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Development at Former Marine Police Headquarters KIL 11161 Quarterly Environmental Monitoring & Audit Report for August 2004

184 CD

(Ref No. 3.12/003/2004)

October 2004

Report Certified by the Environmental Team Leader: _____

Report Verified by the Independent Environmental Checker: _____

Content

EXECUTIVE SUMMARY

This is the first Quarterly Environmental Monitoring & Audit Report prepared by Nature & Technologies (HK) Ltd. for the development of the former Marine Police Headquarter. This report documents the impact environmental monitoring and audit work in the period June to August 2004. Site audit inspections were performed by Environmental Team weekly.

Piling and grouting works were the main construction activities carried out within the Project site during the reporting period.

Air quality and noise monitoring have been carried out in accordance with the EM&A Manual. Monument settlement measurement data and tree photographic survey are also provided.

The site was practising zero effluent discharge with collection and reuse of wastewater on site before Wastewater Discharge Licence granted on 7 July 2004. Water quality of wastewater discharge is now being measured out bi-monthly as required by the Licence.

Summary of non-compliance of reporting period is tabulated in Table I.

Table I Summary table for non-compliance recorded from June to August 2004

	No. of Exceedances					
	Action Level			Limit Level		
	June 04	July 04	August 04	June 04	July 04	August 04
1-hr TSP	0	0	0	0	0	4
24-hr TSP	0	0	0	0	0	0
Noise	2	0	0	0	0	0
Water	N/A	N/A	0	N/A	N/A	0

Exceedances of the Limit Levels for 1-hour total suspended particulates were recorded on 19 August 2004 at the following designated monitoring locations:

- rooftop of the Consumer Council office east of the construction site (A1)
- south boundary of the construction site facing the Cultural Centre Studio Theatre (A2a)
- west site boundary of the construction site on top of the existing hoarding (A3)
- site boundary north of the construction site on top of the existing hoarding (A4)

Site inspection on 19 August 2004 showed that there was nothing abnormal on site. The atmospheric dispersion characteristic was likely the main cause for elevated dust levels. Contractor was reminded to continue with dust suppression water spray and to cover dusty materials as far as practicable. Repeat measurements were carried out on 20 August 2004 and the 1-hour total suspended particulates levels at the four designated locations were well within the Action and Limit Levels.

Two complaints were received by Environmental Protection Department on 24 June 2004 concerning the daytime piling noise from the site on 19 & 21 June 2004. These were due to soldier piling works but the noise was not excessive. It was agreed to expedite the piling works and to ensure that the noise situation would not become worse.

Ground-borne noise measurements were also conducted inside Hong Kong Cultural Centre and Hong Kong Space Museum as scheduled in this reporting period. For Hong Kong Cultural Centre there was no vacant slot for the measurement for July and

August 2004. Vacant slot for measurement was also not available for Hong Kong Space Museum Sky Theatre in July 2004. No exceedance of the ground-borne noise criteria found for the reporting period.

There were no notifications of summons, prosecutions or non-compliance. Compliance with the environmental permit conditions was generally satisfactory. There were a few outstanding issues requiring further pursuit. These include proper maintenance of noise reduction mats, installation of wheel washing bay, continual protection of the preserved monument structure and trees, briefing of project staff on the EM&A requirements, and improvement in communications. The request of Environmental Protection Department to provide enforcement measures to protect trees especially during typhoon and insurance for protection or compensation of trees are being considered. Tree felling permit is yet to be granted and care must be exercise in tree felling to avoid damage to trees to be retained or transplanted.

1. Introduction

1.1 Konwall Construction and Engineering Co. Ltd. ["KCE"] is contracted to carry out the development of the Former Marine Police Headquarters ["FMPHA"]. KCE in turn has commissioned Nature & Technologies (HK) Ltd. ["N&T"] to conduct the environmental monitoring and audit ["EM&A"] work for the project.

1.2 Pursuant to Clauses 2.3 of the Environmental Permit ["EP"] EP-184/2004 of the project, the draft EM&A Manual has been submitted on 29 April 2004. Comments have subsequently been received from Environmental Protection Department ["EPD"] on 3 June 2004 and the revised manual has been submitted on 26 July 2004. The comments of EPD on the draft EM&A Manual contain no major issues that could affect the environmental monitoring of the project.

1.3 This report documents the quarterly EM&A work and its findings for June to August 2004 and is the first quarterly report documenting the EM&A work since the commencement of the construction work.

2. Project Information and Progress

Environmental Status

2.1 The location, site layout, historic buildings and structures to be preserved of the Project are shown in Figure 2.1.

2.2 The project organization, management structure and general lines of communication with respect to environmental protection works are shown in Figure 2.2 and the key contacts are given in Table 2.1. Environmental Protection Department ["EPD"] is the control authority and may contact any party where necessary for their statutory duties.

Table 2.1 Key Contacts of the Project Team

Party	Company	Contact Person	Phone
Permit Holder	Flying Snow Ltd.	Mr H S Chan	2112 2634
Project Architect ["AR"]	A+T Design Ltd.	Mr Daniel Lin	2858 4778
Contractor	Konwall Construction & Eng. Co., Ltd.	Mr Eric Kwok	2563 1233
Independent Environmental Checker [IEC"]	CH2M-IDC Hong Kong Ltd.	Mr Roger Leung	2872 2935
Environmental Team ["ET"] Leader	Nature & Technologies (HK) Ltd.	Ir Dr Gabriel C K Lam	2877 3122

Construction Programme, Works Undertaken & Status

2.3 The construction programme with milestones of environmental protection/mitigation activities annotated is given in Appendix A.

2.4 Piling and grouting works were the main activities carried out within the Project site in the period of June to August 2004. Main piling area is shown in Figure 2.3.

Monitoring Locations

2.5 Designated air quality and noise monitoring locations were selected for impact monitoring based on the EM&A Manual Section 3.8. They are shown in Figure 2.4. Air quality monitoring locations are briefly described below:

- A1 is located on the rooftop of the Consumer Council office east of the construction site, estimated to be about 11m above ground.
- A2 is at the Cultural Centre Studio Theatre podium level south of the construction site, estimated to be about 5m above ground. Monitoring at this location has not yet commenced at the time of preparation of this report as permission to carry out monitoring there has not been received.
- A2a is at south boundary of the construction site facing the Cultural Centre Studio Theatre selected as an alternative location to A2 in consultation with the IEC, estimated to be about 6m above ground. This is needed since permission from the Cultural Centre for monitoring there is not yet received and in order to reduce the delay to the construction programme by the permission.
- A3 is at the west site boundary of the construction site on top of the

existing hoarding, estimated to be about 5m above ground. This position is slightly different to that originally proposed in the Project Profile due to the inability to obtain permission to gain access to the building at Star House or Marco Polo Hongkong Hotel for measurement and that the present revised position will provide a more conservative measurement for environmental protection

- A4 is at the site boundary north of the construction site on top of the existing hoarding, estimated to be about 13m above ground.

2.6 The noise monitoring locations, namely CN1a (on the roof of Po Yip Building) & CN2a (on the 4/F YMCA), were selected for the impact noise monitoring. These locations are made up for the locations at CN1 & CN2 (podium of Hankow Centre east of the construction site) carried out for the baseline noise monitoring as Hankow Centre no longer permit to enter the premises for noise measurement since 28 May 2004. These locations are also shown in Figure 2.4 and are located on the roof of Po Yip Building and 4/F YMCA facing the east of the site.

2.7 The other monitoring locations are indoor of Hong Kong Cultural Centre ["HKCC"] (1/F & 4/F Grand Theatre) and Hong Kong Space Museum ["HKSM"] (1/F Recording Studio & 1/F Sky Theatre) for ground-borne noise monitoring purpose.

Summary of EM&A Requirements

2.8 The environmental monitoring requirements given in this manual can be summarised as follows:

Table 2.2 Environmental Monitoring Summary Requirements

1.	Air monitoring for 24-hour Total Suspended Particulates ["TSP"] with high volume samplers at four locations • Baseline – continuously for14 consecutive days • Impact – once every six-days
2.	Air monitoring for 1-hour TSP with portable equipment at four locations • Baseline - 3 times per day for 14 days • Impact - 3 times per day, one day for every six-days
3.	Noise measurement at two noise sensitive receiver locations ($L_{eq,30\ min}$, $L_{eq,5\ min}$, L_{10} and L_{90}) • Baseline - daily between 0700-1900 for 2 weeks • Impact – weekly between 0700-1900 hours on a normal weekday
4.	Ground-borne noise measurement inside HKSM and HKCC ($L_{eq,30\ min}$ / $L_{eq,5\ min}$) • Baseline – one time before commencement of piling works • Impact – once per month on a normal weekday
5.	Building Settlement Marker • Baseline – one time before commencement of piling works • Impact – once per two days on a normal weekday
6.	Ground Settlement Marker • Baseline – one time before commencement of piling works • Impact – once per two days on a normal weekday
7.	Crack Monitoring (Tell-Tale Device) • Baseline – one time before commencement of piling works • Impact – once per two days on a normal weekday

2.9 Site inspection by the ET should be carried out at least once per week. Report submissions should include Baseline Monitoring Report, Monthly, Quarterly and

Final EM&A Reports. These reports should include photographic records for landscape and tree preservation, and monument structure monitoring records for heritage protection.

Environmental Quality Performance Limits

2.10 The calculation of the Action and Limit ["AL"] Levels for dust and noise were based on the baseline monitoring results. The AL levels for dust are set in Table 2.3.

Table 2.3 AL levels for 1-hour and 24-hr TSP

Location	1-hour TSP		24-hour TSP	
	Action	Limit	Action	Limit
A1	382	500	191	260
A2a	394	500	193	260
A3	389	500	182	260
A4	384	500	187	260

2.11 As per requirements of the EM&A Manual, the AL Levels were established as in Table 2.4 AL levels.

Table 2.4 AL levels for impact noise monitoring locations

Time Period	Action	Limit
0700-1900 hrs on normal weekdays	When one documented complaint is received	75* dB(A)
0700-2300 hrs on holidays; and 1900-2300 hrs on all other days		65** dB(A)
2300-0700 hrs of next day		50** dB(A)

* reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.
** Based on Area Sensitivity Rating 'B'.

2.12 The corresponding AL levels for ground borne noise indoor of HKCC and HKSM are as per Table 2.5.

Table 2.5 AL levels for HKCC and HKSM

Location	Action	Limit
HKCC	When one documented complaint is received	60 dB(A)
HKSM Recording Studio (1/F)		60 dB(A)
HKSM Sky Theatre (1/F)		60 dB(A)
HKSM Lecture Room (G/F)		60 dB(A)

2.13 For monitoring of the monument structure during construction works, the Alert, Alarm and Action levels given in Table 2.6 are adopted.

