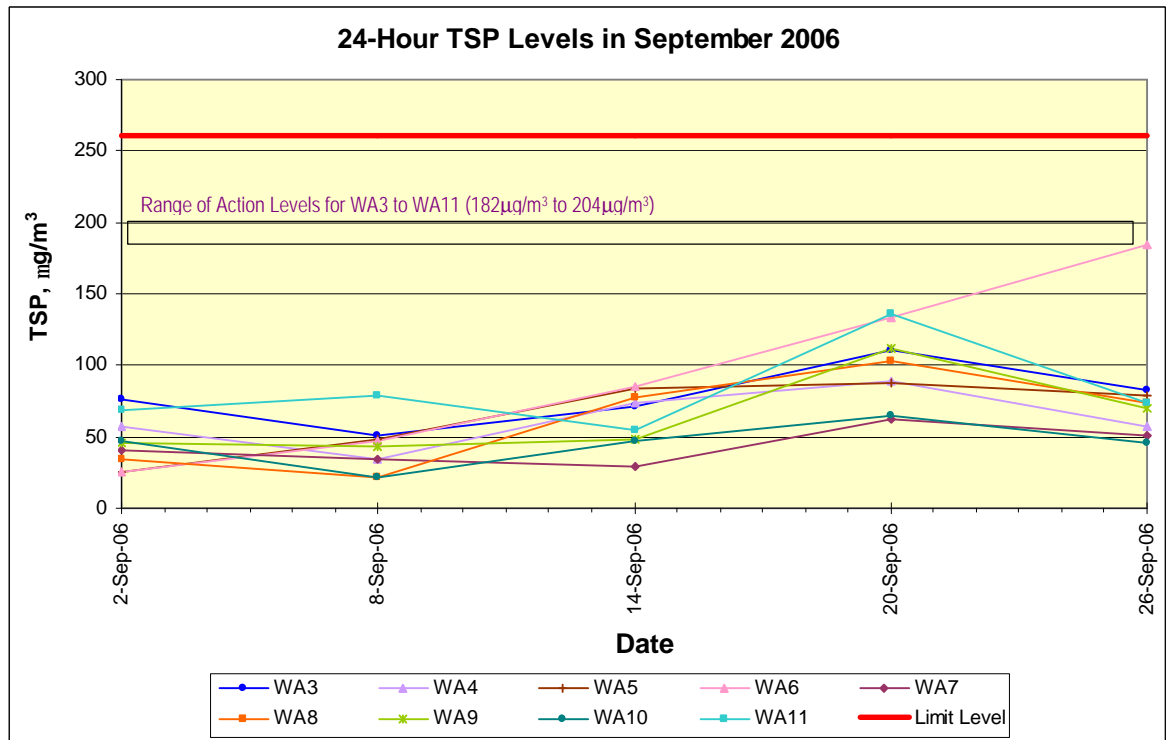
24-hour TSP

A total of 5 sets of 24-hour TSP measurement had been taken on 2, 8, 14, 20 and 26 September 2006.

The highest 24-hour TSP level of 183.8 $\mu\text{g}/\text{m}^3$ was recorded on G/F, Tsing Lung Tau Tin Hau Temple (WA6) on 26 September 2006 while the lowest 24-hour TSP level of 21.3 $\mu\text{g}/\text{m}^3$ was recorded on Podium, Sea Crest Villa (Phase 3 Block 8) (WA8) on 8 September 2006. There was no exceedance of the A/L Level during the reporting period.

Detailed monitoring results of 24-hour TSP are attached in Appendix F and graphical presentation of the 24-hour TSP levels at each monitoring location is illustrated in Figure 4-2.

Figure 4-2 Graphical Presentation of 24-Hour TSP Levels in September 2006



4.3.3 Wind Monitoring Data

Detailed wind monitoring data for September 2006 are extracted from Hong Kong Observatory – Tsing Yi Wind Monitoring Station and attached in Appendix G.

5. NOISE

5.1 Monitoring Equipment

Details of the integrating sound level meters used in the noise monitoring are shown in Table 5-1.

Table 5-1 Equipment list for construction noise monitoring

Equipment	Manufacturer & Model No.	Precision Grade	Qty.
Integrating sound level meter	Rion NA-27	IEC 651 Type 1	2
Windshield	Briel & Kjaer UA0237	IEC 804 Type 1	2
Acoustical calibrator	Briel & Kjaer 4230	IEC 942 Type 1	2
Acoustical calibrator	Briel & Kjaer 4226		1
LCD wind speed indicator	Kestrel Vane Anemometer	--	2

5.2 Methodology

5.2.1 Field Measurement

- The sound level meter and the battery were checked to ensure that they were in proper condition.
- The sound level meter was set on a tripod at 1.2m above ground and at 1m from the exterior of the building façade.
- Before conducting the measurement, the sound level meter was calibrated by an acoustical calibrator.
- The measurement parameter was set to A-weighted sound pressure level. The time weighting was set in fast response and the time period of measurement at 30 minutes.
- The wind speed was checked during noise monitoring to ensure the steady wind speed did not exceed 5m/s, or wind with gusts did not exceed 10m/s.
- Any abnormal conditions that generated intrusive noise during the measurement were recorded on the field record sheet.
- After each measurement, the equivalent continuous sound pressure level (L_{eq}), L_{10} and L_{90} were recorded on the field record sheet.
- The sound level meter was re-calibrated by the acoustical calibrator to confirm that there was no significant drift of reading.

5.2.2 Equipment Maintenance and Calibration

The sound level meter complies with the standards of IEC 651 (Fast, Slow, Impulse rms detector tests) and IEC 804 (L_{eq} functions). The acoustical calibrator model no. 4230 is in compliance with IEC 942. The calibration certificates of the noise monitoring equipment are given Appendix H.

5.3 Results and Observations

5.3.1 Weather Conditions and Other Factors

No adverse weather conditions, in particular adverse wind speed & wind direction and fog & rain that may significantly affect or invalidate the collected noise monitoring data, were registered during the reporting period.

Neither unusual operation of the construction site nor abnormal noise source was observed during the reporting period.

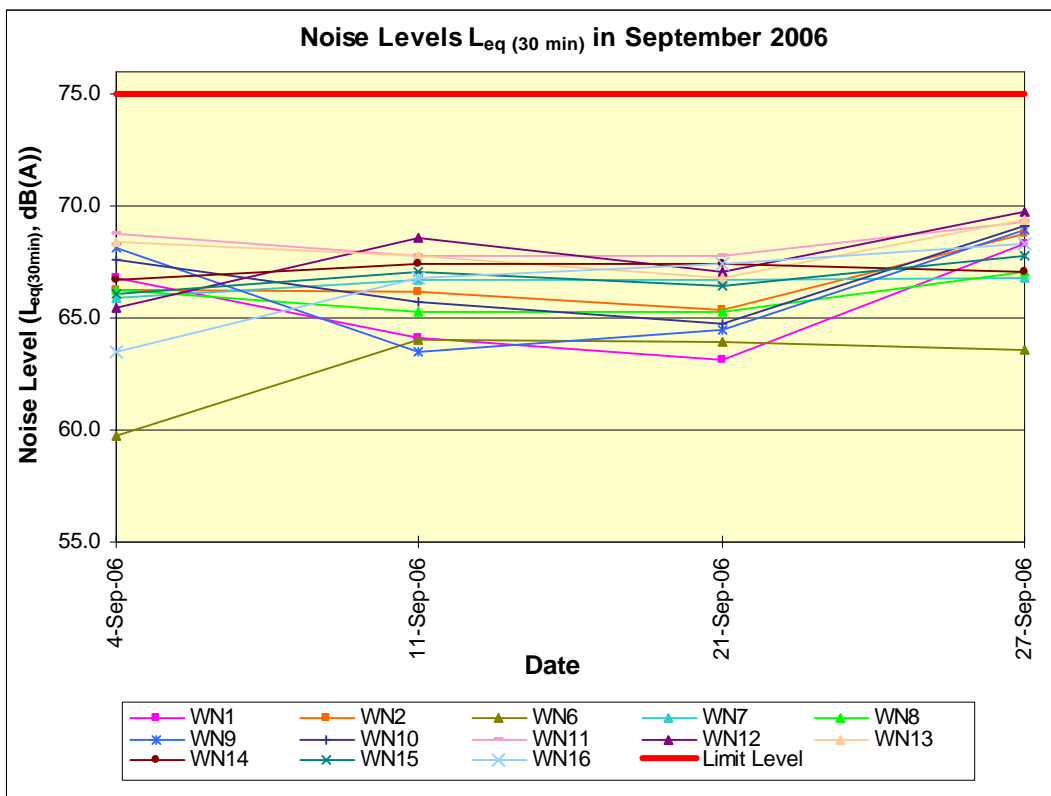
5.3.2 Summary of Results

A total of 4 set of noise measurement had been conducted between 0700-1900 hours on 4, 11, 21 and 27 September 2006.

The highest noise level of 69.7dB(A) was recorded on G/F, Hong Kong Garden (Regent Heights) (WN6) on 4 September 2006 while the lowest noise level of 59.7dB(A) was recorded on Podium, Sea Crest Villa (Phase 4 Block 12) on 27 September 2006 (WN12). There was no exceedance of A/L level during the reporting period.

Detailed construction noise monitoring results are attached in Appendix I and graphical presentation of the noise levels at each monitoring location is illustrated in Figure 5-1.

Figure 5-1 Graphical Presentation of Day-time Noise Levels in September 2006



6. MARINE WATER QUALITY (DESIGNATED PROJECT)

6.1 Marine Water Quality Equipment

Monitoring of Turbidity (Tby) in NTU, Dissolved Oxygen (DO) in mg/L and Suspended Solids (SS) in mg/L was carried out by the ET to ensure that any deteriorating water quality could be readily detected and timely action be taken to rectify the situation. Tby and DO were measured in-situ while SS was determined in the laboratory. A summary of the water quality monitoring equipment is provided in Table 6-1.

Table 6-1 Water quality monitoring equipment

Equipment	Manufacturer & Model No.	Qty
Handheld Salinity, Conductivity & Temperature System	YSI Model 600XL-B-M	1
Dissolved Oxygen Meter	YSI Model 600XL-B-M	1
pH meter	Hanna	1
Turbidimeter	HACH 2100P	1
Nephelometer	Analite Model 156	1

6.2 Methodology

Dissolved Oxygen and Temperature Measuring Equipment

The equipment to measure DO and temperature complies with the following:

- i. The instrument shall be a portable, weatherproof dissolved oxygen measuring instrument equipped with a cable and use a DC power source. It shall be capable of measuring:
 - A dissolved oxygen level in the range of 0-20 mg/L and 0-200% saturation; and
 - A temperature of 0-45°C.
- ii. It shall have a membrane electrode with automatic temperature compensation complete with a cable. Sufficient stocks of spare electrodes and cables shall be available for replacement where necessary (e.g. YSI model 59 meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).
- iii. Should salinity compensation not be integrated in the DO equipment, in-situ salinity shall be measured to calibrate the DO equipment prior to each DO measurement.

Turbidity Measurement Instrument

The instrument is a portable, weatherproof turbidity-measuring instrument completed with comprehensive operations manual. The equipment shall use a DC power source. It shall have a photoelectric sensor capable of measuring turbidity

between 0-1000 NTU and be completed with a cable (e.g. Hach model 2100P or an approved similar instrument).

Suspended Solids

The following equipment is required to monitor the SS:

- i. A water sampler comprising a transparent PVC cylinder, with a capacity of not less than 2 litres and which can be effectively sealed with latex cups at both ends. The sampler shall have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth (e.g. Kahlsico Water Sampler or an approved similar instrument).
- ii. Water samples for SS measurement of both the marine and freshwater environment shall be collected in high density polythene bottles, packed in ice (cooled at 4°C without being frozen) and delivered to the laboratory as soon as possible after collection.

Water Depth Detector

A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring. This unit can either be handheld or affixed to the bottom of the monitoring boat, if the same vessel is to be used throughout the monitoring programme.

Salinity

A portable salinity meter capable of measuring salinity in the range of 0-40 ppt shall be provided for measuring salinity of the water at each monitoring location and setting salinity compensation on the DO Meter.

Location of the Monitoring Site

A hand-held or boat-fixed type Differential Global Positioning System (DGPS) or other equivalent instrument of similar accuracy shall be provided and used during monitoring to ensure the monitoring vessel is at the correct location before taking measurements. For the monitoring locations in the water courses a hand-held DGPS, together with a suitably scaled map shall be used.

6.2.1 Calibration and Accuracy of Instrumentation

All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter shall be carried out before measurement at each monitoring location.

For the on site calibration of field equipment, the BS 1427:1993, “Guide to Field and on-site test methods for the analysis of waters” shall be followed.

6.3 Marine Water Quality Monitoring

As reported by the CT, major sea works at level below +2.5mPD had been completed in July 2003. The proposal on suspension of marine monitoring was submitted to IC(E), HyD, EPD and AFCD for comments on 25 September 2003. It was confirmed with IC(E) and AFCD that suspension of marine monitoring was acceptable if there is no “active” marine work being carried out. In future, if there is any marine work on or below +2.5mPD, the CT shall notify the relevant parties one month in advance and resume the marine monitoring. Subsequently, as instructed by the CT/ HyD, the marine monitoring was suspended since during the period from October 2003 to 31 July 2004. However, as instructed by the CT, the planned sand placement activities were conducted at Seawall B. Marine impact monitoring near Seawall B (i.e. WW1, WW2, WW3, WW4, WR-E-1234, WR-F-1234 and FCZ1) was resumed from 2 August to 27 August 2004. Since sand placement activities at Seawall B were ceased in August 2004, marine water monitoring was again suspended since September 2004.

With the commencement of construction works for fishermen staircase at Tsing Lung Tau Pier since 17 October 2005, the impact marine water quality monitoring was undertaken during mid-ebb and mid-flood tidal cycles at 5 impact monitoring stations (and control stations) at Tsing Lung Tau. Prior to the construction works, 3 marine water quality baseline monitoring events have been conducted on 12, 13 and 15 October 2005 which served as the baseline conditions for this impact monitoring.

Upon completion of the construction works for fishermen staircase at Tsing Lung Tau Pier in November 2005, the marine water quality monitoring has been ceased since 1 December 2005.

7. LANDSCAPE AND VISUAL MONITORING AND AUDIT

The landscape and visual monitoring and audits were carried out on 14 and 28 September 2006 by a Registered Landscape Architect. The audit findings and recommendations are included in the detailed report in Appendix J and summarised in the following paragraphs.

7.1 Summary of Inspection – 14 September 2006

7.1.1 Matters Arising from Previous Inspections

- Utility undertaker had cleared the excavated soil and construction materials away from the existing tree trunks at Sea Crest Villa Ph. 4.
- The Contractor had cleared away the construction waste piles at the central median area and in front of Sea Crest Villa (Phases 3 & 4).
- The Contractor had cleared away the scattered litter at the footbridge FB-03 roundabout planter.
- The Contractor had replaced the dead trees near footbridge FB-03. However, replacement of the remainder of the dead trees at the central divider planter near Dragon Garden / Slope 9 area was outstanding. The Contractor was reminded to replace it as soon as possible.
- Replacement of damaged LS tree at planter bed 6.9 was outstanding. The Contractor was requested to replace the tree as soon as possible.
- Replacement of dead woodland plants on Slopes 6 was outstanding. The Contractor was reminded to also carry out the replacement planting works as soon as possible, including the weeding of the slope.
- Clearance of the invasive *Leucaena leucocephala* plant species from Slopes 11 was outstanding. The Contractor was reminded to clear away the plant as soon as possible to prevent its spreading, which would affect the establishment of woodland planting works.

7.1.2 Site Clearance and Formation Works

- Several newly planted trees in the central divider planter bed 11.10 (off BPRW70 area) were found dead. Also, large stones were observed inside the planter. The Contractor was requested to replace the dead trees and removal of large stones as soon as possible.
- It was observed the placement of mulch to many planter beds were still to be carried out. The Contractor was requested to carry out the work as soon as possible.

7.1.3 Recommendations

- The Contractor was reminded to clear away all scattered litter, garbage, etc. as found on site, and keep the site in a tidy condition at all times.
- The Contractor was reminded to replace all defective and dead trees, and to provide mulching to planter beds as soon as possible.
- The Contractor was reminded to replace all dead whip plants on woodland planting slopes, and to carry out regular watering of plants during the dry periods. Also, the Contractor was reminded to remove the *Leucaena leucocephala* plants as soon as possible.

7.2 Summary of Inspection – 28 September 2006

7.2.1 Matters Arising from Previous Inspections

- Removal of large stones and mulching of planter beds were outstanding. The Contractor was reminded to carry out the work as soon as possible.
- Replacement of the defective tree at planter bed 6.9 and dead trees at the central divider planter near Dragon Garden / Slope 9 area, including at central divider planter bed 11.10 were outstanding. The Contractor was reminded to replace it as soon as possible.
- Replacement of dead woodland plants on Slopes 6 was outstanding. The Contractor was reminded to also carry out the replacement planting works as soon as possible, including the weeding of the slope.
- Clearance of the invasive *Leucaena leucocephala* plant species from Slopes 11 was outstanding. The Contractor was reminded to clear away the plant as soon as possible to prevent its spreading, which would affect the establishment of woodland planting works.

7.2.2 Site Clearance and Formation Works

- It was observed that many pavement trees on the seaward side were still without tree ties. The Contractor was requested to provide tree ties to all pavement trees as soon as possible to prevent tree barks being damaged.

7.2.3 Recommendations

- The Contractor was reminded to clear away all scattered litter, garbage, etc. as found on site, and keep the site in a tidy condition at all times.
- The Contractor was reminded to provide tree ties to all pavement trees as soon as possible.
- The Contractor was reminded to replace all defective and dead trees, and to provide mulching to planter beds as soon as possible.
- The Contractor was reminded to replace all dead whip plants on woodland planting slopes, and to carry out regular watering of plants during the dry periods. Also, the Contractor was reminded to remove the *Leucaena leucocephala* plants as soon as possible.

7.3 Tree Transplanting Survival Rate

7.3.1 Tree Transplanting Survival Rate

- The tree transplanting survival rate as reported by the CT for the period up to the end of September is 100%.

7.4 Audit Schedule

7.4.1 Bi-monthly Audit Schedule during Establishment Period

The bi-weekly audit and monitoring during the Construction Phase is now completed. The next audit would be the bi-monthly audit during the Operational Phase (Establishment Period), which is schedule to be conducted on 23rd November 2006.

8. SITE INSPECTION, WASTE DISPOSAL, ENVIRONMENTAL COMPLAINTS, ENVIRONMENTAL LICENSES AND NON-COMPLIANCE RECORDS

8.1 Site Audit Findings

Four occasions of weekly environmental site audits were carried out on 7, 14, 21 and 28 September 2006. Findings of the site audits are summarised in Table 8-1.

Table 8-1 Findings of weekly environmental site audit in September 2006

Date of Issue Raised	Observation	Advice from EA	CT's Response / Environmental Outcomes	Closing Date
7 September 2006 (WC229)	1. Silt was observed at Slope 8 along U-channel. CT mobilized workers to clear the silt during site audit.	CT was reminded to clear the U-channel regularly during rainy days.	Agreed with the ET's advice.	14 September 2006
	2. Stagnant water was observed at Sea Crest Villa IV.	CT was reminded to clear the stagnant water.	Agreed with the ET's advice.	
	3. General refuse was observed at Dragon Garden.	CT was reminded to clear the refuse.	Agreed with the ET's advice.	
	4. General refuse was observed at Pai Min Kok.	CT was reminded to clear the refuse.	Agreed with the ET's advice.	
	5. Construction waste was observed near to Ma Wan Toilet.	CT was reminded to clear the waste.	Agreed with the ET's advice.	
14 September 2006 (WC230)	1. Silt was observed at the U-channel at slope 8.	CT was reminded to clear the silt.	Agreed with the ET's advice.	21 September 2006
	2. Stagnant water was observed inside the waste skip at the entrance of Dragon Garden.	CT was reminded to clear the stagnant water to prevent mosquito breeding.	Agreed with the ET's advice.	
	3. Construction waste was observed accumulated at Ma Wan Toilet.	CT was reminded to clear the waste as soon as possible.	Agreed with the ET's advice.	
	4. The drip tray of an oil drum was full of stagnant water after heavy rainfall.	CT was reminded to clear the stagnant water as soon as possible.	Agreed with the ET's advice.	
21 September 2006 (WC 231)	1. Waste concrete and scraped drainage pipe were observed outside Ma Wan Toilet.	CT was reminded to remove the waste.	Agreed with the ET's advice.	28 September 2006
	2. Construction waste was observed under footbridge near Pai Min Kok.	CT was reminded to clear the waste and maintain good housekeeping of the site.	Agreed with the ET's advice.	
	3. Sand was observed on the pedestrian road outside Sea Crest Villa Phase III.	CT was reminded to clear the sand.	Agreed with the ET's advice.	

Date of Issue Raised	Observation	Advice from EA	CT's Response / Environmental Outcomes	Closing Date
	4. Construction waste was observed outside Sea Crest Villa Phase III, Refuse Collection Point (RCP) E and along pedestrian road near RCP E.	CT was reminded to clear the waste.	Agreed with the ET's advice.	
	5. Waste battery was observed along roadside near RCP E.	CT was reminded to clear the waste battery.	Agreed with the ET's advice.	
	6. General refuse was observed under footbridge 02.	CT was reminded to clear the waste.	Agreed with the ET's advice.	
28 September 2006 (WC 232)	1. A generator, which was not in operation, was observed without noise label.	CT was reminded to post the noise label outside the generator before using.	Agreed with the ET's advice.	5 October 2006
	2. General refuse was observed outside Sea Crest Villa Phase III. The Contractor mobilized workers to clear the waste immediately.	CT was reminded to maintain good housekeeping of the site.	Agreed with the ET's advice.	

8.2 Waste Disposal

Disposal of waste material in the reporting month complied in general with the corresponding waste disposal requirements. The waste disposal quantity in the reporting month is summarised in Table 8-2.

Table 8-2 Waste disposal quantity in September 2006

Type of waste or material	Disposal at	No. of loads or quantities	Remarks	
C&D waste	WENT Landfill	11 loads	--	
C&D material	Public Filling Area in Tuen Mun	118 loads	--	
Grease trap waste	Interim Grease Trap Waste Treatment Facility at WENT Landfill	0	--	
Chemical waste	Spent lube oil	Collected by licensed collector	0	--

8.3 Complaint Record

There was no environmental complaint received in September 2006. A log record on the environmental complaints is given in Appendix K and a cumulative statistics on environmental complaints is given in Table 8-3.

Table 8-3 Cumulative statistics on environmental complaints

No. of complaints received in the reporting month	No. of outstanding complaints	Cumulative no. of complaints received since the commencement of project
0	0	51

8.4 Non-compliances

There was no non-compliance for environmental monitoring parameters recorded during reporting period.

8.5 Notification of Summons and Successful Prosecution

Neither notification of summons nor prosecution was received during the reporting month.

8.6 Environmental Licenses

There was no new CNP was granted during the reporting month.

9. REFERENCES

- [1] Mouchel Halcrow Joint Venture. 2001. Castle Peak Road Improvement between Area 2 and Ka Loon Tsuen, Tsuen Wan West Contract No. HY/99/18, Environmental Monitoring & Audit Manual.
- [2] Ove Arup & Partners Hong Kong Limited. July 2002. Contract No. HY/99/18 Castle Peak Road Improvement between Shem Tseng and Ka Lung Tsuen, Tsuen Wan, Environmental Baseline Monitoring Report (Second Issue).
- [3] Mouchel Halcrow Joint Venture. 2001. D&C Consultancy Agreement No. CE 1/96 Castle Peak Road Improvement between Area 2 and Ka Loon Tsuen, Tsuen Wan, Tree Survey Report & Tree Felling Application Revision D.
- [4] Mouchel Halcrow Joint Venture. Contract No. HY/99/18 March 2002. D&C Consultancy Agreement No. CE 1/96 Castle Peak Road Improvement between Area 2 and Ka Loon Tsuen, Tsuen Wan, Supplementary Tree Survey Report & Tree Felling Application Revision A.

