# **Civil Engineering and Development Department**

EP-344/2009 – New Sewage Pumping Stations Serving KTD and EP-337/2009 – New Distributor Roads Serving the Planned KTD

Contract No. KL/2010/03 Kai Tak Development - Stage 2 infrastructure works at north apron area of Kai Tak Airport for residential development and government, institution or community facilities

Monthly EM&A Report

August 2014

(Version 1.0)

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.

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## **EXECUTIVE SUMMARY**

#### Introduction

- 1. This is the 34<sup>th</sup> Monthly Environmental Monitoring and Audit Report prepared by Cinotech Consultants Ltd. for "Contract No. KL/2010/03-Kai Tak Development Stage 2 infrastructure works at north apron area of Kai Tak Airport for residential development and government, institution or community facilities" (Hereafter referred to as "the Project"). This contract comprises two Schedule 2 designated projects (DPs), namely the new sewage pumping station PS1A serving the planned KTD and the new distributor road D2 serving the planned KTD. The two DPs are part of the designated projects under Environmental Permit No.: EP-344/2009 ("New sewage pumping stations serving Kai Tak Development) and EP-337/2009 ("New distributor roads serving the planned Kai Tak Development") respectively. This report documents the findings of EM&A Works conducted in August 2014.
- 2. With reference to the same principle of EIA report of the Project, air quality monitoring stations within 500m and noise monitoring stations within 300m from the boundary of this Project are considered as relevant monitoring locations. In such regard, the relevant air quality and noise monitoring locations are tabulated in Table I (see Figure 2 and 3 for their locations).

Locations	Monitoring Stations In accordance with EM&A Manual	Alternative Monitoring Stations	
Air Quality Monitoring Stations			
AM1 - Rhythm Garden	No	AM1(B) - Contractor Site Office (KL/2012/02)*	
AM2 - Lee Kau Yan Memorial School	Yes	N/A	
AM6 – Site 1B4 (Planned)		N/A	
Noise Monitoring Stations			
M1 - Buddhist Chi King Primary School	Yes	N/A	
M2 - S.K.H. Kowloon Bay Kei Lok Primary School	Yes	N/A	
M3 - Cognitio College	Yes	N/A	
M4 - Lee Kau Yan Memorial School	Yes	N/A	
M9 – Tak Long Estate	Yes	N/A	
M10 – Site 1B4 (Planned)		N/A	

## Table I – Air Quality and Noise Monitoring Stations for this Project

Remark:\* The Contractor Site Office of KL/2012/02 occupied the same location of previous KL/2008/09 site office of and therefore the location of monitoring station AM1(B) is remain unchanged.

- 3. According to the Environmental Monitoring and Audit Manual (EM&A Manual) of the Kai Tak Development (KTD) Schedule 3 Environmental Impact Assessment (EIA) Report, the impact monitoring at the designated monitoring stations as required in KTD EM&A Manual under two EPs, have been conducted in Contract No. KLN/2013/16 Environmental Monitoring Works for Kai Tak Development under Schedule 3 of KTD, which is on-going starting from December 2010. The impact monitoring data under Contract No. KLN/2013/16 will be adopted for the Project. Therefore, this report presents the air quality and noise monitoring works extracted from Contract No. KLN/2013/16.
- 4. The major site activities undertaken in the reporting month included:
  - Builder's works and E&M works of pumping station PS1A;
  - Drainage works at pedestrian streets;
  - Ducting, irrigation pipe laying and kerb laying along pedestrian streets, and footpath of Roads L4 and L5;
  - Kerb laying along Roads L4 and L5;
  - Laying sub-base and placing bituminous pavement along Road L4, Road L5 an pedestrian streets;
  - Paving concrete blocks along pedestrian streets;
  - Construction of Box Culvert at Portions A;
  - Pre-planting works at pedestrian streets; and
  - Remedial works to the damaged works as arisen from Tysan at pedestrian streets.

## **Environmental Monitoring Works**

- 5. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
- 6. Summary of the non-compliance in the reporting month for the Project is tabulated in Table II.

Doromotor	No. of Project-rela	Action Takon	
Parameter	Action Level	Limit Level	ACTION TAKEN
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Noise	0	0	N/A

 Table II
 Non-compliance Record for the Project in the Reporting Month

1-hour & 24-hour TSP Monitoring

7. All 1-hour & 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise Monitoring

8. Construction noise monitoring at Station M3 – Cognitio College on 13 August 2014 was cancelled due to heavy rain. The monitoring works were rescheduled to 14 August 2014. Other

construction noise monitoring was conducted as scheduled in the reporting month.

9. No Action/Limit Level exceedance was recorded.

## **Environmental Licenses and Permits**

- 10. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, Environmental Permits No. EP-344/2009 and EP-337/2009 were issued on 23 April 2009.
- 11. Registration of Chemical Waste Producer (License: 5213-286-P1079-04).
- 12. Water Discharge License (License No.: WT00011274-2011 and WT00011276-2011).
- 13. Construction Noise Permit (License No.: GW-RE0165-14 and GW-RE0944-14).

## Key Information in the Reporting Month

14. Summary of key information in the reporting month is tabulated in Table III.

Event	I	Event Details	Action Taken	Status	Remark
	Number	Nature			
Complaint received	0		N/A	N/A	
Reporting Changes	0		N/A	N/A	
Notifications of any summons & prosecutions received	0		N/A	N/A	

## Table III Summary Table for Key Information in the Reporting Month

#### **Future Key Issues**

15. The future key environmental issues in the coming month include:

- Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
- Water spraying for dust generating activity and on haul road;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Accumulation of general and construction waste on site;
- Noise from operation of the equipment, especially for rock-breaking activities, piling works and machinery on-site;
- Wastewater and runoff discharge from site;
- Regular removal of silt, mud and sand along u-channels and sedimentation tanks; and
- Review and implementation of temporary drainage system for the surface runoff.

## 1. INTRODUCTION

## Background

- 1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. It covers a land area of about 328 hectares. Stage 2 infrastructure works at North Apron Area of Kai Tak Airport for Public Housing and Government Office Developments is one of the construction stages of KTD. It contains various Schedule 2 DPs including new distributor roads serving the planned KTD and new sewage pumping stations serving the planned KTD. The general layout of the Project is shown in **Figure 1**.
- 1.2 Two Environmental Permits (EPs) No. EP-344/2009 and EP-337/2009 were also issued on 23 April 2009 for new sewage pumping stations serving the planned KTD and new distributor roads serving the planned KTD respectively to Civil Engineering and Development Department as the Permit Holder.
- 1.3 A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, waste, land contamination, cultural heritage and landscape and visual impact, and identify possible mitigation measures associated with the works. An EIA Report (Register No. AEIAR-130/2009) was approved by the Environmental Protection Department (EPD) on 4 April 2009.
- 1.4 Cinotech Consultants Limited (Cinotech) was commissioned by Peako Engineering Co., Ltd. (the Contractor) to undertake the role of the Environmental Team (ET) for the Contract No. KL/2010/03 Kai Tak Development Stage 2 Infrastructure Works at North Apron Area of Kai Tak Airport for Residential Development and Government Facilities. The construction work under KL/2010/03 comprises the construction of Road D2 & Sewage Pumping Station PS1A which forms a part of the works under two EPs (EP-337/2009 and EP-344/2009).
- 1.5 Cinotech Consultants Limited was commissioned by Peako Engineering Co., Ltd. to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. The construction commencement of this Contract was on 24<sup>th</sup> October 2011 for Sewage Pumping Station PS1A. This is the 34<sup>th</sup> Monthly EM&A report summarizing the EM&A works for the Project in August 2014.

## **Project Organizations**

- 1.6 Different parties with different levels of involvement in the project organization include:
  - Project Proponent Civil Engineering and Development Department (CEDD).
  - The Engineer and the Engineer's Representative (ER) Ove Arup & Partners (ARUP).
  - Environmental Team (ET) Cinotech Consultants Limited (CCL).
  - Independent Environmental Checker (IEC) ANewR Consulting Ltd. (ANewR).
  - Contractor Peako Engineering Co., Ltd. (Peako).

Table 1.1   Key Project Contacts					
Party	Role	Contact Person	Position	Phone No.	Fax No.
CEDD	Project Proponent	Mr. Alfred Lee	Engineer	2301 1449	2301 1277
	Engineer's	Mr. Keith Cheung	SRE	2756 8132	2756 8236
AKUP	Representative	Ms. Gloria Kwok	RE		
	Environmentel	Dr. Priscilla Choy	Environmental Team Leader	2151 2089	
Cinotech	Team	Ms. Ivy Tam	Project Coordinator and Audit Team Leader	2151 2090	3107 1388
ANewR	Independent Environmental Checker	Mr. Adi Lee	Independent Environmental Checker	2230 7165	3007 8556
Peako	Contractor	Mr. C.P. Lam	Project Manager	27730511	

## 1.7 The key contacts of the Project are shown in **Table 1.1**.

## Construction Activities undertaken during the Reporting Month

- 1.8 The site activities undertaken in the reporting month included:
  - Builder's works and E&M works of pumping station PS1A;
  - Drainage works at pedestrian streets;
  - Ducting, irrigation pipe laying and kerb laying along pedestrian streets, and footpath of Roads L4 and L5;
  - Kerb laying along Roads L4 and L5;
  - Laying sub-base and placing bituminous pavement along Road L4, Road L5 an pedestrian streets;
  - Paving concrete blocks along pedestrian streets;
  - Construction of Box Culvert at Portions A;
  - Pre-planting works at pedestrian streets; and
  - Remedial works to the damaged works as arisen from Tysan at pedestrian streets.
- 1.9 The construction programme showing the inter-relationship with environmental protection/mitigation measures are presented in Table 1.2.

#### Table 1.2 Construction Programme Showing the Inter-Relationship with Environmental Protection/Mitigation Measures

Construction Works	Major Environmental Impact	Control Measures
As mentioned in Section 1.8	Noise, dust impact, water quality and waste generation	Sufficient watering of the works site with active dust emitting activities; Properly cover the stockpiles; On-site waste sorting and implementation of trip ticket system Appropriate desilting/sedimentation devices provided on site for treatment before discharge; Use of quiet plant and well-maintained

	construction plant; Provide movable noise barrier; Provide sufficient mitigation measures as recommended in Approved EIA Report/Lease requirement.
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#### Summary of EM&A Requirements

- 1.10 The EM&A programme requires construction noise monitoring, air quality monitoring, landscape and visual monitoring 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 requirements and mitigation measures, as recommended in the EM&A Manual under the two EPs.
- 1.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 6 of this report.
- 1.12 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely air quality and noise levels and audit works for the Project in August 2014.

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## 2. AIR QUALITY

## **Monitoring Requirements**

2.1 According to EM&A Manual under the two EPs, 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once in every six days at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

## **Monitoring Locations**

2.2 Three designated monitoring stations were selected for air quality monitoring programme. Impact dust monitoring was conducted at two air quality monitoring stations, Contractor Site Office (KL/2012/02) AM1(B)<sup>(1)</sup>, Lee Kau Yan Memorial School (AM2) in the reporting month. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

Monitoring Stations Locations		Location of Measurement
AM1(B)	Contractor Site Office (KL/2012/02) <sup>(1)</sup>	Ground Floor Area
AM2	Lee Kau Yan Memorial School	Rooftop (about 8/F) Area
#AM6	PA 15	Site 1B4 (Planned)

## Table 2.1 Locations for Air Quality Monitoring

Remarks: # The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

Note 1: The Contractor Site Office of KL/2012/02 occupied the same location of previous KL/2008/09 site office of and therefore the location of monitoring station AM1(B) is remain unchanged.

## **Monitoring Equipment**

2.3 Table 2.2 summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates are attached in **Appendix B**.

Equipment	Model and Make	Quantity
Calibrator	TISCH - TE-5025A	1
1-hour TSP Dust Meter	Laser Dust Monitor – Model LD-3, LD-3B	4
HVS Sampler	GMWS 2310 c/w of TSP sampling inlet	2
Wind Anemometer	Davis Weather Monitor II, Model no. 7440	1

Table 2.2Air Quality Monitoring Equipment

## Monitoring Parameters, Frequency and Duration

2.4 **Table 2.3** summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period. The air quality monitoring schedule for the reporting month is shown in **Appendix D**.

#### Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration

Parameters	Frequency	
1-hr TSP	Three times / 6 days	
24-hr TSP	Once / 6 days	

## Monitoring Methodology and QA/QC Procedure

#### 1-hour TSP Monitoring

#### Measuring Procedures

- 2.5 The measuring procedures of the 1-hour dust meters were in accordance with the Manufacturer's Instruction Manual as follows:
  - The 1-hour dust meter is placed at least 1.3 meters above ground.
  - Set POWER to "ON" and make sure that the battery level was not flash or in low level.
  - Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
  - Push the knob at MEASURE position.
  - Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
  - Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display. Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
  - Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

#### Maintenance/Calibration

- 2.6 The following maintenance/calibration was required for the direct dust meters:
  - Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

## 24-hour TSP Monitoring

## Instrumentation

2.7 High volume (HVS) samplers (Model GMWS-2310 Accu-Vol) 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). Moreover, the HVS also met all the requirements in section 2.5 of the updated EM&A Manual.

## Operating/Analytical Procedures

- 2.8 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.
- 2.9 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between  $1.1 \text{ m}^3/\text{min.}$  and  $1.4 \text{ m}^3/\text{min.}$ ) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- 2.10 For TSP sampling, fiberglass filters have a collection efficiency of > 99% for particles of  $0.3\mu m$  diameter were used.
- 2.11 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.
- 2.12 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.
- 2.13 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.

- 2.14 The shelter lid was closed and secured with the aluminum strip.
- 2.15 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).
- 2.16 After sampling, the filter was removed and sent to the HOKLAS laboratory (Wellab Ltd.) for weighing. The elapsed time was also recorded.
- 2.17 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  $\pm 3$ °C; the relative humidity (RH) should be < 50% and not vary by more than  $\pm 5\%$ . A convenient working RH is 40%.

## Maintenance/Calibration

- 2.18 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 G25A Calibration Kit throughout all stages of the air quality monitoring.

## **Results and Observations**

- 2.19 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 2.20 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 2.21 The air temperature, precipitation and the relative humidity data was obtained from Hong Kong Observatory where the wind speed and wind direction were recorded by the installed Wind Anemometer set at Lee Kau Yan Memorial School from 26 April 2013. The location is shown in **Figure 4**. This weather information for the reporting month is summarized in **Appendix C.**
- 2.22 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendices E and F** respectively.
- 2.23 The summary of exceedance record in reporting month is shown in **Appendix H**. No exceedance was recorded for the air quality monitoring.
- 2.24 According to our field observations, the major dust source identified at the designated air quality monitoring stations are as follows:

Station	Major Dust Source
AM1(B) – Contractor Site Office (KL/2012/02)	Road Traffic Dust
	Exposed site area and open stockpiles
	Site vehicle movement
AM2 – Lee Kau Yan Memorial School	Road Traffic Dust
	Exposed site area and open stockpiles
	Excavation works
	Site vehicle movement

## 2.25 **Table 2.4** shows the summary of air quality monitoring results during the reporting month.

Parameter	Date	Concentration (µg/m3)	Action Level, µg/m3	Limit Level, µg/m3
AM1(B) – Contractor Site Office (KL/2012/02)				
	1-Aug-14	100.7		
	1-Aug-14	86.1		
	1-Aug-14	96.2		
	7-Aug-14	43.1	-	
	7-Aug-14	49.8		500
	7-Aug-14	57.1		
	13-Aug-14	89.6		
	13-Aug-14	92.8		
1 h. TSD	13-Aug-14	88.2	242	
I-nr ISP	19-Aug-14	68.4	542	
	19-Aug-14	70.4		
	19-Aug-14	69.7		
	25-Aug-14	34.6		
	25-Aug-14	37.8		
	25-Aug-14	40.1		
	29-Aug-14	35.7		
	29-Aug-14	39.9		
	29-Aug-14	41.5		
	6-Aug-14	25.3		
	12-Aug-14	60.1		
24-hr TSP	18-Aug-14	61.0	159	260
	22-Aug-14	35.4		
	28-Aug-14	38.1		
AM2 – Lee Kau Yan Memo	orial School			
	1-Aug-14	70.4		
	1-Aug-14	92.8		
1-hr TSP	1-Aug-14	82.7	346	500
	7-Aug-14	60.5		
	7-Aug-14	63.2		

## Table 2.4 Summary Table of Air Quality Monitoring Results during the reporting month

#### Contract No. KL/2010/03 – Kai Tak Development -Stage 2 infrastructure works at north apron area of Kai Tak Airport for residential development and government, institution or community facilities Monthly EM&A Report – August 2014

	7-Aug-14	51.7		
	13-Aug-14	100.2		
	13-Aug-14	105.8		
	13-Aug-14	104.5		
	19-Aug-14	66.4		
	19-Aug-14	64.8		
	19-Aug-14	60.3		
	25-Aug-14	40.9		
	25-Aug-14	43.1		
	25-Aug-14	39.8		
	29-Aug-14	44.8		
	29-Aug-14	47.8		
	29-Aug-14	40.8		
	6-Aug-14	27.4		
	12-Aug-14	44.6		
24-hr TSP	18-Aug-14	39.9	157	260
	22-Aug-14	47.4		
	28-Aug-14	53.7		

## 3. NOISE

## **Monitoring Requirements**

3.1 According to EM&A Manuals under the two EPs, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities within KTD. The regular monitoring frequency for each monitoring station shall be on a weekly basis and conduct one set of measurements between 0700 and 1900 hours on normal weekdays. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

## **Monitoring Locations**

3.2 Six designated monitoring stations were selected for noise monitoring programme. Noise monitoring was conducted at five designated monitoring stations (M1, M2, M3, M4(A), M9) in the reporting month. **Figure 3** shows the locations of these stations.

Monitoring Stations	Locations	Location of Measurement
M1	Buddhist Chi King Primary School	7/F Sport Area
M2	S.K.H. Kowloon Bay Kei Lok Primary School	7/F Podium
M3	Cognitio College	Rooftop (about 6/F) Area
M4	Lee Kau Yan Memorial College	Rooftop (about 7/F) Area
M9	Tak Long Estate	2/F Podium
#M10	Site 1B4 (Planned)	-

Table 3.1Noise Monitoring Stations

Remarks: # The impact monitoring at these locations will only be carried out until existence of the sensitive receiver at the building.

## **Monitoring Equipment**

3.3 **Table 3.2** summarizes the noise monitoring equipment. Copies of calibration certificates are provided in **Appendix B**.