Table 2.6 Alert, Alarm & Action levels of monument structural monitoring

Instrument	Unit	Alert	Alarm	Action
Ground Settlement Markers	mm	10	15	20
Building Settlement Markers	mm	5	8	10
Building tilting & settlement	-	1:2000	1:1500	1:1000
Tell-tales (crack monitoring)	mm	5	8	10

Implementation Status

2.14 The construction and operational phase impacts of the project have been assessed and presented in the Project Profile submitted in November 2003. The Project Profile also specified the recommended environmental mitigation measures to minimise the potential adverse environmental impacts identified. An implementation schedule of the recommended environmental mitigation measures is prepared as part of the Project Profile is contained in Appendix B.

2.15 Prior to the commencement of the operation works, the ET gave a presentation on 2 June 2004 to the construction personnel on the environmental protection requirements on the site. Working personnel not present in the presentation would be briefed separately by the Contractor on the requirements for environmental protection.

2.16 Site environmental audits were carried out by the ET on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. Site audit checklist reports and recommendations are given in Appendices of the Monthly EM&A Reports for June to August 2004.

2.17 It is noted that the various environmental protection measures have been gradually implemented on site and the conditions of the site were generally satisfactory. The followings are noted for June to August 2004:

- The contractor anticipated that there would be no timber consumption for the construction activities to be carried out from August 2004 to the end of 2004 and such estimation has been submitted to the AR on 13 August 2004 as required in the Waste Management Plan.

- Instead of installing noise barrier on the east side as proposed in the Project Profile, noise reduction mat has been proposed and the noise mat has been delivered to site on 8 July 2004. However, the length of the mat was not sufficient. Additional length was provided on 28 July 2004 to ensure full coverage of the eastern boundary of the site to enhance its noise mitigation effectiveness. Considerable gaps are found among the noise mats installed on the boundary of the site. More proper maintenance to close these gaps as far as practicable to prevent noise leaking towards sensitive receivers.

- The site was practising zero effluent discharge with collection and reuse of wastewater on site before wastewater discharge licence granted. The Licence has been granted under the Water Pollution Control Ordinance on 7 July 2004. Wastewater is now being treated by on-site sedimentation system and discharged at one designated discharge point as specified in the Licence. Water sampling analysis would also be conducted bi-monthly and the results would also be submitted to EPD as per the requirement of the Licence.

- The site is yet to install wheel washing bay. Wheel washing is now being carried out by manual water jets. The situation, however, is considered to be satisfactory.

- Proper keeping of training records on waste management and EM&A requirements have yet to be developed by the contractor.

2.18 EPD in their letter of 16 August 2004 Ref. EP491/01/1-16A requested the provision of provide enforcement measures to protect trees especially during typhoon season and insurance for protection or compensation or trees. The request of EPD is being considered.

2.19 The summary status of the submission under the EP is given in Table 2.7.

Table 2.7 Status of submission under EP up to 31 August 2004

Item No.	Description	Submission Date to EPD
1.	Method Statement detailing the protective measures on declared monument buildings	06/02/2004
2.	Landscape Mitigation and Tree Preservation Proposal	06/02/2004
3.	EM&A Manual	29/4/2004
4.	Revised Landscape Mitigation and Tree Preservation Proposal	15/05/2004
5.	Waste Management Plan	14/06/2004
6.	Final Method Statement detailing the protective measures on declared monument buildings	14/06/2004
7.	Final Landscape Mitigation and Tree Preservation Proposal	21/06/2004
8.	Baseline Monitoring Report	25/06/2004
9.	Monthly EM&A Report for June 2004	21/07/2004
10.	Revised EM&A Manual	26/07/2004
11.	Revised Landscape Mitigation and Tree Preservation Proposal	26/07/2004
12.	Revised Waste Management Plan	17/08/2004
13.	Monthly EM&A Report for July 2004	25/08/2004

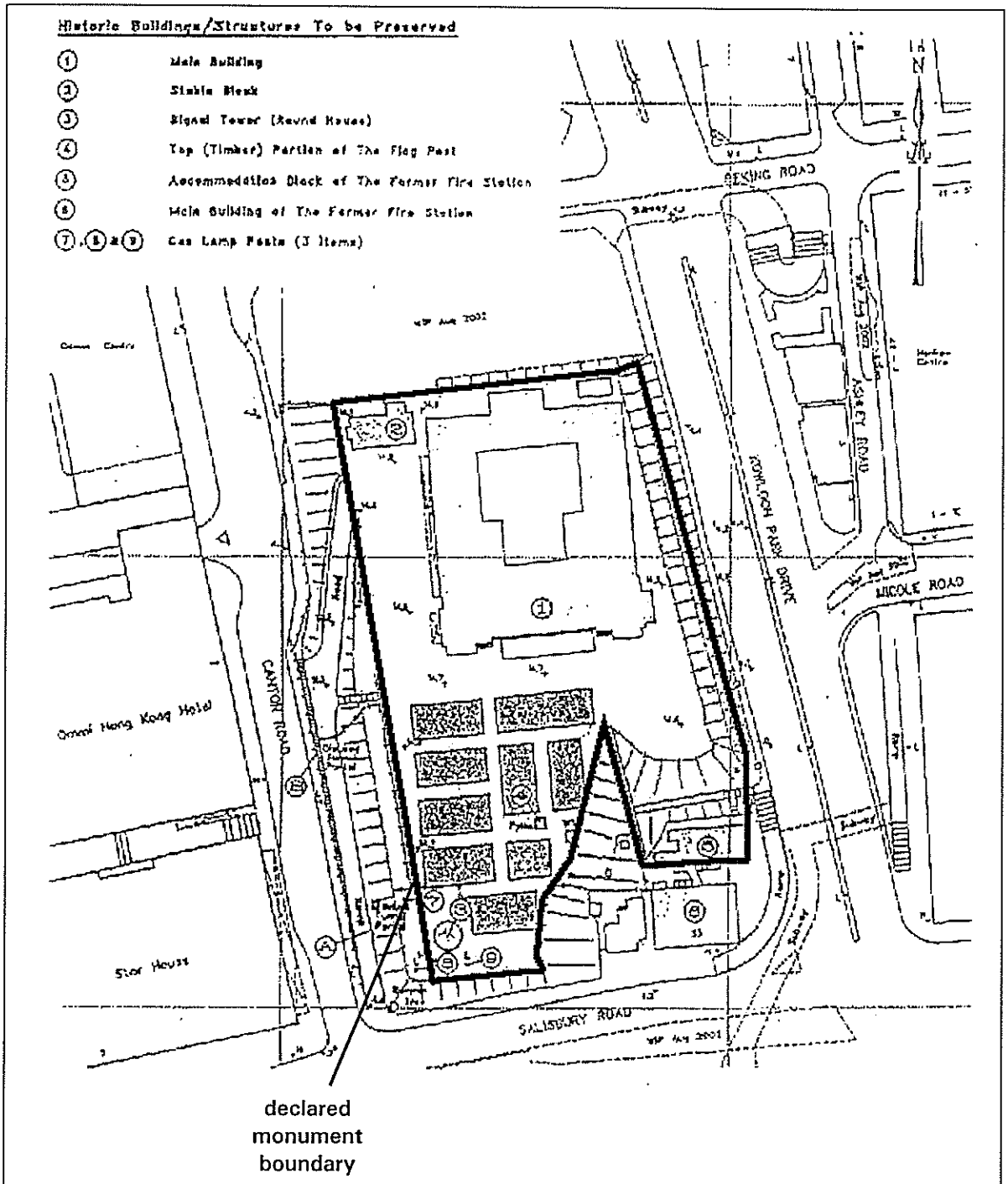

Figure 2.1	Location, site layout, historic buildings and structures to be preserved	Scale: N.T.S