APPENDIX A
Detailed site layout
plans

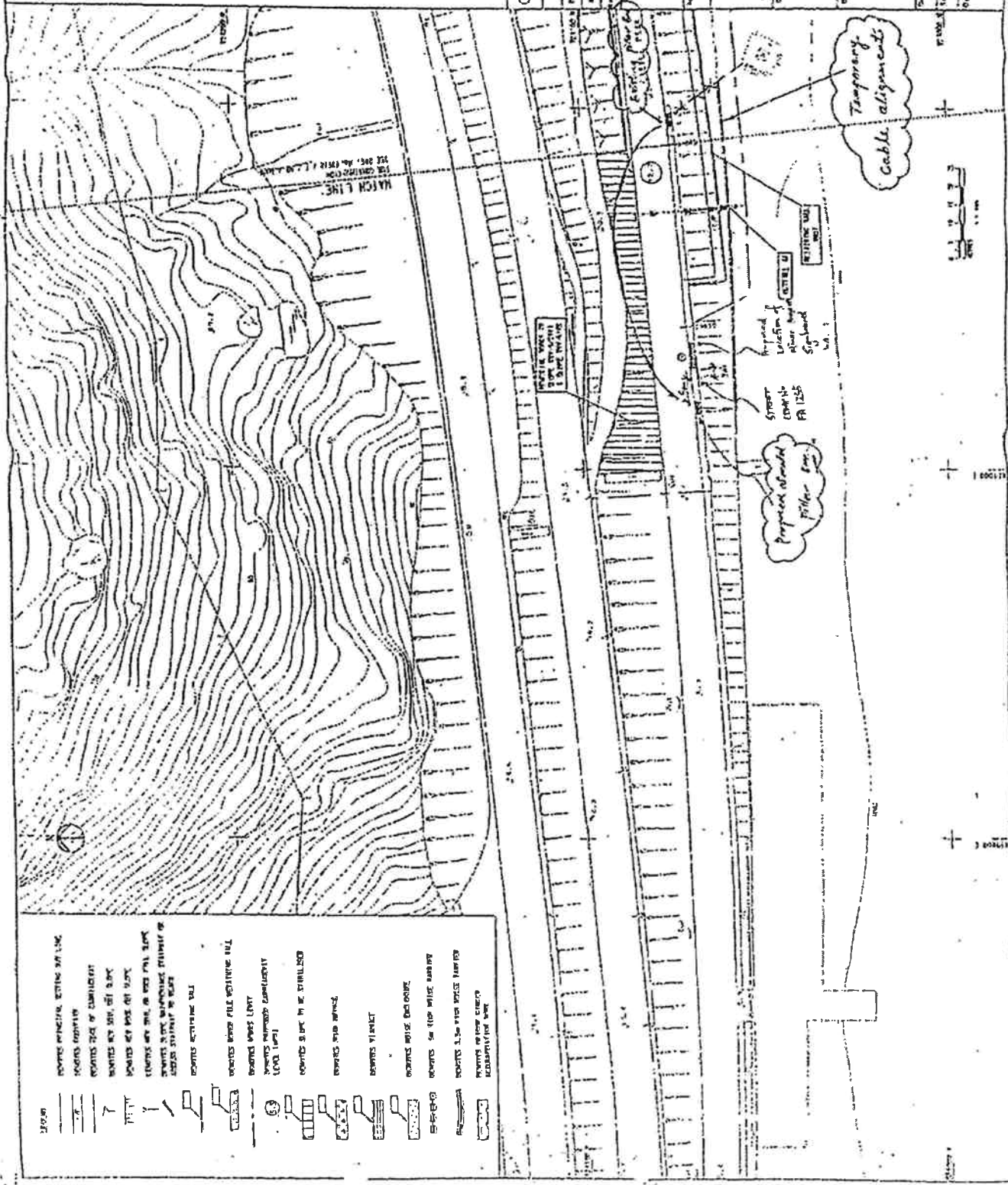
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CONTRACT DRAWING

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Contract No.	ES/374
Contract Date	11/59/18
Contractor	Mouchel Harlow JV
Sub-Contractor	ACL, JCB, JYS, JVA Ltd.
Client	Transport Commission Ltd., Cheong Cheong Party Ltd.
Design No.	90612/T/R0/3001

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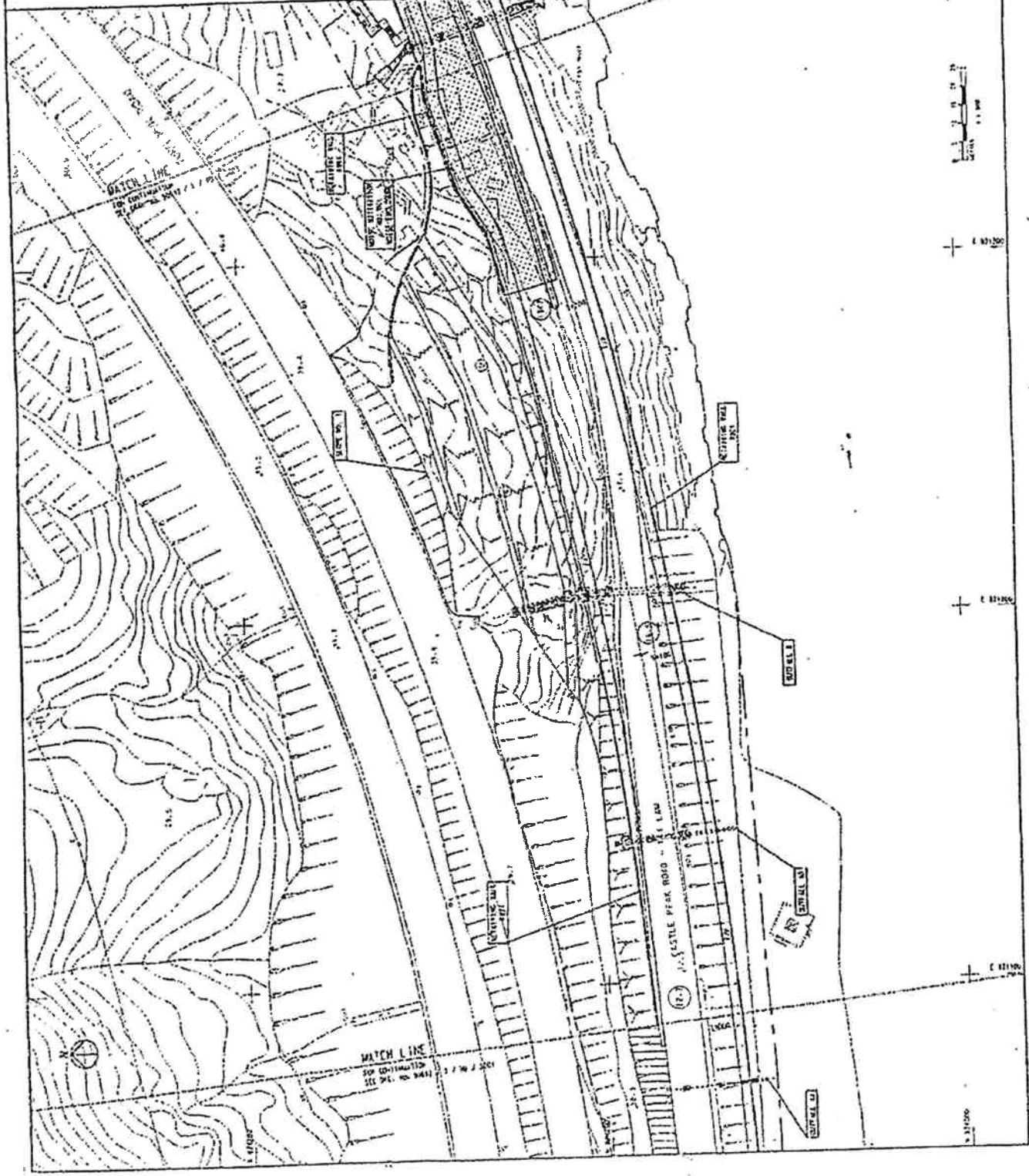
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1:500

NOTES:
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CHECKED BY	[Signature]
SCALE	AS SHOWN

Major Works Project Management Office,
 Highways Department,
 Hong Kong

Contract No. GSS3114 Contract Date 11/09/28

Mouchel Halcrow - JV
 Sub-Consultants

ACL Asia, MVA Asia Ltd,
 Townland Consultants Ltd, Charleston Petty Ltd
 Consultants

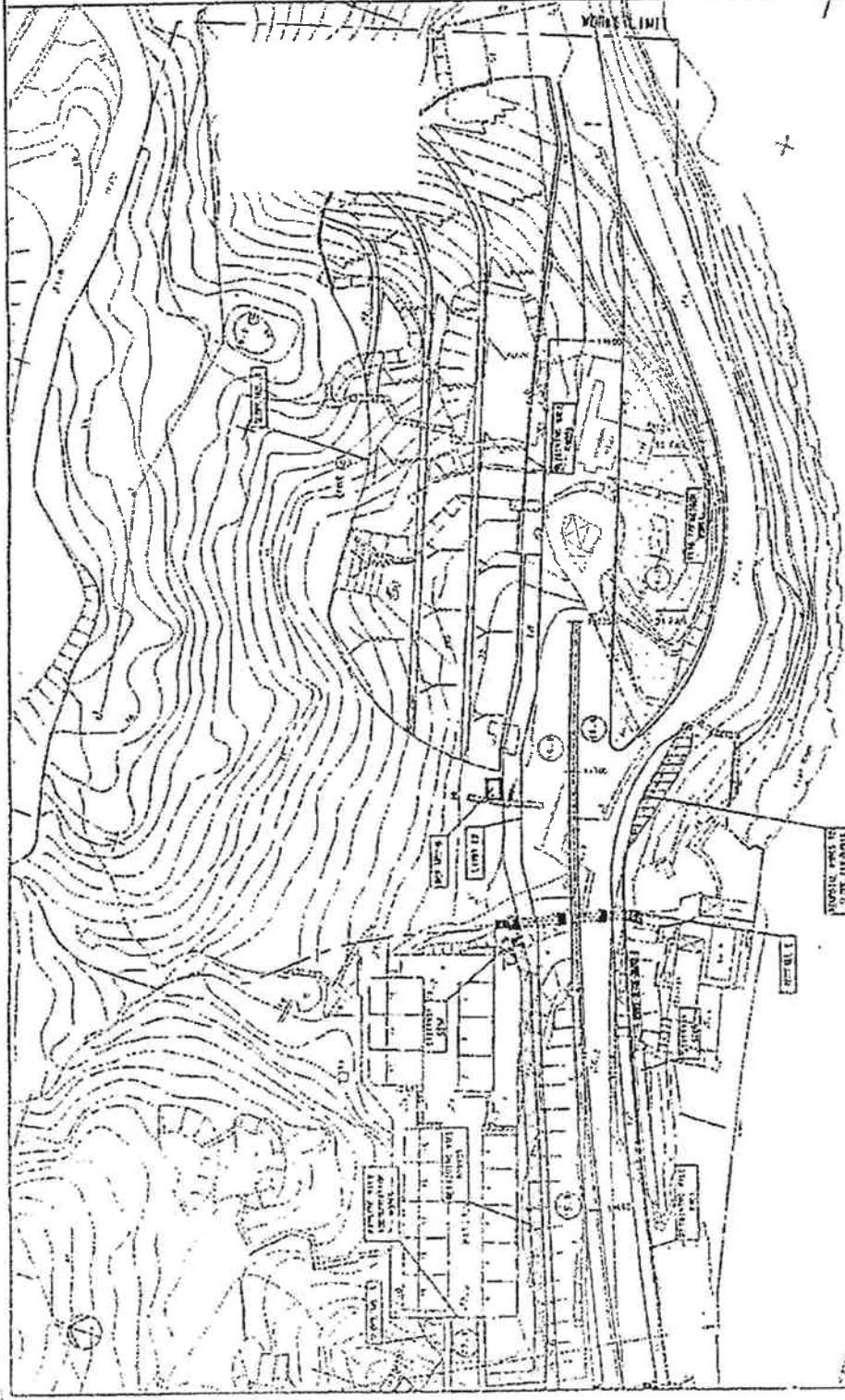
Castle Peak Road Improvement Between
 Sham Tseng and Ka Loon Tsuen, Tsuen Wan

Project No. 90612/T/R0/3002

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2	15/05/2004	ISSUE FOR TENDER
3	15/05/2004	ISSUE FOR TENDER
4	15/05/2004	ISSUE FOR TENDER
5	15/05/2004	ISSUE FOR TENDER

DATE PLOTTED: 15/05/2004
 PLOT NO. 15



CONTRACT DRAWING

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Project Status	Project Manager	Contract Manager

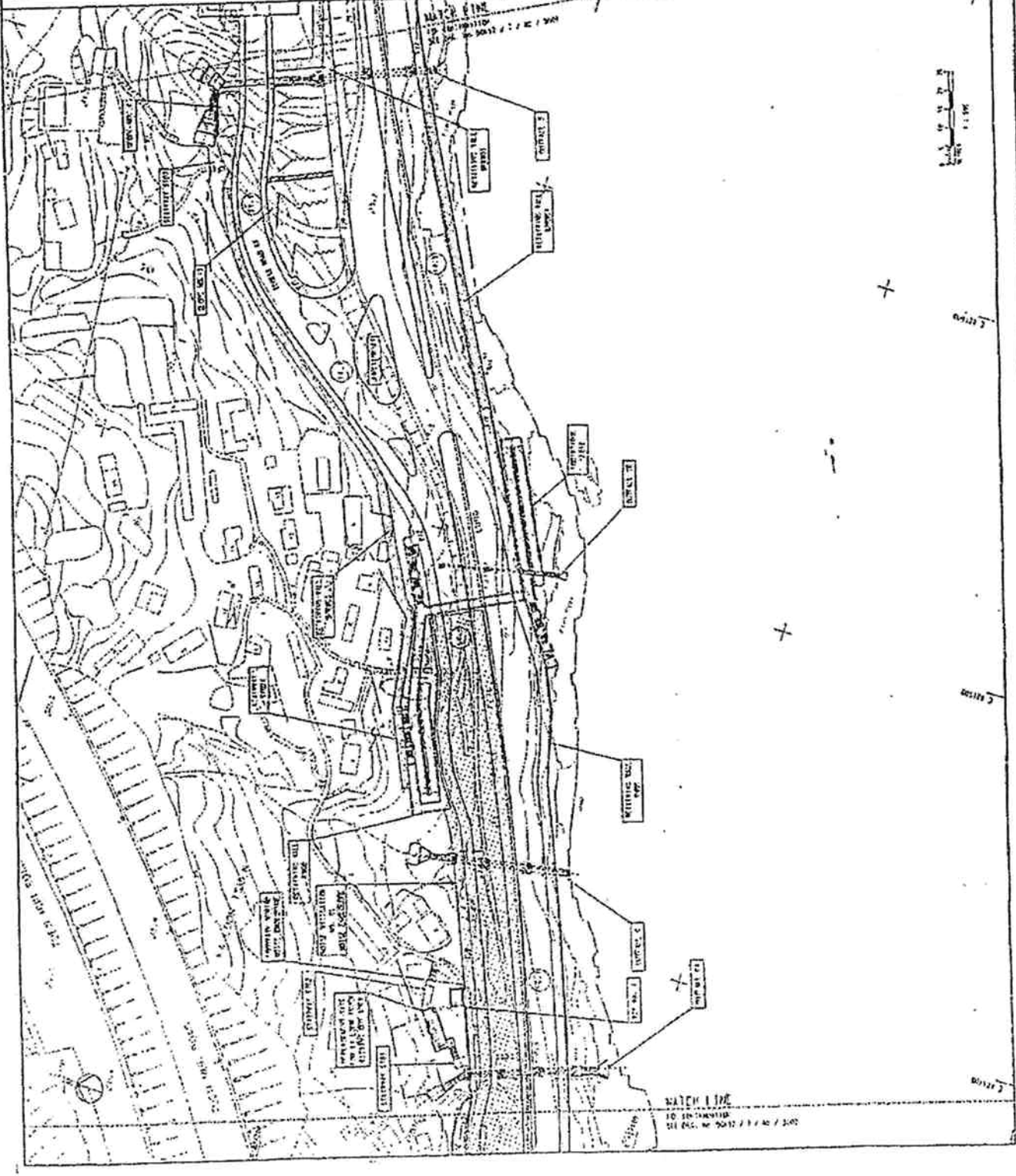

Mouchel Major Works Project Management Office,
 Highways Department,
 Hong Kong

Mouchel Halcrow . JV
 Sub-Consultants
 ECI Ltd, MVA Asia Ltd,
 Trenchard Consultants Ltd, Chatterton earth Ltd
 Contract No.

Project No. **BSS374** Contract No. **HF / R9 / 18**
 Date **11/93** Scale **1:1000**
 Drawing No. **90612/1/RD/3004**



NOTE 1
 1. FOR GENERAL NOTE AND LEGEND REFER TO DRAWING NO. W111 / 1 / 20 / 1500.



CONTRACT DRAWING

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2	REVISED

MTR Major Works Project Management Office,
 Highway Department,
 Hong Kong

Contract No. 107/00/115

Mouchel Halcrow - JV

Sub-Consultant
 ACL, 416, Wai Yee Ltd.
 Two Island Commercial BLD., Chesterton, 101-103
 Cambridge CB4 3JG

Client's Peak Road Improvement Between
 Shum Tsang and Ka Leon Tszoi, Tsuen Wan

Drawing No.

SCHEME GENERAL ARRANGEMENT
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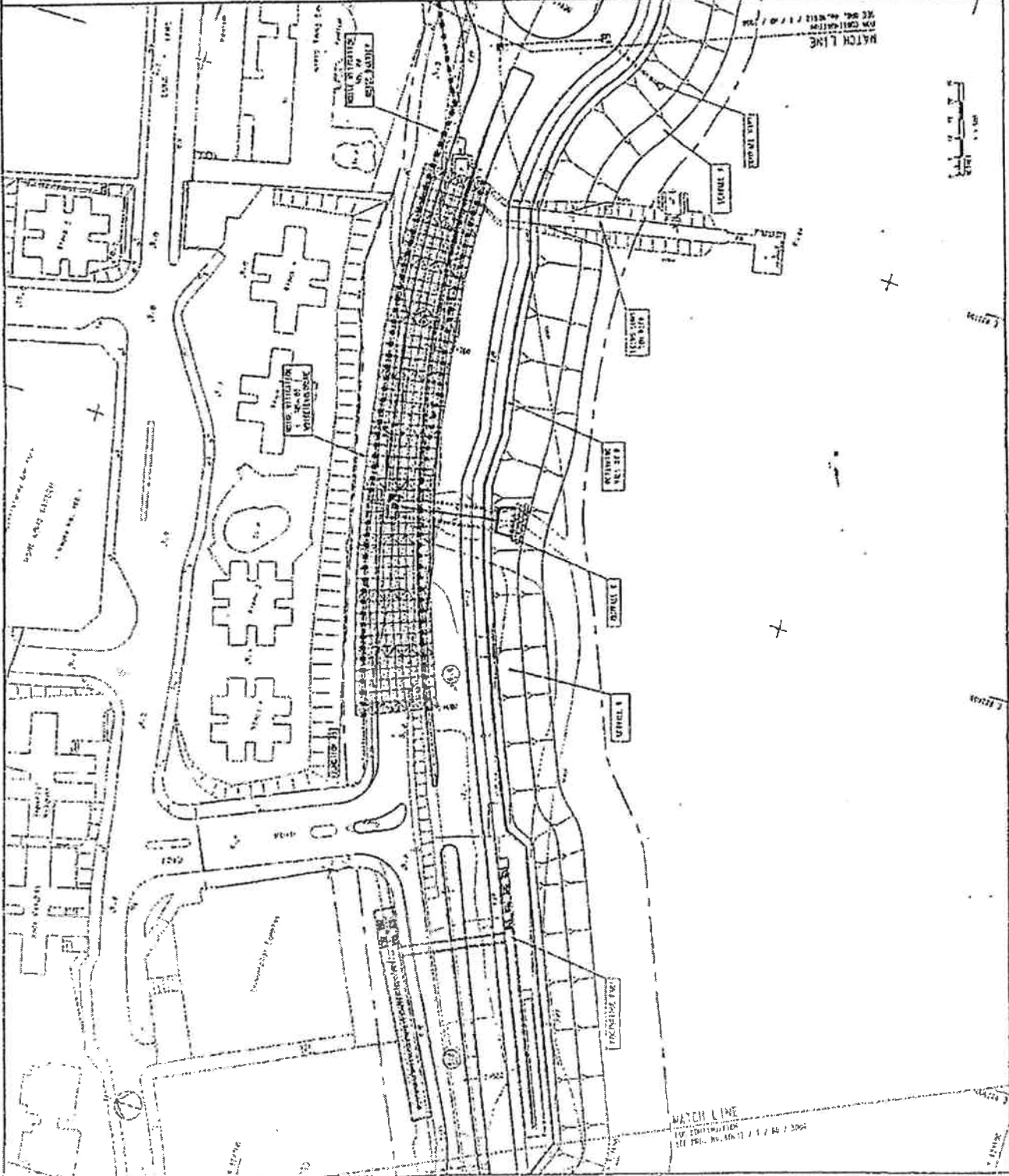
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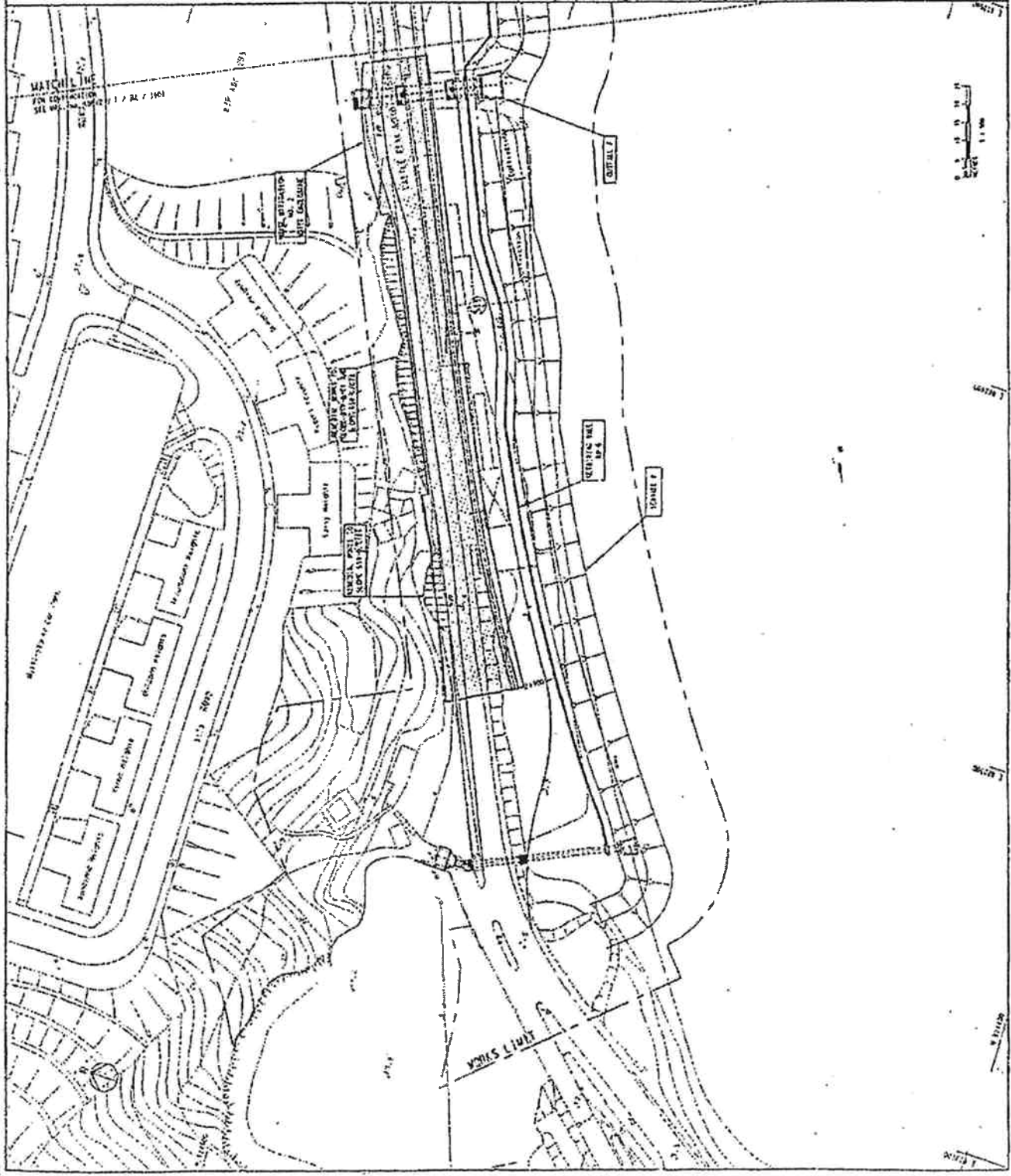


CONTRACT DRAWING

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Contractor	Mouchel Halcrow JV		
Sub-Contractor	40, 40th St, Apt. 114, Townsend Greenhills Dr., Cambridge, Peabody, MA		
Engineer	Castle Peak Road Improvement Engineer, Sham Tseng and Ka Loon Tsuen Tsuen Wan		
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Sheet No.	1 of 1		

SCHEME GENERAL ARRANGEMENT
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DATE FOR SERIAL NO. 11250 11/13/12
 DATE OF THIS / 11 / 11 / 2011



CONTRACT DRAWING

NO.	DESCRIPTION	DATE	BY	CHKD.	APPD.
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2	REVISED				
3	REVISED				

MJM Major Works Project Management Office,
 Highways Department,
 Hong Kong

Project No. 6553TH Contract No. HY 799 / 18

Mouchel Halecrow JV
 Sub-Consultants
 222 Ave. WA Aisle Ltd,
 Townland Greenhill Ltd, Chesterfield Park Ltd,
 Services Ltd

Castle Peak Road Improvement Between
 Sheeh Tunng and Ka Loan Tseon, Tseun Wan

Drawing No. SCHEME GENERAL ARRANGEMENT
 CHANGE 2300 TO 2400

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Date Issue	CHKD.	DATE	NO. OF SHEETS
11/13/12	11/13/12	11/13/12	18

NOTES
 1. FOR GENERAL NOTES AND LEGEND REFER TO DRAWING No. S0612/T/1/10/3010.

CONTRACT DRAWING

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Sheet No.	10
Date	11/19/99

M&M Major Works Project Management Office,
 Highways Department,
 Hong Kong

Reference: 5553TH Contract No. HY/99/18

Mouchel Halcrow - JV
 Sub-Consultant

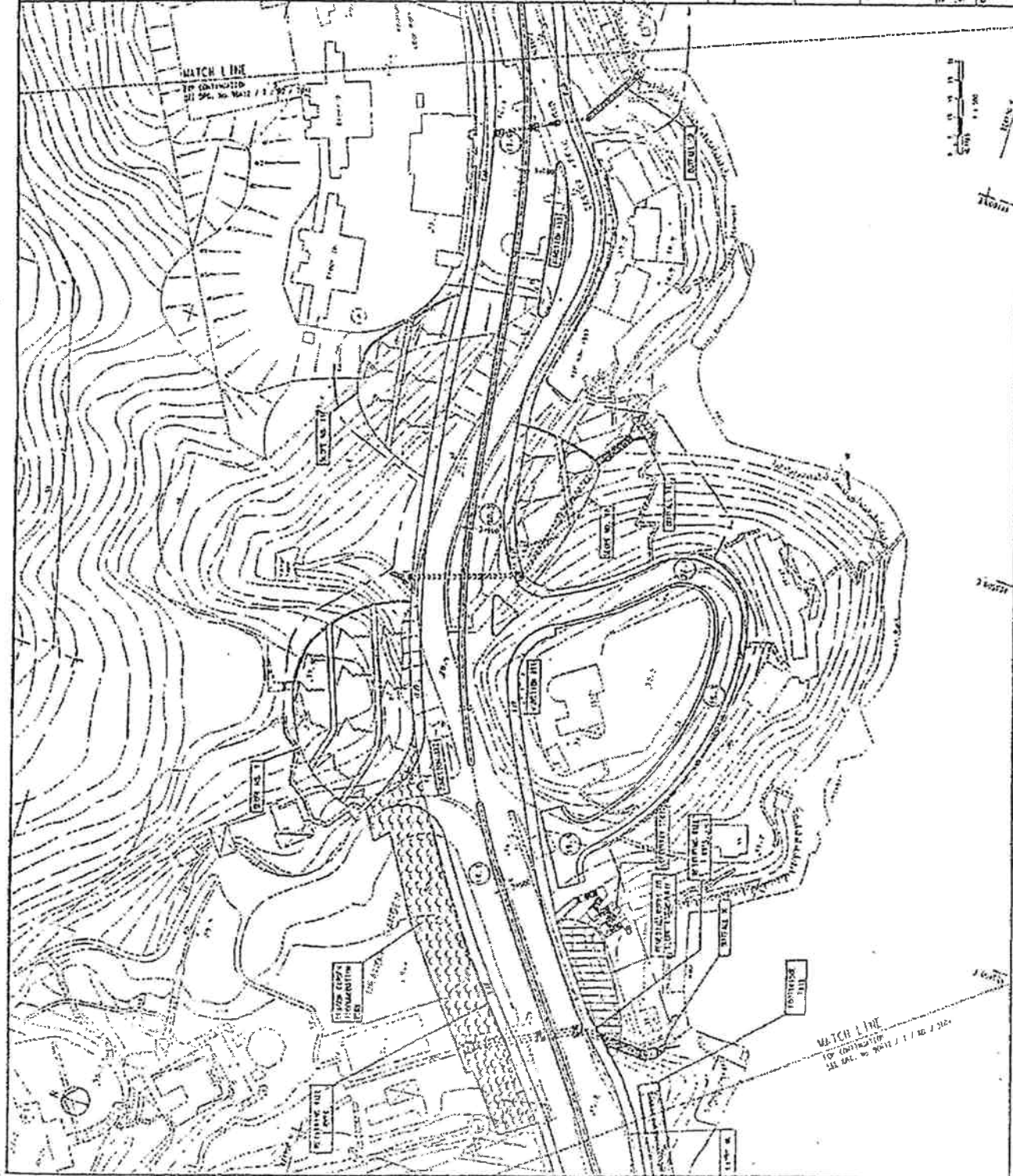
A.C. Asia, MVA Asia Ltd.,
 Townsend Consultants Ltd., Chesterfield Pally Ltd
 Chartered Eng.

