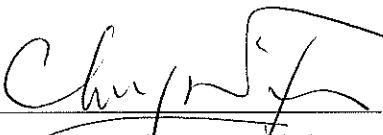


Leader and JEC Joint Venture

Contract No. DC/2009/23
HATS Stage 2A – Upgrading of
Preliminary Treatment Works at
North Point, Wan Chai East and Central

Monthly Environmental
Monitoring and Audit Report
September 2015

(Version 1.0)

Certified By	 (Environmental Team Leader)
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REMARKS:

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

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

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CE/Harbour Area Treatment Scheme
Drainage Services Department
Sewage Services Branch
Harbour Area Treatment Scheme Division
5/F, Western Magistracy
2A Pokfulam Road, Hong Kong

14 October 2015
By Post

Attn: Mr. Danny Tang

Dear Sir,

**Agreement No. CE 8/2009(EP)
Harbour Area Treatment Scheme (HATS) Stage 2A
Independent Environmental Checker for Construction Phase – Investigation**

**Contract No. DC/2009/23
Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central
Condition 4.4 – Monthly EM&A Report for September 2015 (no. 56) Version 1.0**

I refer to the revised Monthly EM&A Report for September 2015 (version 1.0) submitted by ETL on 14 October 2015 via email. In accordance with Condition 4.4 of Environmental Permit No. EP-322/2008/G, I hereby verify the captioned Monthly EM&A Report.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Dr. Anne F Kerr
Independent Environmental Checker

c.c. Ove Arup & Partners HK Ltd.
Leader and JEC JV
Cinotech Consultants Ltd.

Mr. Ted Y F Tang
Mr. Vincent Chan
Dr. Priscilla Choy

Fax: (2370 4377)
By email
By email

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ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
DSD	Drainage Services Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HATS 2A	Harbour Area Treatment Scheme Stage 2A
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan

EXECUTIVE SUMMARY

Introduction

1. This is the 56th Monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for DSD Contract No. DC/2009/23 “HATS Stage 2A – Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central” (The Project) which documents the key information of EM&A and environmental monitoring works by Contract DC/2007/23 HATS Stage 2A with the same Environmental Permit (Permit No. EP-322/2008/G) for September 2015.
2. The site activities undertaken for in the reporting month included:
 - Wan Chai East PTW:
 - Pump Replacement Work at the inlet pumping station (E&M);
 - Building service and E&M works for the administration and workshop building;
 - Finishing work for the new administration and workshop building;
 - Construction of curtain wall;
 - Construction of boundary wall.
 - North Point PTW
 - Operation and maintain of the new FSGT Building;
 - ELS work for the seawater pumping station;
 - Construction of Grit Handling Room;
 - Construction of DO Building.
 - Central PTW
 - Operation and maintain of the new FSGT Building;
 - Superstructure construction for FSGT Building;
 - Construction of the flume channel, Grit Trap and Deodorization Room;
 - Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
 - External wall finishing work;
 - Construction of boundary wall.

Environmental Monitoring Works

3. The environmental monitoring works of the Project was conducted by the ET for the Contract: DC/2007/23 under HATS 2A with same Environmental Permit and in accordance with the EM&A Manual. The monitoring results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
4. Since the monitoring of air quality monitoring station at Chan's Creative School (AM1), Hong Kong & Islands Regional Office, WSD (AM2), Wan Chai East PTW (AM3), a location next to Sheung Wan Fire Station (AM4_2); and noise monitoring station at Chan's Creative School (NM1), Hyde Building (NM2) and Goldfield Building (NM3) would be handover to Contract No. DC/2009/23 from Contract No. DC/2007/23 in October 2015. The air quality and noise monitoring stations would be set up by Cinotech Consultants Limited (ET for Contract No. DC/2009/23 for HATS 2A) to monitor the air quality and noise in the vicinity of the sensitive receivers starting from October 2015. The environmental monitoring schedule for the next reporting month is shown in **Appendix B**.
5. Summary of the non-compliance of the reporting month is tabulated in **Table I**.

Table I Summary Table for Non-compliance Recorded in the Reporting Month

Monitoring Station	Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action Taken
		Action Level	Limit Level	Action Level	Limit Level	
AM1	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
AM2	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
AM3	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
AM4_2	1-hr TSP	0	0	0	0	N/A
	24-hr TSP	0	0	0	0	N/A
NM1	Noise	0	0	0	0	N/A
NM2	Noise	0	4	0	0	N/A
NM3	Noise	0	0	0	0	N/A

Note: Since the site area where air monitoring station AM4 was located had to be returned to DSD for another Works Contract, AM4 was relocated to AM4_2 on 24 September 2012.

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise

8. All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action Level exceedance was recorded, while four non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 8th, 13th, 22nd & 27th September 2015 by the ET of DC/2007/23 at NM2. Details of the exceedance could be referred to **Appendix E**.

Environmental Licenses and Permits

9. Licenses/Permits granted to the Project include the Environmental Permit (EP) and Registered as a Chemical Waste Producer for North Point, Wan Chai East and Central PTWs sites; water discharge licenses of North Point, Wan Chai East and Central PTWs; also the Construction Noise Permits for construction works at Wan Chai East PTW and Central PTW.

Environmental Mitigation Implementation Schedule

10. According to the EIA Report Section 3.74, 4.56, 6.384, 9.154 and 13.44, air quality, noise, water quality, waste management and landscape and visual would be the key environmental issues and mitigation measures shall be implemented during the construction phase. Details of

the implementation of mitigation measures are provided in the **Appendix I**.

Key Information in the Reporting Month

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

Table II Summary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Status of submissions under EP	1	Monthly Environmental Monitoring and Audit Report for August 2015	Submitted to EPD on 14 September 2015	No Comment	---
Notifications of any summons & prosecutions received	0	---	N/A	N/A	---

Summary of Complaints and Prosecutions

12. No environmentally related summons, prosecutions or complaints were received for the Project in the reporting month.
13. There were no environmentally related summons, prosecutions or complaints were received since the commencement of the Project. The Complaint Log is presented in **Appendix J**.

Future Key Issues

14. Major site activities for the coming two months include:

Wan Chai East PTW:

- Pump Replacement Work at the inlet pumping station (E&M);
- Building service and E&M works for the administration and workshop building;
- Finishing work for the new administration and workshop building;
- Construction of curtain wall;
- Construction of boundary wall.

North Point PTW

- Operation and maintain of the new FSGT Building;
- ELS work for the seawater pumping station;
- Construction of Grit Handling Room;
- Construction of DO Building;
- Construction of seawater pumping station.

Central PTW

- Operation and maintain of the new FSGT Building;

- Superstructure construction for FSGT Building;
 - Construction of the flume channel, Grit Trap and Deodorization Room;
 - Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
 - External wall finishing work;
 - Construction of boundary wall.
15. The environmental concerns in coming months are mainly surface runoff and waste water control in the wet season. Other concerns including noise generated from construction works; dust emission due to strong wind erosion and vehicle movements, and inappropriate storage of construction equipments within the tree protective zones.

1. INTRODUCTION

Background

- 1.1 The Project ‘HATS Stage 2A - Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central with Contract No: DC/2009/23’ mainly comprises the following major works:
- Decommissioning, demolition and removal of existing structures and buildings, including the associated E&M works;
 - Relocation of sewers, control room, workshop equipment and the associated E&M works; and
 - Construction of new buildings and structures.
- 1.2 The general location plan of the Project is shown in **Figure 1A** to **1C**.
- 1.3 The Project is under Harbour Area Treatment Scheme (HATS) Stage 2A and is a designated project (Register No. : AEIAR-121/2008). The environmental permit: (Permit No. EP-322/2008/G) which was issued on 9th May 2014 to the Drainage Services Department (hereinafter called the DSD) as the Permit Holder.
- 1.4 Leader and JEC Joint Venture (hereafter called the LJJV) was commissioned by the DSD to undertake the construction of the Contract No. DC/2009/23 “Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central”. The date of commencement of construction of the Project is on 14th February 2011.
- 1.5 Cinotech Consultants Limited was commissioned by LJJV to undertake the Environmental Monitoring and Audit (EM&A) works for the project and was appointed as the Environmental Team (ET) of the Project under Condition 2.1 of the EP.
- 1.6 This is the 56th monthly EM&A report summarizing the EM&A works conducted for the Project in September 2015.

Project Organizations

- 1.7 The contacts of the Project are shown in **Table 1.1** and the organization chart of ET for Contract is shown in **Figure 2**.

Table 1.1 Key Project Contacts

Party	Role	Name	Position	Phone No.
Drainage Services Department	Project Proponent	Mr. Vincent Y.K. Wong	Senior Engineer 2	2159 3406
Ove Arup & Partners Hong Kong Ltd	Engineer’s Representative	Mr. Ted Tang	Principal Resident Engineer	2370-4311
	Coordinator	Ms. Natalie Kwok	Resident Engineer	6794 8844
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089
		Ms. Janet Wai	Project Coordinator & Audit Team Leader	2151 2078

Party	Role	Name	Position	Phone No.
Mott MacDonald	Independent Environmental Checker	Dr. Anne Kerr	Independent Environmental Checker	28285757
Leader and JEC Joint Venture	Contractor	Mr. Kelvin Cheung	Site Agent	9650 9410
		Mr. Lawrence Lam	Environmental Officer	9650 9410

Construction Programme

1.8 The site activities undertaken in the reporting month included:

Wan Chai East PTW:

- Pump Replacement Work at the inlet pumping station (E&M);
- Building service and E&M works for the administration and workshop building;
- Finishing work for the new administration and workshop building;
- Construction of curtain wall;
- Construction of boundary wall.

North Point PTW

- Operation and maintain of the new FSGT Building;
- ELS work for the seawater pumping station;
- Construction of Grit Handling Room;
- Construction of DO Building.

Central PTW

- Operation and maintain of the new FSGT Building;
- Superstructure construction for FSGT Building;
- Construction of the flume channel, Grit Trap and Deodorization Room;
- Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
- External wall finishing work;
- Construction of boundary wall.

Summary of EM&A Requirements

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

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

1.10 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 4** of this report.

1.11 This report presents the monitoring results, observations, locations, equipment, period, for required monitoring parameter namely dust, noise levels, and audit works conducted for the Project in September 2015. For the methodology and QA/QC procedures of the monitoring

parameters, please refer to the monthly report for the Contract DC/2007/23.

2. AIR QUALITY

Monitoring Requirements

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

Monitoring Locations

- 2.2 Four designated monitoring stations, AM1, AM2, AM3 and AM4_2 were selected for impact dust monitoring for the Project. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 1A** to **1C**.

Table 2.1 Locations for Air Quality Monitoring

Monitoring Station	Monitored by	Location of Measurement
AM1	DC/2007/23	Chan's Creative School
AM2		Hong Kong & Islands Regional Office, WSD
AM3		Wan Chai East PTW
AM4_2		A Location next to Sheung Wan Fire Station

Note: Since the site area where air monitoring station AM4 was located had to be returned to DSD for another Works Contract, AM4 was relocated to AM4_2 on 24 September 2012.

Monitoring Equipment

- 2.3 **Table 2.2** summarizes the equipment used in the impact air monitoring programme. Copies of calibration certificates are provided in Annex H of DC/2007/23 monthly EM&A report.

Table 2.2 Air Quality Monitoring Equipment

Monitoring Station	Model and Make	
	HVS Sampler	Calibrator
AM1	GMW GS-2310 ACCU-VOL	CM-AIR-43
AM2	GMW GS-2310 ACCU-VOL	
AM3	GMW GS-2310 ACCU-VOL	
AM4_2	GMW GS-2310 ACCU-VOL	

Note: Since the site area where air monitoring station AM4 was located had to be returned to DSD for another Works Contract, AM4 was relocated to AM4_2 on 24 September 2012.

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 period is shown in **Appendix B**.

Table 2.3 Impact Dust Monitoring Parameters, Frequency and Duration

Monitoring Station	Parameter	Period	Frequency
All monitoring locations	1-hour TSP	0700-1900 hrs	3 times/ every 6 days
	24-hour TSP	0000-2400 hrs	once in every 6 days

Monitoring Methodology and QA/QC Procedure

2.5 The monitoring methodology and QA/QC procedures are presented in the monthly report for Contract DC/2007/23.

Results and Observations

2.6 **Table 2.4** summarizes the monitoring results at AM1, AM2, AM3 and AM4_2 in reporting month.

Table 2.4 Summary of 1-hour and 24-hour TSP Monitoring Result in Reporting Month

Air Quality Monitoring Station	Average $\mu\text{g}/\text{m}^3$	Range $\mu\text{g}/\text{m}^3$	Action Level $\mu\text{g}/\text{m}^3$	Limit Level $\mu\text{g}/\text{m}^3$
1 hour TSP				
AM1	107	70 - 129	340	500
AM2	111	96 - 147	352	
AM3	101	61 - 149	355	
AM4_2	141	93 - 182	393	
24 hours TSP				
AM1	72	64 – 80	185	260
AM2	71	63 - 80	182	
AM3	72	65 - 75	181	
AM4_2	80	75 - 84	211	

Note: Since the site area where air monitoring station AM4 was located had to be returned to DSD for another Works Contract, AM4 was relocated to AM4_2 on 24 September 2012.

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

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

2.9 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results are extracted from the monthly reports of Contract DC/2007/23 and shown in **Appendix C**.

2.10 According to field observations during site inspection, the identified dust sources at the monitoring stations were mainly from loading of material, vehicles movement and construction works in site.

3 NOISE

Monitoring Requirements

3.1 Three noise monitoring stations, namely NM1, NM2 and NM3 were designated in the EM&A Manual for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

Monitoring Locations

3.2 Noise monitoring was conducted at three designated monitoring stations as listed in **Table 3.1**, which are also depicted in **Figure 1A to 1C**

Table 3.1 Location of Noise Monitoring Stations

Monitoring Station	Monitored By	Location of Measurement
NM1	DC/2007/23	Chan's Creative School
NM2		Hyde Building
NM3		Goldfield Building

Monitoring Equipment

3.3 **Table 3.2** summarizes the noise monitoring equipments. Copies of calibration certificates are provided in Annex H of DC/2007/23 monthly EM&A report.

Table 3.2 Noise Monitoring Equipment

Monitoring Station	Model and Make	
	Sound Level Meter	Calibrator
NM1	Casella CEL-633A	Casella CEL-120/1
NM2		
NM3		

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 B**.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Monitoring Stations	Parameter	Period	Frequency
NM1 NM2	$L_{eq}(30 \text{ min.})$ dB(A)	0700-1900 hrs. on weekdays	Once per week
	$L_{eq}(5 \text{ min.})$ dB(A)	Restricted hours (1900-2300 on all days and 0700-2300 on general holidays and Sundays)	
NM3	$L_{eq}(30 \text{ min.})$ dB(A)	0700-1900 hrs. on weekdays	

Monitoring Methodology and QA/QC Procedures

3.5 The monitoring methodology and QA/QC procedure are provided in the monthly report for Contract DC/2007/23.

Results and Observations

3.6 **Table 3.4** summarizes the daytime noise monitoring results at NM1, NM2 and NM3 in reporting month.

Table 3.4 Summary of Daytime Noise Monitoring Results in Reporting Month

For the time period 0700-1900 hrs. on weekdays		
Monitoring Station	Range, dB(A) L _{eq} (30 min.)	Limit Level ,dB(A) L _{eq} (30 min.)
NM1	67 - 69	70.0 *
NM2	70 - 72	75.0
NM3	73 - 75	

* 70 dB(A) was adopted as the Limit Level during school normal teaching period in the reporting period.

3.7 **Table 3.5** summarizes the restricted hours noise monitoring results at NM1 and NM2 in reporting month.

Table 3.5 Summary of Restricted Hours Noise Monitoring Results in Reporting Month

Restricted hours (1900-2300 on all days and 0700-2300 on general holidays and Sundays)		
Monitoring Station	Range, dB(A) L _{eq} (5 min.)	Limit Level ,dB(A) L _{eq} (5 min.)
NM1	67 - 69	70.0 *
NM2	70 - 72	70.0 *

Note: No class was held at the school during all the measurement period

* 70dB (A) was adopted as the Limit Level during restricted hours in the reporting period.