Table 3.2	Noise M	onitoring	Equipment
-----------	---------	-----------	-----------

Equipment	Model and Make	Qty.
Integrating Sound Level Meter	SVAN 955 & 957	5
Calibrator	SVAN 30A / B&K4231	4

## **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 D**.

Monitoring Stations	Parameter	Period	Frequency	Measurement
M1 M2 M3 M4 M9	$L_{10}(30 \text{ min.}) dB(A)$ $L_{90}(30 \text{ min.}) dB(A)$ $L_{eq}(30 \text{ min.}) dB(A)$	0700-1900 hrs on normal weekdays	Once per week	Façade

## Table 3.3 Noise Monitoring Parameters, Frequency and Duration

## Monitoring Methodology and QA/QC Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2 m above the ground.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement : 30 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the  $L_{eq}$ ,  $L_{90}$  and  $L_{10}$  were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused temporarily during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

## Maintenance and Calibration

- 3.5 The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- 3.6 The sound level meter and calibrator were checked and calibrated at yearly intervals.
- 3.7 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**

- 3.8 Construction noise monitoring at Station M3 Cognitio College on 13 August 2014 was cancelled due to heavy rain. The monitoring works were rescheduled to 14 August 2014. Other construction noise monitoring was conducted as scheduled in the reporting month.
- 3.9 No Action/Limit Level exceedance was recorded. The summary of exceedance record in

reporting month is shown in Appendix H.

- 3.10 The baseline noise level and the Noise Limit Level at each designated noise monitoring station are presented in **Table 3.4**.
- 3.11 Noise monitoring results and graphical presentations are shown in Appendix G.
- 3.12 The major noise source identified at the designated noise monitoring stations are as follows:

Monitoring Stations	Locations	Major Noise Source
M1	Buddhist Chi King Primary School	Traffic Noise
M2	S.K.H. Kowloon Bay Kei Lok Primary School	Site vehicle movement
		Traffic Noise
M3	Cognitio College	Daily school activities
1113	Cogintio Conege	Construction Noise from
		nearby Construction Sites
		Traffic Noise
M4		Site vehicle movement
	Lee Kau Yan Memorial School	Excavation works
		Piling works
		Daily school activities
		Traffic Noise
M9	Tak Long Estate	Construction works

1 able 5.4 Dasenne Noise Level and Noise Linni Level for Monitoring Static	Table 3.4	<b>Baseline Noise I</b>	Level and Noise	Limit Level for	· Monitoring Station
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Station	Baseline Noise Level, dB (A)	Noise Limit Level,dB (A)	
M1	64.4 (at 0700 – 1900 hrs on normal weekdays)	70* (at 0700 – 1900 hrs on	
M2	61.3 (at 0700 – 1900 hrs on normal weekdays)	normal weekdays)	
M3	$76.3^{(1)}/78.6^{(2)}$ (at 0700 – 1900 hrs on normal weekdays)	70* (at 0700 – 1900 hrs on normal weekdays)	
M4	76.7 (at 0700 – 1900 hrs on normal weekdays)	70* (at 0700 – 1900 hrs on normal weekdays)	
M9	59. 9 (at 0700 – 1900 hrs on normal weekdays)	75 (at 0700 – 1900 hrs on normal weekdays)	

(\*) Noise Limit Level is 65 dB(A) during school examination periods.

Note (1) : The alternative monitoring plan was approved by the EPD on  $21^{st}$  June 2013 to relocate the Noise Monitoring Stations from M3(A) - Kai Tak Operational Base (closed in mid of Year 2013) to M3 - Cognitio College with adopting the baseline noise level recorded at Rhythm Garden (i.e. 76.3dB(A) as both locations were affected by comparative traffic amount from Edward Road East.

(2) : Since the request to conduct the noise monitoring at the Rooftop was approved by Cognitio College, a baseline noise review report was submitted under Schedule 3 EIA Project – Tak Tai Development (KLN/2010/04) for M3 and was approved by EPD on 23<sup>rd</sup> August 2013. (Baseline Level was found to be 78.6dB(A) at Rooftop of Cognitio College)

Table 3.5	Summary Table of Noise Monitoring Results during the Reporting Month				
Date	Measured Noise Level, Leq(30min) dB (A)	Baseline Level dB (A)	Construction Noise Level <sup>(1)</sup> : Leq(30min) dB (A)		
M1 - Buddhist	Chi King Primary Scho	ol			
8-Aug-14	66.0		60.9		
12-Aug-14	64.9	64.4	55.3		
22-Aug-14	67.0	04.4	63.5		
26-Aug-14	66.3		61.8		
M2 - S.K.H. K	M2 - S.K.H. Kowloon Bay Kei Lok Primary School				
8-Aug-14	68.2		67.2		
12-Aug-14	68.0	61.3	67.0		
22-Aug-14	69.0	01.5	68.2		
26-Aug-14	67.9		66.8		
M3 - Cognitio College					
		Background Noise <sup>(2)</sup>			
7-Aug-14	79.1	78.9	65.6		
14-Aug-14	79.0	78.9	62.6		
19-Aug-14	78.5	79.4	78.5 Measured $\leq$ Background		
25-Aug-14	79.3	79.2	62.9		
M4 – Lee Kau	Yan Memorial College				
7-Aug-14	72.4		72.4 Measured $\leq$ Baseline		
13-Aug-14	73.7	767	73.7 Measured $\leq$ Baseline		
19-Aug-14	74.5	/0./	74.5 Measured $\leq$ Baseline		
25-Aug-14	74.9		74.9 Measured $\leq$ Baseline		
M9 – Tak Lon	g Estate				
5-Aug-14	66.9		65.9		
11-Aug-14	64.9	50.0	63.2		
21-Aug-14	65.9	39.9	64.6		
27-Aug-14	64.6		62.8		

Note (1) The noise level due to the construction work (CNL) was calculated by the following formula:

 $\text{CNL} = 10 \log (10^{\text{MNL/10}} - 10^{\text{BNL/10}})$ 

Remarks: MNL = Measured Noise Level BNL = Baseline Noise Level

(2): Since the Background Noise Level recorded during the Lunch Hour of Construction Site (i.e. 12:00-13:00) on the same day of impact noise monitoring was considered more appropriate for compliance checking for Noise Action and Limit Level than the baseline noise level obtained during the baseline review in July 2013. The measurement of Background Noise Level at M3 was then commenced from 9 September 2013 to provide a referencing value for compliance checking for Noise Action and Limit Level.

## 4. COMPARISON OF EM&A RESULTS WITH EIA PREDICTIONS

4.1 The EM&A data was compared with the EIA predictions as summarized in **Tables 4.1 to 4.3**.

## Table 4.1 Comparison of 1-hr TSP data with EIA predictions

Station	Predicted 1-hr TSP conc.		
	Scenario1 (Mid 2009 to Mid 2013), µg/m3	Scenario2 (Mid 2013 to Late 2016), µg/m3	Reporting Month (August 14), µg/m3
AM1(B) – Contractor Site Office of KL/2012/02	192	298	63
AM 2 – Lee Kau Yan Memorial School	290	312	66

#### Table 4.2Comparison of 24-hr TSP data with EIA predictions

Station	Predicted 24-hr TSP conc.		
	Scenario1 (Mid 2009 to Mid 2013), μg/m3	Scenario2 (Mid 2013 to Late 2016), μg/m3	Reporting Month (August 14), µg/m3
AM1(B) – Contractor Site Office of KL/2012/02	121	156	44
AM2 – Lee Kau Yan Memorial School	145	169	43

#### Table 4.3 Comparison of Noise Monitoring Data with EIA predictions

Stations	Predicted Mitigated Construction Noise Levels during Normal Working Hour (L <sub>eq (30min)</sub> dB(A))	<b>Reporting Month (August</b> 14), L <sub>eq (30min)</sub> dB(A)
M1 - Buddhist Chi King Primary School	51 - 68	55 - 64
M2 - S.K.H. Kowloon Bay Kei Lok Primary School	51 - 70	67 – 68
M3 - Cognitio College	47 – 75	$63 - 79^{(1)}$
M4 - Lee Kau Yan Memorial School	47 – 74	$72 - 75^{(2)}$
M9 - Tak Long Estate	N/A	63 - 66

Note 1: The measured noise level would be compared to the background noise recorded on the same day of noise monitoring during the lunch hour of construction site (i.e. 12:00-13:00), as shown in Appendix G, for compliance checking.

Note 2: The recorded noise levels were considered non-valid exceedance of Noise Limit Level as the baseline level at noise monitoring station M4 was 76.7 dB(A).

- 4.2 The 1-hour TSP concentrations in the reporting month were below to the prediction in the approved Environmental Impact Assessment (EIA) Report.
- 4.3 The 24-hour TSP concentrations in the reporting month were below to the prediction in the approved Environmental Impact Assessment (EIA) Report.
- 4.4 Mitigated construction noise levels at M9 were not predicted in EIA Report. The noise monitoring results in the reporting month at monitoring stations M3 and M4 were higher than the predicted mitigated construction noise levels in the EIA report and lower than the referencing baseline level. This was due to the major noise source during monitoring, i.e. background road traffic noise at the monitoring stations.

## 5. LANDSCAPE AND VISUAL

## **Monitoring Requirements**

5.1 According to EM&A Manual of the Kai Tak Development EIA Study, ET shall monitor and audit the contractor's operation during the construction period on a weekly basis, and to report on the contractor's compliance.

#### **Results and Observations**

- 5.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of landscape and visual mitigation measures within the site boundaries of this Project. The summaries of site audits are attached in **Appendix I**.
- 5.3 No non-compliance of the landscape and visual impact was recorded in the reporting month.
- 5.4 Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in **Appendix J** shall be performed.

## 6. ENVIRONMENTAL AUDIT

#### Site Audits

- 6.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix I**.
- 6.2 Site audits were conducted on 6<sup>th</sup>, 13<sup>th</sup>, 20<sup>th</sup> and 27<sup>th</sup> August 2014 in the reporting month. IEC site inspections were conducted on 20<sup>th</sup> August 2014. No non-compliance was observed during the site audits.

## **Review of Environmental Monitoring Procedures**

6.3 The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

## Air Quality Monitoring

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

#### Noise Monitoring

- The monitoring team recorded all observations around the monitoring stations, which might affect the monitoring result.
- Major noise sources were identified and recorded. Other intrusive noise attributing to the result was trimmed off by pausing the monitoring temporarily.

## **Status of Environmental Licensing and Permitting**

6.4 All permits/licenses obtained for the Project are summarized in Table 6.1.

Donmit No.	Valid Period		Deteile	Status
rernnt No.	From	То	Details	Status
Environmental Permit (EP)				
EP-344/2009	23/04/09	N/A	Construction of a new sewage pumping station serving the planned Kai Tak development with installed capacity of more than 2,000 m <sup>3</sup> per day and a boundary of which is less than 150m from an existing or planned residential area or educational institution.	Valid

Contract No. KL/2010/03 – Kai Tak Development -Stage 2 infrastructure works at north apron area of Kai Tak Airport for residential development and government, institution or community facilities Monthly EM&A Report – August 2014

Downit No	Valid Period		Detaile	<u>C4-4</u>
Permit No.	From	rom To		Status
EP-337/2009	23/04/09	N/A	Construction of new distributor roads serving the planned Kai Tak development.	Valid
Effluent Discharge Li	cense			
WT00011274-2011	-	31/12/16	Industrial discharge (near Kai Tak Tunnel)	
WT00011276-2011	-	31/12/16	Industrial discharge (near Concorde Road)	
Registration of Chemical Waste Producer				
5213-286-P1079-04	-	N/A	Chemical Waste Types: Spent lubricating oil, spent solvent and spent battery containing heavy metals	Valid
Construction Noise Permit (CNP)				
GW-RE0165-14	21/02/14	20/08/14	Construction Noise Permit for the use of powered mechanical equipment for carrying out construction work other than	Expired in reporting month
GW-RE0944-14	21/08/14	20/02/15	percussive pilling and performing prescribed construction work at Construction site of Kai Tak Development at north apron area of Kai Tak Airport near Eastern Road. Box Culvert & Sewage Pumping Station No. PS1A, Kowloon	Valid

## **Status of Waste Management**

- 6.5 The amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix M**.
- 6.6 In respect of the dump truck cover, the Contractor is advised to take record photos and inspection to ensure that all dump trucks have fully covered the skip before leaving the site.

#### **Implementation Status of Environmental Mitigation Measures**

6.7 During site inspections in the reporting month, no non-conformance was identified. ET weekly site inspections were carried out during the reporting month and the observations and recommendations are summarized in Table 6.2.

Parameters	Date	Observations and Recommendations	Follow-up	
6 Water Quality 6	6/8/14	Gullies should be sealed by sand bag bunds to prevent muddy water discharge through the gullies. (Road D2)	Item was found outstanding and remarked on 13/8/14.	
	6/8/14	Large quantity of muddy water was being discharged to the nullah at the site opposite to KTOB. Muddy water should be treated before discharging.	Rectification/improvement was observed during the follow-up audit session.	
	13/8/14	Silty runoff entering gullies during rainstorm	Rectification/improvement	

Table 6.2Observations and Recommendations of Site Inspections

Contract No. KL/2010/03 – Kai Tak Development -Stage 2 infrastructure works at north apron area of Kai Tak Airport for residential development and government, institution or community facilities Monthly EM&A Report – August 2014

Parameters	Date	Observations and Recommendations	Follow-up
		was observed. The Contractor should provide proper sand bag bund to gullies to prevent silty water entering public drain. (Road D2)	was observed during the follow-up audit session.
13/8/14		Hole on sheet pile should be covered to prevent runoff leakage. (site opposite to KTOB)	Rectification/improvement was observed during the follow-up audit session.
	20/8/14	Ponding of water should be cleared after rain. (Road D2)	Rectification/improvement was observed during the follow-up audit session.
Air Quality	27/8/14	Water spraying should be provided more frequently to exposed area to suppress dust emission.	Rectification/improvement was observed during the follow-up audit session.
Noise			
Waste/Chemical Management	20/8/14	Construction waste along new pedestrian street should be removed.	Rectification/improvement was observed during the follow-up audit session.
Landscape and Visual			
Permits /Licences			

## **Summary of Mitigation Measures Implemented**

6.8 The monthly IEC audit was carried out on 20<sup>th</sup> August 2014, the observations were recorded and they are presented as follows:

#### **Observations:**

- Area near Road D2 stagnant water was observed. The contractor should proper drain away the stagnant water.
- Area near pedestrian street debris and rubbish accumulation was observed. The contractor should proper clear up the waste.

Follow up of last site inspection:

- Area near pumping station PS1A construction activities was observed on the stockpile. Item closed.
- Area near Road L4 exposed area was proper watered by the contractor. Item closed.
- Area near Road D2 stagnant water was observed. Follow up as item 1.
- 6.9 An updated summary of the EMIS is provided in **Appendix K**.

#### **Implementation Status of Event Action Plans**

6.10 The Event Action Plans for air quality, noise and landscape and visual are presented in Appendix J.

1-hr TSP Monitoring

6.11 No Action/Limit Level exceedance was recorded in the reporting month.

24-hr TSP Monitoring

6.12 No Action/Limit Level exceedance was recorded in the reporting month.

Construction Noise

6.13 No Action/Limit Level exceedance was recorded in the reporting month.

Landscape and visual

6.14 No non-compliance was recorded in the reporting month.

# Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution

6.15 The summaries of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix L**.

## 7. FUTURE KEY ISSUES

- 7.1 Major site activities undertaken for the coming two months include:
  - Builder's works and E&M works of pumping station PS1A;
  - Drainage works at pedestrian streets;
  - Ducting, irrigation pipe laying and kerb laying along pedestrian streets and footpath of Road L5;
  - Kerb laying along Roads L4 and L5;
  - Laying sub-base, placing bituminous pavement and paving concrete blocks along pedestrian streets;
  - Construction of Box Culvert at Portion A;
  - Pre-planting works at pedestrian streets; and
  - Remedial works to the damaged works as arisen from Tysan at pedestrian streets.

## Key Issues for the Coming Month

- 7.2 Key environmental issues in the coming month include:
  - Review and implementation of temporary drainage system for the surface runoff;
  - Noise from operation of the equipment, especially for rock-breaking activities, piling works and machinery on-site;
  - Dust generation from stockpiles of dusty materials, exposed site area, excavation works and rock breaking activities;
  - Proper sorting of the construction waste;
  - Dust generation should be mitigated by adequate water spraying, especially in dry days;
  - Watering for dust generating activity and on haul road;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;
  - Accumulation of general and construction waste on site.

7.3 The tentative program of major site activities and the impact prediction and control measures for the coming two months, i.e. September and October 2014 are summarized as follows:

<b>Construction Works</b>	Major Impact	Control Measures
	Prediction	
	Air quality impact (dust)	<ul> <li>a) Frequent watering of haul road and unpaved/exposed areas;</li> <li>b) Frequent watering or covering stockpiles with tarpaulin or similar means; and</li> <li>c) Watering of any earth moving activities.</li> </ul>
As mentioned in Section 7.1	Water quality impact (surface run-off)	<ul> <li>d) Diversion of the collected effluent to de-silting facilities for treatment prior to discharge to public storm water drains;</li> <li>e) Provision of adequate de-silting facilities for treating surface run-off and other collected effluents prior to discharge;</li> <li>f) Provision of perimeter protection such as sealing of hoarding footings to avoid run-off from entering the existing storm water drainage system via public road; and g) Provision of measures to prevent discharge into the stream.</li> </ul>
	Noise Impact	<ul> <li>h) Scheduling of noisy construction activities if necessary to avoid persistent noisy operation;</li> <li>i) Controlling the number of plants use on site;</li> <li>j) Regular maintenance of machines; and</li> <li>k) Use of acoustic barriers if necessary.</li> </ul>

## Monitoring Schedule for the Next Month

7.4 The tentative environmental monitoring schedules for the next month are shown in **Appendix D**.

## 8. CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

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

## <u>1-hr TSP Monitoring</u>

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

#### 24-hr TSP Monitoring

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

## Construction Noise Monitoring

- 8.4 Construction noise monitoring at Station M3 Cognitio College on 13 August 2014 was cancelled due to heavy rain. The monitoring works were rescheduled to 14 August 2014. Other construction noise monitoring was conducted as scheduled in the reporting month.
- 8.5 No Action/Limit Level exceedance was recorded.

