Cheung Hing Construction Co. Ltd.

Contract No. SSW327

Reprovisioning of Cape Collinson Crematorium

Monthly Environmental and Audit Report
October 2013
(Version1.0)

Approved By	Environmental Team Leader

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties.

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EXECUTIVE SUMMARY

1. This is the 38th monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Ltd. for the Project "Phased Reprovisioning of Cape Collinson Crematorium". This report presents the findings of environmental auditing works conducted for Reprovision Cape Collinson Crematorium on October 2013.

2. The site activities undertaken in the reporting month was:
   - Demolition for existing crematorium building;
   - Soldier piling works at demolished crematorium building;
   - Slope stabilization works at Slope Feature No.1;
   - Pipe piling works at New Transformer Room; and
   - Concrete repairing works at existing Columbarium.

Environmental Monitoring and Audit Works

3. Environmental monitoring and audit works for the Project is stipulated in the approved EM&A Manual. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

4. Summary of the events and action taken in the reporting month is tabulated in **Table I**.

Table I Summary Table for Events Recorded in the Reporting Month

Parameter	No. of Events		No. of Events Due to the Project		Action Taken
	Action Level	Limit Level	Action Level	Limit Level	
Noise	0	0	0	0	0
1-hr TSP	0	0	0	0	0
24-hr TSP	0	0	0	0	0

Construction Noise

5. All construction noise monitoring was conducted as scheduled in reporting month. No Action/Limit Level exceedance was recorded.

Air Quality

1-hour TSP Monitoring

6. All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

7. All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Visual

8. The monthly monitoring of visual was conducted in October 2013. The purpose is to ensure the design of implementation and maintenance of visual mitigation measures that are fully required in according to EIA report.

Environmental Licenses and Permits

9. Licenses/Permits granted to the Project include the Environmental Permit (EP); Registered as Waste Producer under Waste Disposal (Chemical Waste) General) Regulation and Water Discharge Licence.

Key Information in the Reporting Month

10. Summary of key information in the reporting month is tabulated in **Table II.**

Key Information in the EIA Report

11. According to the EIA Report, air quality, noise and visual would be the key environmental issues during the construction phase of the project. Details of the implementation of mitigation measures are provided in the **Appendix M**.

Table II Summary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N/A	N/A	---
Status of submissions under EP	1	EM&A Monthly Report September 2013	Submitted to EPD On 23th October 2013	N/A	---
	1	DCM Confirmatory Report (version 2.0)	Submitted to EPD On 23th October 2013	N/A	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---

Future Key Issues:

Major site activities for the coming two months include:

- Piling works at demolished crematorium building;
- Soldier piling works at demolished crematorium building;
- Slope stabilization works at Slope Feature No.1;
- Excavation and lateral support works at New Transformer Room; and
- Concrete repairing works at existing Columbarium.

1 INTRODUCTION

Background

1.1 Food and Environmental Hygiene Department (FEHD) is the Project Proponent and is responsible for the operation of the project "Phased Reprovisioning of Cape Collinson Crematorium" (hereinafter called the Project) after completion of construction works, while Architectural Services Department (ArchSD) is the works agent for the project management and implementation of the project. The project was commissioned to Cheung Hing Construction Co. Ltd. (hereinafter called the "CH"). The scope of the Project includes the following works:

(i) Construct and operate 4 new cremators with ancillary facilities under Phase 1;

(ii) Demolition of the existing crematorium and the existing underground fuel tank under Phase 2; and

(iii) Construct and operate 6 new cremators with ancillary facilities under Phase 2.

1.2 An environmental impact assessment (EIA) report of the Phased Reprovisioning of Cape Collinson Crematorium (Register No. AEIAR-137/2009) has been prepared in March 2009 and the Environmental Monitoring and Audit Manual (Project's EM&A Manual) was also included as part of the EIA report in the register. An Environmental Permit No. EP-335/2009 was issued on 19 June 2009 for this Project to the Food and Environmental Hygiene Department as the Permit Holder. The site location is shown in **Figure 1**.

1.3 Cinotech Consultants Ltd. was designated as the Environmental Team (ET) to undertake the EM&A works for the Project. This is the 38th monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech for the Project on October 2013 in accordance with the approved EM&A Manual.

Project Organizations

1.4 Different parties with different levels of involvement in the project organization include:

- Project Proponent – Food and Environmental Hygiene Department (FEHD).
- Works Agent –Architectural Services Department (ArchSD).
- Architect Representative (AR) – Andrew Lee King Fun & Associates Architects Limited (ALKF).
- Environmental Team (ET) – Cinotech Consultants Limited (Cinotech).
- Independent Environmental Checker (IEC) – EDMS Consulting Limited (EDMS).
- Main Contractor – Cheung Hing Construction Co. Ltd. (CH).

1.5 The responsibilities of respective parties are detailed in Sections 1.15 to 1.20 of the EM&A Manual of the Project.

1.6 The key contacts of the Project are shown in **Table 1.1** and the organization chart of ET is shown in **Figure 5**.

Table 1.1 Key Project Contacts

Party	Role	Name	Position	Phone No.	Fax No.
ASD	Works Agent	Mr. LS Tam	Senior Project Manager	2867 4120	2123 9024
		Miss Denise Lo	Project Manager	2867 3723	2523 9622
		Mr. Yiu Hak Hung	ER/COW	2597 4408	2911 4706
ALKF	Architect	Mr. Andrew Lee	Managing Director	2525 0008	2868 5371
	Architect's Representative	Mr. Franklin Yu	Project Architect	2901 0915	
		Mr. Leung Pak Kuen	Resident Clerk of Works	2505 7210	2505 1586
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089	3107 1388
		Mr. Gary Lau	Project Coordinator & Audit Team Leader	2151 2098	
		Mr. Henry Leung	Monitoring Team Leader	2151 2087	
EDMS	Independent Environmental Checker	Mr. James Choi	Director	2230 7168	3007 8556
CH	Main Contractor	Mr. Daniel Pong	General Manager	2572 2384	2572 2972
		Mr. Parker Pang	Director	2572 2384	
		Mr. Dennis Ho	Site Agent	96723470	2505 5130
		Mr. Kelvin Ip	Environmental Supervisor	61368190	

Construction Programme

1.7 The site activities undertaken in the reporting month included:

- Demolition for existing crematorium building;
- Soldier piling works at demolished crematorium building;
- Slope stabilization works at Slope Feature No.1;
- Pipe piling works at New Transformer Room; and
- Concrete repairing works at existing Columbarium.

Summary of EM&A Requirements

1.8 The EM&A programme requires construction phase monitoring for air quality, construction noise, visual and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.9 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 5 of this report.

1.10 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely dust, noise levels, visual and audit works conducted for the Project in October 2013.

2 AIR QUALITY

Monitoring Requirements

2.1 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Equipment

2.2 Both 1-hour TSP monitoring and continuous 24-hour TSP impact air quality monitoring were performed and complied with the specifications stipulated in the approved EM&A Manual. **Table 2.1** summarizes the equipment used in the impact air quality monitoring programme. Copies of the calibration certificates for the equipment are presented in **Appendix B**.

Table 2.1 Air Quality Monitoring Equipment

HVS Samplers	GMWS 2310 HVS, Model GS-2310105-1	1
	Tisch Environmental, Inc.; Model no. TE-5170	1
Laser Dust Meter	Sibata; Model no. LD-3B	5
Dust Meter	Met One Instruments; Model no. AEROCET-531	1
RS232 Integral Vane Digital Anemometer	AZ Instrument (Model No. AZ8904)	1
Calibrator	Tisch Environmental, Inc.; Model no. TE-5025A	1

Monitoring Locations

2.3 Impact air quality monitoring was conducted at the 2 designated monitoring stations, as shown in **Figure 2**. **Table 2.2** describes the locations of the air quality monitoring stations.

Table 2.2 Air Quality Monitoring Locations

Monitoring Station	Description	Location of Measurement
AM1	Staff Quarters of Cape Collinson Crematorium	Ground
*AM2	King Tsui Court	Roof

Remarks: * with wind logger

Monitoring Parameters, Frequency and Duration

2.4 **Table 2.3** summarizes the monitoring parameters, monitoring period and frequencies of impact air quality monitoring.

Table 2.3 Frequency and Parameters of Impact Air Quality Monitoring

Monitoring Station	Location for Measurement	Parameter	Period	Frequency
AM1	Staff Quarters of Cape Collinson Crematorium	1-hour TSP	0700-1900	3 times/6 days
		24-hour TSP	24 hours	once/6 days
AM2	King Tsui Court	1-hour TSP	0700-1900	3 times/6 days
		24-hour TSP	24 hours	once/6 days

Monitoring Methodology and QA/QC Procedure

2.5 Weather data was recorded during the monitoring period and is shown in **Appendix H**. The data was obtained from the Meteorological Observations for King's Park Automatic Weather Station. The general weather conditions (i.e. sunny, cloudy or rainy) were recorded by the field staff's observation on the monitoring day.

Monitoring Methodology and QA/QC Procedure

1-hour TSP Monitoring

Measuring Procedures

2.6 The measuring procedures of the 1-hour dust meters were in accordance with the Manufacturer's Instruction Manual as follows:

- Pull up the air sampling inlet cover
- Change the Mode 0 to BG with once
- Push Start/Stop switch once
- Turn the knob to SENSI.ADJ and press it
- Push Start/Stop switch once
- Return the knob to the position MEASURE slowly
- Push the timer set switch to set measuring time
- Remove the cap and make a measurement

Maintenance/Calibration

2.7 The following maintenance/calibration was required for the direct dust meters:

- Check the meter at a 3-month interval and calibrate the meter at a 1-year interval throughout all stages of the air quality monitoring.

24-hour TSP Monitoring
Instrumentation

2.8 High volume (HVS) samplers (Model no. TE-5170 and GS-2310105-1) completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

Operating/Analytical Procedures

2.9 Operating/analytical procedures for the operation of HVS were as follows:

- A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
- No two samplers were placed less than 2 meters apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
- No furnaces or incineration flues were nearby.
- Airflow around the sampler was unrestricted.
- The sampler was more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

2.10 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m^3/min. and 1.4 m^3/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

2.11 Fiberglass filters were used which have a collection efficiency of larger than 99% for particles of 0.3 μm diameter.

2.12 The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.

2.13 The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.

2.14 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.

2.15 The shelter lid was closed and secured with the aluminum strip.

2.16 The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).

2.17 After sampling, the filter was removed and sent to the laboratory for weighing. The elapsed time was also recorded.

2.18 Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

2.19 The following maintenance/calibration was required for the HVS:

- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- High volume samplers were calibrated at bi-monthly intervals using Calibration Kit (Thermo Andersen; Model no. G25A) throughout all stages of the air quality monitoring.

Results and Observations

2.20 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix I.**

2.21 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix I**.

2.22 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices D** and **E** respectively.

2.23 According to our field observations, the identified dust sources at the monitoring stations were mainly the road dust.

3 NOISE

Monitoring Requirements

3.1 A noise monitoring station, namely M1 was designated in the EM&A Manual for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

3.2 **Table 3.1** gives the location of the monitoring station, which is also shown in **Figure 3.**

Table 3.1 Location of Noise Monitoring Station

Monitoring Station	Description	Location of Measurement
M1	Staff Quarters of Cape Collinson Crematorium	Rooftop, facing Cape Collinson Crematorium

Monitoring Equipment

3.3 Integrating Sound Level Meter was used for noise monitoring. The meter is a Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (L_x) and also complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 3.2** summarizes the noise monitoring equipment being used. Copies of the calibration certificates for the sound level meter and calibrator are attached in **Appendix B**.

Table 3.2 Noise Monitoring Equipment

Equipment	Model and Make	Quantity
Integrating Sound Level Meter	SVAN 955	1
Calibrator	B&K 4231	1

Monitoring Parameters, Frequency and Duration

3.4 **Table 3.3** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix C**.

Table 3.3 Frequency and Parameters of Noise Monitoring

Monitoring Stations	Parameter	Period	Frequency	Measurement
M1	L_{10}(30 min.) dB(A) L_{90}(30 min.) dB(A) L_{eq}(30 min.) dB(A)	0700-1900 hrs. on weekdays	Once per week	Façade measurement

Monitoring Methodology and QA/QC Procedures

3.5 **Table 3.4** summarizes the types of measurement undertaken in the monitoring station.

Table 3.4 Type of Measurement

Monitoring Station	Measurement
M1	Façade measurement

3.6 Weather data was recorded during the Impact period and is presented in **Appendix H**.

Field Monitoring

3.7 The monitoring procedures are as follows:

- The microphone of the sound level meter was positioned 1m exterior of the noise sensitive facade and lowered sufficiently so that the building's external wall acts as a reflecting surface.
- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:

  - frequency weighting : A
  - time weighting : Fast
  - measurement time : 5 minutes (Leq (30-min) would be determined for daytime noise by calculating the logarithmic average of six Leq (5min) data.)

- Prior to and after noise measurement, the meter was calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement was considered invalid and repeat of noise measurement was required after re-calibration or repair of the equipment.
- The wind speed at the monitoring station was checked with the portable wind meter.
- Monitoring data was recorded and stored automatically within the sound level meter system. At the end of the monitoring period, noise levels in term of L_{eq}, L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded when the equipment were checked and inspected every two days.
- All the monitoring data within the sound level meter system was downloaded through the computer software, and all these data was checked and reviewed within the computer.

Maintenance and Calibration

3.8 Maintenance and Calibration procedures were as follows:

- The microphone of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator were checked and calibrated at yearly intervals.
- Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

Results and Observations

3.9 All construction noise monitoring at designated location was conducted as scheduled in the reporting month.

3.10 No Action/Limit Level exceedance was recorded in the reporting month. Summary of exceedance is presented in **Appendix I**.

3.11 All the Construction Noise Levels (CNLs) reported in this report were adjusted with the corresponding baseline level (i.e. Measured Leq – Baseline Leq = Measured CNL), in order to facilitate the interpretation of the noise exceedance. The baseline noise level and the allowed CNL (Limit Level) at each designated noise monitoring station are presented at **Table 3.5**.

3.12 All noise monitoring results and graphical presentations of the data are provided in **Appendix F**.

Table 3.5 Baseline Noise Level and Allowed Construction Noise Level for Monitoring Stations

Station	Baseline Noise Level, dB (A)	Limit Level, dB (A)
M1	54.4	75

4 VISUAL MONITORING

Monitoring Requirements

4.1 In accordance with the EM&A Manual, Visual Monitoring is required to be conducted monthly in construction phase for ensuring the design of implementation and maintenance of visual mitigation measures that are fully required in according to EIA report.

Construction Phase Audit Summary

4.2 The proposed and implementation status of visual mitigation measures in construction phase were shown in **Table 4.1**.

4.3 The reference photo for visual mitigation measures are shown in **Appendix G**.

Table 4.1 Proposed and Implementation Status of Visual Mitigation Measures in Construction Phase

ID No.	Visual Mitigation Measures	Implementation Status	Reference Photo
CM1	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Planting work for phase 1 has been completed.	1 & 2
CM2	Existing trees to be retained on site should be carefully protected during construction.	Tree protection zone and protective fence was set up for retaining trees.	3
CM3	Trees unavoidably affected by the works should be transplanted where practical.	No transplantation work was conducted in reporting month.	N/A
CM4	Compensatory tree planting should be provided to compensate for felled trees.	No tree felling work was conducted in reporting month.	N/A
CM5	Control of night-time lighting.	Minimum lighting was provided for public and security.	4 & 5
CM6	Erection of decorative screen hoarding compatible with the surrounding setting.	Hoardings in light colour were used as screening.	6

5 ENVIRONMENTAL AUDIT

Environmental Site Audits

5.1 Environmental site audits were carried out on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

5.2 Site audits for the Project in the reporting month were conducted on 4th, 11th, 18th and 24th October 2013. No non-compliance was observed during the site audits.

5.3 Site inspections were undertaken to ensure and check the compliance with the FEP and that the implementation and maintenance of air quality, noise and visual mitigation measures are being properly carried out in the reporting month in accordance to section 2.4, 5.7 and 6.16 of the EM&A Manual respectively. No non-compliance was observed during the site inspections.

5.4 The summaries of site audits are attached in **Appendix J**.

5.5 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations are summarized in **Table 5.1**.

Table 5.1 Observations and Recommendations of Site Audits

Parameters	Date	Observations	Remediation/ Follow up
Water Quality	--	--	--
Waste/Chemical Management	11 October 2013	Chemical container should be provided with trip tray and chemical labels.	The chemical container has been contained by a drip tray and attached with chemical labels.
Air Quality	4 October 2013	The removed dusty materials should be properly covered or disposed of regularly.	The dusty materials were cleared by the Contractor.
	18 October 2013	Excavated dusty materials should be covered properly to prevent dust emission.	The excavated dusty materials were removed and not observed.
Landscape and Visual	24 October 2013	Properly clear the construction tool next to the tree truck to prevent the tree damage.	The identified tool has been removed.
	24 October 2013	The fence of the tree protection area should be kept in a good condition.	The fence has been set up properly.
Permits/Licenses	--	--	--

Status of Environmental Licensing and Permitting

5.6 Environmental license or permit obtained in the reporting month is shown in **Table 5.2.**

Table 5.2 Environmental License or Permit Obtained in Reporting Month

Type of License/ Permit	Number	Valid Period		Details	Status
		From	To		
License to conduct Specified Process	L-12-008(1)	02/03/2012	01/03/2017	Premises: 9 Cape Collinson Road, Chai Wan, Hong Kong Classification of specified process: Incinerators	Valid
Water Discharge License	WT00007200-2010	05/08/2010	31/08/2015	Discharge Premises: 9 Cape Collinson Road, Chai Wan, Hong Kong	Valid
Registration as Chemical Waste Producer	WPN: 5213-165-C3110-19	03/08/2010	N/A	Location: 9 Cape Collinson Road, Chai Wan, Hong Kong Major Chemical Waste: Spend Lubricating oil, Spend Solvent and Soil Containing Lubricating Oil/Diesel	Valid
Environmental Permit	EP-335/2009	19/06/2009	N/A	Location: Existing Cape Collinson Crematorium, Cape Collinson Road, Eastern District	Valid
Further Environmental Permit	FEP-01/335/2009	06/07/2010	N/A	Location: Existing Cape Collinson Crematorium, Cape Collinson Road, Eastern District	Valid

Status of Waste Management

5.7 The amount of waste generated by the construction activities of the Project in the reporting month is attached in **Appendix K**. 715 m^3 of Inert C&D waste was disposed. 1.081 tons C&D waste, including metals, paper/ cardboard packaging and plastics, were sent to recyclers. 45 m^3 of other C&D waste, e.g. general refuse, were disposed to SENT landfill in October 2013.

Implementation Status of Environmental Mitigation Measures

5.8 According to the Environmental Permit and the EM&A Manual, the mitigation measures detailed in the documents are required to be implemented. Details of implementation Status of Environmental Mitigation Measures are provided in **Appendix M**.

Implementation Status of Event Action Plans

5.9 The Event Action Plans for construction noise are presented in **Appendix L**.

Construction Noise

5.10 No Action/Limit Level exceedance was reported in the reporting month.

Summary of Complaints and Prosecutions

5.11 No environmental complaint and prosecution related to the Project works was received in the reporting month.

Number of Existing and New Cremators Operating During Testing and Commissioning (T&C) Period under Phase 1

5.12 In according to condition 4.1 of EP: EP-335/2009 and FEP: FEP-01/335/2009, the total number of cremators in operation shall be limited during the four months T&C period, and no more than eight existing cremators and two new cremators should be operated concurrently at any one time.

5.13 T&C period has been completed in September 2012.

6 FUTURE KEY ISSUES

Key Issues for the Coming Month

6.1 Key issues to be considered in the coming month include:

- Surface runoff generated from the construction activities (e.g. soldier piling work) and rain;
- Dust emission from loading and unloading excavated materials, excavation works and exposed stockpiles;
- Noise nuisance from operation of equipments/ machineries;
- Maintenance of de-silting facilities and drainage system such as U-channels;
- Blockage of wheel washing facility by accumulated silt;
- Mosquito breeding due to the ponding water and stagnant water around the site areas;
- Accumulation of C&D waste and general waste on site; and
- Oil spillage/ leakage from the equipment on site.

Construction Program for the Next Month

6.2 The tentative construction program for the Project is provided in **Appendix O**.

Monitoring Schedule for the Next Month

6.3 The tentative environmental monitoring schedule in November 2013 for the Project is provided in **Appendix C**.

7 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

7.1 Environmental monitoring and audit works were performed in the reporting month and all monitoring results were checked and reviewed.

1-hour TSP Monitoring

7.2 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

7.3 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

7.4 All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Environmental Audit

7.5 Environmental site audits were conducted as weekly basis in the reporting month. No non-compliance was recorded.

Complaint and Prosecution

7.6 No environmental complaint and prosecution was received in the reporting month.

Recommendations

7.7 According to the environmental audits performed in the reporting month, the following recommendations were made:

Air Quality

- To ensure water spray is applied for the dust emissive works, such as breaking, loading and unloading of soil materials;
- To implement dust suppression measures on haul road, stockpiles and dry surfaces; and
- To sort the construction waste as inert/non-inert before disposal.

Noise

- To space out noisy equipment and position as far away as possible from sensitive receivers;
- To review the works sequence of site activities so as to reduce the number of noisy

equipment in concurrent operation;
- To provide temporary noise barriers for noisy activities, such as breaking works and drilling works; and
- To employ quiet powered mechanical equipment if possible.

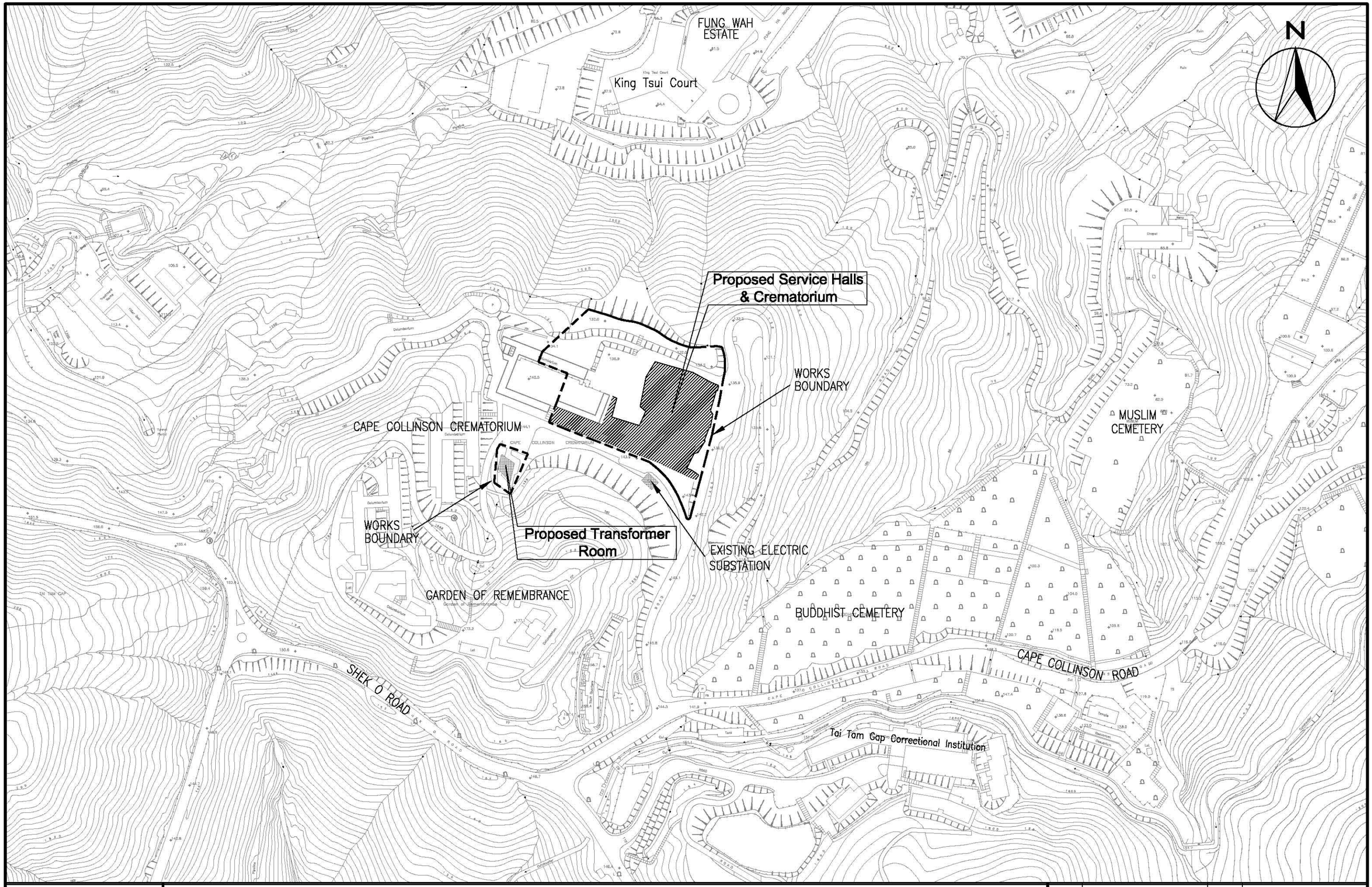
Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site;
- To avoid any discharge of chemical waste or oil directly from the site; and
- To well maintain the equipments and drip trays to avoid oil leakage.