Castle Peak Road Improvement Between
 Shuen Tseng and Ka Loon Tsuen, Tsuen Wan

Drawing No. S0612/T/1/10/3010

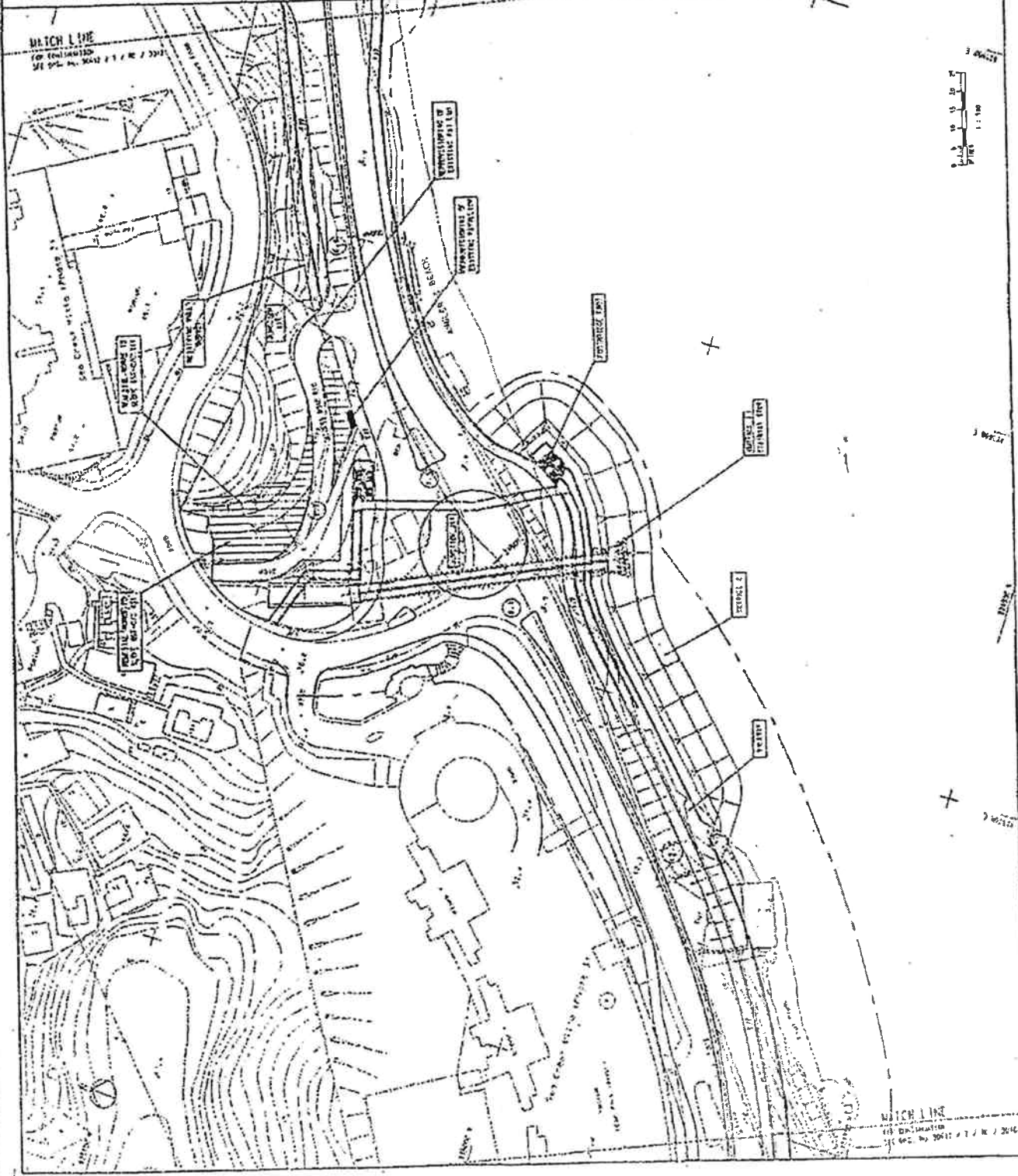
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NOTES

1. FOR GENERAL NOTES AND CROSS SECTIONS REFER TO DRAWING NO. 3012 / T / RD / 3011.



CONTRACT DRAWING

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Client	Highways Department, Hong Kong	Consultant	Mouchel Halcrow JV
Sub-consultant	ACL Asia, OVA Asia Ltd., Townland Consultants Ltd., Cheriton Property Ltd.	Contract Title	Caselle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan
Drawn by		Checked by	
Date		Scale	

<p>Mouchel Halcrow JV Sub-consultants ACL Asia, OVA Asia Ltd., Townland Consultants Ltd., Cheriton Property Ltd.</p>			
<p>SCHEME GENERAL ARRANGEMENT CHAINAGE 3730 TO 4060</p>			
Project No.	6553TH	Contract No.	HY / 99 / 18
Client	Highways Department, Hong Kong	Consultant	Mouchel Halcrow JV
Sub-consultant	ACL Asia, OVA Asia Ltd., Townland Consultants Ltd., Cheriton Property Ltd.	Contract Title	Caselle Peak Road Improvement Between Sham Tseng and Ka Loon Tsuen, Tsuen Wan
Drawn by		Checked by	
Date		Scale	

DATE: 11/03/03
DRAWN BY: [Name]
CHECKED BY: [Name]
SCALE: 1:100
PROJECT NO: 6553TH
CONTRACT NO: HY / 99 / 18
DRAWING NO: 3012 / T / RD / 3011

NOTES
 1. FOR OTHER NOTES AND DETAILS REFER TO DRAWING NO. 90612/1/RO/3008.

CONTRACT DRAWING

2	2nd CONTRACT NUMBER	27	27
3	3rd CONTRACT NUMBER	28	28
4	4th CONTRACT NUMBER	29	29
5	5th CONTRACT NUMBER	30	30
6	6th CONTRACT NUMBER	31	31
7	7th CONTRACT NUMBER	32	32
8	8th CONTRACT NUMBER	33	33
9	9th CONTRACT NUMBER	34	34
10	10th CONTRACT NUMBER	35	35

MTR MTR High Mores Project Management Office,
 Highways Department,
 Hong Kong

Project No. 6553TH Contract No. 14Y/89/18
Mouchel Halcrow - JV

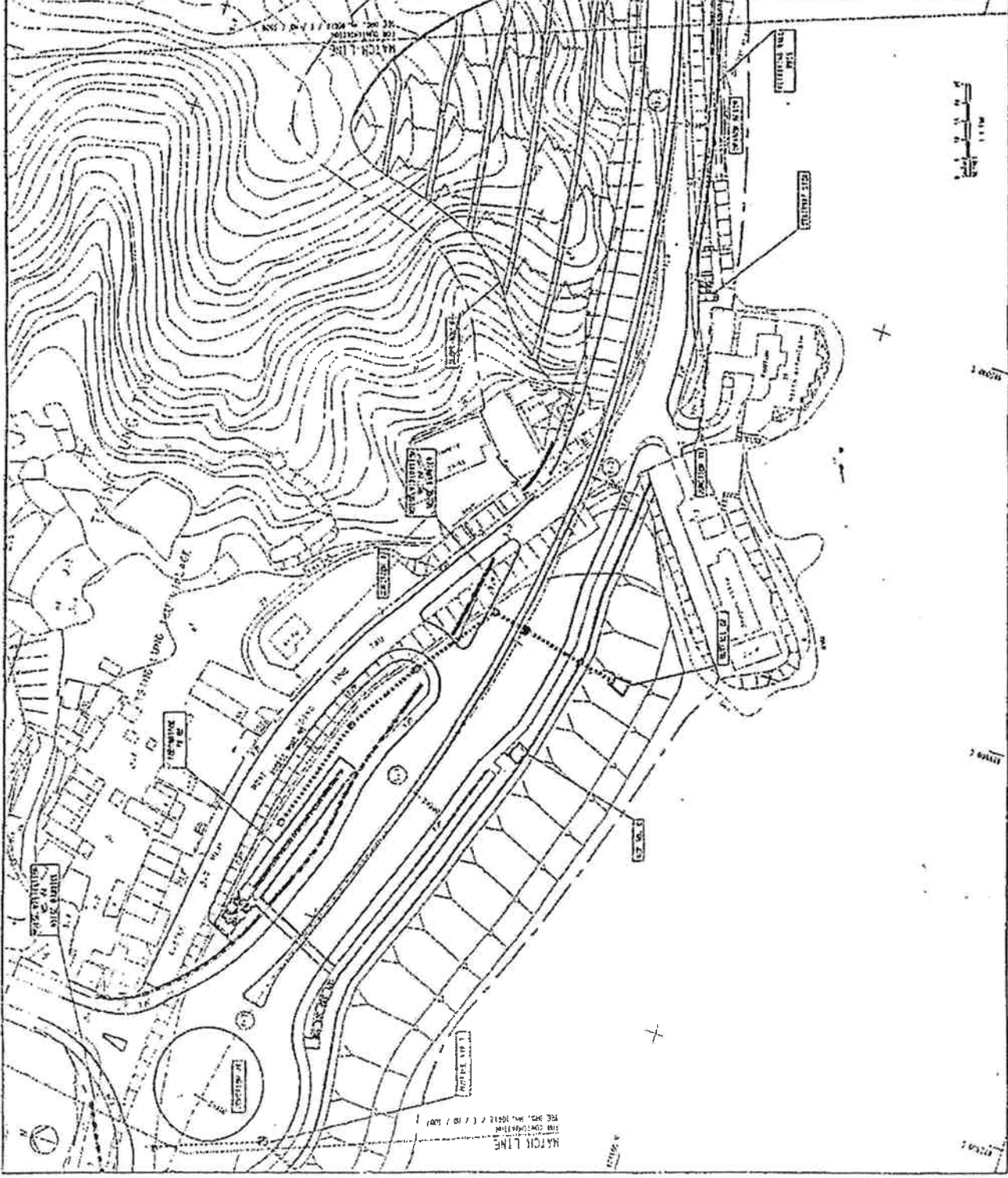
Sub-Consultants
 AEC Ltd, WY Holdings Ltd,
 Townland Consultants Ltd, Cheerland Telle Ltd,
 Coopers & Lybrand

Caslie Peak Road Improvement Between
 Sham Tseng and Ka Leon Tsuen, Tsuen Wan

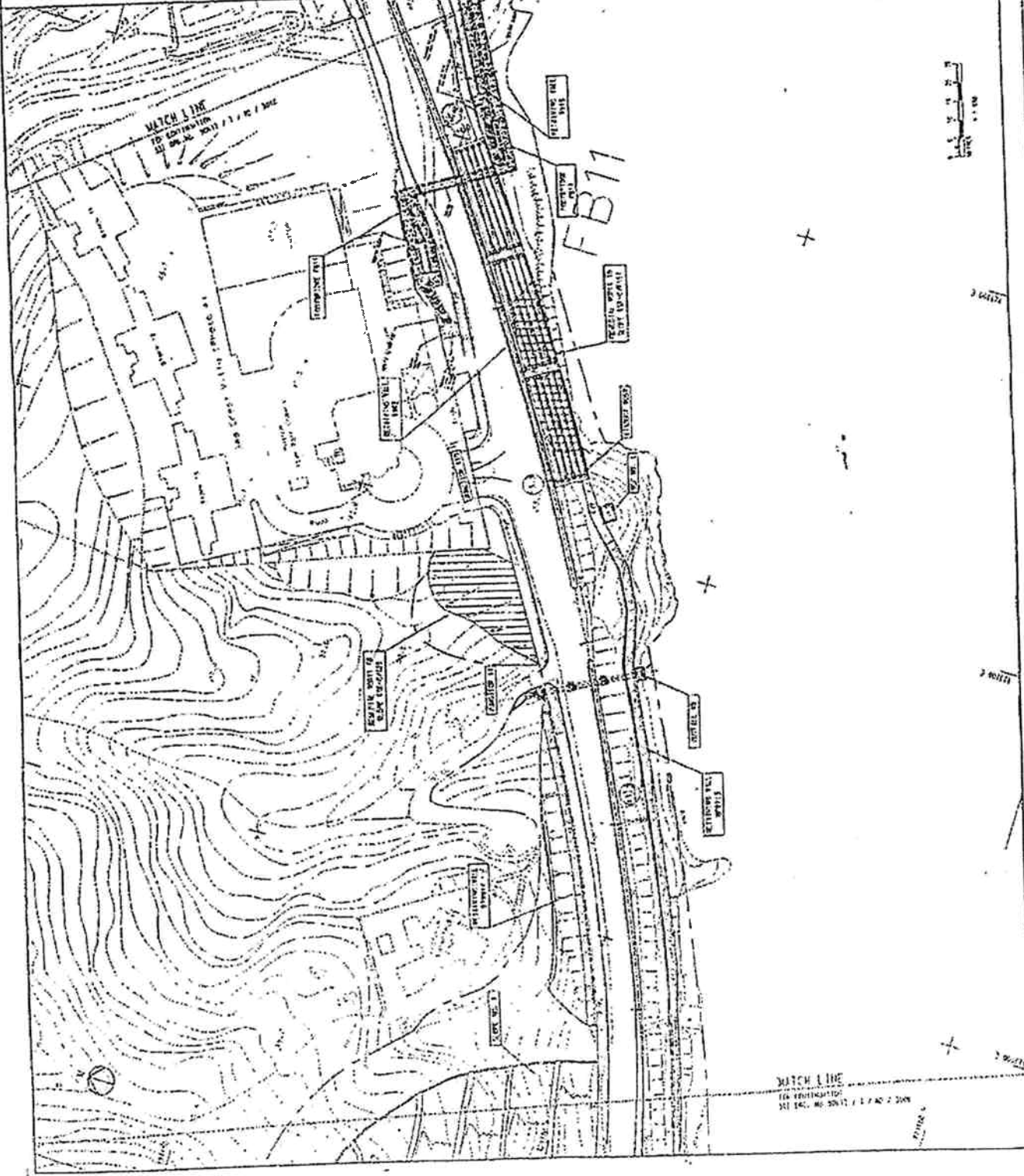
Project Title
**SCHEME GENERAL ARRANGEMENT
 CHAINAGE 2785 TO 3130**

Drawn	Checked	Appr.	Approved	25
Scale	1:500	Scale	1:500	26
Site Name	Scale	1:500	Scale	1:500
Date	2001	Date	2001	27
Drawing No.				90612/1/RO/3008
Revision				B

DATE: 31 OCT 2001



DATE: 11/10/1998
 DRAWN BY: 11/10/1998



CONTRACT DRAWING

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR TENDER	11/10/1998	11/10/1998
2	ISSUED FOR CONTRACT	11/10/1998	11/10/1998
3	ISSUED FOR CONSTRUCTION	11/10/1998	11/10/1998

MWH Major Works Project Management Office,
 Highway Department,
 Hong Kong

Project No. 6563TH Contract No. HK/98/19
Mouchel Halcrow - JV
 Sub-Consultants
 JCL Asia, UVA Asia Ltd.,
 Tszwanid Consultants Ltd., Charleston Tully Ltd.
 Contract Title
 Castle Peak Road Improvement Between
 Sham Tseng and Ka Loon Tsuen, Tsuen Wan

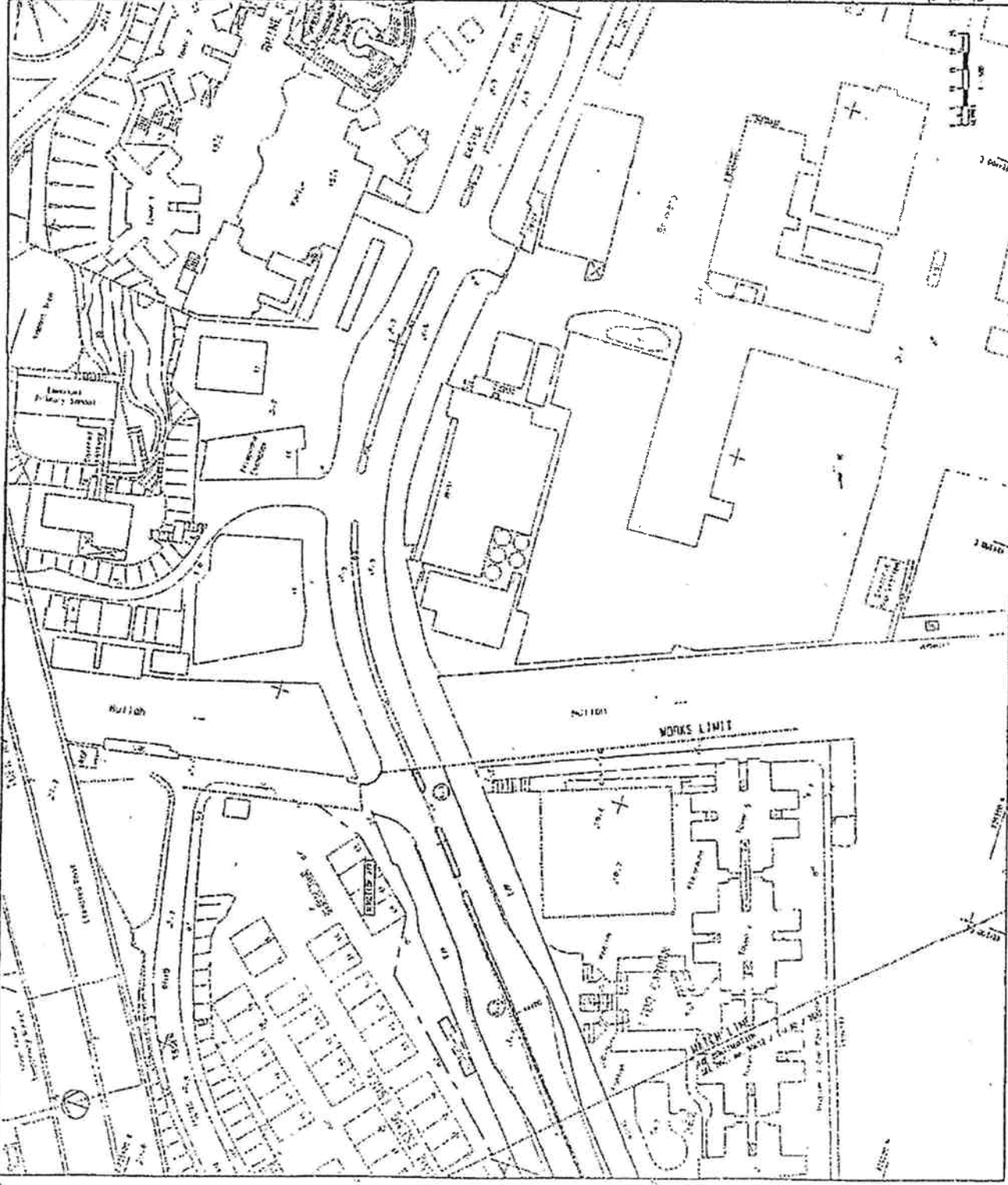
Drawing Title
**SCHEME GENERAL ARRANGEMENT
 CHANGHAI 3130 TO 3430**

Scale	1:1000	DATE	11/10/1998
Drawn by	11/10/1998	Checked by	11/10/1998
Drawn No.	90612/T/RO/3003	Sheet No.	B

MATCH LINE TO DRAWING NO. 11/10/1998

NOTE

1. FOR DETAILS REFER TO DRAWING SHEET
 IN EXISTING NO. 885/2 / 1 / 2 OF 2 SHEET.



CONTRACT DRAWING

Project No.	6552711	Project No.	147/92/10
Contract No.		Contract No.	
Contract Value		Contract Value	
Contract Date		Contract Date	
Contract Location		Contract Location	
Contract Description		Contract Description	

Major Works Project Management Office,
 Highways Department,
 Hong Kong

MouchelHalcrow JV

Sub-Consultants
 ACL Asia, XVA Asia Ltd,
 Townsend Consultants Ltd, Chesterfield Peity Ltd
 (Contract No.)

Castle Peak Road Improvement Between
 Sham Tseng and Ka Loon Tsuen, Tsuen Wan
 District

Contract No.

**SCHEME GENERAL ARRANGEMENT
 CHAINAGE 4370 TO 4470**

Scale	1:100	Scale	1:100
Date Issued	11/08/00	Date Issued	11/08/00
Drawn By	90612/Y/RD/3013	Drawn By	90612/Y/RD/3013
Checked By		Checked By	
Approved By		Approved By	
Project No.	6552711	Project No.	147/92/10
Contract No.		Contract No.	
Contract Value		Contract Value	
Contract Date		Contract Date	
Contract Location		Contract Location	
Contract Description		Contract Description	

NOTES
 1. THE OWNER ACCEPTS ALL LEGAL RISKS
 TO BEING IN 1994/1/20/300.

CONTRACT DRAWING

Drawn	Checked	Scale
1:1000	1:1000	1:1000
1:1000	1:1000	1:1000
1:1000	1:1000	1:1000

Major Works Project Management Office,
 Highways Department,
 Hong Kong



Project No. 65537H Contract No. HY / 99 / 18

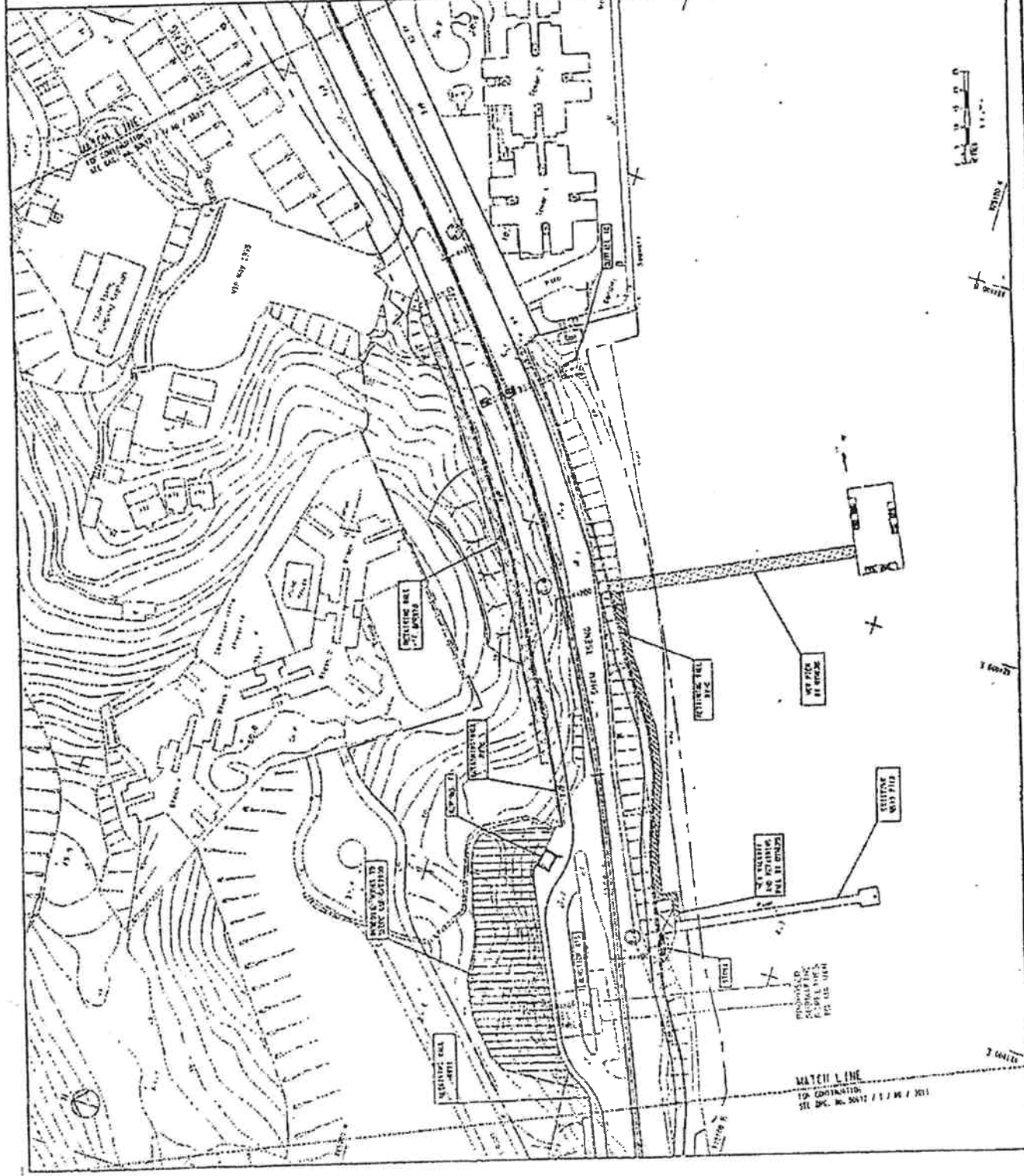
Mouchel Halcrow JV

Sub-Consultants:
 ACL Asia, NVA Asia Ltd.,
 Townland Consultants Ltd., Chesterish Pelly Ltd.