Landscape and visual

8.6 No non-compliance was recorded in the reporting month.

#### **Complaint and Prosecution**

8.7 No environmental complaints and environmental prosecution were received in the reporting month.

#### Recommendations

8.8 According to the environmental audit performed in the reporting month, the following recommendations were made:

#### Air Quality Impact

- To regularly maintain the quality of machinery and vehicles on site.
- To implement dust suppression measures on all haul roads, stockpiles, dry surfaces and excavation works.
- To provide hoarding along the entire length of that portion of the site boundary.
- To mitigate the dust generation by adequate water spraying in dry days.

#### Noise Impact

• To inspect the noise sources inside the site.

- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers.
- To provide temporary noise barriers for operations of noisy equipment near the noise sensitive receivers in an appropriate location.
- To well maintain the mechanical equipment/ machineries to avoid abnormal noise nuisance.

## Water Impact

- To prevent any surface runoff discharge into any stream course.
- To review and implement temporary drainage system.
- To clear the silt and sediment in the sedimentation tanks.
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge.
- To remove ponding and stagnant water regularly to avoid accumulation.
- To implement mitigation measure to prevent untreated water entering public drainage through gullies.

## Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site.
- To ensure the performance of sorting of C&D materials at source (during generation);
- To carry out inspection of dump truck at site exit to ensure inert and non-inert C&D materials are properly segregated before removing off site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site.
- To provide proper storage area or drip trays for oil containers/ equipment on site.
- To avoid improper handling or storage of oil drum on site.
- To keep machines and equipments in good condition to avoid oil leakage.

#### Landscape and Visual

- To protect the existing trees to be retained.
- To transplant the trees unavoidably affected by the works.
- To control of night-time lighting.
- To provide decorative screen hoarding.
- To complete landscape works at site area as early as possible.

FIGURES








APPENDIX A ACTION AND LIMIT LEVELS

# **Appendix A - Action and Limit Levels**

Location	Action Level, μg/m <sup>3</sup>	Limit Level, µg/m <sup>3</sup>
AM1(B)	342	500
AM2	346	300

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

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

Location	Action Level, μg/m <sup>3</sup>	Limit Level, µg/m <sup>3</sup>
AM1(B)	159	2(0
AM2	157	200

Table A-3	Action and Limit Levels for Co	onstruction Noise

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) 70dB(A)/65dB(A)*

Remarks: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed. \*70dB(A) and 65dB(A) for schools during normal teaching periods and school examination periods, respectively.

APPENDIX B COPIES OF CALIBRATION CERTIFCATES

# High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



						File No.	MA14008/58/0022
Station	AMI(B) - Outsi	de RLJV site offi	ce (KL/2008/09)	Operator:	WK		
Date:	24-Jun-14		Next Due Date:		23-Aug-14		
Equipment No.:	A-01-58		Serial No.		2357		
			A webstawe d	Condition			
		200.6	Drassura Pa	(mmHa)		754 7	
Temperatur	re, 1a (K)	299.0	riessuie, ra	r (mm ig)	, s. 11 s. u.s	754.7	••• ····
en e		Or	ifice Transfer Sta	andard Inform	ation	·····	•
Equipme	nt No.:	A-04-04	Slope, mc	0.0588	Intercept	t, bc	-0.0461
Last Calibra	tion Date:	30-Sep-13		mc x Qstd + k	oc = [ΔH x (Pa/76	0) x (298/Ta	n)] <sup>1/2</sup>
Next Calibra	ation Date:	29-Sep-14		Qstd = $\{[\Delta H]$	x (Pa/760) x (298	/Ta)] <sup>1/2</sup> -bc}	/ me
	·····	•	-1			ne sine sine sine	
			Calibration of	TSP Sampler			
Calibration		Or	fice	0-41 (00) 0	4 11 7	HVS	7(0) ** (200 /T_)11/2 **
Point	∆H (orifice), in. of water	[ΔH x (Pa/76	0) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	∆W (HVS), in. of oil	[ΔW X (Pa/	axis
1	11.9		3.43	59.09	8.0		2.81
2	9.8		3.11	53.70	6.5		2.53
3	7.6		2.74	47.38	5.1		2.24
4	5.2		2.27	39.33	3.2	1.78	
5	3.3		1.81	31.49	2.2		1.47
By Linear Regi Slope , mw =	ession of Y on 2 0.0493	x _		Intercept, bw	-0,102	75	_
Correlation c	oefficient* =	0.9	983				
*If Correlation (	Coefficient < 0.9	90, check and rec	alibrate.				
			Cat Daint (	Coloulation			
From the TSD F	ield Calibration (	Curve_take Ostd	= 43 CFM				
From the Regres	ssion Equation, t	he "Y" value acco	ording to				
			U				
		mw x	Qstd + bw = $[\Delta W]$	' x (Pa/760) x (2	298/Ta)] <sup>1/2</sup>		
Therefore, S	Set Point; W = (1	nw x Qstd + bw )	<sup>2</sup> x ( 760 / Pa ) x (	Ta / 298 ) =	4.09	)	-
							<u></u>
Remarks.							
1. VIII (11. D)		····					
			1	1			
Conducted by:	WK. TANg	Signature:	/(1)	105		Date:	2416/14
Checked by	: []	Signature:		$-\lambda$	_	Date:	24 June doc
				V			

# High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

CINOTECH

						File No.	MA14008/58/0023
Station	AMI(B) - Outsic	le RLJV site offi	ce (KL/2008/09)	Operator:	WK		-
Date:	25-Aug-14		נ	Next Due Date:	24-Oct-	-14	-
Equipment No.:	A-01-58			Serial No.	2357		
· · · ·					· · · · ·		· · · · · · · · · · · · · · · · · · ·
			Ambient	Condition	1	· · ·	
Temperatu	ire, Ta (K)	304.5	Pressure, Pa	(mmHg)		759.6	
· · · · ·		Or	ifice Transfer St	andard Inform	ation		
Equinm	ent No.:	A-04-04	Slope, mc	0.0588	Intercen	t. hc	-0.0461
Last Calibr	ation Date:	30-Sep-13	51000, 110	me x Ostd + l	$De = [\Delta H \times (Pa/76)]$	i0) x (298/Ta	n)] <sup>1/2</sup>
Next Calibr	ration Date:	29-Sen-14		Ostd = $\{ \Delta H \}$	x (Pa/760) x (298	$(Ta) ^{1/2} - bc$	/mc
Tiext Callor				2000 ( <u>1</u>		~~,	·]
			Calibration of	TSP Sampler			
Calibration		Ori	ĭce			HVS	
Point	$\Delta H$ (orifice), in. of water	[ΔH x (Pa/760	)) x (298/Ta)] <sup>1/2</sup>	Qstd (CFM) X - axis	ΔW (HVS), in. of oil	[∆W x (Pa/	760) x (298/Ta)] <sup>1/2</sup> Y- axis
1	11.9	3	.41	58.81	8.1		2.81
2	9.7	3	.08	53.17	6.4		2.50
3	7.7	2	.74	47.46	5.2		2.26
4	5.1	2	.23	38.77	3.3		1.80
5	3.3	1	.80	31.34	2.0		1.40
By Linear Reg Slope , mw = Correlation ( *If Correlation (	0.0511           coefficient* =	0.9	995 Ilibrate	Intercept, bw -	-0.191	8	
	Coefficient < 0.99	o, check and leca	inorate.				
			Set Point C	Calculation			
From the TSP F	ield Calibration C	urve, take Qstd =	43 CFM				
From the Regre	ssion Equation, th	e "Y" value acco	rding to				
		mw x Q	$2std + bw =  \Delta W $	x (Pa/760) x (2	298/Ta)] <sup>1/2</sup>		
		o					
Therefore, S	set Point; W = ( m	w x Qstd + bw ) <sup>-</sup>	x (7607 Pa) x (	fa/298)=	4.11		
Remarks:	<b>.</b>				. ·		
							······
Conducted by: Checked by:	<u></u>	Signature: Signature:	Kwi			Date: Date:	25/8/2014 25 August 2010
				V			C)

## **High-Volume TSP Sampler** 5-POINT CALIBRATION DATA SHEET

CINOTECH

1.77

1.37

				File No	MA14008/59/0024
n Memorial Sc	hool	Operator:	WK		
1		- Vext Due Date:	29-Aug	-14	
		Serial No.	2354		
	Ambient (	Condition			
301.7	Pressure, Pa	(mmHg)		757.4	
Ori	ifice Transfer Sta	indard Inform	ation		
A-04-04	Slope, mc	0.0588	Intercept, bc -0.0461		
30-Sep-13		mc x Qstd + l	be = [ΔH x (Pa/76	0) x (298/Ta)	1 <sup>1/2</sup>
29-Sep-14		Qstd = $\{[\Delta H]$	x (Pa/760) x (298/	/Ta)] <sup>1/2</sup> -bc} /	me
	Calibration of	<b>TSP Sampler</b>			
Orf	īce			HVS	
$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Qstd ( X -		Qstd (CFM) X - axis	ΔW (HVS), in. of oil	[∆W x (Pa/76	50) x (298/Ta)] <sup>1/2</sup> Y axis
3	.41	58.75	7.8		2.77
3	.11	53.61	6.5		2.53
2.71		47 30	5.0		2.22

3.2

1.9

Intercept, bw : \_\_\_\_\_\_\_ -0.1889

By	Linear	Regression	of Y	on 2	X
----	--------	------------	------	------	---

Slope,	mw =	0.0505

Station

Date:

Correlation coefficient\* =

\*If Correlation Coefficient < 0.990, check and recalibrate.

AM2 - Lee Kau Yan Memorial School

30-Sep-13

29-Sep-14

2.74

2.28

1.75

0.9991

30-Jun-14

 $\Delta H$  (orifice),

in. of water 11.8

9.8

7.6

5.3

3.1

Equipment No.: A-01-59

Temperature, Ta (K)

Equipment No.: Last Calibration Date:

Next Calibration Date:

Calibration

Point

1

2

3

4

5

Set Point Calculation

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

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

mw x	Qstd +	bw =	[ΔW x	(Pa/760)	x (298/1	ſa)] <sup>1/2</sup>
------	--------	------	-------	----------	----------	---------------------

39.63

30.49

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

3.99

Remarks:					an ann an ann a dhuin an ann an ann an ann an ann an ann an
Conducted by:	<u>Wk Jang</u>	Signature:	Kwai	Date:	30/6/14
Checked by:	A	Signature:		Date:	30 June 2014



## TEST REPORT

DescriptionCalibration OrificeSerial No.0993Model No.TE-5025ADate30 September 2013

Manufacturer Temperature,Ta (K) Pressure, Pa (mmHg) Equipment No.:

TISCH 300.8 759.3 A-04-04

Plate	Diff.Vol (m <sup>3</sup> )	Diff.Time (min)	Diff.Hg (mm)	Diff.H <sub>2</sub> O (in.)
1	1.00	1.4103	3.4	2.00
2	1.00	0.9980	6.8	4.00
3	1.00	0.8970	8.5	5.00
4	1.00	0.8540	9.4	5.50
5	1.00	0.7060	13.6	8.00

#### DATA TABULATION

Vstd	(X axis)	(Y axis)	
	Qstd		
0.9853	0.6986	1.4069	
0.9808	0.9828	1.9897	
0.9786	1.0910	2.2245	
0.9775	1.1446	2.3331	
0.9720	1.3768	2.8138	
V avia- CODTIU O/Da/760\/200/Ta)1			

Y axis= SQRT[H<sub>2</sub>O(Pa/760)(298/Ta)] Qstd Slope ( m ) = <u>2.07768</u> Intercept ( b ) = <u>-0.04613</u> Coefficient ( r ) = <u>0.99997</u>

Va	(X axis)	(Y axis)	
	Qa		
0.9955	0.7059	0.8901	
0.9910	0.9930	1.2589	
0.9888	1.1023	1.4074	
0.9876	1.1565	1.4761	
0.9821	1.3911	1.7803	
Y axis= SQRT[H <sub>2</sub> O(Ta/Pa)]			

Qa Slope (m) = <u>1.30101</u> Intercept (b) = <u>-0.02919</u> Coefficient (r) = <u>0.99997</u>

## 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:

 $\label{eq:Qstd=l/m{[SQRT(H_2O(Pa/760)(298/Ta))]-b}} \\ Qa=l/m{[SQRT H_2O(Ta/Pa)]-b} \\ \end{tabular}$ 

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

while

PATRICK TSE Laboratory Manager



## **TEST REPORT**



Y-axis equations: Qstd series: SQRT[△H(Pa/Pstd)(Tstd/Ta)]

Qa series: SQRT[ $\Delta$ H(Ta/Pa)]



## **TEST REPORT**

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

Test Report No.:	C/140411A
Date of Issue:	2014-04-11
Date Received:	2014-04-11
Date Tested:	2014-04-11
Date Completed:	2014-04-11
Next Due Date:	2014-10-12
Page:	1 of 2

ATTN: Mr. W.K. Tang

## **Certificate of Calibration**

#### Item for calibration:

Description	: Weather Monitor II
Manufacturer	: Davis Instruments
Model No.	: 7440
Serial No.	: MC20813A11

#### **Test conditions:**

Room Temperature	: 21 degree Celsius
Relative Humidity	: 56%

#### **Test Specifications:**

- 1. Performance check of anemometer
- 2. Performance check of wind direction sensor

#### Methodology:

In-house method with reference anemometer (RS232 Integral Vane Digital Anemometer)

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**PATRICK TSE** Laboratory Manager



# **TEST REPORT**

Test Report No.:	C/140411A
Date of Issue:	2014-04-11
Date Received:	2014-04-11
Date Tested:	2014-04-11
Date Completed:	2014-04-11
Next Due Date:	2014-10-12
Page:	2 of 2

#### **Results:**

1. Performance check of anemometer

Air Velocity, m/s		Difference D (m/s)
Instrument Reading (V1) Reference Value (V1)		$\mathbf{D} = \mathbf{V}1 - \mathbf{V}2$
2.00	2.00	0.00

## 2. Performance check of wind direction sensor

Wind Direction (°)		Difference D (°)
Instrument Reading (W1) Reference Value (W2)		$\mathbf{D} = \mathbf{W}1 - \mathbf{W}2$
0	0	0
45.2	45	0.2
90.5	90.5	0
134.9	135	-0.1
180.2	180	0.2
225.3	225	0.3
270.2	270	0.2
315.1	315	0.1
359.7	360	-0.3

C/140704/1

2014-07-07

2014-07-04

2014-07-04

2014-07-07 2014-09-06

1 of 1



#### 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:

#### ATTN:

Mr. W.K. Tang

## **Certificate of Calibration**

Page:

Item for Calibration:	
Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3
Serial No.	: 251634
Sensitivity (K) 1 CPM	$: 0.001 \text{ mg/m}^3$
Sen. Adjustment Scale Setting	: 550 CPM
Equipment No.	: A-02-01
Test Conditions:	
Room Temperature	: 25 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 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)	0.0030
****	*****

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PATRICK TSE Laboratory Manager

ELLAB 進 esting & Research

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 Test Report No.: C/140630/1 APPLICANT: Cinotech Consultants Limited Date of Issue: 2014-07-02 Room 1710, Technology Park, Date Received: 2014-06-30 18 On Lai Street, Date Tested: 2014-06-30 Shatin, NT, Hong Kong Date Completed: 2014-07-02 Next Due Date: 2014-09-01 Page: 1 of 1 ATTN: Mr. W. K. Tang **Certificate of Calibration Item for Calibration:** Description : Laser Dust Monitor Manufacturer : Sibata Model No. : LD-3B : 095039 Serial No. $: 0.001 \text{ mg/m}^3$ Sensitivity (K) 1 CPM Sen. Adjustment Scale Setting :764 CPM Equipment No. : A-02-08 **Test Conditions:** : 23 degree Celsius Room Temperature **Relative Humidity** :61% **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)	0.0029
****	****

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PATRICK TSE Laboratory Manager

VELLAB 匯 Testing & Research

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 L Room 1710, Technology	imited 7 Park,	Test Report No.: Date of Issue:	C/140630/2 2014-07-02	
	18 On Lai Street,	·	Date Received:	2014-06-30	
	Shatin, NT, Hong Kong		Date Tested:	2014-06-30	
			Date Completed:	2014-07-02	
			Next Due Date:	2014-09-01	
ATTN:	Mr. W. K. Tang		Page:	1 of 1	
	Certificate of Calibration				
Item for Calibration:					
Description		: Laser	Dust Monitor		
Manufacture	Manufacturer : Sibata				
Model No.	Model No. : LD-3B				
Serial No.	Serial No. : 095050				
Sensitivity (K) 1 CPM $: 0.001 \text{ mg/m}^3$					
Sen. Adjustment Scale Setting : 577 C		PM			
Equipment No. : A-02-09					
<b>Test Condition</b>	s:				
Room Temperature : 23 deg		gree Celsius			
Relative Humidity : 61%					
Test Specificat 1. Instructio	ions & Methodology: n and Operation Manual H	igh Volume	Sampler, Andersen S	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)	0.0029
****	********

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PATRICK TSE Laboratory Manager

C/140630/3

2014-07-02

2014-06-30

2014-06-30

2014-07-02

2014-09-01

1 of 1

# TEST REPORTAPPLICANT:Cinotech Consultants Limited<br/>Room 1710, Technology Park,<br/>18 On Lai Street,<br/>Shatin, NT, Hong KongTest Report No.:<br/>Date of Issue:<br/>Date Received:<br/>Date Tested:<br/>Date Completed:<br/>Next Due Date:

ATTN:

FELLAB 匯 Testing & Research

#### Mr. W. K. Tang

Outility	
Item for Calibration:	
Description	: Laser Dust Monitor
Manufacturer	: Sibata
Model No.	: LD-3B
Serial No.	: 095029
Sensitivity (K) 1 CPM	$: 0.001 \text{ mg/m}^3$
Sen. Adjustment Scale Setting	: 551 CPM
Equipment No.	: A-02-10
Test Conditions:	
Room Temperature	: 23 degree Celsius
Relative Humidity	: 61%

#### Test Specifications & Methodology:

1. Instruction and Operation Manual High Volume Sampler, Andersen Samplers, Inc.

Certificate of Calibration

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.