Landscape and Visual

- To well maintain the tree protection barriers and tree protection zone to avoid damage to trees.

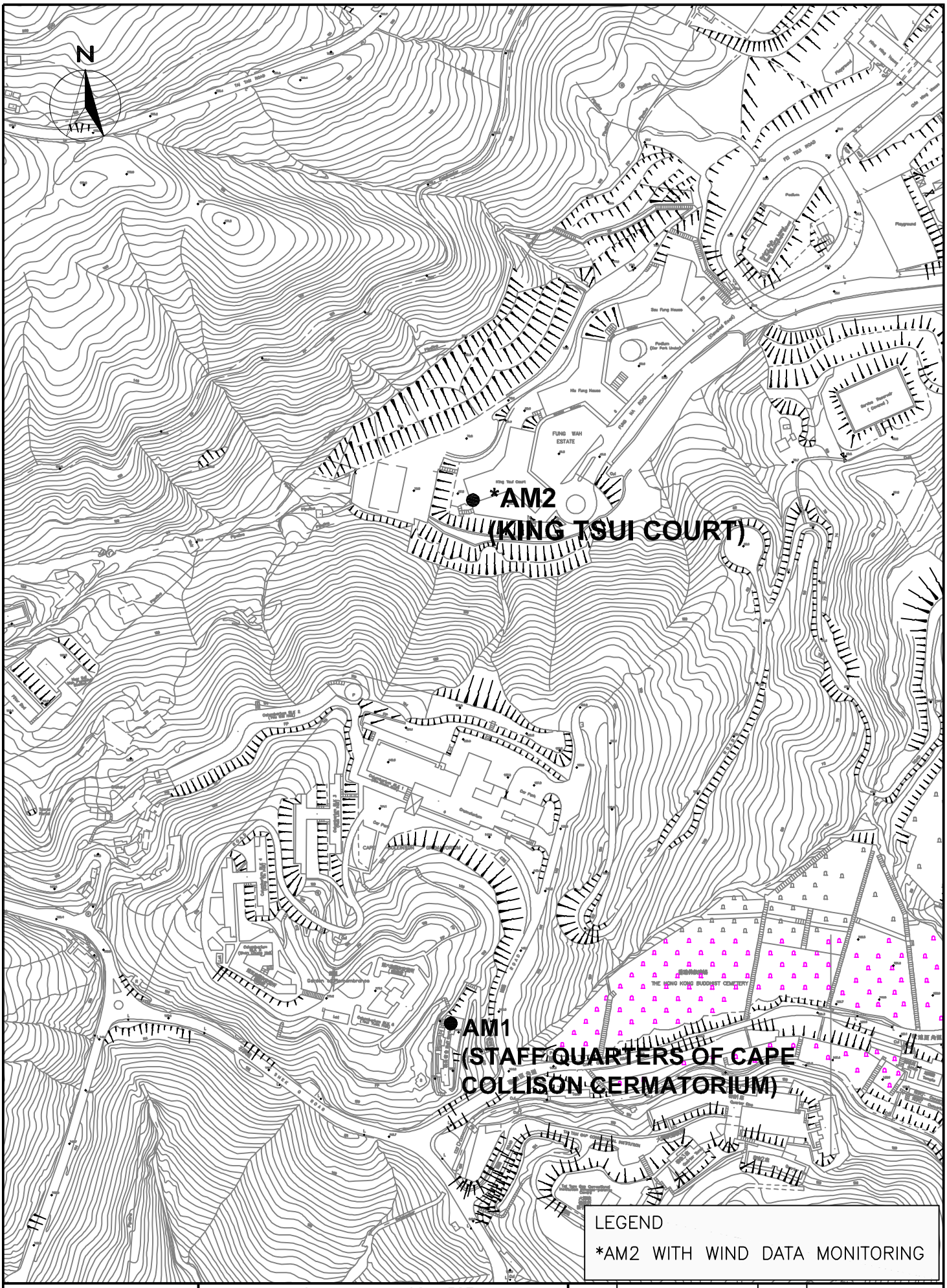
FIGURES



CINOTECH

Contract No. SSW 327
Repeovisioning of Cape Collinson Crematorium
Layout Plan of the Project

Scale	A3 1: 2000	Date	June - 2010
Check	GL	Drawn	GL
Project No.	MA 0031	Figure No. Figure 1	REV –



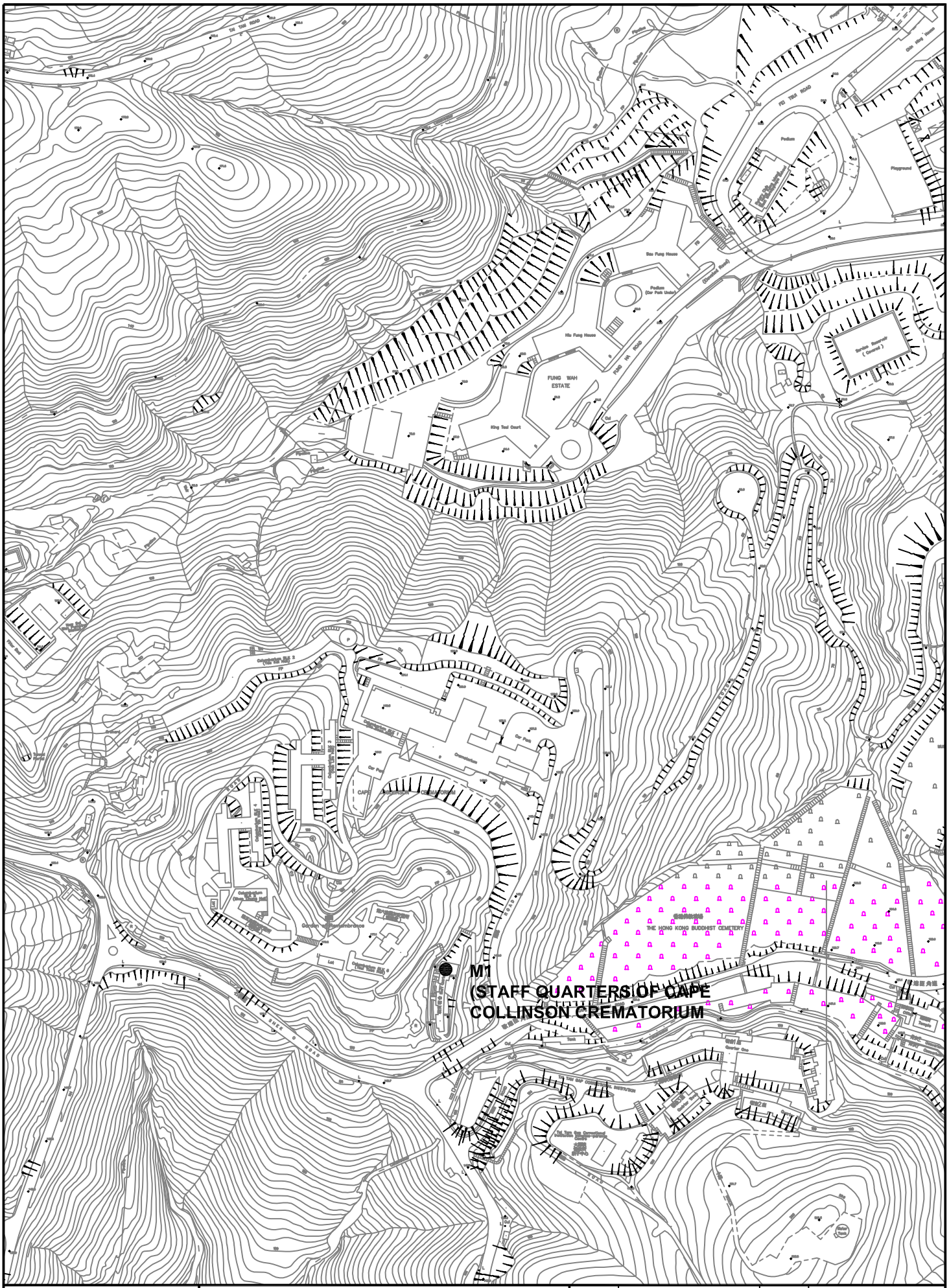
CINOTECH
Cinotech Consultants Limited

Contract No. SSW 327
Reprovisioning of Cape Collinson Crematorium

LOCATIONS OF AIR QUALITY MONITORING STATIONS

SCALE	1:3000 (A4)	DATE	JUL 2010
CHECK	PC	DRAWN	SL
JOB No.	MA0031	FIGURE NO. 2	REV -

F:/Project_drawings



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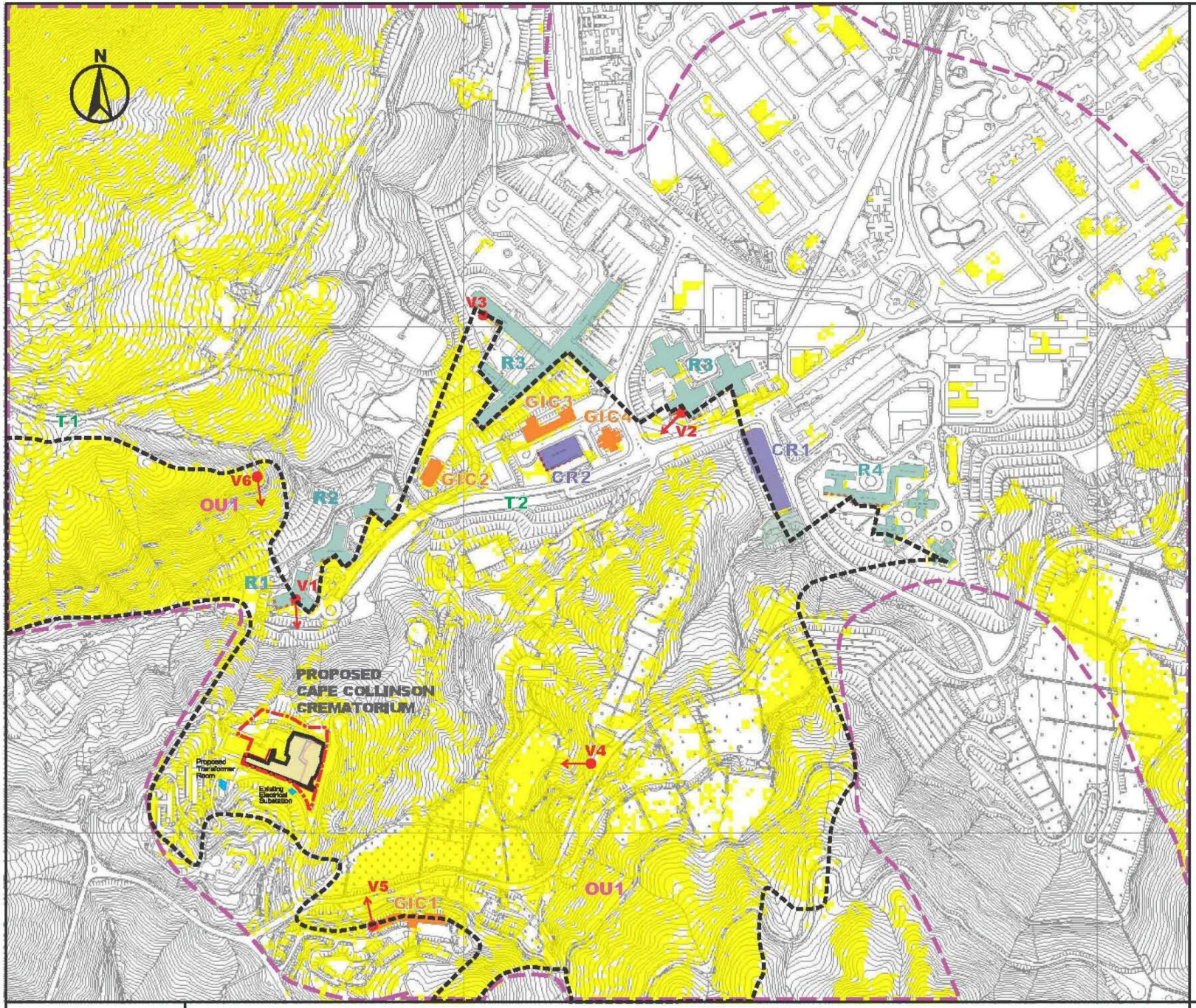
Cinotech Consultants Limited

Contract No. SSW 327
Reprovisioning of Cape Collinson Crematorium

LOCATIONS OF NOISE MONITORING STATIONS

SCALE	1:3000 (A4)	DATE	JUL 2010
CHECK	PC	DRAWN	SL
JOB No.	MA0031	FIGURE NO. 3	REV -

F:/Project_drawings



LEGEND:

- WORKS AREA
- PROPOSED CREMATOURIUM
- PRIMARY ZONE OF VISUAL INFLUENCE
- SECONDARY ZONE OF VISUAL INFLUENCE
- COMMERCIAL RESIDENTIAL (**CR**)
- RESIDENTIAL (**R**)
- GOVERNMENT, INSTITUTION/ COMMUNITY (**GIC**)
- TRAVELLERS (**T**)
- OTHERS SPECIFIED USE (**OU**)
- V2 PHOTO TAKEN VIEW POINT

VISUAL SENSITIVE RECEIVERS:

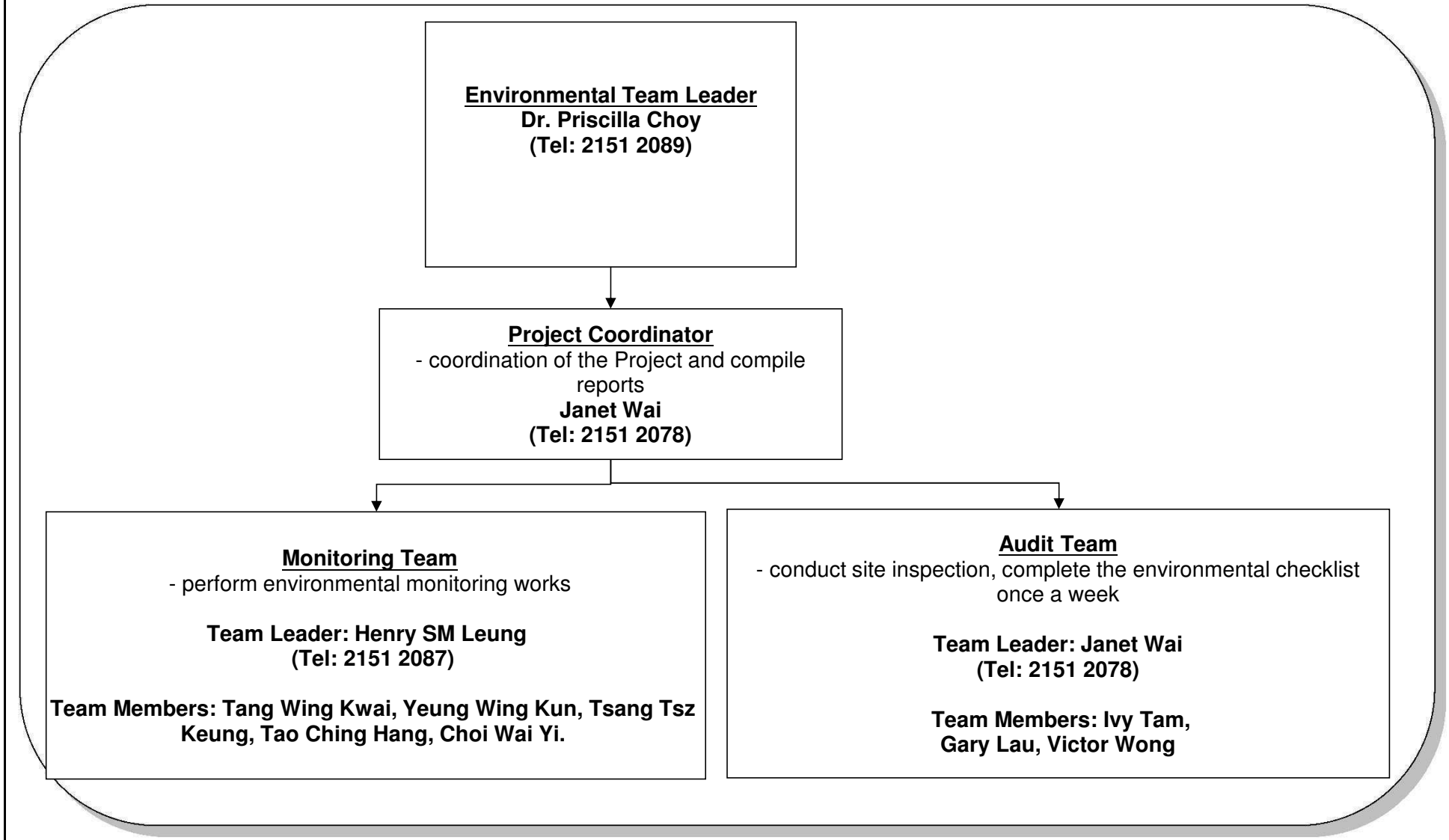
R1	King Tsui Court
R2	Fung Wah Estate
R3	Hing Wah Estate
R4	Yan Tsui Court, Yuet Chui Court and Housing Dept. Chai Wan Staff Quarters
CR1	Yen Lok & Kin Yip Building
CR2	Moon Wah & Man Wah Building
GIC1	Tai Tam Gap Correctional Institution
GIC2	Morninghope School
GIC3	Cognitio College (Hong Kong)
GIC4	Fire Service Department Quarters
T1	Tai Tam Road
T2	Fei Tsui Road
OU1	Hikers/ Cemetery visitors

Zone of visual influence is generated base on Visual Contour Map; provided in Figure 6.3; where's proposed work will be seen mainly in areas of yellow shaded.

CINOTECH

Contract No. SSW 327
Repeovisioning of Cape Collinson Crematorium
ZVI and Location of VSR

Scale	NTS	Date	June - 2010
Check	GL	Drwn	GL
Project No.	MA 0031	DRAWING No.	Figure 4
		REV	–



Title		Scale	Project No.	
Contract No. SSW 327 - Reprovisioning of Cape Collinson Crematorium		N.T.S	MA0031	CINOTECH
Organization Chart	Date: Nov-13	Figure: 5		

APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR QUALITYAND NOISE QUALITY

Appendix A Action and Limit Levels

Table A-1 Action and Limit Levels for 1-Hour TSP

Location	Action Level, µg/m^3	Limit Level, µg/m^3
AM1	394	500
AM2	283	500

Table A-2 Action and Limit Levels for 24-Hour TSP

Location	Action Level, µg/m^3	Limit Level, µg/m^3
AM1	164	260
AM2	151	260

Table A-3 Action and Limit Level for Construction Noise

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75* dB(A)

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

APPENDIX B
COPIES OF CALIBRATION CERTIFICATES

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0031/13/0020

Station: AM1 - Staff Quarters of Cape Collinson Crematorium Operator: WK

Date: 27-Aug-13 Next Due Date: 26-Oct-13

Equipment No.: A-01-13 Serial No. 1352

Ambient Condition			
Temperature, Ta (K)	302.4	Pressure, Pa (mmHg)	756.9

Orifice Transfer Standard Information					
Equipment No.:	A-04-04	Slope, mc	0.0574	Intercept, bc	-0.0478
Last Calibration Date:	3-Oct-12	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	2-Oct-13	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis**
1	11.7	3.39	59.87	7.9	2.78
2	10.0	3.13	55.41	6.8	2.58
3	7.6	2.73	48.41	5.1	2.24
4	5.2	2.26	40.19	3.3	1.80
5	3.1	1.74	31.22	2.0	1.40

By Linear Regression of Y on X

Slope , mw = 0.0490 **Intercept, bw :** -0.1415

Correlation coefficient* = 0.9996

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.93**

Remarks:

Conducted by: WK Tang Signature: [signature] Date: 27/8/2013

Checked by: [signature] Signature: [signature] Date: 27 August 2013

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0031/13/0021

Station: AM1 - Staff Quarters of Cape Collinson Crematorium Operator: WK

Date: 25-Oct-13 Next Due Date: 24-Dec-13

Equipment No.: A-01-13 Serial No. 1352

Ambient Condition			
Temperature, Ta (K)	302.4	Pressure, Pa (mmHg)	756.9

Orifice Transfer Standard Information					
Equipment No.:	A-04-05	Slope, mc	0.0592	Intercept, bc	-0.0283
Last Calibration Date:	26-Dec-12	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	25-Dec-13	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis**
1	11.8	3.40	57.96	7.8	2.77
2	10.2	3.16	53.92	6.8	2.58
3	7.6	2.73	46.61	5.2	2.26
4	5.2	2.26	38.64	3.3	1.80
5	3.3	1.80	30.88	2.1	1.44

By Linear Regression of Y on X

Slope , mw = 0.0498 **Intercept, bw =** -0.1001

Correlation coefficient* = 0.9990

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **4.24**

Remarks:

Conducted by: Wk Tang Signature: Kwai Date: 25/10/2013

Checked by: Hz Signature: Date: 25 October 2013

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0031/45/0020

Station: AM2 - King Tsui Court Operator: WK

Date: 27-Aug-13 Next Due Date: 26-Oct-13

Equipment No.: A-01-45 Serial No. 1309

Ambient Condition			
Temperature, Ta (K)	302.5	Pressure, Pa (mmHg)	756.7

Orifice Transfer Standard Information					
Equipment No.:	A-04-04	Slope, mc	0.0574	Intercept, bc	-0.0478
Last Calibration Date:	3-Oct-12	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	2-Oct-13	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis**
1	11.7	3.39	59.85	8.2	2.84
2	10.0	3.13	55.39	6.8	2.58
3	7.8	2.77	49.02	5.1	2.24
4	5.3	2.28	40.55	3.4	1.83
5	3.1	1.74	31.21	2.0	1.40

By Linear Regression of Y on X

Slope , mw = 0.0500 **Intercept, bw =** -0.1838

Correlation coefficient* = 0.9990

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.94**

Remarks:

Conducted by: Wk Tang Signature: Kwan Date: 27/8/2013

Checked by: [illegible] Signature: [illegible] Date: 27 August 2013

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

File No. MA0031/45/0021

Station: AM2 - King Tsui Court Operator: WK

Date: 25-Oct-13 Next Due Date: 24-Dec-13

Equipment No.: A-01-45 Serial No. 1309

Ambient Condition			
Temperature, Ta (K)	295.8	Pressure, Pa (mmHg)	765.4

Orifice Transfer Standard Information					
Equipment No.:	A-04-05	Slope, mc	0.0592	Intercept, bc	-0.0283
Last Calibration Date:	26-Dec-12	**mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$**			
Next Calibration Date:	25-Dec-13	**Qstd = $\{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ -bc} / mc**			

Calibration of TSP Sampler

Calibration Point	Orfice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) **X - axis**	ΔW (HVS), in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ **Y-axis**
1	11.8	3.46	58.93	8.4	2.92
2	10.2	3.22	54.82	6.9	2.65
3	7.9	2.83	48.30	5.3	2.32
4	5.2	2.30	39.28	3.4	1.86
5	3.3	1.83	31.39	2.1	1.46

By Linear Regression of Y on X

Slope , mw = 0.0523 **Intercept, bw =** -0.1921

Correlation coefficient* = 0.9993

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **4.16**

Remarks:

Conducted by: WK Tang Signature: Kwai Date: 25/10/2013

Checked by: [illegible] Signature: [illegible] Date: 25 October 2013

WELLAB 匯力 Testing & Research

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Website: www.wellab.com.hk

TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W.K Tang**

Test Report No.:	CA/13/130430
Date of Issue:	2013-05-01
Date Received:	2013-04-30
Date Tested:	2013-04-30
Date Completed:	2013-05-01
Next Due Date:	2014-04-30
Page:	1 of 1

Certificate of Calibration

Item for calibration:

Description	: RS232 Integral Vane Digital Anemometer
Manufacturer	: AZ Instrument
Model No.	: AZ8904
Serial No.	: 974835
Equipment No.	: A-03-03

Test conditions:

Room Temperature	: 21 degree Celsius
Relative Humidity	: 66%
Pressure	: 101.1 kPa

Methodology:

The anemometer has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

	Reference Set Point	Instrument Readings
Measuring Air Velocity, m/s	2.00	2.00
Temperature, °C	21.0	21.0

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

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Tel: 2898 7388 Fax: 2898 7076
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TEST REPORT

Description	Calibration Orifice	**Manufacturer**	TISCH
Serial No.	0993	**Temperature,Ta (K)**	298
Model No.	TE-5025A	**Pressure, Pa (mmHg)**	759.2
Date	3 October 2012		

Plate	Diff.Vol (m^3)	Diff.Time (min)	Diff.Hg (mm)	Diff.H_2O (in.)
1	1.00	1.3820	3.2	2.00
2	1.00	0.9800	6.2	4.00
3	1.00	0.8770	7.8	5.00
4	1.00	0.8380	8.7	5.50
5	1.00	0.6930	12.7	8.00

DATA TABULATION

Vstd	(X axis) Qstd	(Y axis)
0.9947	0.7197	1.4134
0.9907	1.0109	1.9989
0.9886	1.1273	2.2348
0.9874	1.1783	2.3439
0.9822	1.4173	2.8268

Y axis= SQRT[H_2O(Pa/760)(298/Ta)]

Qstd Slope (m) = 2.02751
Intercept (b) = -0.04785
Coefficient (r) = 0.99999

Va	(X axis) Qa	(Y axis)
0.9958	0.7205	0.8861
0.9918	1.0121	1.2531
0.9897	1.1285	1.4010
0.9885	1.1796	1.4694
0.9833	1.4189	1.7721

Y axis= SQRT[H_2O(Ta/Pa)]

Qa Slope (m) = 1.26959
Intercept (b) = -0.03000
Coefficient (r) = 0.99999

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=I/m{[SQRT(H_2O(Pa/760)(298/Ta))]-b}
Qa=I/m{[SQRT H_2O(Ta/Pa)]-b}

PREPARED AND CHECKED BY:
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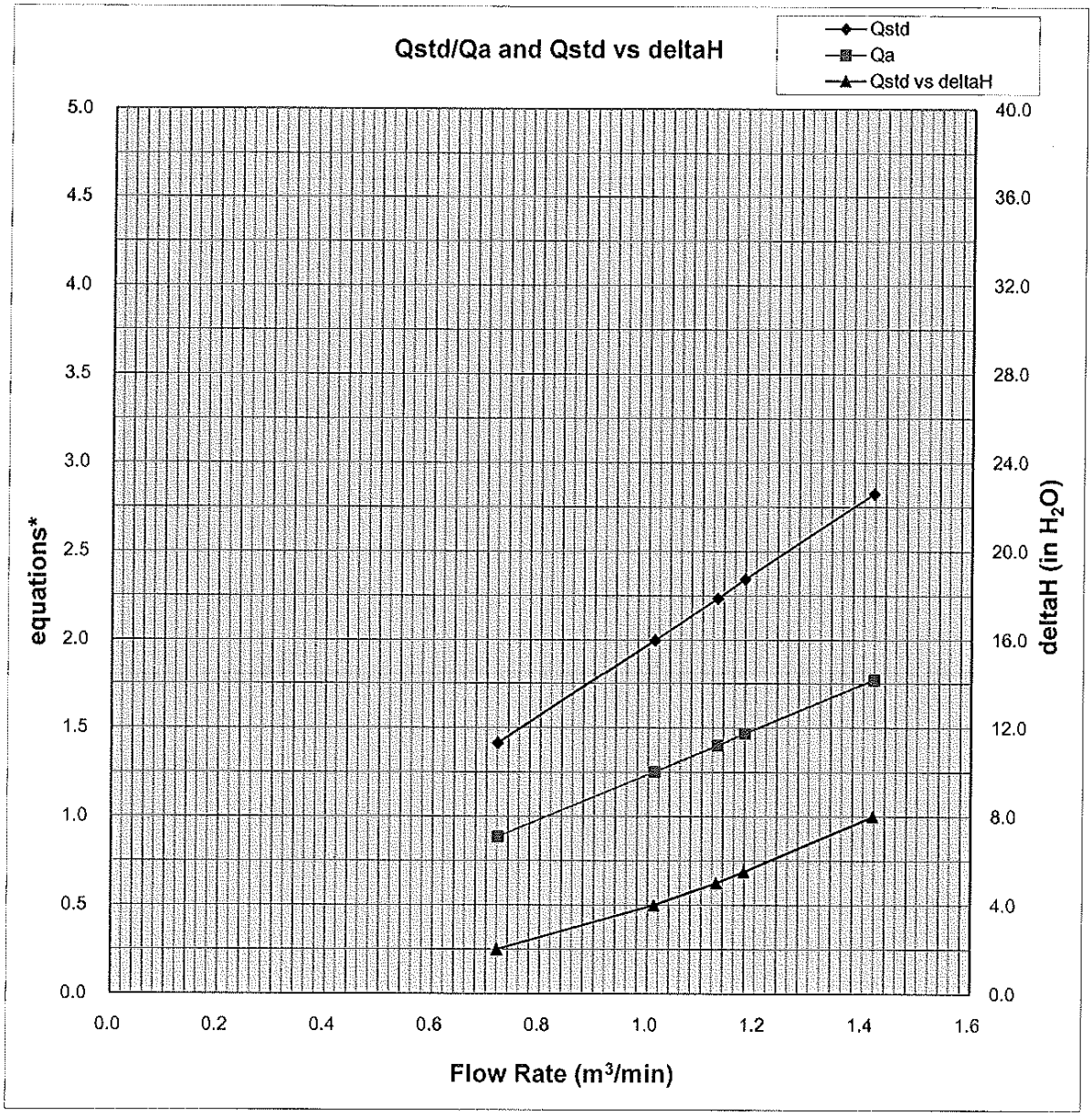
TEST REPORT



Y-axis equations:

Qstd series: SQRT[ΔH(Pa/Pstd)(Tstd/Ta)]

Qa series: SQRT[ΔH(Ta/Pa)]

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W.K. Tang**

Test Report No.:	C/130831/1
Date of Issue:	2013-09-02
Date Received:	2013-08-31
Date Tested:	2013-08-31
Date Completed:	2013-09-02
Next Due Date:	2013-11-01
Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3
Serial No.	: 251634
Sensitivity (K) 1 CPM	: 0.001 mg/m^3
Sen. Adjustment Scale Setting	: 550 CPM
Equipment No.	: A-02-01

Test Conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 58%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0036

****

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Patrick Tse

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TEST REPORT

APPLICANT:	**Cinotech Consultants Limited** **Room 1710, Technology Park,** **18 On Lai Street,** **Shatin, NT, Hong Kong**	Test Report No.: Date of Issue: Date Received: Date Tested: Date Completed: Next Due Date:	C/130816/1 2013-08-19 2013-08-16 2013-08-16 2013-08-19 2013-10-18
ATTN:	**Mr. WK Tang**	Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 954253
Sensitivity (K) 1 CPM	: 0.001 mg/m^3
Sen. Adjustment Scale Setting	: 685 CPM
Equipment No.	: A-02-05

Test Conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 68%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0032

****

PREPARED AND CHECKED BY:

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Laboratory Manager

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/131018/1
Date of Issue:	2013-10-21
Date Received:	2013-10-18
Date Tested:	2013-10-18
Date Completed:	2013-10-21
Next Due Date:	2013-12-20

ATTN: **Mr. WK Tang**

Page: 1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 954253
Sensitivity (K) 1 CPM	: 0.001 mg/m^3
Sen. Adjustment Scale Setting	: 772 CPM
Equipment No.	: A-02-05

Test Conditions:

Room Temperature	: 19 degree Celsius
Relative Humidity	: 60%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0031

****

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W. K. Tang**

Test Report No.:	C/130831/3
Date of Issue:	2013-09-02
Date Received:	2013-08-31
Date Tested:	2013-08-31
Date Completed:	2013-09-02
Next Due Date:	2013-11-01
Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 014750
Sensitivity (K) 1 CPM	: 0.001 mg/m^3
Sen. Adjustment Scale Setting	: 790 CPM
Equipment No.	: A-02-06

Test Conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 58%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0035

****

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W. K. Tang**

Test Report No.:	C/130906/1
Date of Issue:	2013-09-08
Date Received:	2013-09-06
Date Tested:	2013-09-06
Date Completed:	2013-09-08
Next Due Date:	2013-11-07
Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 095039
Sensitivity (K) 1 CPM	: 0.001 mg/m^3
Sen. Adjustment Scale Setting	: 764 CPM
Equipment No.	: A-02-08

Test Conditions:

Room Temperature	: 19 degree Celsius
Relative Humidity	: 58%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0032

****

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W. K. Tang**

Test Report No.:	C/130906/3
Date of Issue:	2013-09-08
Date Received:	2013-09-06
Date Tested:	2013-09-06
Date Completed:	2013-09-08
Next Due Date:	2013-11-07
Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 095029
Sensitivity (K) 1 CPM	: 0.001 mg/m^3
Sen. Adjustment Scale Setting	: 551 CPM
Equipment No.	: A-02-10

Test Conditions:

Room Temperature	: 19 degree Celsius
Relative Humidity	: 58%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Laser Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Laser Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	0.0031

****

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
Laboratory Manager

WELLAB LIMITED
Rms 816, 1516 & 1701, Technology Park,
18 On Lai Street, Shatin, N.T, Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W.K. Tang**

Test Report No.:	C/131004/2
Date of Issue:	2013-10-07
Date Received:	2013-10-04
Date Tested:	2013-10-04
Date Completed:	2013-10-07
Next Due Date:	2013-12-06
Page:	1 of 1

Certificate of Calibration

Item for Calibration:

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-531
Serial No.	: N6733
Flow rate	:0.1 cfm
Zero Count Test	:0 mg (The result of the 2-minute sample)
Equipment No.	: A-02-12

Test Conditions:

Room Temperature	: 20 degree Celsius
Relative Humidity	: 63%

Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Results:

Correlation Factor (CF)	1.155

****

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
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TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

ATTN: **Mr. W.K. Tang**

Test Report No.:	C/N/130824/1
Date of Issue:	2013-08-25
Date Received:	2013-08-24
Date Tested:	2013-08-24
Date Completed:	2013-08-25
Next Due Date:	2014-08-24
Page:	1 of 1

Certificate of Calibration

Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 21139
Microphone No.	: 43690
Equipment No.	: N-08-06

Test conditions:

Room Temperatre	: 20 degree Celsius
Relative Humidity	: 65%

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick Tse
PATRICK TSE
Laboratory Manager

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Website: www.wellab.com.hk

TEST REPORT

APPLICANT: **Cinotech Consultants Limited**
Room 1710, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	C/N/130830/4
Date of Issue:	2012-08-31
Date Received:	2013-08-30
Date Tested:	2013-08-30
Date Completed:	2013-08-31
Next Due Date:	2014-08-30

ATTN: **Mr. W.K. Tang**

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2412367
Equipment No.	: N-02-03

Test conditions:

Room Temperatre	: 20 degree Celsius
Relative Humidity	: 64%

Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

Patrick Tse

PATRICK TSE
Laboratory Manager

APPENDIX C
ENVIRONMENTAL MONITORING SCHEDULES

Contract No. SSW 327 - Reprovisioning of Cape Collinson Crematorium
Impact Air Quality and Noise Monitoring for October 2013

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

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Station (1 hr TSP & 24 hr TSP)
AM1- Staff Quarters of Cape Collinson Crematorium
AM2 - King Tsui Court

Noise Monitoring Station
M1 - Staff Quarters of Cape Collinson Crematorium

Contract No. SSW 327 - Reprovisioning of Cape Collinson Crematorium
Tentative Impact Air Quality and Noise Monitoring for November 2013

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

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Station (1 hr TSP & 24 hr TSP)
AM1- Staff Quarters of Cape Collinson Crematorium
AM2 - King Tsui Court

Noise Monitoring Station
M1 - Staff Quarters of Cape Collinson Crematorium

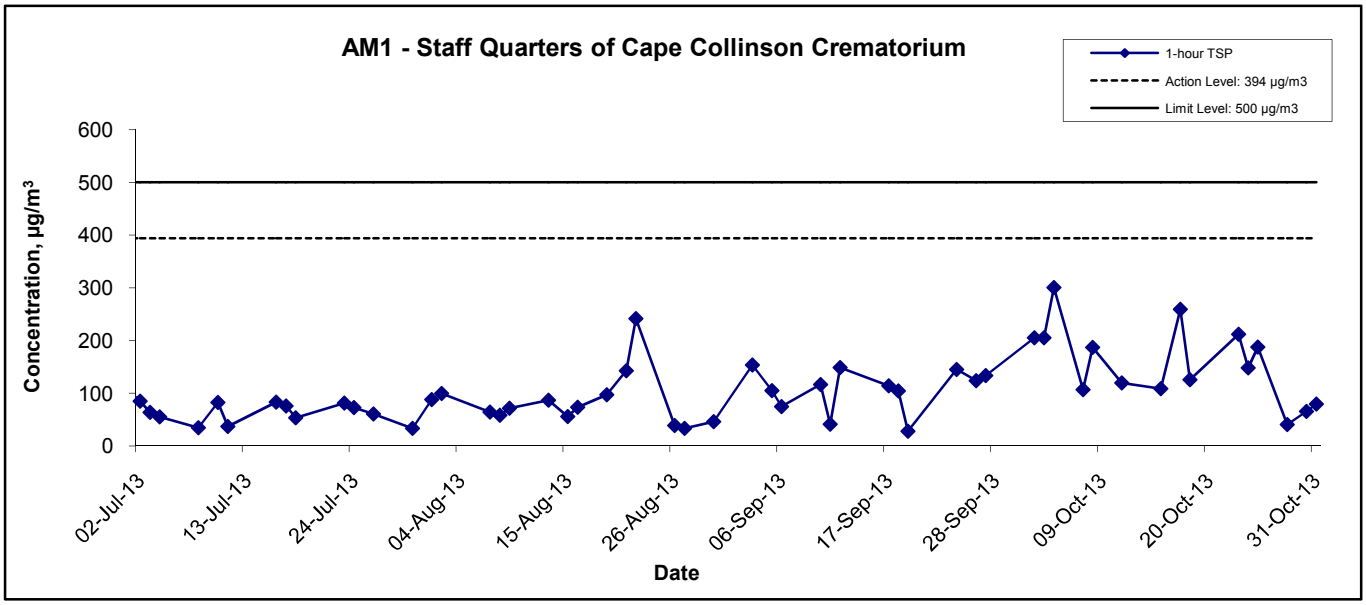
APPENDIX D
1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

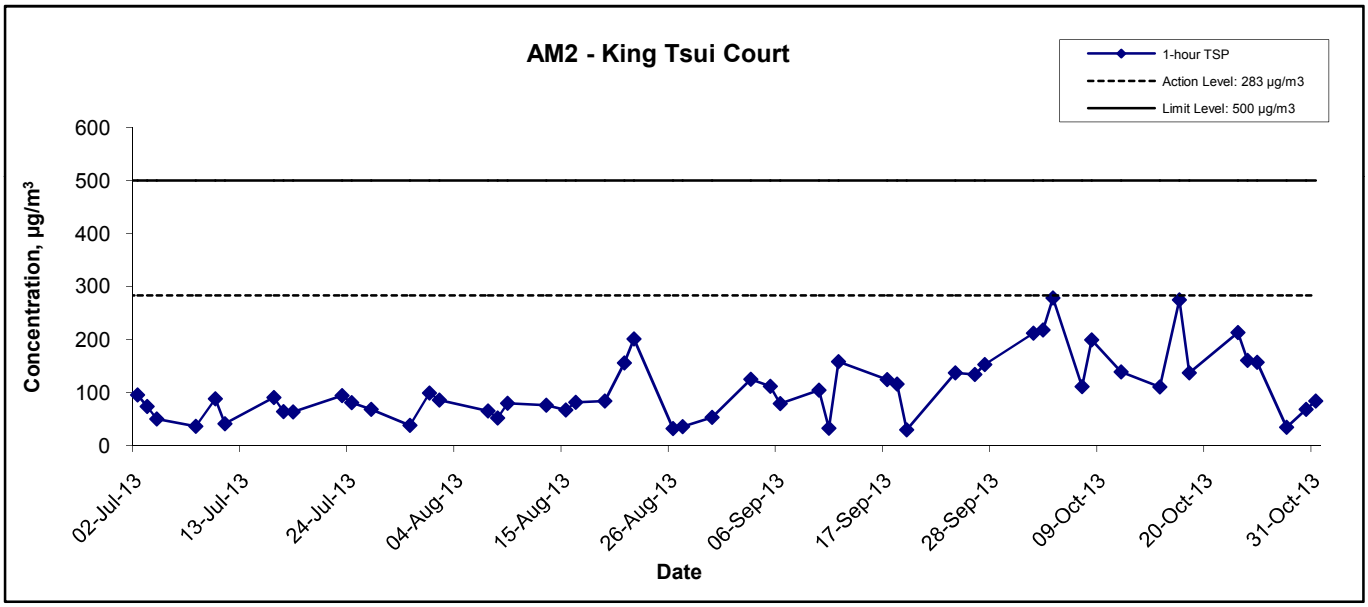
Appendix D - 1-hour TSP Monitoring Results

Location AM1 - Staff Quarters of Cape Collinson Crematorium			
Date	Time	Weather	Particulate Concentration (μg/m^3)
2-Oct-13	10:50	Sunny	204.8
3-Oct-13	11:00	Cloudy	205.0
4-Oct-13	9:15	Sunny	300.2
7-Oct-13	11:00	Sunny	106.7
8-Oct-13	10:40	Cloudy	186.6
11-Oct-13	11:00	Sunny	119.5
15-Oct-13	10:30	Sunny	108.7
17-Oct-13	10:40	Cloudy	259.3
18-Oct-13	10:50	Sunny	125.6
23-Oct-13	10:50	Sunny	211.7
24-Oct-13	10:45	Sunny	148.1
25-Oct-13	14:30	Sunny	187.7
28-Oct-13	15:30	Sunny	40.4
30-Oct-13	10:50	Sunny	65.3
31-Oct-13	11:00	Sunny	79.4
		Average	156.6
		Maximum	300.2
		Minimum	40.4

Location AM2 - King Tsui Court			
Date	Time	Weather	Particulate Concentration (μg/m^3)
2-Oct-13	9:30	Sunny	212.0
3-Oct-13	9:30	Cloudy	217.9
4-Oct-13	9:00	Sunny	278.2
7-Oct-13	9:30	Sunny	110.9
8-Oct-13	9:20	Cloudy	199.3
11-Oct-13	9:40	Sunny	138.9
15-Oct-13	13:00	Sunny	110.6
17-Oct-13	9:20	Cloudy	274.9
18-Oct-13	9:30	Sunny	137.3
23-Oct-13	9:30	Sunny	213.0
24-Oct-13	9:25	Sunny	160.5
25-Oct-13	13:00	Sunny	157.2
28-Oct-13	14:10	Sunny	34.7
30-Oct-13	9:30	Sunny	68.4
31-Oct-13	9:30	Sunny	84.0
		Average	159.9
		Maximum	278.2
		Minimum	34.7

1-hr TSP Concentration Levels





Title: Contract No. SSW 327 Reprovisioning of Cape Collinson Crematorium Graphical Presentation of 1-hour TSP Monitoring Results	Scale: N.T.S Date: Oct 13	Project No.: MA0031 Appendix: D	CINOTECH

APPENDIX E
24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix E - 24-hour TSP Monitoring Results

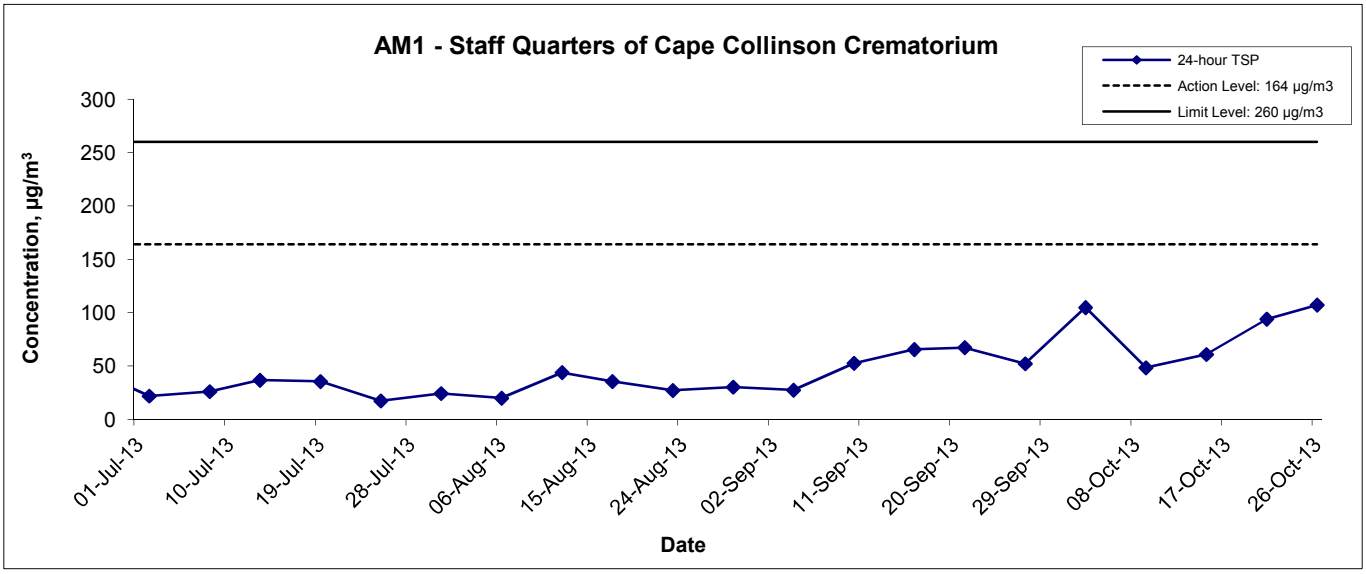
Location AM1 - Staff Quarters of Cape Collinson Crematorium