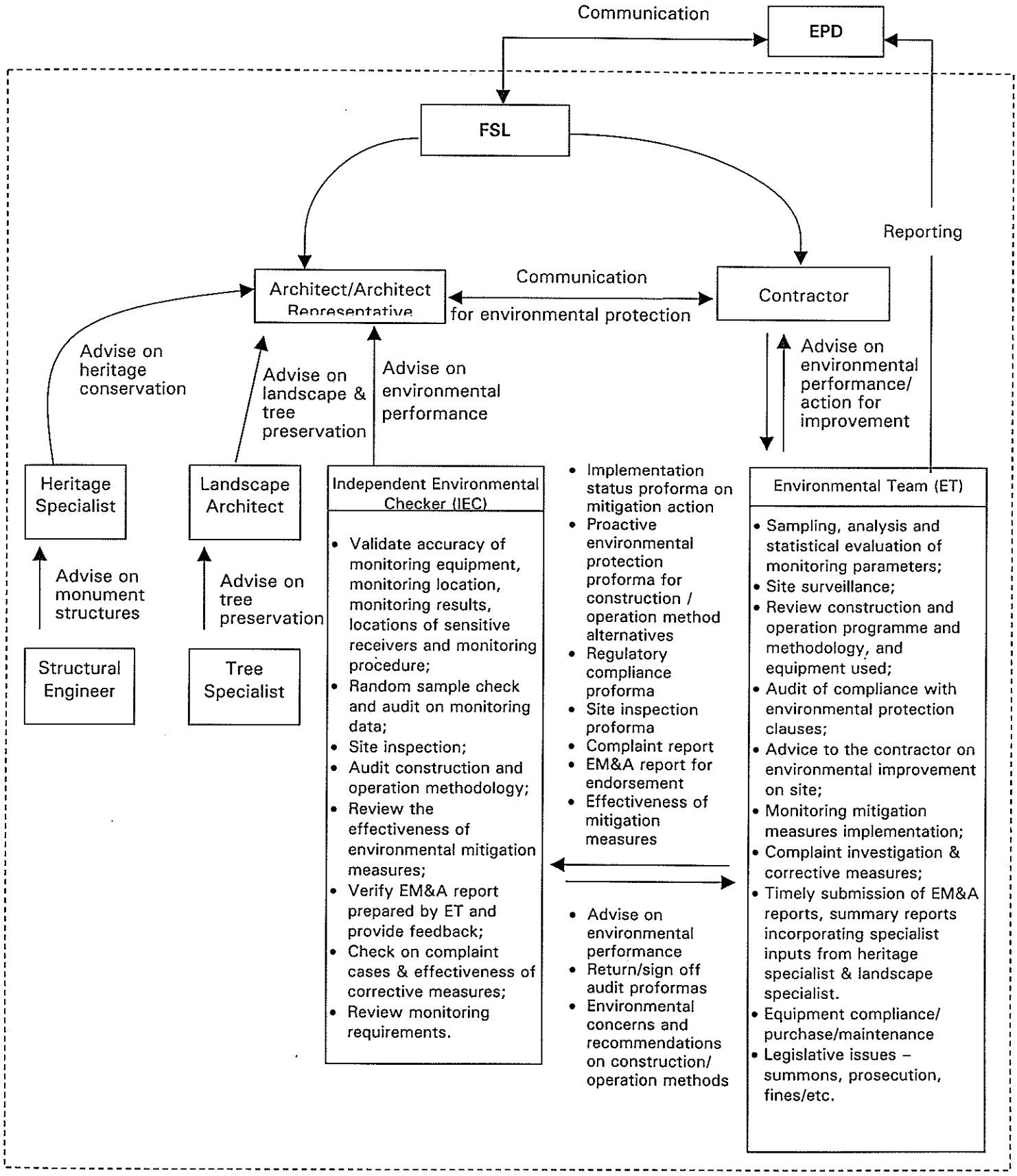

Figure 2.2 Project Organisation, Management & Lines of Communication

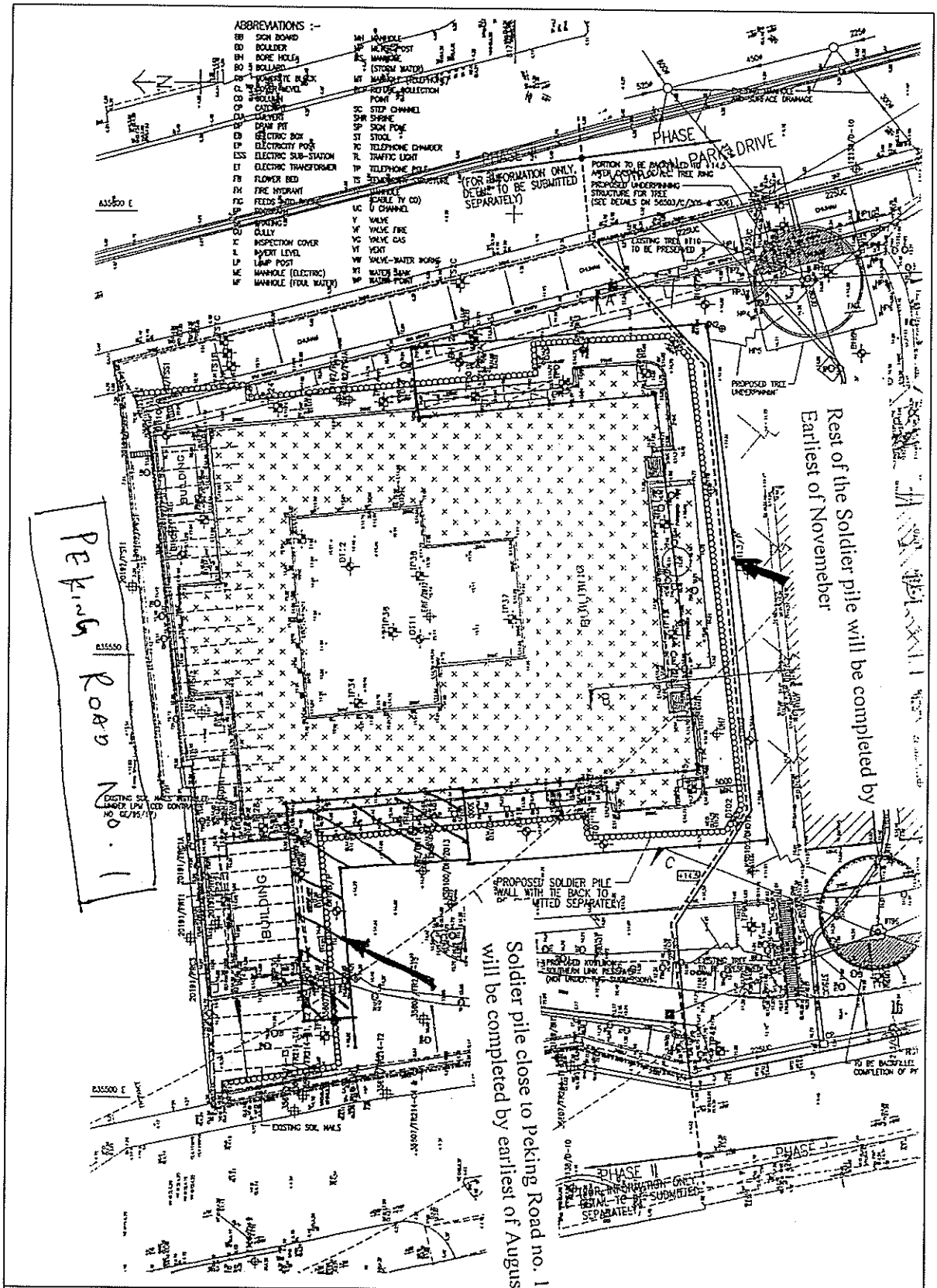

Figure 2.3 Main Piling Area of the Project Site in June - August 2004 | Scale: N.T.S

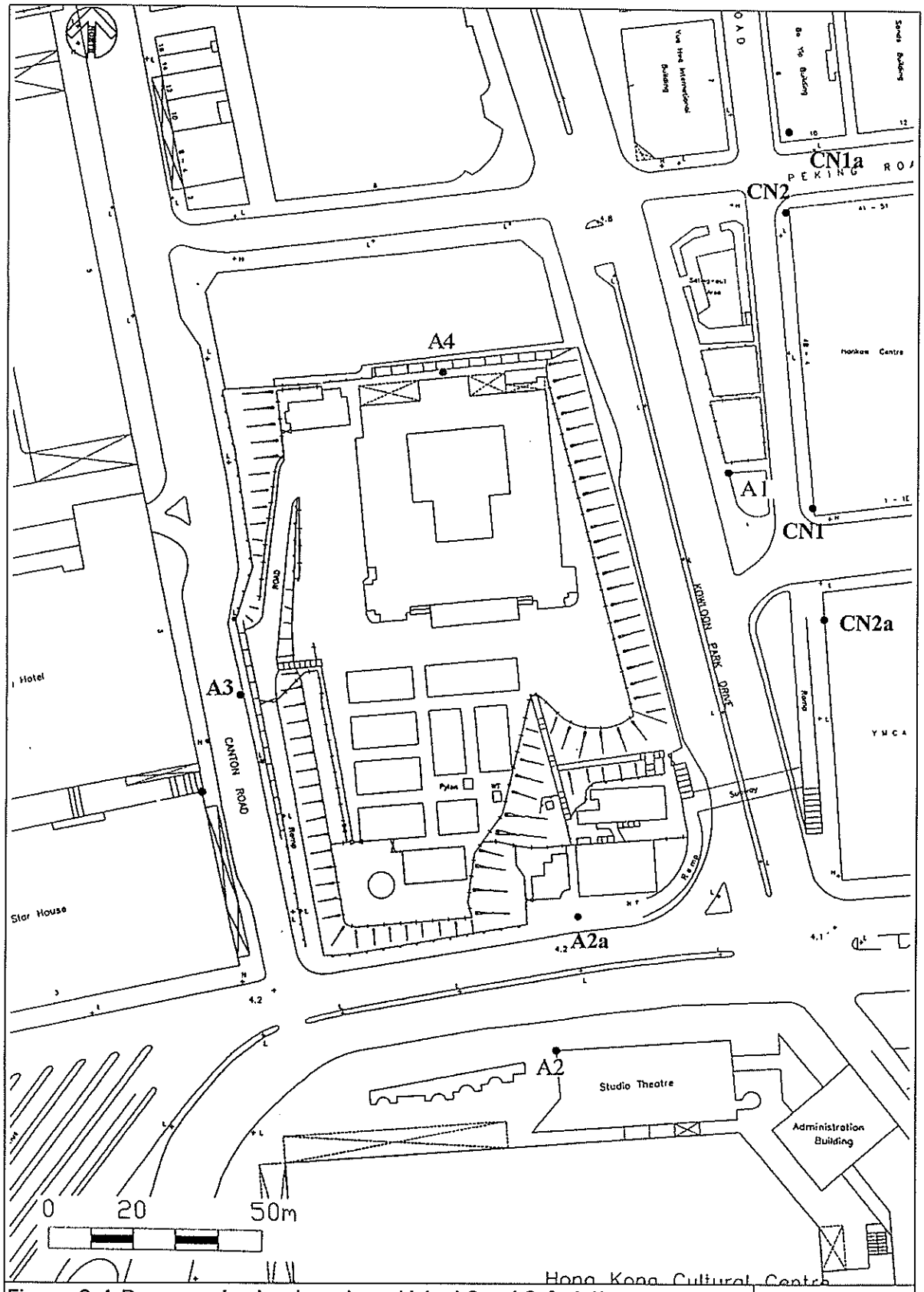

Figure 2.4 Dust monitoring locations (A1, A2a, A3 & A4), proposed noise monitoring locations (CN1 and CN2) and alternative noise monitoring locations (CN1a and CN2a).

Scale: N.T.S

3. Monitoring Results

Weather Condition

3.21 The weather during monitoring sessions was mainly sunny or cloudy. The weather conditions for each individual monitoring session were presented in the field record sheets.

Air Quality

3.22 The monitoring data of 1-hour and 24-hour TSP levels are attached in Appendices of the Monthly EM&A Reports for June to August 2004. The graphical presentations of the monitoring results are shown in Appendix C.

3.23 The summary of the air quality exceedances is attached in Appendix D.

3.24 All 1-hour and 24-hour TSP monitoring were conducted as scheduled in this reporting period. No AL Levels exceedance for 24-hour TSP was recorded in this reporting period.

3.25 Exceedances were recorded of the Limit Levels for 1-hour TSP on 19 August 2004 at the four designated monitoring locations A1, A2a, A3 & A4.

3.26 Site inspection on 19 August 2004 showed that there was nothing abnormal on site. The atmospheric dispersion characteristic was likely the main cause for elevated dust levels. Contractor has been remained to continue with dust suppression water spray and to cover dusty materials as far as practicable. Repeat measurement was carried out for 1-hour TSP on 20 August 2004 and the 1-hour TSP levels at the four designated locations were well within the AL Levels.

Noise

3.27 All noise monitoring for CN1a & CN2a were conducted as scheduled in this reporting period. Noise monitoring data are attached in Appendices of the Monthly EM&A Reports for June to August 2004. The graphical presentations of the monitoring results are shown in Appendix E.

3.28 Ground-borne noise measurements were also conducted inside HKCC and HKSM as scheduled in this reporting period. However, for HKCC, there is only Grand Theatre measurement for June and no vacant slot for July and August 2004. Detailed of measurement points in Grand Theatre are GT1 & GT2 and shown in the Appendix of EM&A Report for June 2004. Vacant slot was also not available for HKSM Sky Theatre in July 2004.