Page:

<b>Results:</b>	

Correlation Factor (CF)	0.0028

\*\*\*\*\*\*

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PATRICK TSE Laboratory Manager



#### **TEST REPORT** C/N/130919/1 **APPLICANT: Cinotech Consultants Limited** Test Report No.: Date of Issue: 2013-09-21 Room 1710, Technology Park, Date Received: 2013-09-19 18 On Lai Street, Date Tested: Shatin, NT, Hong Kong 2013-09-21 Date Completed: 2013-09-21 Next Due Date: 2014-09-20 Page: 1 of 1 ATTN: Mr. W.K. Tang **Certificate of Calibration** Item for calibration: Description : 'SVANTEK' Integrating Sound Level Meter Manufacturer : SVANTEK Model No. : SVAN 955 Serial No. : 12553 Microphone No. : 35222 Equipment No. : N-08-02 **Test conditions:** : 22 degree Celsius Room Temperatre **Relative Humidity** : 57% **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

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PA'TRICK TSE Laboratory Manager



## **TEST REPORT**

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

Test Report No.:	C/N/130919/2
Date of Issue:	2013-09-21
Date Received:	2013-09-19
Date Tested:	2013-09-21
Date Completed:	2013-09-21
Next Due Date:	2014-09-20
Page:	1 of 1

ATTN: Mr. W.K. Tang

## **Certificate of Calibration**

#### Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 955
Serial No.	: 12563
Microphone No.	: 34377
Equipment No.	: N-08-03

### **Test conditions:**

Room Temperatre Relative Humidity : 22 degree Celsius : 57%

#### **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

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PATRICK TSE Laboratory Manager



#### **Cinotech Consultants Limited** Test Report No.: **APPLICANT:** C/N/130830/2 Room 1710, Technology Park, Date of Issue: 2013-08-31 18 On Lai Street, Date Received: 2013-08-30 Shatin, NT, Hong Kong Date Tested: 2013-08-30 Date Completed: 2013-08-31 Next Due Date: 2014-08-30 ATTN: Mr. W.K. Tang Page: 1 of 1 **Certificate of Calibration** Item for calibration: Description : 'SVANTEK' Integrating Sound Level Meter Manufacturer : SVANTEK Model No. : SVAN 957 Serial No. :21459 Microphone No. : 43676 Equipment No. : N-08-08 **Test conditions:** Room Temperatre : 21 degree Celsius **Relative Humidity** : 69% **Test Specifications:**

**TEST REPORT** 

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 Laboratory Manager



## **TEST REPORT**

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

Test Report No .:	C/N/130830/3
Date of Issue:	2013-08-31
Date Received:	2013-08-30
Date Tested:	2013-08-30
Date Completed:	2013-08-31
Next Due Date:	2014-08-30
Page:	1 of 1

ATTN:

Mr. W.K. Tang

## **Certificate of Calibration**

#### Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 957
Serial No.	: 21460
Microphone No.	: 43679
Equipment No.	: N-08-09

#### **Test conditions:**

Room Temperatre Relative Humidity : 21 degree Celsius : 69%

#### **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 Laboratory Manager



## **TEST REPORT**

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

Test Report No .:	C/N/131129/1
Date of Issue:	2013-11-30
Date Received:	2013-11-29
Date Tested:	2013-11-29
Date Completed:	2013-11-30
Next Due Date:	2014-11-29
Page:	1 of 1

ATTN: Mr. W.K. Tang

## **Certificate of Calibration**

#### Item for calibration:

Description	: 'SVANTEK' Integrating Sound Level Meter
Manufacturer	: SVANTEK
Model No.	: SVAN 957
Serial No.	: 23853
Microphone No.	: 48530
Equipment No.	: N-08-10

### **Test conditions:**

Room Temperatre Relative Humidity : 19 degree Celsius : 57%

#### **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

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PATRICK TSE Laboratory Manager



#### **TEST REPORT APPLICANT: Cinotech Consultants Limited** Test Report No.: C/N/131101/1 Date of Issue: 2013-11-02 Room 1710, Technology Park, Date Received: 2013-11-01 18 On Lai Street, Date Tested: 2013-11-01 Shatin, NT, Hong Kong Date Completed: 2013-11-02 Next Due Date: 2014-11-01 Page: 1 of 1 ATTN: Mr. W.K. Tang Item for calibration: : Acoustical Calibrator Description Manufacturer : SVANTEK Model No. : SV30A Serial No. : 10965 Equipment No. : N-09-02 **Test conditions:**

Room Temperatre: 20 degree CelsiusRelative Humidity: 52%

#### 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	$114.0 \pm 0.1 \text{ dB}$

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

PÁTRICK TSE Laboratory Manager



#### **TEST REPORT** Test Report No.: C/N/131004/1 **Cinotech Consultants Limited APPLICANT:** Date of Issue: 2013-10-05 Room 1710, Technology Park, 18 On Lai Street, Date Received: 2013-10-04 Date Tested: 2013-10-04 Shatin, NT, Hong Kong Date Completed: 2013-10-05 Next Due Date: 2014-10-04 Page: 1 of 1 ATTN: Mr. W.K. Tang Item for calibration: : Acoustical Calibrator Description Manufacturer : SVANTEK Model No. : SV30A

: 24803 : N-09-03

Equipment No. Test conditions:

Serial No.

Room Temperatre	: 21 degree Celsius
Relative Humidity	: 57%

#### 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	$94.0 \pm 0.1 \text{ dB}$
At 114 dB SPL	114.0	114.0 ± 0.1 dB

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

PATRICK TSE Laboratory Manager



	TEST	REPOR	T	
APPLICANT:	Cinotech Consultants L	imited	Test Report No.:	C/N/131004/3
	Room 1710, Technology	Park,	Date of Issue:	2013-10-05
	18 On Lai Street,		Date Received:	2013-10-04
	Shatin, NT, Hong Kong		Date Tested:	2013-10-04
			Date Completed:	2013-10-05
			Next Due Date:	2014-10-04
ATTN:	Mr. W.K. Tang		Page:	1 of 1
Item for calibra	ation:			
1	Description	: Acoustica	al Calibrator	
1	Manufacturer	: SVANTE	ΞK	
1	Model No.	: SV30A		
,	Serial No.	: 24780		
]	Equipment No.	: N-09-05		

L	est	cond	lit	tio	ns:	
---	-----	------	-----	-----	-----	--

Room Temperatre Relative Humidity : 21 degree Celsius : 57%

## 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	$114.0 \pm 0.1 \text{ dB}$

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

PATRICK TSE Laboratory Manager



TEST REPORT				
APPLICANT:	Cinotech Consultants L Room 1710, Technology	imited 7 Park.	Test Report No.: Date of Issue:	C/N/131108/1 2013-11-09
	18 On Lai Street,	,	Date Received:	2013-11-08
	Shatin, NT, Hong Kong	- 	Date Tested:	2013-11-08
			Date Completed: Next Due Date:	2013-11-09 2014-11-08
ATTN:	Mr. W.K. Tang		Page:	1 of 1
Item for calibra	ntion:			
I	Description	: Acoustica	al Calibrator	
ľ	Manufacturer : Brüel &		Kjær	
1	Model No.	: 4231		
S	Serial No.	: 2326353		
I	Project No.	: C13		
H	Equipment No.	: N-02-01		
Test conditions:				
I I	Room Temperatre Relative Humidity	: 21 degree : 52 %	e Celsius	

#### Methodology:

The sound 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.

atick le

PATRICK TSE Laboratory Manager

APPENDIX C WEATHER INFORMATION

## I. General Information

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 August 2014	25.9 - 34.6	64 – 94	5.9
2 August 2014	26.1 - 32.8	65 - 91	10.7
3 August 2014	26.1 - 32.3	72 – 97	39.3
4 August 2014	27.2 - 32.7	66 – 97	12.0
5 August 2014	27.3 - 30.7	78 – 96	21.1
6 August 2014	26.1 - 31.1	69 – 97	36.5
7 August 2014	26.7 - 31.0	71 – 96	14.5
8 August 2014	28.1 - 32.3	68 - 88	0
9 August 2014	28.8 - 32.0	68 - 86	0
10 August 2014	27.5 - 32.4	65 - 90	5.1
11 August 2014	28.5 - 32.1	71 – 89	Trace
12 August 2014	25.2 - 31.9	73 – 98	102.9
13 August 2014	24.3 - 28.8	89 – 98	166.1
14 August 2014	25.4 - 30.7	76 – 98	0.5
15 August 2014	26.7 - 32.4	63 - 89	0
16 August 2014	27.9 - 26.6	68 - 88	0
17 August 2014	27.3 - 31.9	69 - 86	0
18 August 2014	27.7 - 32.4	63 - 87	0
19 August 2014	24.6 - 31.3	72 – 94	42.1

## I. General Information

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
20 August 2014	22.9 - 26.5	83 - 98	88.8
21 August 2014	23.9 - 30.7	69 – 96	0.1
22 August 2014	26.6 - 31.9	61 – 92	0
23 August 2014	27.2 - 32.2	67 – 89	Trace
24 August 2014	26.9 - 33.2	72 – 86	0
25 August 2014	27.3 - 34.1	58 - 89	0
26 August 2014	27.9 - 34.2	60 - 87	0
27 August 2014	28.2 - 31.7	67 – 86	0.7
28 August 2014	28.1 - 32.1	69 - 87	0.3
29 August 2014	27.5 - 34.1	57 – 88	0
30 August 2014	27.8 - 34.0	57 - 85	0
31 August 2014	28.2 - 31.2	75 – 90	1.6

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

Date	Time	Wind Speed m/s	Direction
1-Aug-2014	00:00	0.6	NE
1-Aug-2014	01:00	0.5	NE
1-Aug-2014	02:00	0.5	NE
1-Aug-2014	03:00	0.5	NE
1-Aug-2014	04:00	0.5	NNE
1-Aug-2014	05:00	0.5	NNE
1-Aug-2014	06:00	0.5	NNE
1-Aug-2014	07:00	0.5	NNE
1-Aug-2014	08:00	1.3	NE
1-Aug-2014	09:00	1.3	NE
1-Aug-2014	10:00	1.3	NE
1-Aug-2014	11:00	1.8	NNE
1-Aug-2014	12:00	1.9	NNE
1-Aug-2014	13:00	1.9	NNE
1-Aug-2014	14:00	1.8	NNE
1-Aug-2014	15:00	1.9	E
1-Aug-2014	16:00	2	NNE
1-Aug-2014	17:00	1.8	NNE
1-Aug-2014	18:00	1.6	NE
1-Aug-2014	19:00	1.4	ENE
1-Aug-2014	20:00	1.5	NE
1-Aug-2014	21:00	1.4	NE
1-Aug-2014	22:00	1.3	NE
1-Aug-2014	23:00	1.2	NE
2-Aug-2014	00:00	1.2	NNE
2-Aug-2014	01:00	1.3	W
2-Aug-2014	02:00	1.3	W
2-Aug-2014	03:00	1.3	W
2-Aug-2014	04:00	1.4	SW
2-Aug-2014	05:00	1.3	SW
2-Aug-2014	06:00	1.3	W
2-Aug-2014	07:00	1.1	W
2-Aug-2014	08:00	1	SW
2-Aug-2014	09:00	1.3	SW
2-Aug-2014	10:00	1.2	WSW
2-Aug-2014	11:00	1.4	NNE

2-Aug-2014	12:00	1.4	E
2-Aug-2014	13:00	1.3	Ν
2-Aug-2014	14:00	1.4	Ν
2-Aug-2014	15:00	1.7	NNE
2-Aug-2014	16:00	2.3	SSE
2-Aug-2014	17:00	2	WSW
2-Aug-2014	18:00	2.2	SSW
2-Aug-2014	19:00	1.9	WSW
2-Aug-2014	20:00	1.9	WSW
2-Aug-2014	21:00	2.1	SSW
2-Aug-2014	22:00	2.2	WSW
2-Aug-2014	23:00	2.7	NNE
3-Aug-2014	00:00	2.2	NNE
3-Aug-2014	01:00	1.9	NNE
3-Aug-2014	02:00	1.7	NNE
3-Aug-2014	03:00	2.4	NE
3-Aug-2014	04:00	1.5	NE
3-Aug-2014	05:00	1.5	NNE
3-Aug-2014	06:00	1.5	ENE
3-Aug-2014	07:00	1.6	NE
3-Aug-2014	08:00	1.8	NE
3-Aug-2014	09:00	2.1	NE
3-Aug-2014	10:00	2.6	NE
3-Aug-2014	11:00	2.3	ENE
3-Aug-2014	12:00	2.6	NE
3-Aug-2014	13:00	3.1	E
3-Aug-2014	14:00	2.8	ENE
3-Aug-2014	15:00	2.9	E
3-Aug-2014	16:00	3.2	NE
3-Aug-2014	17:00	2.2	NNE
3-Aug-2014	18:00	1.8	NNE
3-Aug-2014	19:00	1.8	NE
3-Aug-2014	20:00	0.6	ENE
3-Aug-2014	21:00	1	ENE
3-Aug-2014	22:00	1.2	NE
3-Aug-2014	23:00	1.1	SE
4-Aug-2014	00:00	0.8	SE

4-Aug-2014	01:00	0.8	WSW
4-Aug-2014	02:00	0.7	W
4-Aug-2014	03:00	0.9	NE
4-Aug-2014	04:00	0.6	NNE
4-Aug-2014	05:00	0.6	NE
4-Aug-2014	06:00	1.2	NNE
4-Aug-2014	07:00	1.6	NNE
4-Aug-2014	08:00	3	NE
4-Aug-2014	09:00	3.9	NE
4-Aug-2014	10:00	4.4	NE
4-Aug-2014	11:00	3.9	NE
4-Aug-2014	12:00	4.6	NNE
4-Aug-2014	13:00	4.1	NNE
4-Aug-2014	14:00	2.8	NNE
4-Aug-2014	15:00	3.3	NNE
4-Aug-2014	16:00	2.8	NNE
4-Aug-2014	17:00	2.6	NE
4-Aug-2014	18:00	2.4	NE
4-Aug-2014	19:00	1.7	NE
4-Aug-2014	20:00	1.5	NE
4-Aug-2014	21:00	2.1	NNE
4-Aug-2014	22:00	1.7	NNE
4-Aug-2014	23:00	1.5	NNE
5-Aug-2014	00:00	1.6	NNE
5-Aug-2014	01:00	1.8	NNE
5-Aug-2014	02:00	2.1	NNE
5-Aug-2014	03:00	2.3	NNE
5-Aug-2014	04:00	1.9	NNE
5-Aug-2014	05:00	1.7	NNE
5-Aug-2014	06:00	1.9	NNE
5-Aug-2014	07:00	2.3	NE
5-Aug-2014	08:00	1.7	NNE
5-Aug-2014	09:00	1.8	NNE
5-Aug-2014	10:00	2.5	NNE
5-Aug-2014	11:00	2.8	NNE
5-Aug-2014	12:00	3.5	NNE
5-Aug-2014	13:00	3.6	NNE

5-Aug-2014	14:00	3.8	NNE
5-Aug-2014	15:00	3.1	NNE
5-Aug-2014	16:00	3.1	NE
5-Aug-2014	17:00	2.5	NNE
5-Aug-2014	18:00	1.9	NE
5-Aug-2014	19:00	1.8	NNE
5-Aug-2014	20:00	2.7	NNE
5-Aug-2014	21:00	2.6	NE
5-Aug-2014	22:00	2.5	NNE
5-Aug-2014	23:00	2.9	NNE
6-Aug-2014	00:00	2.3	NNE
6-Aug-2014	01:00	2.7	NNE
6-Aug-2014	02:00	2.3	NNE
6-Aug-2014	03:00	2.2	NNE
6-Aug-2014	04:00	2.4	NE
6-Aug-2014	05:00	2.5	NNE
6-Aug-2014	06:00	2.8	NE
6-Aug-2014	07:00	2.5	NNE
6-Aug-2014	08:00	2.6	ENE
6-Aug-2014	09:00	2.7	ENE
6-Aug-2014	10:00	2.8	ENE
6-Aug-2014	11:00	3.1	ENE
6-Aug-2014	12:00	3.3	E
6-Aug-2014	13:00	3	E
6-Aug-2014	14:00	2.6	ENE
6-Aug-2014	15:00	2.7	WSW
6-Aug-2014	16:00	2.4	NNE
6-Aug-2014	17:00	1.9	NNE
6-Aug-2014	18:00	1.4	NNE
6-Aug-2014	19:00	1.6	NNE
6-Aug-2014	20:00	1.9	NE
6-Aug-2014	21:00	1.8	NNE
6-Aug-2014	22:00	2.2	NE
6-Aug-2014	23:00	1.4	NE
7-Aug-2014	00:00	1.5	NE
7-Aug-2014	01:00	1.5	NE
7-Aug-2014	02:00	1.2	NE

7-Aug-2014	03:00	1.3	NNE
7-Aug-2014	04:00	1.3	NNE
7-Aug-2014	05:00	1.2	NE
7-Aug-2014	06:00	1.2	Ν
7-Aug-2014	07:00	1.3	NE
7-Aug-2014	08:00	1.5	NNE
7-Aug-2014	09:00	1.4	NNE
7-Aug-2014	10:00	1.5	NE
7-Aug-2014	11:00	1.9	NE
7-Aug-2014	12:00	1.7	NE
7-Aug-2014	13:00	1.6	NE
7-Aug-2014	14:00	1.6	NE
7-Aug-2014	15:00	1.6	NNE
7-Aug-2014	16:00	1.8	NNE
7-Aug-2014	17:00	1.7	ENE
7-Aug-2014	18:00	1.7	ENE
7-Aug-2014	19:00	1.6	ENE
7-Aug-2014	20:00	1.5	ENE
7-Aug-2014	21:00	1.4	ENE
7-Aug-2014	22:00	1.5	E
7-Aug-2014	23:00	1.3	E
8-Aug-2014	00:00	1.2	NE
8-Aug-2014	01:00	1.3	ENE
8-Aug-2014	02:00	1.3	NE
8-Aug-2014	03:00	1.3	NE
8-Aug-2014	04:00	1.4	NE
8-Aug-2014	05:00	1.3	NE
8-Aug-2014	06:00	1.3	ENE
8-Aug-2014	07:00	1.3	SW
8-Aug-2014	08:00	1.4	SSW
8-Aug-2014	09:00	1.6	SE
8-Aug-2014	10:00	1.6	SSW
8-Aug-2014	11:00	1.1	SSE
8-Aug-2014	12:00	1.2	SSE
8-Aug-2014	13:00	1.4	NE
8-Aug-2014	14:00	1.4	NE
8-Aug-2014	15:00	1.5	S