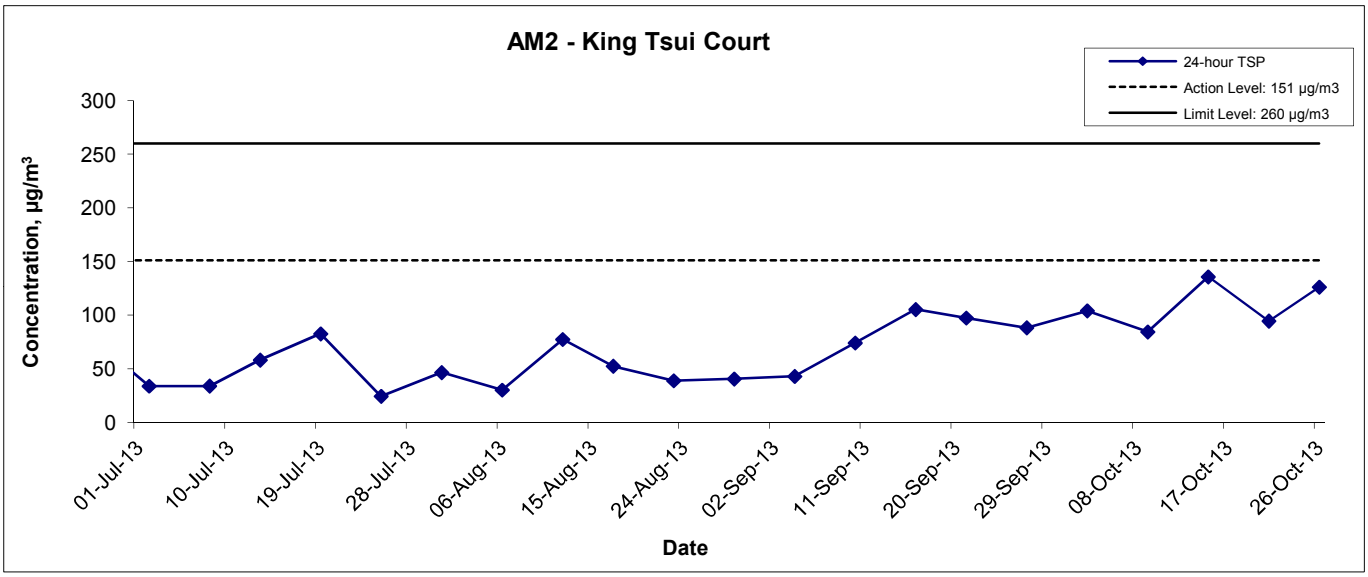
Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m^3/min.)		Av. flow (m^3/min)	Total vol. (m^3)	Conc. ($\mu g/m^3$)
				Initial	Final		Initial	Final		Initial	Final			
3-Oct-13	Sunny	298.4	763.2	3.6180	3.8027	0.1847	12736.3	12760.3	24.0	1.22	1.22	1.22	1762.6	104.8
9-Oct-13	Sunny	299.9	759.9	3.7736	3.8585	0.0849	12760.3	12784.3	24.0	1.22	1.22	1.22	1754.8	48.4
15-Oct-13	Sunny	299.7	762.8	3.7451	3.8519	0.1068	12784.3	12808.3	24.0	1.22	1.22	1.22	1758.5	60.7
21-Oct-13	Sunny	296.4	764.9	3.7323	3.8984	0.1661	12808.3	12832.3	24.0	1.23	1.23	1.23	1769.8	93.9
26-Oct-13	Sunny	294.3	767.5	3.6876	3.8780	0.1904	12832.3	12856.3	24.0	1.23	1.23	1.23	1777.7	107.1
													Min	48.4
													Max	107.1
													Average	83.0

Location AM2 - King Tsui Court

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m^3/min.)		Av. flow (m^3/min)	Total vol. (m^3)	Conc. ($\mu g/m^3$)
				Initial	Final		Initial	Final		Initial	Final			
3-Oct-13	Sunny	298.4	763.2	3.6234	3.8068	0.1834	9446.5	9470.5	24.0	1.22	1.22	1.22	1761.8	104.1
9-Oct-13	Sunny	299.9	759.9	3.7803	3.9285	0.1482	9470.5	9494.5	24.0	1.22	1.22	1.22	1754.2	84.5
15-Oct-13	Sunny	299.7	762.8	3.7345	3.9732	0.2387	9494.5	9518.5	24.0	1.22	1.22	1.22	1757.8	135.8
21-Oct-13	Sunny	296.4	764.9	3.7732	3.9404	0.1672	9518.5	9542.5	24.0	1.23	1.23	1.23	1768.9	94.5
26-Oct-13	Sunny	294.3	767.5	3.7402	3.9627	0.2225	9542.5	9566.5	24.0	1.23	1.23	1.23	1764.4	126.1
													Min	84.5
													Max	135.8
													Average	109.0

24-hr TSP Concentration Levels





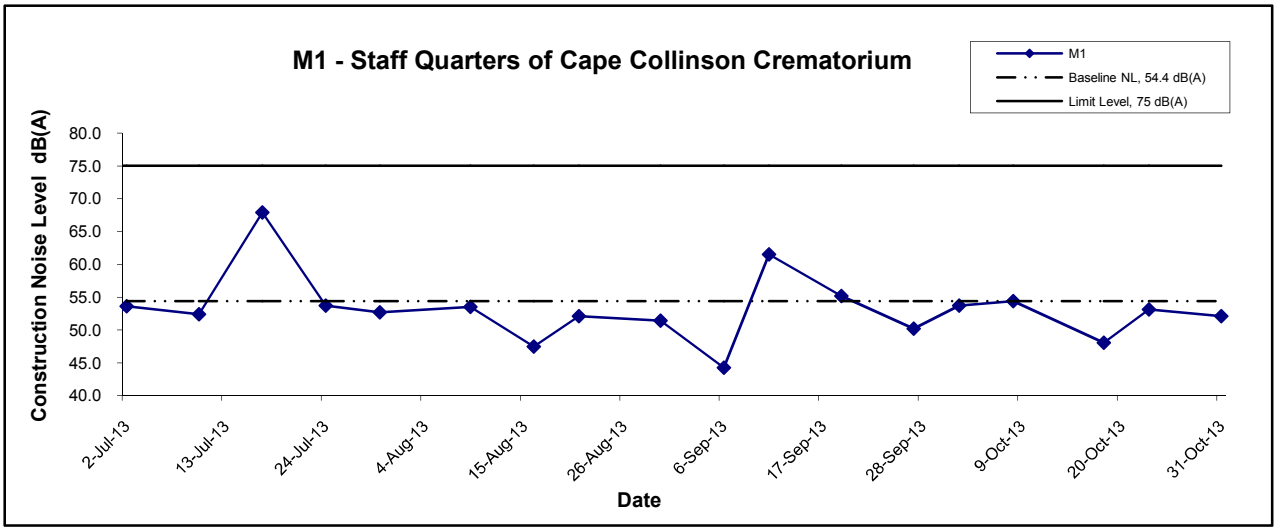
Title: Contract No. SSW 327 Reprovisioning of Cape Collinson Crematorium Graphical Presentation of 24-hour TSP Monitoring Results	Scale: N.T.S Date: Oct 13	Project No.: MA0031 Appendix: E	CINOTECH

APPENDIX F
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Appendix F - Noise Monitoring Results

Location M1 - Staff Quarters of Cape Collinson Crematorium							
Date	Time	Weather	Unit: dB (A) (30-min)				
			Measured Noise Level			Baseline Level	Construction Noise Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
2-Oct-13	10:50	Sunny	53.7	56.8	49.3	54.4	53.7 Measured ≤ Baseline
8-Oct-13	10:40	Cloudy	54.4	56.8	49.7		54.4 Measured ≤ Baseline
18-Oct-13	10:50	Sunny	55.3	57.1	49.4		48.0
23-Oct-13	10:50	Sunny	53.1	55.8	48.7		53.1 Measured ≤ Baseline
31-Oct-13	11:00	Sunny	56.4	59.3	50.2		52.1

Noise Levels



Title: Contract No. SSW 327 Reprovisioning of Cape Collinson Crematorium Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S	Project No.: MA0031	CINOTECH
	Date: Oct 13	Appendix: F	

APPENDIX G
VISUAL MITIGATION MEASURES
PHOTOGRAPHIC RECORD

ppendix G – Visual Mitigation Measures Photographic Record

Photo 1

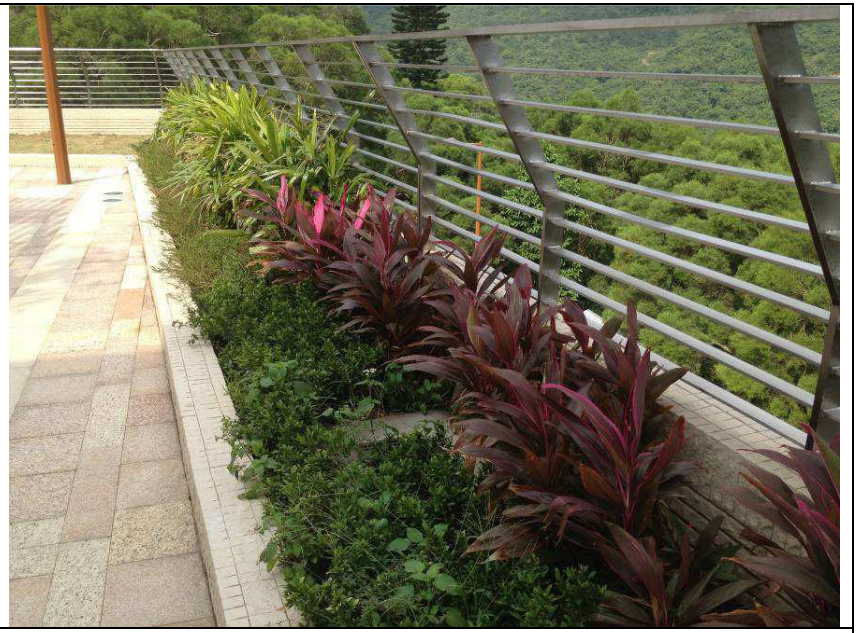


Photo 2

Photo 3

Photo 4

	
Photo 5	Photo 6

APPENDIX H
WEATHER CONDITION ON MONITORING DATE

Appendix H Weather Conditions on Monitoring Date

Date	Air Temperature (°C)	Mean Relative Humidity (%)
2 - October -2013	25.5 – 31.4	46 – 89
3 - October -2013	24.6 – 30.1	51 – 86
4 - October -2013	24.7 – 29.4	56 – 82
7 - October -2013	25.5 – 32.0	48 – 61
8 - October -2013	25.6 – 29.0	58 – 73
9 - October -2013	25.4 – 30.1	65 – 85
11 - October -2013	25.5 – 31.1	65 – 89
15 - October -2013	25.6 – 29.9	61 – 84
17 - October -2013	24.0 – 26.0	67 – 79
18 - October -2013	23.2 – 28.5	53 – 75
21 - October -2013	22.8 – 27.4	63 – 82
23 - October -2013	21.9 – 27.6	39 – 56
24 - October -2013	21.3 – 27.9	29 – 51
25 - October -2013	21.6 – 27.1	27 – 49
26 - October -2013	19.4 – 25.6	40 – 66
28 - October -2013	20.9 – 25.7	52 – 78
30 - October -2013	22.9 – 26.5	62 – 83
31 - October -2013	22.4 – 28.1	56 – 84

* The above information was extracted from the daily weather summary by Hong Kong Observatory.

APPENDIX I
SUMMARY OF EXCEEDANCE

APPENIDX I – SUMMARY OF EXCEEDANCE

Reporting Month: October 2013

a) Exceedance Report for 1-hr TSP (NIL)

b) Exceedance Report for 24-hr TSP (NIL)

c) Exceedance Report for Construction Noise (NIL)

APPENDIX J
SITE AUDIT SUMMARY

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	131004
Date	4 October 2013 (Friday)
Time	10:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
131004-R01	***Part A - Water Quality*** • No environmental deficiency was identified during the site inspection. ***Part B – Landscape and Visual*** • No environmental deficiency was identified during the site inspection. ***Part C - Air Quality*** • The removed dusty material should be properly covered or disposed of regularly. ***Part D – Noise*** • No environmental deficiency was identified during the site inspection. ***Part E - Waste / Chemical Management*** • No environmental deficiency was identified during the site inspection. ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on the previous audit session (Ref. No.130926), all environmental deficiencies were improved/ rectified by the Contractor.	C 6

	Name	Signature	Date
Recorded by	Gary Lau		4 October 2013
Checked by	Dr. Priscilla Choy		4 October 2013

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	131011
Date	11 October 2013 (Friday)
Time	10:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
131011-O01	***Part A - Water Quality*** • No environmental deficiency was identified during the site inspection. ***Part B – Landscape and Visual*** • No environmental deficiency was identified during the site inspection. ***Part C - Air Quality*** • No environmental deficiency was identified during the site inspection. ***Part D – Noise*** • No environmental deficiency was identified during the site inspection. ***Part E - Waste / Chemical Management*** • Chemical container should be provided with trip tray and chemical labels. ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on the previous audit session (Ref. No.131004), all environmental deficiencies were improved/ rectified by the Contractor.	E 7ii

	Name	Signature	Date
Recorded by	Victor Wong		11 October 2013
Checked by	Dr. Priscilla Choy		11 October 2013

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	131018
Date	18 October 2013 (Friday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
131018-R01	***Part A - Water Quality*** • No environmental deficiency was identified during the site inspection. ***Part B – Landscape and Visual*** • No environmental deficiency was identified during the site inspection. ***Part C - Air Quality*** • Excavated dusty materials should be covered properly to prevent dust emission. ***Part D – Noise*** • No environmental deficiency was identified during the site inspection. ***Part E - Waste / Chemical Management*** • No environmental deficiency was identified during the site inspection. ***Part F - Permit / Licenses*** • No environmental deficiency was identified during the site inspection. ***Others*** • Follow-up on the previous audit session (Ref. No.131011), all environmental deficiencies were improved/ rectified by the Contractor.	C 6

	Name	Signature	Date
Recorded by	Victor Wong		22 October 2013
Checked by	Dr. Priscilla Choy		22 October 2013

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	131024
Date	24 October 2013 (Thursday)
Time	13:30 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality • No environmental deficiency was identified during the site inspection.	
	Part B – Landscape and Visual	
131024-R01	• Properly clear the construction tool next to the tree truck to prevent the tree damage.	B 3
131024-R02	• The fence of the tree protection area should be kept in a good condition.	B 1
	Part C - Air Quality • No environmental deficiency was identified during the site inspection.	
	Part D – Noise • No environmental deficiency was identified during the site inspection.	
	Part E - Waste / Chemical Management • No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licenses • No environmental deficiency was identified during the site inspection.	
	Others • Follow-up on the previous audit session (Ref. No.131018), all environmental deficiencies were improved/ rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Janet Wai		24 October 2013
Checked by	Dr. Priscilla Choy		24 October 2013

APPENDIX K
SUMMARY OF AMOUNT OF WASTE GENERATED

Architectural Services Department	Form No. D/OI.03/09.002

Contract No. / Works Order No.: - SS W327

Monthly Summary Waste Flow Table for 2013 [year] [to be submitted not later than the 15th day of each month following reporting month]

(All quantities shall be rounded off to 3 decimal places.)

Month	Actual Quantities of Inert Construction Waste Generated Monthly				
	(a)=(b)+(c)+(d)+(e) Total Quantity Generated	(b) Broken Concrete (see Note 4)	(c) Reused in the Contract	(d) Reused in other Projects	(e) Disposed of as Public Fill
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)
Jan	0	0	0	0	0
Feb	0	0	0	0	0
Mar	0.039	0	0	0	0.039
Apr	0.117	0	0	0	0.117
May	0.104	0	0	0	0.104
Jun	0.098	0	0	0	0.098
Sub-total	0.358	0	0	0	0.358
Jul	0.111	0	0	0	0.111
Aug	0.052	0	0	0	0.052
Sep	0.189	0	0	0	0.189
Oct	0.715	0	0	0	0.715
Nov					
Dec					
Total	1.425	0	0	0	1.425

Month	Actual Quantities of Non-inert Construction Waste Generated Monthly												
	Timber		Metals		Paper/ cardboard packaging		Plastics (see Note 3)		Chemical Waste		Other Recyclable Materials _____ (pls. specify)		General Refuse disposed of at Landfill
	(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000kg)		(in '000m^3)
	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated	recycled	generated
Jan	0	0	2.030	2.030	0.101	0.101	0.020	0.020	0	0	0	0	0
Feb	0	0	0	0	0.060	0.060	0.010	0.010	0	0	0	0	0
Mar	0	0	0	0	0.053	0.053	0.002	0.002	0	0	0	0	0
Apr	0	0	4.470	4.470	0.047	0.047	0.003	0.003	18.900	18.900	0	0	0.007
May	0	0	3.420	3.420	0.110	0.110	0.003	0.003	0	0	0	0	0.026
Jun	0	0	1.860	1.860	0.033	0.033	0.003	0.003	0	0	0	0	0.026
Sub-total	0	0	11.780	11.780	0.404	0.404	0.041	0.041	18.900	18.900	0	0	0.059
Jul	0	0	0.980	0.980	0.075	0.075	0.017	0.017	0	0	0	0	0.026
Aug	0	0	7.340	7.340	0.057	0.057	0.015	0.015	0	0	0	0	0.046
Sep	0	0	22.600	22.600	0.097	0.097	0.002	0.002	0	0	0	0	0.026
Oct	0	0	0.980	0.980	0.101	0.101	0.000	0.000	0	0	0	0	0.045
Nov													
Dec													
Total	0	0	43.680	43.680	0.734	0.734	0.075	0.075	18.900	18.900	0	0	0.202

Description of mode and details of recycling if any for the month e.g. XX kg of used timber was sent to YY site for transformation into fertilizers					
NIL	October 2013 metals waste sent to Hong Kong Scrap Yard Ltd. (980 kg)	September 2013 paper waste sent to Lung Hing Waste Paper Co., Ltd. (101kg)	NIL	NIL	NIL

Notes:
(1) The performance targets are given in the Particular Specification on Environmental Management Plan.
(2) The waste flow table shall also include construction waste that are specified in the Contract to be imported for use at the site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
(4) Broken concrete for recycling into aggregates.
(5) If necessary, use the conversion factor: 1 full load of dumping truck being equivalent to 6.5 m^3 by volume.

APPENDIX L
EVENT/ ACTION PLANS

Appendix L – Event Action Plan

Event	Action			
	ET	IEC	ER	Contractor
Action Level being exceeded	1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level being exceeded	1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated.

APPENDIX M
ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

EIA Ref #	Environmental Protection Measures/ Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
3.102	Construction & Demolition Phase Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation: skip hoist for material transport should be totally enclosed by impervious sheeting; every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site; the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; where a site boundary adjoins a road, streets or other accessible to the public, hording of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit; every stack of more than 20 bags of cement should be covered entirely by impervious sheeting places in an area sheltered on the top and the 3 sides; all dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet; the excavation area should be limited to as small in size as possible and backfilled with clean and/or treated soil shortly after excavation work; the height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation	Works Sites / During Construction Phase	Contractor		√			EIAO-TM	#

EIA Ref #	Environmental Protection Measures/ Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
3.91	from unloading; the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle; and implementation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of works if dusty conditions arise. Implementation of precautionary and mitigation measures for removal of Asbestos Containing Material stipulated in Air Pollution Control Ordinance: enclosure of the work area; containment and sealing for the asbestos containing waste; provision of personal decontamination facilities; use of personal decontamination facilities; use of personal respiratory/protection equipment; use of vacuum cleaner fitted with a high efficiency particulate air filter for cleaning up the works area; and carrying out air quality monitoring during the asbestos abatement works.							APCO	
S3.8 – S3.22 and	<u>Operation Phase</u> Although the final selection of cremation technology and air pollution control system would be subject to open tendering procedure, the performance and	Cremators / During Operation Phase	Contractor	√		√		APCO	N/A

EIA Ref #	Environmental Protection Measures/ Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
3.77 3.108	specifications of the new cremators and air pollution control system shall fully comply with target emission limits and the BPM12/2(06); Use of towngas as burning fuel for the new cremators; and Adoption of flue gas treatment system for joss paper burners. The monitoring of the air pollutants shall comply with the requirements of BPM and future Specified Process License of new crematorium, to be issued by EPD under the APCO.					√		APCO	

All recommendations and requirements resulted during the course of EIA/EA Process, including ACE and / or accepted public comment to the proposed project.