Castle Peak Road Improvement Between
 Shern Tseng and Ka Loon Tsuen, Tsuan Wan

Scheme General Arrangement
 CHANAGE 4050 TO 4370

Date	Drawn	Checked	Scale
1:1000	1:1000	1:1000	1:1000
1:1000	1:1000	1:1000	1:1000
1:1000	1:1000	1:1000	1:1000



MATCH LINE
 TO CONTRACT DRAWING
 NO. 65537H/1/20/301

APPENDIX B

**Monitoring schedule for
September 2006**

Environmental Monitoring and Audit Schedule - September 2006

- Note 1: L30 denotes $L_{eq(30\text{ min})}$ monitoring
- Note 2: TSP denotes Total Suspended Particulate monitoring
- Note 3: MW denotes Marine Water Quality monitoring
- Note 4: L&V denotes Landscape and Visual audit and monitoring

Sep-2006						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4 L30 3 x 1-hour TSP	5	6	7 Site Inspection	8 24-hour TSP	9
10	11 L30 3 x 1-hour TSP	12	13	14 Site Inspection + L&V 24-hour TSP	15 3 x 1-hour TSP	16
17	18	19	20 24-hour TSP	21 Site Inspection L30 3 x 1-hour TSP	22	23
24	25	26 24-hour TSP	27 L30 3 x 1-hour TSP	28 Site Inspection + L&V	29	30

APPENDIX C

**Calibration certificates
of 24-hour TSP
monitoring equipment**



TISCH ENVIRONMENTAL, INC.
 145 SOUTH MIAMI AVE.
 VILLAGE OF CLEVELAND, 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-5025A

Date - Feb 01, 2006 Roots-meter S/N 9833620 Ta (K) - 292
 Operator Tisch Orifice I.D. - 1201 Pa (mm) - 746.76

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER	ORFICE
					DIFF Hg (mm)	DIFF H2O (in.)
1	NA	NA	1.00	1.3650	3.2	2.00
2	NA	NA	1.00	0.9560	6.3	4.00
3	NA	NA	1.00	0.8580	7.8	5.00
4	NA	NA	1.00	0.8140	8.6	5.50
5	NA	NA	1.00	0.6730	12.5	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9985	0.7315	1.4162	0.9957	0.7294	0.8843
0.9943	1.0401	2.0028	0.9916	1.0372	1.2506
0.9922	1.1564	2.2392	0.9894	1.1532	1.3983
0.9912	1.2177	2.3485	0.9884	1.2143	1.4665
0.9859	1.4650	2.8323	0.9832	1.4609	1.7687

Qstd slope (m) = 1.93144
 intercept (b) = 0.00037
 coefficient (r) = 0.99991

Qa slope (m) = 1.20944
 intercept (b) = 0.00023
 coefficient (r) = 0.99991

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

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

CALCULATIONS

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

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

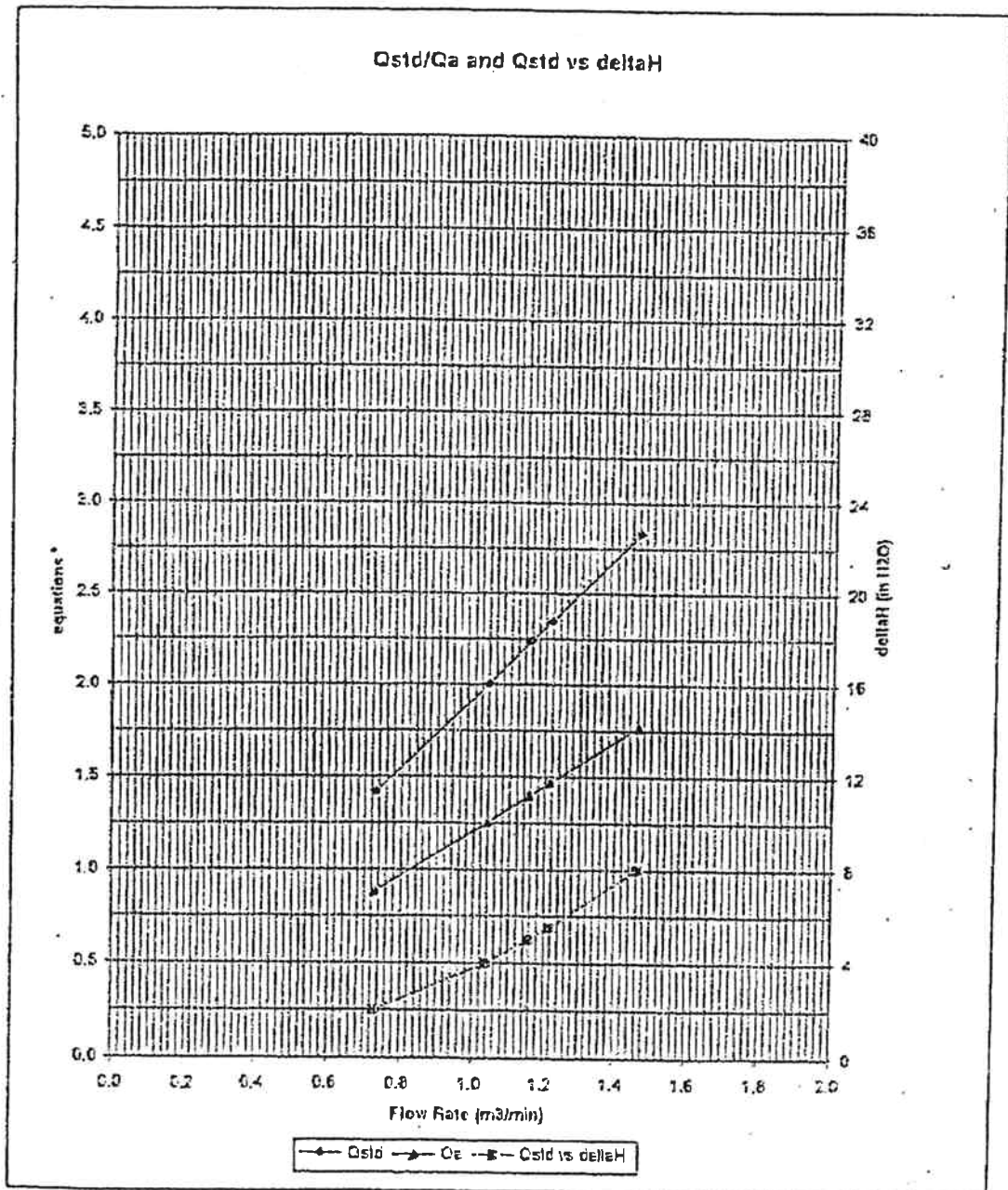
For subsequent flow rate calculations:

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



TISCH ENVIRONMENTAL, INC.
 145 SOUTH MIAMI AVE.
 VILLAGE OF CLEVELAND, OH 44102
 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:

$$\sqrt{\Delta H \left(\frac{P_a}{P_{std}} \right) \left(\frac{T_{std}}{T_a} \right)}$$

Qa series:

$$\sqrt{(\Delta H (T_a / P_a))}$$

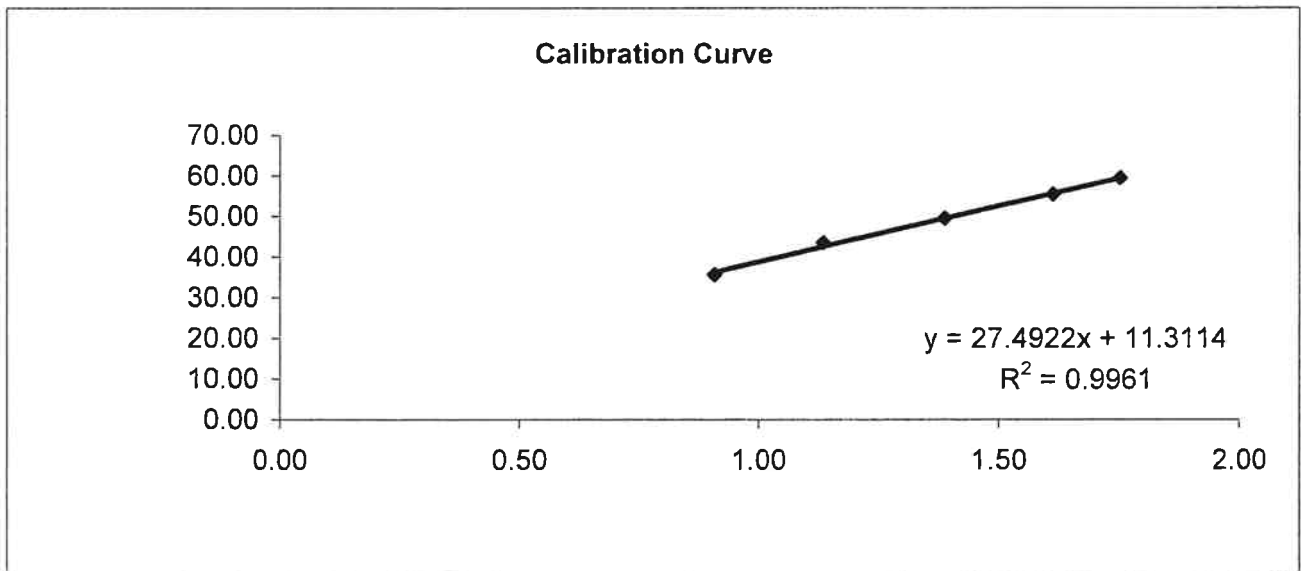
1201

Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	24-Aug-06	Barometric pressure	755 mm Hg
Calibration due date	23-Oct-06	Temperature (°C)	29 °C
Sampler location	WA3 - Hong Kong Garden (Regent Heights)	Temperature (K)	302 K
Sampler model	TE-5170	P _{std}	760 mm Hg
Sampler serial number	0505	T _{std}	298 K
Calibrator model	GMW-2535		
Calibrator serial number	1378		
Slope of the standard curve, m _s	2.00216		
Intercept of the standard curve, b _s	-0.02053		

Resistance Plate No.	Manometer Reading (inch H ₂ O)	Flow Recorder Reading (CFM)	Calculated Q _{std} (m ³ /min)	Continuous Flow Recorder Reading IC (CFM)
5	3.30	36.00	0.91	35.64
7	5.20	44.00	1.14	43.56
10	7.80	50.00	1.39	49.50
13	10.50	56.00	1.61	55.44
18	12.40	60.00	1.75	59.40



Linear Regression

Sampler slope (m) : **27.4922**
 Sampler intercept (b) : **11.3114**
 Correlation coefficient (R²) : **0.9961**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam

Date: 24/8/06

Checked by: KS

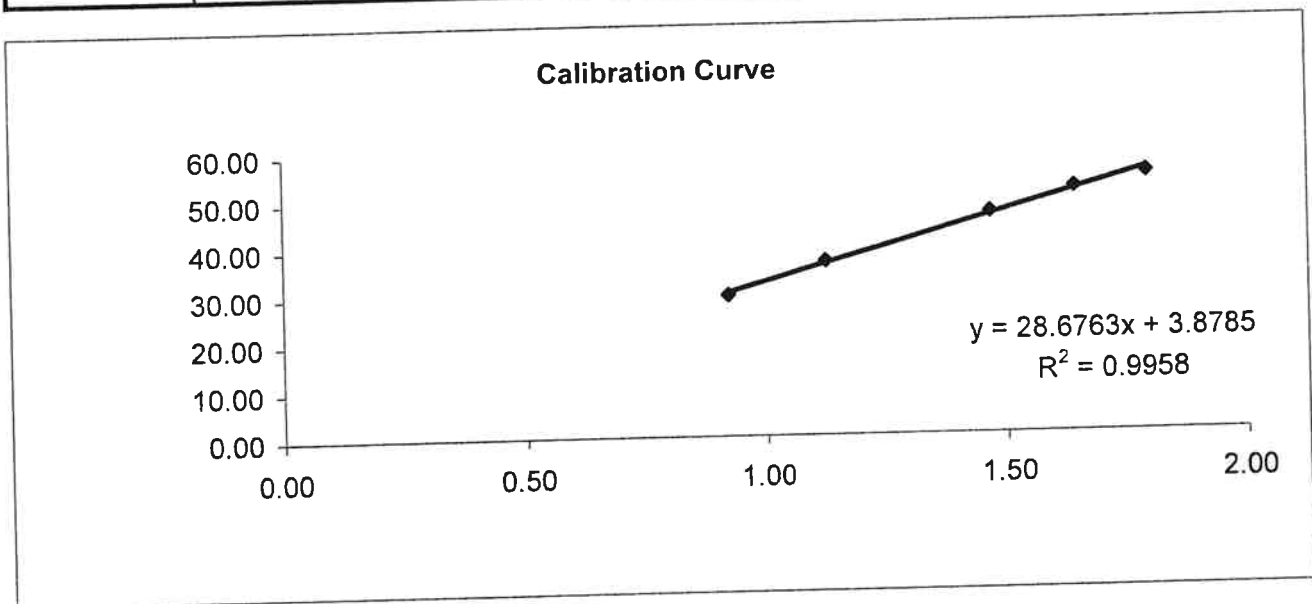
Date: 25/8/06

Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	24-Aug-06	Barometric pressure	755 mm Hg
Calibration due date	23-Oct-06	Temperature (°C)	29 °C
Sampler location	WA4 - Hong Kong Garden (Between Blk1 & Blk2)	Temperature (K)	302 K
Sampler model	TE-5170	P _{std}	760 mm Hg
Sampler serial number	0512	T _{std}	298 K
Calibrator model	GMW-2535		
Calibrator serial number	1378		
Slope of the standard curve, m _s	2.00216		
Intercept of the standard curve, b _s	-0.02053		

Resistance Plate No.	Manometer Reading (inch H ₂ O)	Flow Recorder Reading (CFM)	Calculated Q _{std} (m ³ /min)	Continuous Flow Recorder Reading IC (CFM)
5	3.40	30.00	0.92	29.70
7	5.10	37.00	1.13	36.63
10	8.70	47.00	1.47	46.53
13	10.90	52.00	1.64	51.48
18	13.00	55.00	1.79	54.45



Linear Regression

Sampler slope (m) : **28.6763**
 Sampler intercept (b) : **3.8785**
 Correlation coefficient (R²) : **0.9958**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam
 Checked by: KCS

Date: 24/8/06
 Date: 25/8/06

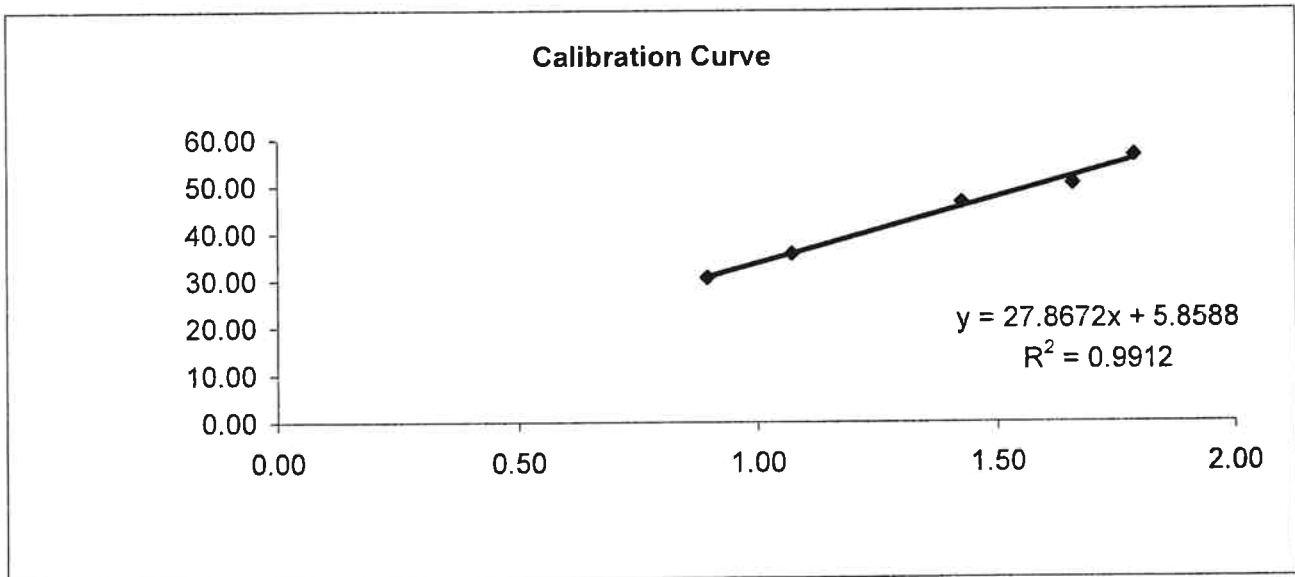
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	24-Aug-06	Barometric pressure	755 mm Hg
Calibration due date	23-Oct-06	Temperature (°C)	29 °C
Sampler location	WA5 - Hong Kong Garden (Blk4)	Temperature (K)	302 K
Sampler model	TE-5170	P _{std}	760 mm Hg
Sampler serial number	0717	T _{std}	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m _s	2.00216
Intercept of the standard curve, b _s	-0.02053

Resistance Plate No.	Manometer Reading (inch H ₂ O)	Flow Recorder Reading (CFM)	Calculated Q _{std} (m ³ /min)	Continuous Flow Recorder Reading IC (CFM)
5	3.20	31.00	0.89	30.69
7	4.60	36.00	1.07	35.64
10	8.20	47.00	1.43	46.53
13	11.10	51.00	1.66	50.49
18	12.90	57.00	1.79	56.43



Linear Regression

Sampler slope (m) :	27.8672
Sampler intercept (b) :	5.8588
Correlation coefficient (R ²) :	0.9912

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam

Date: 24/8/06

Checked by: KES

Date: 25/8/06

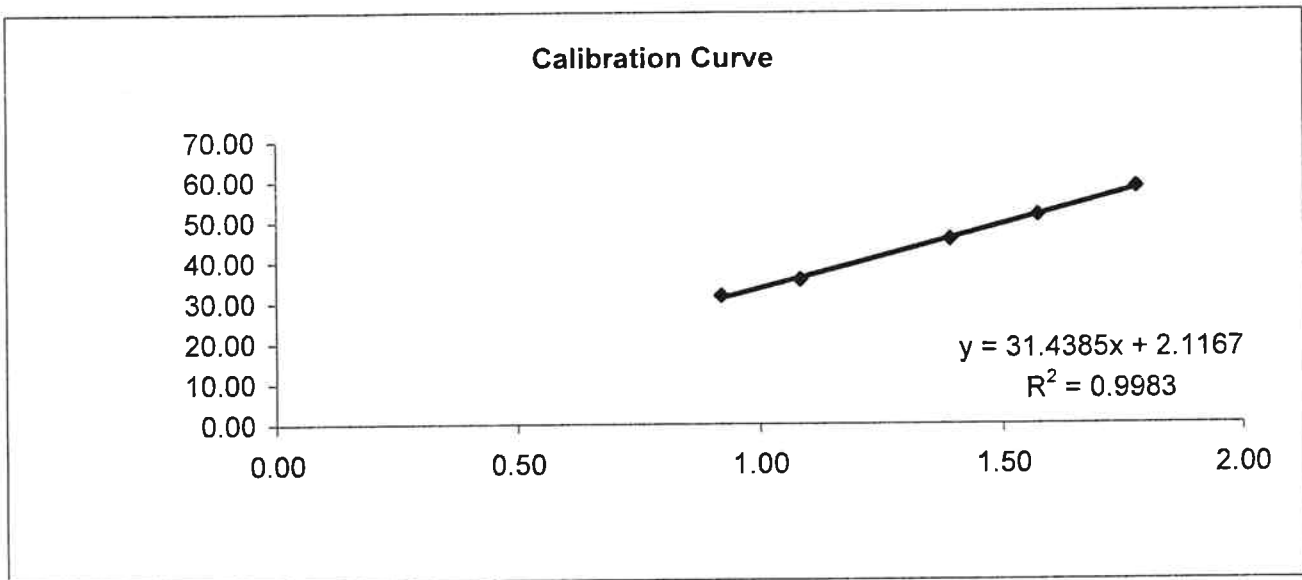
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	24-Aug-06	Barometric pressure	755 mm Hg
Calibration due date	23-Oct-06	Tempature (°C)	29 °C
Sampler location	WA6 - Tsing Lung Tau Temple	Temperature (K)	302 K
Sampler model	TE-5170	P _{std}	760 mm Hg
Sampler serial number	1338	T _{std}	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m _s	2.00216
Intercept of the standard curve, b _s	-0.02053

Resistance Plate No.	Manometer Reading (inch H ₂ O)	Flow Recorder Reading (CFM)	Calculated Q _{std} (m ³ /min)	Continuous Flow Recorder Reading IC (CFM)
5	3.40	32.00	0.92	31.68
7	4.70	36.00	1.08	35.64
10	7.80	46.00	1.39	45.54
13	10.00	52.00	1.57	51.48
18	12.80	59.00	1.78	58.41



Linear Regression

Sampler slope (m) : **31.4385**
 Sampler intercept (b) : **2.1167**
 Correlation coefficient (R²) : **0.9983**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam

Date: 24/8/06

Checked by: Kos

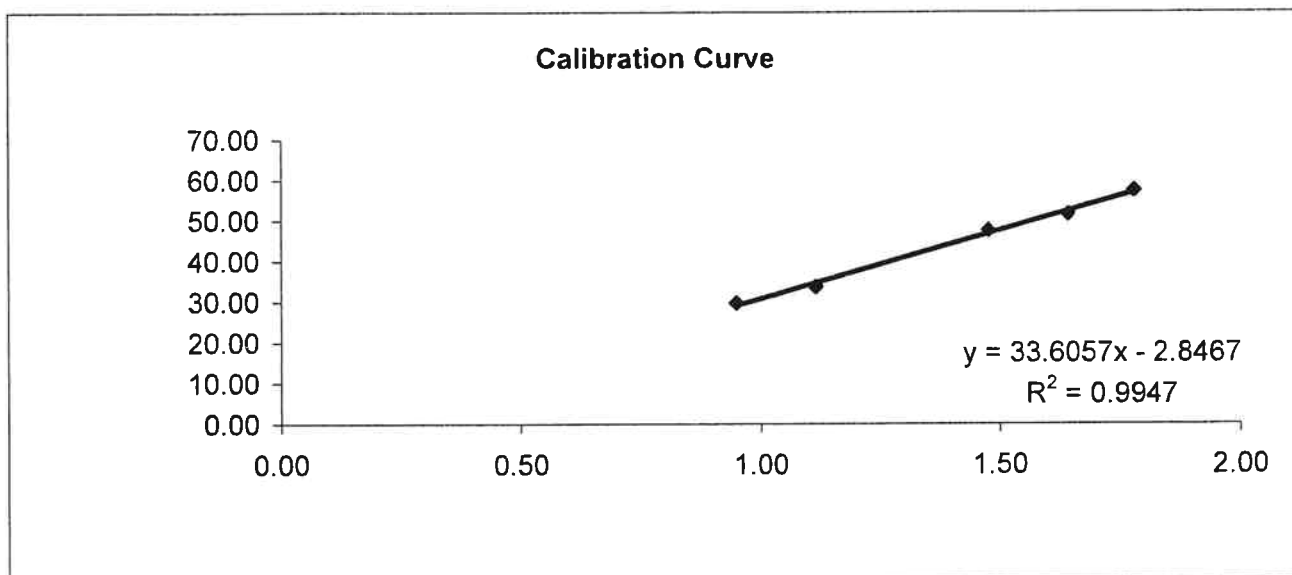
Date: 25/8/06

Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	24-Aug-06	Barometric pressure	755 mm Hg
Calibration due date	23-Oct-06	Temperature (°C)	29 °C
Sampler location	WA7 - Sea Crest Villa (Phase 4 Blk 12)	Temperature (K)	302 K
Sampler model	TE-5170	P _{std}	760 mm Hg
Sampler serial number	0517	T _{std}	298 K
Calibrator model		GMW-2535	
Calibrator serial number		1378	
Slope of the standard curve, m _s		2.00216	
Intercept of the standard curve, b _s		-0.02053	

Resistance Plate No.	Manometer Reading (inch H ₂ O)	Flow Recorder Reading (CFM)	Calculated Q _{std} (m ³ /min)	Continuous Flow Recorder Reading IC (CFM)
5	3.60	30.00	0.95	29.70
7	5.00	34.00	1.12	33.66
10	8.80	48.00	1.48	47.52
13	10.90	52.00	1.64	51.48
18	12.80	58.00	1.78	57.42



Linear Regression

Sampler slope (m) : **33.6057**
 Sampler intercept (b) : **-2.8467**
 Correlation coefficient (R²) : **0.9947**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: *Lam*

Date: *24/8/06*

Checked by: *Kee*

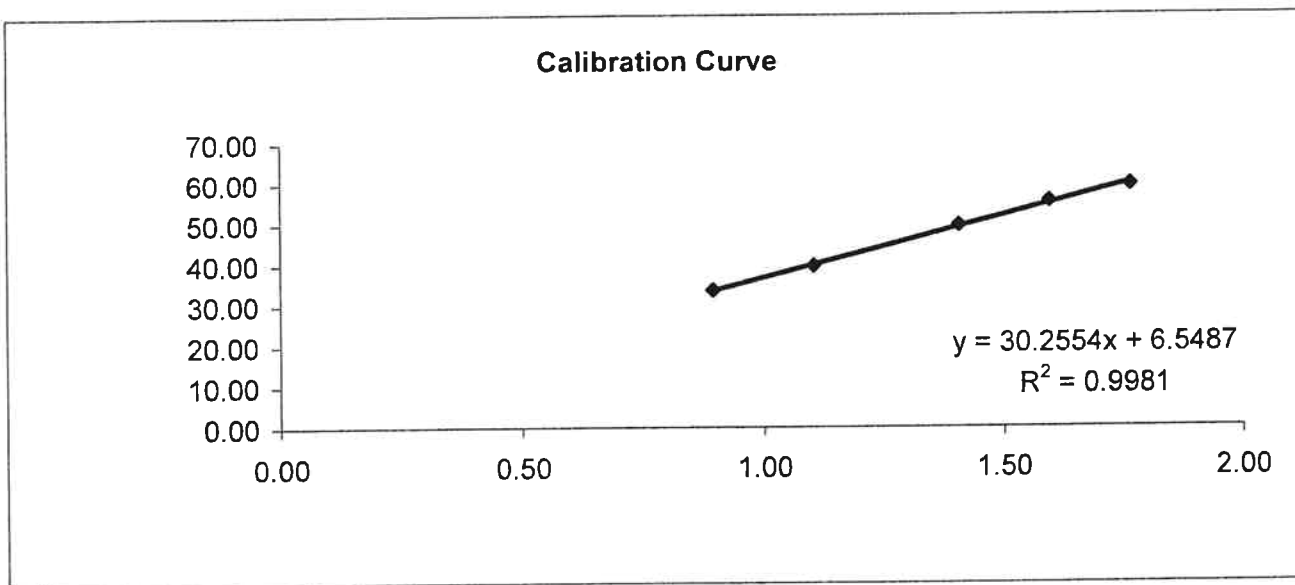
Date: *25/8/06*

Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	24-Aug-06	Barometric pressure	755 mm Hg
Calibration due date	23-Oct-06	Temperature (°C)	29 °C
Sampler location	WA8 - Sea Crest Villa (Phase 3 Block 8)	Temperature (K)	302 K
Sampler model	TE-5170	P _{std}	760 mm Hg
Sampler serial number	0526	T _{std}	298 K
Calibrator model	GMW-2535		
Calibrator serial number	1378		
Slope of the standard curve, m _s	2.00216		
Intercept of the standard curve, b _s	-0.02053		

Resistance Plate No.	Manometer Reading (inch H ₂ O)	Flow Recorder Reading (CFM)	Calculated Q _{std} (m ³ /min)	Continuous Flow Recorder Reading IC (CFM)
5	3.20	34.00	0.89	33.66
7	4.90	40.00	1.10	39.60
10	8.00	50.00	1.41	49.50
13	10.30	56.00	1.60	55.44
18	12.60	60.00	1.77	59.40



Linear Regression

Sampler slope (m) : **30.2554**
 Sampler intercept (b) : **6.5487**
 Correlation coefficient (R²) : **0.9981**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam

Date: 24/8/06

Checked by: Kai

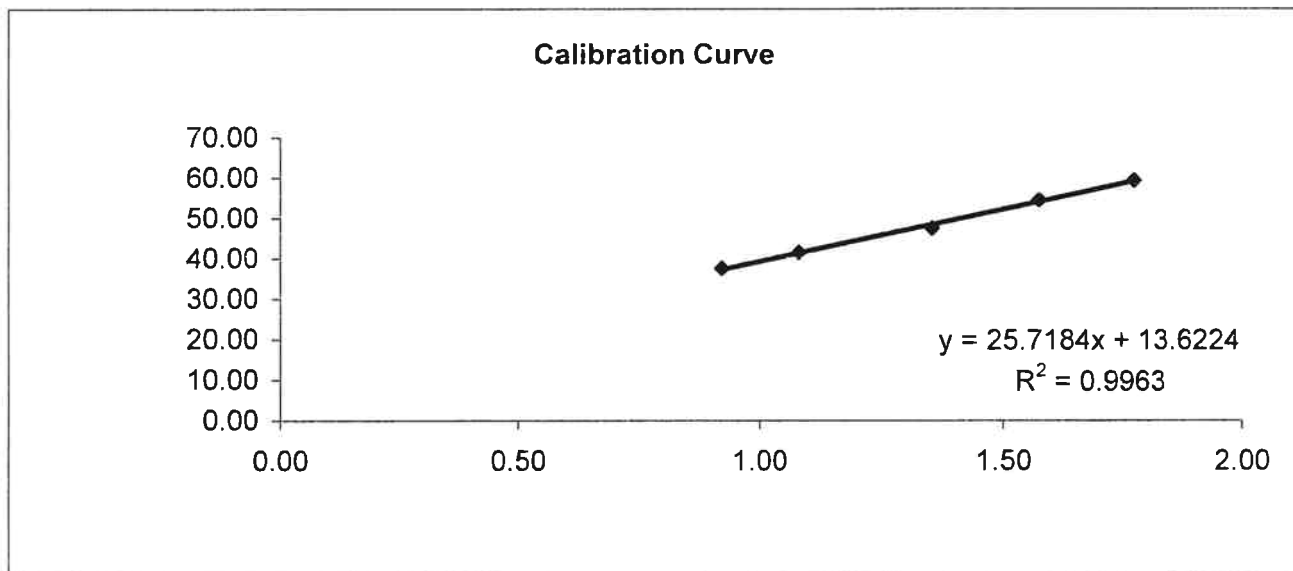
Date: 25/8/06

Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	24-Aug-06	Barometric pressure	755 mm Hg
Calibration due date	23-Oct-06	Temperature (°C)	29 °C
Sampler location	WA9 - Sea Crest Villa (Phase 2 Blk 6)	Temperature (K)	302 K
Sampler model	TE-5170	P _{std}	760 mm Hg
Sampler serial number	0523	T _{std}	298 K
Calibrator model	GMW-2535		
Calibrator serial number	1378		
Slope of the standard curve, m _s	2.00216		
Intercept of the standard curve, b _s	-0.02053		

Resistance Plate No.	Manometer Reading (inch H ₂ O)	Flow Recorder Reading (CFM)	Calculated Q _{std} (m ³ /min)	Continuous Flow Recorder Reading IC (CFM)
5	3.40	38.00	0.92	37.62
7	4.70	42.00	1.08	41.58
10	7.40	48.00	1.36	47.52
13	10.00	55.00	1.57	54.45
18	12.70	60.00	1.77	59.40



Linear Regression

Sampler slope (m) : **25.7184**
 Sampler intercept (b) : **13.6224**
 Correlation coefficient (R²) : **0.9963**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lan

Date: 24/8/06

Checked by: Ker

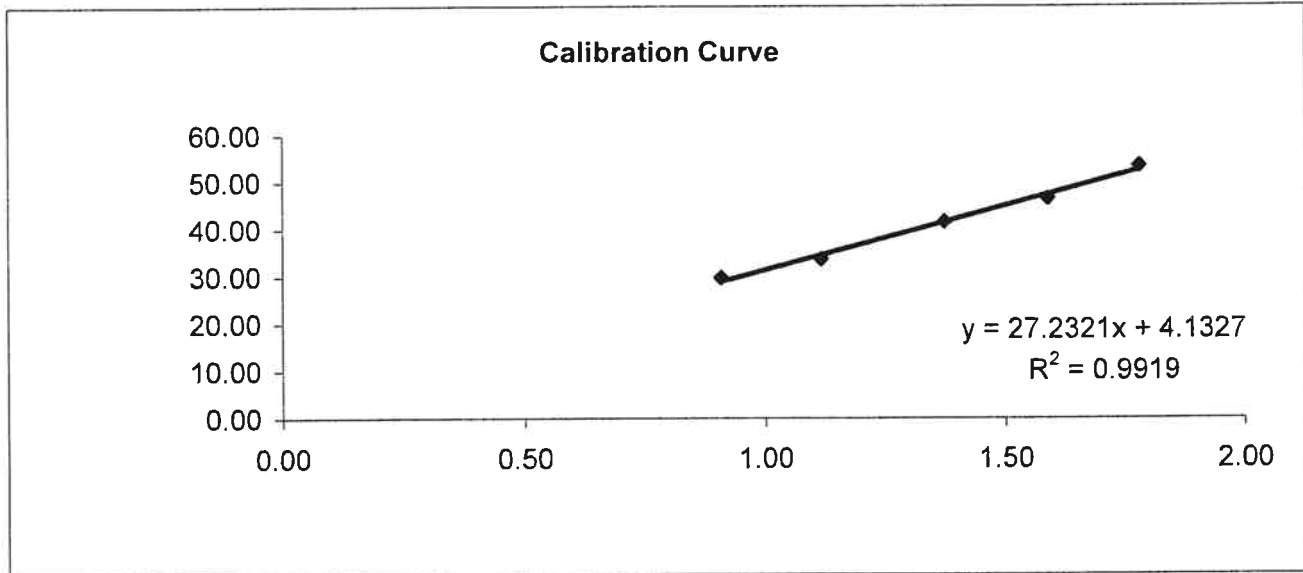
Date: 25/8/06

Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	24-Aug-06	Barometric pressure	755 mm Hg
Calibration due date	23-Oct-06	Temperature (°C)	29 °C
Sampler location	WA10 - Sea Crest Villa (Phase 1 Blk 1)	Temperature (K)	302 K
Sampler model	TE-5170	P _{std}	760 mm Hg
Sampler serial number	0507	T _{std}	298 K
Calibrator model	GMW-2535		
Calibrator serial number	1378		
Slope of the standard curve, m _s	2.00216		
Intercept of the standard curve, b _s	-0.02053		

Resistance Plate No.	Manometer Reading (inch H ₂ O)	Flow Recorder Reading (CFM)	Calculated Q _{std} (m ³ /min)	Continuous Flow Recorder Reading IC (CFM)
5	3.30	30.00	0.91	29.70
7	5.00	34.00	1.12	33.66
10	7.60	42.00	1.37	41.58
13	10.20	47.00	1.59	46.53
18	12.80	54.00	1.78	53.46



Linear Regression

Sampler slope (m) : **27.2321**
 Sampler intercept (b) : **4.1327**
 Correlation coefficient (R²) : **0.9919**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lam

Date: 24/8/06

Checked by: Kes

Date: 25/8/06

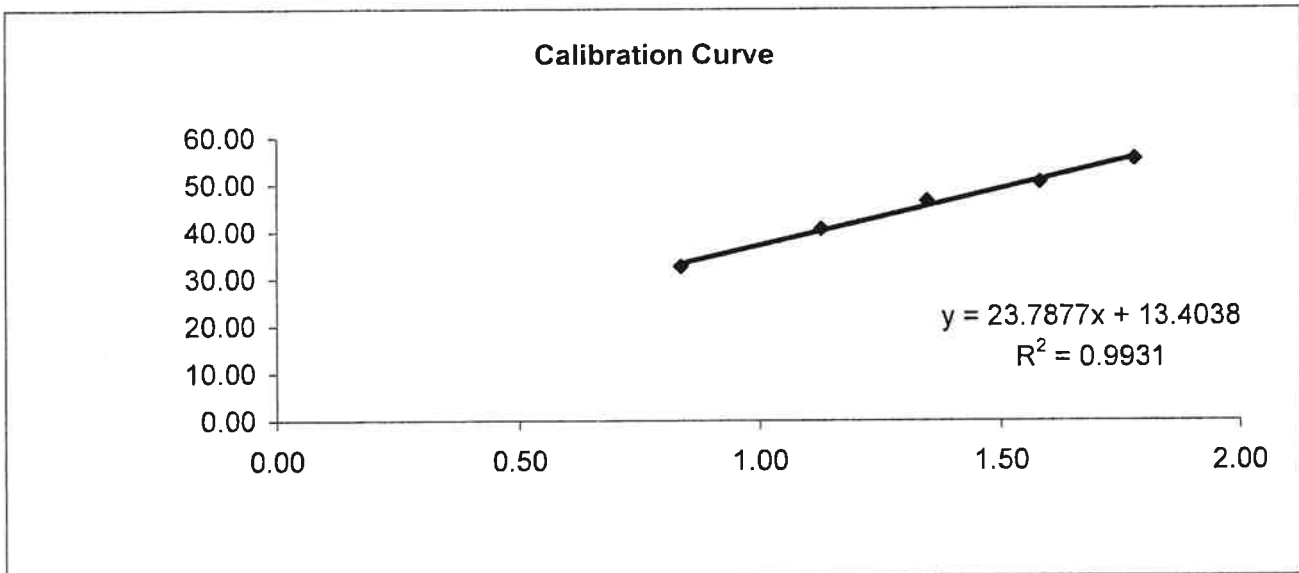
Ove Arup Partners (Hong Kong) Limited

High Volume Air Sampler Calibration Worksheet

Calibration date	24-Aug-06	Barometric pressure	755 mm Hg
Calibration due date	23-Oct-06	Temperature (°C)	29 °C
Sampler location	WA11 - Lido Garden Tower 1	Temperature (K)	302 K
Sampler model	TE-5170	P _{std}	760 mm Hg
Sampler serial number	0521	T _{std}	298 K

Calibrator model	GMW-2535
Calibrator serial number	1378
Slope of the standard curve, m _s	2.00216
Intercept of the standard curve, b _s	-0.02053

Resistance Plate No.	Manometer Reading (inch H ₂ O)	Flow Recorder Reading (CFM)	Calculated Q _{std} (m ³ /min)	Continuous Flow Recorder Reading IC (CFM)
5	2.80	33.00	0.84	32.67
7	5.10	41.00	1.13	40.59
10	7.30	47.00	1.35	46.53
13	10.10	51.00	1.58	50.49
18	12.80	56.00	1.78	55.44



Linear Regression

Sampler slope (m) : **23.7877**
 Sampler intercept (b) : **13.4038**
 Correlation coefficient (R²) : **0.9931**

Correlation coefficient is greater than 0.9900 and the calibration result is accepted.

Performed by: Lan

Date: 24/8/06

Checked by: Kes

Date: 25/8/06

APPENDIX D

**Calibration certificates
of 1-hour TSP
monitoring equipment**

MASTER # D325 LAST CALIBRATED : 3/14/06

THERMO ELECTRON
27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-1211
FAX: 508-541-8366
WWW.THERMO.COM

PDR-1000 CALIBRATION

CERTIFICATE

This calibration is traceable to the National
Institute of Standards and Testing

SERIAL NUMBER: ----- 4492

CALIBRATION RATIO: ----- 0.999

AVG. PDR-1000 CONCENTRATION: ----- 2.01 mg/m3

CALIBRATION MASTER AVG. CONCENTRATION: ----- 1.74 mg/m3

DR BACKGROUND CONCENTRATION: ----- .240 mg/m3

TEMPERATURE: ----- 71.8F

HUMIDITY: ----- 24%

TECHNICIAN: -- DON MCELMAN

DATE: ---- 4/10/06

THERMO ELECTRON

27 FORGE PARKWAY

FRANKLIN MA 02038

TOLL-FREE: 866-282-0430

TEL: 508-553-1211

FAX: 508-541-8366

WWW.THERMO.COM

MASTER # D325 LAST CALIBRATED : 6/06/06

PDR-1000 CALIBRATION

CERTIFICATE

This calibration is traceable to the National
Institute of Standards and Testing

SERIAL NUMBER: ----- 4615

CALIBRATION RATIO: ----- 0.992

AVG. PDR-1000 CONCENTRATION: ----- 2.00 mg/m3

CALIBRATION MASTER AVG. CONCENTRATION: ----- 1.83 mg/m3

DR BACKGROUND CONCENTRATION: ----- .160 mg/m3

TEMPERATURE: ----- 71.5F

HUMIDITY: ----- 62%

TECHNICIAN: -- DON MCELMAN

DATE: ---- 6/22/06

THERMO ELECTRON

27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430

TEL: 508-553-1211
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D325 LAST CALIBRATED : 3/14/06

PDR-1000 CALIBRATION

CERTIFICATE

This calibration is traceable to the National
Institute of Standards and Testing

SERIAL NUMBER: ----- 4705

CALIBRATION RATIO: ----- 1.011

AVG. PDR-1000 CONCENTRATION: ----- 1.93 mg/m3

CALIBRATION MASTER AVG. CONCENTRATION: ----- 1.68 mg/m3

DR BACKGROUND CONCENTRATION: ----- .211 mg/m3

TEMPERATURE: ----- 73.8F

HUMIDITY: ----- 24%

TECHNICIAN: -- DON MCELMAN

DATE: ---- 4/11/06

THERMO ELECTRON

27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-1211
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D325 LAST CALIBRATED : 3/14/06

PDR-1000 CALIBRATION

CERTIFICATE

This calibration is traceable to the National
Institute of Standards and Testing

SERIAL NUMBER: ----- 4715

CALIBRATION RATIO: ----- 1.007

AVG. PDR-1000 CONCENTRATION: ----- 1.83 mg/m3

CALIBRATION MASTER AVG. CONCENTRATION: ----- 1.52 mg/m3

DR BACKGROUND CONCENTRATION: ----- .255 mg/m3

TEMPERATURE: ----- 71.8F

HUMIDITY: ----- 24%

TECHNICIAN: -- DON MCELMAN

DATE: ---- 4/10/06

THERMO ELECTRON
27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-1211
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D325 LAST CALIBRATED : 3/14/06

PDR-1000 CALIBRATION

CERTIFICATE

This calibration is traceable to the National
Institute of Standards and Testing

SERIAL NUMBER: ----- 4243

CALIBRATION RATIO: ----- 1.007

AVG. PDR-1000 CONCENTRATION: ----- 2.03 mg/m3

CALIBRATION MASTER AVG. CONCENTRATION: ----- 1.68 mg/m3

DR BACKGROUND CONCENTRATION: ----- .305 mg/m3

TEMPERATURE: ----- 71.8F

HUMIDITY: ----- 24%

TECHNICIAN: -- DON MCELMAN

DATE: ---- 4/10/06

THERMO ELECTRON

27 FORGE PARKWAY
FRANKLIN MA 02038
TOLL-FREE: 866-282-0430
TEL: 508-553-1211
FAX: 508-541-8366
WWW.THERMO.COM

MASTER # D325 LAST CALIBRATED : 6/06/06

PDR-1000 CALIBRATION

CERTIFICATE

This calibration is traceable to the National
Institute of Standards and Testing

SERIAL NUMBER: ----- 4496

CALIBRATION RATIO: ----- 1.014

AVG. PDR-1000 CONCENTRATION: ----- 1.97 mg/m3

CALIBRATION MASTER AVG. CONCENTRATION: ----- 1.72 mg/m3

DR BACKGROUND CONCENTRATION: ----- .207 mg/m3

TEMPERATURE: ----- 71.5F

HUMIDITY: ----- 59%

TECHNICIAN: -- DON MCELMAN

DATE: ---- 6/21/06

APPENDIX E

**Detailed air quality (1-
hour TSP) monitoring
results**

Details of 1-Hour TSP Monitoring

Date	Receptor No.	Set No.	Time periods		Weather condition	Site condition	Temp. (°C)	Pressure (mmHg)	1-hour TSP Level (µg/m ³)	Remarks
			Start	Finish						
4-Sep-06	WA3	1	9:00	10:00	Fine	Normal Operation	30.0	755.0	181.5	
4-Sep-06	WA3	2	10:00	11:00	Fine	Normal Operation	30.0	755.0	194.5	
4-Sep-06	WA3	3	11:00	12:00	Fine	Normal Operation	30.0	755.0	186.1	
4-Sep-06	WA4	1	8:34	9:34	Fine	Normal Operation	30.0	755.0	188.5	
4-Sep-06	WA4	2	9:34	10:34	Fine	Normal Operation	30.0	755.0	178.7	
4-Sep-06	WA4	3	10:34	11:34	Fine	Normal Operation	30.0	755.0	176.9	
4-Sep-06	WA5	1	8:59	9:59	Fine	Normal Operation	30.0	755.0	170.9	
4-Sep-06	WA5	2	9:59	10:59	Fine	Normal Operation	30.0	755.0	157.9	
4-Sep-06	WA5	3	10:59	11:59	Fine	Normal Operation	30.0	755.0	153.1	
4-Sep-06	WA6	1	13:47	14:47	Fine	Normal Operation	30.0	755.0	198.4	
4-Sep-06	WA6	2	14:47	15:47	Fine	Normal Operation	30.0	755.0	197.8	
4-Sep-06	WA6	3	15:47	16:47	Fine	Normal Operation	30.0	755.0	197.4	
4-Sep-06	WA7	1	13:04	14:04	Fine	Normal Operation	30.0	755.0	182.0	
4-Sep-06	WA7	2	14:04	15:04	Fine	Normal Operation	30.0	755.0	179.9	
4-Sep-06	WA7	3	15:04	16:04	Fine	Normal Operation	30.0	755.0	179.2	
4-Sep-06	WA8	1	8:58	9:58	Fine	Normal Operation	30.0	755.0	217.5	
4-Sep-06	WA8	2	9:58	10:58	Fine	Normal Operation	30.0	755.0	212.0	
4-Sep-06	WA8	3	10:58	11:58	Fine	Normal Operation	30.0	755.0	209.6	
4-Sep-06	WA9	1	13:23	14:23	Fine	Normal Operation	30.0	755.0	196.3	
4-Sep-06	WA9	2	14:23	15:23	Fine	Normal Operation	30.0	755.0	184.9	
4-Sep-06	WA9	3	15:23	16:23	Fine	Normal Operation	30.0	755.0	184.3	
4-Sep-06	WA10	1	13:36	14:36	Fine	Normal Operation	30.0	755.0	230.6	
4-Sep-06	WA10	2	14:36	15:36	Fine	Normal Operation	30.0	755.0	224.2	
4-Sep-06	WA10	3	15:36	16:36	Fine	Normal Operation	30.0	755.0	224.4	
4-Sep-06	WA11	1	13:14	14:14	Fine	Normal Operation	30.0	755.0	135.7	
4-Sep-06	WA11	2	14:14	15:14	Fine	Normal Operation	30.0	755.0	120.7	
4-Sep-06	WA11	3	15:14	16:14	Fine	Normal Operation	30.0	755.0	119.9	
11-Sep-06	WA3	1	8:31	9:31	Fine	Normal Operation	26.0	758.0	146.9	
11-Sep-06	WA3	2	9:31	10:31	Fine	Normal Operation	26.0	758.0	150.7	
11-Sep-06	WA3	3	10:31	11:31	Fine	Normal Operation	26.0	758.0	150.1	
11-Sep-06	WA4	1	8:08	9:08	Fine	Normal Operation	26.0	758.0	201.1	
11-Sep-06	WA4	2	9:08	10:08	Fine	Normal Operation	26.0	758.0	203.4	
11-Sep-06	WA4	3	10:08	11:08	Fine	Normal Operation	26.0	758.0	202.7	
11-Sep-06	WA5	1	13:02	14:02	Fine	Normal Operation	26.0	758.0	249.8	
11-Sep-06	WA5	2	14:02	15:02	Fine	Normal Operation	26.0	758.0	245.9	
11-Sep-06	WA5	3	15:02	16:02	Fine	Normal Operation	26.0	758.0	248.7	
11-Sep-06	WA6	1	13:00	14:00	Fine	Normal Operation	26.0	758.0	204.6	
11-Sep-06	WA6	2	14:00	15:00	Fine	Normal Operation	26.0	758.0	202.6	
11-Sep-06	WA6	3	15:00	16:00	Fine	Normal Operation	26.0	758.0	197.9	
11-Sep-06	WA7	1	13:01	14:01	Fine	Normal Operation	26.0	758.0	145.8	
11-Sep-06	WA7	2	14:01	15:01	Fine	Normal Operation	26.0	758.0	148.7	
11-Sep-06	WA7	3	15:01	16:01	Fine	Normal Operation	26.0	758.0	149.8	
11-Sep-06	WA8	1	9:00	10:00	Fine	Normal Operation	26.0	758.0	204.3	
11-Sep-06	WA8	2	10:00	11:00	Fine	Normal Operation	26.0	758.0	211.1	
11-Sep-06	WA8	3	11:00	12:00	Fine	Normal Operation	26.0	758.0	210.6	
11-Sep-06	WA9	1	13:25	14:25	Fine	Normal Operation	26.0	758.0	209.6	
11-Sep-06	WA9	2	14:25	15:25	Fine	Normal Operation	26.0	758.0	205.8	
11-Sep-06	WA9	3	15:25	16:25	Fine	Normal Operation	26.0	758.0	207.4	
11-Sep-06	WA10	1	13:03	14:03	Fine	Normal Operation	26.0	758.0	201.2	
11-Sep-06	WA10	2	14:03	15:03	Fine	Normal Operation	26.0	758.0	199.6	
11-Sep-06	WA10	3	15:03	16:03	Fine	Normal Operation	26.0	758.0	202.1	
11-Sep-06	WA11	1	13:33	14:33	Fine	Normal Operation	26.0	758.0	145.7	
11-Sep-06	WA11	2	14:33	15:33	Fine	Normal Operation	26.0	758.0	145.8	
11-Sep-06	WA11	3	15:33	16:33	Fine	Normal Operation	26.0	758.0	145.0	
15-Sep-06	WA3	1	13:04	14:04	Fine	Normal Operation	29.0	757.0	228.5	
15-Sep-06	WA3	2	14:04	15:04	Fine	Normal Operation	29.0	757.0	221.7	
15-Sep-06	WA3	3	15:04	16:04	Fine	Normal Operation	29.0	757.0	229.6	
15-Sep-06	WA4	1	9:00	10:00	Fine	Normal Operation	29.0	757.0	173.6	
15-Sep-06	WA4	2	10:00	11:00	Fine	Normal Operation	29.0	757.0	186.8	
15-Sep-06	WA4	3	11:00	12:00	Fine	Normal Operation	29.0	757.0	190.6	
15-Sep-06	WA5	1	9:00	10:00	Fine	Normal Operation	29.0	757.0	164.3	
15-Sep-06	WA5	2	10:00	11:00	Fine	Normal Operation	29.0	757.0	180.5	
15-Sep-06	WA5	3	11:00	12:00	Fine	Normal Operation	29.0	757.0	189.8	
15-Sep-06	WA6	1	13:29	14:29	Fine	Normal Operation	29.0	757.0	205.9	
15-Sep-06	WA6	2	14:29	15:29	Fine	Normal Operation	29.0	757.0	218.2	
15-Sep-06	WA6	3	15:29	16:29	Fine	Normal Operation	29.0	757.0	232.6	
15-Sep-06	WA7	1	8:45	9:45	Fine	Normal Operation	29.0	757.0	221.8	
15-Sep-06	WA7	2	9:45	10:45	Fine	Normal Operation	29.0	757.0	217.6	
15-Sep-06	WA7	3	10:45	11:45	Fine	Normal Operation	29.0	757.0	217.1	
15-Sep-06	WA8	1	13:14	14:14	Fine	Normal Operation	29.0	757.0	278.8	
15-Sep-06	WA8	2	14:14	15:14	Fine	Normal Operation	29.0	757.0	280.2	
15-Sep-06	WA8	3	15:14	16:14	Fine	Normal Operation	29.0	757.0	277.4	
15-Sep-06	WA9	1	14:11	15:11	Fine	Normal Operation	29.0	757.0	274.1	
15-Sep-06	WA9	2	15:11	16:11	Fine	Normal Operation	29.0	757.0	263.9	
15-Sep-06	WA9	3	16:11	17:11	Fine	Normal Operation	29.0	757.0	246.8	
15-Sep-06	WA10	1	13:12	14:12	Fine	Normal Operation	29.0	757.0	211.5	
15-Sep-06	WA10	2	14:12	15:12	Fine	Normal Operation	29.0	757.0	212.1	
15-Sep-06	WA10	3	15:12	16:12	Fine	Normal Operation	29.0	757.0	201.4	
15-Sep-06	WA11	1	8:51	9:51	Fine	Normal Operation	29.0	757.0	221.5	
15-Sep-06	WA11	2	9:51	10:51	Fine	Normal Operation	29.0	757.0	227.0	
15-Sep-06	WA11	3	10:51	11:51	Fine	Normal Operation	29.0	757.0	257.9	
21-Sep-06	WA3	1	8:14	9:14	Fine	Normal Operation	29.0	759.0	259.5	
21-Sep-06	WA3	2	9:14	10:14	Fine	Normal Operation	29.0	759.0	258.0	

Details of 1-Hour TSP Monitoring

Date	Receptor No.	Set No.	Time periods		Weather condition	Site condition	Temp. (°C)	Pressure (mmHg)	1-hour TSP Level (µg/m³)	Remarks
			Start	Finish						
21-Sep-06	WA3	3	10:14	11:14	Fine	Normal Operation	29.0	759.0	273.0	
21-Sep-06	WA4	1	8:40	9:40	Fine	Normal Operation	29.0	759.0	232.1	
21-Sep-06	WA4	2	9:40	10:40	Fine	Normal Operation	29.0	759.0	231.3	
21-Sep-06	WA4	3	10:40	11:40	Fine	Normal Operation	29.0	759.0	251.3	
21-Sep-06	WA5	1	13:24	14:24	Fine	Normal Operation	29.0	759.0	287.5	
21-Sep-06	WA5	2	14:24	15:24	Fine	Normal Operation	29.0	759.0	284.6	
21-Sep-06	WA5	3	15:24	16:24	Fine	Normal Operation	29.0	759.0	275.5	
21-Sep-06	WA6	1	13:25	14:25	Fine	Normal Operation	29.0	759.0	296.3	
21-Sep-06	WA6	2	14:25	15:25	Fine	Normal Operation	29.0	759.0	288.3	
21-Sep-06	WA6	3	15:25	16:25	Fine	Normal Operation	29.0	759.0	287.6	
21-Sep-06	WA7	1	13:03	14:03	Fine	Normal Operation	29.0	759.0	211.8	
21-Sep-06	WA7	2	14:03	15:03	Fine	Normal Operation	29.0	759.0	209.8	
21-Sep-06	WA7	3	15:03	16:03	Fine	Normal Operation	29.0	759.0	205.2	
21-Sep-06	WA8	1	9:00	10:00	Fine	Normal Operation	29.0	759.0	216.9	
21-Sep-06	WA8	2	10:00	11:00	Fine	Normal Operation	29.0	759.0	221.9	
21-Sep-06	WA8	3	11:00	12:00	Fine	Normal Operation	29.0	759.0	219.4	
21-Sep-06	WA9	1	13:16	14:16	Fine	Normal Operation	29.0	759.0	195.9	
21-Sep-06	WA9	2	14:16	15:16	Fine	Normal Operation	29.0	759.0	200.9	
21-Sep-06	WA9	3	15:16	16:16	Fine	Normal Operation	29.0	759.0	208.8	
21-Sep-06	WA10	1	13:40	14:40	Fine	Normal Operation	29.0	759.0	297.9	
21-Sep-06	WA10	2	14:40	15:40	Fine	Normal Operation	29.0	759.0	284.5	
21-Sep-06	WA10	3	15:40	16:40	Fine	Normal Operation	29.0	759.0	269.4	
21-Sep-06	WA11	1	13:40	14:40	Fine	Normal Operation	29.0	759.0	297.9	
21-Sep-06	WA11	2	14:40	15:40	Fine	Normal Operation	29.0	759.0	284.5	
21-Sep-06	WA11	3	15:40	16:40	Fine	Normal Operation	29.0	759.0	269.4	
27-Sep-06	WA3	1	8:56	9:56	Fine	Normal Operation	29.0	758.0	175.8	
27-Sep-06	WA3	2	9:56	10:56	Fine	Normal Operation	29.0	758.0	177.7	
27-Sep-06	WA3	3	10:56	11:56	Fine	Normal Operation	29.0	758.0	176.9	
27-Sep-06	WA4	1	8:54	9:54	Fine	Normal Operation	29.0	758.0	171.7	
27-Sep-06	WA4	2	9:54	10:54	Fine	Normal Operation	29.0	758.0	163.6	
27-Sep-06	WA4	3	10:54	11:54	Fine	Normal Operation	29.0	758.0	161.7	
27-Sep-06	WA5	1	8:50	9:50	Fine	Normal Operation	29.0	758.0	188.0	
27-Sep-06	WA5	2	9:50	10:50	Fine	Normal Operation	29.0	758.0	202.8	
27-Sep-06	WA5	3	10:50	11:50	Fine	Normal Operation	29.0	758.0	207.7	
27-Sep-06	WA6	1	13:35	14:35	Fine	Normal Operation	29.0	758.0	185.5	
27-Sep-06	WA6	2	14:35	15:35	Fine	Normal Operation	29.0	758.0	172.0	
27-Sep-06	WA6	3	15:35	16:35	Fine	Normal Operation	29.0	758.0	179.4	
27-Sep-06	WA7	1	13:28	14:28	Fine	Normal Operation	29.0	758.0	195.6	
27-Sep-06	WA7	2	14:28	15:28	Fine	Normal Operation	29.0	758.0	195.2	
27-Sep-06	WA7	3	15:28	16:28	Fine	Normal Operation	29.0	758.0	217.2	
27-Sep-06	WA8	1	13:41	14:41	Fine	Normal Operation	29.0	758.0	201.8	
27-Sep-06	WA8	2	14:41	15:41	Fine	Normal Operation	29.0	758.0	191.3	
27-Sep-06	WA8	3	15:41	16:41	Fine	Normal Operation	29.0	758.0	181.4	
27-Sep-06	WA9	1	8:45	9:45	Fine	Normal Operation	29.0	758.0	192.4	
27-Sep-06	WA9	2	9:45	10:45	Fine	Normal Operation	29.0	758.0	208.0	
27-Sep-06	WA9	3	10:45	11:45	Fine	Normal Operation	29.0	758.0	213.2	
27-Sep-06	WA10	1	8:27	9:27	Fine	Normal Operation	29.0	758.0	195.6	
27-Sep-06	WA10	2	9:27	10:27	Fine	Normal Operation	29.0	758.0	189.8	
27-Sep-06	WA10	3	10:27	11:27	Fine	Normal Operation	29.0	758.0	188.8	
27-Sep-06	WA11	1	9:00	10:00	Fine	Normal Operation	29.0	758.0	171.5	
27-Sep-06	WA11	2	10:00	11:00	Fine	Normal Operation	29.0	758.0	169.4	
27-Sep-06	WA11	3	11:00	12:00	Fine	Normal Operation	29.0	758.0	162.4	