8-Aug-2014	16:00	1.4	E
8-Aug-2014	17:00	1.1	E
8-Aug-2014	18:00	1	NNE
8-Aug-2014	19:00	1	S
8-Aug-2014	20:00	1.1	NW
8-Aug-2014	21:00	1.1	SW
8-Aug-2014	22:00	1.2	NE
8-Aug-2014	23:00	1	ENE
9-Aug-2014	00:00	0.9	NNW
9-Aug-2014	01:00	0.9	WNW
9-Aug-2014	02:00	0.9	WSW
9-Aug-2014	03:00	0.9	NNW
9-Aug-2014	04:00	0.9	NNW
9-Aug-2014	05:00	0.8	WSW
9-Aug-2014	06:00	0.7	NNE
9-Aug-2014	07:00	0.8	NW
9-Aug-2014	08:00	0.9	WSW
9-Aug-2014	09:00	1.1	WSW
9-Aug-2014	10:00	1.2	W
9-Aug-2014	11:00	1.5	WSW
9-Aug-2014	12:00	1.6	SW
9-Aug-2014	13:00	1.6	SSW
9-Aug-2014	14:00	1.5	W
9-Aug-2014	15:00	1.4	WSW
9-Aug-2014	16:00	1.2	SSW
9-Aug-2014	17:00	1.1	WSW
9-Aug-2014	18:00	0.8	W
9-Aug-2014	19:00	0.6	NW
9-Aug-2014	20:00	0.7	SW
9-Aug-2014	21:00	0.6	WSW
9-Aug-2014	22:00	0.6	W
9-Aug-2014	23:00	0.6	W
10-Aug-2014	00:00	0.6	W
10-Aug-2014	01:00	0.8	W
10-Aug-2014	02:00	0.7	W
10-Aug-2014	03:00	0.7	SSW
10-Aug-2014	04:00	0.6	SW

10-Aug-2014	05:00	0.6	ESE
10-Aug-2014	06:00	0.7	W
10-Aug-2014	07:00	0.7	W
10-Aug-2014	08:00	0.7	W
10-Aug-2014	09:00	1	SW
10-Aug-2014	10:00	1.3	SW
10-Aug-2014	11:00	1.4	W
10-Aug-2014	12:00	1.4	WNW
10-Aug-2014	13:00	1.7	W
10-Aug-2014	14:00	1.7	WNW
10-Aug-2014	15:00	1.4	WSW
10-Aug-2014	16:00	1.4	WSW
10-Aug-2014	17:00	1.3	W
10-Aug-2014	18:00	0.9	NNE
10-Aug-2014	19:00	0.7	N
10-Aug-2014	20:00	0.7	ESE
10-Aug-2014	21:00	0.6	ENE
10-Aug-2014	22:00	0.8	W
10-Aug-2014	23:00	0.6	SSW
11-Aug-2014	00:00	0.7	SW
11-Aug-2014	01:00	0.5	SSW
11-Aug-2014	02:00	0.6	ENE
11-Aug-2014	03:00	0.6	ESE
11-Aug-2014	04:00	0.5	ENE
11-Aug-2014	05:00	0.6	SSE
11-Aug-2014	06:00	0.6	W
11-Aug-2014	07:00	0.6	W
11-Aug-2014	08:00	0.7	SW
11-Aug-2014	09:00	1	WNW
11-Aug-2014	10:00	1.2	SW
11-Aug-2014	11:00	1.3	ESE
11-Aug-2014	12:00	1.6	SW
11-Aug-2014	13:00	1.5	WNW
11-Aug-2014	14:00	1.3	WNW
11-Aug-2014	15:00	1.3	WSW
11-Aug-2014	16:00	1.1	NW
11-Aug-2014	17:00	1	W

11-Aug-2014	18:00	0.8	S
11-Aug-2014	19:00	0.5	SSE
11-Aug-2014	20:00	0.5	SSE
11-Aug-2014	21:00	0.5	S
11-Aug-2014	22:00	0.6	SSE
11-Aug-2014	23:00	0.5	ESE
12-Aug-2014	00:00	0.5	ESE
12-Aug-2014	01:00	0.5	SE
12-Aug-2014	02:00	0.5	SSE
12-Aug-2014	03:00	0.5	SSE
12-Aug-2014	04:00	0.5	ENE
12-Aug-2014	05:00	0.6	NNE
12-Aug-2014	06:00	0.6	Ν
12-Aug-2014	07:00	0.5	E
12-Aug-2014	08:00	0.6	E
12-Aug-2014	09:00	0.9	NE
12-Aug-2014	10:00	1.1	S
12-Aug-2014	11:00	1.4	SE
12-Aug-2014	12:00	1.6	SE
12-Aug-2014	13:00	1.3	SSE
12-Aug-2014	14:00	1.5	ESE
12-Aug-2014	15:00	1.4	ENE
12-Aug-2014	16:00	1.3	SE
12-Aug-2014	17:00	1.3	SE
12-Aug-2014	18:00	1	NE
12-Aug-2014	19:00	0.7	SE
12-Aug-2014	20:00	0.6	SE
12-Aug-2014	21:00	0.5	SSW
12-Aug-2014	22:00	0.5	N
12-Aug-2014	23:00	0.6	SW
13-Aug-2014	00:00	0.6	SSE
13-Aug-2014	01:00	0.6	NE
13-Aug-2014	02:00	0.5	N
13-Aug-2014	03:00	0.5	W
13-Aug-2014	04:00	0.6	NNE
13-Aug-2014	05:00	0.5	SW
13-Aug-2014	06:00	0.9	ENE

13-Aug-2014	07:00	1.2	ENE
13-Aug-2014	08:00	1.1	SSW
13-Aug-2014	09:00	1.2	ENE
13-Aug-2014	10:00	1.5	N
13-Aug-2014	11:00	1.7	NE
13-Aug-2014	12:00	1.8	NE
13-Aug-2014	13:00	1.6	W
13-Aug-2014	14:00	1.7	WNW
13-Aug-2014	15:00	1.5	W
13-Aug-2014	16:00	1.7	W
13-Aug-2014	17:00	1.8	NW
13-Aug-2014	18:00	1.3	N
13-Aug-2014	19:00	1	NNE
13-Aug-2014	20:00	0.8	ENE
13-Aug-2014	21:00	0.7	S
13-Aug-2014	22:00	0.9	S
13-Aug-2014	23:00	1.1	SSE
14-Aug-2014	00:00	1.1	ESE
14-Aug-2014	01:00	0.9	SSW
14-Aug-2014	02:00	0.9	NW
14-Aug-2014	03:00	1	WNW
14-Aug-2014	04:00	0.8	WNW
14-Aug-2014	05:00	0.7	NNW
14-Aug-2014	06:00	0.7	WNW
14-Aug-2014	07:00	0.7	WNW
14-Aug-2014	08:00	0.8	NNW
14-Aug-2014	09:00	1.1	NW
14-Aug-2014	10:00	1.6	NNW
14-Aug-2014	11:00	1.5	NNW
14-Aug-2014	12:00	1.7	W
14-Aug-2014	13:00	1.8	NNW
14-Aug-2014	14:00	1.5	W
14-Aug-2014	15:00	1.3	NNW
14-Aug-2014	16:00	1.2	NNW
14-Aug-2014	17:00	1	NNW
14-Aug-2014	18:00	0.9	WSW
14-Aug-2014	19:00	0.9	WSW

14-Aug-2014	20:00	0.9	SSW	
14-Aug-2014	21:00	0.8	NNE	
14-Aug-2014	22:00	0.9	WNW	
14-Aug-2014	23:00	0.8	NW	
15-Aug-2014	00:00	0.8	NNW	
15-Aug-2014	01:00	0.9	NNW	
15-Aug-2014	02:00	0.8	NW	
15-Aug-2014	03:00	0.7	NNW	
15-Aug-2014	04:00	0.7	NW	
15-Aug-2014	05:00	0.9	WNW	
15-Aug-2014	06:00	0.8	NW	
15-Aug-2014	07:00	0.8	WNW	
15-Aug-2014	08:00	0.9	SSE	
15-Aug-2014	09:00	1.1	NW	
15-Aug-2014	10:00	1.3	NW	
15-Aug-2014	11:00	1.3	S	
15-Aug-2014	12:00	1.3	SW	
15-Aug-2014	13:00	1.3	NW	
15-Aug-2014	14:00	1.2	NW	
15-Aug-2014	15:00	1.2	NW	
15-Aug-2014	16:00	1.2	WNW	
15-Aug-2014	17:00	1.1	WNW	
15-Aug-2014	18:00	1	NNW	
15-Aug-2014	19:00	0.8	SSE	
15-Aug-2014	20:00	0.8	ESE	
15-Aug-2014	21:00	0.9	SE	
15-Aug-2014	22:00	0.9	S	
15-Aug-2014	23:00	0.7	SE	
16-Aug-2014	00:00	0.8	S	
16-Aug-2014	01:00	0.8	SE	
16-Aug-2014	02:00	0.7	SSW	
16-Aug-2014	03:00	0.6	S	
16-Aug-2014	04:00	0.7	NW	
16-Aug-2014	05:00	0.7	WNW	
16-Aug-2014	06:00	0.6	WNW	
16-Aug-2014	07:00	0.7	WSW	
16-Aug-2014	08:00	0.7	NNW	
16-Aug-2014	09:00	0.8	WNW	
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16-Aug-2014	10:00	1.4	N	
16-Aug-2014	11:00	2	N	
16-Aug-2014	12:00	2	ENE	
16-Aug-2014	13:00	2	SE	
16-Aug-2014	14:00	2.1	SSE	
16-Aug-2014	15:00	2.2	ESE	
16-Aug-2014	16:00	1.9	SE	
16-Aug-2014	17:00	1.6	SSE	
16-Aug-2014	18:00	1.6	SSE	
16-Aug-2014	19:00	1.1	ESE	
16-Aug-2014	20:00	0.7	ESE	
16-Aug-2014	21:00	0.7	NNE	
16-Aug-2014	22:00	0.6	ENE	
16-Aug-2014	23:00	0.5	ESE	
17-Aug-2014	00:00	0.6	SSW	
17-Aug-2014	01:00	0.6	SSW	
17-Aug-2014	02:00	0.5	SW	
17-Aug-2014	03:00	0.6	SW	
17-Aug-2014	04:00	0.3	SW	
17-Aug-2014	05:00	0.4	SW	
17-Aug-2014	06:00	0.6	W	
17-Aug-2014	07:00	0.4	SW	
17-Aug-2014	08:00	0.4	SW	
17-Aug-2014	09:00	0.6	SW	
17-Aug-2014	10:00	0.8	SW	
17-Aug-2014	11:00	1.2	SW	
17-Aug-2014	12:00	1.1	WNW	
17-Aug-2014	13:00	1.2	WSW	
17-Aug-2014	14:00	1.1	W	
17-Aug-2014	15:00	1.1	WSW	
17-Aug-2014	16:00	1.3	W	
17-Aug-2014	17:00	0.9	SW	
17-Aug-2014	18:00	0.8	SW	
17-Aug-2014	19:00	0.7	WSW	
17-Aug-2014	20:00	0.4	WSW	
17-Aug-2014	21:00	0.5	WSW	

17-Aug-2014	22:00	0.5	SW	
17-Aug-2014	23:00	0.6	WSW	
18-Aug-2014	00:00	0.4	W	
18-Aug-2014	01:00	0.5	SW	
18-Aug-2014	02:00	0.4	SW	
18-Aug-2014	03:00	0.4	SSW	
18-Aug-2014	04:00	0.4	W	
18-Aug-2014	05:00	0.5	W	
18-Aug-2014	06:00	0.4	WSW	
18-Aug-2014	07:00	0.5	SSW	
18-Aug-2014	08:00	0.8	WNW	
18-Aug-2014	09:00	1.2	WNW	
18-Aug-2014	10:00	1.5	WSW	
18-Aug-2014	11:00	1.6	WNW	
18-Aug-2014	12:00	1.8	WNW	
18-Aug-2014	13:00	1.9	WNW	
18-Aug-2014	14:00	1.8	SE	
18-Aug-2014	15:00	2	SW	
18-Aug-2014	16:00	1.8	SW	
18-Aug-2014	17:00	1.6	WNW	
18-Aug-2014	18:00	1.3	SW	
18-Aug-2014	19:00	1.2	SW	
18-Aug-2014	20:00	1.2	SW	
18-Aug-2014	21:00	1.2	SW	
18-Aug-2014	22:00	1.2	W	
18-Aug-2014	23:00	1	W	
19-Aug-2014	00:00	1.1	SW	
19-Aug-2014	01:00	1	WSW	
19-Aug-2014	02:00	1	SW	
19-Aug-2014	03:00	0.8	E	
19-Aug-2014	04:00	0.9	SSE	
19-Aug-2014	05:00	0.8	SW	
19-Aug-2014	06:00	1.4	W	
19-Aug-2014	07:00	0.8	ESE	
19-Aug-2014	08:00	0.9	SW	
19-Aug-2014	09:00	1.1	SW	
19-Aug-2014	10:00	1.3	WSW	

19-Aug-2014	11:00	1.3	WSW	
19-Aug-2014	12:00	1.5	NE	
19-Aug-2014	13:00	1.5	WNW	
19-Aug-2014	14:00	1.3	W	
19-Aug-2014	15:00	1.3	W	
19-Aug-2014	16:00	1.1	SW	
19-Aug-2014	17:00	1.1	SW	
19-Aug-2014	18:00	0.8	SW	
19-Aug-2014	19:00	1.1	SSW	
19-Aug-2014	20:00	1.2	SSW	
19-Aug-2014	21:00	1.3	WSW	
19-Aug-2014	22:00	1.4	WSW	
19-Aug-2014	23:00	1.2	WSW	
20-Aug-2014	00:00	1.1	SW	
20-Aug-2014	01:00	1.3	SSE	
20-Aug-2014	02:00	1	SSW	
20-Aug-2014	03:00	0.9	WSW	
20-Aug-2014	04:00	0.9	W	
20-Aug-2014	05:00	1	E	
20-Aug-2014	06:00	1	Ν	
20-Aug-2014	07:00	0.9	SW	
20-Aug-2014	08:00	0.8	S	
20-Aug-2014	09:00	1	WNW	
20-Aug-2014	10:00	1.2	W	
20-Aug-2014	11:00	1.1	W	
20-Aug-2014	12:00	1.3	WNW	
20-Aug-2014	13:00	1.7	Ν	
20-Aug-2014	14:00	1.7	NW	
20-Aug-2014	15:00	1.7	SW	
20-Aug-2014	16:00	1.7	WNW	
20-Aug-2014	17:00	1.4	SW	
20-Aug-2014	18:00	0.9	SSE	
20-Aug-2014	19:00	0.9	ENE	
20-Aug-2014	20:00	0.9	NE	
20-Aug-2014	21:00	0.9	NNE	
20-Aug-2014	22:00	1	N	
20-Aug-2014	23:00	1.2	N	

21-Aug-2014	00:00	1.1	Ν	
21-Aug-2014	01:00	1	ENE	
21-Aug-2014	02:00	1	ESE	
21-Aug-2014	03:00	1.1	ENE	
21-Aug-2014	04:00	1.2	E	
21-Aug-2014	05:00	1.3	ENE	
21-Aug-2014	06:00	1.3	SSW	
21-Aug-2014	07:00	0.9	SSE	
21-Aug-2014	08:00	1.1	Ν	
21-Aug-2014	09:00	1.3	SW	
21-Aug-2014	10:00	1	Ν	
21-Aug-2014	11:00	1.1	SE	
21-Aug-2014	12:00	1.3	SSE	
21-Aug-2014	13:00	1.2	Ν	
21-Aug-2014	14:00	1.1	S	
21-Aug-2014	15:00	1.1	SSW	
21-Aug-2014	16:00	1.1	NE	
21-Aug-2014	17:00	1	ENE	
21-Aug-2014	18:00	1.5	ENE	
21-Aug-2014	19:00	1.3	ESE	
21-Aug-2014	20:00	1.2	E	
21-Aug-2014	21:00	1.2	SSW	
21-Aug-2014	22:00	1	SW	
21-Aug-2014	23:00	1.3	SSW	
22-Aug-2014	00:00	1.4	ESE	
22-Aug-2014	01:00	1.8	ENE	
22-Aug-2014	02:00	1.6	NE	
22-Aug-2014	03:00	1.6	Ν	
22-Aug-2014	04:00	1.4	N	
22-Aug-2014	05:00	1.4	Ν	
22-Aug-2014	06:00	1.3	Ν	
22-Aug-2014	07:00	1.4	Ν	
22-Aug-2014	08:00	1.5	ENE	
22-Aug-2014	09:00	1.7	E	
22-Aug-2014	10:00	1.6	NE	
22-Aug-2014	11:00	1.6	Ν	
22-Aug-2014	12:00	1.8	ESE	

22-Aug-2014	13:00	1.4	SE	
22-Aug-2014	14:00	1.5	S	
22-Aug-2014	15:00	1.5	SSE	
22-Aug-2014	16:00	1.6	ENE	
22-Aug-2014	17:00	1.4	NE	
22-Aug-2014	18:00	1.5	WNW	
22-Aug-2014	19:00	1.6	NW	
22-Aug-2014	20:00	1.5	NE	
22-Aug-2014	21:00	1.7	E	
22-Aug-2014	22:00	1.6	WSW	
22-Aug-2014	23:00	1.5	SSW	
23-Aug-2014	00:00	1.4	WNW	
23-Aug-2014	01:00	1.6	WNW	
23-Aug-2014	02:00	1.5	W	
23-Aug-2014	03:00	1.4	NNE	
23-Aug-2014	04:00	1.1	NNE	
23-Aug-2014	05:00	1.1	NNE	
23-Aug-2014	06:00	1.1	SSW	
23-Aug-2014	07:00	1	WNW	
23-Aug-2014	08:00	1.1	WSW	
23-Aug-2014	09:00	1.4	WSW	
23-Aug-2014	10:00	1.5	SW	
23-Aug-2014	11:00	1.7	SW	
23-Aug-2014	12:00	1.6	WSW	
23-Aug-2014	13:00	1.6	WSW	
23-Aug-2014	14:00	1.6	WSW	
23-Aug-2014	15:00	1.3	W	
23-Aug-2014	16:00	1.3	W	
23-Aug-2014	17:00	0.9	WNW	
23-Aug-2014	18:00	0.9	WNW	
23-Aug-2014	19:00	0.9	WNW	
23-Aug-2014	20:00	0.9	W	
23-Aug-2014	21:00	0.7	WNW	
23-Aug-2014	22:00	1.1	WNW	
23-Aug-2014	23:00	0.9	WNW	
24-Aug-2014	00:00	0.9	WSW	
24-Aug-2014	01:00	0.9	SW	