3.8 The construction noise monitoring at the designated locations was conducted by the ET of Contract: DC/2007/23 as scheduled in the reporting month.

3.9 Excavation works were conducted during day time at North Point PTW. No construction work was conducted during the restricted hours under the Project in the reporting month.

3.10 All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action Level exceedance was recorded, while four non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 8th, 13th 22nd & 27th September 2015 by the ET of DC/2007/23 at NM2. Details of the exceedance could be referred to **Appendix E**.

3.11 Noise monitoring results and graphical presentations are extracted from the monthly report of Contract DC/2007/23 and shown in **Appendix D**.

3.12 The major noise sources identified at the designated noise monitoring stations were traffic

noise and construction activities.

4 ENVIRONMENTAL AUDIT

Site Audits

- 4.1 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.
- 4.2 Environmental site audits were conducted on 2nd, 9th, 18th, 23rd and 30th September 2015. No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits are attached in **Appendix F**.

Review of Environmental Monitoring Procedures

- 4.5 The monitoring works were conducted by the monitoring team of Contract DC/2007/23. The monitoring procedures were reviewed by its ET.

Status of Environmental Licensing and Permitting

- 4.6 All permits/licenses obtained for the Contract DC/2009/23 are summarized in **Table 4.1**.

Table 4.1 Summary of Environmental Licensing and Permit Status for Contract DC/2009/23

Ref. No.	Valid Period		Details	Status
	From	To		
Water Discharge License				
WT000944 3-2011	22/6/2011	30/6/2016	Location: Aberdeen	Valid
WT000164 39-2013	2/7/2013	31/5/2016	Location: North Point PTW	
WT000164 65-2013	21/6/2013	30/4/2016	Location: Wan Chai East PTW	
WT000164 62-2013	2/7/2013	30/4/2016	Location: Central PTW	
Registered Chemical Waste Producer				
5213-153- L2743-01	15/2/2011	N/A	Location: North Point PTW	Valid
5213-115- L2737-01	26/1/2011	N/A	Location: Wan Chai East PTW	
5213-134- L2745-01	16/2/2011	N/A	Location: Central PTW	
Construction Noise Permit				
GW- RS0516-13	29/5/2013	28/11/2013	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at North Point Preliminary Treatment Works Plant House, Man Hong Street, North Point, Hong Kong	Expiry
GW- RS0906-13	23/8/2013	22/11/2013	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at North Point Preliminary Treatment Works Plant House, Man Hong Street, North Point, Hong Kong	Expiry
GW- RS1387-13	5/12/2013	21/5/2014	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at North Point Preliminary Treatment Works Plant House, Man Hong Street, North Point, Hong Kong	Expiry
GW- RS0424-14	5/5/2014	5/7/2014	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at North Point Preliminary Treatment Works Plant House, Man Hong Street, North Point, Hong Kong	Expiry

Ref. No.	Valid Period		Details	Status
	From	To		
			Kong	
GW- RS0643-14	3/7/2014	30/9/2014	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at Wan Chai East Preliminary Treatment Works, Wan Chai, Hong Kong	Expiry
GW- RS1078-14	10/10/2014	9/4/2015	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at Wan Chai East Preliminary Treatment Works, Wan Chai, Hong Kong	Expiry
GW- RS0179-15	25/2/2015	23/5/2015	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at Central Preliminary Treatment Works, Western Fire Services Street, Hong Kong	Expiry
GW- RS0484-15	8/5/2015	3/8/2015	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at Wan Chai East Preliminary Treatment Works, Wan Chai, Hong Kong	Expiry
GW- RS0567-15	26/5/2015	23/11/2015	Construction Noise Permit for the use of Powered Mechanical Equipment for the purpose of carrying out construction work other than percussive piling and/or the carrying out of prescribed construction work at Central Preliminary Treatment Works, Western Fire Services Street, Hong Kong	Valid
Special Waste Admission Ticket				
12400	1/8/2015	31/10/2015	Location: North Point PTW	Valid
12448	24/8/2015	23/11/2015	Location: Central PTW	Valid

Status of Waste Management

- 4.7 The amount of wastes generated by the activities of the Project in the reporting month is shown in **Appendix G**.

Implementation Status of Environmental Mitigation Measures

4.8 Details of the implementation of mitigation measures are provided in the **Appendix I**.

4.9 During the weekly environmental site inspections in the reporting period, no non-conformance was identified. The observations and recommendations for the Projects are summarized in **Table 4.2**.

Table 4.2 Observations and Recommendations of Site Audit

Parameters	Date/Ref. Number	Observations	Follow Up Action
Water Quality	150902-R03	The sediment in the U-channel should be cleared regularly at Central-PTW.	The sediment in the U-channel was cleared at Central-PTW.
	150909-R02	Properly clear the slurry water which should be flown through the wastewater treatment facility before discharging out at North Point-PTW.	The slurry water was cleared at North Point-PTW.
	150923-R01	The bunding should be provided to prevent the muddy water runoff to the access road at North Point-PTW.	The bunding was provided to prevent the muddy water runoff to the access road at North Point-PTW.
	150923-R02	Properly clear the oil stain and oil stained water at North Point-PTW and Central-PTW.	The oil stain and oil stained water were cleared at North Point-PTW and Central-PTW.
Air Quality	150826-O02	The mixing activity should be done in the proper enclosed area at Wan Chai-PTW.	Please refer to 150902-O01.
	150902-O01	The mixing activity should be done in the proper enclosed area at Wan Chai-PTW.	The mixing activity was not observed during the site inspection at Wan Chai-PTW.
	150902-R02	Properly clear the empty cement bags at Wan Chai-PTW.	The empty cement bags were removed at Wan Chai-PTW.
	150909-R03	The dusty material should be covered by the impervious material to prevent the dust emission at Wan Chai-PTW.	Please refer to 150918-R01.
	150918-R01	The dusty material should be covered by the impervious material to prevent the dust emission at Wan Chai-PTW.	The dusty material was covered by the impervious material at Wan Chai-PTW.
	150918-R02	Properly clear the wastewater to prevent the odour emission at Central-PTW.	Please refer to 150923-R03.
	150923-R03	Properly clear the wastewater to prevent the odour emission at Central-PTW.	Please refer to 150930-R01.
	150930-R01	Properly clear the wastewater to prevent the odour emission at Central-PTW.	The wastewater was cleared at Central-PTW.
Waste/ Chemical Management	150909-R01	The chemical container should be provided with the drip tray at North Point-PTW.	The chemical container was not observed and removed at North Point-PTW.
	150923-R02	Properly clear the oil stain and oil stained water at North Point-PTW and Central-PTW.	The oil stain and oil stained water were cleared at North Point-PTW and Central-PTW.
Noise	--	--	--
Landscape and Visual	--	--	--

Permit/ Licenses	--	--	--
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Implementation Status of Event Action Plans

4.10 The Event Action Plans for air quality and noise are presented in **Appendix H.**

1-hr TSP

4.11 No Action/Limit Level exceedance was recorded.

24-hr TSP

4.12 No Action/Limit Level exceedance was recorded.

Construction Noise

4.13 No Action Level exceedance was recorded, while four non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 8th, 13th 22nd & 27th September 2015 by the ET of DC/2007/23 at NM2. Details of the exceedance could be referred to **Appendix E.**

Landscape and Visual

4.14 No non-compliance was recorded.

Summary of Complaints and Prosecutions

4.15 No environmentally related summons, prosecutions or complaints were received for the Project in the reporting month.

4.16 There were no environmentally related summons, prosecutions or complaints were received since the commencement of the Project. The Complaint Log is presented in **Appendix J.**

5. FUTURE KEY ISSUES

Key Issues for the Coming Month

5.1 Key environmental issues in the coming month include:

- Generation of dust from stockpiles of excavated and dusty materials, unpaved site area and vehicle movement, roadwork, excavation works and loading and unloading dusty materials on-site;
- Noise from operation of equipment and machinery on-site;
- Provision well maintenance on the storage facilities of chemicals/fuel and chemical waste/waste oil on-site;
- Ponding water generated in pre-drillings;
- Drainage system should be well designed and maintained to prevent flooding and silty water getting into the public area during and after rainstorm;
- Silty surface runoff generated from the site area; and
- Silt and dust getting into the public area by the leaving site vehicles at the site exits without adequate wheel washing facilities.

Monitoring Schedule for the Next Month

5.2 The tentative environmental monitoring schedules for the next month are shown in **Appendix B**.

5.3 Construction Activities for the Next Two Months:

Wan Chai East PTW:

- Pump Replacement Work at the inlet pumping station (E&M);
- Building service and E&M works for the administration and workshop building;
- Finishing work for the new administration and workshop building;
- Construction of curtain wall;
- Construction of boundary wall.

North Point PTW

- Operation and maintain of the new FSGT Building;
- ELS work for the seawater pumping station;
- Construction of Grit Handling Room;
- Construction of DO Building;
- Construction of seawater pumping station.

Central PTW

- Operation and maintain of the new FSGT Building;
- Superstructure construction for FSGT Building;
- Construction of the flume channel, Grit Trap and Deodorization Room;
- Electrical work of sewage pump replacement at inlet pumping station (Sewage pump No.3) (E&M);
- External wall finishing work;
- Construction of boundary wall.

5.4 The tentative construction program is provided in **Appendix K**.

6. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

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

1-hour TSP Monitoring

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

24-hour TSP Monitoring

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

Construction Noise Monitoring

- 6.4 All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action Level exceedance was recorded, while four non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 8th, 13th 22nd & 27th September 2015 by the ET of DC/2007/23 at NM2. Details of the exceedance could be referred to **Appendix E**.

Environmental Audit

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

Complaint and Prosecution

- 6.6 No environmentally related summons, prosecutions or complaints were received in the reporting month.

Recommendations for the coming reporting month:

- 6.7 According to the environmental audit performed in the reporting month, the following recommendations were made for coming reporting month:

Air Quality Impact

- To provide impervious covers for dusty materials to reduce dust generation;
- To provide the proper enclosed area for main dust-generating activity on the site; and
- To ensure the odour emission material is cleared regularly on the site.

Water Quality Impact

- To ensure the sediment in the U-channel is cleared regularly on the site;
- To avoid the slurry water discharging out before the wastewater treatment;
- To provide the bunding to prevent the muddy water runoff to the access road; and
- To proper clear the oil stained water on the site.

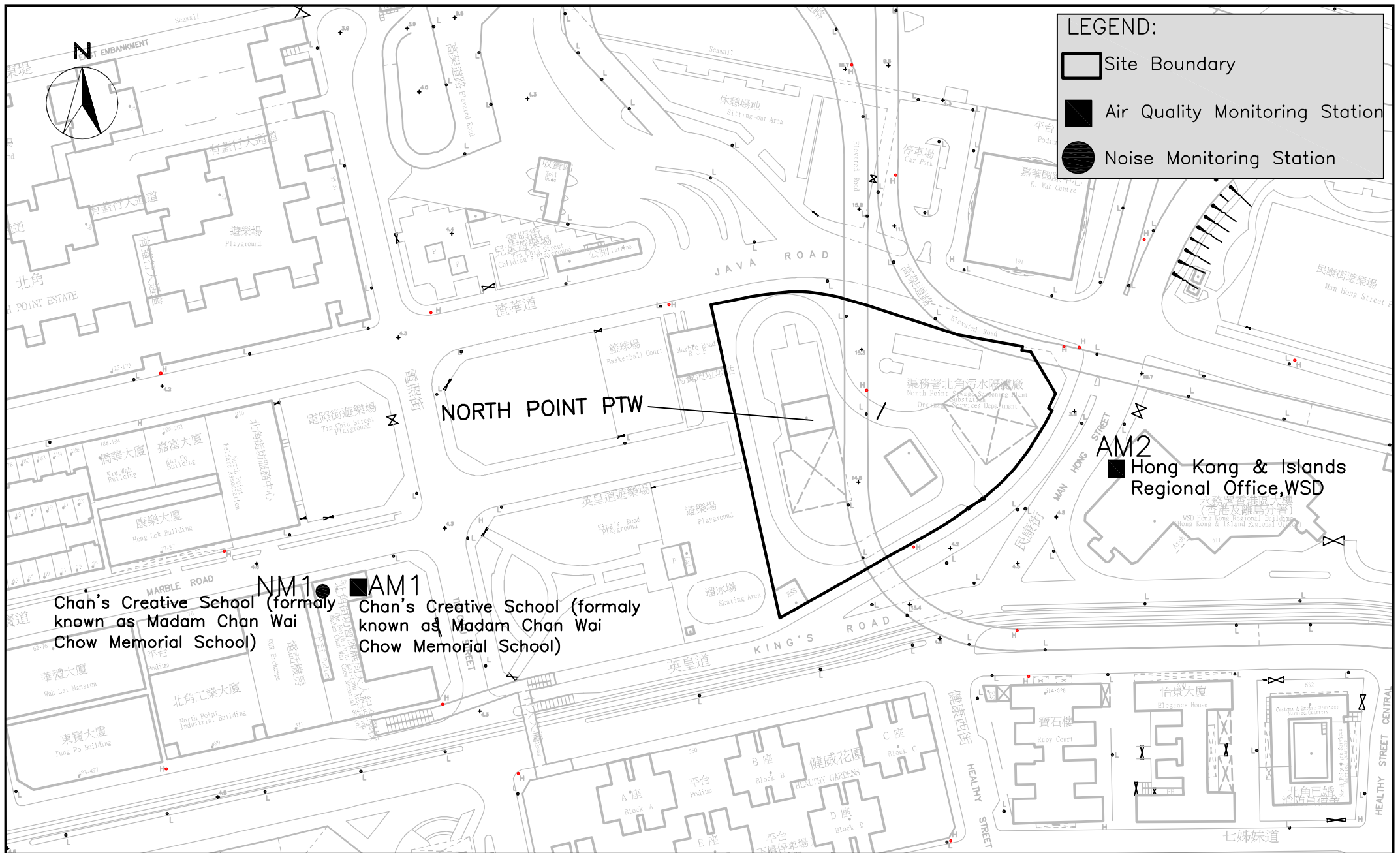
Noise Impact

- To inspect the noise sources inside the site;
- To follow up any exceedance caused by the construction works;
- 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 provide adequate lubricant on mechanical equipments to reduce frictional noise;
- To ensure the doors of the air compressors are closed; and
- To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.

Waste/Chemical Management

- To provide the maintenance of PME to prevent the oil leakage;
- Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport; and
- To provide adequate drip trays to store the chemical containers on the site.