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
S.4.58	Construction & Demolition Phase Good Site Practice Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354) and the Land (Miscellaneous Provision) Ordinance (Cap. 28) • Prepare a Waste Management Plan approved by the Engineers / Supervising Officer of the Project based on current best practice on Construction Site • Use waste licensed collector to collect waste • Establish trip ticket system as contractual requirement with reference to ETWB(W) No. 31/2004 for monitoring of public fill and C&D waste at public filling facilities and landfills. • Provide training to site staff in terms of proper waste management and chemical waste handling procedures • Separate chemical wastes for special handling and dispose them at licensed facility for treatment • Provide sufficient waste disposal points and regular collection for disposal • Establish recording system for the amount of wastes generated, recycled and disposed of	Project site / design, construction and demolition phase	Contractor	√	√			Waste Disposal Ordinance (Cap. 354) Waste Disposal (Chemical Waste) (General) Regulation Waste Disposal (Charges for Disposal of Construction Waste) Regulation ETWBTC(W) 19/2005 ETWB(W) No. 31/2004	#
S.4.59	Environmental Management Plan • The ETWB TCW No.19/2005 “Environmental Management on Construction” includes procedures on waste management requiring contractors to reduce the C&D material to be	Project site / design, construction and	Contractor	√	√	√		ETWBTC(W) 19/2005	^

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	disposed of during the course of construction. Under this ETWB TCW No.19/2005, the Contractor is required to prepare and implement an Environmental Management Plan (EMP) and the Waste Management Plan (WMP) becomes part of the EMP.	demolition phase							
S.4.60	<u>Waste Reduction Measures</u> • Prior to disposal of C&D waste, wood, steel and other metals should be separated for reuse and / or recycling to minimize the quantity of waste to be disposed of to landfill • Minimize use of wood and reuse non-timber formwork to reduce the amount of C&D waste • As far as practicable, segregate and store different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal • Encourage collection of aluminium cans, plastic bottles and packaging material (e.g. carton boxes) and office paper	Project site / construction and demolition phase	Contractor		√	√		WBCT No. 32/1992 WBCT No. 19/2005	^
S.4.61-S4.62	<u>Excavated Materials</u> • Rock and soil generated from excavation should be reused during site formation and landscaping as far as practicable to reduce total amount dispose off site. • Trip ticket should be implemented for surplus excavated materials	Project site / construction and demolition phase	Contractor / ArchSD		√			WBTC No. 12/2000 ETWB TC(W) No. 31/2004	^
S.4.63 – S.4.66	<u>Construction and Demolition Materials</u> • Well-planned design and good site management can minimize over-loading and generation of waste materials such as concrete and cement grouts. Wooden frame should be replaced by metals. Plastic fencing and reusable site office structure can reduce	Project site / construction and demolition phase	Contractor / ArchSD	√	√			WBTC No. 2/93 The Land (Miscellaneous Provision) Ordinance	^

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	C&D waste generation. • The Contractor should recycle as much C&D materials as possible. Proper segregation of waste types on site to enhance reuse and recycling of materials. Designated areas for different materials storage should be assigned for segregation. • Under the Construction Waste Disposal Charging Scheme, construction waste producers such as construction and renovation contractors and premises owners, prior using government waste disposal facilities, need to prepare a billing account with EPD and pay for construction waste disposal. • It is expected that trip-ticket system should be implemented for surplus C&D materials disposal in accordance with ETWB TC(W) No.31/2004 and the Construction Waste Disposal Charging Scheme. Waste should be delivered to a public fill reception facility. Copies or counterfoils of trip tickets will be kept for record purpose.							WBTC No. 19/2005 ETWB TC(W) No.31/2004	
S.4.68 – S.4.70	<u>Contaminated Materials – Further Contamination Investigation</u> • Building structure of cremators, flues and chimney would likely to be contaminated by DCM ash due to long term servicing. As the cremators are still in operation, it is not possible to carry out site investigation in the areas of cremators, flues and chimney in this stage. To maintain uninterrupted cremation services, further site investigation in cremation rooms and associated equipments are proposed to undertake after decommissioning and prior to demolition of existing crematorium.	Cremators, chimney and flues areas/ After decommissioning but prior to demolition of the existing crematorium.	FEHD, ArchSD, Contractor		√			ProPECC PN 2/97 ProPECC PN 3/94 APCO	^

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	• According to the asbestos investigation report, asbestos gasket (woven) and insulation sheet were identified with ACM. It is also not possible to inspect all potential asbestos containing material locations due to on-going operation of cremators, concealed pipeline inside wall and covered up flange connection by metal cover. Further inspection of the inaccessible locations will be undertaken prior to demolition works. • Contaminated ash and ACM potential contamination locations will be further indentified. In view of close distance between the contaminated ash and ACM, there is concern on contaminated ash wastes being embedded in ACM. Therefore, it is advisable to remove contaminated ash waste prior to any asbestos containing material on building structures.								
S.4.72 – S 4.73	<u>Asbestos Containing Materials</u> • Asbestos waste will be handled in accordance with the Code of practice on the Handling, Transportation and Disposal of Asbestos Waste issued by the Environment and Food Bureau. • Production, collection and disposal of asbestos waste will follow the "trip-ticket" system. The registered asbestos contractor will be appointed a licensed asbestos waste collector to collect the packaged asbestos waste and deliver to the designated landfill for disposal. Notification has to be given to EPD for its, Ten working days notice of the intention to dispose of asbestos waste. After processing the notification, EPD will issue specific instructions and directions for disposal.	Crematorium room in existing crematorium / before demolition	Contractor		√			COP on Handling, Transportation and Disposal of Asbestos Waste under the Waste Disposal (Chemical Waste)(General) Regulation	^

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
S.4.75	<u>Demolition, Handling, Treatment and Disposal of Low Contaminated DCM from Demolition of Existing Crematorium</u> • Where the ash waste contains low contamination levels of DCM (<1ppb TEQ), the Contractor should avoid ash waste becoming airborne during demolition. General dust suppression measures will be followed and ash waste would be directly disposed to landfill.	Cremator room in existing crematorium / before demolition	Contractor		√			ProPECC PN 3/94 APCO	^
S.4.76	• Demolition, Handling, Treatment and Disposal of Moderately Contaminated DCM from Demolition of Existing Crematorium • Where the ash waste contains low contamination levels of DCM (>1 and <10 ppb TEQ), the following steps should be followed: • Site Preparation • - Except the cremators / flue / chimney, all removable items should be removed as far as practicable to avoid obstructing the decontamination activities; • - Preliminary site decontamination of all debris should be carried out using High Efficiency Particulate Air (HEPA) vacuum cleaner; • - Top portion of the chimney should be enclosed by a 3-layer chamber of polyethene sheets; • - At the entrance to the cremators/ flues/chimney, a 3-chamber decontamination unit should be constructed for entry and exit from the work area. The 3-chamber decontamination unit should comprise a dirty room, a shower room and a clean room of at least 1m x 1m base with 3-layer of fire retardant polyethylene sheet; • - Workers should carry out decontamination	Cremator room in existing crematorium / before demolition	Contractor		√			ProPECC PN 3/94 APCO	^

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	procedure before leaving the work area; • - Workers should wear full protective equipment, nitrile gloves, robber boots and full-face positive pressure respirator; and • - Warning signs in both Chinese and English should be provided in conspicuous areas. • • Demolition and Handling • - The cremators / flue / chimney should be removed from top down. Any ash or residues attached to the cremators / flue / chimney or any other building structure should be removed by scrubbing and HEPA vacuuming; • - Waste generated from the containment or decontamination unit including the protection clothing of the workers should be disposed to landfill; and • - After removal, all surfaces should be decontaminated by HEPA vaccum. • Treatment and Disposal • - Immobilise ash waste by proper mixing with cement as determined by the pilot mixing and Toxicity Characteristic Leaching Procedure (TCLP); • - Waste material should be placed in polyethylene lined steel drums for disposal at landfill, the drums should be 16 gauge steel or thicker and fitted with double bung fixed ends adequately sealed and well labeled in new or good condition. • - Drums should be clearly marked “DANGEROUS CHEMICAL WASTE” in English and Chinese. Prior agreement of the disposal criteria must be obtain from EPD and the landfill operator.								

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	• - As a fall back option, if landfill disposal criteria cannot be met after immobilization of the ash waste, disposal at the Chemical Waste Treatment Center (CWTC) should be considered.								
S.4.77	• Demolition, Handling, Treatment and Disposal of Severely Contaminated DCM from Demolition of Existing Crematorium • Where the ash waste contains severely contamination levels of DCM (>10ppb TEQ), the following steps should be followed: • • Site Preparation • - Except the cremators / flue / chimney, all removable items should be removed as far as practicable to avoid obstructing the decontamination activities; • - Preliminary site decontamination of all debris should be carried out using High Efficiency Particulate Air (HEPA) vacuum cleaner; • - The walls, floor and ceiling of the cremator room where severely contaminated DCM should be lined with 3-layer chamber of fire retardant polyethene sheets. Top portion of the chimney above the roof should be enclosed by a 3-layer chamber of polyethene sheets; • - At the entrance to the cremators / flues / chimney, a 3-chamber decontamination unit should be constructed for entry and exit from the work area. The 3-chamber decontamination unit should comprise a dirty room, a shower room and a clean room of at least 1m x 1m base with 3-layer of fire retardant polyethylene sheet where all workers would carry out decontamination procedures	Cremator room in existing crematorium / before demolition	Contractor		√			ProPECC PN 3/94 APCO	N/A

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	before leaving the work area; • - Air movers should be installed at the cremator room, and at the bottom of the chimney to exhaust air from work area. A stand-by air mover should be installed with each of air movers. Sufficient air movement should be maintained to give a minimum of 6 air changes per hour to the work area; • - New pre-filters and HEPA filters should be used on the air movers. • - Before commencement of the decommissioning work, a smoke test with non-toxic smoke should be carried out to confirm the air tightness of the containment; • - Workers should wear full protective equipment, disposable protective coverall (such as Tyvek with shoe covers and hood), nitrile gloves, rubber boots and full-face positive pressure respirator equipped with a combination cartridge that filters particulate and removes organic vapour; and • - Warning signs in both Chinese and English should be provided in conspicuous areas. • Decontamination, Demolition and Handling • - The cremators / flue / chimney should be removed from top down. Any ash or residues attached to the cremators / flue / chimney or any other building structure should be removed by scrubbing and HEPA vacuuming; • - The contaminated detached sections of the building structure where severely contaminated DCM is located should be wrapped with 2 layers of fire retardant polyethene sheets. A third layershould be wrapped and secured with duct tape.								

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	Decontaminate the outer layer of the wrapped flue sections by wet wiping; and • - After completion of removal and decontamination, spary the innermost layer of the fire retardant polyethene sheet with PVA. Upon drying, peel off and dispose of at landfill site. • Treatment and Disposal • - All contaminated ash waste with severely contaminated DCM removed and the used HEPA filters should be sent to Chemical Waste Treatment Center (CWTC) at Tsing Yi; and • Other waste including the building structures and its associated panels as well as waste generated from this decommissioning works are also considered as contaminated waste and should be disposed of at designated landfill. Waste generated from this decommissioning works refer to the polyethene wrapping sheets should be placed into appropriate containers for disposal. Permit has to be obtained from the Authority. Disposal trip ticket is required to be made available as record after disposal.								
S4.78	• Further investigation and confirmatory test for ash waste in cremator, chimney and flues should be carried out on DCM prior to the demolition of the existing crematorium. The sampling and analysis plan should be prepared and submitted to EPD for approval.	Cremators, Chimneys and Flues / before demolition	Contractor		√			ProPECC PN 3/94 APCO	N/A
S4.79	• The mitigation measures stated in Section 4.75 to 4.78 of EIA report aim to address the detailed measures of avoiding cross contamination of DCM and ACM and should	Cremator room, cremators, chimney and flues areas/	Contractor		√				N/A

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	form part of the DCM Assessment Report which will be submitted to EPD for approval before the commencement of the demolition of the existing crematorium.	before demolition							
S.4.81 – S.4.83	• Chemical Waste • All the chemical waste should be handle according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. The chemical waste should store and collect by an licensed contractor for disposal at licensed facility in accordance with the Waste Disposal (Chemical Waste)(General) Regulation. Containers used for the storage of chemical waste should be: • - Suitable for substance holding, resistant to corrosion, maintained in good condition and securely closed; • - Capacity of less than 450 liters unless the specifications have been approved by the EPD; and • - Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Waste Disposal (Chemical Waste)(General) Regulation. • The storage area for chemical waste should: • - Be clearly labeled and used solely for the storage of chemical waste; • - Be enclosed on at least 3 sides; • - Have a impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; • - Have adequate ventilation; • - Be covered to prevent rainfall from entering (water collection within the bund must be	Project site / demolition	Contractor		√			Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes	#

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	tested and disposal as chemical waste if necessary); and • - Be properly arranged so that incompatible materials are adequately separated. • The chemical waste should be disposed of by: • - A licensed waste collector; • - A facility lisenced to receive chemical waste, such as CWTC at Tsing Yi, which offers chemical waste collection service and can supply the necessary storage containers; and • - A waste recycling plant as approved by EPD.								
S.4.84 – S.4.85	• General Refuse • General refuse should be stored in enclosed bins or compaction units separated from C&D and chemical wastes. Waste collector should be employed by the Contractor to minimize odour, pest and litter impacts. Open burning of refuse on construction site is prohibited by law. • The Contractor should carry out an education programe for workers in avoiding, reducing, reusing and recycling. This should include provision of three-colour recycling bins and on site and posters and leaflets advising on the use of recycling bins.	Project site / Construction and demolition stage	Contractor		√				^
S.4.86- S.4.101	• **<u>Operation Phase</u>** • Ash and non-combustible residues • -The disposal of bone and non-combustible residues should be properly collected and handled to avoid dust emissions. In line with the current practices, the bone ash will be stored in covered containers for collection by the deceased's relatives within 2 months upon appointment while the non-combustible residues will be collected in sealed heavy-duty	New crematorium / Operation phase	FEHD			√		Code of Practice on Packaging, Labelling and Storage of Chemical Wastes. Waste Disposal (Chemical Waste)(General)	N/A

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	polyethene bags for disposal at landfill. • Chemical Waste • - Chemical waste generated from the air pollution system as well as from machinery maintenance and servicing should be managed in accordance with the Code of Practice on the Packaging, Labelling and storage of Chemical Wastes under the provisions of the Waste Disposal (Chemical Waste)(General) Regulation. The chemical waste should be collected by drum-type containers and removed by licensed chemical waste contractor. • - Plant / equipment maintenance schedules should be planned in order to minimize the generation of chemical waste. • - Non-recyclable chemical wastes and lubricants should be disposed at an appropriate facility, such as EPD Chemical Waste Treatment Centre at Tsing Yi. Copies or counterfoils from collection receipts issued by the licensed waste collector should be kept for record purpose. • Fly Ash • - Collected and stored in sealed drums provided by the CWTC. • - Sealed drums are stored in a designated area and are periodically collected by CWTC (normally two to three weeks interval). • - Drums are taken to CWTC where they are incinerated and rendered harmless. • - Residues are then disposed of at landfill. • General Refuse • - Waste generated in offices should be reduced through segregation and collection of recyclable waste materials (such as paper). To							Regulation	

EIA Ref #	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Waste Management									
	promote recycling of waste paper, aluminum cans and plastic bottles, it is recommended to place clearly labeled recycling bins at designated locations. The recyclable waste materials should be collected by licensed collectors: • - General refuse, other than segregated recyclable wastes, should be separated from any chemical waste and stored in coved skips. Food and Environmental Hygiene Department (FEHD) should remove general refuse from the site on daily basis to minimize odour, pest and litter impacts. Also open burning of refuse must be strictly prohibited.								
S.10.5 – S.10.6	• EM&A • To maintain uninterrupted cremation services, further site investigations are recommended. Building structures asbestos investigation and dioxins ash waste investigation are recommended around cremators, chimney, flues and surrounding areas.	Cremators, chimney, flues and surrounding areas / after decommissioning and prior to demolition	Contractor		√			ProPECC PN 2/97 and 3/94 AIR,AMP/AAP to be sumitted under APCO Further Site Investigation Plan	^

All recommendations and requirements resulted during the course of EIA Process, including ACE and / or accepted public comment to the proposed project.

Table 12.3 Implementation Schedule for Land Contamination

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
5.29	Since the cremators are still in operation the proposed trial pit location, TP-1, is possessed by CEDD, it is not possible to carry out site investigation inside the cremation rooms and at TP-1 at this stage. Further site inspection of TP-1 and two cremation rooms shall be carried out after decommissioning and prior to the demolition of the existing crematorium. A supplementary CAP shall be prepared for EPD endorsement to present detailed sampling and testing plan for two cremation rooms. Further SI of TP-1 shall be conducted in accordance with the approved CAP. Findings of site investigation and appropriate remediation methods shall be presented in supplementary CAR and RAP for EPD endorsement prior to the commencement of any earthworks. The extent of contamination, if any, should be estimated	Pipeline, Cremator Rooms 1 and 2 / before demolition of the existing cremators	Contractor				√	Guidance Note for Contaminated Land Assessment and Remediation; Guidance Notes for Investigation and Remediation of Contaminated Sites of: Petrol Filling Stations, Boatyards, and Car Repair / Dismantling Workshops; Guidance Manual for Use of Risk–Based Remediation	^

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	based on the depth where contaminants found, the hydrogeological condition and the contaminants levels. The actual extent would be determined by confirmatory sampling and testing.							Goals for Contaminated Land Management; and	
5.40	Cement solidification / stabilization technique is considered as the most practical and cost-effective method to treat the metals contaminated soil on site.	Near underground storage tank / During soil treatment	Contractor				√	EIAO-TM	N/A
5.43 –5.44	Confirmatory soil sampling for closure assessment should be carried out to confirm the clean-up of the contaminated soil.	Near underground storage tank / During soil treatment	Contractor				√		^
5.46	Upon completion of cement solidification / stabilization, confirmation sampling and testing shall be undertaken to ensure the cleanup targets have been attained.	Near underground storage tank / During soil treatment	Contractor				√		N/A
5.49	If contaminated soil is found underneath the pipeline and at cremator rooms from the further SI, depending on the contamination extent, possible remediation methods for	Pipeline, Cremator Rooms 1 and 2 / before demolition of the	Contractor				√		N/A

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	organic contaminants could be excavation and biopiling as well as in-situ soil venting. If the volume of contaminated is found to be small and the aforesaid remediation methods is infeasible and impracticable, excavation and landfill disposal could be considered as last resort. Closure assessment in accordance with Sections 5.43 to 5.44 of EIA Report shall be carried out in order to confirm the clean-up of contaminated soil. The remediation method should be determined in the supplementary RAP according to the laboratory results and estimated quantity of contaminated soil.	existing cremators							
5.50	During removal of the underground storage tank, appropriate precautions should be taken to avoid contamination. All fuel tank and associated pipework should be emptied prior to any demolition work being undertaken. Any remaining sludge or sediment in the tanks or pipework should be removed and disposed of as chemical waste in accordance with the appropriate	Underground storage tank system / before demolition of the existing cremators	Contractor				√	Occupational Safety & Health Ordinance; Guidelines on Occupational Exposure	N/A

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	regulation for disposal of such material. After removal of the underground storage tank, confirmatory soil sample(s) underneath the tank should be collected and tested for TPH, VOCs and Pb using the same approach as mentioned in Sections 5.43 and 5.44 of EIA Report to ensure that no contamination due to fuel leakage.								
5.57 – 5.58	The following basic health and safety measures should be implemented as far as possible: • Set up a list of safety measures for site workers; • Provide written information and training on safety for site workers; • Keep a log-book and plan showing the contaminated zones and clean zones; • Maintain a hygienic working environment; • Avoid dust generation; • Provide face and respiratory protection gear to site workers; • Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight	At contaminated and soil treatment areas/ During soil treatment	Contractor				√	Occupational Safety & Health Ordinance; Guidelines on Occupational Exposure	N/A

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	gloves) to site workers; and • Provide first aid training and materials to site workers. The Contractor for the excavation works shall take note of the following points for excavation: • Excavation profiles must be properly designed and executed; • In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means. The discharge of groundwater, if any, should follow the requirements under the Water Pollution Control Ordinance (WPCO); • Excavation zone should be fenced off; • Quantities of soil to be excavated must be estimated; • It may be necessary to split quantities of soil according to soil type, degree and nature of contamination; • Temporary storage of soil at intermediate								

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	depot or on-site may be required. The storage site should include protection facilities for leaching into the ground e.g. a liner may be required; • Supply of suitable clean backfill material is needed after excavation; • Care must be taken of existing buildings and utilities; and • Precautions must be taken to control of ground settlement. • should be disposed of in accordance with the WPCO.								
5.60	The following mitigation measures are recommended to be implemented during CS/S processes. <u>Air Quality Impact</u> • The loading, unloading, handling, transfer or storage of cement should be carried out in an enclosed system. • The loading, unloading, handling, transfer or storage of other materials which may generate airborne dust emissions such as untreated soil and oversize materials	At contaminated and soil treatment areas/ During soil treatment	Contractor				√	Occupational Safety & Health Ordinance; Guidelines on Occupational Exposure	N/A

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	sorted out from the screening plant and stabilized soil stockpiled in the designated handling area, should be carried out in such a manner to prevent or minimise dust emissions. These materials should be adequately wetted prior to and during the loading, unloading and handling operations. • All practicable measures should be taken to prevent or minimize the dust emission caused by vehicle movement. <u>Noise Impact</u> • The mixing area should be sited as far as practicable to nearby noise sensitive receivers. • Simultaneous operation of mixing plants and other equipment should be avoided. • Mixing process and other associated material handling activities should be properly scheduled to minimise potential cumulative noise impact on nearby noise sensitive receivers. • Construction Noise Permit should be								

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	applied for the operation of powered mechanical equipment, if any, during restricted hours. Water Quality Impact • Stockpile of untreated soil should be covered as far as practicable to prevent the contaminated material from leaching out. The leachate should be discharged following the requirements of Water Protection Control Ordinance. Waste • The oversize materials such as rocks and boulders should be screened out, cleaned the soil attached and used as filling material within the site. Contaminated materials (soil or rock fragments) of size smaller than 5 cm should be collected and transferred to the mixing area for decontamination treatment. • Stabilized soils should be broken into suitable size for backfilling or reuse on site.								

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Land Contamination									
	• A high standard of housekeeping should be maintained within the mixing area. • There should be clear and separated areas for stockpiling of untreated and treated materials.								

All recommendations and requirements resulted during the course of EIA Process, including ACE and / or accepted public comment to the proposed project.

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Visual Impact									
Table 6.4	Construction & Demoliton Phase Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO-TM Annex 10, 18 ETWB TCW 2/2004 ETWB TCW 3/2006	^
	Existing trees to be retained on site should be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√				#
	Trees unavoidably affected by the works should be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√				^
	Compensatory tree planting should be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√				^
	Control of night-time lighting.	Work site / During Construction Phase	Contractor		√				^
	Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√				^

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Visual Impact									
Table 6.5	Operation Phase Aesthetic design of the façade/chimneys/noise barriers and associated structures to harmonize with the surrounding settings.	Work site / During Design Stage and Operation Phase	FEHD	√		√		EIAO-TM Annex 10, 18 ETWB TCW 2/2004 ETWB TCW 3/2006	N/A
	Aesthetic design of landscaped roof.	Work site / During Design Stage and Operation Phase	FEHD	√		√			N/A
	Tree and shrub planting to enhance amenity	Work site / During Design Stage and Operation Phase	FEHD	√		√			N/A
	Reinstated of disturbed area.	Work site / During Design Stage and Operation Phase	FEHD	√		√			N/A

All recommendations and requirements resulted during the course of EIA Process, including ACE and / or accepted public comment to the proposed project.

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Noise									
S7.49	Construction Phase Use of quiet PME for excavator/loader, soil nailing drilling machine, rock dowel drilling machine, bulldozer, dump truck and crawler mounted rock drill.	Work site / During construction and demolition phase	Contractor		√			EIAO-TM, GW-TM, NCO	^
S7.52	Good Site Practice: • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; • Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program; • Mobile plant, if any, should be sited as far from NSRs as possible; • Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and • Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site	Work site / During construction and demolition phase	Contractor		√			EIAO-TM, GW-TM, NCO	^

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Noise									
	construction activities.								
S7.53	Operation Phase Provision of 2.5m high acoustic barriers for a total of 10 radiators. The noise barrier would be lined with sound absorbing material at the surface of the barrier facing the noise source.	Upper roof of the crematorium / During operation phase	ArchSD, FEHD	√		√		EIAO-TM, NCO	N/A

All recommendations and requirements resulted during the course of EIA Process, including ACE and / or accepted public comment to the proposed project.

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Water Quality									
S8.30 to S8.52	The measures as outlined in the ProPECC PN 1/94 should be followed where applicable.	Work site / during construction and demolition phase	Contractor		√			Technical Memorandum on the Environmental Impact Assessment Process (EIAO-TM) Water Pollution Control Ordinance (WPCO) Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS)	#
S8.3 and S8.53	There is a need to apply to EPD for a discharge licence under the WPCO for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge licence. All the runoff, wastewater or extracted groundwater generated from the works areas should be treated as necessary so that it satisfies all the standards listed in the	Work site / during construction and demolition phase	Contractor		√			EIAO-TM, WPCO, TM-DSS	^

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Water Quality									
	TM-DSS.Monitoring of the construction site effluent quality should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD.								
S8.54	Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor would be responsible for appropriate disposal of waste matter and maintenance of these facilities.	Work site / during construction and demolition phase	Contractor		√			EIAO-TM, WPCO, TM-DSS	^
S8.55	Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis. Stockpiles of cement and other construction materials should be kept covered when not being used.	Work site / during construction and demolition phase	Contractor		√			EIAO-TM, WPCO, TM-DSS	^
S8.56	Oils and fuels should only be used and stored in	Work site / during	Contractor		√			EIAO-TM, WPCO,	#

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Status
				Des	C	O	Dec		
Water Quality									
	designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to the nearby watercourse, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event. Oil leakage or spillage should be contained and cleaned up immediately.	construction and demolition phase						TM-DSS	
S8.57	Handling and disposal of operation stage effluent should follow the practices outlined in ProPECC PN 5/93 where applicable.	Project site / during design and operation phase	FEHD	√		√		EIAO-TM, WPCO, TM-DSS	^

All recommendations and requirements resulted during the course of EIA Process, including ACE and / or accepted public comment to the proposed project.

Remarks:	^ Compliance of mitigation measure;	X Non-compliance of mitigation measure;
	N/A Not Applicable;	• Non-compliance but rectified by the contractor
	# Recommendation was made during site audit but improved/rectified by the contractor.	* D = Design, C = Construction, O = Operation

APPENDIX N
COMPLAINT LOG

APPENDIX N – COMPLAINT LOG

Reporting Month: October 2013

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Remarks: No environmental complaint was received in the reporting month.

APPENDIX O
CONSTURCTION PROGRAMME

祥興建造有限公司
CHEUNG HING CONSTRUCTION CO., LTD.