24-Aug-2014	02:00	0.8	W	
24-Aug-2014	03:00	0.9	W	
24-Aug-2014	04:00	0.9	W	
24-Aug-2014	05:00	0.9	NE	
24-Aug-2014	06:00	1.1	SW	
24-Aug-2014	07:00	0.7	WNW	
24-Aug-2014	08:00	0.8	WNW	
24-Aug-2014	09:00	1.2	WNW	
24-Aug-2014	10:00	1.4	W	
24-Aug-2014	11:00	1.5	E	
24-Aug-2014	12:00	1.6	NE	
24-Aug-2014	13:00	1.7	NNE	
24-Aug-2014	14:00	1.6	Ν	
24-Aug-2014	15:00	1.7	Ν	
24-Aug-2014	16:00	1.5	NE	
24-Aug-2014	17:00	1.2	NNE	
24-Aug-2014	18:00	0.7	W	
24-Aug-2014	19:00	0.6	WNW	
24-Aug-2014	20:00	0.6	NE	
24-Aug-2014	21:00	0.6	NE	
24-Aug-2014	22:00	0.7	WNW	
24-Aug-2014	23:00	0.6	SW	
25-Aug-2014	00:00	0.7	W	
25-Aug-2014	01:00	0.6	WNW	
25-Aug-2014	02:00	0.6	WSW	
25-Aug-2014	03:00	0.7	W	
25-Aug-2014	04:00	0.6	WSW	
25-Aug-2014	05:00	0.7	NNE	
25-Aug-2014	06:00	0.7	NNE	
25-Aug-2014	07:00	0.8	NE	
25-Aug-2014	08:00	0.9	ENE	
25-Aug-2014	09:00	1	NE	
25-Aug-2014	10:00	1.3	ESE	
25-Aug-2014	11:00	1.6	SSW	
25-Aug-2014	12:00	1.9	SSW	
25-Aug-2014	13:00	1.8	SSW	
25-Aug-2014	14:00	1.6	ENE	

25-Aug-2014	15:00	1.6	NE	
25-Aug-2014	16:00	1.4	NNE	
25-Aug-2014	17:00	1	Ν	
25-Aug-2014	18:00	0.9	E	
25-Aug-2014	19:00	0.8	E	
25-Aug-2014	20:00	0.5	NE	
25-Aug-2014	21:00	0.5	SSW	
25-Aug-2014	22:00	0.6	S	
25-Aug-2014	23:00	0.5	S	
26-Aug-2014	00:00	0.7	WSW	
26-Aug-2014	01:00	0.7	W	
26-Aug-2014	02:00	0.7	SSW	
26-Aug-2014	03:00	0.7	Ν	
26-Aug-2014	04:00	0.5	ENE	
26-Aug-2014	05:00	0.5	ENE	
26-Aug-2014	06:00	0.4	ESE	
26-Aug-2014	07:00	0.6	ENE	
26-Aug-2014	08:00	0.7	WNW	
26-Aug-2014	09:00	0.8	NE	
26-Aug-2014	10:00	1.3	NNE	
26-Aug-2014	11:00	1.5	E	
26-Aug-2014	12:00	1.5	W	
26-Aug-2014	13:00	1.5	ENE	
26-Aug-2014	14:00	0.9	SW	
26-Aug-2014	15:00	1	SW	
26-Aug-2014	16:00	1.5	SW	
26-Aug-2014	17:00	1.4	WSW	
26-Aug-2014	18:00	1.1	W	
26-Aug-2014	19:00	1.2	WSW	
26-Aug-2014	20:00	1	W	
26-Aug-2014	21:00	1.1	WNW	
26-Aug-2014	22:00	1.1	SW	
26-Aug-2014	23:00	1	SW	
27-Aug-2014	00:00	1.3	SW	
27-Aug-2014	01:00	1.1	WNW	
27-Aug-2014	02:00	1.2	WSW	
27-Aug-2014	03:00	0.9	WSW	

27-Aug-2014	04:00	0.6	W	
27-Aug-2014	05:00	0.5	SW	
27-Aug-2014	06:00	0.5	WSW	
27-Aug-2014	07:00	0.5	NE	
27-Aug-2014	08:00	0.7	Ν	
27-Aug-2014	09:00	0.9	SW	
27-Aug-2014	10:00	1.2	WSW	
27-Aug-2014	11:00	2.1	ENE	
27-Aug-2014	12:00	2.1	NNE	
27-Aug-2014	13:00	2	S	
27-Aug-2014	14:00	1.9	WNW	
27-Aug-2014	15:00	1.9	Ν	
27-Aug-2014	16:00	1.7	NNE	
27-Aug-2014	17:00	1.7	NE	
27-Aug-2014	18:00	1.3	N	
27-Aug-2014	19:00	1.1	N	
27-Aug-2014	20:00	0.9	SW	
27-Aug-2014	21:00	1	WSW	
27-Aug-2014	22:00	0.8	E	
27-Aug-2014	23:00	0.9	E	
28-Aug-2014	00:00	1	SW	
28-Aug-2014	01:00	1	WNW	
28-Aug-2014	02:00	0.9	W	
28-Aug-2014	03:00	1	SSW	
28-Aug-2014	04:00	1.1	WNW	
28-Aug-2014	05:00	1	W	
28-Aug-2014	06:00	0.8	S	
28-Aug-2014	07:00	0.8	SSW	
28-Aug-2014	08:00	1	W	
28-Aug-2014	09:00	1.4	WSW	
28-Aug-2014	10:00	1.2	W	
28-Aug-2014	11:00	1.4	W	
28-Aug-2014	12:00	1.3	E	
28-Aug-2014	13:00	1.3	S	
28-Aug-2014	14:00	1.3	SSW	
28-Aug-2014	15:00	1.1	SW	
28-Aug-2014	16:00	1.1	WNW	

28-Aug-2014	17:00	1	W	
28-Aug-2014	18:00	0.8	WSW	
28-Aug-2014	19:00	0.6	SSW	
28-Aug-2014	20:00	0.5	SSW	
28-Aug-2014	21:00	0.5	SW	
28-Aug-2014	22:00	0.4	SSW	
28-Aug-2014	23:00	0.4	SSE	
29-Aug-2014	00:00	0.4	W	
29-Aug-2014	01:00	0.5	W	
29-Aug-2014	02:00	0.4	E	
29-Aug-2014	03:00	0.4	E	
29-Aug-2014	04:00	0.5	S	
29-Aug-2014	05:00	0.4	SSW	
29-Aug-2014	06:00	0.4	SSW	
29-Aug-2014	07:00	0.3	SW	
29-Aug-2014	08:00	0.6	WNW	
29-Aug-2014	09:00	0.9	W	
29-Aug-2014	10:00	1.2	W	
29-Aug-2014	11:00	1.3	NE	
29-Aug-2014	12:00	1.7	WSW	
29-Aug-2014	13:00	1.5	SSW	
29-Aug-2014	14:00	1.3	SW	
29-Aug-2014	15:00	1.3	WSW	
29-Aug-2014	16:00	1.2	SSW	
29-Aug-2014	17:00	0.8	SW	
29-Aug-2014	18:00	1.2	W	
29-Aug-2014	19:00	0.8	WNW	
29-Aug-2014	20:00	0.8	SSW	
29-Aug-2014	21:00	1.1	S	
29-Aug-2014	22:00	1.4	W	
29-Aug-2014	23:00	1.4	SSW	
30-Aug-2014	00:00	1.1	WSW	
30-Aug-2014	01:00	1.5	SSW	
30-Aug-2014	02:00	1.1	SW	
30-Aug-2014	03:00	1.1	WNW	
30-Aug-2014	04:00	0.9	SW	
30-Aug-2014	05:00	1.1	W	

30-Aug-2014	06:00	0.8	W	
30-Aug-2014	07:00	1	W	
30-Aug-2014	08:00	1.2	SSW	
30-Aug-2014	09:00	1.3	WSW	
30-Aug-2014	10:00	1.4	WSW	
30-Aug-2014	11:00	1.4	WSW	
30-Aug-2014	12:00	1.3	W	
30-Aug-2014	13:00	1.1	WNW	
30-Aug-2014	14:00	1.2	NW	
30-Aug-2014	15:00	1.4	WSW	
30-Aug-2014	16:00	1	SW	
30-Aug-2014	17:00	1.3	SW	
30-Aug-2014	18:00	1	WSW	
30-Aug-2014	19:00	0.8	SW	
30-Aug-2014	20:00	0.8	WNW	
30-Aug-2014	21:00	0.6	WNW	
30-Aug-2014	22:00	0.5	WNW	
30-Aug-2014	23:00	0.6	WNW	
31-Aug-2014	00:00	0.6	WNW	
31-Aug-2014	01:00	0.7	W	
31-Aug-2014	02:00	0.7	W	
31-Aug-2014	03:00	0.3	W	
31-Aug-2014	04:00	0.3	W	
31-Aug-2014	05:00	0.3	WSW	
31-Aug-2014	06:00	0.3	WNW	
31-Aug-2014	07:00	0.3	WNW	
31-Aug-2014	08:00	1.4	WNW	
31-Aug-2014	09:00	1.5	W	
31-Aug-2014	10:00	1.9	W	
31-Aug-2014	11:00	2.2	W	
31-Aug-2014	12:00	2	W	
31-Aug-2014	13:00	1.6	WNW	
31-Aug-2014	14:00	1.7	WNW	
31-Aug-2014	15:00	1.9	WNW	
31-Aug-2014	16:00	1.7	WSW	
31-Aug-2014	17:00	1.7	W	
31-Aug-2014	18:00	1.6	WNW	

31-Aug-2014	19:00	1.6	WNW
31-Aug-2014	20:00	1.3	WSW
31-Aug-2014	21:00	0.9	SW
31-Aug-2014	22:00	0.9	W
31-Aug-2014	23:00	1.3	WNW

APPENDIX D ENVIRONMENTAL MONITORING SCHEDULES

# Contract No. KL/2010/03 Kai Tak Development - Stage 2 Infrastructure works at north apron area of Kai Tak Airport for residential development and government, institution or community facilities **Impact Air and Noise Monitoring Schedule for August 2014**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Aug	2-Aug
					1 hr TSP X3	
3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug
				1 hr TSD V2		
				1 III 13P A3	Noise	
		Noise			(M1, M2)	
		(M9)		Noise		
			24 hr TSP	(M3, M4)		
10.4	11.4	12.4	12.4	14.4	15.4	
10-Aug	II-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug
			1 hr TSP X3			
	Noise	Noise				
	(M9)	(M1, M2)	Noise	Noise		
			(M4)	(M3)		
17- Aug	18-Aug	24 hr ISP	20-4119	21-Aug	22-Aug	23-Aug
I/-Aug	10-Aug	17-Aug	20-Aug	21-Aug	22-Aug	25-Aug
		1 hr TSP X3				
				Noise	Noise	
		Noise		(M9)	(M1, M2)	
	24 hr TSP	(M3, M4)			24 hr TSP	
24-Aug	24 III 15P 25-Aug	26-Aug	27-Aug	28-Aug	24 III 13P	30-Aug
	20 1 1005	20 1145	2,1105	20 1145	27 1145	
	1 hr TSP X3				1 hr TSP X3	
		Noise				
		(M1, M2)	Noise			
			(M9)	24 h. TSD		
	(1115, 1114)			24 III 1 5P		

Remarks: \*The construction nosie monitoring at Station M4 would be conducted at Rooftop of Cognitio College from 28 August 2013 onwards.

#### Air Quality Monitoring Station

AM1(B) -Boundary of KTD/Outside Contractor's site office of Contract KL/2012/02 AM2 - Lee Kau Yan Memorial School

**Noise Monitoring Station** 

M1 - Buddhist Chi King Primary School

M2 - S.K.H. Kowloon Bay Kei Lok Primary School

M3 - Cognitio College M4 - Lee Kau Yan Memorial School

M9 - Tak Long Estate

# Contract No. KL/2010/03 Kai Tak Development - Stage 2 Infrastructure works at north apron area of Kai Tak Airport for residential development and government, institution or community facilities **Tentative Impact Air and Noise Monitoring Schedule for September 2014**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Sep	2-Sep	3-Sep	4-Sep	5-Sep	6-Sep
				1 hr TSP X3	<b>N</b> T .	
		Naisa			Noise	
		(M9)		Noise	$(\mathbf{M1},\mathbf{M2})$	
		(111)	24 hr TSP	(M3, M4)		
				(1120, 1121)		
7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	13-Sep
			1 hr TSP X3			
				Noise		
	Noise			(M1, M2)		
	(M9)		Noise			
	24 hr TSP		(M3, M4)			24 hr TSP
14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep	20-Sep
		$1 h_{\pi} TSD V2$				
		1 hr 1SP X3	Noise			
			(M1 M2)	Noise		
		Noise	(111, 112)	(M9)		
		(M3,M4)			24 hr TSP	
21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep
	1 hr TSP X3				1 hr TSP X3	
	1 11 151 A5			Noise		
			Noise	(M1, M2)		
	Noise		(M9)			
	(M3,M4)			24 hr TSP		
	29-Sep	30-Sen				
20-5cp	29-5cp	50-5 <b>c</b> p				
		1 hr TSP X3				
	N. I					
	Noise	Noise				
	(1417)	(M3 M4)				
		24hr TSP				

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

Remarks: \*The construction nosie monitoring at Station M4 would be conducted at Rooftop of Cognitio College from 28 August 2013 onwards.

#### **Air Quality Monitoring Station**

AM1(B) -Boundary of KTD/Outside Contractor's site office of Contract KL/2012/02 AM2 - Lee Kau Yan Memorial School

**Noise Monitoring Station** 

M1 - Buddhist Chi King Primary School

M2 - S.K.H. Kowloon Bay Kei Lok Primary School

M3 - Cognitio College

- M4 Lee Kau Yan Memorial School
- M9 Tak Long Estate

APPENDIX E 1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

Location AM1(B	) - Outside F	LJV Site Office	
Date	Time	Weather	Particulate Concentration ( $\mu$ g/m <sup>3</sup> )
1-Aug-14	9:00	Sunny	100.7
1-Aug-14	10:00	Sunny	86.1
1-Aug-14	11:00	Sunny	96.2
7-Aug-14	13:50	Cloudy	43.1
7-Aug-14	14:50	Cloudy	49.8
7-Aug-14	15:50	Cloudy	57.1
13-Aug-14	13:00	Cloudy	89.6
13-Aug-14	14:00	Cloudy	92.8
13-Aug-14	15:00	Cloudy	88.2
19-Aug-14	13:25	Cloudy	68.4
19-Aug-14	14:25	Cloudy	70.4
19-Aug-14	15:25	Cloudy	69.7
25-Aug-14	13:35	Sunny	34.6
25-Aug-14	14:35	Sunny	37.8
25-Aug-14	15:35	Sunny	40.1
29-Aug-14	13:25	Sunny	35.7
29-Aug-14	14:25	Sunny	39.9
29-Aug-14	15:25	Sunny	41.5
		Average	63.4
		Maximum	100.7
		Minimum	34.6

# Appendix E - 1-hour TSP Monitoring Results

Location AM2 -	Lee Kau Yar	Memorial School	
Date	Time	Weather	Particulate Concentration ( $\mu$ g/m <sup>3</sup> )
1-Aug-14	9:00	Sunny	70.4
1-Aug-14	10:00	Sunny	92.8
1-Aug-14	11:00	Sunny	82.7
7-Aug-14	8:55	Cloudy	60.5
7-Aug-14	9:55	Cloudy	63.2
7-Aug-14	10:55	Cloudy	51.7
13-Aug-14	13:30	Cloudy	100.2
13-Aug-14	14:30	Cloudy	105.8
13-Aug-14	15:30	Cloudy	104.5
19-Aug-14	9:00	Cloudy	66.4
19-Aug-14	10:00	Cloudy	64.8
19-Aug-14	11:00	Cloudy	60.3
25-Aug-14	8:55	Sunny	40.9
25-Aug-14	9:55	Sunny	43.1
25-Aug-14	10:55	Sunny	39.8
29-Aug-14	8:55	Sunny	44.8
29-Aug-14	9:55	Sunny	47.8
29-Aug-14	10:55	Sunny	40.8
		Average	65.6
		Maximum	105.8
		Minimum	39.8



APPENDIX F 24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATION

# Appendix F - 24-hour TSP Monitoring Results

Start Data	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	e (m <sup>3</sup> /min.)	Av. flow	Total vol.	Conc.
Start Date	Condition	Temp. (K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
6-Aug-14	Cloudy	301.3	755.3	3.2406	3.2849	0.0443	2580.8	2604.8	24.0	1.21	1.21	1.21	1748.2	25.3
12-Aug-14	Cloudy	302.1	753.9	3.2674	3.3723	0.1049	2604.8	2628.8	24.0	1.21	1.21	1.21	1744.5	60.1
18-Aug-14	Cloudy	302.3	758.3	3.2093	3.3160	0.1067	2628.8	2652.8	24.0	1.21	1.21	1.21	1748.8	61.0
22-Aug-14	Sunny	300.5	760.5	3.1938	3.2560	0.0622	2652.8	2676.8	24.0	1.22	1.22	1.22	1756.1	35.4
28-Aug-14	Sunny	302.4	761.5	3.2640	3.3309	0.0669	2676.8	2700.8	24.0	1.22	1.22	1.22	1757.5	38.1
	-			-									Min	25.3
													Max	61.0
													Average	44.0

### Location AM1(B) - Outside RLJV site office (KL/2012/02)

Location AM2 - Lee Kau Yan Memorial School

Start Data	Weather	Air	Atmospheric	Filter W	eight (g)	Particulate	Elaps	e Time	Sampling	Flow Rate	ə (m
Start Date	Condition	Temp. (K)	Pressure, Pa (mmHg)	Initial	Final	weight (g)	Initial	Final	Time(hrs.)	Initial	
6-Aug-14	Cloudy	301.3	755.3	3.1297	3.1777	0.0481	13612.8	13636.8	24.0	1.22	
12-Aug-14	Cloudy	302.1	753.9	3.1997	3.2777	0.0780	13636.8	13660.8	24.0	1.21	
18-Aug-14	Cloudy	302.3	758.3	3.2413	3.3113	0.0700	13660.8	13684.8	24.0	1.22	
22-Aug-14	Sunny	300.5	760.5	3.1890	3.2725	0.0835	13684.8	13708.8	24.0	1.22	
28-Aug-14	Sunny	302.4	761.5	3.2532	3.3475	0.0943	13708.8	13732.8	24.0	1.22	