APPENDIX F

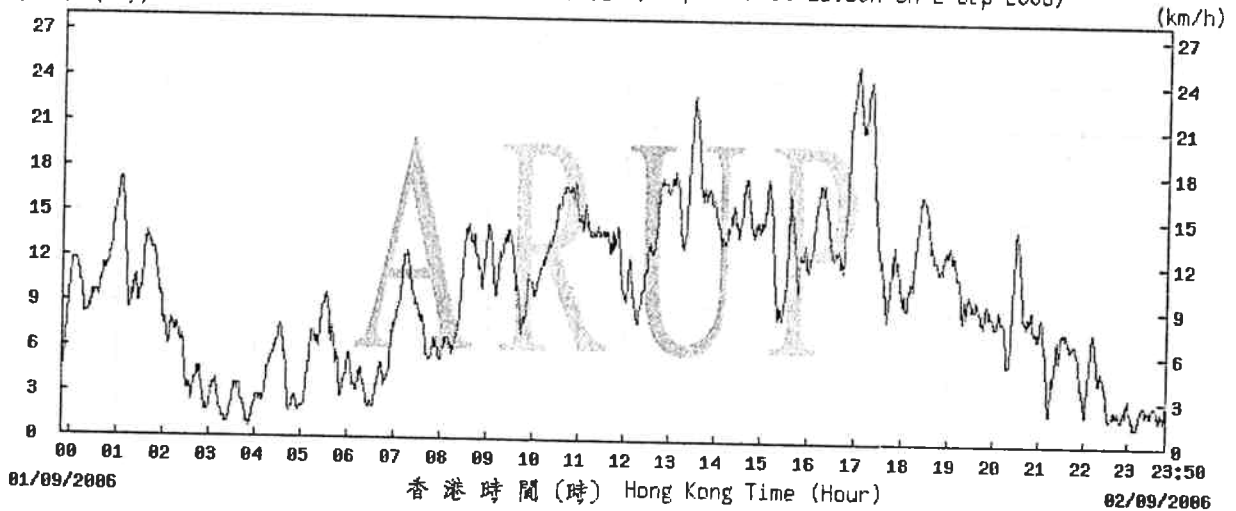
Detailed air quality (24-hour TSP) monitoring results

APPENDIX G

**Detailed wind
monitoring data for the
air quality monitoring
period**

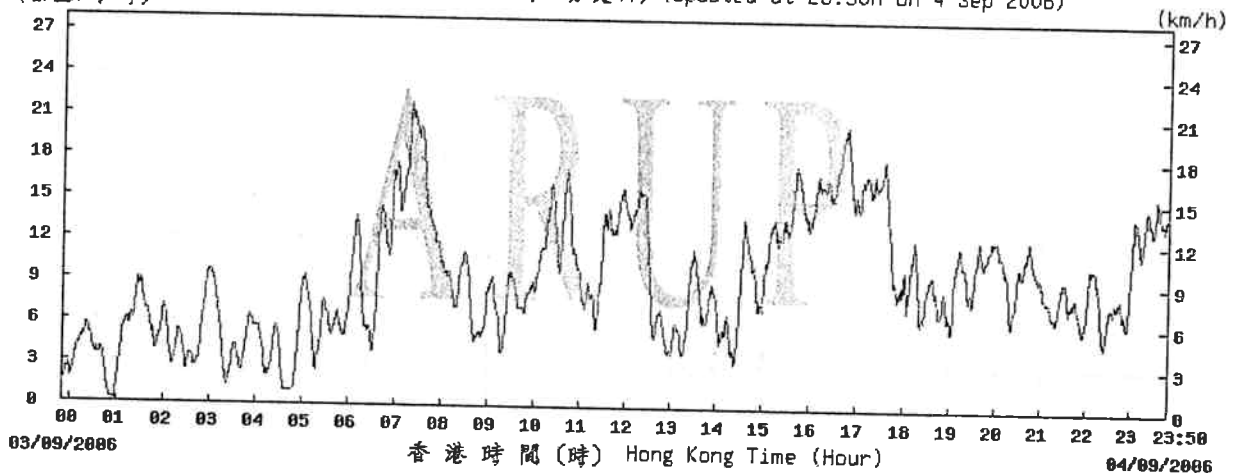
Wind Monitoring Data – Wind Speed during air quality monitoring in September 2006

(公里/小時) (於香港時間 2006 年 9 月 2 日 23 時 50 分更新) (Updated at 23:50H on 2 Sep 2006)



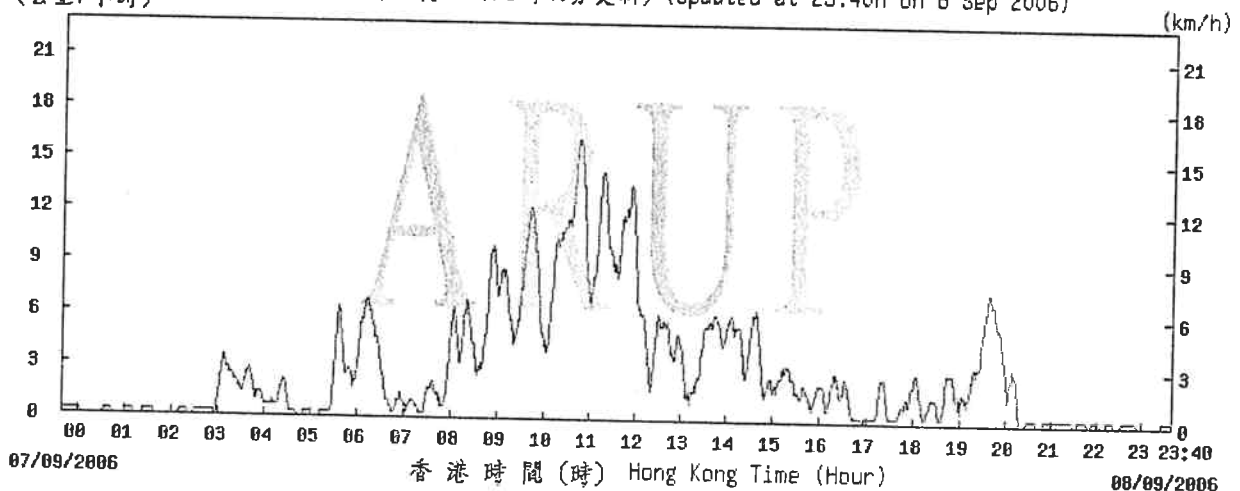
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(公里/小時) (於香港時間 2006 年 9 月 4 日 23 時 50 分更新) (Updated at 23:50H on 4 Sep 2006)



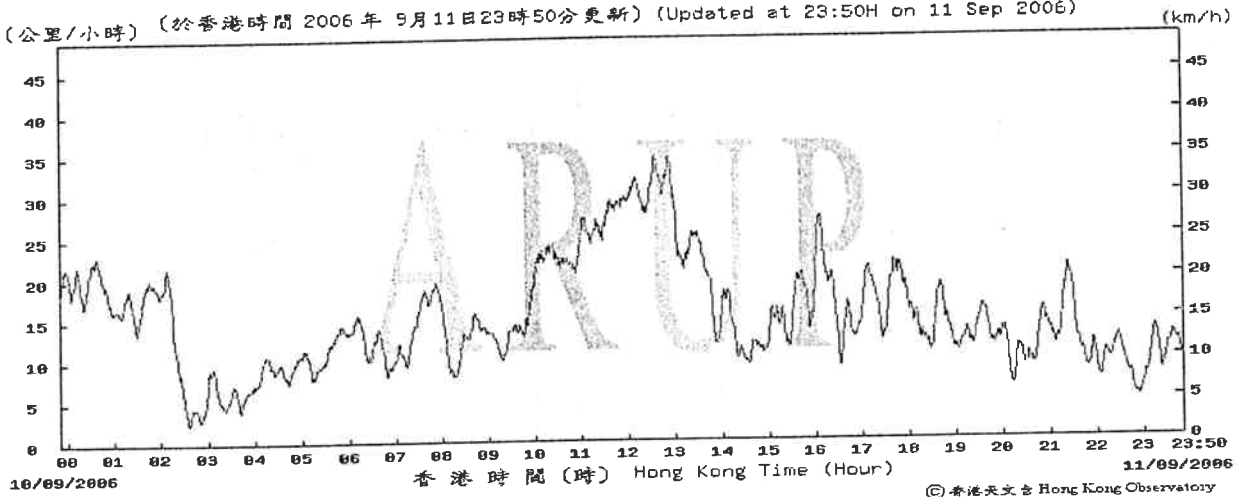
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(公里/小時) (於香港時間 2006 年 9 月 8 日 23 時 40 分更新) (Updated at 23:40H on 8 Sep 2006)

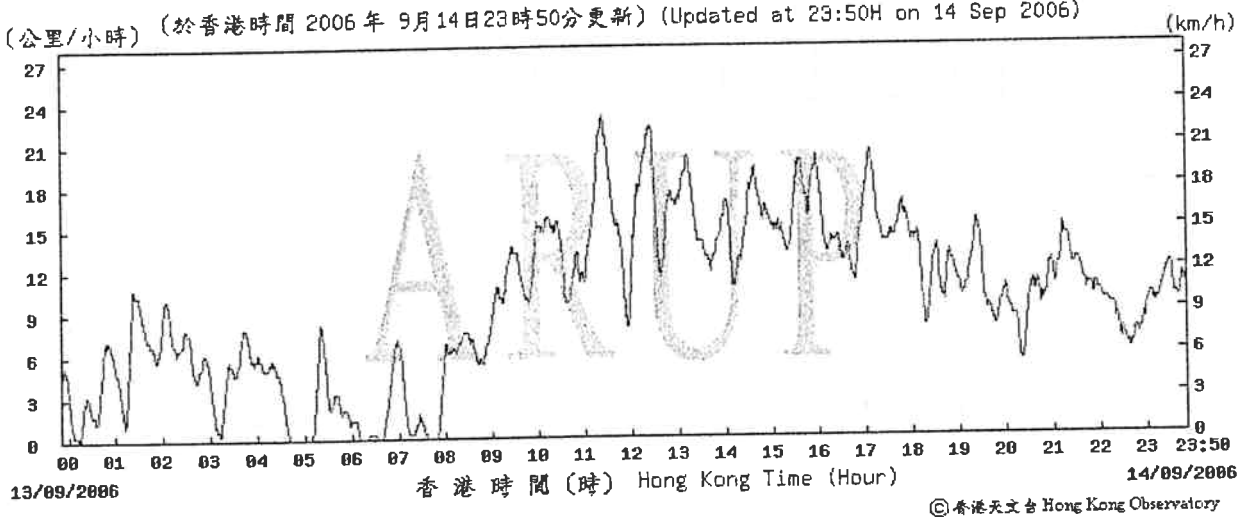


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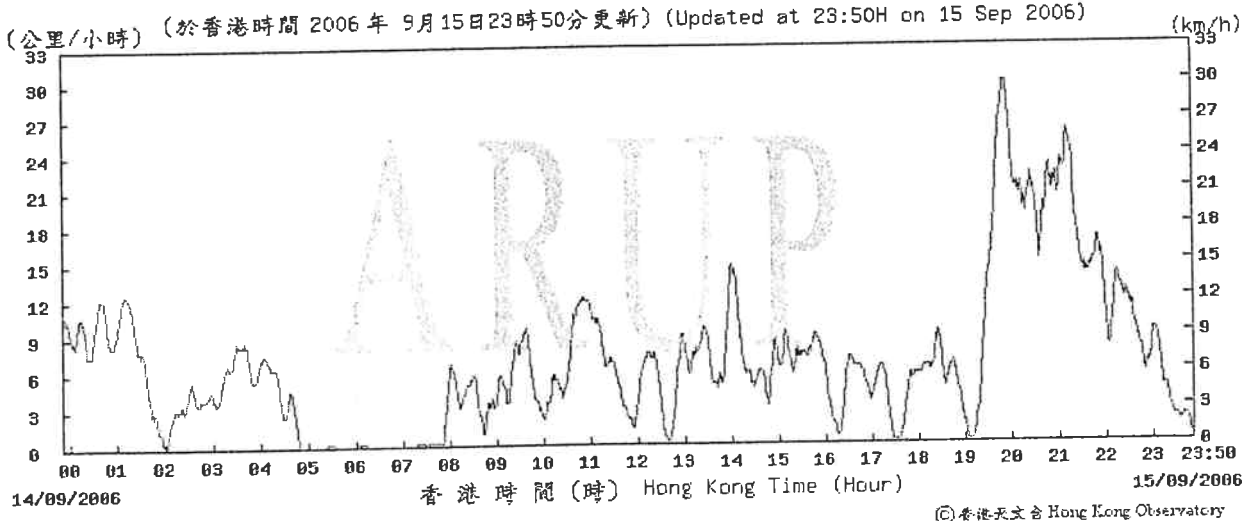
(公里/小時) (於香港時間 2006 年 9 月 11 日 23 時 50 分更新) (Updated at 23:50H on 11 Sep 2006)



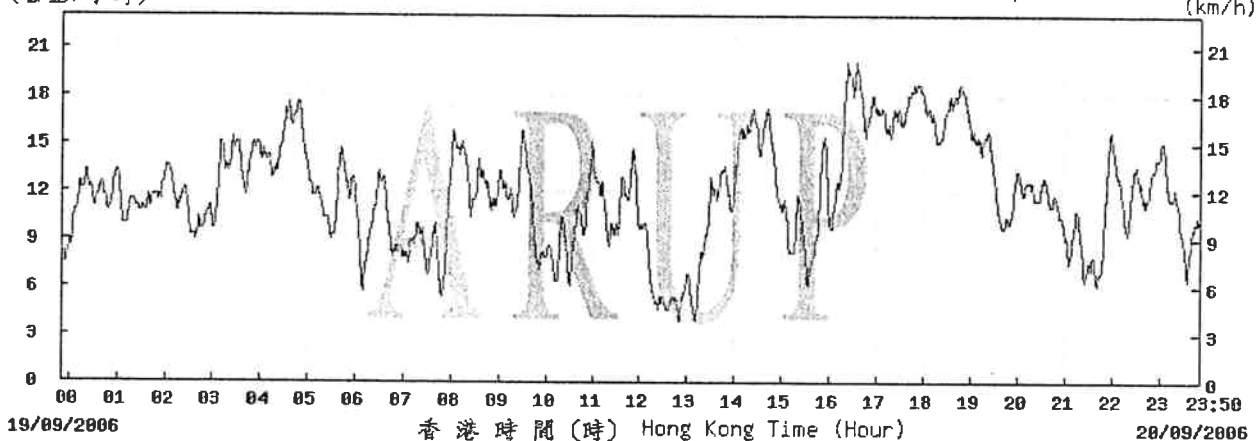
(公里/小時) (於香港時間 2006 年 9 月 14 日 23 時 50 分更新) (Updated at 23:50H on 14 Sep 2006)



(公里/小時) (於香港時間 2006 年 9 月 15 日 23 時 50 分更新) (Updated at 23:50H on 15 Sep 2006)

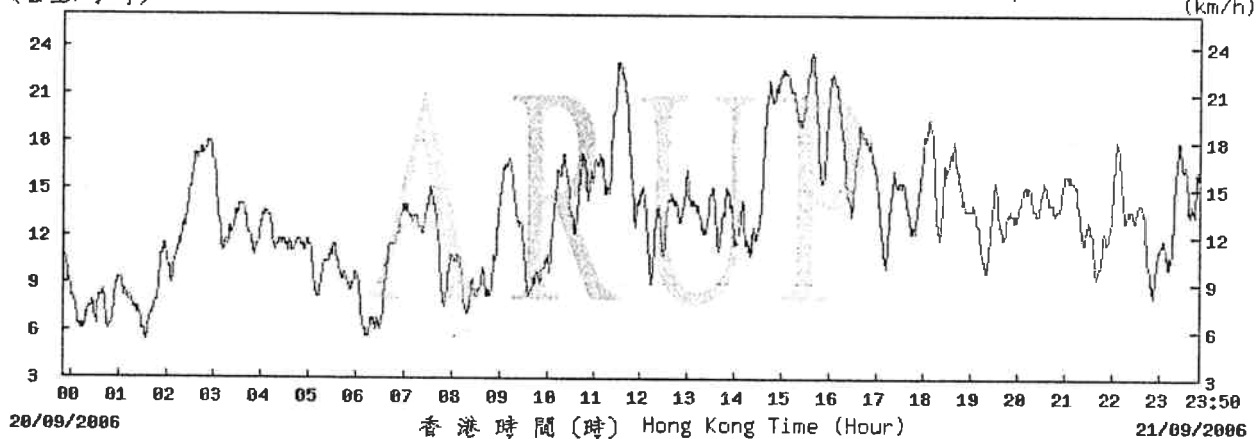


(公里/小時) (於香港時間 2006 年 9 月 20 日 23 時 50 分更新) (Updated at 23:50H on 20 Sep 2006)



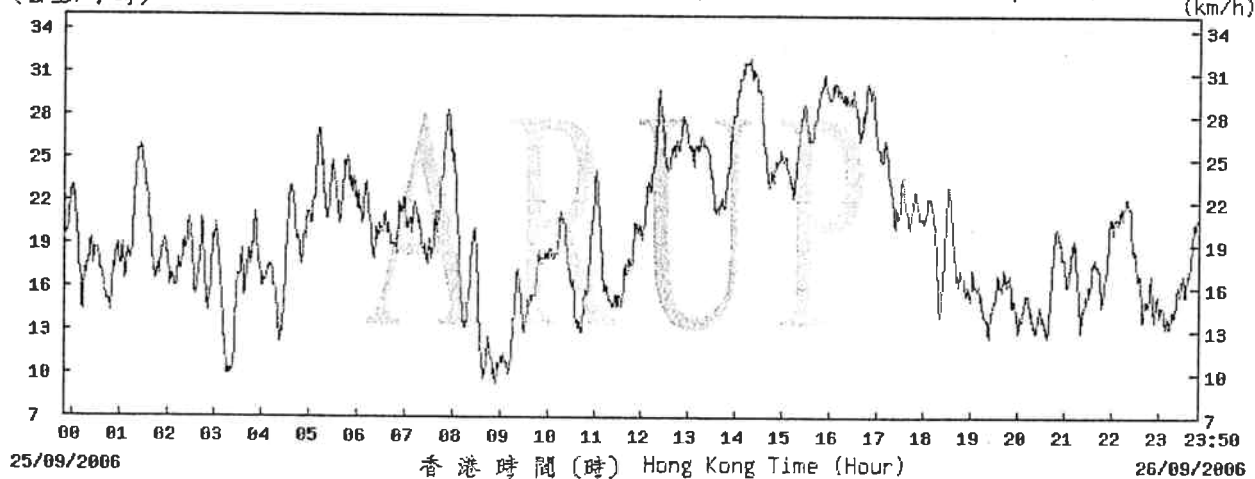
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(公里/小時) (於香港時間 2006 年 9 月 21 日 23 時 50 分更新) (Updated at 23:50H on 21 Sep 2006)



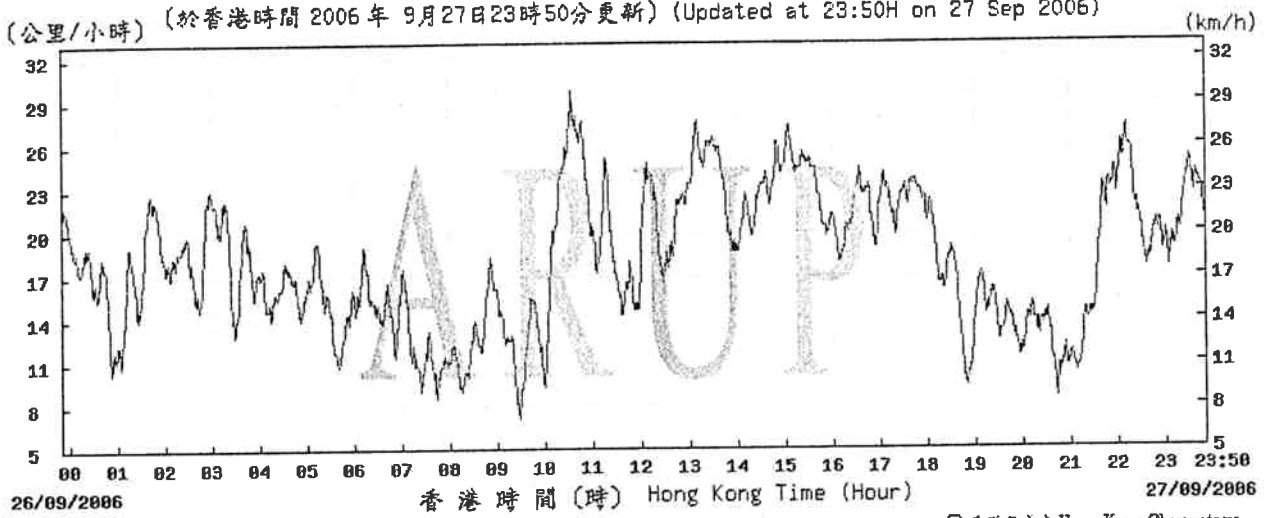
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(公里/小時) (於香港時間 2006 年 9 月 26 日 23 時 50 分更新) (Updated at 23:50H on 26 Sep 2006)



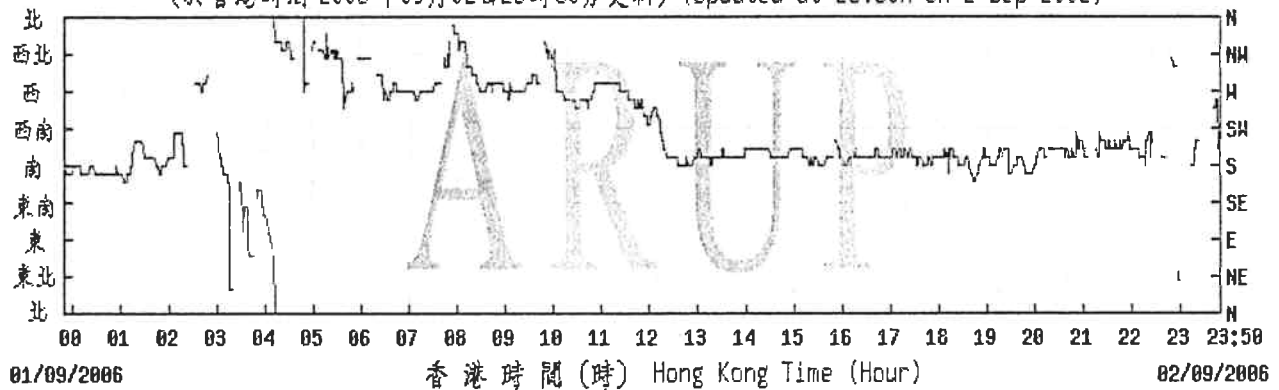
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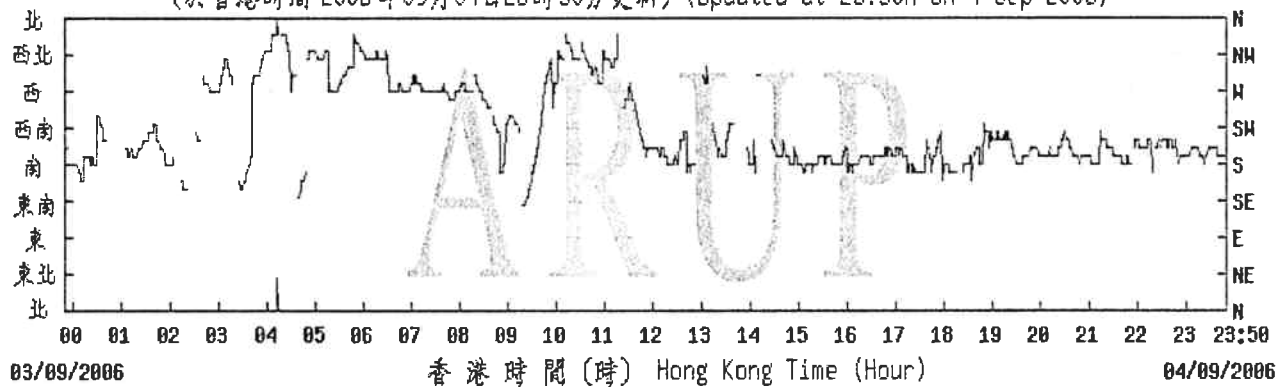
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(於香港時間 2006 年 09 月 02 日 23 時 50 分更新) (Updated at 23:50H on 2 Sep 2006)