FIGURES



LEGEND:

- Site Boundary
- Air Quality Monitoring Station
- Noise Monitoring Station

NM1 **AM1**
 Chan's Creative School (formally known as Madam Chan Wai Chow Memorial School)

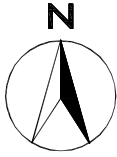
AM2
 Hong Kong & Islands Regional Office, WSD

NORTH POINT PTW



Contract No. DC/2009/23 – Harbour Area Treatment Stage 2A
 – Upgrading of Preliminary Treatment Works at North Point,
 Wan Chai East and Central
Impact Air Quality & Noise Monitoring Stations (North Point)

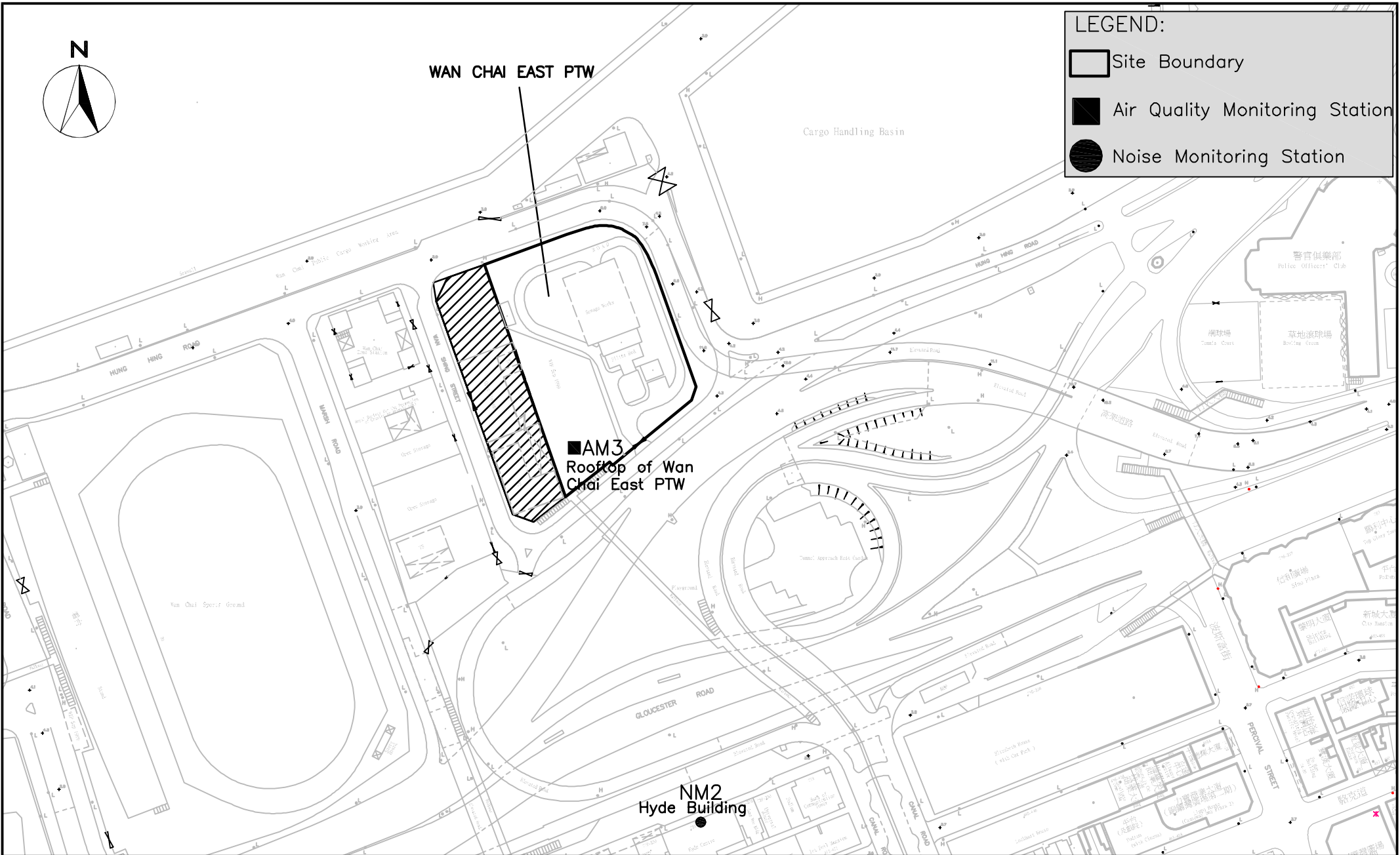
SCALE	N.T.S	DATE	11 MAR 2011	
CHECK	GL	DRAWN	TW	
PROJECT NO.	MA11003	FIGURE NO.	1A	REV —



WAN CHAI EAST PTW

LEGEND:

- Site Boundary
- Air Quality Monitoring Station
- Noise Monitoring Station



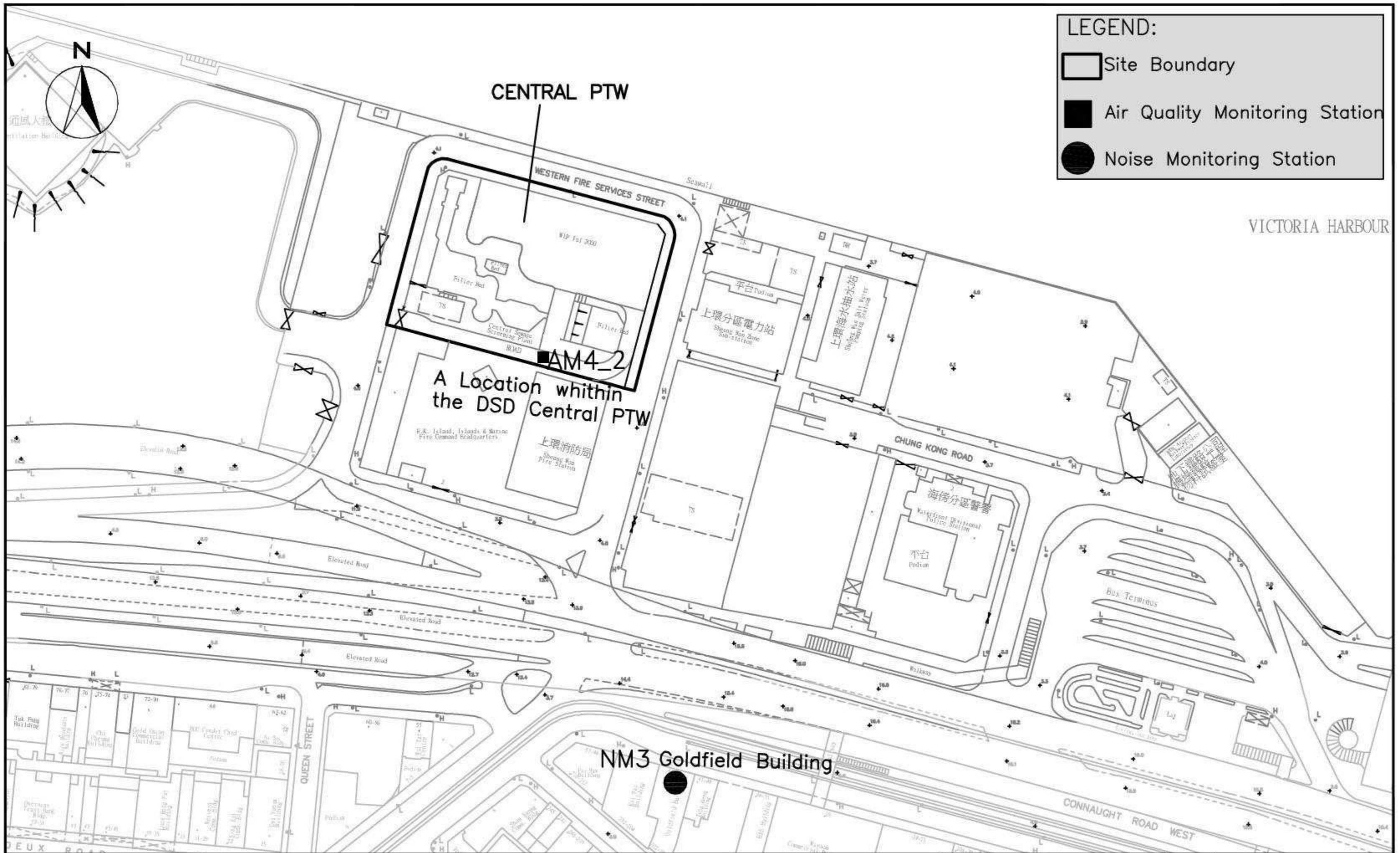
AM3
Rooftop of Wan
Chai East PTW

NM2
Hyde Building



Contract No. DC/2009/23 – Harbour Area Treatment Stage 2A
 – Upgrading of Preliminary Treatment Works at North Point,
 Wan Chai East and Central
Impact Air Quality & Noise Monitoring Stations (Wan Chai East)

SCALE	N.T.S	DATE	11 MAR 2011
CHECK	GL	DRAWN	TW
PROJECT NO.	MA11003	FIGURE NO.	1B
		REV	—



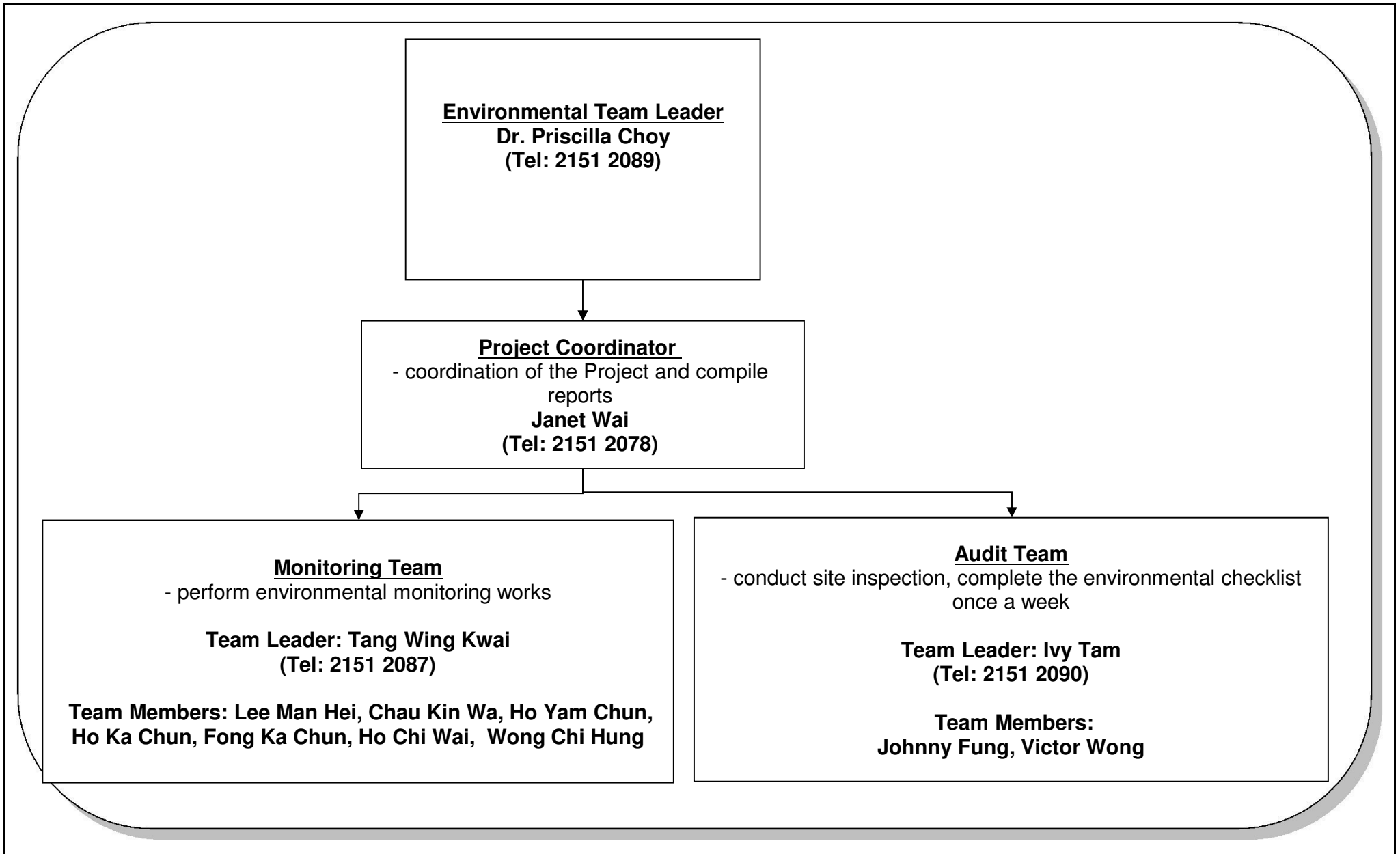
LEGEND:

- Site Boundary
- Air Quality Monitoring Station
- Noise Monitoring Station

Contract No. DC/2009/23 – Harbour Area Treatment Stage 2A
 – Upgrading of Preliminary Treatment Works at North Point,
 Wan Chai East and Central
Impact Air Quality & Noise Monitoring Stations (Central)

SCALE	N.T.S	DATE	11 MAR 2011
CHECK	GL	DRAWN	TW
PROJECT NO.	MA11003	FIGURE NO.	1C
		REV	—





Title	Contract No. DC/2009/23	Scale	N.T.S	Project No.	MA11003	CINOTECH
	HATS Stage 2A – Upgrading of Preliminary Treatment Works at North Point, Wanchai East and Central ET's Organization Chart	Date	Mar-15	Figure	2	

**APPENDIX A
ACTION AND LIMIT LEVELS FOR AIR
QUALITY AND NOISE**

Appendix A Action and Limit Levels

Table A-1 Action and Limit Levels for 1-Hour TSP and 24-Hour TSP

Monitoring Stations	Action Level ($\mu\text{g}/\text{m}^3$)		Limit Level ($\mu\text{g}/\text{m}^3$)	
	1-hour	24-hour	1-hour	24-hour
AM1	340	185	500	260
AM2	352	182		
AM3	355	181		
AM4_2	393	211		

Table A-2 Action and Limit Level for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
NM1	0700-1900 hours on normal weekdays	When one documented complaint is received	70 *
	Restricted hours (1900-2300 on all days and 0700-2300 on general holidays and Sundays)		70 **
NM2 and NM3	0700-1900 hours on normal weekdays		75

Notes: 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.

* 70 dB(A) was adopted as the Limit Level during school normal teaching period in the reporting period.

** 70 dB(A) was adopted as the Limit Level during restricted hours in the reporting period

**APPENDIX B
ENVIRONMENTAL MONITORING
SCHEDULES**

**Contract No. DC/2009/23 HATS 2A – Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central
Impact Air Quality and Noise Monitoring Schedule for September 2015**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1-Sep	2-Sep	3-Sep	4-Sep	5-Sep
						1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) 1-hr & 24-hr TSP (AM3) 1-hr & 24-hr TSP (AM4_2)
6-Sep	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep
		Noise Monitoring (NM1) Noise Monitoring (NM2) (Evening time)			1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)	
13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep
Noise Monitoring (NM1) Noise Monitoring (NM2) (during daytime on sundays/public holidays)				1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)		
20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep
		Noise Monitoring (NM1) Noise Monitoring (NM2) (Evening time)	1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)			
27-Sep	28-Sep	29-Sep	30-Sep			
Noise Monitoring (NM1) Noise Monitoring (NM2) (during daytime on sundays/public holidays)		1-hr & 24-hr TSP (AM1) 1-hr & 24-hr TSP (AM2) Noise Monitoring (NM1) 1-hr & 24-hr TSP (AM3) Noise Monitoring (NM2) 1-hr & 24-hr TSP (AM4_2) Noise Monitoring (NM3)				

Air Quality Monitoring Station

AM1 - Works site boundary of DC/2007/23
AM2 - Hong Kong & Islands Regional Office, WSD
AM3 - Wan Chai East PTW
AM4_2 - A Location within the DSD Central PTW

Noise Monitoring Station

NM1 - Chan's Creative School
NM2 - Hyde Building
NM3 - Goldfield Building

**Contract No. DC/2009/23 HATS 2A – Upgrading of Preliminary Treatment Works at North Point, Wan Chai East and Central
Tentative Impact Air Quality and Noise Monitoring Schedule for October 2015**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Oct	2-Oct	3-Oct
4-Oct	5-Oct	6-Oct	7-Oct	8-Oct	9-Oct	10-Oct
	1 hr TSP & 24 hrs TSP (AM1, AM2 & AM4_2) Noise (NM1) (Daytime & Evening time) Noise (NM3)(Daytime)				1 hr TSP & 24 hrs TSP (AM1, AM2, AM3 & AM4_2)	
11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct
				1 hr TSP & 24 hrs TSP (AM1, AM2, AM3 & AM4_2) Noise (NM1 & NM2) (Daytime & Evening time) Noise (NM3)(Daytime)		
18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct
		1 hr TSP & 24 hrs TSP (AM1, AM2, AM3 & AM4_2) Noise (NM1, NM2 & NM3) (Daytime)	Noise (NM1 & NM2) (during daytime on sundays/public holidays)			
25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct
Noise (NM1 & NM2) (during daytime on sundays/public holidays)	1 hr TSP & 24 hrs TSP (AM1, AM2, AM3 & AM4_2) Noise (NM1, NM2 & NM3) (Daytime)				1 hr TSP & 24 hrs TSP (AM1, AM2, AM3 & AM4_2)	