3.29 Summary of the noise exceedances is attached in Appendix D.

3.30 There were two noise complaints received by Environmental Protection Department on 24 June 2004 concerning the daytime piling noise from the site on 19 & 21 June 2004. It was confirmed that no percussive piling had been used or will be used on site. Only soldier piling was employed. It was also concluded that the piling noise was indeed audible at the complainant's location but not considered to be excessively severe. The complaint log is attached in Appendix of EM&A Report for June 2004.

Water Quality

3.31 The site was practicing zero effluent discharge with collection and reuse of wastewater on site before Wastewater Discharge Licence granted on 7 July 2004. There was no direct discharge from the construction site. Water quality monitoring is being carried out bi-monthly as required by the Licence.

3.32 Water sample was taken on 11 August 2004 and analysis showed that it was within the stipulated limit.

Cultural Heritage and Landscape

3.33 The monitoring results of monument structure in the period between June to August 2004 are presented in Appendices of the Monthly EM&A Reports for June to August 2004. No adverse comments on the structural integrity of the protected monuments have been received from the Heritage Specialist.

3.34 Photographic surveys of trees have been taken for June to August 2004 and are presented in Appendices of the Monthly EM&A Reports for June to August 2004. Regular inspections by the Landscape Architect were made and confirmed that the identification on site of the trees to be retained, transported and felled has been in accordance with the recommendations made in the Tree Preservation Proposal.

3.35 A part of aerial root of retained tree no. T54 was found damaged by client's landscape contractor on 13 July 2004 during pruning works and reinforcement was subsequently carried out.

4. Waste Management

4.21 According to the Waste Management Plan, all Construction & Demolition materials were recorded in the period between June to August 2004.

4.22 Types, quantities and disposal location of all surplus excavated materials and wastes arising from the site are summarised in Table 4.1 based on information from the Contractor. There were only general refuse and excavated soil disposal in June to August 2004.

Table 4.1 Summary of the wastes arising from the site from June to August 2004

Month	Quantity (tonnes)		Quantity (tonnes)	
	Soil	Disposal Location	General Refuse	Disposal Location
June 2004	35.11	TKO	0.72	SENT
July 2004	1041.58	TKO	46.83	SENT
August 2004	1303.78	TKO, SYP & TM	21.80	SENT

Note: TKO – Fill Bank at Tseung Kwan O Area 137 (Public Filling Facility)
SYP – Public filling barging point at Sai Ying Pun (Public Filling Facility)
TM – Fill Bank at Tuen Mun Area 38 (Public Filling Facility)
SENT – South East New Territories Landfill Site

4.23 In general, compliance with the Waste Management Plan ["WMP"] is met. Estimation of timber consumption has been submitted to AR on 13 August 2004 as required in the WMP. There was no timber consumption during reporting period and it is estimated that there will be no timber consumption for the construction activities to be carried out from August 2004 to the end of 2004. General refuse should also be cleared from site as far as practicable.

5. Summary of Non-compliance, Complaints, Notification of Summons and Successful Prosecutions, Environmental Licensing and Permitting

5.21 Two complaints were received by EPD on 24 June 2004 concerning the daytime piling noise from the Project site on 19 & 21 June 2004. These were due to soldier piling works but the noise was not excessive. Meeting was held with the complainant and the complaint was resolved. It was agreed to expedite the piling works and to ensure that the noise situation would not become worse.

5.22 Three exceedances of Limit level for 1-hour TSP at each of the four designated locations were found in 19 August 2004. Site inspection on 19 August 2004 showed that there was nothing abnormal on site. The atmospheric dispersion characteristic was likely the main cause for elevated dust levels. Contractor was reminded to continue with dust suppression water spray and to cover dusty materials as far as practicable. Repeat measurements were carried out on 20 August 2004 and the 1-hour TSP levels at the four designated locations were well within the Action and Limit Levels.

5.23 Detailed of the complaints and exceedances were shown in the log-books attached in the Appendices of the reporting period.

5.24 No environmental prosecution was received in the reporting period.

5.25 Status of environmental licensing and permitting can be summarized as follows:

Description	Permit / Licence No.	Status	Permit Holder
Environmental Permit	EP-184/2004	Remain valid since 9 February 2004	Flying Snow Ltd.
WPCO Discharge Licence	EP482/211/0863/I	Application made on 18 May 2004 and licence was granted on 7 July 2004 and valid till 31 July 2009	Konwall Construction & Engineering Co., Ltd.

6. Conclusion

6.1 EM&A work for June to August 2004 has been successfully completed. Two noise complaints for two separate days and exceedances of 1-hour TSP were found at all four designated location for one day.

6.2 The noise complaints were due to soldier piling works resolved with the complainant after meeting with them. Should the noise situation become worse, the complainant would contact the Project Manager for immediate attention. Meanwhile, the piling work is to be progressed as quickly as possible to minimize the duration of possible nuisance.

6.3 Exceedances of the 1-hour TSP were found on 19 August 2004. Atmospheric dispersion characteristic was likely the main cause for elevated dust levels and Contractor was reminded to continue with dust suppression water spray and to cover dusty materials as far as practicable. Repeat measurements were carried out on next day and the 1-hour TSP levels at the four designated locations were well within the Action and Limit Levels.

6.4 No exceedance of the 24-hour TSP and water quality levels found.

6.5 There were no notification of summons and prosecutions.

6.6 Monitoring of the monument structure and photographic survey of trees were also made. A record received on mid-July 2004 that a part of aerial root of retained tree no. T54 has been damaged by client's contractor during pruning works. Reinforcement was subsequently carried out.

6.7 It is estimated that there will be no timber consumption for the construction activities which are to be carried out from August 2004 to the end of 2004.

6.8 Prior to the construction works, a presentation to contractor staffs on the environmental protection requirements was made. Those staffs not present in the presentation should be separately briefed of the requirements. Site audits were carried out once per week. The conditions of the site were generally satisfactory. The followings are noted in the reporting period:

- Noise reduction mat was proposed and delivered to site. However, the length of the mat was not sufficient. Additional length has been provided to ensure full coverage of the eastern boundary of the site to enhance its noise mitigation effectiveness. More proper maintenance to close the gaps among the noise mats installed on the boundary of the site as far as practicable to prevent noise leaking towards sensitive receivers.

- The site is yet to install wheel washing bay. Wheel washing is now being carried out by manual water jets.

- Email communications for the project staff should be improved for more effective environmental management

- Continual protection of the preserved monuments and trees, in particular, the request of EPD to provide enforcement measures to protect trees especially during typhoon and insurance for protection or compensation of

trees to be seriously considered. Tree felling to be conducted in the coming months must be made with care.

Appendix A: The construction programme with milestones of environmental protection/mitigation activities

Phase	Description	Year 2004												Year 2005											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1	Site Formation																								
1.1	Site Formation - Tree Retaining Wall																								
1.2	Site Formation - Retaining wall for Main Building																								
1.3	Site Formation - Open Cut Excavation																								
1.4	Site Formation - Remaining Excavation																								
2	Building Foundation	*To be carried out by others*																							
3	Superstructure & Furnishing	*To be carried out by others*																							

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All mitigation measures in place except wheel washing pond & barrier met (7/6/2004)

↑

Sound barrier met ready (25/6/2004)

↑

Wheel washing pond provided (9/7/2004)

←——→ ↑

Zero discharge from site

Discharge Licence approval (9/7/2004)

Appendix B: Implementation schedule for recommended mitigation measures

Implementation Schedule
Redevelopment of Former Marine Police Headquarters, KIL11161

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	Fugitive Dust Impact on the Surrounding Sensitive Uses					
4.1.2.10	To erect site hoarding of at least 2.4m high along the boundaries of the Project Site (particularly along the northern boundary adjacent to No. 1, Peking Road) except at the site entrance/ exit	Site (site boundary)	Site Formation Contractor (for maintenance or improvement as the hoarding was already erected by the Hoarding Contractor earlier)	Construction Phase (prior to construction)	TM-EIA, APC(CD)R & AQO in APCO	To control fugitive dust emissions in accordance with the requirements of Air Pollution Control (Construction Dust) Regulation in principle; Provide shielding against dispersion of fugitive dust
	To control truck speed to within 8 km/hr and that dusty vehicle loads transported to and from the work location should be covered by tarpaulin sheets and should not be overloaded	Site	Site Formation Contractor	Construction Phase	TM-EIA, APC(CD)R & AQO in APCO	To control fugitive dust emissions in accordance with the requirements of Air Pollution Control (Construction Dust) Regulation in principle; Reduce fugitive emission wherever possible
	To provide vehicle wheel washing facilities including high pressure water jets at designated vehicle exit points	Site	Site Formation Contractor	Construction Phase	TM-EIA, APC(CD)R & AQO in APCO	To control fugitive dust emissions in accordance with the requirements of Air Pollution Control (Construction Dust) Regulation in principle; Reduce fugitive emission wherever possible
	To use impervious sheeting where practicable for side enclosure and covering of any aggregate or other dusty material storage piles, to place stockpiles in an area sheltered on the top and the three sides, and/or to spray with water	Site	Site Formation Contractor	Construction Phase	TM-EIA, APC(CD)R & AQO in APCO	To control fugitive dust emissions in accordance with the requirements of Air Pollution Control (Construction Dust) Regulation in principle; Reduce fugitive emission wherever possible

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	To cover the demolished items by impervious sheeting or to place in area sheltered on the top and the three sides within a day of demolition.	Site	Site Formation Contractor	Construction Phase	TM-EIA, APC(CD)R & AQO in APCO	To control fugitive dust emissions in accordance with the requirements of Air Pollution Control (Construction Dust) Regulation in principle; Reduce fugitive emission wherever possible
	To spray all dusty material with water prior to loading, unloading or transfer so as to maintain the C&D material wet	Site	Site Formation Contractor	Construction Phase	TM-EIA, APC(CD)R & AQO in APCO	To control fugitive dust emissions in accordance with the requirements of Air Pollution Control (Construction Dust) Regulation in principle; Reduce fugitive emission wherever possible
	To apply wet suppression at least four times per day at the worksites with active dusty operations and to water all dust emission sources when necessary. The frequency shall be increased when the weather is dry	Site	Site Formation Contractor	Construction Phase	TM-EIA, APC(CD)R & AQO in APCO	To control fugitive dust emissions in accordance with the requirements of Air Pollution Control (Construction Dust) Regulation in principle; Reduce fugitive emission wherever possible
	To control the drop height of excavated materials to a minimum to limit fugitive dust generation from unloading as far as practicable	Site	Site Formation Contractor	Construction Phase	TM-EIA, APC(CD)R & AQO in APCO	To control fugitive dust emissions in accordance with the requirements of Air Pollution Control (Construction Dust) Regulation in principle; Reduce fugitive emission wherever possible
5.2.1.3	To carry out EM&A programme	Site	Site Formation Contractor & Superstructure Contractor	Pre-Construction and Construction Phase	TM-EIA & AQO in APCO	To proactively monitor fugitive dust impact and take necessary action against any unacceptable impact

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	Construction Noise Impact on the Surrounding Sensitive Uses					
4.2.1.5	To restrict operation to within non-restricted hours only	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	NCO	To avoid generation of noise during restricted hours under NCO
4.2.1.11	To use quiet PME with lower sound power level	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	TM-EIA	To reduce noise generation and in turn the construction noise impact
	To provide site hoarding of 4m to 6m high along the eastern boundary with sufficient surface density (10 to 15 kg/m^2), use of noise curtain or other mitigation measures for noise abatement as soon as Action Level is exceeded and confirmed to be due to the construction works	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	TM-EIA	To provide noise shielding or equivalent measures to reduce construction noise impact as per @ or equivalent subject to IEC/ AR's agreement.
	To adopt noise enclosure and temporary noise barriers with sufficient surface density (10 to 15 kg/m^2) (vertical and cantilevered types)	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	TM-EIA	To provide noise shielding to reduce construction noise impact or equivalent measures subject to IEC/ AR's agreement.
	To make use of the topography by carrying out excavation from west to east so that the original platform can act as effective noise barrier	Site	Site Formation Contractor	Construction	TM-EIA	To provide noise shielding to reduce construction noise impact or equivalent measures subject to IEC/ AR's agreement.