ISO 9001:2008
Certificate No: CC720

Our Ref.: CH/P/ASD/327/GEN/13/05/1771

By E-mail & by Hand

22 May 2013

Andrew Lee King Fun & Associates Architects Limited
19/F., Universal Trade Centre,
3 Arbuthnot Road,
Central,
Hong Kong

Attn.: Mr. Franklin Yu (Associate Director)

Dear Sirs,

Contract No. SS W327
Reprovisioning of Cape Collinson Crematorium
Re: Master Programme MP-03F

We refer to your letter ref. A-0727/7MC/MAR.13/48L dated 25th March 2013, we would like to submit herewith the revised Master Programme MP-03F for your comment and approval.

Thank you for your kind attention.

Yours faithfully,
For and on behalf of
Cheung Hing Construction Co., Ltd.

Mr. Dennis HO *SITE AGENT*
DH/ek

Encl.

c.c.	ArchSD – Ms. Denise Lo (PM360)	(w/e)	(Fax No.: 2523 9622)
	ArchSD – Mr. KWOK Wing Sun (PM363)	(w/e)	(Fax No.: 2290 2152)
	ArchSD – Mr. Yiu Hak-hung (ER/COW)	(w/e)	(Fax No.: 2911 4706)
	ArchSD – Mr. W.K.Lee (LBSE)	(w/e)	(Fax No.: 2765 3496)
	ArchSD – Mr. Wong En Ming (ER/BSI)	(w/e)	(Fax No.: 2505 1586)
	ArchSD – Mr. Lee Ka Wing (ER/EMI)	(w/e)	(Fax No.: 2801 4711)
	Meinhardt (C&S) – Mr. Paul Cheng	(w/e)	(Fax No.: 2517 6107)
	Meinhardt (M&E) – Mr. T. K. Chan	(w/e)	(Fax No.: 2559 1613)
	Northcroft – Mr. William Siu	(w/e)	(Fax No.: 2893 3601)
	Urbis – Mr. Tuan Huy Tran (LA)	(w/e)	(Fax No.: 2802 8662)
	IEC – Mr. James Choi	(w/e)	(Fax No.: 3007 8556)
	PCOW – Mr. P.K. Leung	(w/e)	(By Hand)
	RE - Mr. Ben Wong	(w/e)	(By Hand)
	PBSI – Mr. Raymond Cheng	(w/e)	(By Hand)
	PEMI – Mr. Prince Wong	(w/e)	(By Hand)
	ET Leader – Dr. Priscilla Choy	(w/e)	(Fax No.: 3107 1388)
	Southa – Mr. Daniel Wong	(w/e)	(Fax No.: 2963 7102)
	Anlev Elex – Mr. Rason Cheung	(w/e)	(Fax No.: 2565 7638)

We love the Earth
Enclosure for the Letter is Printed on both Sides

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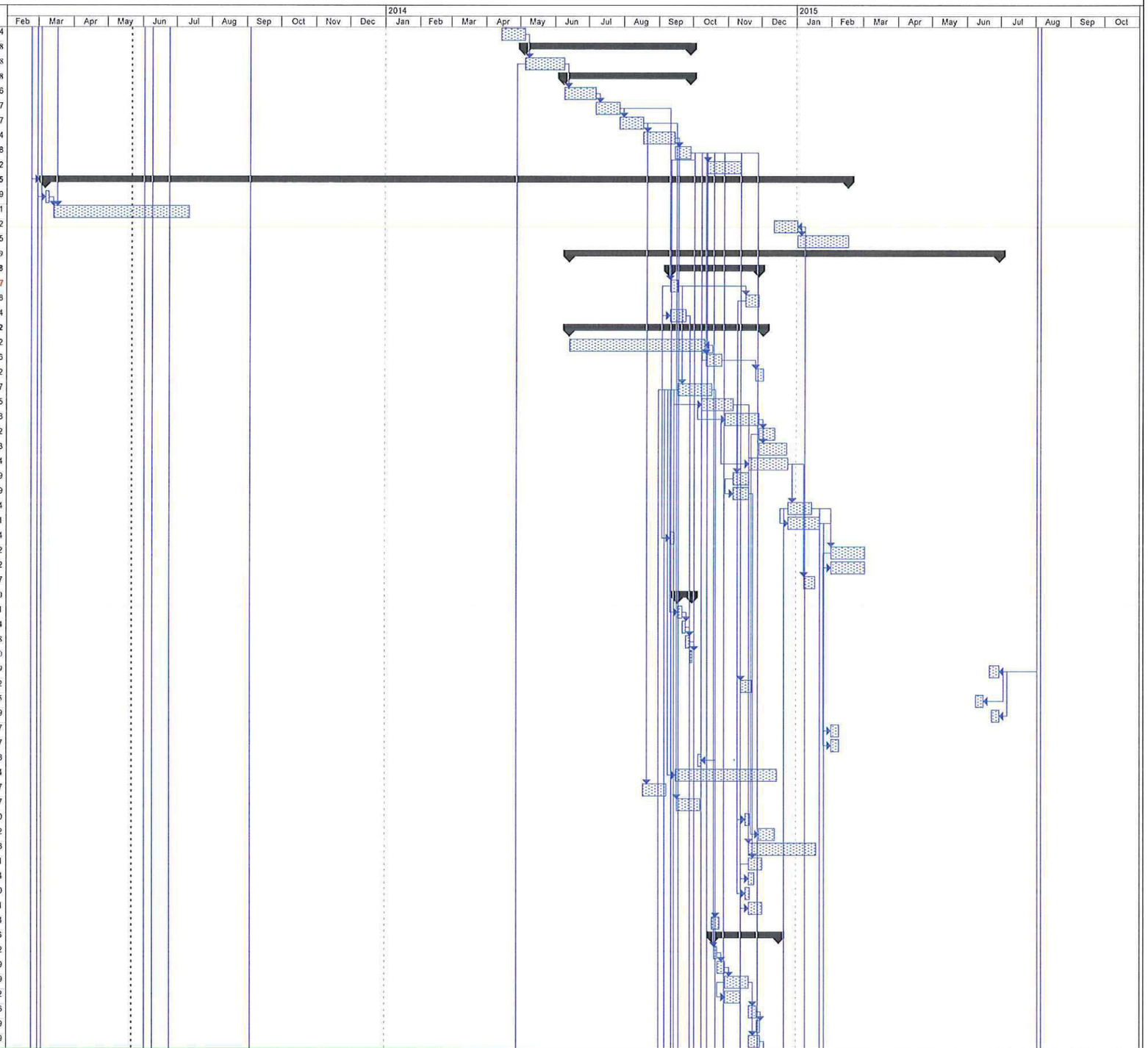
Master Programme
Reprovision of Cape Collinson Crematorium
Contract No. SS W327

ID	Task Name	Duration	Start	Finish
1	**Commencement of Phase 2 Works**	1 day	Thu 13/3/7	Thu 13/3/7
2	**Sectional Arrangement**	**919 days**	**Thu 13/3/7**	**Fri 15/9/11**
3	Phase 2A - Remaining Part of Crematorium Building and etc	875 days	Thu 13/3/7	Wed 15/7/29
4	Phase 2B - Removal of Canopy	90 days	Thu 13/3/7	Tue 13/6/4
5	Phase 2C - Removal of Fuel Tank	230 days	Thu 13/3/7	Tue 13/10/22
6	Phase 2D - Removal of Temporary Offices and Lavatories	30 days	Thu 15/8/13	Fri 15/9/11
7	**Detailed Breakdowns of Programme**	**919 days**	**Thu 13/3/7**	**Fri 15/9/11**
8	**SECTION 2A - Remaining Part of Crematorium Building and etc.**	**875 days**	**Thu 13/3/7**	**Wed 15/7/29**
9	Taking Over of Site and Mobilization	7 days	Thu 13/3/7	Wed 13/3/13
10	Environmental Pollution Control Works	**875 days**	**Thu 13/3/7**	**Wed 15/7/29**
11	Works as per EM&A Programme	875 days	Thu 13/3/7	Wed 15/7/29
12	Land Contamination Works in Cremators 1 & 2 and TP-1	**128 days**	**Thu 13/3/14**	**Fri 13/7/19**
13	**At TP1**	**128 days**	**Thu 13/3/14**	**Fri 13/7/19**
14	Land contamination investigation works	21 days	Thu 13/3/14	Wed 13/4/3
15	Submit Supplementary Contamination Assessment Report (SCAR) to EPD	14 days	Thu 13/6/6	Wed 13/6/19
16	Approval from EPD for SCAR	30 days	Thu 13/6/20	Fri 13/7/19
17	**At Cremators 1 and 2**	**107 days**	**Thu 13/4/4**	**Fri 13/7/19**
18	Land contamination investigation works	42 days	Thu 13/4/4	Wed 13/5/15
19	Submit Supplementary Contamination Assessment Report (SCAR) to EPD	14 days	Thu 13/6/6	Wed 13/6/19
20	Approval from EPD for SCAR	30 days	Thu 13/6/20	Fri 13/7/19
21	Demolish, Handling, Treatment and Disposal of DCM and ACM	188 days	Thu 13/3/14	Tue 13/9/17
22	DCM investigation works	50 days	Thu 13/3/14	Thu 13/5/2
23	Prepare DCM Assessment Report (incl a specific demolition plan)	21 days	Fri 13/5/3	Thu 13/5/23
24	Endorsement of DCMAR by IEC	3 days	Fri 13/5/24	Sun 13/5/26
25	Submission of DCMAR to EPD	1 day	Mon 13/5/27	Mon 13/5/27
26	Approval from EPD	30 days	Tue 13/5/28	Wed 13/6/26
27	Deposit Confirmatory Report to EPD	7 days	Wed 13/9/11	Tue 13/9/17
28	**Removal of ACM, DCM and Other Contaminants under Section 2A**	**21 days**	**Mon 13/5/27**	**Sun 13/6/16**
29	Architect to Issue A.I. For Removal of Contaminants	1 day	Mon 13/5/27	Mon 13/5/27
30	Employ Specialist Contractor(s) for Removing ACM, DCM and Other Contaminant	21 days	Mon 13/5/27	Sun 13/6/16
31	Removal of Dioxin Contaminated Materials (DCM)	**76 days**	**Thu 13/6/27**	**Tue 13/9/10**
32	Mobilization	3 days	Thu 13/6/27	Sat 13/6/29
33	Smoke test with non-toxic smoke	3 days	Sun 13/6/30	Tue 13/7/2
34	Remove removable DCM contaminated items	14 days	Wed 13/7/3	Tue 13/7/16
35	Decontamination of all debris using HEPA vacuum cleaners	21 days	Wed 13/7/17	Tue 13/8/6
36	Lining to walls & ceiling with 3-layer polyethene sheets	7 days	Wed 13/8/7	Tue 13/8/13
37	Install 3-chamber decontamination units at cremator entrances	7 days	Wed 13/8/14	Tue 13/8/20
38	Install air movers	2 days	Wed 13/8/14	Thu 13/8/15
39	Remove DCM	21 days	Wed 13/8/21	Tue 13/9/10
40	Removal of Asbestos Contaminated Materials (ACM)	110 days	Thu 13/3/14	Mon 13/7/1
41	Investigation for ACM	35 days	Thu 13/3/14	Wed 13/4/17
42	Submit Asbestos Investigation Report (AIR) to EPD	40 days	Thu 13/4/18	Mon 13/5/27
43	Submit Asbestos Abatement Plan (AAP) to EPD	40 days	Thu 13/4/18	Mon 13/5/27
44	Notify EPD to dispose of ACM	14 days	Tue 13/5/28	Mon 13/6/10
45	Removal of ACM	21 days	Tue 13/6/11	Mon 13/7/1
46	Hoarding, Chain Link Fence & Covered Walkway	106 days	Thu 13/3/7	Thu 13/6/20
47	Setting out	4 days	Thu 13/3/7	Sun 13/3/10
48	Erection	106 days	Thu 13/3/7	Thu 13/6/20
49	Demolish Existing Cremator Plant Room & Cremators etc.	**233 days**	**Thu 13/3/7**	**Fri 13/10/25**
50	Submit Demolition Plan for approval and re-submission	85 days	Thu 13/3/7	Thu 13/5/30
51	Detailed method and sequence of demolition propping proposed	85 days	Thu 13/3/7	Thu 13/5/30
52	Erect proppings and safety measures	7 days	Wed 13/9/4	Tue 13/9/10
53	Disconnect existing services by relevant departments/ utility companies	14 days	Wed 13/6/5	Tue 13/6/18
54	Demolition works	45 days	Wed 13/9/11	Fri 13/10/25
55	Site Formation Works	248 days	Fri 13/5/31	Sun 14/2/2
56	Unregistered Slope Feature No.1	**98 days**	**Fri 13/5/31**	**Thu 13/9/5**
57	Install and pull-out test for trial nails	30 days	Fri 13/5/31	Sat 13/6/29
58	Install and test for working nails	18 days	Sun 13/6/30	Wed 13/7/17
59	Repair/ reinstate existing surface channels on slope	14 days	Thu 13/7/18	Wed 13/7/31
60	Filling soil, compaction and soil tests	30 days	Thu 13/8/1	Fri 13/8/30
61	Erosion control matt and hydroseeding	4 days	Sat 13/8/31	Tue 13/9/3
62	Dismantle hoarding/ chain link fence	2 days	Wed 13/9/4	Thu 13/9/5
63	Remove remaining portion of 11SE-D/CR607	5 days	Wed 13/9/11	Sun 13/9/15
64	Remove remaining portion of Slope Feature 11SE-D/R2	5 days	Wed 14/1/29	Sun 14/2/2
65	Boring and install H-piles for soldier piling system	40 days	Sat 13/10/26	Wed 13/12/4
66	Piling Works	**328 days**	**Thu 13/3/7**	**Tue 14/1/28**
67	Approval from SCU received	1 day	Thu 13/3/7	Thu 13/3/7
68	Piling works	55 days	Thu 13/12/5	Tue 14/1/28
69	Excavation and lateral support works	75 days	Wed 14/1/29	Sun 14/4/13

Task | Milestone | Rolled Up Task | Rolled Up Progress | External Tasks | Group By Summary
Progress | Summary | Rolled Up Milestone | Split | Project Summary

Master Programme
Reprovision of Cape Collinson Crematorium
Contract No. SS W327

ID	Task Name	Duration	Start	Finish
70	Construct raft foundation/ footing	21 days	Mon 14/4/14	Sun 14/5/4
71	Substructural and Superstructural RC Works	147 days	Mon 14/5/5	Sun 14/9/28
72	Construct Basement	35 days	Mon 14/5/5	Sun 14/6/8
73	Construct Remaining Portion of Crematorium Building	112 days	Mon 14/6/9	Sun 14/9/28
74	G/F to M/F	28 days	Mon 14/6/9	Sun 14/7/6
75	M/F to 1/F	21 days	Mon 14/7/7	Sun 14/7/27
76	1/F to 2/F	21 days	Mon 14/7/28	Sun 14/8/17
77	2/F to Roof	28 days	Mon 14/8/18	Sun 14/9/14
78	Roof to Upper Roof	14 days	Mon 14/9/15	Sun 14/9/28
79	U/G manholes and drainage pipes (F1 to F4)	30 days	Tue 14/10/14	Wed 14/11/12
80	**Excavation for cable trench between New Tx Room and New Crematorium**	**711 days**	**Thu 13/3/7**	**Sun 15/2/15**
81	Excavation for trial pit(s) to reveal if roots of Retained Trees affecting cable routes	3 days	Thu 13/3/7	Sat 13/3/9
82	Rock breaking in stages with temporary backfilled	120 days	Thu 13/3/14	Thu 13/7/11
83	Re-open for excavated cable trench for cable laying	21 days	Fri 14/12/12	Fri 15/1/2
84	Reinstatement for existing EVA	45 days	Fri 15/1/2	Sun 15/2/15
85	Internal Finishing Works	381 days	Sat 14/6/14	Mon 15/6/29
86	Doors (timber & steel)	**79 days**	**Thu 14/9/11**	**Fri 14/11/28**
87	Frame installation	7 days	Thu 14/9/11	Wed 14/9/17
88	Doors installation	12 days	Mon 14/11/17	Fri 14/11/28
89	Windows and Louvres	14 days	Thu 14/9/11	Wed 14/9/24
90	Skylights at 1/F	**172 days**	**Sat 14/6/14**	**Tue 14/12/2**
91	Submit calculation and shop drawings	120 days	Sat 14/6/14	Sun 14/10/12
92	Structural steel frames	14 days	Mon 14/10/13	Sun 14/10/26
93	Tempered glass	7 days	Wed 14/11/26	Tue 14/12/2
94	Concrete block walls	30 days	Thu 14/9/18	Fri 14/10/17
95	Wall plastering	28 days	Thu 14/10/9	Wed 14/11/5
96	Floor screeding with dividing strips	30 days	Thu 14/10/30	Fri 14/11/28
97	Drywall partition	14 days	Sat 14/11/29	Fri 14/12/12
98	Skirting (hardwood, wash grano with coloured round pebbles)	25 days	Sat 14/11/29	Tue 14/12/23
99	Floor tiling (Homogeneous tiles with marble highlights, quarry tiles etc.)	35 days	Thu 14/11/20	Wed 14/12/24
100	Marble wall panels	14 days	Thu 14/11/6	Wed 14/11/19
101	Ceramic wall tiles	14 days	Thu 14/11/6	Wed 14/11/19
102	Gypsum board ceiling and light troughs	21 days	Thu 14/12/25	Wed 15/1/14
103	Aluminium suspended ceiling	28 days	Thu 14/12/25	Wed 15/1/21
104	4 hour FRP fire shutters	4 days	Thu 14/9/11	Sun 14/9/14
105	Wood veneered acoustic wall panels	30 days	Sun 15/2/1	Mon 15/3/2
106	Wood veneered wall panels and hardwood strips	30 days	Sun 15/2/1	Mon 15/3/2
107	Fixed seatings	10 days	Thu 15/1/8	Sat 15/1/17
108	Reception counter	**13 days**	**Thu 14/9/18**	**Tue 14/9/30**
109	Concreting works	4 days	Thu 14/9/18	Sun 14/9/21
110	s.s. panel on counter	3 days	Mon 14/9/22	Wed 14/9/24
111	Acrylic based solid surface material	4 days	Thu 14/9/25	Sun 14/9/28
112	Pomegranate wood veneer	2 days	Mon 14/9/29	Tue 14/9/30
113	Carpet tiles	9 days	Sun 15/6/21	Mon 15/6/29
114	Vinyl wall covering	10 days	Thu 14/11/13	Sat 14/11/22
115	CCTV monitors cabinet	7 days	Tue 15/6/9	Mon 15/6/15
116	Tactile warning strips	7 days	Tue 15/6/23	Mon 15/6/29
117	Catafalque at Services Halls by Cremator NSC	7 days	Sun 15/2/1	Sat 15/2/7
118	Altar at Services Halls	7 days	Sun 15/2/1	Sat 15/2/7
119	Roller shutter on M/F	3 days	Mon 14/10/6	Wed 14/10/8
120	Steel and metal works (General)	90 days	Tue 14/9/16	Sun 14/12/14
121	Installation of hoisting beams in Cremator Plant Room	21 days	Mon 14/8/18	Sun 14/9/7
122	Installation of hoisting beams in Filtration Plant Room	21 days	Wed 14/9/17	Tue 14/10/7
123	Ironmongeries	4 days	Mon 14/11/17	Thu 14/11/20
124	Cubicle partition	14 days	Sat 14/11/29	Fri 14/12/12
125	Internal wall & ceiling painting	60 days	Thu 14/11/20	Sun 15/1/18
126	Countertop basin with cabinets	12 days	Thu 14/11/20	Mon 14/12/1
127	Mirrors	5 days	Thu 14/11/20	Mon 14/11/24
128	Signages	4 days	Mon 14/11/17	Thu 14/11/20
129	Lockers on G/F	12 days	Thu 14/11/20	Mon 14/12/1
130	Demolish temporary concrete block walls at Grid D (to agree with FEHD on site)	7 days	Sat 14/10/18	Fri 14/10/24
131	Builder's Works in Chimneys	**58 days**	**Mon 14/10/20**	**Tue 14/12/16**
132	Erect bamboo scaffolding	3 days	Mon 14/10/20	Wed 14/10/22
133	Internal plastering and screeding	7 days	Thu 14/10/23	Wed 14/10/29
134	Install perforated metal platforms and metal railings	21 days	Thu 14/10/30	Wed 14/11/19
135	Install catladders	14 days	Thu 14/10/30	Wed 14/11/12
136	Install fall arrest system	7 days	Thu 14/11/20	Wed 14/11/26
137	Install trap door on R/F	3 days	Thu 14/11/27	Sat 14/11/29
138	Internal wall painting	10 days	Thu 14/11/20	Sat 14/11/29