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

Air Quality Monitoring Station

AM1 - Works site boundary of DC/2007/23
AM2 - Hong Kong & Islands Regional Office, WSD
AM3 - Wan Chai East PTW
AM4_2 - A Location within the DSD Central PTW

Noise Monitoring Station

NM1 - Chan's Creative School
NM2 - Hyde Building
NM3 - Goldfield Building

**APPENDIX C
1-HOUR AND 24-HOUR TSP
MONITORING RESULTS AND
GRAPHICAL PRESENTATIONS**

1-hour TSP Monitoring Results

Station AM1

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	Observations / Remarks	($^{\circ}\text{C}$)	(m/s)	ID	ID
05-Sep-15	9:00	10:00	Sunny	129	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	7072
	10:02	11:02	Sunny	118	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	7055
	11:04	12:04	Sunny	112	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	7057
11-Sep-15	10:46	11:46	Fine	118	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	7061
	11:48	12:48	Fine	94	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	7064
	12:50	13:50	Fine	93	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	7066
17-Sep-15	14:07	15:07	Sunny	107	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	7070
	15:09	16:09	Sunny	112	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	7071
	16:11	17:11	Sunny	96	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	7123
23-Sep-15	13:32	14:32	Sunny	70	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	7118
	14:34	15:34	Sunny	102	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	7117
	15:36	16:36	Sunny	85	340	500	Construction work in progress	30	<5	GMW GS 2310 (S/N 1808)	7115
29-Sep-15	8:30	9:30	Sunny	126	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	7111
	9:32	10:32	Sunny	118	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	7103
	10:34	11:34	Sunny	118	340	500	Construction work in progress	31	<5	GMW GS 2310 (S/N 1808)	7104
			Min.	70							
			Max.	129							
			Average	107							

* Wind Speed data is presented in the Meteorological Data table

1-hour TSP Monitoring Results

Station AM2

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		(µg/m ³)	(µg/m ³)	(µg/m ³)	Observations / Remarks	(°C)	(m/s)	ID	ID
05-Sep-15	9:40	10:40	Sunny	103	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	7054
	10:42	11:42	Sunny	119	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	7056
	11:46	12:46	Sunny	116	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	7058
11-Sep-15	10:25	11:25	Fine	107	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	7062
	11:27	12:27	Fine	100	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	7063
	12:29	13:29	Fine	105	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	7065
17-Sep-15	14:25	15:25	Sunny	96	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	7069
	15:27	16:27	Sunny	103	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	7124
	16:31	17:31	Sunny	103	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	7122
23-Sep-15	13:50	14:50	Sunny	109	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	7119
	14:52	15:52	Sunny	103	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	7116
	15:54	16:54	Sunny	100	352	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0145)	7114
29-Sep-15	8:10	9:10	Sunny	132	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	7101
	9:12	10:12	Sunny	125	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	7102
	10:14	11:14	Sunny	147	352	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0145)	7105
				Min.	96						
				Max.	147						
				Average	111						

* Wind Speed data is presented in the Meteorological Data table

1-hour TSP Monitoring Results

Station AM3

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	Observations / Remarks	($^{\circ}\text{C}$)	(m/s)	ID	ID
05-Sep-15	11:40	12:40	Sunny	107	355	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6960
	12:42	13:42	Sunny	100	355	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6953
	13:44	14:44	Sunny	104	355	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6954
11-Sep-15	11:50	12:50	Fine	101	355	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6965
	12:52	13:52	Fine	104	355	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6966
	13:54	14:54	Fine	96	355	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6967
17-Sep-15	12:00	13:00	Sunny	94	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	6977
	13:02	14:02	Sunny	96	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	6978
	14:04	15:04	Sunny	85	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	6979
23-Sep-15	8:00	9:00	Sunny	101	355	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6989
	9:02	10:02	Sunny	81	355	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6990
	10:04	11:04	Sunny	61	355	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 0481)	6991
29-Sep-15	11:50	12:50	Sunny	108	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	7273
	12:52	13:52	Sunny	149	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	7274
	13:54	14:54	Sunny	122	355	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 0481)	7275
				Min.	61						
				Max.	149						
				Average	101						

* Wind Speed data is presented in the Meteorological Data table

1-hour TSP Monitoring Results

Station AM4_2

	Start	Finish	Weather	TSP Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Wind Speed *	Sampler	Filter
Date	Time	Time		(µg/m ³)	(µg/m ³)	(µg/m ³)	Observations / Remarks	(°C)	(m/s)	ID	ID
05-Sep-15	8:00	9:00	Sunny	134	393	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 9315)	6956
	9:02	10:02	Sunny	156	393	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 9315)	6957
	10:04	11:04	Sunny	146	393	500	Construction work in progress	33	<5	GMW GS-2310 (S/N 9315)	6958
11-Sep-15	8:00	9:00	Fine	93	393	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 9315)	6969
	9:02	10:02	Fine	129	393	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 9315)	6970
	10:05	11:05	Fine	160	393	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 9315)	6971
17-Sep-15	8:00	9:00	Sunny	123	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	6981
	9:02	10:02	Sunny	161	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	6982
	10:04	11:04	Sunny	152	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	6983
23-Sep-15	11:50	12:50	Sunny	117	393	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 9315)	6993
	12:52	13:52	Sunny	127	393	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 9315)	6994
	13:54	14:54	Sunny	128	393	500	Construction work in progress	30	<5	GMW GS-2310 (S/N 9315)	6995
29-Sep-15	8:00	9:00	Sunny	140	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	7277
	9:10	10:10	Sunny	163	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	7278
	10:12	11:12	Sunny	182	393	500	Construction work in progress	31	<5	GMW GS-2310 (S/N 9315)	7279
			Min.	93							
			Max.	182							
			Average	141							

* Wind Speed data is presented in the Meteorological Data table

24-hour TSP Monitoring Results

Station AM1

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
05-Sep-15	12:06	06-Sep-15	12:06	Sunny	2.8104	2.9401	19939.03	19963.03	24.00	1.24	1.24	1.24	73	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	7060
11-Sep-15	14:25	12-Sep-15	14:25	Fine	2.7990	2.9411	19966.03	19990.03	24.00	1.24	1.24	1.24	80	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	7068
17-Sep-15	17:13	18-Sep-15	17:13	Sunny	2.8967	3.0104	19993.03	20017.03	24.00	1.23	1.23	1.23	64	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	7120
23-Sep-15	16:38	24-Sep-15	16:38	Sunny	2.8940	3.0114	20020.03	20044.03	24.00	1.23	1.23	1.23	66	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	7112
29-Sep-15	12:02	30-Sep-15	12:02	Sunny	2.9057	3.0411	20047.03	20071.03	24.00	1.23	1.23	1.23	76	185	260	Construction work in progress	GMW GS 2310 (S/N 1808)	7106
													Min.	64				
													Max.	80				
													Average	72				

24-hour TSP Monitoring Results

Station AM2

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
05-Sep-15	12:48	06-Sep-15	12:48	Fine	2.8354	2.9667	15557.93	15581.93	24.00	1.25	1.25	1.25	73	182	260	Construction work in progress	GMW GS 2310 (S/N 0145)	7059
11-Sep-15	13:31	12-Sep-15	13:31	Fine	2.8141	2.9325	15584.93	15608.93	24.00	1.25	1.25	1.25	66	182	260	Construction work in progress	GMW GS 2310 (S/N 0145)	7067
17-Sep-15	17:33	18-Sep-15	17:33	Sunny	2.8989	3.0118	15611.93	15635.93	24.00	1.25	1.25	1.25	63	182	260	Construction work in progress	GMW GS 2310 (S/N 0145)	7121
23-Sep-15	17:00	24-Sep-15	17:00	Sunny	2.8839	3.0151	15638.93	15662.93	24.00	1.25	1.25	1.25	73	182	260	Construction work in progress	GMW GS 2310 (S/N 0145)	7113
29-Sep-15	11:16	30-Sep-15	11:16	Sunny	2.8956	3.0397	15665.93	15689.93	24.00	1.25	1.25	1.25	80	182	260	Construction work in progress	GMW GS 2310 (S/N 0145)	7107
													Min.	63				
													Max.	80				
													Average	71				

24-hour TSP Monitoring Results

Station AM3

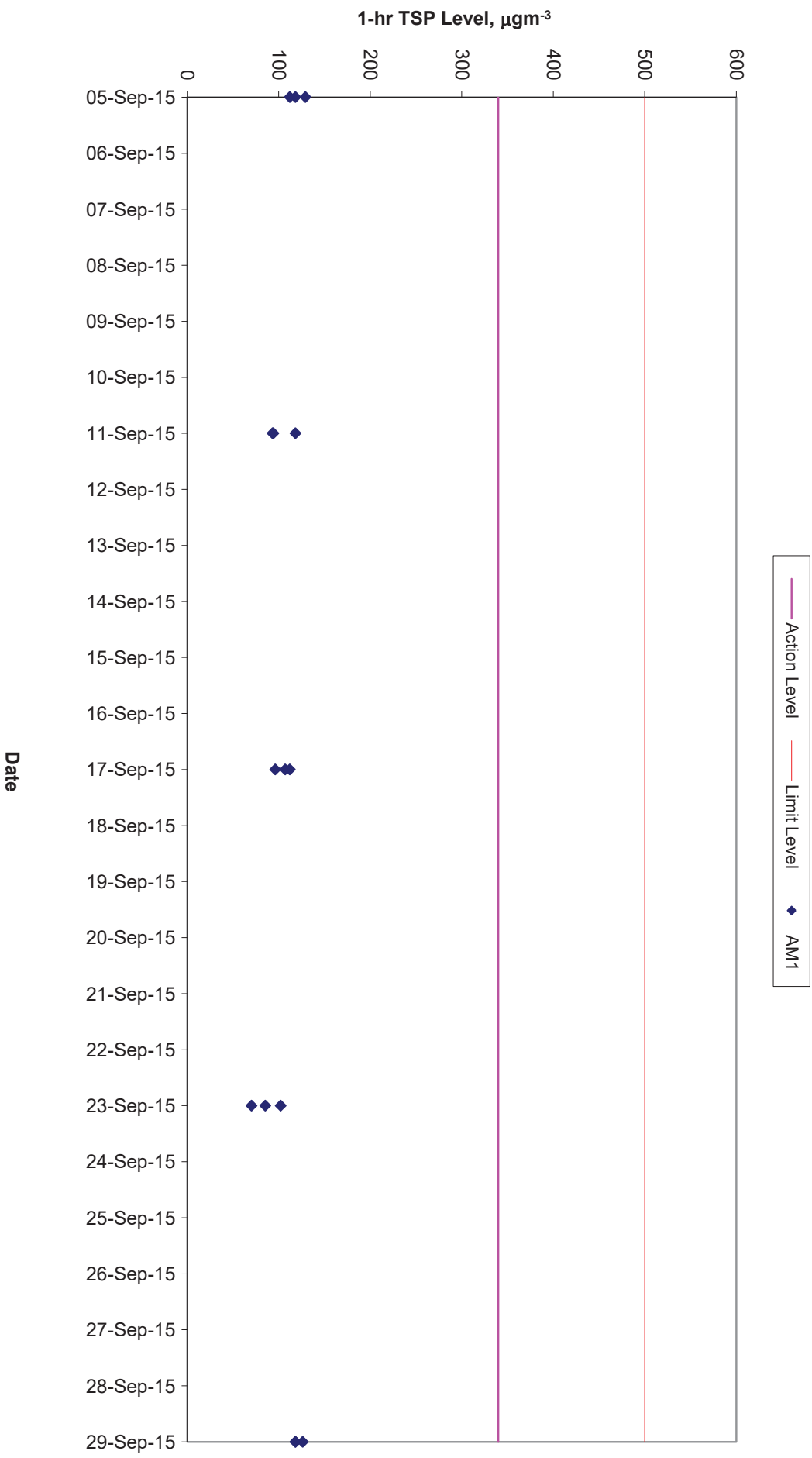
Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID		
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average								
05-Sep-15	14:46	06-Sep-15	14:46	Sunny	2.8269	2.9571	12249.32	12273.32	24.00	1.20	1.20	1.20	75	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	6955		
11-Sep-15	14:56	12-Sep-15	14:56	Fine	2.8115	2.9402	12276.32	12300.32	24.00	1.20	1.20	1.20	74	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	6968		
17-Sep-15	15:06	18-Sep-15	15:06	Sunny	2.8252	2.9400	12303.32	12327.32	24.00	1.22	1.22	1.22	65	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	6980		
23-Sep-15	11:06	24-Sep-15	11:06	Sunny	2.8271	2.9550	12330.32	12354.32	24.00	1.22	1.22	1.22	73	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	6992		
29-Sep-15	15:00	30-Sep-15	15:00	Sunny	2.8321	2.9600	12357.32	12381.32	24.00	1.22	1.22	1.22	73	181	260	construction work in progress	GMW GS 2310 (S/N 0481)	7276		
												Min.	65							
												Max.	75							
												Average	72							

24-hour TSP Monitoring Results

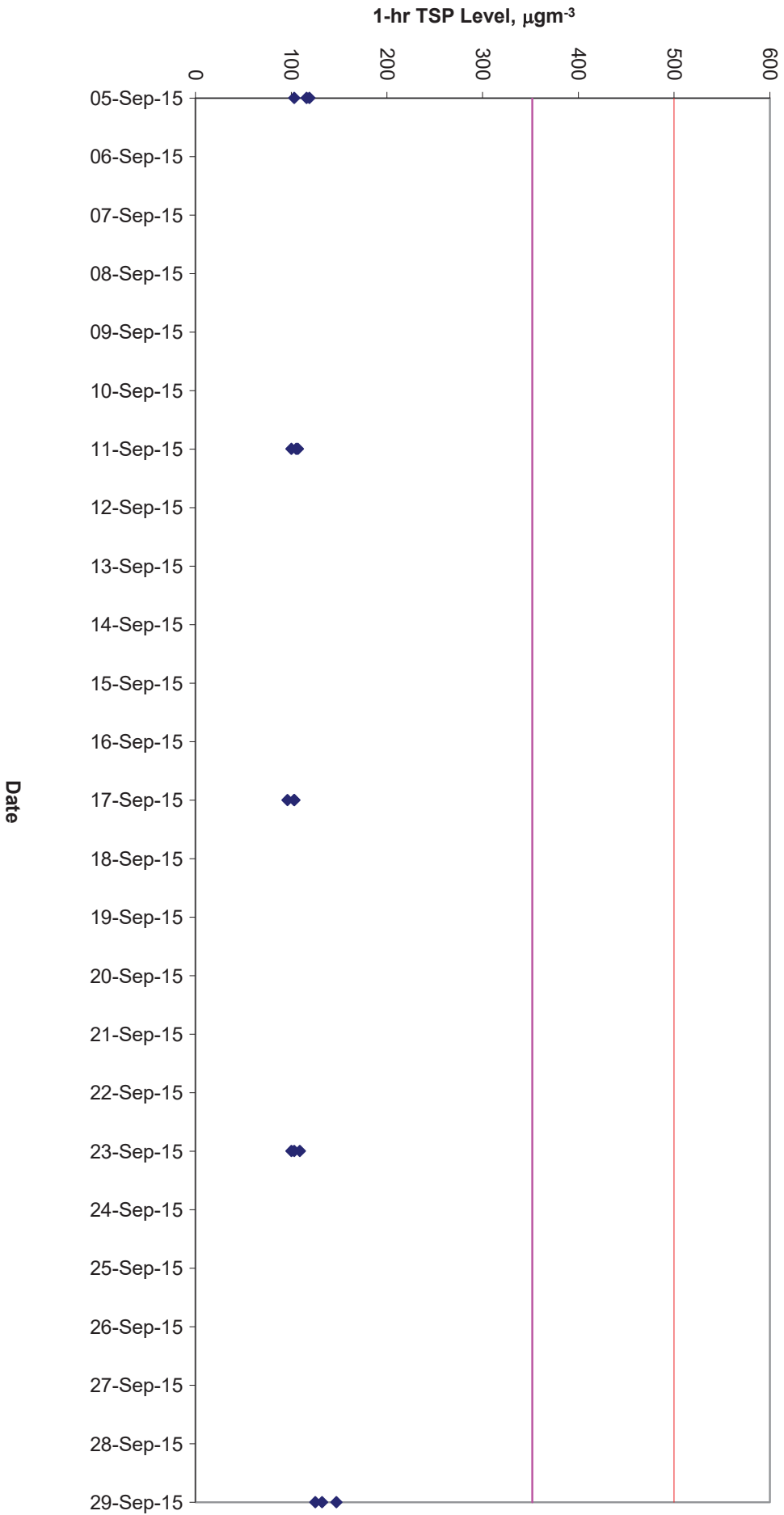
Station AM4_2

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m ³ /min)			TSP Conc. (µg/m ³)	Action Level (µg/m ³)	Limit Level (µg/m ³)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
05-Sep-15	11:06	06-Sep-15	11:06	Sunny	2.8112	2.9494	18390.85	18414.85	24.00	1.23	1.23	1.23	78	211	260	construction work in progress	GMW GS 2310 (S/N 9315)	6959
11-Sep-15	11:15	12-Sep-15	11:15	Fine	2.8094	2.9571	18417.85	18441.85	24.00	1.23	1.23	1.23	83	211	260	construction work in progress	GMW GS 2310 (S/N 9315)	6972
17-Sep-15	11:20	18-Sep-15	11:20	Sunny	2.8190	2.9527	18444.85	18468.85	24.00	1.21	1.21	1.21	77	211	260	construction work in progress	GMW GS 2310 (S/N 9315)	6984
23-Sep-15	15:10	24-Sep-15	15:10	Sunny	2.8292	2.9606	18471.85	18495.85	24.00	1.21	1.21	1.21	75	211	260	construction work in progress	GMW GS 2310 (S/N 9315)	6996
29-Sep-15	11:14	30-Sep-15	11:14	Sunny	2.8229	2.9696	18498.85	18522.85	24.00	1.21	1.21	1.21	84	211	260	construction work in progress	GMW GS 2310 (S/N 9315)	7280
													Min.	75				
													Max.	84				
													Average	80				