(m <sup>3</sup> /min.)	Av. flow	Total vol.	Conc.
Final	(m <sup>3</sup> /min)	(m <sup>3</sup> )	(µg/m <sup>3</sup> )
1.22	1.22	1752.5	27.4
1.21	1.21	1748.9	44.6
1.22	1.22	1753.0	39.9
1.22	1.22	1760.1	47.4
1.22	1.22	1756.1	53.7
		Min	27.4
		Max	53.7
		Average	42.6



APPENDIX G NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATION

#### Appendix G - Noise Monitoring Results

Location M1 -	Location M1 - Buddhist Chi King Primary School									
					Uni	t: dB (A) (30-min)				
Date	Time	Weather	Mea	sured Noise	Level	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>			
8-Aug-14	13:50	Sunny	66.0	68.3	62.9		60.9			
12-Aug-14	15:00	Cloudy	64.9	66.9	62.1	64.4	55.3			
22-Aug-14	13:00	Sunny	67.0	69.0	63.1	04.4	63.5			
26-Aug-14	14:30	Sunny	66.3	68.5	63.1		61.8			

Location M2 - S.K.H. Kowloon Bay Kei Lok Primary School										
				Unit: dB (A) (30-min)						
Date	Time Wea	Weather	Meas	Measured Noise Level		Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>			
8-Aug-14	13:00	Sunny	68.2	69.7	66.0		67.2			
12-Aug-14	14:00	Sunny	68.0	69.8	65.7	61.2	67.0			
22-Aug-14	14:00	Sunny	69.0	70.7	66.8	01.5	68.2			
26-Aug-14	13:30	Sunny	67.9	69.7	65.7		66.8			

Location M3 - Cognitio College											
	ate Time			Unit: dB (A) (30-min)							
Date		Weather	Meas	sured Noise I	Level	Background Noise	Construction Noise Level				
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>				
7-Aug-14	15:00	Cloudy	79.1	80.3	75.6	78.9	65.6				
14-Aug-14	15:00	Cloudy	79.0	80.4	77.2	78.9	62.6				
19-Aug-14	16:00	Cloudy	78.5	80.3	76.2	79.4	78.5 Measured ≦ Background				
25-Aug-14	15:00	Sunny	79.3	80.9	77.0	79.2	62.9				

Location M4 -	Location M4 - Lee Kau Yan Memorial School									
				Unit: dB (A) (30-min)						
Date	Time W	Weather	Meas	sured Noise	Level	Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>			
7-Aug-14	9:00	Cloudy	72.4	74.2	70.2		72.4 Measured $\leq$ Baseline			
13-Aug-14	13:30	Cloudy	73.7	74.6	71.5	76 7	73.7 Measured $\leq$ Baseline			
19-Aug-14	10:50	Cloudy	74.5	76.1	71.7	70.7	74.5 Measured $\leq$ Baseline			
25-Aug-14	9:15	Sunny	74.9	75.9	73.5		74.9 Measured $\leq$ Baseline			

Location M9 - Tak Long Estate										
				Unit: dB (A) (30-min)						
Date	Time	Weather	Measured Noise Level			Baseline Level	Construction Noise Level			
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>			
5-Aug-14	13:05	Cloudy	66.9	68.7	65.4		65.9			
11-Aug-14	9:00	Cloudy	64.9	66.2	62.1	50.0	63.2			
21-Aug-14	14:00	Cloudy	65.9	67.9	62.7	59.9	64.6			
27-Aug-14	9:30	Cloudy	64.6	66.0	62.3		62.8			





APPENDIX H SUMMARY OF EXCEEDANCE

### Contract No. KL/2010/03 Kai Tak Development – Stage 2 Infrastructure Works at North Apron Area of Kai Tak Airport for Residential Development and Government Facilities

#### **Appendix H – Summary of Exceedance**

Exceedance Report for Contract No. KL/2010/03

- (A) Exceedance Report for Air Quality (NIL in the reporting month)
- (B) Exceedance Report for Construction Noise (NIL in the reporting month)
- (C) Exceedance Report for Landscape and Visual (NIL in the reporting month)

APPENDIX I SITE AUDIT SUMMARY

#### Contract No. KL/2010/03 Infrastructure Works at North Apron Area of Kai Tak Airport for Residential Development and Government Facilities, Kai Tak Development – Stage 2

#### Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140806
Date	06 August 2014
Time	14:00 - 15:30

		Related
Ref. No.	Non-Compliance	Item No.
	None identified	-
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
140806-R01	• Gullies should be sealed by sand bag bunds to prevent muddy water discharge through the gullies (Road D2)	В 7
140806-002	• Large quantity of muddy water was being discharged to the nullah at the site opposite to KTOB. Muddy water should be treated before discharging.	B 2i, 4
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	- 1000 - 100
	D. Noise	
	No environmental deficiency was identified during site inspection.	•••••
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Follow-up on previous site audit session (Ref. No. 140730), all environmental deficiencies	
	were observed improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Kenneth Yuen	-12.	6 August 2014
Checked by	Dr. Priscilla Choy	WIL	6 August 2014
		-	

# Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140813	
Date	13 August 2014	
Time	09:30 - 11:00	

		Related
Ref. No.	Non-Compliance	Item No.
-	None identified	-
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
140813-001	• Silty runoff entering gullies during rainstorm was observed. The Contractor should provide proper sand bag bund to gullies to prevent silty water entering public drain. (Road D2)	В 7
140813-R02	• Hole on sheet pile should be covered to prevent runoff leakage. (site opposite to KTOB)	B 16
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Follow-up on previous site audit session (Ref. No. 140806), item 140806-R01 was found outstanding and remarked as 140813-O01. Review will be needed during next audit section.	

	Name	Signature	Date
Recorded by	Jason Lai	An	13 August 2014
Checked by	Dr. Priscilla Choy	NFT.	13 August 2014

#### Contract No. KL/2010/03 Infrastructure Works at North Apron Area of Kai Tak Airport for Residential Development and Government Facilities, Kai Tak Development – Stage 2

Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140820	
Date	20 August 2014	
Time	14:30 - 16:15	

		Related
Ref. No.	Non-Compliance	Item No.
	None identified	
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
140820-R02	Ponding of water should be cleared after rain. (Road D2)	B 8
	C. Air Quality	
	No environmental deficiency was identified during site inspection.	
	D. Noise	
	No environmental deficiency was identified during site inspection.	-
1.1		
	E. Waste / Chemical Management	
140820-R01	Construction waste along new pedestrian street should be removed.	<u> </u>
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
		· · · · · · · · · · · · · · · · · · ·
	H. Others	
	Follow-up on previous site audit session (Ref. No. 140813), all environmental deficiencies	
	were observed improved/rectified by the Contractor.	

• <u></u>	Name	Signature	Date
Recorded by	Jason Lai	dar	20 August 2014
Checked by	Dr. Priscilla Choy	NF	20 August 2014

#### Contract No. KL/2010/03 Infrastructure Works at North Apron Area of Kai Tak Airport for Residential Development and Government Facilities, Kai Tak Development – Stage 2

#### Weekly Site Inspection Record Summary Inspection Information

Checklist Reference Number	140827
Date	27 August 2014
Time	09:30 - 11:00

		Related
Ref. No.	Non-Compliance	Item No.
	None identified	-
		Related
Ref. No.	Remarks/Observations	Item No.
	B. Water Quality	
	No environmental deficiency was identified during site inspection.	
	C. Air Quality	
140827-001	• Water spraying should be provided more frequently to exposed area to suppress dust emission. (next to PS1A)	C 6
	D. Noise	
	No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	No environmental deficiency was identified during site inspection.	
	F. Visual and Landscape	
	No environmental deficiency was identified during site inspection.	
	G. Permits /Licences	
	No environmental deficiency was identified during site inspection.	
	H. Others	
	Follow-up on previous site audit session (Ref. No. 140820), all environmental deficiencies were observed improved/rectified by the Contractor.	

Date	Signature	Name	
27 August 2014	for	Jason Lai	Recorded by
27 August 2014	'nh	Dr. Priscilla Choy	Checked by
	nh.	Dr. Priscilla Choy	Checked by

APPENDIX J EVENT ACTION PLANS

Event/Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being	1. Identify source and investigate the	1. Check monitoring data submitted	1. Notify Contractor.	1. Rectify any unacceptable practice;
exceeded by	causes of exceedance;	by ET;		2. Amend working methods if
one sampling	2. Inform Contactor, IEC and ER;	2. Check Contractor's working		appropriate.
	3. Repeat measurement to confirm finding.	method.		
Action Level being	1. Identify source and investigate the	1. Check monitoring data submitted	1. Confirm receipt of notification	1. Discuss with ET and IEC on proper
exceeded by	causes of exceedance;	by ET;	of exceedance in writing;	remedial actions;
two or more	2. Inform Contractor, IEC and ER;	2. Check Contractor's working	2. Notify Contractor;	2. Submit proposals for remedial
consecutive	3. Increase monitoring frequency to daily;	method;	3. In consolidation with the IEC,	actions to ER and IEC within three
sampling	4. Discuss with IEC and Contractor on	3. Discuss with ET and Contractor on	agree with the Contractor on the	working days of notification;
	remedial actions required;	possible remedial measures;	remedial measures to be	3. Implement the agreed proposals;
	5. Assess the effectiveness of	4. Advise the ER on the effectiveness	implemented;	4. Amend proposal if appropriate.
	Contractor's remedial actions;	of the proposed remedial measures.	4. Supervise implementation of	
	6. If exceedance continues, arrange		remedial measures;	
	meeting with IEC and ER;		5. Conduct meeting with ET and	
	7. If exceedance stops, cease additional		IEC if exceedance continues.	
	monitoring.			
Limit Level being	1. Identify source and investigate the	1. Check monitoring data submitted	1. Confirm receipt of notification	1. Take immediate action to avoid
exceeded by	causes of exceedance;	by ET;	of exceedance in writing;	further exceedance;
one sampling	2. Inform Contractor, IEC, ER, and EPD;	2. Check Contractor's working	2. Notify Contractor;	2. Discuss with ET and IEC on proper
	3. Repeat measurement to confirm finding;	method;	3. In consolidation with the IEC,	remedial actions;
	4. Assess effectiveness of	3. Discuss with ET and Contractor on	agree with the Contractor on the	3. Submit proposals for remedial
	Contractor's remedial actions and keep	possible remedial measures;	remedial measures to be	actions to ER and IEC within three

	EPD, IEC and ER informed of	4. Advise the ER on the	implemented;	working days of notification;
	the results.	effectiveness of the proposed	4. Supervise implementation of	4. Implement the agreed proposals.
		remedial measures.	remedial measures;	
			5. Conduct meeting with ET and	
			IEC if exceedance continues.	
Limit Level being	1. Notify IEC, ER, Contractor and	1. Check monitoring data submitted	1. Confirm receipt of notification	1. Take immediate action to avoid
exceeded by	EPD;	by ET;	of exceedance in writing;	further exceedance;
two or more	2. Repeat measurement to confirm	2. Check Contractor's working	2. Notify Contractor;	2. Discuss with ET, ER and IEC on
consecutive	findings;	method;	3. In consolidation with the IEC,	proper remedial actions;
sampling	3. Carry out analysis of Contractor's	3. Discuss amongst ER, ET, and	agree with the Contractor on the	3. Submit proposals for remedial
	working procedures to identify source and	Contractor on the potential remedial	remedial measures to be	actions to IEC within three working
	investigate the causes of exceedance;	actions;	implemented;	days of notification;
	4. Increase monitoring frequency to	4. Review Contractor's remedial	4. Supervise implementation of	4. Implement the agreed proposals;
	daily;	actions whenever necessary to	remedial measures;	5. Submit further remedial actions if
	5. Arrange meeting with IEC, ER	assure their effectiveness and	5. If exceedance continues,	problem still not under control;
	and Contractor to discuss the	advise the ER accordingly.	consider stopping the Contractor	6. Stop the relevant portion of works
	remedial actions to be taken;		to continue working on that	as instructed by the ER until the
	6. Assess effectiveness of		portion of work which causes the	exceedance is abated.
	Contractor's remedial actions and		exceedance until the	
	keep EPD, IEC and ER informed		exceedance is abated.	
	of the results;			
	7. If exceedance stops, cease additional			
	monitoring.			

Event/Action Plan for Construction Noise

EVENT	ACTION				
	ET	IEC	ER	CONTRACTOR	
Action Level	1. Notify ER, IEC and Contractor;	1. Review the investigation	1. Confirm receipt of	1. Submit noise mitigation	
being	2. Carry out investigation;	results submitted by the ET;	notification of failure in	proposals to IEC and ER;	
exceeded	3. Report the results of investigation	2. Review the proposed remedial	writing;	2. Implement noise mitigation	
	to the IEC, ER and Contractor;	measures by the Contractor and	2. Notify Contractor;	proposals.	
	4. Discuss with the IEC and	advise the ER accordingly;	3. In consolidation with the	(The above actions should be	
	Contractor on remedial measures	3. Advise the ER on the	IEC, agree with the	taken within 2 working days after	
	required;	effectiveness of the proposed	Contractor on the remedial	the exceedance is identified)	
	5. Increase monitoring frequency to	remedial measures.	measures to be implemented;		
	check mitigation effectiveness.	(The above actions should be	4. Supervise the		
	(The above actions should be taken	taken within 2 working days after	implementation of remedial		
	within 2 working days after the	the exceedance is identified)	measures.		
	exceedance is identified)		(The above actions should be		
			taken within 2 working days		
			after the exceedance is		
			identified)		
Limit Level	1. Inform IEC, ER, Contractor and	1. Discuss amongst ER, ET, and	1. Confirm receipt of	1. Take immediate action to	
being	EPD;	Contractor on the potential	notification of failure in	avoid further exceedance;	
exceeded	2. Repeat measurements to confirm	remedial actions;	writing;	2. Submit proposals for remedial	
	findings;	2. Review Contractor's remedial	2. Notify Contractor;	actions to IEC and ER within 3	
	3. Increase monitoring frequency;	actions whenever necessary to	3. In consolidation with the	working days of notification;	
	4. Identify source and investigate the	assure their effectiveness and	IEC, agree with the	3. Implement the agreed	
	cause of exceedance;	advise the ER accordingly.	Contractor on the remedial	proposals;	

5. Carry out analysis of Contractor's	(The above actions should be	measures to be implemented;	4. Submit further proposal if
working procedures;	taken within 2 working days after	4. Supervise the	problem still not under control;
6. Discuss with the IEC, Contractor	the exceedance is identified)	implementation of remedial	5. Stop the relevant portion of
and ER on remedial measures		measures;	works as instructed by the ER
required;		5. If exceedance continues,	until the exceedance is abated.
7. Assess effectiveness of		consider stopping the	(The above actions should be
Contractor's remedial actions and		Contractor to continue	taken within 2 working days after
keep IEC, EPD and ER informed of		working on that portion of	the exceedance is identified)
the results;		work which causes the	
8. If exceedance stops, cease		exceedance until the	
additional monitoring.		exceedance is abated.	
(The above actions should be taken		(The above actions should be	
within 2 working days after the		taken within 2 working days	
exceedance is identified)		after the exceedance is	
		identified)	
# **Appendix J - Event Action Plans**

Event/Action Plan for Landscape and Visual

EVENT	ACTION			
ACTION LEVEL	ET	IEC	ER	CONTRACTOR
Design Check	1. Check final design conforms to the requirements	<ol> <li>Check report.</li> <li>Recommend remedial design if</li> </ol>	1. Undertake remedial design if necessary	
	of EP and prepare report.	necessary		
Non-conformity on one occasion	<ol> <li>Identify Source</li> <li>Inform IEC and ER</li> <li>Discuss remedial actions with IEC, ER and Contractor</li> <li>Monitor remedial actions until rectification has been completed</li> </ol>	<ol> <li>Check report</li> <li>Check Contractor's working method</li> <li>Discuss with ET and Contractor on possible remedial measures</li> <li>Advise ER on effectiveness of proposed remedial measures.</li> <li>Check implementation of remedial measures.</li> </ol>	<ol> <li>Notify Contractor</li> <li>Ensure remedial measures are properly implemented</li> </ol>	<ol> <li>Amend working methods</li> <li>Rectify damage and undertake any necessary replacement</li> </ol>
Repeated Non-conformity	1. Identify Source Inform IEC and	1. Check monitoring report	<ol> <li>Notify Contractor</li> <li>Ensure remedial measures are properly</li> </ol>	<ol> <li>Amend working methods</li> <li>Rectify damage and</li> </ol>

# **Appendix J - Event Action Plans**

E	ER	2. Check Contractor's	implemented	undertake any necessary
2	2. Increase	working method		replacement
r	monitoring	3. Discuss with ET and		
f	frequency	Contractor on possible		
3	3. Discuss remedial	remedial measures		
ā	actions with IEC,	4. Advise ER on		
E	ER and Contractor	effectiveness of		
4	4. Monitor remedial	proposed remedial		
E	actions until	measures		
r	rectification has	5. Supervise		
k	been completed	implementation of		
5	5. If non-conformity	remedial measures.		
s	stops, cease			
e e e e e e e e e e e e e e e e e e e	additional			
r	monitoring			

APPENDIX K ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

Types of Impacts	Mitigation Measures	Status
	8 times daily watering of the work site with active dust emitting activities.	*
	Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts.	
	<ul> <li>Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission.</li> </ul>	^
	<ul> <li>Misting for the dusty material should be carried out before being loaded into the vehicle.</li> <li>Any vehicle with an open load carrying area should</li> </ul>	^
Construction Dust	<ul> <li>have properly fitted side and tail boards.</li> <li>Material having the potential to create dust should not</li> </ul>	^
	be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin.	^
	<ul> <li>The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary before transportation.</li> </ul>	^
	<ul> <li>The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. On- site unpaved roads should be compacted and kept free</li> </ul>	^
	<ul> <li>of lose materials.</li> <li>Vehicle washing facilities should be provided at every</li> </ul>	^

## Appendix K - Summary of Implementation Schedule of Mitigation Measures for Construction Phase

vehicle exit point.	
<ul> <li>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 bardcores.</li> </ul>	^
<ul> <li>Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.</li> </ul>	^
<ul> <li>Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides.</li> </ul>	^
<ul> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.</li> </ul>	^
• <u>DWFI compound for JVBC</u> : a DWFI compound is proposed at the downstream of JVC to contain pollution in drainage systems entering the KTAC and KTTS by interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities will form part of the compounds to prevent any accumulation of sediment within the downstream section of JVBC and hence fully mitigate the potential odour emissions from the headspace of JVBC near the existing discharge locations. The odour generating operations within the proposed desilting compound will be fully enclosed and the odorous air will be collected and treated by high	N/A

efficiency deodorizers before discharge to the atmosphere.	
Desilting compound for KTN: Two desilting compounds are proposed for KTN (at Site 1D6 and Site 1P1) to contain pollution in drainage systems entering the KTAC and KTTS by interception facilities until the ultimate removal of the pollution sources. Tidal barriers and desiliting facilities will form part of the compounds to prevent any accumulation of sediment within the downstream section of KTN and hence fully mitigate the potential odour emissions from the headspace of KTN near the existing discharge locations. The odour generating operations within the proposed desilting compound will be fully enclosed and the odorous air will be collected and treated by high efficiency deodorizers before discharge to the atmosphere.	N/A
Decking or reconstruction of KTN within apron area: it is proposed to deck the KTN or reconstruct the KTN within the former Apron area into Kai Tak River from the south of Road D1 to the north of Road D2 along the existing alignment of KTN. The Kai Tak River will compose of a number of channels flowing with non- odorous fresh water and THEES effluent. The channel flowing with THEES effluent will be designed with the width of water surface of not more than 16m.	N/A

Localised maintenance dredging: Localised maintenance dredging should be conducted to provide water depth of not less than 3.5m over the whole of KTAC and KTTS. With reference to the water depth data recorded during the odour survey, only some of the areas in the northern part of KTAC (i.e. to the north of taxiway bridge) including the area near the northern edge of KTAC, the area near western bank of KTAC, and the area near the JVC discharge have water depths shallower than 3.5m. The area involved would be about 40% of the northern KTAC and the dredging depth required would be from about 2.7m to less than 1m. The maintenance dredging to be carried out prior to the occupation of any new development in the immediate vicinity of KTAC to avoid potential localized odour impacts at the future ASRs during the maintenance dredging operation.	^
<ul> <li>Improvement of water circulation in KTAC and KTTS: 600m gap opening at the northern part of the former Kai Tak runway, the water circulation in KTAC and KTTS would be substantially improved. Together with the improvement in water circulation, the DO level in KTAC and KTTS would also be increased.</li> <li>In-situ sediment treatment by bioremediation: Bioremediation would be applied to the entire KTAC</li> </ul>	N/A N/A
and KTTS.	