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
4.2.1.12	To implement good site practice and noise management ▪ To submit to the Engineer for approval the method of working, equipment and sound-reducing measures intended to be used at the site before the commencement of any work ▪ To allow only well-maintained plants to operate on-site; ▪ To service the plants regularly during the construction program; ▪ To shut down or throttle down machines that may be in intermittent use to a minimum between work periods; ▪ To utilize and maintain silencer and mufflers on construction equipment during the construction program; ▪ To schedule noisy activities to minimise exposure of nearby NSRs to high levels of construction noise. For example, noisy activities can be scheduled for midday or at times coinciding with periods of high background noise (such as during peak traffic hours); ▪ To site noisy equipment such as emergency generators as far away as possible from NSRs; ▪ To site mobile plants as far away from NSRs as possible; and ▪ To utilize material stockpiles and other structures as noise barrier, where practicable.	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	NCO & TM-EIA	To reduce noise generation and its impact in accordance with NCO and its subsidiary regulations

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
4.2.1.23	No percussive piling	Site	Site Formation Contractor	Construction Phase	TM-EIA & NCO	To eliminate possibility of generating any significant ground borne noise impact
4.2.1.81	To avoid concurrent pipe piles driving near the tree ring and the Main Building when the pipes near the Main Building is about to penetrate the bedrock	Site	Site Formation Contractor	Construction Phase	TM-EIA & NCO	To avoid adverse cumulative ground borne noise impact
	To conduct on-site noise measurement at the HKCC and the HKSM when the works at the FMPH commences to verify the level of transmitted ground-borne noise	Site	Site Formation Contractor	Construction Phase	TM-EIA & NCO	To avoid adverse cumulative ground borne noise impact
	To establish a communication channel with HKCC and HKSM to stagger, if necessary, the ground-borne noise causing construction activities to avoid clashing with hours of performance at both venues	Site	Site Formation Contractor	Construction Phase	TM-EIA & NCO	To avoid adverse cumulative ground borne noise impact
5.2.1.3	To carry out EM&A program	Site	Site Formation Contractor & Superstructure Contractor	Pre-Construction and Construction Phase	TM-EIA	To proactively monitor construction noise impact and take necessary action against any unacceptable impact

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	Construction Phase Water Quality Impact					
4.3.1.7	To carry out the Works in such a manner as to minimize adverse impacts on the water quality during execution of the works. In particular he shall arrange his method of working to minimize the effects on the water quality within and outside the Site, on the transport routes and at the loading, dredging and dumping areas.	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	WPCO	To comply with the Water Pollution Control Ordinance and its subsidiary regulation.
	To follow the practices, and be responsible for the design, construction, operation and maintenance of all the mitigation measures as specified in the Professional Persons Environmental Consultative Committee Practice Note (ProPECC PN) 1/94 "Construction Site Drainage" issued by the Director of Environmental Protection. The design of the mitigation measures shall be submitted by the Contractor to the Engineer for approval.	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	ProPECC PN1/94 & WPCO	To comply with the Water Pollution Control Ordinance and its subsidiary regulation.
	To contain within the Site all surface runoff generated from foundation works, dust control and vehicle washing, etc.	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	WPCO	To comply with the Water Pollution Control Ordinance and its subsidiary regulation.

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	To avoid discharge directly or indirectly or cause or permit or suffer to be discharged into any public sewer, stormwater drain, channel, stream-course or sea any trade effluent or foul or contaminated water or cooling or hot water without the prior written consent of the Engineer in consultation with the Director of Environmental Protection and Director of Water Supplies, who may as a condition of granting his consent require the Contractor to provide, operate and maintain at the Contractor's own expense to the satisfaction of the Engineer suitable works for the treatment and disposal of such trade effluent or foul or contaminated or cooling or hot water. [The design of such treatment works shall be submitted to the Engineer for approval not less than one month before the commencement of the relevant works.]	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	WPCO	To comply with the Water Pollution Control Ordinance and its subsidiary regulation.
	To direct foul water effluent to a foul sewer or to a sewage treatment and disposal facility either directly or indirectly by means of pumping or other means approved by the Engineer if any office, site canteen or toilet facilities is erected	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	WPCO	To comply with the Water Pollution Control Ordinance and its subsidiary regulation.

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	Operational Phase Water Quality Impact					
4.3.2.1	To discharge sewage/wastewater generated from the Project to the nearby public sewers	Site	Project Proponent/Operator	Design / Operational Phase	WPCO	To meet the requirement as stipulated in the Technical Memorandum on Water Pollution Control Ordinance
	Waste Management					
4.5.1.7	To minimize the production of construction waste through careful design, planning, good site management, and control of ordering procedures, segregation and reuse of materials; To arrange for private contractors to collect used formwork materials for reuse.	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	WDO	To follow relevant regulations (Waste Disposal Ordinance) in all circumstances.
4.5.1.8	To dispose of any chemical wastes such as lubricating oil or solvent in strict accordance with the Waste Disposal (Chemical Waste) (General) Regulation	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	WDO	To follow relevant regulations (Waste Disposal Ordinance) in all circumstances.
4.5.1.9	To assign a reliable waste collector to collect general refuse generated from the construction site on a daily basis to minimise the potential odour, pest and litter impacts.	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	WDO	To follow relevant regulations (Waste Disposal Ordinance) in all circumstances.
4.5.2.1	To identify requirements on proper waste management for implementation during the operation of the Project	Site	Operator	Operational Phase	WDO	To follow relevant regulations (Waste Disposal Ordinance) in all circumstances.

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	Construction Phase Landscape and Visual Impact					
4.6.2.2	To screen the works area during the construction phase through the use of decorative hoarding along the site boundary with unified edge treatment and interface	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	A&MO, TM-EIA, Project Profile ["PP"], Landscape Mitigation and Tree Preservation Proposal ["LMTPP"] & WBTC No. 14/2002	Interim measures designed to ensure acceptable landscape and visual impact on completion. Implementation of the LMTPP to the mature trees during the construction period.
4.6.2.11	Creation of precautionary area (Cordon Area) around trees to be retained equal to the spread of the trees canopy diameter. Precautionary area to be fenced. Following the completion of the piling the Cordon Area would be based on the retained rootball.	Site	Specialist Landscape Contractor	Construction Phase	A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Interim measures designed to ensure acceptable landscape and visual impact on completion. Implementation of the LMTPP to the mature trees during the construction period.
	Prohibition of the storage of materials including fuel, the movement of construction vehicles, and the refuelling and washing of equipment including concrete mixers within the Cordon Area.	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Interim measures designed to ensure acceptable landscape and visual impact on completion. Implementation of the LMTPP to the mature trees during the construction period.

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	Phased segmental root pruning for trees to be retained over a six-month period prior to or site formation works, which affect the existing rootball of trees identified for retention. The extent of the pruning shall be based on a minimum half canopy and has been determined on a tree by tree basis. Phased segmental root pruning over a three-month period prior to lifting the tees identified for transplantation.	Site	Specialist Landscape Contractor	Construction Phase	A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Interim measures designed to ensure acceptable landscape and visual impact on completion. Implementation of the LMTPP to the mature trees during the construction period.
	Pruning of the branches of existing trees identified for transplantation and retention to be based on the principle of crown thinning maintaining their form and amenity value	Site	Specialist Landscape Contractor	Construction Phase	A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Interim measures designed to ensure acceptable landscape and visual impact on completion. Implementation of the LMTPP to the mature trees during the construction period.
	The watering of existing vegetation particularly during periods of excavation when the water table beneath the existing vegetation is lowered.	Site	Specialist Landscape Contractor	Construction Phase	A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Interim measures designed to ensure acceptable landscape and visual impact on completion. Implementation of the LMTPP to the mature trees during the construction period.
	The rectification and repair of damaged vegetation following the construction phase to it's original condition prior to the commencement of the works or replacement using specimens of the same species, size and form where appropriate to the design intention of the area affected	Site	Specialist Landscape Contractor	Construction Phase	A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Interim measures designed to ensure acceptable landscape and visual impact on completion. Implementation of the LMTPP to the mature trees during the construction period.
	All works affecting the trees identified for retention and transplantation will be carefully monitored. This includes the key stages in the preparation of the trees, the implementation of protection measures and health monitoring through out the construction period	Site	Specialist Landscape Contractor	Construction Phase	A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Interim measures designed to ensure acceptable landscape and visual impact on completion. Implementation of the LMTPP to the mature trees during the construction period.

Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	The tree transplanting and planting works should be implemented by approved Landscape Contractors and inspected and approved on site by a qualified Landscape Architect. A tree protection / transplanting specification would be included within the contract documents. Tree preservation proposals and procedures for the protection and preservation of the existing trees to be reviewed by third party Tree Specialist including the provision of an additional level of monitoring during the construction phase.	Site	Specialist Landscape Contractor	Construction Phase	A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Interim measures designed to ensure acceptable landscape and visual impact on completion. Implementation of the LMTPP to the mature trees during the construction period.
	Operational Phase Landscape and Visual Impact					
4.6.3.4	To retain trees that have historic value and contribute most to the landscape and visual amenity of the site and its immediate environs	Site	Project Proponent/ Operator	Design, Construction and Operational Phase	TPO, A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Long term measures deigned to ensure creation of a high quality urban landscape
4.6.3.5	To restore the main buildings and to create landscaped gardens in order to beneficially affect the landscape character and quality of the area	Site	Project Proponent/ Operator	Design, Construction and Operational Phase	TPO, A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Long term measures deigned to ensure creation of a high quality urban landscape
	To create the plaza to the south of the main colonial buildings to increase public access to the site and to open up views of the building façade	Site	Project Proponent/ Operator	Design, Construction and Operational Phase	TPO, A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Long term measures deigned to ensure creation of a high quality urban landscape
	To provide where conditions allow new street planting along Canton Road, from No. 1 Peking Road to the intersection at Salisbury Road, and along the Salisbury Road frontage in order to create a boulevard type landscape to partially screen the development, and to enhance the green edge effect that is a dominant feature of both the site and its urban context.	Site	Project Proponent/ Operator	Design, Construction and Operational Phase	TPO, A&MO, TM-EIA, PP, LMTPP & WBTC No. 14/2002	Long term measures deigned to ensure creation of a high quality urban landscape

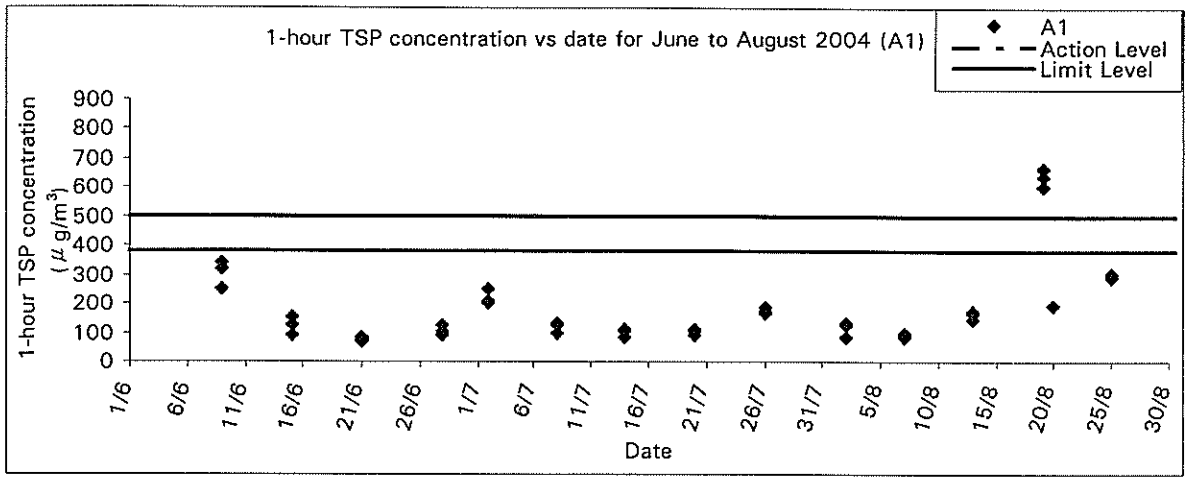
Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	To conduct new paving works at the street level as a result of the development and the widening of Canton Road which will lead to a significant improvement in the landscape and visual amenity of the streetscape within the study area	Site	Project Proponent/ Operator	Design, Construction and Operational Phase	TPO, A&MO, TM-EIA, PP	Long term measures deigned to ensure creation of a high quality urban landscape
	Detailed landscape and tree preservation proposals will be submitted to the relevant government departments for approval under the lease conditions and in accordance with WBTC No. 14/2002.	Site	Project Proponent/ Operator	Design, Construction and Operational Phase	TPO, A&MO, TM-EIA, PP & WBTC No. 14/2002	Long term measures deigned to ensure creation of a high quality urban landscape
4.6.3.8	All landscape and visual mitigation works will be funded, implemented managed and maintained by the project proponent.	Site	Project Proponent/ Operator	Design, Construction and Operational Phase	TPO, A&MO, TM-EIA, PP & WBTC No. 14/2002	Long term measures deigned to ensure creation of a high quality urban landscape
	A qualified or registered landscape architect will be involved in the design, construction supervision and monitoring, and maintenance period to oversee the implementation of the recommended landscape and visual mitigation measures including the tree preservation and landscape works on site. Tree preservation proposals to be reviewed by third party Tree Specialist including monitoring during the establishment period.	Site	Project Proponent/ Operator	Design, Construction and Operational Phase	TPO, A&MO, TM-EIA, PP & WBTC No. 14/2002	Long term measures deigned to ensure creation of a high quality urban landscape

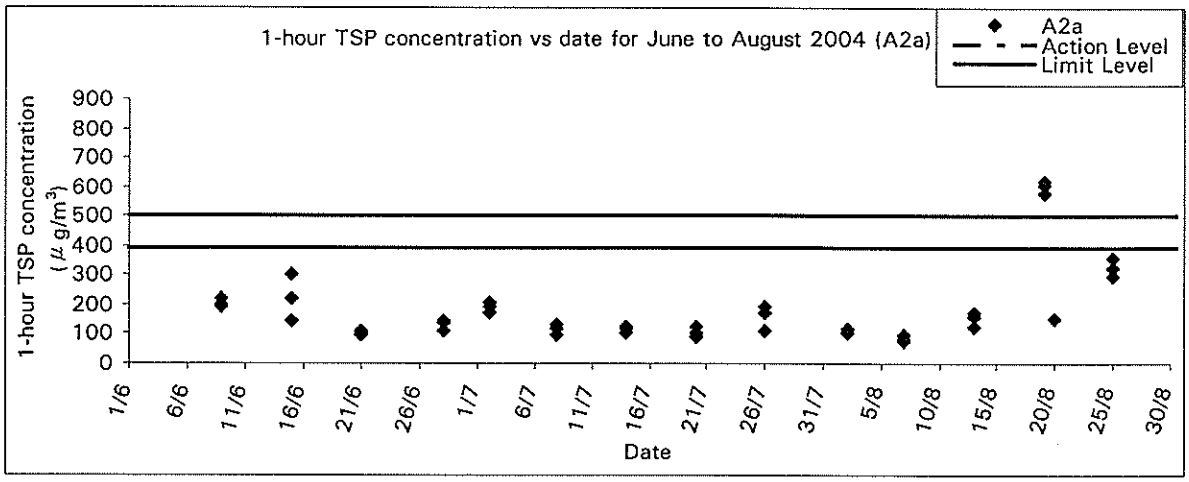
Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
	Cultural Heritage Impact					
4.7.1.1	All monuments within the site will be preserved to an extent given according to the in the tender requirement	Site	Project Proponent	Design, Construction and Operational Phase	Tender Document	To preserve the monument
4.7.4.1	To prepare and submit a detailed study report comprising the historic archives, measured drawings, photographic records and full bibliography in support of the historic evidence prepared by experts in cultural heritage for their approval under the Antiquities and Monuments Ordinance (Cap. 53)	Site	Project Proponent	Design Phase	A&MO	To observed principles in the Charter of Venice (ICOMOS) and the Burra Charter (ICOMOS Australia) and requirement of A&MO
4.7.4.2	To submit detailed descriptions, plans for building and mitigation works and implementation programme to AMO for their approval and monitoring before commencement of works.	Site	Project Proponent	Design Phase	A&MO	To observed principles in the Charter of Venice (ICOMOS) and the Burra Charter (ICOMOS Australia) and requirement of A&MO
4.7.4.3	To preserve the Historic Buildings to meet international standard. Relevant legislations, standards, Charters and planning guidelines will be observed.	Site	Project Proponent	Design, Construction & Operational Phase	A&MO	To observed principles in the Charter of Venice (ICOMOS) and the Burra Charter (ICOMOS Australia) and requirement of A&MO
4.7.4.4	To allow only alteration or addition works to the Historic Buildings, which are reversible except those, considered to be minor by AMO.	Site	Superstructure Contractor	Construction Phase	A&MO	To observed principles in the Charter of Venice (ICOMOS) and the Burra Charter (ICOMOS Australia) and requirement of A&MO
4.7.4.5	To take necessary precautions during construction and excavation work to prevent any damage to the Historic Buildings. Structural monitoring system will be designed and supervised by a Registered Structural Engineer during the whole of construction works on the site.	Site	Site Formation Contractor & Superstructure Contractor	Construction Phase	A&MO	To prevent any damage to the historic buildings and structures during the site formation.

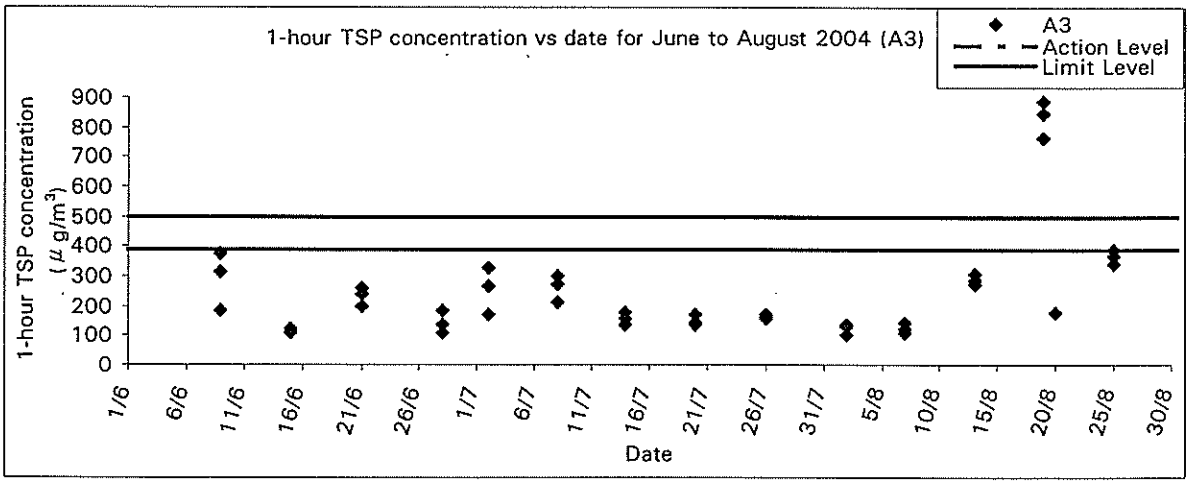
Project Profile Ref.:	Recommended Mitigation Measures	Location of the measure	Who to implement the measure	When to implement the measures	What requirements or standards for the measure to achieve*	Objectives of the Recommended Measure & Main Concern to address
4.7.4.8	A comprehensive management plan including a heritage building maintenance guideline for the operation of FMPHQ would be prepared by conservation experts.	Site	Agent appointed by Project Proponent	Prior to Operational Phase	A&MO	To maintain the historic site and buildings in a proper manner
4.7.4.9	Periodic site inspection to heritage buildings on external areas, interior decoration and covered-up areas to ensure a constant monitoring of building condition is conducted.	Site	Agent appointed by Project Proponent	Operational Phase	A&MO	To maintain the historic site and buildings in a proper manner
4.7.4.10	The Permit on routine maintenance would be applied to AMO under the A & M Ordinance.	Site	Agent appointed by Project Proponent	Operational Phase	A&MO	To maintain the historic site and buildings in a proper manner