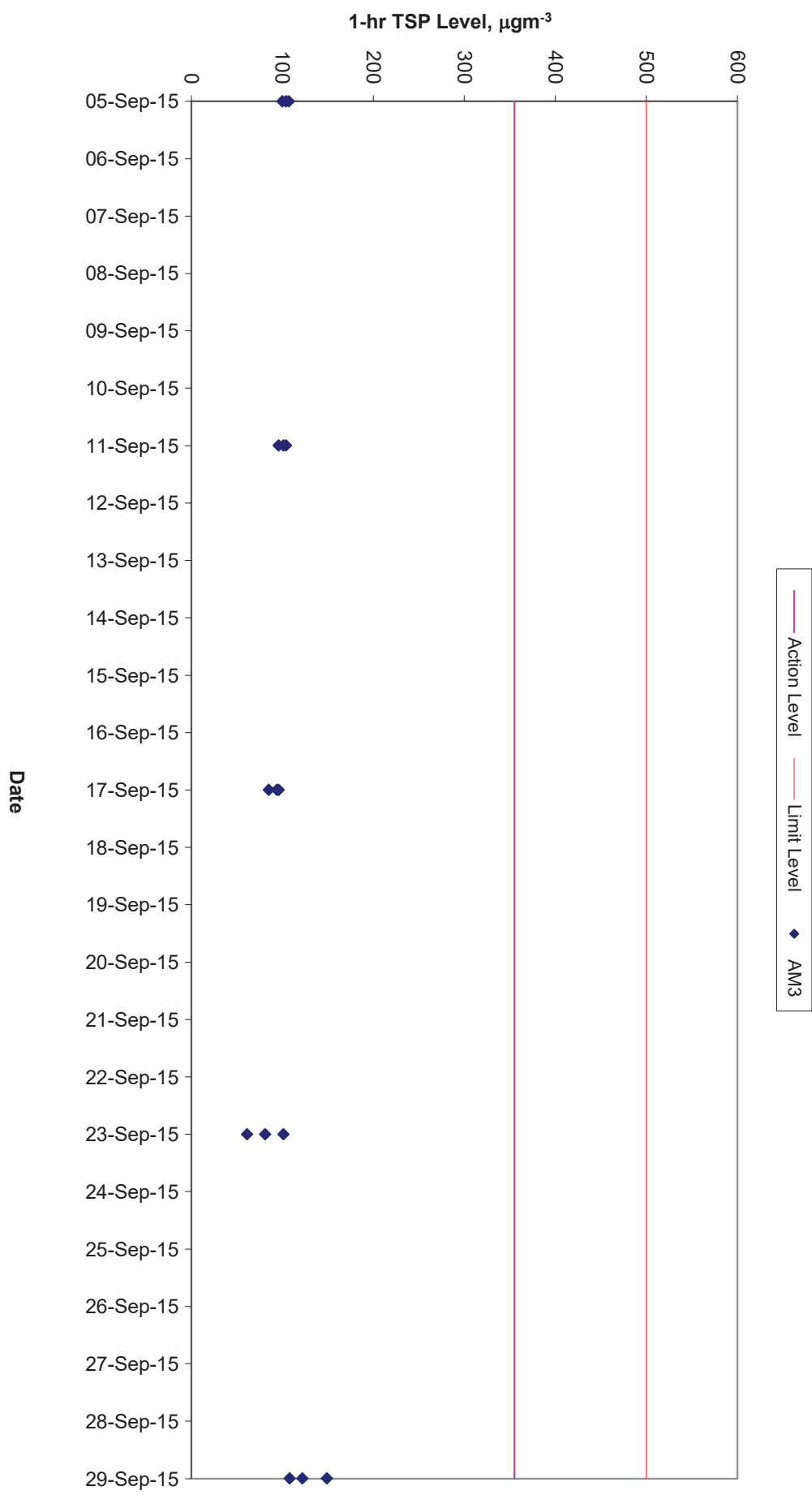
1-hr TSP Levels AM1 (Chan's Creative School)

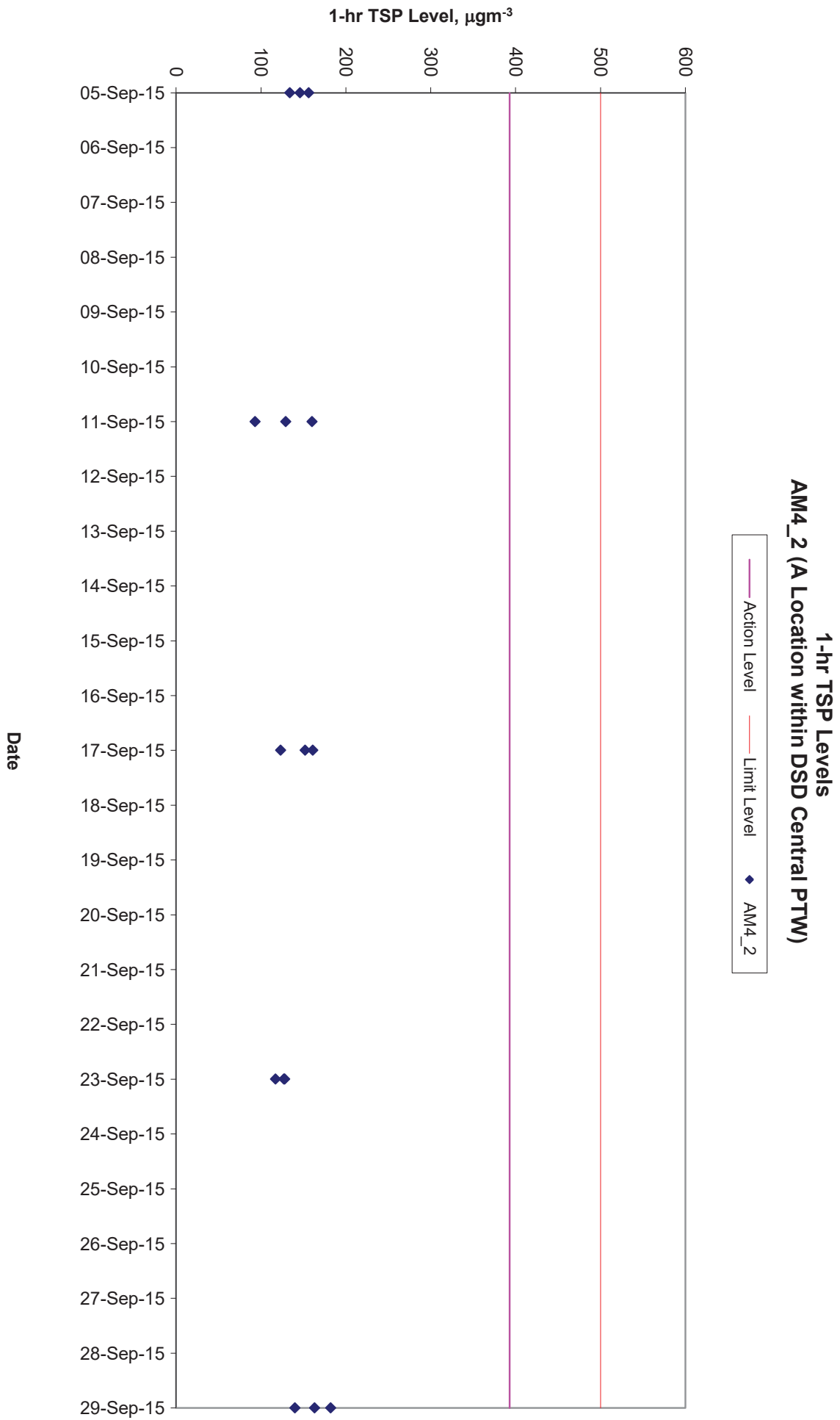


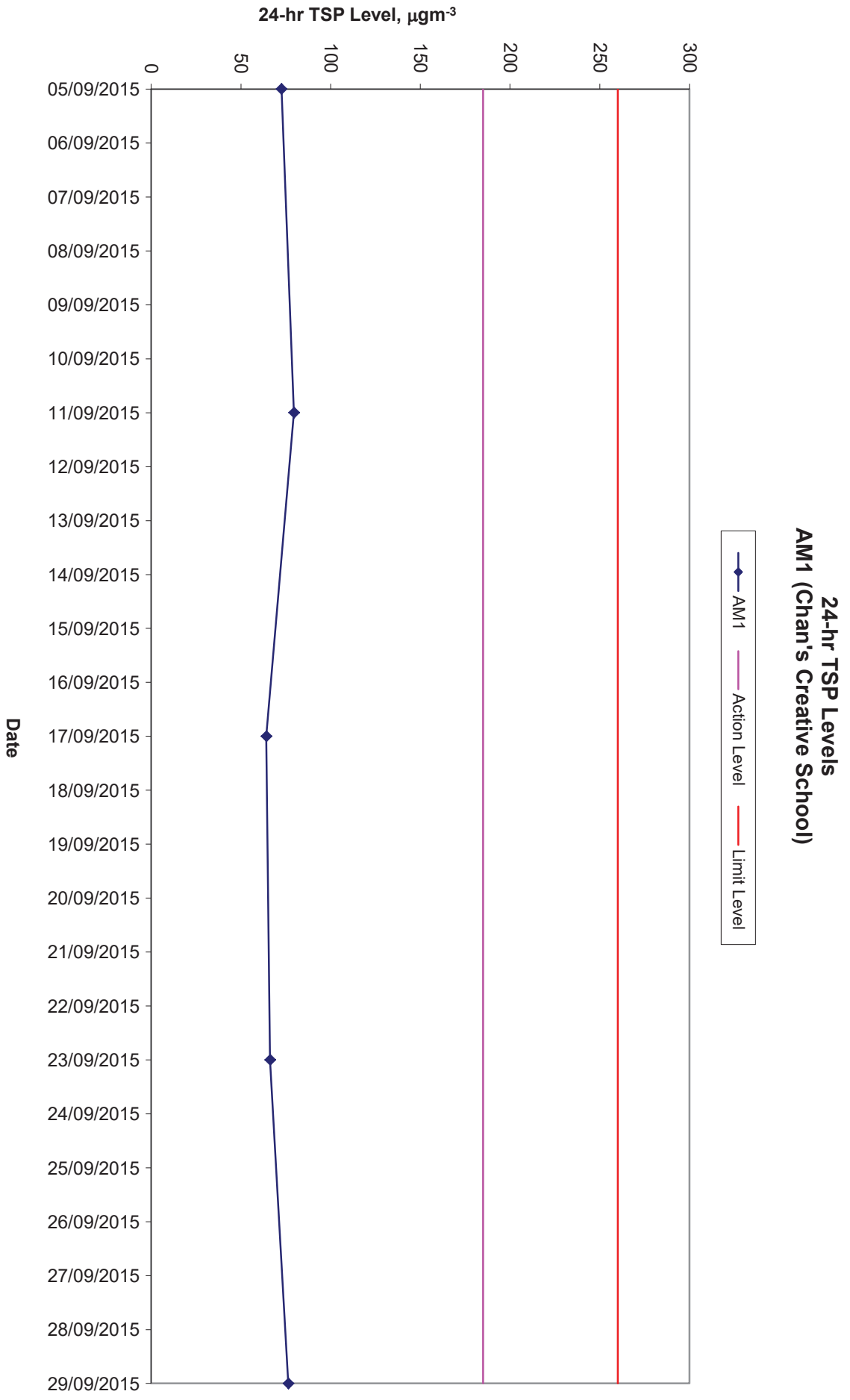
**1-hr TSP Levels
AM2 (Hong Kong & Island Regional Office, WSD)**



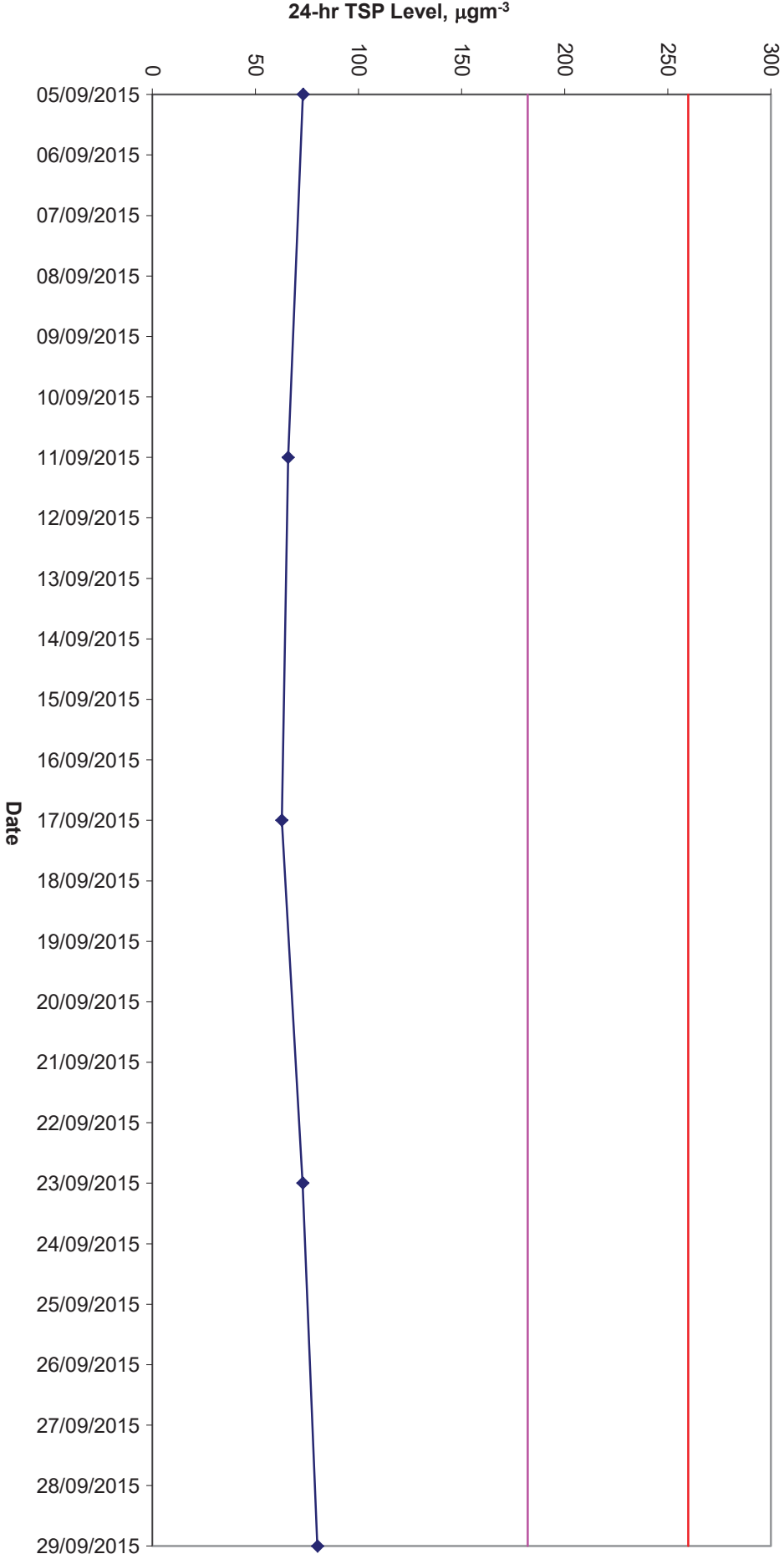
1-hr TSP Levels AM3 (Wan Chai East PTW)