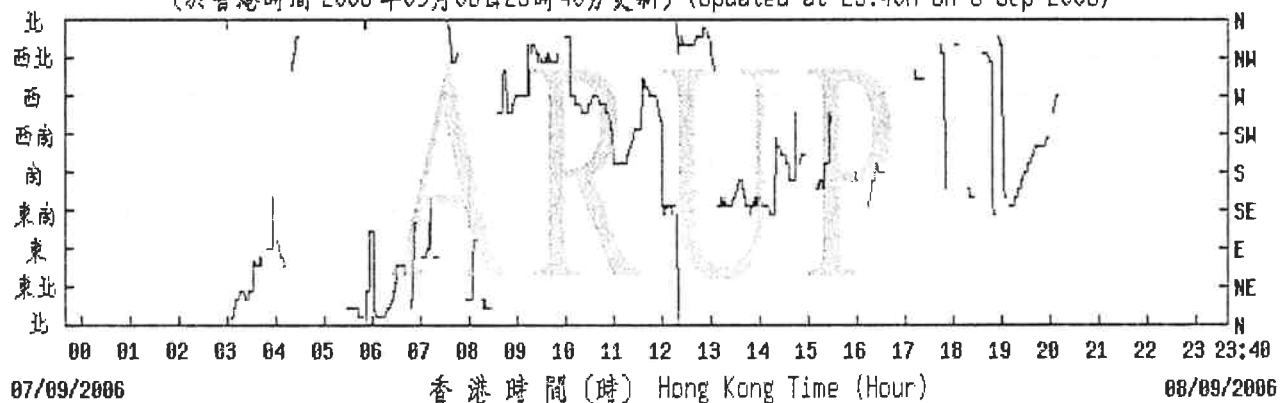
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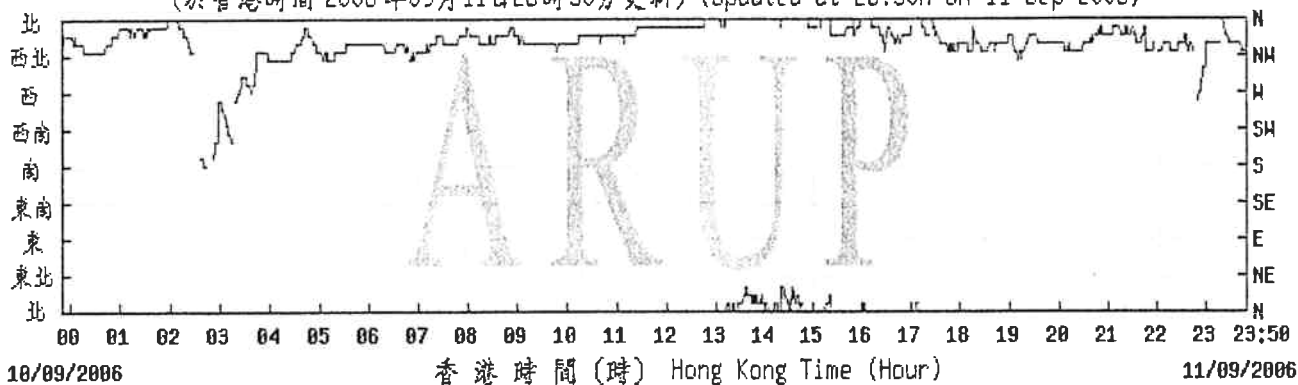
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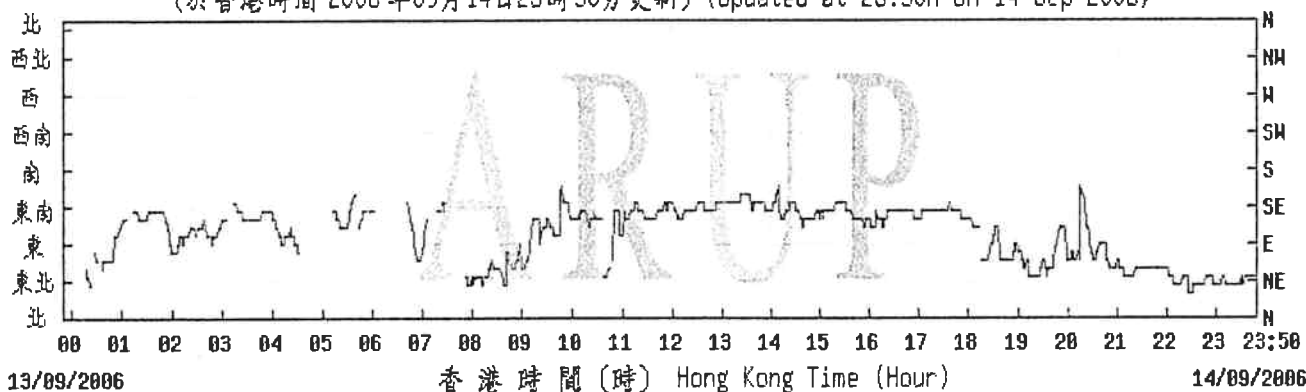
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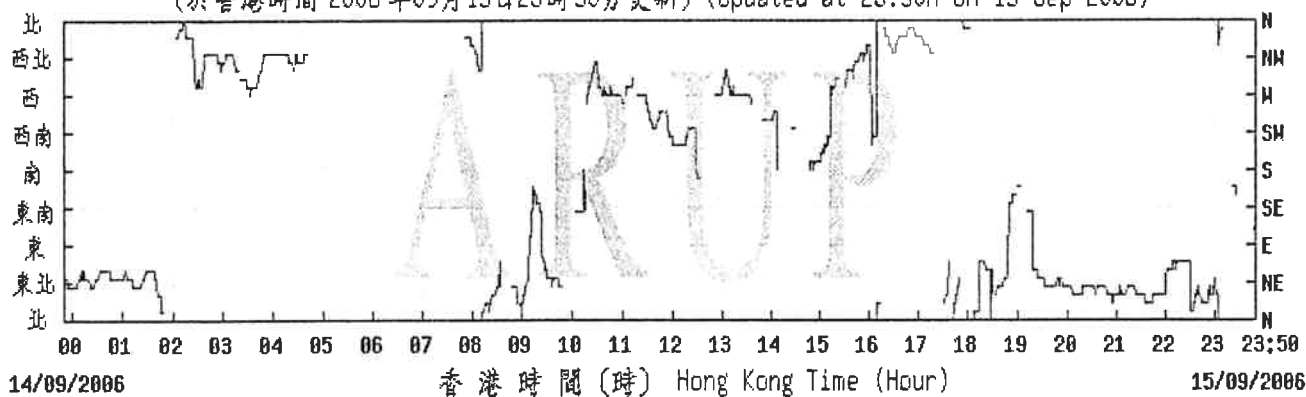
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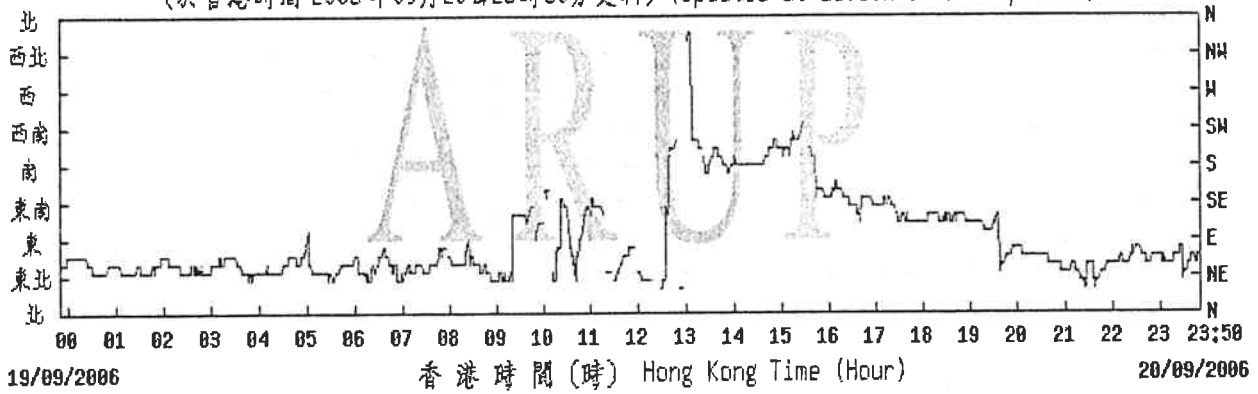
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(於香港時間 2006 年 09 月 20 日 23 時 50 分更新) (Updated at 23:50H on 20 Sep 2006)



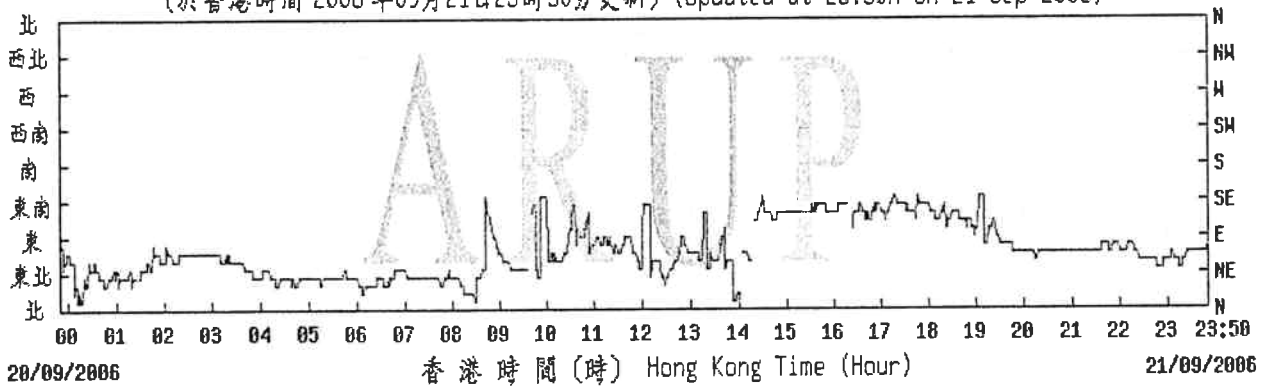
19/09/2006

香港時間 (時) Hong Kong Time (Hour)

20/09/2006

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(於香港時間 2006 年 09 月 21 日 23 時 50 分更新) (Updated at 23:50H on 21 Sep 2006)



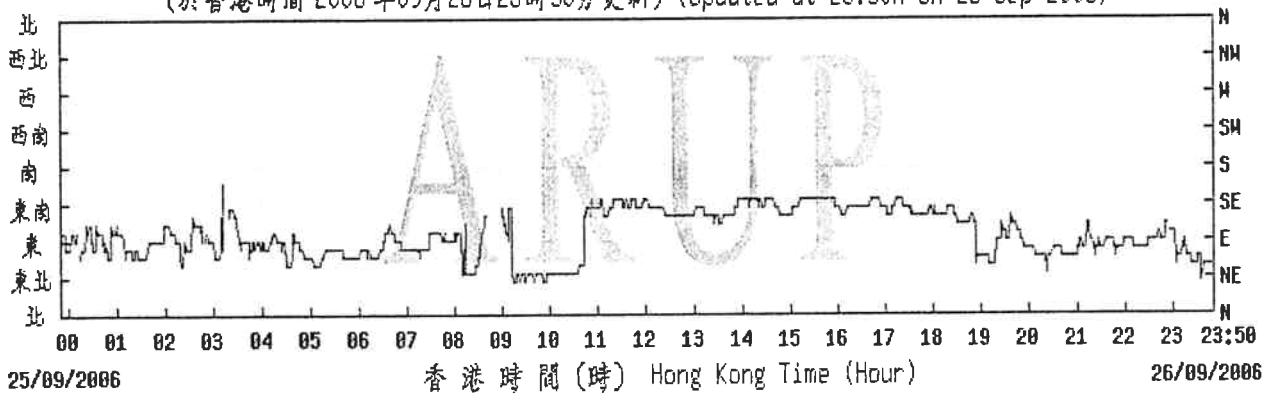
20/09/2006

香港時間 (時) Hong Kong Time (Hour)

21/09/2006

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(於香港時間 2006 年 09 月 26 日 23 時 50 分更新) (Updated at 23:50H on 26 Sep 2006)



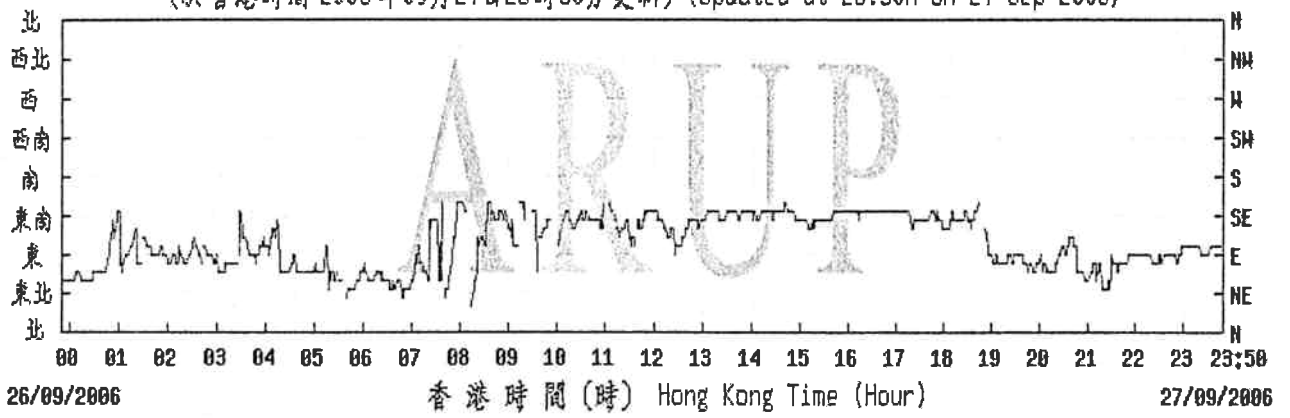
25/09/2006

香港時間 (時) Hong Kong Time (Hour)

26/09/2006

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(於香港時間 2006 年 09 月 27 日 23 時 50 分更新) (Updated at 23:50H on 27 Sep 2006)



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APPENDIX H

**Calibration certificates
of noise monitoring
equipment**



CERTIFICATE OF CALIBRATION

Certificate No. : 2KS050708-1

Page 1 of 2

Calibration of :

Description : Acoustical Calibrator
Manufacture : Brüel & Kjær
Type No. : 4230
Serial No. : 1233887

Client :

ARUP Acoustic Consultant
Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong
Kowloon

Calibration Conditions :

Air Temperature : 23 °C
Air Pressure : 100.9 kPa
Relative Humidity : 56 %

Test Specifications :

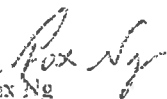
The Acoustical Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by Brüel & Kjær, or equivalent. The standard(s) and instrument(s) used in the calibration are traceable to international standard and are calibrated on a schedule which is adjusted to maintain the required accuracy level.

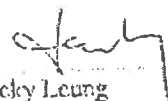
Test Result :

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

Date of Calibration : 01 August, 2005
Calibrated By :

Certificate issued : 02 August, 2005
Approved signatory :


Fox Ng


Jacky Leung

Reproduction of the complete certificate is allowed. Parts of the certificate may only be reproduced with written permission.

Test :	Subtest :	Status :
SPL	94 dB SPL	OK
Frequency	114 dB SPL	OK
2nd Harmonic		OK

Equipment :

Description :	Make & Model :	Serial No. :	Last Cal. Date :	Traceable to:
Digital Multi-meter	Dairen 1281	27361	28 Sep., 2004	
Frequency Counter	Philips PM6671	SM 6043	23 Sep., 2004	
Acoustical Calibrator	B&K 4226	1843103	11 Jul., 2005	

Calibrated By : *Rax Ng*
Date : 01 August, 2005

Checked By : *Judy*

Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong, Kowloon
HONG KONG

AAc Certificate No. 2005009

Fax: +852 2268 3950

Tel: +852 2268 3216

CERTIFICATE OF CONFORMITY

<u>Description of Test Instrument</u>	<u>Type No</u>	<u>Serial No</u>
RION Sound Level Meter	NA-27	00980789
RION 1/2" Microphone	UC53A	307440

Date of Test: 26 September 2005

Carried out by: Steven Wong

Approved by: William Ng

Signature: *[Signature]*

Signature: *[Signature]*

Ambient Conditions During Test	
Atmospheric Pressure:	1KPa
Air Temperature:	21°C
Relative Humidity:	58%

This document is to certify that the above Test Instrumentation did conform to the manufacturer's original specification on the date of the test. Any adjustments that were required to bring the instrumentation back into specification are duly noted in this document. The tests were carried out using the reference calibrator described below.

<u>Description of Reference Calibrator</u>	<u>Type No</u>	<u>Serial No</u>
Brüel & Kjær Multi Frequency Calibrator	4226	1531372
Brüel & Kjær Coupler	UA0915	1531372
Certificate of Calibration Serial No.	14260	
By Brüel & Kjær (UK) Ltd Calibration Date:	21 September 2005	
NAMAS Accredited Calibration Laboratory No.	0174	

The reference calibrator, Type 4226, has traceable calibration back to National Measurement Standards. As such it is used as Arup Acoustics own 'Primary Standard' and is used only for controlled laboratory calibration tests on all sound measuring equipment owned by Arup Acoustics.

Footnote:

Arup Acoustics is not a registered NAMAS accredited calibration laboratory. This certificate is for internal use only (unless otherwise authorised) and is part of Arup Acoustics development and commitment to QC and QA procedures.

Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong, Kowloon
HONG KONG

AAc Certificate No. 2005008

Fax: +852 2268 3950

Tel: +852 2268 3216

CERTIFICATE OF CONFORMITY

<u>Description of Test Instrument</u>	<u>Type No</u>	<u>Serial No</u>
RION Sound Level Meter	NA-27	01070556
Brüel & Kjær ½" Microphone	UC-53A	90317

Date of Test: 26 September 2005

Carried out by: Steven Wong

Approved by: William Ng

Signature: 

Signature: 

Ambient Conditions During Test	
Atmospheric Pressure:	1KPa
Air Temperature:	21°C
Relative Humidity:	58%

This document is to certify that the above Test Instrumentation did conform to the manufacturer's original specification on the date of the test. Any adjustments that were required to bring the instrumentation back into specification are duly noted in this document. The tests were carried out using the reference calibrator described below.

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Certificate of Calibration Serial No.	14260	
By Brüel & Kjær (UK) Ltd Calibration Date:	21 September 2005	
NAMAS Accredited Calibration Laboratory No.	0174	

The reference calibrator, Type 4226, has traceable calibration back to National Measurement Standards. As such it is used as Arup Acoustics own 'Primary Standard' and is used only for controlled laboratory calibration tests on all sound measuring equipment owned by Arup Acoustics.

Footnote:

Arup Acoustics is not a registered NAMAS accredited calibration laboratory. This certificate is for internal use only (unless otherwise authorized) and is part of Arup Acoustics development and commitment to QC and QA procedures.

APPENDIX I
**Detailed noise
monitoring results**

Details of Noise Impact Monitoring

Date	NSR No.	Time periods		Weather condition	Avg. wind speed (m/s)	Noise Level dB(A)			Influencing factors/ Site condition
		Start	Finish			L _{eq}	L ₁₀	L ₉₀	
4-Sep-06	WN1	10:00	10:30	Fine	1.4	66.8	68.5	65.0	Normal Operation
4-Sep-06	WN2	10:40	11:10	Fine	1.3	66.3	68.0	65.0	Normal Operation
4-Sep-06	WN6	9:20	9:50	Fine	1.9	59.7	62.5	51.0	Normal Operation
4-Sep-06	WN7	13:30	14:00	Fine	1.6	65.9	70.0	55.5	Normal Operation
4-Sep-06	WN8	14:10	14:40	Fine	1.5	66.3	69.0	56.5	Normal Operation
4-Sep-06	WN9	13:00	13:30	Fine	1.4	68.1	70.5	66.0	Normal Operation
4-Sep-06	WN10	13:40	14:10	Fine	1.3	67.6	69.5	65.5	Normal Operation
4-Sep-06	WN11	14:25	14:55	Fine	1.4	68.8	71.5	66.0	Normal Operation
4-Sep-06	WN12	15:30	16:00	Fine	1.2	65.5	67.0	62.5	Normal Operation
4-Sep-06	WN13	11:00	11:30	Fine	1.3	68.4	70.0	63.5	Normal Operation
4-Sep-06	WN14	10:15	10:45	Fine	1.3	66.7	69.0	63.5	Normal Operation
4-Sep-06	WN15	9:35	10:05	Fine	1.4	66.1	68.5	62.5	Normal Operation
4-Sep-06	WN16	8:50	9:20	Fine	1.3	63.5	66.0	56.0	Normal Operation
11-Sep-06	WN1	15:15	15:45	Fine	1.7	64.1	66.5	60.5	Normal Operation
11-Sep-06	WN2	16:00	16:30	Fine	1.5	66.2	69.0	62.5	Normal Operation
11-Sep-06	WN6	10:05	10:35	Fine	2.2	64.0	67.0	62.0	Normal Operation
11-Sep-06	WN7	10:45	11:15	Fine	1.6	66.7	69.0	63.5	Normal Operation
11-Sep-06	WN8	11:30	12:00	Fine	1.5	65.3	67.5	61.5	Normal Operation
11-Sep-06	WN9	13:00	13:30	Fine	0.9	63.5	67.0	60.5	Normal Operation
11-Sep-06	WN10	13:45	14:15	Fine	1.6	65.7	68.0	61.5	Normal Operation
11-Sep-06	WN11	14:30	15:00	Fine	1.9	67.8	69.5	64.5	Normal Operation
11-Sep-06	WN12	15:30	16:00	Fine	1.6	68.6	69.5	65.0	Normal Operation
11-Sep-06	WN13	14:35	15:05	Fine	1.5	67.8	69.0	64.0	Normal Operation
11-Sep-06	WN14	11:30	12:00	Fine	1.4	67.4	69.0	62.5	Normal Operation
11-Sep-06	WN15	10:35	11:05	Fine	1.7	67.1	68.5	62.0	Normal Operation
11-Sep-06	WN16	9:30	10:00	Fine	1.5	66.8	68.5	64.0	Normal Operation
21-Sep-06	WN1	15:15	15:45	Fine	1.0	63.1	65.5	60.5	Normal Operation
21-Sep-06	WN2	15:55	16:25	Fine	1.6	65.4	68.0	62.0	Normal Operation
21-Sep-06	WN6	9:40	10:10	Fine	1.9	63.9	66.0	61.0	Normal Operation
21-Sep-06	WN7	10:25	10:55	Fine	1.5	66.7	68.5	63.5	Normal Operation
21-Sep-06	WN8	11:00	11:30	Fine	1.6	65.3	68.0	62.5	Normal Operation
21-Sep-06	WN9	13:00	13:30	Fine	1.2	64.5	67.0	63.0	Normal Operation
21-Sep-06	WN10	13:45	14:15	Fine	1.4	64.7	67.5	62.5	Normal Operation
21-Sep-06	WN11	14:30	15:00	Fine	2.0	67.8	69.5	65.0	Normal Operation
21-Sep-06	WN12	15:35	16:05	Fine	1.5	67.1	69.0	64.5	Normal Operation
21-Sep-06	WN13	14:15	14:45	Fine	1.4	66.8	68.0	63.5	Normal Operation
21-Sep-06	WN14	11:30	12:00	Fine	1.3	67.4	69.0	64.0	Normal Operation
21-Sep-06	WN15	10:50	11:20	Fine	1.7	66.4	67.5	63.5	Normal Operation
21-Sep-06	WN16	9:20	9:50	Fine	1.4	67.4	69.5	64.5	Normal Operation
27-Sep-06	WN1	13:00	13:30	Fine	1.7	68.3	69.5	65.5	Normal Operation
27-Sep-06	WN2	13:45	14:15	Fine	1.7	68.8	70.0	65.5	Normal Operation
27-Sep-06	WN6	9:25	9:55	Fine	1.8	63.6	64.5	62.0	Normal Operation
27-Sep-06	WN7	10:55	11:25	Fine	1.4	66.8	68.5	65.0	Normal Operation
27-Sep-06	WN8	11:30	12:00	Fine	1.3	67.1	68.5	65.5	Normal Operation
27-Sep-06	WN9	14:45	15:15	Fine	1.5	68.9	70.5	66.0	Normal Operation
27-Sep-06	WN10	15:25	15:55	Fine	1.5	69.1	71.0	66.0	Normal Operation
27-Sep-06	WN11	16:10	16:40	Fine	1.4	69.3	71.5	66.5	Normal Operation
27-Sep-06	WN12	15:00	15:30	Fine	1.4	69.7	71.5	66.5	Normal Operation
27-Sep-06	WN13	14:05	14:35	Fine	1.5	69.4	71.5	66.5	Normal Operation
27-Sep-06	WN14	10:45	11:15	Fine	1.4	67.1	68.5	64.5	Normal Operation
27-Sep-06	WN15	10:00	10:30	Fine	1.7	67.8	69.5	65.0	Normal Operation
27-Sep-06	WN16	9:05	9:35	Fine	1.6	68.3	70.5	65.5	Normal Operation

APPENDIX J

**Landscape and visual
monitoring and audit
report**

**Contract No. HY/99/18
Castle Peak Road Improvements between
Sham Tseng and Ka Loon Tsuen**

Landscape & Visual Audit and Monitoring

Monthly Inspection Report No. 55

(September 2006)

Prepared by

URBIS LIMITED

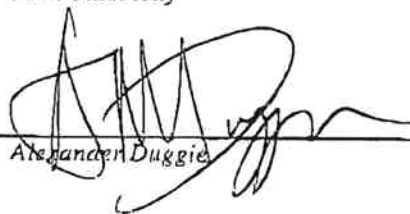
Prepared by :



Tran Tuan Huy

4th October 2006

Approved by :



Alexander Duggie

4th October 2006

Contract No. HY/99/18
Castle Peak Road Improvements between Sham Tseng and Ka Loon Tsuen
Landscape & Visual Audit and Monitoring

1.0 INTRODUCTION

This is a Landscape and Visual Audit conducted to fulfill the requirements of the EIA during the Construction and Operational Phases of the project, and is based on the procedures and requirements as set out in the Castle Peak Road Improvements between Area 2 and Ka Loon Tsuen, Tsuen Wan - Environmental Monitoring and Audit Manual - West Contract.

Under the EIA, the proposed mitigation measures include both the planting works and treatment to structures. As stated in 6.4.2 of the EM & A, all measures undertaken by both the Contractor and the Landscape Contractor during the construction phase and the first 12 months of the operational phase shall be audited on a bi-weekly and bi-monthly basis respectively to ensure compliance with the intended aims of the mitigation measures.

2.0 SCOPE OF AUDIT

The broad scope of the audit on mitigation measures is as detailed below:

2.1 Planting Proposals

- Regular inspection of the agreed works areas to ensure no unnecessary intrusion by the Contractor outside the limit of the works;
- Regular review of the progress of engineering works to identify the earliest practical opportunity for the landscape works;
- Monitoring of tree transplanting and planting operations;
- Monitoring of works around the area of existing trees to be retained and protected;
- Monitoring of protection works for existing trees;
- Ensure planting works are carried out in accordance with the Specification and within the right planting season;
- Monitoring of the maintenance operations during the Establishment Period to ensure all plants are well watered and nutrients applied.