Task | Milestone | Rolled Up Task | Rolled Up Progress | External Tasks | Group By Summary
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Master Programme
Reprovision of Cape Collinson Crematorium
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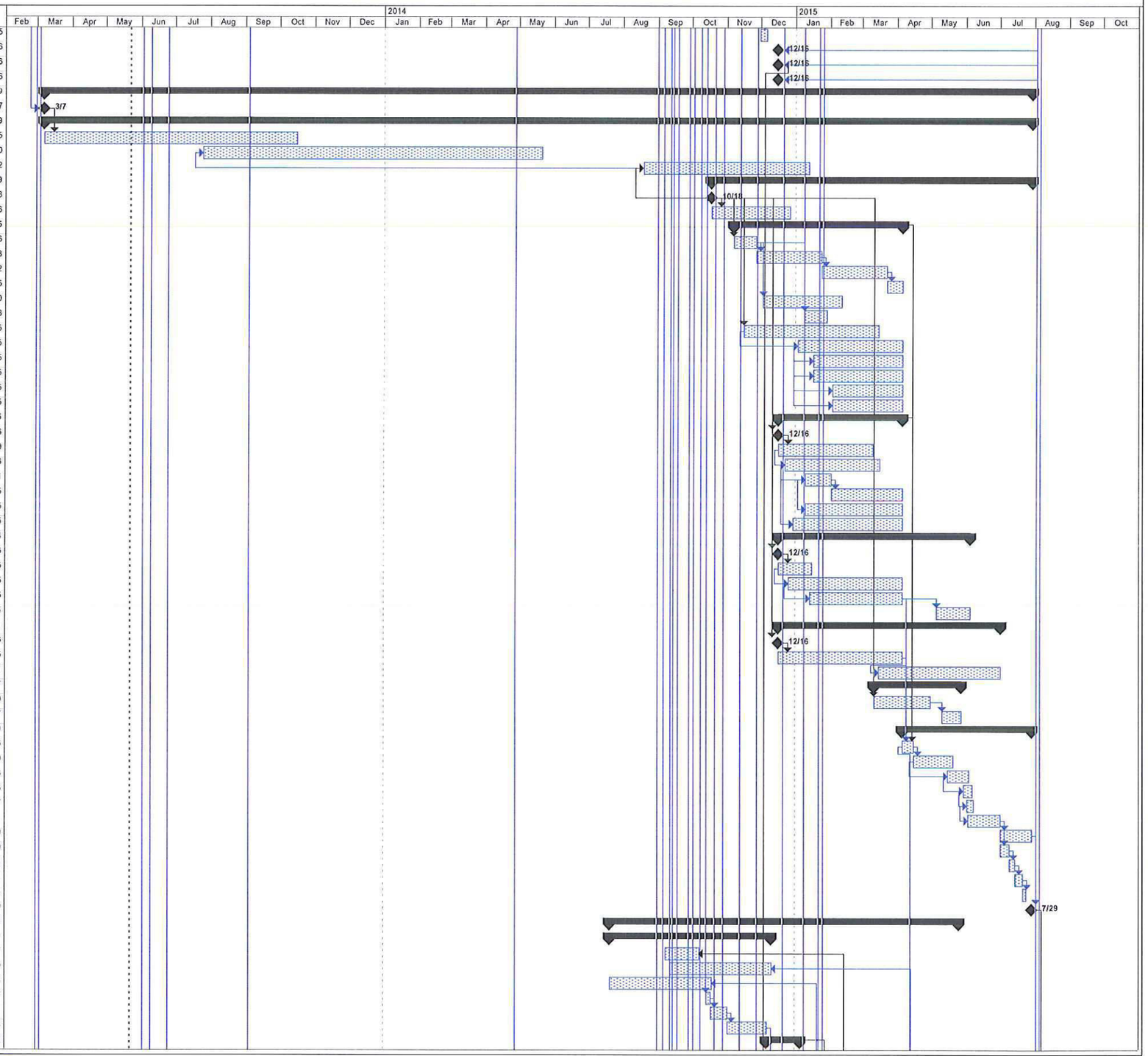
ID	Task Name	Duration	Start	Finish
139	Modify bamboo scaffolding for chimneys installation	6 days	Sun 14/11/30	Fri 14/12/5
140	Handing over of Chimneys to Cremator NSC	1 day	Tue 14/12/16	Tue 14/12/16
141	Handing over Control Room and LV Switch Room on M/F	1 day	Tue 14/12/16	Tue 14/12/16
142	Handover Filtration Plant Room on 1/F	1 day	Tue 14/12/16	Tue 14/12/16
143	**Cremation System Installation Summary (Section 2)**	**875 days**	**Thu 13/3/7**	**Wed 15/7/29**
144	Main Contractor Site Procession	0 days	Thu 13/3/7	Thu 13/3/7
145	**Cremator Sub-Contract**	**875 days**	**Thu 13/3/7**	**Wed 15/7/29**
146	Shop Drawing Submission & Approval	223 days	Thu 13/3/7	Tue 13/10/15
147	Equipment Ordering	300 days	Thu 13/7/25	Tue 14/5/20
148	Equipment Arrival on Site	147 days	Tue 14/8/19	Mon 15/1/12
149	**Equipment Installation Summary**	**285 days**	**Sat 14/10/18**	**Wed 15/7/29**
150	Handed over Cremation Plant Room (Basement & Level 1)	0 days	Sat 14/10/18	Sat 14/10/18
151	Underground Flue Gas Duct	70 days	Sat 14/10/18	Fri 14/12/26
152	**Cremator (Basement & Level 1)**	**150 days**	**Fri 14/11/7**	**Sun 15/4/5**
153	Cremator Steel Frame Work	20 days	Fri 14/11/7	Wed 14/11/26
154	Lower Refractory For Cremator	58 days	Thu 14/11/27	Fri 15/1/23
155	Upper Refractory For Cremator	58 days	Sat 15/1/24	Sun 15/3/22
156	Cremator Door, Burners, Rotray Drive & Accessories	14 days	Mon 15/3/23	Sun 15/4/5
157	Heat Exchanger	70 days	Wed 14/12/3	Tue 15/2/10
158	Air Fans	20 days	Fri 15/1/9	Wed 15/1/28
159	Maintenance Platform	120 days	Sun 14/11/16	Sun 15/3/15
160	Cooling water pump, piping and insulation installation	93 days	Sat 15/1/3	Sun 15/4/5
161	Air Compressor & piping	79 days	Sat 15/1/17	Sun 15/4/5
162	Flue Gas Interconnecting Pipe & Insulation	79 days	Sat 15/1/17	Sun 15/4/5
163	Town gas pipe insallation	62 days	Tue 15/2/3	Sun 15/4/5
164	Electrical & Control Work Installation	62 days	Tue 15/2/3	Sun 15/4/5
165	**Filtration Plant, Switch Room (Level 2 & Level 3)**	**110 days**	**Tue 14/12/16**	**Sun 15/4/5**
166	Handed over Filtration Plant Room, Switch Room & Control Room	0 days	Tue 14/12/16	Tue 14/12/16
167	Flat Bag Filter System	84 days	Wed 14/12/17	Tue 15/3/10
168	Additional Filter System	84 days	Tue 14/12/23	Mon 15/3/16
169	Flue Gas Fan	23 days	Sat 15/1/10	Sun 15/2/1
170	Flue Gas Interconnecting pipe & Insulation	63 days	Mon 15/2/2	Sun 15/4/5
171	Maintenance Platform	86 days	Sat 15/1/10	Sun 15/4/5
172	Electrical & Control Work Installation	97 days	Tue 14/12/30	Sun 15/4/5
173	**Flat Roof**	**170 days**	**Tue 14/12/16**	**Thu 15/6/4**
174	Handed over Flat Roof c/w Concrete Plinth	0 days	Tue 14/12/16	Tue 14/12/16
175	Air-cooled Radiator	30 days	Wed 14/12/17	Thu 15/1/15
176	Cooling water pipe insulation & cladding	101 days	Fri 14/12/26	Sun 15/4/5
177	Electrical & Control Work Installation	82 days	Wed 15/1/14	Sun 15/4/5
178	Noise Barrier Works	30 days	Wed 15/5/6	Thu 15/6/4
179	**Chimney Shaft**	**197 days**	**Tue 14/12/16**	**Wed 15/7/1**
180	Handed over Chimney Shaft	0 days	Tue 14/12/16	Tue 14/12/16
181	Chimney	110 days	Wed 14/12/17	Sun 15/4/5
182	Maintenance Platform Work	108 days	Mon 15/3/16	Wed 15/7/1
183	**Service Hall & Insertion Area**	**77 days**	**Thu 15/3/12**	**Wed 15/5/27**
184	Catafalque Installation	50 days	Thu 15/3/12	Thu 15/4/30
185	Coffin Insertion Machine	17 days	Mon 15/5/11	Wed 15/5/27
186	**Testing & Commissioning**	**115 days**	**Mon 15/4/6**	**Wed 15/7/29**
187	Equipment Functional Test	10 days	Mon 15/4/6	Wed 15/4/15
188	Dry Heating	35 days	Thu 15/4/16	Wed 15/5/20
189	Cold commissioning	19 days	Sat 15/5/16	Wed 15/6/3
190	Pre-heating	8 days	Sat 15/5/30	Sat 15/6/6
191	Trial Run	6 days	Tue 15/6/2	Sun 15/6/7
192	Emission Test Manual Sampling (Saturday & Public Holiday Excluded)	29 days	Wed 15/6/3	Wed 15/7/1
193	Emission Test Report Issuance	28 days	Thu 15/7/2	Wed 15/7/29
194	Full Load Performance Test (Saturday & Public Holiday Excluded)	8 days	Thu 15/7/2	Thu 15/7/9
195	Full Load Performance Test Report Issuance	5 days	Fri 15/7/10	Tue 15/7/14
196	Submission of O&M Manual	7 days	Wed 15/7/15	Tue 15/7/21
197	Training	3 days	Wed 15/7/22	Fri 15/7/24
198	Completion of Cremator Installation	0 days	Wed 15/7/29	Wed 15/7/29
199	External Wall Finishing	309 days	Mon 14/7/21	Mon 15/5/25
200	Submission and approval of shop drawings	143 days	Mon 14/7/21	Wed 14/12/10
201	Tiles Setting Out	30 days	Mon 14/9/8	Tue 14/10/7
202	Artificial wood screen	90 days	Fri 14/9/12	Wed 14/12/10
203	Granite panels outside Service Halls	90 days	Mon 14/7/21	Sat 14/10/18
204	Setting out	4 days	Tue 14/10/14	Fri 14/10/17
205	Install external windows/ louvres	15 days	Sat 14/10/18	Sat 14/11/1
206	Install metal frames for Artificial Wood Screen	35 days	Sun 14/11/2	Sat 14/12/6
207	External wall rendering	30 days	Sun 14/12/7	Mon 15/1/5



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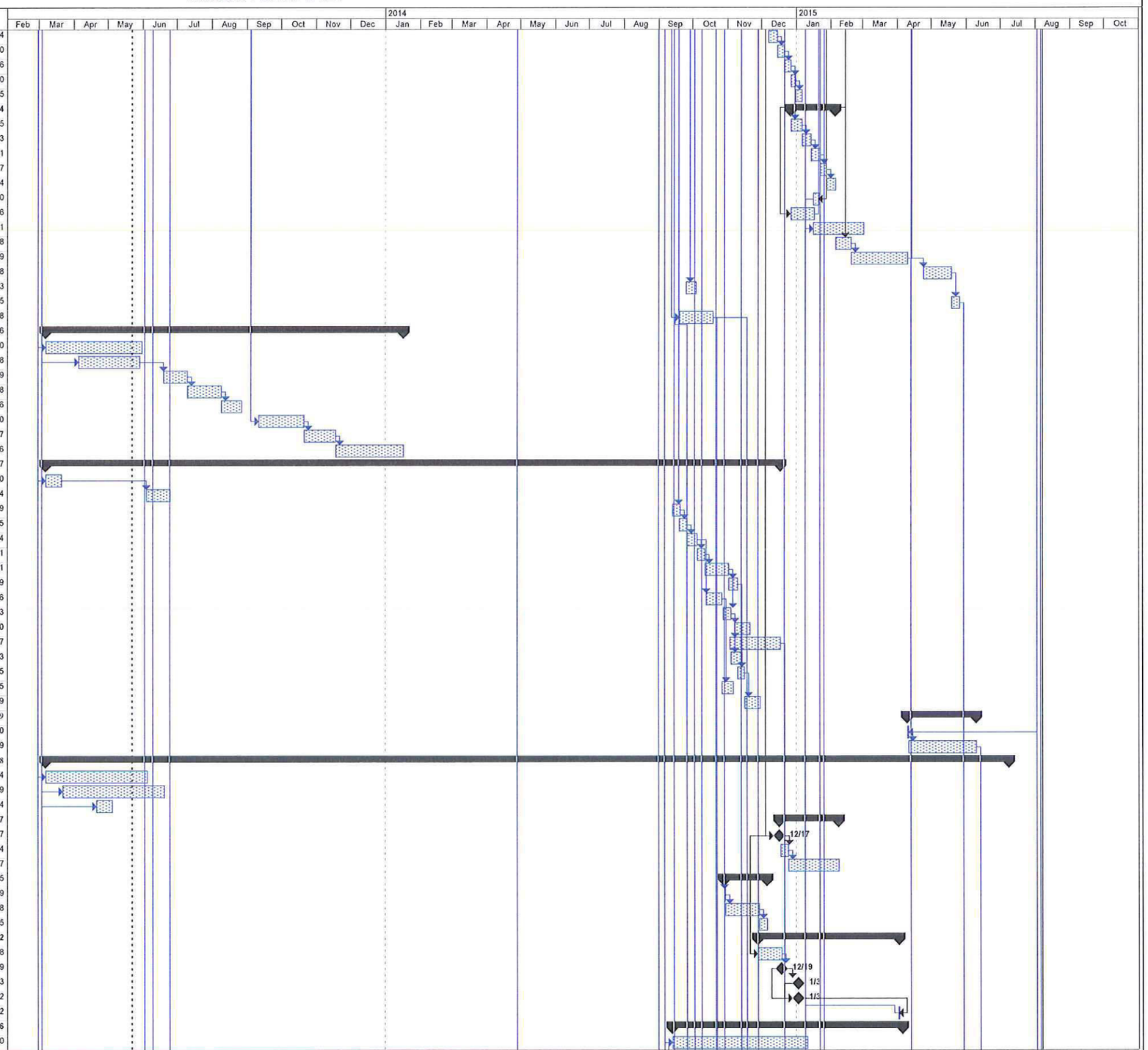
ID	Task Name	Duration	Start	Finish
208	R/F~UR/F	8 days	Sun 14/12/7	Sun 14/12/14
209	2/F~R/F	6 days	Mon 14/12/15	Sat 14/12/20
210	1/F~2/F	6 days	Sun 14/12/21	Fri 14/12/26
211	M/F~1/F	4 days	Sat 14/12/27	Tue 14/12/30
212	G/F~M/F	6 days	Wed 14/12/31	Mon 15/1/5
213	**Fixing artificial granite wall tiles**	**40 days**	**Sat 14/12/27**	**Wed 15/2/4**
214	R/F~UR/F	10 days	Sat 14/12/27	Mon 15/1/5
215	2/F~R/F	8 days	Tue 15/1/6	Tue 15/1/13
216	1/F~2/F	8 days	Wed 15/1/14	Wed 15/1/21
217	M/F~1/F	6 days	Thu 15/1/22	Tue 15/1/27
218	G/F~M/F	8 days	Wed 15/1/28	Wed 15/2/4
219	External spray paint at Towngas governor kiosk	5 days	Fri 15/1/16	Tue 15/1/20
220	Fixing granite panels on G/F	21 days	Sat 14/12/27	Fri 15/1/16
221	Aluminium cladding to external wall on 1/F	45 days	Fri 15/1/16	Sun 15/3/1
222	External wall movement joints	14 days	Thu 15/2/5	Wed 15/2/18
223	Artificial Wood Screens	50 days	Thu 15/2/19	Thu 15/4/9
224	External painting works	25 days	Fri 15/4/24	Mon 15/5/18
225	Water test to external windows	9 days	Thu 14/9/25	Fri 14/10/3
226	Dismantle bamboo scaffolding	7 days	Tue 15/5/19	Mon 15/5/25
227	Waterproofing to Flat Roofs	30 days	Fri 14/9/19	Sat 14/10/18
228	Demolish Top Storey of Western Hall	316 days	Thu 13/3/7	Thu 14/1/16
229	Submit Demolition Plan for approval by Project Team, including re-submission	85 days	Thu 13/3/7	Thu 13/5/30
230	Submit steel materials for approval	54 days	Fri 13/4/5	Tue 13/5/28
231	Fabrication and delivery of steel materials	21 days	Wed 13/6/19	Tue 13/7/9
232	Install steel beams	30 days	Wed 13/7/10	Thu 13/8/8
233	Erect proppings	18 days	Fri 13/8/9	Mon 13/8/26
234	Demolish top storey including slab at level 144.63	40 days	Wed 13/9/11	Sun 13/10/20
235	Construct a new slab	28 days	Mon 13/10/21	Sun 13/11/17
236	Alteration works (tentative, scope to be advised by Architect)	60 days	Mon 13/11/18	Thu 14/1/16
237	Construct a New Transformer Room	651 days	Thu 13/3/7	Wed 14/12/17
238	Hoarding erection	14 days	Thu 13/3/7	Wed 13/3/20
239	ELS Works (pipe piles only)	21 days	Tue 13/6/4	Mon 13/6/24
240	ELS Works (remaining parts)	7 days	Sat 14/9/13	Fri 14/9/19
241	Pad Foundation	7 days	Fri 14/9/19	Thu 14/9/25
242	Columns and walls (rc structure up to lower slab of double slab)	9 days	Fri 14/9/26	Sat 14/10/4
243	Waterproofing and water test for lower slab of double slab	7 days	Sun 14/10/5	Sat 14/10/11
244	R.C. structure from lower slab to roof	21 days	Sun 14/10/12	Sat 14/11/1
245	Waterproofing works and water test	8 days	Sun 14/11/2	Sun 14/11/9
246	Install metal doors and louvres	14 days	Mon 14/10/13	Sun 14/10/26
247	Wall plastering and screeding to Tx Room & cable trench	7 days	Tue 14/10/28	Mon 14/11/3
248	Wall painting	14 days	Fri 14/11/7	Thu 14/11/20
249	Electrical installation works	45 days	Mon 14/11/3	Wed 14/12/17
250	Construction of cable trench and chequer plates	10 days	Tue 14/11/4	Thu 14/11/13
251	Importation of soil to roof	6 days	Mon 14/11/10	Sat 14/11/15
252	External concrete paving block	10 days	Mon 14/10/27	Wed 14/11/5
253	Landscaping works on roof	14 days	Sun 14/11/16	Sat 14/11/29
254	Install Lift 2 by NSC	61 days	Fri 15/4/10	Tue 15/6/9
255	Hand over of lift shaft to Lift NSC	1 day	Fri 15/4/10	Fri 15/4/10
256	Installation (including T&C and interior decoration)	60 days	Sat 15/4/11	Tue 15/6/9
257	BS Installation	854 days	Thu 13/3/7	Wed 15/7/8
258	Submission and approval of CSD	90 days	Thu 13/3/7	Tue 13/6/4
259	Submission and approval of CBWD	90 days	Fri 13/3/22	Wed 13/6/19
260	Migrate existing lift supervisory panel for Blk 6 from ex Office to temp office	14 days	Sun 13/4/21	Sat 13/5/4
261	LV Switchboard	**53 days**	**Wed 14/12/17**	**Sat 15/2/7**
262	Handover of LV Switch Room at Level M/F	1 day	Wed 14/12/17	Wed 14/12/17
263	Delivery of LV Switchboard	7 days	Thu 14/12/18	Wed 14/12/24
264	Installation of LV switchboard	45 days	Thu 14/12/25	Sat 15/2/7
265	Genset (Non-FSI)	38 days	Wed 14/10/29	Fri 14/12/5
266	Delivery of Genset (non-FSI)	1 day	Wed 14/10/29	Wed 14/10/29
267	Installation of Genset (non-FSI)	30 days	Thu 14/10/30	Fri 14/11/28
268	T&C	7 days	Sat 14/11/29	Fri 14/12/5
269	New Transformer Room (B.S. Works)	**126 days**	**Fri 14/11/28**	**Thu 15/4/2**
270	Inspection by HEC and making good defects	21 days	Fri 14/11/28	Thu 14/12/18
271	Handover of Tx Room	1 day	Fri 14/12/19	Fri 14/12/19
272	Delivery of transformer	1 day	Sat 15/1/3	Sat 15/1/3
273	Installation by HEC	90 days	Sat 15/1/3	Thu 15/4/2
274	Power energization	1 day	Thu 15/4/2	Thu 15/4/2
275	**EE Installation**	**205 days**	**Sat 14/9/13**	**Mon 15/4/6**
276	Conduits, cable ladders, cabling works and trunking works	120 days	Sat 14/9/13	Sat 15/1/10



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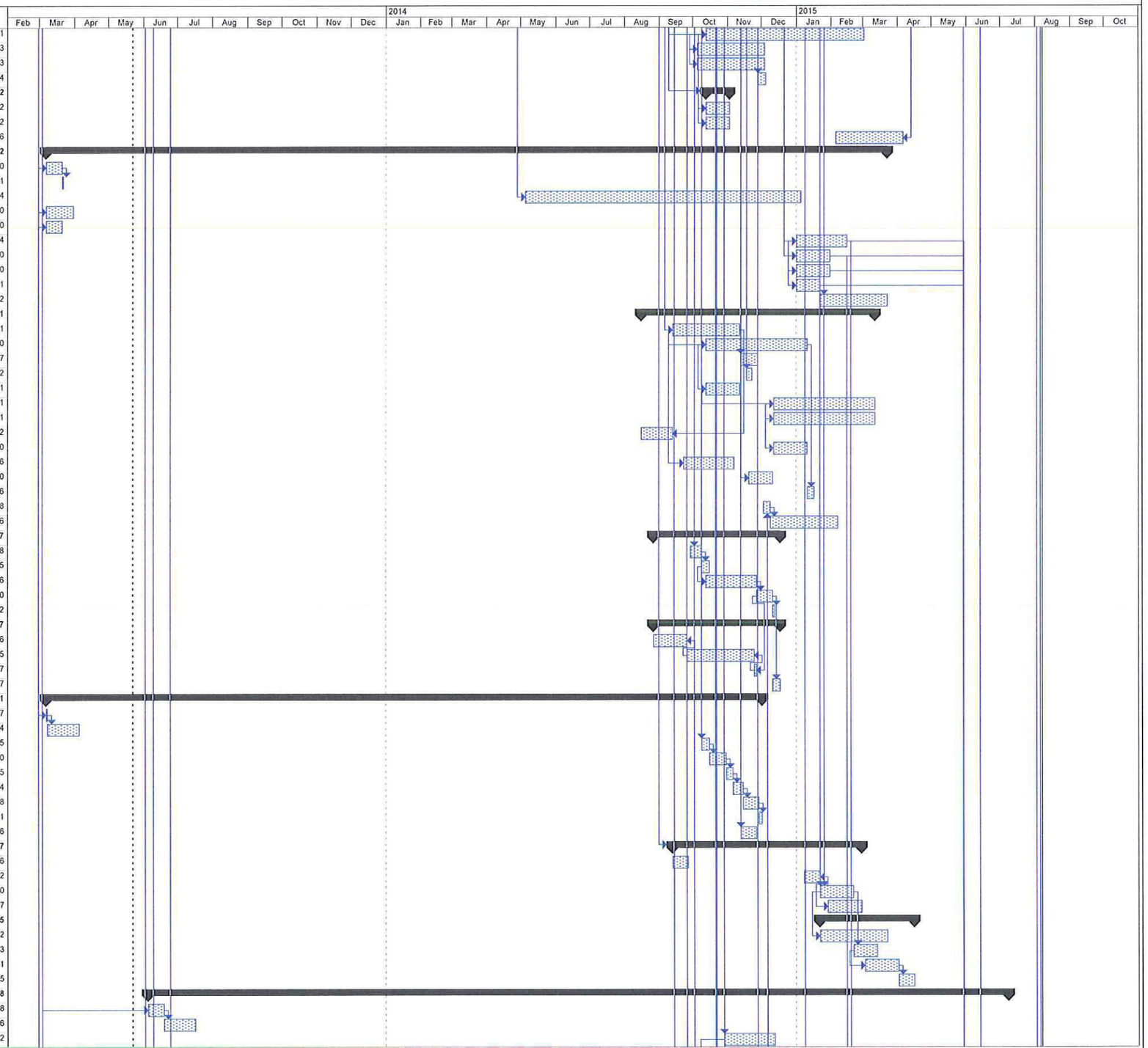
ID	Task Name	Duration	Start	Finish
277	Wiring works and fixing of wiring accessories	140 days	Mon 14/10/13	Sun 15/3/1
278	Power Monitoring and Analysis System	60 days	Sun 14/10/5	Wed 14/12/3
279	Central battery system	60 days	Sun 14/10/5	Wed 14/12/3
280	Lightning protection system	7 days	Fri 14/11/28	Thu 14/12/4
281	Lighting system	**21 days**	**Mon 14/10/13**	**Sun 14/11/2**
282	Indoor lighting system	21 days	Mon 14/10/13	Sun 14/11/2
283	Exterior lighting system	21 days	Mon 14/10/13	Sun 14/11/2
284	Testing & Commissioning	60 days	Thu 15/2/5	Mon 15/4/6
285	FS Installation	**746 days**	**Thu 13/3/7**	**Sun 15/3/22**
286	Survey existing FSI including Columbarium Block 1 to 4	14 days	Thu 13/3/7	Wed 13/3/20
287	Take up maintenance responsibility of FSI for Columbarium Block 1 to 4	1 day	Thu 13/3/21	Thu 13/3/21
288	Conduits and wiring	245 days	Mon 14/5/5	Sun 15/1/4
289	Dismantle existing down feed pipe	24 days	Thu 13/3/7	Sat 13/3/30
290	Diversion of existing manual call point, visual alarm units etc	14 days	Thu 13/3/7	Wed 13/3/20
291	Sprinkler piping system	45 days	Thu 15/1/1	Sat 15/2/14
292	Sprinklers installation	30 days	Thu 15/1/1	Fri 15/1/30
293	Hose reel and fire hydrant system installation	30 days	Thu 15/1/1	Fri 15/1/30
294	Fire detection and alarm system	21 days	Thu 15/1/1	Wed 15/1/21
295	Testing & Commissioning	60 days	Thu 15/1/22	Sun 15/3/22
296	MVAC Installation	**208 days**	**Sat 14/8/16**	**Wed 15/3/11**
297	Conduits and wiring	60 days	Sat 14/9/13	Tue 14/11/11
298	Air ducts installation	90 days	Mon 14/10/13	Sat 15/1/10
299	Indoor unit on Level 2	15 days	Thu 14/11/13	Thu 14/11/27
300	Outdoor units on R/F	5 days	Tue 14/11/18	Sat 14/11/22
301	Ventilation fans	30 days	Mon 14/10/13	Tue 14/11/11
302	FAP units	90 days	Fri 14/12/12	Wed 15/3/11
303	Fire dampers	90 days	Fri 14/12/12	Wed 15/3/11
304	Control panels	28 days	Sat 14/8/16	Fri 14/9/12
305	Sump pumps for Sump pits	30 days	Fri 14/12/12	Sat 15/1/10
306	Refrigerant piping system for FCUs in Mortuary	45 days	Tue 14/9/23	Thu 14/11/6
307	A/C curtain for Office on Level 1	21 days	Thu 14/11/20	Wed 14/12/10
308	Air grilles	6 days	Sun 15/1/11	Fri 15/1/16
309	Installation and T&C for Joss Paper Burner	6 days	Wed 14/12/3	Mon 14/12/8
310	Testing & Commissioning	60 days	Tue 14/12/9	Fri 15/2/6
311	Mortuary Installation	**113 days**	**Wed 14/8/27**	**Wed 14/12/17**
312	Construction of recessed concrete slab with Injected PU Coating	10 days	Mon 14/9/29	Wed 14/10/8
313	Install refrigerant pipes	7 days	Thu 14/10/9	Wed 14/10/15
314	Install sprinkler pipes	45 days	Mon 14/10/13	Wed 14/11/26
315	Install thermal break partitions and ceiling panels	14 days	Thu 14/11/27	Wed 14/12/10
316	Install orbital/ rotatry fan & wall mounted fans	2 days	Thu 14/12/11	Fri 14/12/12
317	Proprietary sliding doors	**113 days**	**Wed 14/8/27**	**Wed 14/12/17**
318	Shop drawings submissions and approval	30 days	Wed 14/8/27	Fri 14/9/26
319	Delivery of materials	60 days	Fri 14/9/26	Tue 14/11/25
320	Door frames installation	2 days	Tue 14/11/25	Thu 14/11/27
321	Sliding doors installation	7 days	Thu 14/12/11	Wed 14/12/17
322	Water Fountain Installation (Level 1 & Level 2)	**635 days**	**Thu 13/3/7**	**Mon 14/12/1**
323	Design of water fountain systems	1 day	Thu 13/3/7	Thu 13/3/7
324	Submission of shop drawings & calculations	28 days	Fri 13/3/8	Thu 13/4/4
325	Concreting (both Level 1 & 2)	7 days	Thu 14/10/9	Wed 14/10/15
326	Screeding and waterproofing	15 days	Thu 14/10/16	Thu 14/10/30
327	Plumbing works	6 days	Fri 14/10/31	Wed 14/11/5
328	GMS frames	9 days	Thu 14/11/6	Fri 14/11/14
329	Stone cladding and glass installation	14 days	Sat 14/11/15	Fri 14/11/28
330	Testing & Commissioning	3 days	Sat 14/11/29	Mon 14/12/1
331	Noise Barriers on R/F	14 days	Thu 14/11/13	Wed 14/11/26
332	Security Services Installation	**168 days**	**Sat 14/9/13**	**Fri 15/2/27**
333	Migrate CCTV central equipment from Temporary Office to General Office	14 days	Sat 14/9/13	Fri 14/9/26
334	Diversion of existing CCTV system	14 days	Thu 15/1/8	Thu 15/1/22
335	New CCTV poles and CCTV	30 days	Thu 15/1/22	Fri 15/2/20
336	PA system	30 days	Thu 15/1/29	Fri 15/2/27
337	ELV Installation	**84 days**	**Thu 15/1/22**	**Wed 15/4/15**
338	BRI system	60 days	Thu 15/1/22	Sun 15/3/22
339	Emergency call bell system	21 days	Sat 15/2/21	Fri 15/3/13
340	Intercom system	30 days	Tue 15/3/3	Wed 15/4/1
341	Testing & Commissioning	14 days	Thu 15/4/2	Wed 15/4/15
342	P&D Installation	**764 days**	**Wed 13/6/5**	**Wed 15/7/8**
343	Diversion of 3 nos existing flush water tanks	14 days	Wed 13/6/5	Tue 13/6/18
344	Dismantle existing U/G plumbing pipes	28 days	Wed 13/6/19	Tue 13/7/16
345	Leakage collection system for U/G water pipes at Level 1	45 days	Wed 14/10/29	Fri 14/12/12