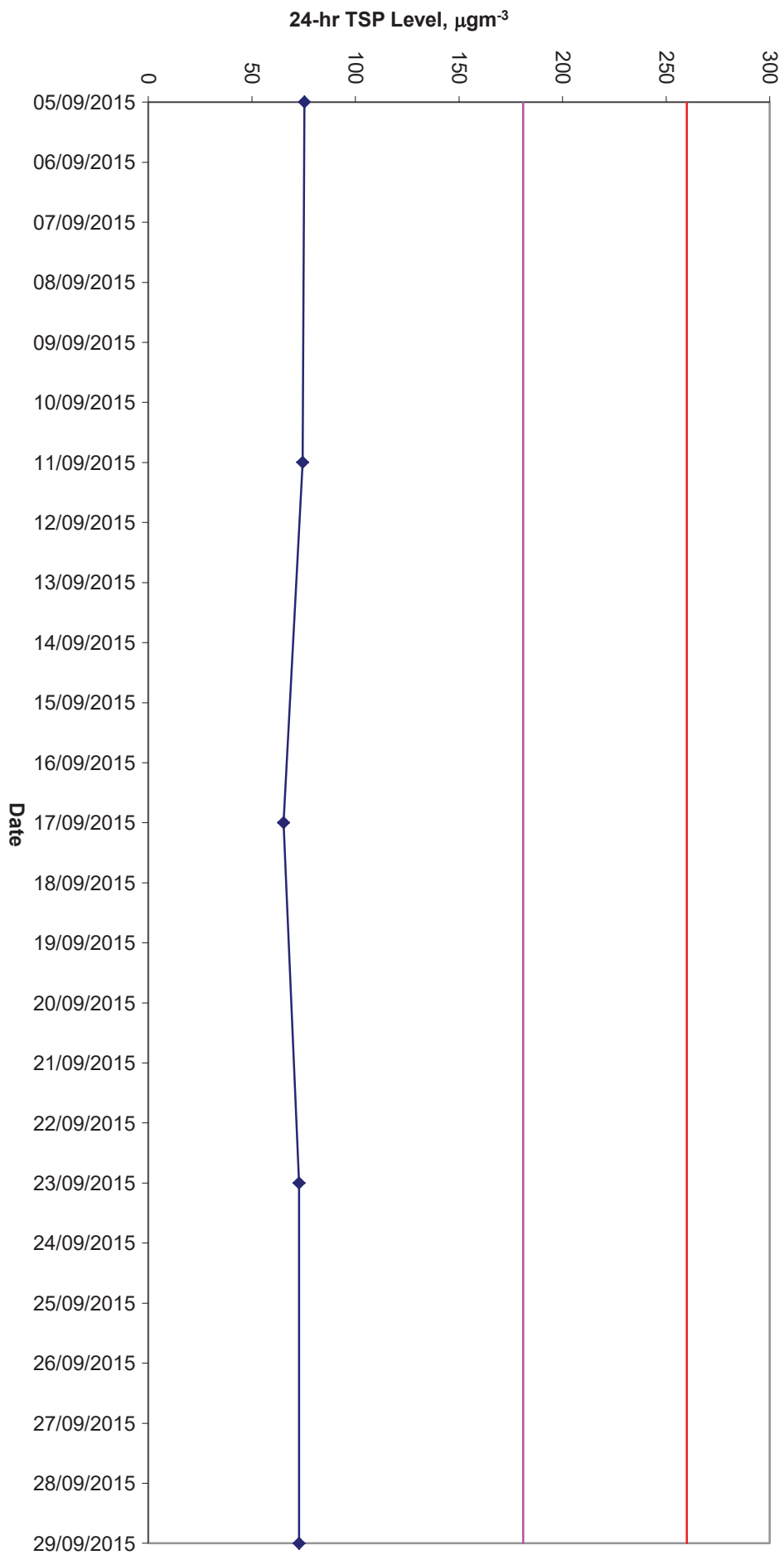




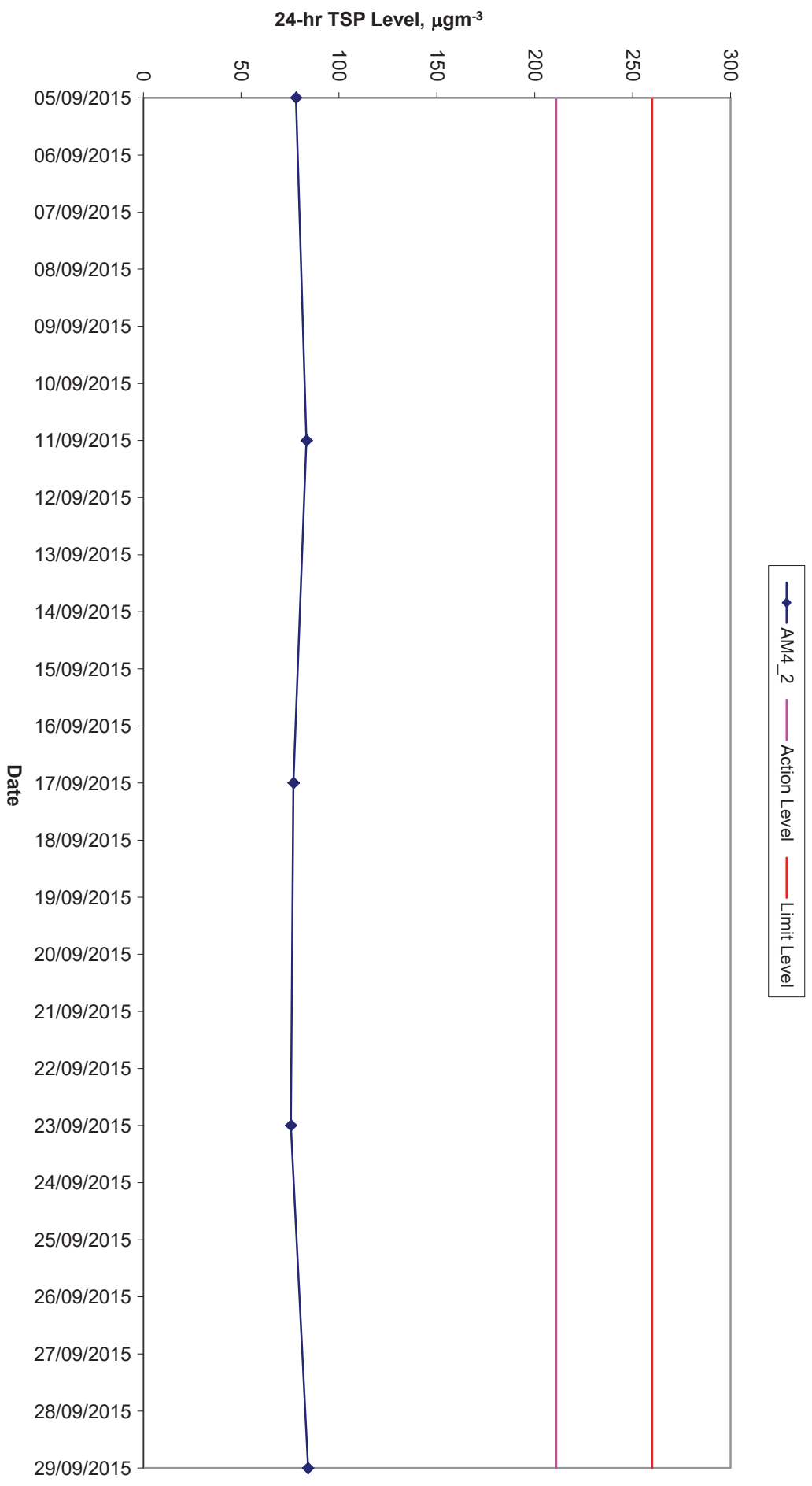
24-hr TSP Levels AM2 (Hong Kong & Island Regional Office, WSD)



24-hr TSP Levels AM3 (Wan Chai East PTW)



**24-hr TSP Levels
AM4_2 (A Location within DSD Central PTW)**



**APPENDIX D
NOISE MONITORING RESULTS AND
GRAPHICAL PRESENTATIONS**

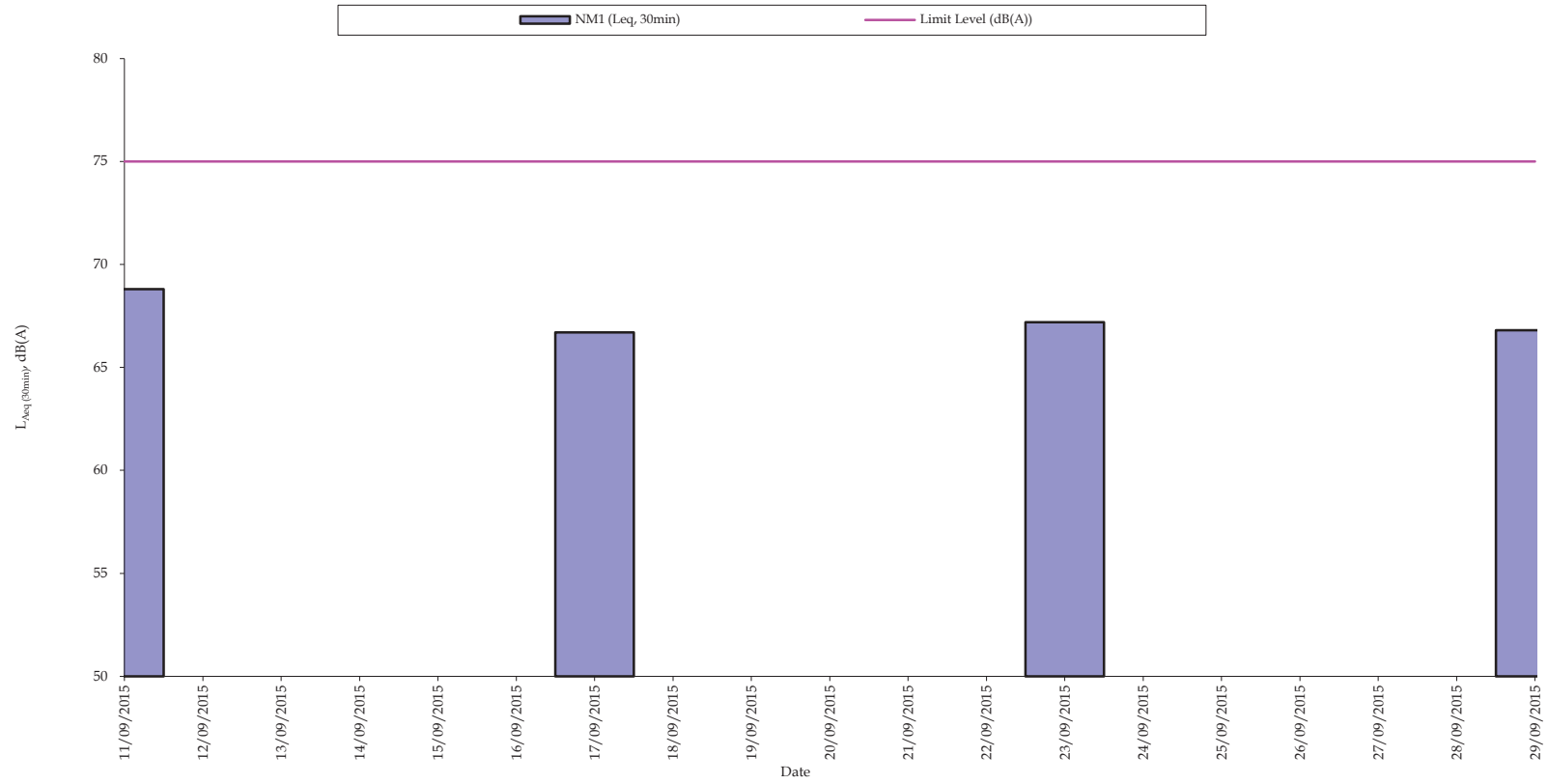
Restricted Hours Noise Monitoring Results [1]

Station NM1

Date	Start Time	End Time	Weather	Noise level (dB(A)), 5 min			Major Construction Noise Source(s) Observed	Other Noise Source(s) Observed	Remarks	Temp. (°C)	Wind Speed (m/s)	Noise Meter Model / ID	Calibrator Model / ID
				Leq	L10	L90							
08-Sep-15	20:15	20:20	Fine	69	72	67	-	Traffic Noise	-	28	0.2	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	20:20	20:25	Fine	69	73	68			-				
	20:25	20:30	Fine	68	72	67			-				
	20:15	20:30	Fine	69	72	67			-				
13-Sep-15	14:45	14:50	Sunny	69	72	67	Noise from nearby playground	Traffic Noise	-	28	0.2	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	14:50	14:55	Sunny	69	73	67			-				
	14:55	15:00	Sunny	69	72	67			-				
	14:45	15:00	Sunny	69	72	67			-				
22-Sep-15	9:00	9:05	Fine	69	71	66	Noise from nearby playground	Traffic Noise	-	29	0.5	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	9:05	9:10	Fine	68	71	66			-				
	9:10	9:15	Fine	69	71	67			-				
	9:00	9:15	Fine	69	71	66			-				
27-Sep-15	10:30	10:35	Sunny	68	70	65	Noise from nearby playground	Traffic Noise	-	29	0.2	Casella CEL-633A (S/N 3521757)	Casella CEL-120/1 (S/N 3421612)
	10:35	10:40	Sunny	67	70	66			-				
	10:40	10:45	Sunny	68	70	66			-				
	10:30	10:45	Sunny	68	70	66			-				
			Min.	67									
			Max.	69									