2.2 Standard Treatment to Structures

- Monitoring and review to ensure the proposed architectural treatments to retaining walls, viaducts, bridges, and noise barriers are implemented in accordance with the approved design, and where appropriate, to soften the hard edges to structures with planting works.

**Contract No. HY/99/18
Castle Peak Road Improvements between Sham Tseng and Ka Loon Tsuen
Landscape & Visual Audit and Monitoring**

3.0 INSPECTIONS

3.1 Summary of Inspection – 14th September 2006

3.1.1 Matters Arising from Previous Inspections

- Utility undertaker had cleared the excavated soil and construction materials away from the existing tree trunks at Sea Crest Villa Ph. 4.
- The Contractor had cleared away the construction waste piles at the central median area and in front of Sea Crest Villa (Phases 3 & 4).
- The Contractor had cleared away the scattered litter at the footbridge FB-03 roundabout planter.
- The Contractor had replaced the dead trees near footbridge FB-03. However, replacement of the remainder of the dead trees at the central divider planter near Dragon Garden / Slope 9 area was outstanding. The Contractor was reminded to replace it as soon as possible.
- Replacement of damaged LS tree at planter bed 6.9 was outstanding. The Contractor was requested to replace the tree as soon as possible.
- Replacement of dead woodland plants on Slopes 6 was outstanding. The Contractor was reminded to also carry out the replacement planting works as soon as possible, including the weeding of the slope.
- Clearance of the invasive *Leucaena leucocephala* plant species from Slopes 11 was outstanding. The Contractor was reminded to clear away the plant as soon as possible to prevent its spreading, which would affect the establishment of woodland planting works.

3.1.2 Construction and Planting Works

- Several newly planted trees in the central divider planter bed 11.10 (off BPRW70 area) were found dead. Also, large stones were observed inside the planter. The Contractor was requested to replace the dead trees and removal of large stones as soon as possible.
- It was observed the placement of mulch to many planter beds were still to be carried out. The Contractor was requested to carry out the work as soon as possible.

3.1.3 Recommendations

- The Contractor was reminded to clear away all scattered litter, garbage, etc. as found on site, and keep the site in a tidy condition at all times.
- The Contractor was reminded to replace all defective and dead trees, and to provide mulching to planter beds as soon as possible.
- The Contractor was reminded to replace all dead whip plants on woodland planting slopes, and to carry out regular watering of plants during the dry periods. Also, the Contractor was reminded to remove the *Leucaena leucocephala* plants as soon as possible.

**Contract No. HY/99/18
Castle Peak Road Improvements between Sham Tseng and Ka Loon Tsuen
Landscape & Visual Audit and Monitoring**

3.2 Summary of Inspection – 28th September 2006

3.2.1 Matters Arising from Previous Inspections

- Removal of large stones and mulching of planter beds were outstanding. The Contractor was reminded to carry out the work as soon as possible.
- Replacement of the defective tree at planter bed 6.9 and dead trees at the central divider planter near Dragon Garden / Slope 9 area, including at central divider planter bed 11.10 were outstanding. The Contractor was reminded to replace it as soon as possible.
- Replacement of dead woodland plants on Slopes 6 was outstanding. The Contractor was reminded to also carry out the replacement planting works as soon as possible, including the weeding of the slope.
- Clearance of the invasive *Leucaena leucocephala* plant species from Slopes 11 was outstanding. The Contractor was reminded to clear away the plant as soon as possible to prevent its spreading, which would affect the establishment of woodland planting works.

3.2.2 Construction and Planting Works

- It was observed that many pavement trees on the seaward side were still without tree ties. The Contractor was requested to provide tree ties to all pavement trees as soon as possible to prevent tree barks being damaged.

3.2.3 Recommendations

- The Contractor was reminded to clear away all scattered litter, garbage, etc. as found on site, and keep the site in a tidy condition at all times.
- The Contractor was reminded to provide tree ties to all pavement trees as soon as possible.
- The Contractor was reminded to replace all defective and dead trees, and to provide mulching to planter beds as soon as possible.
- The Contractor was reminded to replace all dead whip plants on woodland planting slopes, and to carry out regular watering of plants during the dry periods. Also, the Contractor was reminded to remove the *Leucaena leucocephala* plants as soon as possible.

4.0 TREE TRANSPLANTING SURVIVAL RATE

4.1 Tree Transplanting Survival Rate

The tree transplanting survival rate as reported by the Contractor for the period up to the end of September is 100%.

5.0 AUDIT SCHEULE

5.1 Bi-monthly Audit Schedule during Establishment Period - November 2006

The bi-weekly audit and monitoring during the Construction Phase is now completed. The next audit would be the bi-monthly audit during the Operational Phase (Establishment Period), which is schedule to be conducted on 23rd November 2006.

APPENDIX K

**Log records and details
of environmental
complaints**



Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
029	12-Aug-02	Complaint from Mr. Au regarding muddy water washing out from Kowloon Bound Lane from the construction site	Enlarge concrete paving at site entrance; further improvement to the existing temporary drainage system to minimise wash-off of waste water to the adjacent road; and make sure temporary water supply points are properly turned off during lunch break or other times when they are not in use.	16-Aug-02	
036	31-Aug-02	Complaint from Mrs. Chung regarding the generation of fugitive dust from the construction site in front of Tsing Lung Tau Village	Frequent watering of the related works area with the aid of water browser	31-Aug-02	
054	7-Dec-02	Complaint from Mr. Lo regarding the stagnant water ponding in front of the construction site at Sham Tseng	Explained to the complainant that the water ponding was a wheel washing bay	7-Dec-02	
067	3-Mar-03	Complaint from Hong Kong Garden Management Office regarding the noise from vehicular movement over the temporary road cover at Castle Peak Road provided by the Contractor	The Contractor has added extra welding to improve the rigidity of the temporary steel deck. The work was completed during the off-peak hours in the period between 12-Mar-03 to 17-Mar-03.	17-Mar-03	The Contractor has taken noise readings and found that the noise level was within the baseline levels.
068	11-Mar-03	Complaint from Mr. Leung at Hong Kong Garden regarding the noise from evening road traffic, travelling over the steel decking plate on the adjacent temporary road diversion.	The Contractor has added extra welding to improve the rigidity of the temporary steel deck. The work was completed during the off-peak hours in the period between 12-Mar-03 to 17-Mar-03.	17-Mar-03	The Contractor has taken noise readings and found that the noise level was within the baseline levels.
070	6-Mar-03	Complaint from EPD regarding the reclamation works at Seawall B opposite to Hong Kong Garden on Sunday	The Contractor has previously informed the subcontractor of the statutory requirements as noise, dust emission, water discharge, and waste management. The Contractor agreed to keep vigilant in monitoring and surveillance of the site and continue to remind the subcontractors of the statutory requirements.	10-Mar-03	The Contractor has formally closed all site area for the Chinese New Year. Entrances of all site area were barricaded before the Contractor's staff vacated the sites on 30 January 2003.
070	6-Mar-03	Complaint from EPD regarding dust emission from the reclamation works at Seawall B opposite to Hong Kong Garden.	The Contractor has previously informed the subcontractor of the statutory requirements as noise, dust emission, water discharge, and waste management. The Contractor agreed to keep vigilant in monitoring and surveillance of the site and continue to remind the subcontractors of the statutory requirements.	10-Mar-03	The Contractor has investigated and confirmed that the marine works towards the eastern end of Seawall B was wet and the concreting works at the west end of the Seawall B were not dusty and no dust was emitted. Ground surface was also covered with crushed rock. The Contractor was also further reminded to spray water before and during unloading and moving of rock boulders and onto the haul road.
070	24-Mar-03	Complaint from EPD regarding daytime construction noise at Seawall B opposite to Hong Kong Garden.	The Contractor agreed to continuously monitor and review the operation in the vicinity opposite to Lung Tang Court, in order to minimize the noise impact caused to the public. In addition the Contractor will respond to the complaints received on the 24-hour Contract Complaint Hotline 2496 2555 in the first instant.	31-Mar-03	No exceedance was recorded at the noise monitoring station WN6, WN7 and WN8 from January 2003 to March 2003. It was suspected that the noise was due to traffic noise together with operational noise of plant equipment at Seawall B. The Contractor was also reminded if reorganization of working arrangement is necessary, mitigation proposal should be submitted to IC(E) for review. Additional noise monitoring shall also be conducted at the noise monitoring station WN8 once the mitigation proposal is implemented.

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
076	15-Apr-03	Complaint from Mr. Wong of TL 60 Management Limited regarding the noise nuisance generated from the vehicle movement over the temporary steel decking in front of Hong Kong Garden at Castle Peak Road provided by the Contractor.	The Contractor has replaced the isolated decking plate by 17 April 2003 and agreed to frequently inspect the condition of the steel decking. Further improvement works were completed on 25 April 2003.	25-Apr-03	
078	15-Apr-03	Complaint from Mr. Chau of Hong Kong Garden regarding the noise nuisance generated from vehicle movement over the temporary steel plate in front of the premises.	The Contractor has explained to Mr. Chau that the improvement works were completed on 25 April 2003 and agreed to carry out daily inspection to check the condition of the steel plate.	29-Apr-03	The complainant agreed that the noise nuisance has abated.
080	5-May-03	Complaint from Mr. Tsao / Mr. Chan of Mui Yuen, opposite to Bayside Villas regarding water leakage from the rocky slope behind his house and the damage of water pipes by cleaning works.	The water pipe was repaired on 9 May 2003. The Contractor has explained that the rocky slope was outside the site boundary.	9-May-03	
082	7-May-03	Complaint from Ms. Chan regarding water ponding on existing footpath along Castle Peak Road near the Contractor's site office.	The Contractor has formed holes at existing upstand wall to drain off water trapped in the adjacent footpath and to patch up local depression at the affected footway with plain concrete.	19-May-03	
084	21-May-03	Complaint from Ms. Lam of Sea Crest Villa Phase I regarding construction noise from the slope works outside Sea Crest Villa Phase I.	The Contractor has observed low-noise emission construction equipment were being used at the time of inspection and proposed to speed up the works to limit the duration of daytime construction noise impact. The Contractor has provided additional information in their letter ref. HY/99/18/M45/300/40/10229 dated 25 June 2003. Additional noise monitoring had been taken by the Contractor on 22 May 2003 at WN15 obtaining the result of 66.6dB(A), which was below the limit level of 75dB(A). After reviewing the findings and investigation details, the Contractor confirmed that no further remedial actions was required.	25-Jun-03	The Contractor was requested to submit mitigation proposal to IC(E) for review and to implement the mitigation proposal. Additional noise monitoring is required to be conducted at the noise monitoring station WN15 once the mitigation proposal is implemented. The IC(E) had no comment on the Contractor's findings. Since no mitigation measures were implemented, additional noise monitoring was not conducted.
086	23-May-03	Complaint from Mr. So regarding stagnant water in the drainage and wheel washing bay near the entrance of Sea Crest Villa Phase IV and the damage of road surface near L1 main gate and CLP electricity supply room.	Explained to the complainant that the stagnant water inside the wheel washing bay was for cleaning of vehicle. The leakage found the temporary water pipe was repaired. The water and silt trapped in the U-channel near the main entrance of the estate was removed and the kerb on west side of the run-in to Gate L1 was reinstated.	29-May-03	The Contractor will properly maintain the wheel washing facility, regularly inspect and clean the drainage channel and the gully pots near the main entrance of the estate. The damaged paving slab and cable pit near the power supply room will be restored to original condition after completion of the adjacent substructure works around mid August 2003.
088	3-Jun-03	Complaint from EPD regarding construction dust from Seawall B.	The Contractor proposed to place the concerned area under higher priority and endeavor to water the concerned haul road more frequently during dry days.	6-Jun-03	No rock breaking activity has been observed in site audits since 5 June 2003. The haul road at Seawall B was observed wetted in the site audits. The Contractor was reminded to provide water spraying if there is rock breaking activity in this vicinity.

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
088	3-Jun-03	Complaint from EPD regarding construction noise from Seawall B.	The Contractor reported that there may be occasional crashing noise for the piling works when rock level is reached. The Contractor has been providing mitigation measures, such as barrier and restriction of the rate of concerned works. The Contractor will also endeavor to expedite the works to reduce the duration of perceived daytime impact. The Contractor proposed to perform additional ad hoc inspections on Mondays, Wednesday and Fridays at the concerned area to confirm continual implementation of measures and to conduct additional noise monitoring where appropriate.	6-Jun-03	No rock breaking activity has been observed in site audits since 5 June 2003. Contractor has been reminded to submit mitigation proposal to IC(E) for review and to implement the mitigation proposal if provision of additional mitigation measures is required. The Contractor was also advised to provide portable noise barrier if there is rock breaking activity. Additional noise monitoring is also required to be conducted at the noise monitoring station WN8 once the mitigation proposal is implemented. The IC(E) had no comment on the Contractor's findings. Since no mitigation measures were implemented, additional noise monitoring was not conducted.
091	16-Jun-03	Complaint from Ms. Chan of Sea Crest Villa Phase 1 regarding noise from drilling works carried out at BPRW70 outside Sea Crest Villa Phase 1 before 07:00.	Upon investigation, the Contractor confirmed that there has been no construction work being conducted before 07:00. Nevertheless, the Contractor has scheduled the concerned work to be commenced at 08:00 as on 17 July 2003.	17-Jun-03	
092	16-Jun-03	Complaint from Mrs. Chung of Lido Garden regarding noise from drilling works carried out at BPRW70 opposite to Lido Garden before 07:00.	Upon investigation, the Contractor confirmed that there has been no construction work being conducted before 07:00. Nevertheless, the Contractor has scheduled the concerned work to be commenced at 08:00 as on 17 July 2003.	17-Jun-03	
097	27-Jun-03	Complaint from Mr Fok of Kai Shing Management Services regarding noise nuisance and the ponding of stagnant water arising from the construction activities outside Sea Crest Villa Phase III.	Upon investigation, the condition of water pumps installed separately at east end of the slope close to SCV Phase III and Pai Min Kok Stream Course has been checked. Noise generated from the ongoing construction works in these areas has been monitored. The rock breaking with jackhammer at PMK had been completed on 26 June 2003.	4-Jul-03	After further enquiry into the nature of the complaint, it appears that the complaint refers to the extended duration of construction works in the concerned area (i.e. inconvenience caused due to lengthy works program). The Contractor's Mr Peter Ip has explained the nature of the works to the Management Office. There have been no further complaints from SCV Phase III since the briefing.
103	31-Jul-03	Complaint from Hong Kong Management Office regarding the noise generated by vehicles running over the steel decking plate on the Castle Peak Road close to Hong Kong Garden.	The existing steel decking plate had been repaired during off peak hours and regular inspection on the condition of steel plate and adjacent road surface was agreed to be conducted.	5-Aug-03	There had been no further complaints after the repair.
105	13-Aug-03	Complaint from Mr Chow of Sham Tseng regarding fell of all old trees along section of Castle Peak Road near Ma Wan Pier.	After investigation on the matter, it had been confirmed that the felling and the transplanting of group of trees along the Castle Peak Road near Ma Wan Pier had been carried out in compliance with approved plans and schedules. No follow up is required.	16-Aug-03	
108	11-Sep-03	Complaint from Mr Edith Lee of Sea Crest Villa Phase I complained that it was very dusty at her house and she found that there was no water spraying at the construction site of the slope near Ma Wan Pier.	After investigation on the matter, water browser was arranged for spraying through the haul road. Rock breaking location would be sprayed directly connected from water supply point. To follow up the case, water browser would be arranged every 2 to 3 hours depends on drying up condition. A worker would be arranged for spraying water through out the rock breaking process.	11-Sep-03	

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
112	10-Oct-03	Complaint from Mr Cheung of FEHD that refuse being accumulating on the pedestrian walkway between Sea Crest Villa Phase III and Phase II and the drainage channel at Pai Min Kok Village.	Investigation was conducted immediately on 11 October 2003. It was observed that the pedestrian walkway and Outfall I had been tidied up except at the corner of Sea Crest Villa Phase III where a broken umbrella and some broken traffic light was lying on the ground. Immediate action was taken to remove the broken umbrella and signal lights. The site area would be maintained regularly. It was noted that wooden formwork and construction materials might possibly be mistaken to be rubbish.	13-Oct-03	
114	25-Nov-03	Complaint log no. 114 was received on 25 November 2003 regarding the muddy water found on the beach opposite to Sea Crest Villa Phase III.	An inspection for the concerned site area at the interface between the beach and the construction site revealed that there was no evidence of active construction works adjacent to the beach or the presence of muddy water. There was also no evidence of muddy water discharge from Outfall I. The work programme for the following days leading up to the complaint was inspection and found that the bored piling activity had been completed and removed since 15 November 2003. The contractor would regularly monitor the area for muddy water. If potential discharge sources were identified, the Contractor would take action to rectify the situation.	26-Nov-03	
115	30-Nov-03	Complaint from Miss Chan of Sham Tseng Latrine was received on 30 November 2003 regarding the pond of foul water at the footway in front of Sham Tseng Latrine.	An inspection for the concerned site area was carried out. The water ponding was confirmed to be overflow from the terminal manhole, which was a part of public latrine system. The maintenance of the public latrine and the associated systems were the responsibility of FEHD. The Contractor had contacted FEHD to follow up the issue.	1-Dec-03	
116	6-Dec-03	Complaint from Mr Paul Wong of Hong Kong Garden Management Office was received on 6 December 2003 regarding construction noise during early hours of 8:00am.	Inspection of concern area and no abnormal construction activities was found. The Contractor had explained to the Complainer that no statutory permit was required for construction work other than percussive piling at 8:00am and the nature of works conducted at the area was well within permitted limits. ET was reminded the Contractor to implement noise mitigation proposal in accordance with EM&A Manual.	8-Dec-03	Noise generated from the ongoing construction works in these areas was monitored and no exceedance was found. As the Contractor had responded to the complainant and no further complaint was recorded, the Contractor proposed that no further remedial/preventative measures were necessary.
123	20-Feb-04	Complaint from Mr Ho of TL60 Management Ltd was received on 20 February 2004 regarding noise arising from the temporary steel plates on road pavement near Blocks 1 & 2 of Hong Kong Garden.	Condition of the decking plat was checked on 23 February 2004 and was repaired on 24 February 2004 during off peak hours.	24-Feb-04	Regular inspection will be conducted and adjacent works was be expedited to allow early road diversion for permanent removal of the steel plates.
139	9-Jul-04	Complaint from EPD was received on 9 July 2004 regarding noise arising from prescribed construction works or works using power mechanical equipment at night near Seawall-B area opposite to Hong Kong Garden.	After investigation on the matter, there was no evidence of carrying out the prescribed construction works or using power mechanical equipment between 1900 and 2300 on 3 July 2004.	23-Jul-04	
140	10-Jul-04	Complaint from Highway Department was received on 10 July 2004 regarding noise arising from rock breaking near Sea Crest Villa Phase 3.	After investigation on the matter, there was no evidence of rock breaking activities undertaken in the vicinity of Sea Crest Villa Phase 3.	23-Jul-04	

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
149	11-Aug-04	Complaint from EPD regarding the sandy wake of a marine vessel carrying sand to the beach reinstatement area of Seawall B	After investigation on the matter, the following action was proposed. The vessel and water depth should be thoroughly checked prior to sand placing. If shadow water need to be approached, another shallower vessel should be used. The land co-ordinator should cease the sand placing operation if muddy plumes were noticeable.	31-Aug-04	
154	25-Aug-04	Complaint from Ms Tang regarding littering on the slope close to the Sea Crest Villa Phase 2.	After investigation on the matter, there was no evidence that the problem was caused by any construction activities.	27-Aug-04	
156	18-Sep-04	Complaint from Mr Chu regarding excessive garbage trapped along the adjacent shore of Seawall B west end.	It was out of control over the accumulation of floating rubbish drifting toward the shore. However, the contractor would remove them as soon as possible.	20-Sep-04	
166	4-Nov-04	Complaint from Mr Wong regarding the accumulation of foul ground and sewage waters in the trench in front of the strip of restaurants at Sham Tseng.	Contractor placed a sludge separation plant to treat the accumulated water prior to discharge and pumped away the accumulated water as regularly as possible. An CNP has been attained for the pumping of concerned areas.	11-Nov-04	
172	5-Jan-05	Complaint from Mr Raymond Chan regarding the daytime construction noise started 7:30am over the past few days.	Contractor clarified with Mr Chan that construction work at 7:30am was within regulation guidelines. However, the contractor still agreed to arrange noisy activities be carried out after 8:00am.	5-Jan-05	
175	28-Jan-05	Complaint from Mr Kan regarding the rubbish discarded at the finished RERW slopes and Outfalls opposite to Sea Crest Villa Phase II and III.	Contractor inspected the concerned area, taken photographs and carry out maintenance works as requested.	31-Jan-05	
193	4-May-05	Complaint received from Highways Department regarding the daytime noise generated from the use of power mechanical equipment during the hours between 8am to 12am near Sea Crest Villa Phase II and III.	Contractor responded to the complainant that daytime construction noise generated from activities was well within the guidelines of prevailing standards and promise to look for opportunities to disperse noisy works more evenly throughout the day and make appropriate improvements to works scheduling for the concerned works wherever practicable.	4-May-05	
194	10-Jun-05	One environmental complaint was received on 10 June 2005 regarding the obstructions and mosquitoes found in the footway near Sea Crest Villa Phase 4.	Thorough cleaning up around the precast footbridge deck; Realigning the existing mill barriers to widen the adjacent footbridge deck; and Spaying appropriate insecticide.	14-Jun-05	
216	7-Aug-05	One environmental complaint was received on 7 August 2005 regarding the bad smell generated from rubbish collected around the bus stop near Sea Crest Villa Phase 1 & Phase 2.	It was confirmed not from gas supply pipes or from the rubbish collection points on site, but may have been from the rubbish collected by the Food and Environmental Hygiene Department from the public barbeque area, which was placed next to the road for pick-up. The Contractor has put up banner at prominent locations to heed the public not to litter the adjacent roads and footpaths.	10-Aug-05	
221	3-Sep-05	Complaint from Ms Cheong regarding the generation of huge amount of black smoke from the construction activities along Sea Crest Villa Phase 3.	Contractor contacted Ms Cheong several times for more details but in vain. Contractor has carried out though checking on the conditions of machines deployed in the vicinity of the concerned location. Black smoke was not observed emitting from operating plant during inspection and daily safety patrols. The Contractor keeps regular maintenance on construction plant and maintains measures to suppress dust generated from rock excavation works.	6-Sep-05	

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
224	12-Sep-05	Complaint received from Mrs Wong that she could not stand the noise generated from construction activities at Sea Crest Villa Phase 3 and wanted to know the completion day of the works.	Contractor responded to the complainant that the works around the related area are expected to be completed by mid of November this year. The Contractor has explored ways to further improve the progress of the ongoing rock excavation works nearby.	12-Sep-05	
-	24-Oct-05	A letter complaint on construction debris adjacent to Tsing Lung Tau Pier was received by the ER.	RSS advised the complainant that the Contractor removed the construction debris immediately.	24-Oct-05	ER complaint case no.: C0343
227	1-Nov-05	Complaint received from Mr Chan regarding the construction noise at Sea Crest Villa Phase 4 at 7:00am	Contractor responded to the complainant that the works carried out at 7:00am is within statutory regulations. However, noisy works at the concerned location will be scheduled at 8:00am as agreed between Sea Crest Villas and the Contractor. The concerned work team was immediately notified to start at 8:00am	2-Nov-05	ER complaint case no.: C0346
228	2-Nov-05	Further to Complaint Log No. 224, Mrs Wong complained that she could not stand the noise from the construction activities outside Sea Crest Villa Phase 2. She wanted to know when the works thereat would be completed.	The Contractor inspected the site to identify the possible cause of concern during the weekly site inspection on 3 November 2005. The source of the daytime noise was suspected to have originated from rock breaking activity for utility laying. The rock-breaking/excavation work should be completed within a few working days. The rock breaking/tunneling work which Mrs Wong referred to last time (Log no. 224) has been completed and the area has been backfilled.	3-Nov-05	ER complaint case no.: C0347
229	9-Nov-05	Further to Complaint Log No. 224, Mrs Wong complained that she, resting after giving birth, could not stand the noise from the construction activities outside Sea Crest Villa Phase 2 and the work has taken a long period.	The Contractor inspected the site during the morning of 10 November 2005 with the ET's Auditor. The daytime noise was identified to come from road breaking activity in front of the public toilet opposite to Ma Wan Pier. The previous source in front of Sea Crest Villa Phase 3 has been removed, as observed during the inspection, but occasional rock breaking work is envisaged. The complainant was advised that the current work in front of the public toilet will likely continue to the end of this year or beyond, depending on the ground conditions.	10-Nov-05	ER complaint case no.: C0348
-	1-Nov-05	A telephone complaint on construction noise in early morning was received by ER.	RSS explained to the complainant that the normal working hour of the Contractor is from 7am to 7pm. The Contractor had been advised not to commence those noisy works until 8am in the morning. The complainant generally accepted the apology made to him.	2-Nov-05	ER complaint case no.: C0344; ICC Case Ref.: 1-68239422
-	1-Nov-05	A telephone complaint on (i) the blockage of access to the pedestrian button of the traffic signal in Sham Tseng and (ii) flooding at the crossing in front of Lido Garden was received by the ER.	RSS explained to the complainant that the blockage was caused by CLP's works and CLP had been informed to promptly rectify the situation and the concerned low point at which flooding would be induced during raining, would be rectified in 2 weeks. The complainant generally accepted the apology made to him.	2-Nov-05	ER complaint case no.: C0345; ICC Case Ref.: 1-68239458
-	10-Nov-05	A telephone complaint on construction noise nuisance at Sea Crest Villa Phase 3 was received by the ER.	RSS explained to the complainant that the noise was generated by rock breaking for the works in the vicinity which would be completed this week whilst all work would be completed early next year.	2-Nov-05	ER complaint case no.: C0349; ICC Case Ref.: 1-68770450
-	15-Nov-05	A telephone complaint on noise nuisance caused by uneven manhole cover near to Ma Wan Pier was received the ER.	RSS advised the complainant that the uneven manhole cover was rectified by the Contractor on the same day.	15-Nov-05	ER complaint case no.: C0350; ICC Case Ref.: 1-68926480

Log Record on Environmental Complaints

No.	Date of Complaint Received	Description	Proposed Actions	Completion Date	Remarks
236	5-Jan-06	Complaint received from Mr Cheung on noise generated from a steel laid temporarily near the entrance of Lido Garden Carpark.	The Contractor remove the aforesaid steel plate and reinstate the road surface underneath	6-Jan-06	ICC Case Ref.: 1-71756093
243	19-Jun-06	A telephone complaint on mosquito breeding in stagant water near Sea Crest Villa Phase 4 was received by HyD.	The Contractor carried out inspection and no stagnant water was observed around the location concerned. The Contractor also spray mosquito repellent oil into nearby gullies and remind CLP's contractor to improve house keeping in their works area under Footbridge FB11 North.	22-Jun-06	HyD's ICC case ref.: 1-82537973
246	23-Jul-06	A telephone complaint on noise nuisance caused by a manhole cover located on vehicular road in proximity to Sea Crest Villa Phase 3	The Contractor carried out inspection and sealed up the gap between manhole cover and frame on the eastbound of CPR in proximity to Sea Crest Villa Phase 3.	25-Jul-06	ICC Case Ref.: 1-85420267