	Use of quiet PME, movable barriers barrier for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump	Λ
	<ul> <li>Good Site Practice:</li> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.</li> <li>Silencers or mufflers on construction equipment should</li> </ul>	٨
	<ul> <li>be utilized and should be properly maintained during the construction program.</li> <li>Mobile plant, if any, should be sited as far away from NSRs as possible.</li> <li>Machines and plant (such as trucks) that may be in</li> </ul>	N/A(1)
Construction Noise	<ul> <li>intermittent use should be shut down between works periods or should be throttled down to a minimum.</li> <li>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.</li> </ul>	л Л
	<ul> <li>Material stockplies and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	Λ
	Scheduling of Construction Works during School Examination Period	٨
	(i) Provision of low noise surfacing in a section of Road L2; and	N/A
	(ii) Provision of structural fins	N/A

(i) Avoid the sensitive façade of class room facing Road L2 and L4; and	N/A
(ii) Provision of low noise surfacing in a section of Road L2 & L4	N/A
(i) Provision of low noise surfacing in a section of Road L4 before occupation of Site 111; and	N/A
(ii) Setback of building about 5m from site boundary.	N/A
Setback of building about 35m to the northwest direction at 1L3 and 5m at Site 1L2.	N/A
<ul> <li>avoid any sensitive façades with openable window facing the existing Kowloon City Road network; and</li> </ul>	N/A
<ul> <li>(ii) for the sensitive facades facing the To Kwa Wan direction, either setback the facades by about 5m to the northeast direction or do not provide the facades with openable window.</li> </ul>	N/A
<ul> <li>(i) avoid any sensitive facades with openable window facing the existing To Kwa Wan Road or</li> <li>(ii) provision of 17.5m high noise tolerant building</li> </ul>	N/A
of the residential block(s) located at less than 55m away from To Kwa Wan Road to no more than 25m above ground.	N/A
(i) avoid any sensitive facades with openable window facing the slip road connecting Prince Edward Road East and San Po Kong or other alternative mitigation measures and at-source mitigation measures for the surrounding new local roads to minimise the potential traffic noise impacts from	N/A
the slip road	

All the ventilation fans installed in the below will be provided with silencers or acoustics treatment. (i) SPS (ii) ESS (iii) Tunnel Ventilation Shaft (iv) EFTS depot	N/A N/A N/A N/A
Installation of retractable roof or other equivalent measures	N/A

	The following mitigation measures are proposed to be incorporated in the design of the SPS at KTD, including:	
	<ul> <li>Dual power supply or emergency generator should be provided at all the SPSs to secure electrical power supply:</li> </ul>	N/A
	<ul> <li>Standby pumps should be provided at all SPSs to ensure smooth operation of the SPS during maintenance of the duty pumps;</li> </ul>	N/A
	<ul> <li>An alarm should be installed to signal emergency high water level in the wet well at all SPSs; and</li> <li>For all unmanned SPSs, a remote monitor system</li> </ul>	N/A
	telemetry system should be provided so that swift actions could be taken in case of malfunction of unmanned facilities.	N/A
Construction Water Quality	Construction Phase Marine-based Construction	
	Capital and Maintenance Dredging for Cruise Terminal	
	Mitigation measures for construction of the proposed cruise terminal should follow those recommended in the approved EIA for CT Dredging.	^

Fireboat Berth, Runway Opening and Road T2	
Silt curtains should be deployed around the close grab dredger to minimize release of sediment and other contaminants for any dredging and filling activities in open water.	^
the public landing steps cum fireboat berth should be carried out at a maximum production rate of 1,000m <sup>3</sup> per day using one grab dredger.	
The proposed construction method for runway opening should adopt an approach where the existing seawall at the runway will not be removed until completion of all excavation and dredging works for demolition of the runway. Thus, excavation of bulk fill and majority of the dredging works will be carried out behind the existing seawall, and the sediment plume can be effectively contained within the works area. As there is likely some accumulation of sediments alongside the runway, there will be a need to dredge the existing seabed after completion of all the demolition works. Dredging alongside the 600m opening should be carried out at a maximum production rate of 2,000m <sup>3</sup> per day using one grab dredger.	
Dredging for Road T2 should be conducted at a maximum rate of 8,000m <sup>3</sup> per day (using four grab dredgers) whereas the sand filling should be conducted at a maximum rate of 2,000m <sup>3</sup> per day (using two grab dredgers).	N/A (1)
Silt screens shall be applied to seawater intakes at WSD seawater intake.	^

### Land-based Construction

#### Construction Runoff

Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include:

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- use of sediment traps
- adequate maintenance of drainage systems to prevent flooding and overflow

Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.

Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	^
Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m <sup>3</sup> capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	^
Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m <sup>3</sup> should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	^
Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.	*

Precautions to be taken at any time of year when	
is imminent or forecast, and actions to be taken during or	
after rainstorms are summarised in Appendix A2 of	*
ProPECC PN 1/94. Particular attention should be paid to	
the control of silty surface runoff during storm events.	
Oil interceptors should be provided in the drainage system	
and regularly cleaned to prevent the release of oils and	
grease into the storm water drainage system after	^
accidental spillages. The interceptor should have a	
bypass to prevent flushing during periods of heavy rain.	
All vehicles and plant should be cleaned before leaving a	
like is deposited by them on reads. An adequately	
designed and located wheel washing hav should be	
provided at every site exit, and wash-water should have	^
sand and silt settled out and removed at least on a weekly	
basis to ensure the continued efficiency of the process.	
The section of access road leading to, and exiting from,	
the wheel-wash bay to the public road should be paved	
with sufficient backfall toward the wheel-wash bay to	
prevent vehicle tracking of soil and silty water to public	
roads and drains.	
Drainage	
It is recommended that on-site drainage system should be	
installed prior to the commencement of other construction	^
activities. Sediment traps should be installed in order to	
minimise the sediment loading of the effluent prior to	
discharge into foul sewers. There should be no direct	
discharge of effluent from the site into the sea.	
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All terreserves and severement designed sizes and subjects	
All temporary and permanent drainage pipes and culverts	
provided to facilitate runoff discharge should be	
adequately designed for the controlled release of storm	Λ
flows. All sediment control measures should be regularly	
inspected and maintained to ensure proper and efficient	
operation at all times and particularly following rain	
storms. The temperarily diverted drainage should be	
reinstated to its eriginal condition when the construction	
reinstated to its original condition when the construction	
work has finished or the temporary diversion is no longer	
required.	
All fuel tanks and storage areas should be provided with	
locks and be located on sealed areas, within bunds of a	^
canacity equal to 110% of the storage canacity of the	
largest tank to provent spilled fuel ails from reaching the	
argest lank, to prevent spilled ider ons nonn reaching the	
coastal waters of the victoria Harbour WCZ.	
Sowage Effluent	
Sewage Enden	
Construction work force sewage discharges on site are	
expected to be connected to the existing trunk sewer or	
sewage treatment facilities. The construction sewage may	
need to be handled by portable chemical toilets prior to	
the commission of the on site sewer system. Appropriate	
the commission of the on-site sewer system. Appropriate	^
numbers of portable tollets should be provided by a	
licensed contractor to serve the large number of	
construction workers over the construction site. The	
Contractor should also be responsible for waste disposal	
and maintenance practices.	
Stormwater Discharges	
Minimum distances of 100 m should be maintained	
between the existing or planned stormwater discharges	
and the existing or planned seawater intakes	^

Debris and Litter	
In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of contract, to ensure that site management is optimised and that disposal of any solid materials. litter or wastes to marine waters does not occur	٨
Construction Works at or in Close Proximity of Storm Culvert or Seafront	
The proposed works should preferably be carried out within the dry season where the flow in the drainage channel /storm culvert/ nullah is low.	^
The use of less or smaller construction plants may be specified to reduce the disturbance to the bottom sediment at the drainage channel /storm culvert / nullah.	^
Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.	^
Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.	^
Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers.	^
Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.	^
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Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff.	^
Construction effluent, site run-off and sewage should be properly collected and/or treated.	*
Any works site inside the storm water courses should be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at bottom and properly supported props to prevent adverse impact on the storm water quality.	^
Silt curtain may be installed around the construction activities at the seafront to minimize the potential impacts due to accidental spillage of construction materials.	۸
Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/drainage channel/sea.	۸
Supervisory staff should be assigned to station on site to closely supervise and monitor the works	^
Marine water quality monitoring and audit programme shall be implemented for the proposed sediment treatment operation.	^

Good Site Practices	
It is not anticipated that adv	verse waste management
related impacts would arise,	provided that good site
practices are adhered to. Reco	ommendations for good site
practices during construction ac	tivities include:
<ul> <li>Nomination of an approx</li> </ul>	ved person, such as a site
manager, to be respons	ible for good site practices,
arrangements for collect	tion and effective disposal
to an appropriate facility	, of all wastes generated at
the site	statement and another second second
Iraining of site pers	sonnel in proper waste
management and cr	nemical waste handling
Provision of sufficient t	wasta disposal points and
regular collection for dis	nosal
Appropriate measures to	o minimise windblown litter
and dust during transpo	ortation of waste by either
covering trucks or by	v transporting wastes in
enclosed containers	
<ul> <li>A recording system for</li> </ul>	or the amount of wastes
generated, recycled and	d disposed of (including the
disposal sites)	

Waste Reduction Measures	
Good management and control can prevent the	
generation of a significant amount of waste. Waste	
reduction is best achieved at the planning and design	
stage, as well as by ensuring the implementation of good	
site practices. Becommendations to achieve waste	
reduction include:	
Sort C&D waste from demolition of the remaining	^
structures to recover recyclable portions such as	
metals	
<ul> <li>Segregation and storage of different types of</li> </ul>	•
waste in different containers, skips or stockpiles to	~
enhance reuse or recycling of materials and their	
proper disposal	
<ul> <li>Encourage collection of aluminium cans. PET</li> </ul>	
bottles and paper by providing separate labelled	^
bins to enable these wastes to be segregated from	
other general refuse generated by the work force	
<ul> <li>Any unused chemicals or those with remaining</li> </ul>	^
functional capacity should be recycled	
<ul> <li>Proper storage and site practices to minimise the</li> </ul>	^
potential for damage or contamination of	
construction materials	
Dredged Marine Sediment	
The basic requirements and procedures for dredged mud	^
disposal are specified under the ETWB TCW No. 34/2002.	
The management of the dredging, use and disposal of	
marine mud is monitored by the MFC, while the licensing	
of marine dumping is required under the Dumping at Sea	
Ordinance and is the responsibility of the Director of	
Environmental Protection (DEP)	

The dredged marine sediments would be loaded onto barges and transported to the designated disposal sites allocated by the MFC depending on their level of contamination. Sediment classified as Category L would be suitable for Type 1 - Open Sea Disposal. Contaminated sediment would require either Type 1 - Open Sea Disposal (Dedicated Sites), Type 2 - Confined Marine Disposal, or Type 3 - Special Treatment / Disposal and must be dredged and transported with great care in accordance with ETWB TCW No. 34/2002. Subject to the final allocation of the disposal sites by MFC, the dredged contaminated sediment must be effectively isolated from the environment and disposed properly at the designated disposal site.	

It will be the responsibility of the contractor to satisfy the appropriate authorities that the contamination levels of the marine sediment to be dredged have been analysed and recorded. According to the ETWB TCW No. 34/2002, this will involve the submission of a formal Sediment Quality Report to the DEP, prior to the dredging contract being tendered. The contractor for the dredging works should apply for allocation of marine disposal sites and all necessary permits from relevant authorities for the disposal of dredged sediment. During transportation and disposal of the dredged marine sediments requiring Type 1, Type 2, or Type 3 disposal, the following measures should be taken to minimise potential impacts on water quality:

 Bottom opening of barges should be fitted with tight fitting seals to prevent leakage of material. Excess material should be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved

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- Monitoring of the barge loading should be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels should be equipped with automatic selfmonitoring devices as required under the Dumping at Sea Ordinance and as specified by the DEP
- Barges or hopper barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation

Construction and Demolition Material	
<ul> <li>Mitigation measures and good site practices should be incorporated into contract document to control potential environmental impact from handling and transportation of C&amp;D material. The mitigation measures include:</li> <li>Where it is unavoidable to have transient stockpiles of C&amp;D material within the Project work site pending collection for disposal, the transient</li> </ul>	^
<ul> <li>stockpiles should be located away from waterfront or storm drains as far as possible</li> <li>Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric</li> <li>Skip hoist for material transport should be totally enclosed by impervious sheeting</li> </ul>	^
<ul> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site</li> <li>The area where vehicle washing takes place and</li> </ul>	^
the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores	^
<ul> <li>leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle</li> <li>All dusty materials should be sprayed with water</li> </ul>	^
<ul> <li>prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet</li> <li>The height from which excavated materials are</li> </ul>	^
dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading	

When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.

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#### **Chemical Waste**

After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation

#### **General Refuse**

General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem

	CM1 All existing trees should be carefully protected during construction.	^
	CM2 Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work.	<b>^</b>
Landscape and Visual	CM3 Control of night-time lighting.	N/A(1)
	CM4 Erection of decorative screen hoarding.	^

Remarks:	<ul> <li>Compliance of mitigation measure;</li> </ul>	X Non-compliance of mitigation measure;
	N/A Not Applicable at this stage; N/A(1) Not observed;	•Non-compliance but rectified by the contractor;
	* Recommendation was made during site audit but improved/rectified by the contractor.	

APPENDIX L SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION

### Contract No. KL/2010/03 Kai Tak Development – Stage 2 Infrastructure Works at North Apron Area of Kai Tak Airport for Residential Development and Government Facilities

Appendix L – Summary of environmental complaint, warning, summon and notification of successful prosecution

**Reporting Month**: August 2014

Contract No. KL/2010/03

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

Remarks: No environmental complaint/warning/summon and prosecution were received in the reporting period.

APPENDIX M WASTE GENERATED QUANTITY Department: CEDD Contract No.:

KL/2010/03

KAI TAK DEVELOPMENT – STAGE 2 Infrastructure Works at North Apron Area of Kai Project :

Tak Airport for Residential Development and Government Facilities



## Monthly Summary Waste Flow Table for 2014

As at 4 September 2014

	Total	Actual Quantities Inert C & D Materials Generated Monthly				Actual Quantities of C & D Wastes Generated Monthly						
Month	Quantity Generated	Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard packaging	Plastics (see Note 3)	Chemica	l Waste	Others, e.g. general refuse
	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in kg)	(in kg)	(in kg)	Battery(No.)	Oil(in L)	(in m <sup>3</sup> )
Accumulated (Jul 11-Dec	4985.82	7510	3280	0	601.99	0	0	0	0	0	0	153.83
Jan'2014	35.07	150	120	0	0	0	0	0	0	0	0	5.07
Feb'2014	-26.27	50	80	0	0	0	0	0	0	0	0	3.73
Mar'2014	-14.48	0	20	0	0	0	0	0	0	0	0	5.52
Apr'2014	7.05	0	0	0	0	0	0	0	0	0	0	7.05
May'2014	7.68	5	0	0	0	0	0	0	0	0	0	2.68
Jun'2014	5.9	0	0	0	0	0	0	0	0	0	0	5.9
Sub-total (Jan 14-Jun 14)	14.95	205	220	0	0	0	0	0	0	0	0	29.95
Jul'2014	3.39	0	0	0	0	0	0	0	0	0	0	3.39
Aug'2014	17.13	10	0	0	0	0	0	0	0	0	0	7.13
Sep'2014												
Oct'2014												
Nov'2014												
Dec'2014												
Total												

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*											
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard packaging	Plastics (see Note 3)	Chemical	Waste	Others, e.g. general refuse
(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in m <sup>3</sup> )	(in kg)	(in kg)	(in kg)	Battery(No.)	Oil(in L)	(in m <sup>3</sup> )
4650	7000	3300	0	700	0	0	0	0	0	0	250

Notes: 1 The performance targets are given in PS clause 25.20A(4)

2 The waste flow table shall also include C & D materials 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 The summary table shall be submitted to the Engineer's Representative monthly together with the Waste Flow Table

for review and monitoring in accordance with the PS Clause 25.20A(4)