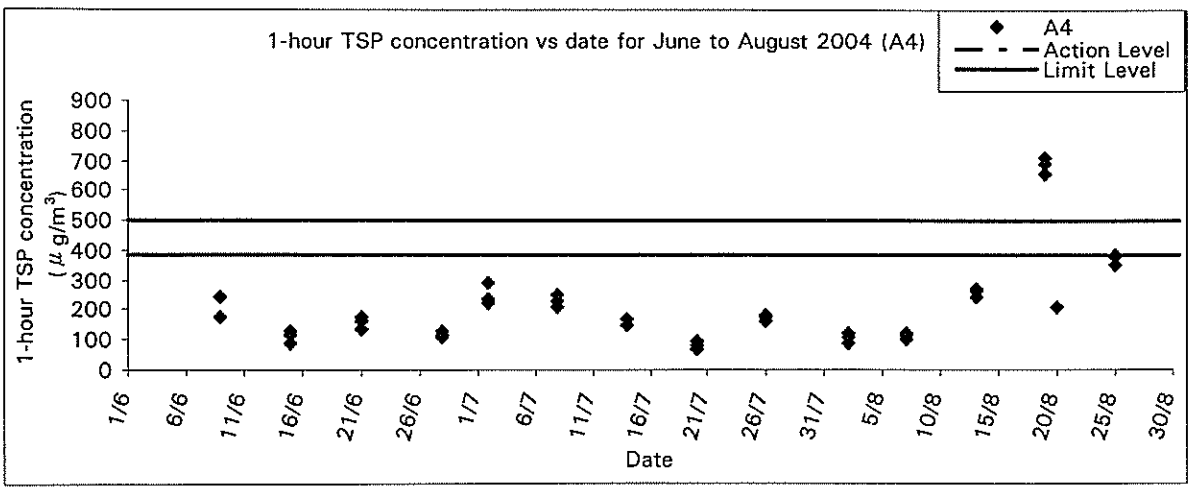
*Abbreviation
TM-EIA – Technical Memorandum on Environmental Impact Assessment Process
AQO – Air Quality Objectives
APCO – Air Pollution Control Ordinance
APC(CD)R - Air Pollution Control (Construction Dust) Regulation
HKPSG – Hong Kong Planning Standards and Guidelines
TPO – Town Planning Ordinance
NCO – Noise Control Ordinance
WPCO – Water Pollution Control Ordinance
PN1/94 - Professional Persons Environmental Consultative Committee Practice Note (ProPECC PN) 1/94 "Construction Site Drainage"
WDO – Waste Disposal Ordinance
A&MO - Antiquities and Monuments Ordinance

Appendix C: Graphical presentations of the air impact monitoring results


1-hour TSP concentration vs date for June to August 2004 (A1)
A1
Action Level
Limit Level
1-hour TSP concentration (μg/m³)
900
800
700
600
500
400
300
200
100
0
1/6
6/6
11/6
16/6
21/6
26/6
1/7
6/7
11/7
16/7
21/7
26/7
31/7
5/8
10/8
15/8
20/8
25/8
30/8
Date


1-hour TSP concentration vs date for June to August 2004 (A2a)
A2a
Action Level
Limit Level
1-hour TSP concentration (μg/m³)
900
800
700
600
500
400
300
200
100
0
1/6
6/6
11/6
16/6
21/6
26/6
1/7
6/7
11/7
16/7
21/7
26/7
31/7
5/8
10/8
15/8
20/8
25/8
30/8
Date


1-hour TSP concentration vs date for June to August 2004 (A3)
A3
Action Level
Limit Level
1-hour TSP concentration (μg/m³)
900
800
700
600
500
400
300
200
100
0
1/6
6/6
11/6
16/6
21/6
26/6
1/7
6/7
11/7
16/7
21/7
26/7
31/7
5/8
10/8
15/8
20/8
25/8
30/8
Date


1-hour TSP concentration vs date for June to August 2004 (A4)
A4
Action Level
Limit Level
1-hour TSP concentration (μg/m³)
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800
700
600
500
400
300
200
100
0
1/6
6/6
11/6
16/6
21/6
26/6
1/7
6/7
11/7
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21/7
26/7
31/7
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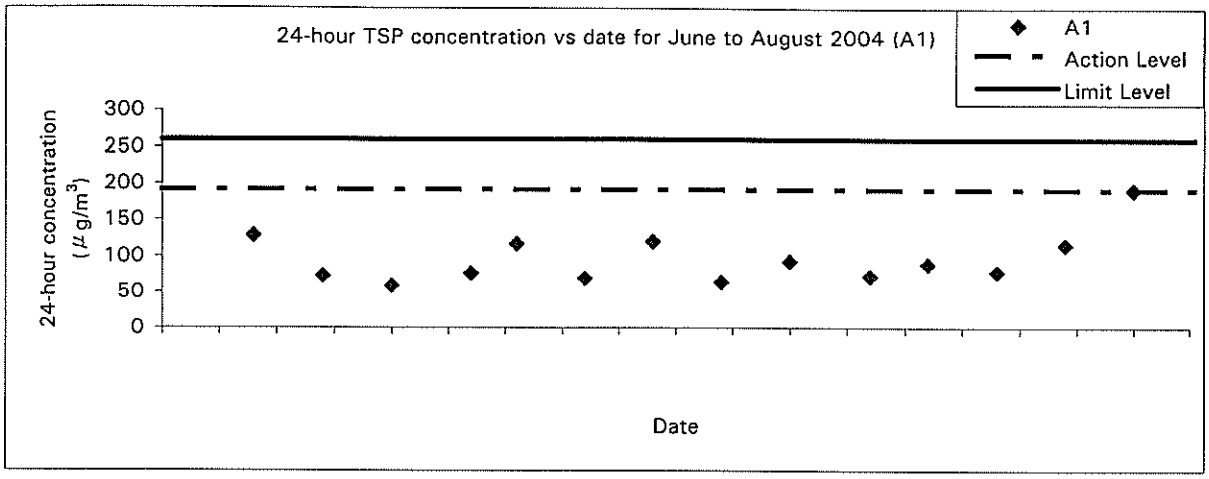
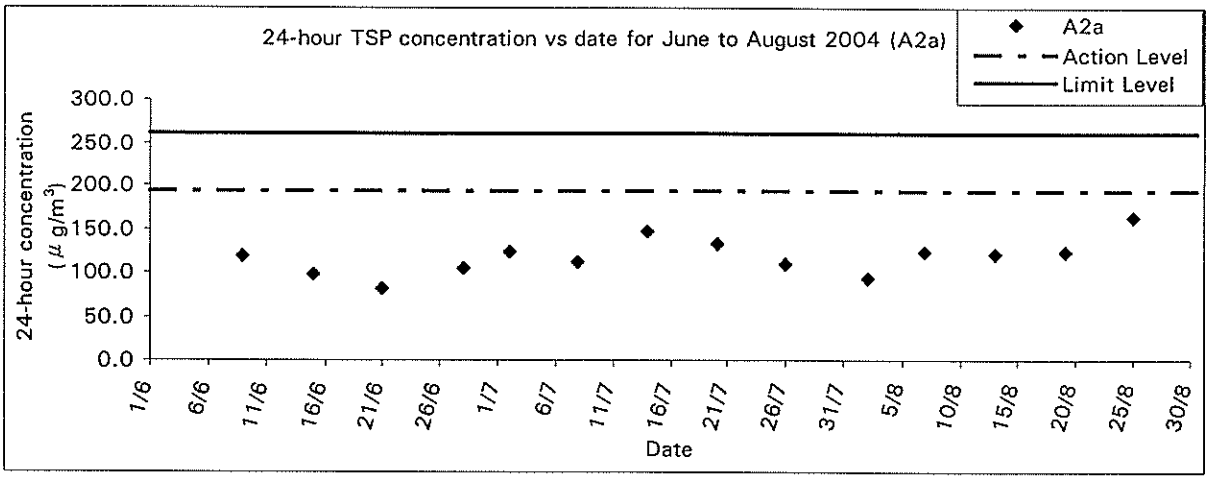
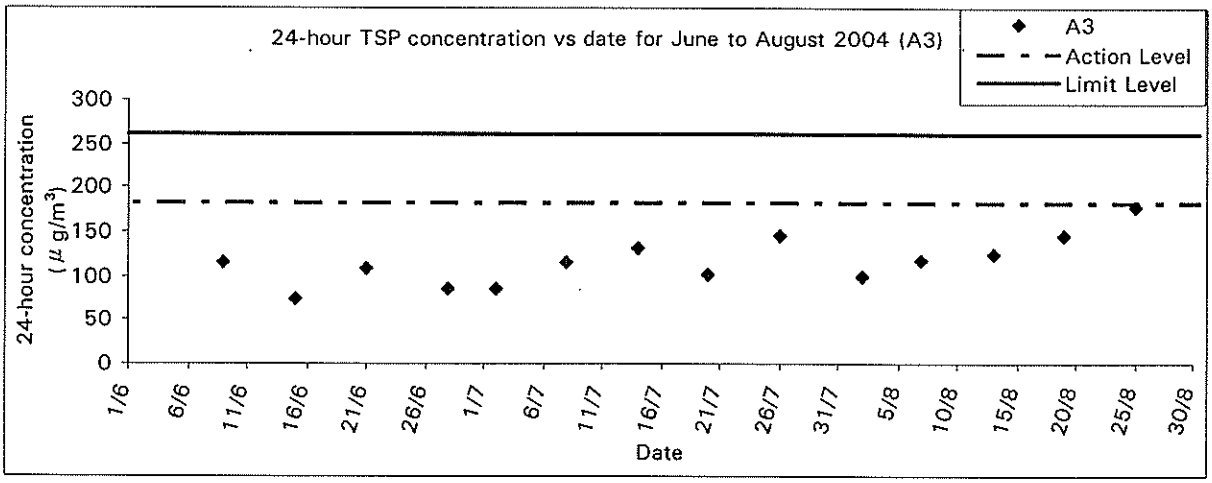
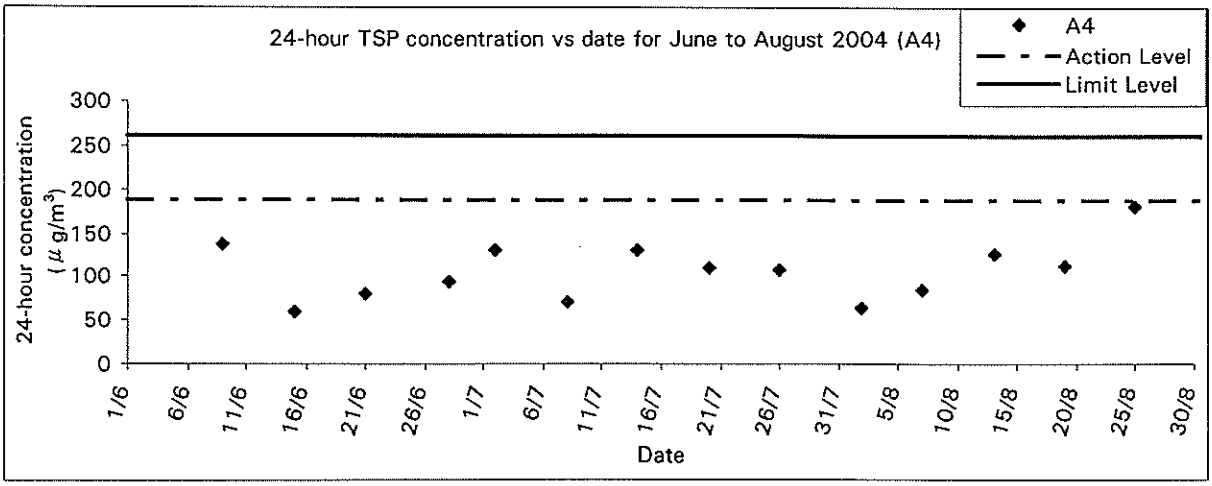
15/8
20/8
25/8
30/8
Date