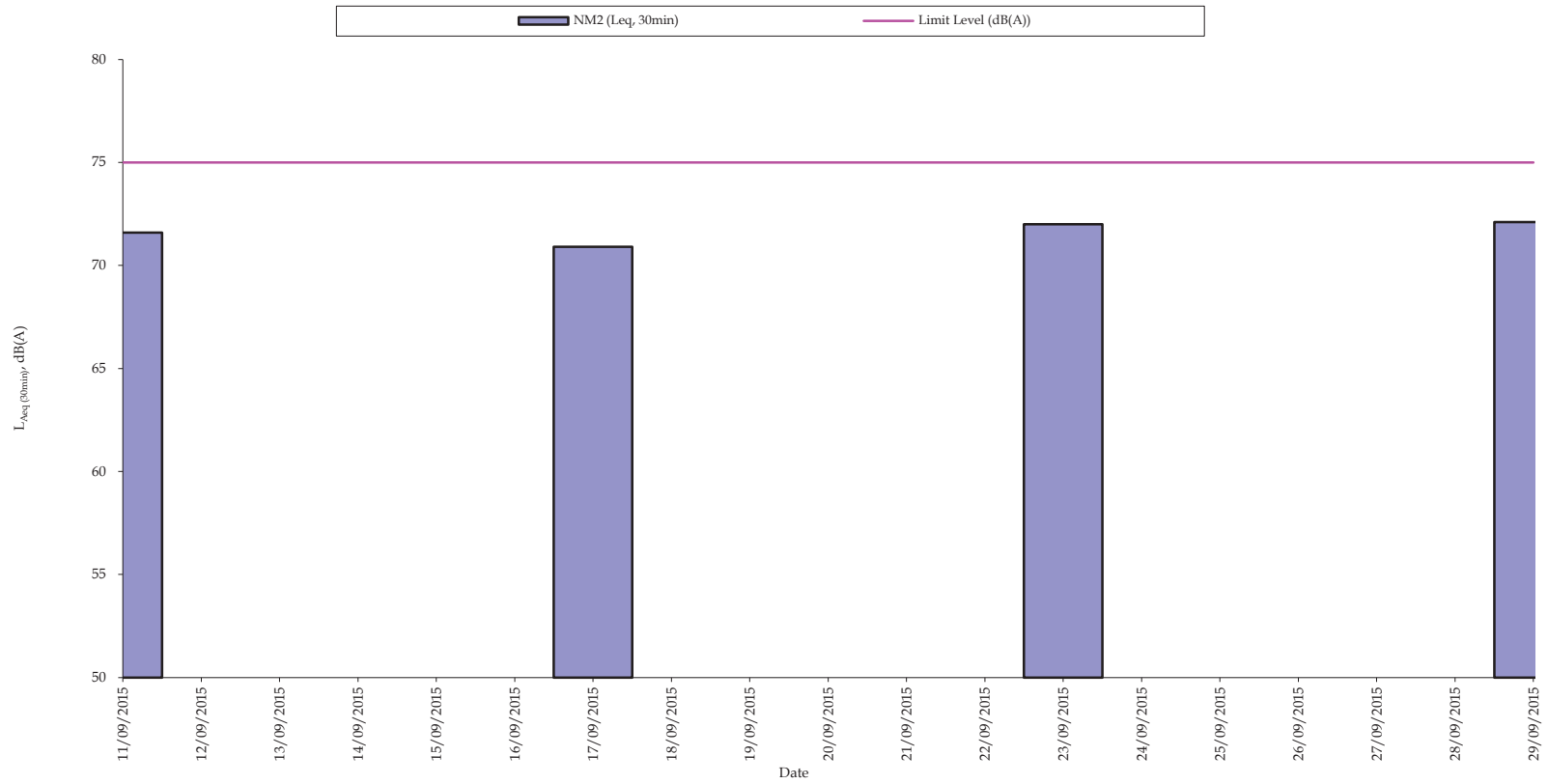
[1] No class was held at the school during all the measurement period.

Normal Weekdays Noise Monitoring Results at NM1 ($L_{Aeq, 30min}$)



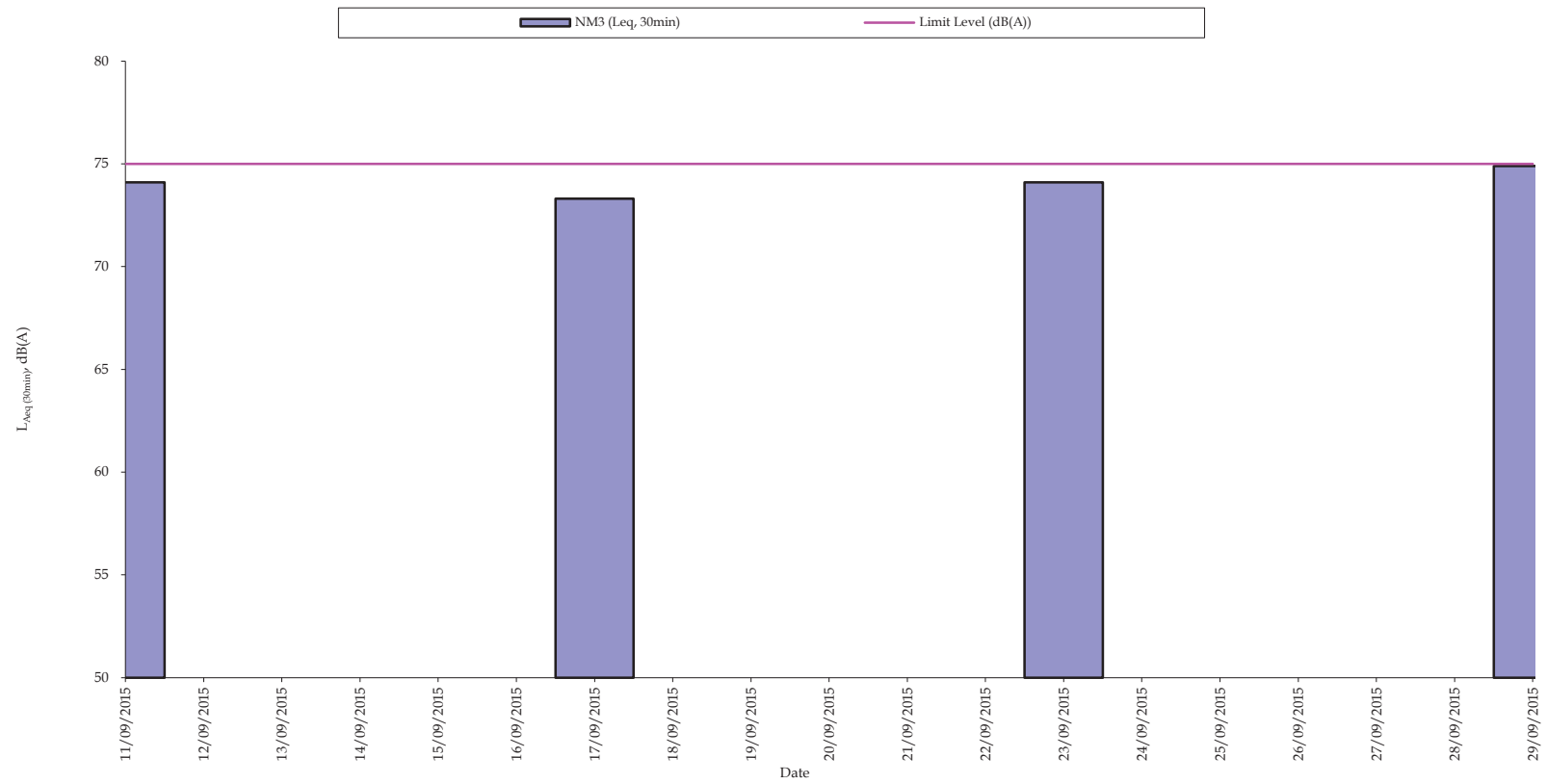
Remark:
- 70dB(A) was adopted as the Limit Level during restricted hours in the reporting period.

Normal Weekdays Noise Monitoring Results at NM2 ($L_{Aeq, 30min}$)



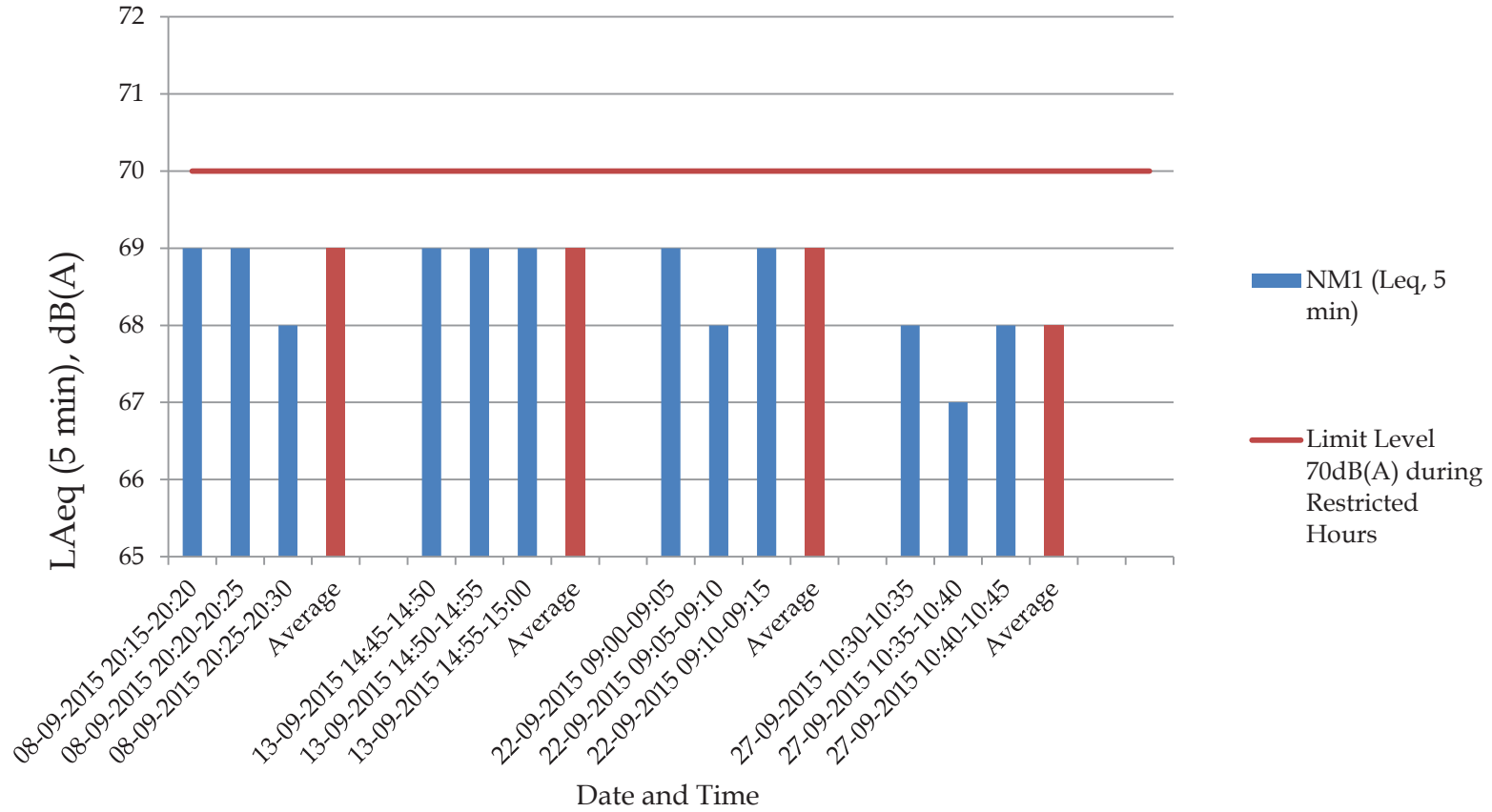
Remark:
- 70dB(A) was adopted as the Limit Level during restricted hours in the reporting period.

Normal Weekdays Noise Monitoring Results at NM3 ($L_{Aeq, 30min}$)

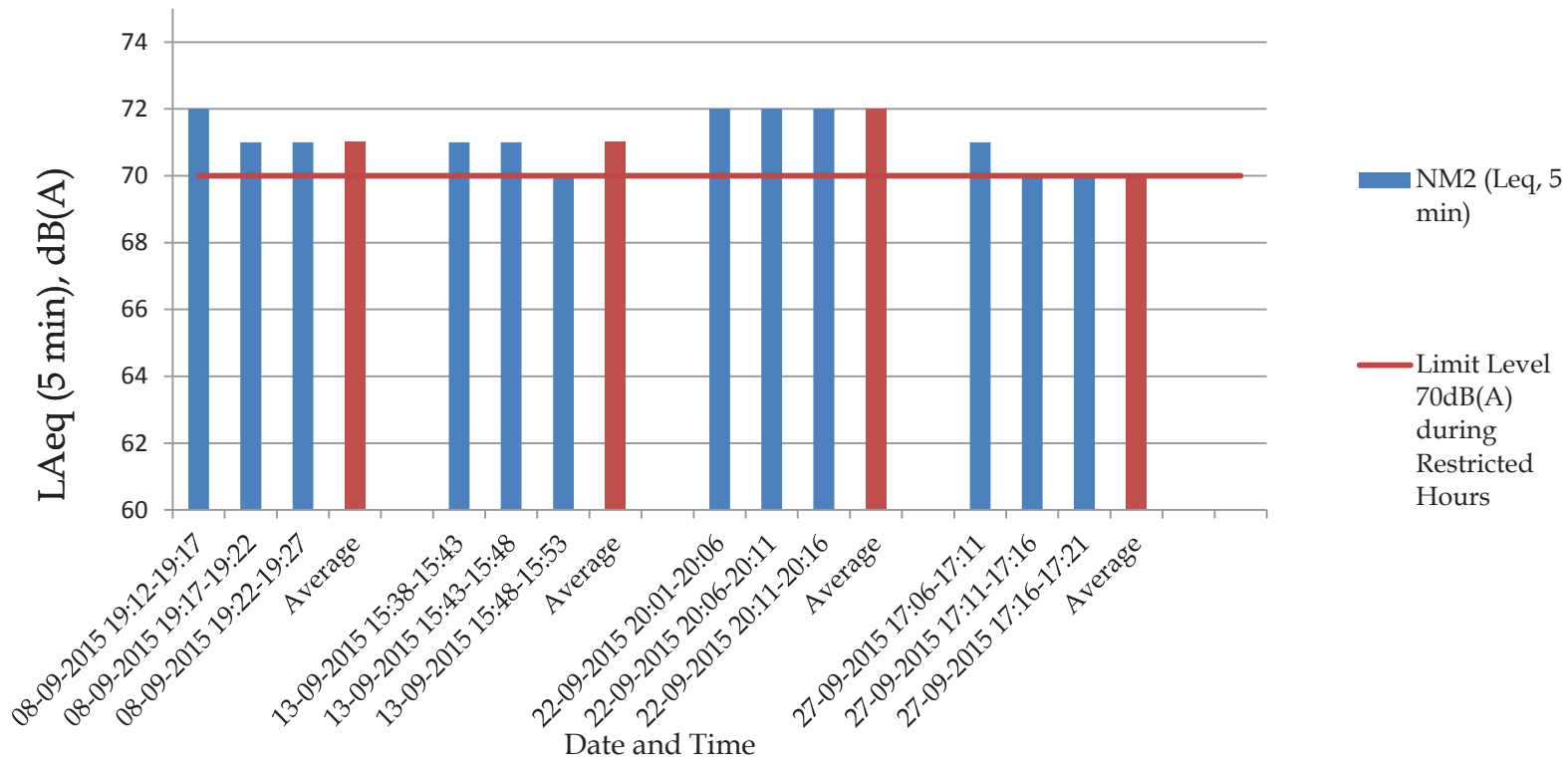


Remark:
- 70dB(A) was adopted as the Limit Level during restricted hours in the reporting period.

Restricted Noise Monitoring at NM1 (LAeq, 5 min)



Restricted Noise Monitoring at NM2 (LAeq, 5 min)



APPENDIX E
SUMMARY OF EXCEEDANCE

APPENDIX E – SUMMARY OF EXCEEDANCE

Reporting Month: September 2015

- a) Exceedance Report for 1-hr TSP (NIL)**
- b) Exceedance Report for 24-hr TSP (NIL)**
- c) Exceedance Report for Construction Noise (4)**

No Action Level exceedance was recorded, while four non-project related Limit Level exceedance were recorded during the restricted hour noise monitoring on 8th, 13th, 22nd & 27th September 2015 by the ET of DC/2007/23 at NM2. According to the information provided by the Contractor, no construction works were carried out during the restricted hours period on 8th, 13th, 22nd & 27th September 2015 at Wan Chai East Preliminary Treatment Works under DC/2009/23.