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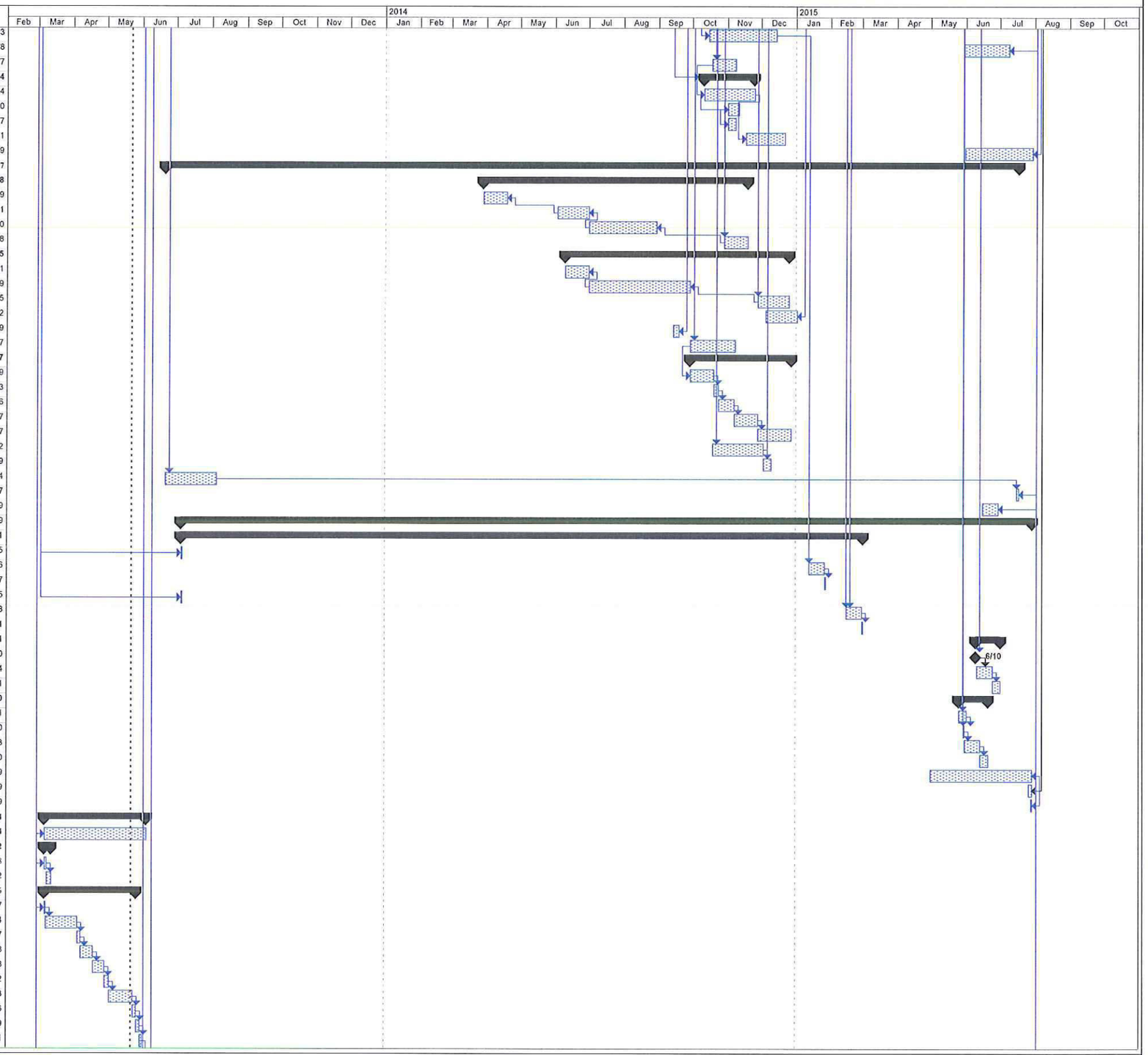
ID	Task Name	Duration	Start	Finish
346	Above ground drainage pipe installation (foul water and storm water)	60 days	Wed 14/10/15	Sat 14/12/13
347	U-channels with matching covers	40 days	Sat 15/5/30	Wed 15/7/8
348	Gutters installation	21 days	Sat 14/10/18	Fri 14/11/7
349	Plumbing pipes installation	**45 days**	**Sat 14/10/11**	**Mon 14/11/24**
350	Fresh/ flushing water	45 days	Sat 14/10/11	Mon 14/11/24
351	Cleansing water	10 days	Sat 14/11/1	Mon 14/11/10
352	Irrigation	7 days	Sat 14/11/1	Fri 14/11/7
353	Sanitary fitments installation	35 days	Mon 14/11/17	Sun 14/12/21
354	Full Commissioning of the Project	60 days	Sun 15/5/31	Wed 15/7/29
355	External Works	757 days	Fri 13/6/21	Fri 15/7/17
356	Glass balustrades	**235 days**	**Sat 14/3/29**	**Tue 14/11/18**
357	Submission of shop drawings and calculation for approval	21 days	Sat 14/3/29	Sat 14/4/19
358	Submission to SCCU for approval	28 days	Tue 14/6/3	Tue 14/7/1
359	Delivery of materials	60 days	Tue 14/7/1	Sat 14/8/30
360	Installation	21 days	Wed 14/10/29	Tue 14/11/18
361	External Canopy and Covered Walkway	**199 days**	**Tue 14/6/10**	**Thu 14/12/25**
362	Submission of shop drawings and calculation for approval	21 days	Tue 14/6/10	Tue 14/7/1
363	Delivery of materials	90 days	Tue 14/7/1	Mon 14/9/29
364	Installation	28 days	Fri 14/11/28	Thu 14/12/25
365	Construct draw pits and cable duct laying	28 days	Fri 14/12/5	Fri 15/1/2
366	Concrete plinths on R/F for radiators	5 days	Sun 14/9/14	Fri 14/9/19
367	External metal railing	40 days	Mon 14/9/29	Fri 14/11/7
368	Planter Boxes	**90 days**	**Mon 14/9/29**	**Sat 14/12/27**
369	Install s.s. RHS handrail	21 days	Mon 14/9/29	Sun 14/10/19
370	Install drainage layer	4 days	Mon 14/10/20	Thu 14/10/23
371	External wall finishes on planter walls	14 days	Fri 14/10/24	Thu 14/11/6
372	Importation of soil materials to planter boxes	21 days	Fri 14/11/7	Thu 14/11/27
373	Planting works	30 days	Fri 14/11/28	Sat 14/12/27
374	External paving on Levels 1 & 2	45 days	Sun 14/10/19	Tue 14/12/2
375	s.s. tactile studs on natural granites on Levels 1 & 2	7 days	Wed 14/12/3	Tue 14/12/9
376	600 screen wall next to existing retaining wall	45 days	Fri 13/6/21	Sun 13/8/4
377	Road signs and corner guards	2 days	Thu 15/7/16	Fri 15/7/17
378	Re-painting to existing substation	14 days	Tue 15/6/16	Mon 15/6/29
379	Statutory Submissions	755 days	Fri 13/7/5	Wed 15/7/29
380	WSD Inspection	**605 days**	**Fri 13/7/5**	**Sun 15/3/1**
381	WWO 46 Part I & II (Plumbing)	1 day	Fri 13/7/5	Fri 13/7/5
382	WWO Part IV (Plumbing)	14 days	Tue 15/1/13	Mon 15/1/26
383	WWO Part V (Plumbing)	1 day	Tue 15/1/27	Tue 15/1/27
384	WWO 46 Part I & II (FS)	1 day	Fri 13/7/5	Fri 13/7/5
385	WWO Part IV (FS)	14 days	Sun 15/2/15	Sat 15/2/28
386	WWO Part V (FS)	1 day	Sun 15/3/1	Sun 15/3/1
387	Lift Inspection	**22 days**	**Wed 15/6/10**	**Wed 15/7/1**
388	Submit Form 5	1 day	Wed 15/6/10	Wed 15/6/10
389	EMSD Inspection	14 days	Thu 15/6/11	Wed 15/6/24
390	Issuance of Form 6	7 days	Thu 15/6/25	Wed 15/7/1
391	FS Inspection	**26 days**	**Tue 15/5/26**	**Sat 15/6/20**
392	Dismantle hoarding/ covered walkway	7 days	Tue 15/5/26	Mon 15/6/1
393	Submit Form 501 for Phase 2A	1 day	Sat 15/5/30	Sat 15/5/30
394	FS Inspection	14 days	Sun 15/5/31	Sat 15/6/13
395	Issuance of Fire Certificate	7 days	Sun 15/6/14	Sat 15/6/20
396	SCCU Inspection	90 days	Fri 15/5/1	Wed 15/7/29
397	General cleaning	3 days	Mon 15/7/27	Wed 15/7/29
398	Handing over Section 2A	1 day	Wed 15/7/29	Wed 15/7/29
399	**SECTION 2B - Removal of Canopy**	90 days	Thu 13/3/7	Tue 13/6/4
400	Works as per EM&A Programme	90 days	Thu 13/3/7	Tue 13/6/4
401	Hoarding erection	6 days	Thu 13/3/7	Tue 13/3/12
402	Setting out	2 days	Thu 13/3/7	Fri 13/3/8
403	Erection	4 days	Sat 13/3/9	Tue 13/3/12
404	Demolish Canopy at Western Hall	81 days	Thu 13/3/7	Sun 13/5/26
405	Submission of demolition proposal for Consultants' approval	1 day	Thu 13/3/7	Thu 13/3/7
406	Approval on demolition proposal by Consultants	28 days	Fri 13/3/8	Thu 13/4/4
407	Mobilization on propping materials	3 days	Fri 13/4/5	Sun 13/4/7
408	Erect proppings	11 days	Mon 13/4/8	Thu 13/4/18
409	Dismantle roofing glass panels	10 days	Fri 13/4/19	Sun 13/4/28
410	Dismantle ceiling panels	4 days	Mon 13/4/29	Thu 13/5/2
411	Cutting existing steel beams	21 days	Fri 13/5/3	Thu 13/5/23
412	Removal of existing stone support	3 days	Fri 13/5/24	Sun 13/5/26
413	Reinstate the works area	3 days	Mon 13/5/27	Wed 13/5/29
414	Dismantle the hoarding	2 days	Thu 13/5/30	Fri 13/5/31



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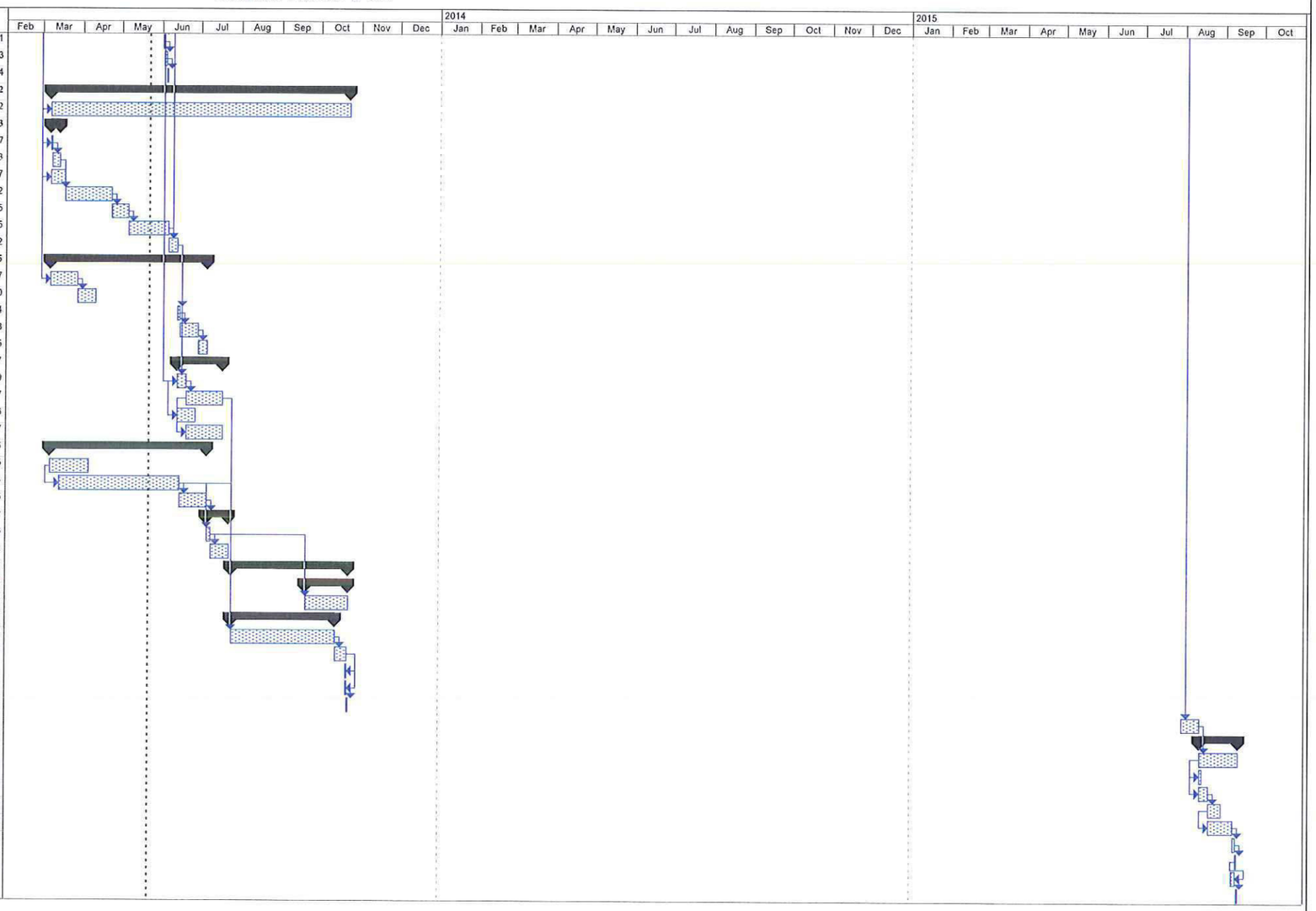
Master Programme
Reprovision of Cape Collinson Crematorium
Contract No. SS W327

ID	Task Name	Duration	Start	Finish
415	General cleaning	1 day	Sat 13/6/1	Sat 13/6/1
416	Handover Inspection	2 days	Sun 13/6/2	Mon 13/6/3
417	Handing over Section 2B	1 day	Tue 13/6/4	Tue 13/6/4
418	**SECTION 2C - Removal of Fuel Tank**	**230 days**	**Thu 13/3/7**	**Tue 13/10/22**
419	Works as per EM&A Programme	230 days	Thu 13/3/7	Tue 13/10/22
420	Hoarding Erection	7 days	Thu 13/3/7	Wed 13/3/13
421	Setting out	1 day	Thu 13/3/7	Thu 13/3/7
422	Erection	6 days	Fri 13/3/8	Wed 13/3/13
423	Application for Registration as Chemical Waste Collector by Specialist Contractor	11 days	Thu 13/3/7	Sun 13/3/17
424	Remove existing oil residue before demolishing the U/G Oil Tank	36 days	Mon 13/3/18	Mon 13/4/22
425	Remove U/G Oil Tank	13 days	Tue 13/4/23	Sun 13/5/5
426	Excavation for taking sample for submission to EPD (including Laboratory Tests)	31 days	Mon 13/5/6	Wed 13/6/5
427	Sample Test	7 days	Thu 13/6/6	Wed 13/6/12
428	Excavation Works (in case contaminants found underneath the r.c. tank)	**121 days**	**Thu 13/3/7**	**Fri 13/7/5**
429	Design for temporary shoring for approval	21 days	Thu 13/3/7	Wed 13/3/27
430	Approval on temporary shoring design	14 days	Thu 13/3/28	Wed 13/4/10
431	Mobilize for temporary shoring materials	2 days	Thu 13/6/13	Fri 13/6/14
432	Installation of ELS Works	14 days	Sat 13/6/15	Fri 13/6/28
433	Demolishing U/G Water Tank	7 days	Sat 13/6/29	Fri 13/7/5
434	Further Site Investigation for the U/G Fuel Tank	**35 days**	**Thu 13/6/13**	**Wed 13/7/17**
435	Submit Supplementary Contamination Assessment Report (SCAR) to EPD	7 days	Thu 13/6/13	Wed 13/6/19
436	Approval from EPD for SCAR	28 days	Thu 13/6/20	Wed 13/7/17
437	Submit Supplementary Remedial Plan (SRAP) to EPD	14 days	Thu 13/6/13	Wed 13/6/26
438	Approval from EPD for SRAP	28 days	Thu 13/6/20	Wed 13/7/17
439	Treatment for Contaminated Soil at Borehole BH1	**121 days**	**Thu 13/3/7**	**Fri 13/7/5**
440	Excavation for Lead Contaminated Soil	30 days	Thu 13/3/7	Fri 13/4/5
441	Treat contaminated soil by cement solidification/ stabilization	93 days	Thu 13/3/14	Fri 13/6/14
442	Disposal of contaminated soil	21 days	Sat 13/6/15	Fri 13/7/5
443	**Remediation Report**	**17 days**	**Sat 13/7/6**	**Mon 13/7/22**
444	Submit Remediation Report to EPD	3 days	Sat 13/7/6	Mon 13/7/8
445	Approval from EPD	14 days	Tue 13/7/9	Mon 13/7/22
446	**Backfilling to excavated U/G Water Tank**	**90 days**	**Thu 13/7/25**	**Tue 13/10/22**
447	**In Case of Contaminants Found underneath the Oil Tank**	**33 days**	**Fri 13/9/20**	**Tue 13/10/22**
448	Backfill and compaction in layers to excavated trench (tentatively scheduled)	33 days	Fri 13/9/20	Tue 13/10/22
449	**In Case of Contaminants Not Found underneath the Oil Tank**	**80 days**	**Thu 13/7/25**	**Sat 13/10/12**
450	Backfill and compaction in layers to retained r.c. oil tank	80 days	Thu 13/7/25	Sat 13/10/12
451	Reinstatement of carpark paving	9 days	Sun 13/10/13	Mon 13/10/21
452	Dismantle the hoarding	1 day	Mon 13/10/21	Mon 13/10/21
453	General cleaning	1 day	Mon 13/10/21	Mon 13/10/21
454	Handing over Section 2C	1 day	Tue 13/10/22	Tue 13/10/22
455	**BUFFER PERIOD (between Section 2A and Section 2D, tentative)**	14 days	Thu 15/7/30	Wed 15/8/12
456	**SECTION 2D - Removal of Temporary Offices & Lavatories**	**30 days**	**Thu 15/8/13**	**Fri 15/9/11**
457	Works as per EM&A Programme	30 days	Thu 15/8/13	Fri 15/9/11
458	Modification of hoarding	2 days	Thu 15/8/13	Fri 15/8/14
459	Demolish Temporary Offices, Changing Rooms & Lavatories	7 days	Thu 15/8/13	Wed 15/8/19
460	External paving works	10 days	Thu 15/8/20	Sat 15/8/29
461	Landscaping Works	19 days	Thu 15/8/20	Mon 15/9/7
462	Dismantle hoarding	2 days	Tue 15/9/8	Wed 15/9/9
463	General cleaning	1 day	Thu 15/9/10	Thu 15/9/10
464	Handover inspection	3 days	Mon 15/9/7	Thu 15/9/10
465	Handing over Section 2D	1 day	Fri 15/9/11	Fri 15/9/11



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