24-hour TSP concentration vs date for June to August 2004 (A1)
A1
Action Level
Limit Level
24-hour concentration (μg/m3)
300
250
200
150
100
50
0
Date


24-hour TSP concentration vs date for June to August 2004 (A2a)
A2a
Action Level
Limit Level
24-hour concentration (μg/m3)
300.0
250.0
200.0
150.0
100.0
50.0
0.0
1/6
6/6
11/6
16/6
21/6
26/6
1/7
6/7
11/7
16/7
21/7
26/7
31/7
5/8
10/8
15/8
20/8
25/8
30/8
Date

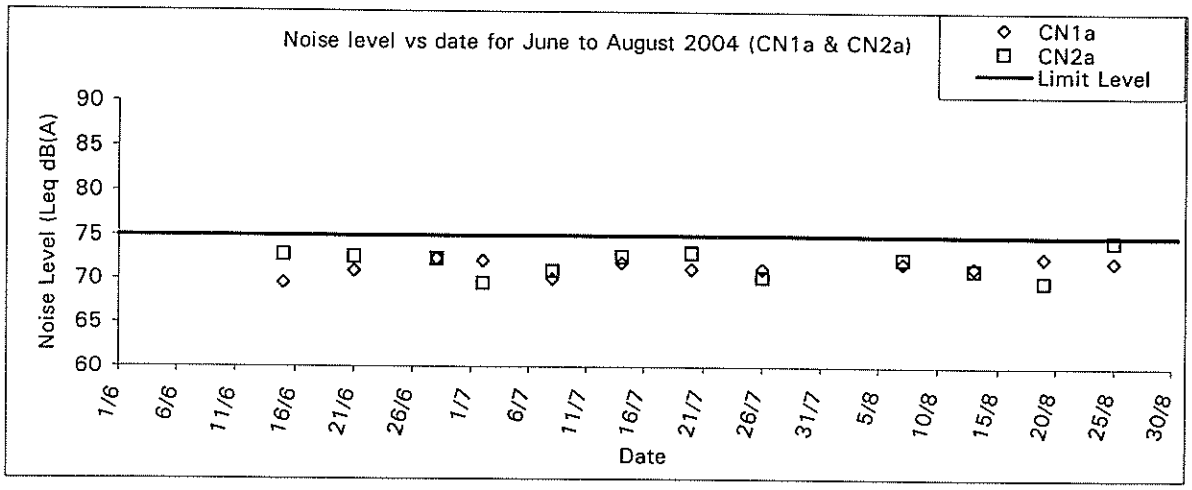

24-hour TSP concentration vs date for June to August 2004 (A3)
A3
Action Level
Limit Level
24-hour concentration (μg/m3)
300
250
200
150
100
50
0
1/6
6/6
11/6
16/6
21/6
26/6
1/7
6/7
11/7
16/7
21/7
26/7
31/7
5/8
10/8
15/8
20/8
25/8
30/8
Date

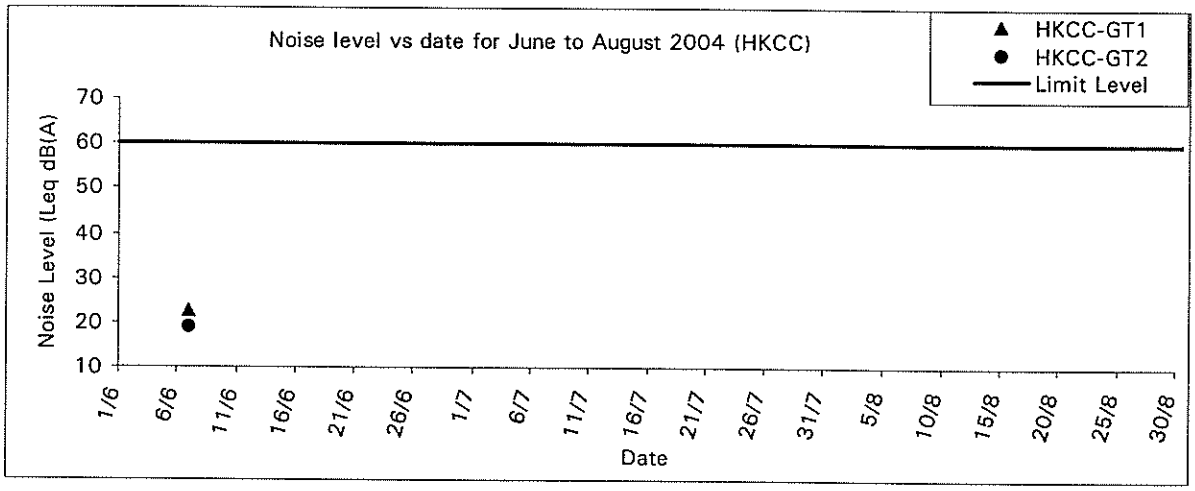

24-hour TSP concentration vs date for June to August 2004 (A4)
A4
Action Level
Limit Level
24-hour concentration (μg/m3)
300
250
200
150
100
50
0
1/6
6/6
11/6
16/6
21/6
26/6
1/7
6/7
11/7
16/7
21/7
26/7
31/7
5/8
10/8
15/8
20/8
25/8
30/8
Date

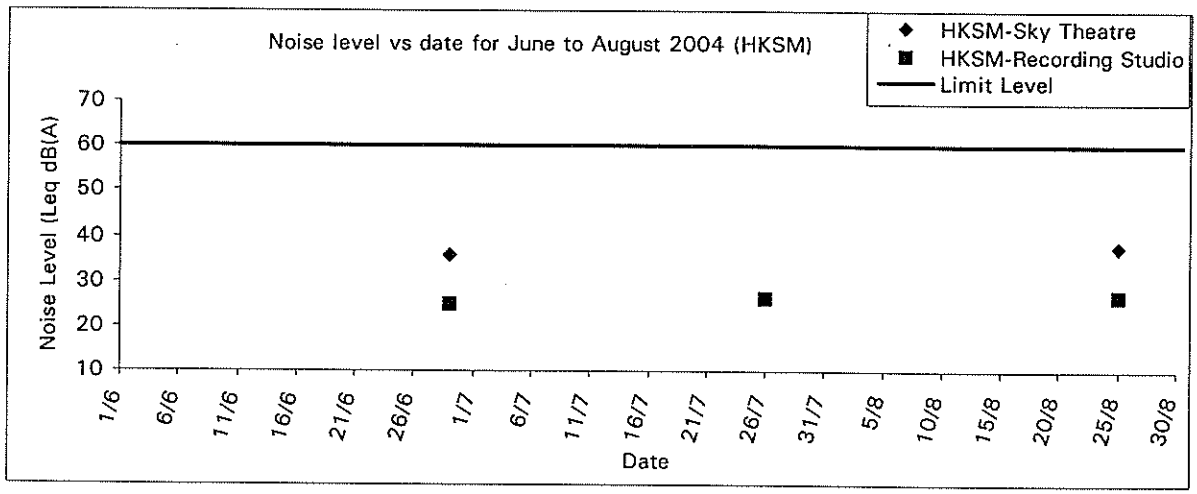
Appendix D: Summary of exceedance

Parameter	Location	Monitoring Period	No. of Exceedance(s)	
			Action Level	Limit Level
Air (1-hour TSP)	A1	01/6/2004 – 31/8/2004	0	3
	A2a	01/6/2004 – 31/8/2004	0	3
	A3	01/6/2004 – 31/8/2004	0	3
	A4	01/6/2004 – 31/8/2004	0	3
Air (24-hour TSP)	A1	01/6/2004 – 31/8/2004	0	0
	A2a	01/6/2004 – 31/8/2004	0	0
	A3	01/6/2004 – 31/8/2004	0	0
	A4	01/6/2004 – 31/8/2004	0	0
Noise	CN1a	01/6/2004 – 31/8/2004	2	0
	CN2a	01/6/2004 – 31/8/2004		0
	HKSM	01/6/2004 – 31/8/2004	0	0
	HKCC	01/6/2004 – 31/8/2004	0	0

Appendix E: Graphical presentations of the noise impact monitoring results


Noise level vs date for June to August 2004 (CN1a & CN2a)
CN1a
CN2a
Limit Level
Noise Level (Leq dB(A)
90
85
80
75
70
65
60
1/6
6/6
11/6
16/6
21/6
26/6
1/7
6/7
11/7
16/7
21/7
26/7
31/7
5/8
10/8
15/8
20/8
25/8
30/8
Date


Noise level vs date for June to August 2004 (HKCC)
HKCC-GT1
HKCC-GT2
Limit Level
Noise Level (Leq dB(A)
70
60
50
40
30
20
10
1/6
6/6
11/6
16/6
21/6
26/6
1/7
6/7
11/7
16/7
21/7
26/7
31/7
5/8
10/8
15/8
20/8
25/8
30/8
Date


Noise level vs date for June to August 2004 (HKSM)
HKSM-Sky Theatre
HKSM-Recording Studio
Limit Level
Noise Level (Leq dB(A)
70
60
50
40
30
20
10
1/6
6/6
11/6
16/6
21/6
26/6
1/7
6/7
11/7
16/7
21/7
26/7
31/7
5/8
10/8
15/8
20/8
25/8
30/8
Date