**APPENDIX F
SITE AUDIT SUMMARY**

Contract No: DC/2009/23

HATS 2A - Upgrading of PTWs at North Point, Wan Chai East and Central

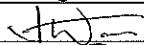

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	150902
Date	2 September 2015 (Wednesday)
Time	09:30 – 11:15

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

Ref. No.	Remarks/Observations	Related Item No.
150902-R03	Part A - Water Quality <ul style="list-style-type: none">The sediment in the U-channel should be cleared regularly at Central-PTW.	A 1
150902-O01	Part B – Landscape and Visual <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. Part C - Air Quality <ul style="list-style-type: none">The mixing activity should be done in the proper enclosed at Wan Chai-PTW.	C 10
150902-R02	<ul style="list-style-type: none">Properly clear the empty cement bags at Wan Chai-PTW. Part D – Noise <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. Part E –Waste / Chemical Management <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. Part F - Permit / Licenses <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. Follow up: <ul style="list-style-type: none">For previous audit session (Ref. No. 150826), outstanding item 150826-O02 is required to be followed up and remarked as 150902-O01 which will be reviewed in the next weekly site inspection (Ref. No. 150909). Remark: <ul style="list-style-type: none">--	C 6

	Name	Signature	Date
Recorded by	Janet Wai		2 September 2015
Checked by	Dr. Priscilla Choy		2 September 2015

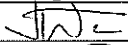

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	150909
Date	9 September 2015 (Wednesday)
Time	09:30 – 12:00

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

Ref. No.	Remarks/Observations	Related Item No.
150909-R02	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> Properly clear the slurry water which should be flown through the wastewater treatment facility before discharging out at North Point-PTW. 	A 3i
150909-R03	<p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part C - Air Quality</p> <ul style="list-style-type: none"> The dusty material should be covered by the impervious material to prevent the dust emission at Wan Chai-PTW. <p>Part D – Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. 	C 6
150909-R01	<p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> The chemical container should be provided with the drip tray at North Point-PTW. <p>Part F - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Follow up:</p> <ul style="list-style-type: none"> For previous audit session (Ref. No. 150902), all environmental deficiencies were improved by the Contractor. <p>Remark:</p> <ul style="list-style-type: none"> -- 	E 7ii

	Name	Signature	Date
Recorded by	Janet Wai		9 September 2015
Checked by	Dr. Priscilla Choy		9 September 2015

Contract No: DC/2009/23

HATS 2A - Upgrading of PTWs at North Point, Wan Chai East and Central

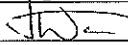

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	150918
Date	18 September 2015 (Friday)
Time	14:00 – 16:00

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

Ref. No.	Remarks/Observations	Related Item No.
150918-R01	<p>Part A - Water Quality</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. 	C 6
150918-R02	<p>Part B – Landscape and Visual</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part C - Air Quality</p> <ul style="list-style-type: none"> The dusty material should be covered by the impervious material to prevent the dust emission at Wan Chai-PTW. 	C 16
	<p>Part D – Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part E –Waste / Chemical Management</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Part F - Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. <p>Follow up:</p> <ul style="list-style-type: none"> For previous audit session (Ref. No. 150909), outstanding item 150909-R03 is required to be followed up and remarked as 150918-R01 which will be reviewed in the next weekly site inspection (Ref. No. 150923). <p>Remark:</p> <ul style="list-style-type: none"> -- 	

	Name	Signature	Date
Recorded by	Janet Wai		18 September 2015
Checked by	Dr. Priscilla Choy		18 September 2015

Contract No: DC/2009/23

HATS 2A - Upgrading of PTWs at North Point, Wan Chai East and Central

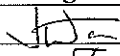

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	150923
Date	23 September 2015 (Wednesday)
Time	09:30 – 11:00

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

Ref. No.	Remarks/Observations	Related Item No.
150923-R01	Part A - Water Quality <ul style="list-style-type: none"> The bunding should be provided to prevent the muddy water runoff to the access road at North Point-PTW. 	A 2
150923-R02	<ul style="list-style-type: none"> Properly clear the oil stain and oil stained water at North Point-PTW and Central-PTW. 	A 11
	Part B – Landscape and Visual <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. 	
150923-R03	Part C - Air Quality <ul style="list-style-type: none"> Properly clear the wastewater to prevent the odour emission at Central-PTW. 	C 16
	Part D – Noise <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. 	
150923-R02	Part E –Waste / Chemical Management <ul style="list-style-type: none"> Properly clear the oil stain and oil stained water at North Point-PTW and Central-PTW. 	E 7i
	Part F - Permit / Licenses <ul style="list-style-type: none"> No environmental deficiency was identified during the site inspection. 	
	Follow up: <ul style="list-style-type: none"> For previous audit session (Ref. No. 150918), outstanding item 150918-R02 is required to be followed up and remarked as 150923-R03 which will be reviewed in the next weekly site inspection (Ref. No. 150930). 	
	Remark: <ul style="list-style-type: none"> -- 	

	Name	Signature	Date
Recorded by	Janet Wai		23 September 2015
Checked by	Dr. Priscilla Choy		23 September 2015

Contract No: DC/2009/23

HATS 2A - Upgrading of PTWs at North Point, Wan Chai East and Central

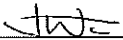

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	150930
Date	30 September 2015 (Wednesday)
Time	09:30 – 11:15

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

Ref. No.	Remarks/Observations	Related Item No.
150930-R01	<p>Part A - Water Quality</p> <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. <p>Part B - Landscape and Visual</p> <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. <p>Part C - Air Quality</p> <ul style="list-style-type: none">Properly clear the wastewater to prevent the odour emission at Central-PTW. <p>Part D - Noise</p> <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. <p>Part E - Waste / Chemical Management</p> <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. <p>Part F - Permit / Licenses</p> <ul style="list-style-type: none">No environmental deficiency was identified during the site inspection. <p>Follow up:</p> <ul style="list-style-type: none">For previous audit session (Ref. No. 150923), outstanding item 150923-R03 is required to be followed up and remarked as 150930-R01 which will be reviewed in the next weekly site inspection (Ref. No. 151007). <p>Remark:</p> <ul style="list-style-type: none">--	C 16

	Name	Signature	Date
Recorded by	Janet Wai		30 September 2015
Checked by	Dr. Priscilla Choy		30 September 2015

**APPENDIX G
SUMMARY OF AMOUNT OF WASTE
GENERATED**

APPENDIX G MONTHLY SUMMARY WASTE FLOW TABLE FOR September (2015)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					Special Waste			
	Total Quantity Generated	Broken Concrete (4)	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Import Fill	Metals	Paper / Cardboard Packaging	Plastics (3)	Chemical Waste	Other, e.g. general refuse	Screening (CPTW)	Grit (CPTW)	Screening (NPPTW)	Grit (NPPTW)
	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	
Year 2014	18.193	0.000	0.000	0.000	18.193	0.000	72.810	2.956	0.304	0.830	1.082	1.503	1.258	0.439	0.223
JAN	1.399	0.000	0.000	0.000	1.399	0.000	0.000	0.190	0.090	0.000	0.022	0.097	0.034	0.060	0.036
FEB	0.932	0.000	0.000	0.000	0.932	0.000	0.000	0.193	0.170	0.000	0.021	0.089	0.040	0.050	0.028
MAR	0.361	0.000	0.000	0.000	0.361	0.000	0.000	0.170	0.050	0.000	0.053	0.103	0.045	0.054	0.034
APR	0.083	0.000	0.000	0.000	0.083	0.000	0.000	0.128	0.070	0.000	0.045	0.091	0.038	0.055	0.034
MAY	0.146	0.000	0.000	0.000	0.146	0.000	0.000	0.170	0.005	0.200	0.025	0.109	0.033	0.054	0.032
JUN	0.008	0.000	0.000	0.000	0.008	0.000	0.000	0.168	0.005	0.000	0.025	0.094	0.036	0.044	0.030
SUB-TOTAL	2.929	0.000	0.000	0.000	2.929	0.000	0.000	1.019	0.390	0.200	0.191	0.583	0.226	0.317	0.194
JUL	0.507	0.000	0.000	0.000	0.507	0.000	0.000	0.170	0.003	0.000	0.033	0.093	0.047	0.048	0.033
AUG	1.392	0.000	0.000	0.000	1.392	0.000	0.000	0.172	0.005	0.000	0.024	0.091	0.045	0.040	0.029
SEP	0.222	0.000	0.000	0.000	0.222	0.000	0.000	0.170	0.002	0.000	0.065	0.084	0.029	0.047	0.033
OCT															
NOV															
DEC															
TOTAL	23.243	0.000	0.000	0.000	23.243	0.000	72.810	4.487	0.704	1.030	1.395	2.354	1.605	0.891	0.512

Forecast of Total Quantities of C&D materials to be Generated from the Contracts *											Special Waste		Special Waste	
Total Quantity Generated	Broken Concrete (4)	Reused in the Contract	Reused in other Projects	Disposal as Public Fill	Import Fill	Metals	Paper / Cardboard Packaging	Plastics (3)	Chemical Waste	Other, e.g. general refuse	Screening (CPTW)	Grit (CPTW)	Screening (NPPTW)	Grit (NPPTW)
[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000kg]	[in '000m ³]	[in '000m ³]	[in '000m ³]	[in '000m ³]	
24	0.1	0.1	0.1	23.6	0.1	100	8	1	3	3.5	4.5	3	1.5	1

Notes :

- (1) The performance targets are given in PS Clause 6(14).
- (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 contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where to total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m³. (PS Clause 25.25S (6)(b) refers).
[Delete Note (4) and the table above on the forecast, where inapplicable].
- (5) The assumed density (kg/m³) for both C&D material and general refuse.
C&D material 2000kg/m³
General refuse 500kg/m³
- (6) Conversion factors for reporting purpose:

in-situ: rock = 2.5 tonnes/m ³ ; soil = 2.0 tonnes/m ³	excavated: rock = 2.0 tonnes/m ³ ; soil = 1.8 tonnes/m ³	Special Waste (Grit) = 1.2 tonnes/m ³
broken concrete and bitumen = 2.4 tonnes/m ³	C&D Waste = 0.9 tonnes/m ³	Special Waste (Screening) = 0.31 tonnes/m ³
	bentonite slurry = 2.8 tonnes/m ³	
	Chemical waste 1 Litres = 1 kg	

**APPENDIX H
EVENT ACTION PLANS**

APPENDIX H – Event / Action Plans

Table H-1 Event / Action Plan For Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor’s working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial	1. Check monitoring data submitted by ET; 2. Check Contractor’s working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring			
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

Table H-2 Event / Action Plan For Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being exceeded	<ol style="list-style-type: none"> 1. Notify ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness 	<ol style="list-style-type: none"> 1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals
Limit Level being exceeded	<ol style="list-style-type: none"> 1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring		until the exceedance is abated	the ER until the exceedance is abated

**APPENDIX I
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)**

APPENDIX I IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
A	Air Quality		
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	^
	Vehicle washing facilities should be provided at every vehicle exit point.		^
	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 hardcore.		^
	Where a site boundary adjoins a road, streets or other areas accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit.		^
	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.		^
	Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines.		*
	Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.		^
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		^
	Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.		^
	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 3 sides.		^
	Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.	^	
3.74	Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
B	Airborne Noise		
4.56– 4.61	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	^
4.67	Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.		^
	Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.		^
	Mobile plant, if any, shall be sited as far away from NSRs as possible.		^
	Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum.		^
4.67	Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.		^
	Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.		^
C	Water Quality		
6.349 to 6.375	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All construction sites	^
6.376	Effluent Discharge There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing saltwater intakes.		^
6.377	Accidental Spillage of Chemicals Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General)		*

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	Regulation should be observed and complied with for control of chemical wastes.		
6.378	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		^
6.379	<p>Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:</p> <ul style="list-style-type: none"> • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. 		*
6.380	<p>Construction Works in Close Proximity of Storm Drains or Seafront</p> <p>To minimize the potential water quality impacts from the construction works located at or near any watercourse, the practices outlined below should be adopted where applicable.</p> <ul style="list-style-type: none"> • The use of less or smaller construction plants may be specified to reduce the disturbance to the storm water courses or marine environment. • 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. • Proper shoring may need to be erected in order to prevent soil/mud from slipping into 	All construction sites	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	the storm culvert or sea.		
D	Waste Management		
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimise wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All construction sites	^
9.109	All waste materials should be segregated into categories covering: <ul style="list-style-type: none"> • excavated materials suitable for reuse on-site; • excavated materials suitable for public filling facilities; • remaining C&D waste for landfill; • chemical waste; and • general refuse for landfill. 	All construction sites	^
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals;		^
	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.		^
	Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.		^
	Any unused chemicals or those with remaining functional capacity shall be recycled.		^
	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.		^
9.115	Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.		^
	Training of site personnel in proper waste management and chemical waste handling procedures.		^
9.115	Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials.		^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
	Provision of sufficient waste disposal points and regular collection of waste.		^
	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.		^
9.125	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage"	All construction sites	N/A
9.131	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.		^
9.133	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.		^
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		^
9.137	If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.		*
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.		N/A

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Status
E	Terrestrial Ecology		
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction sites	N/A
10.95	Dust control practices such as regular watering, complete coverage of any aggregate or dusty material storage piles, and re-schedule of dusty activities during high-wind conditions as well as other measures recommended in Section 3 of EIA, should be implemented.		*
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		^
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		N/A
10.98	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.		^
F	Landscape and Visual		
Table 13.7	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	All construction sites	^
	Existing trees to be retained on site should be carefully protected during construction.		^
	Trees unavoidably affected by the works should be transplanted where practical.		^
	Compensatory tree planting should be provided to compensate for felled trees.		^
	Control of night-time lighting.		^
Table 13.7	Erection of decorative screen hoarding compatible with the surrounding setting.	All construction sites	N/A
G	Marine Ecology		
11.137	To minimize the potential indirect impacts on water quality from construction site runoff and various construction activities, the practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.	All construction sites	^
H	Hazard to Life		
14A.201	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	Exact location will be determined on construction site by the engineer	^

Remarks:	^ Compliance of mitigation measure;
	N/A Not Applicable;
	* Recommendation was made during site audit but improved/rectified by the contractor.
	# Recommendation was made during site audit and to be improved / rectified by the contractor.
	X Non-compliance of mitigation measure;
	● Non-compliance but rectified by the contractor;

**APPENDIX J
COMPLAINT LOG**

APPENDIX J – COMPLAINT LOG

Reporting Month: September 2015

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

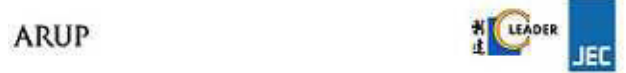
Remarks: No environmental complaint was received in the reporting month.

**APPENDIX K
CONSTRUCTION PROGRAMME**

Activity ID	Activity Name	Original Duration	Total Float	Early Start	Early Finish	Late Start	Late Finish	2011 2012 2013 2014 2015 2016																								
								Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1			
								DSD - HATSS2 Upgrading of PTW (DC/2009/23)																								
Particulars																																
Key Dates																																
Commencement / Completion																																
FGN0010	Contract Award	0		30-Dec-10 A		06-Jan-11																										
FGN0030	Date of Commencement of Contract	0	0	06-Jan-11		06-Jan-11																										
FGN0040	Time for Completion for Project	1393		06-Jan-11		29-Oct-14																										
FGN0050	Date of Completion of the Works	0	0			29-Oct-14																										
Portion of the Site																																
North Point																																
Possession / Vacation of Portions																																
FNP00010	H/O Date_NP-1 (135 days after start)	0	0	20-May-11		20-May-11																										
FNP00020	Vacation Date_NP-1 (on Sec. 1 completed)	0	0		01-Jun-13																											
FNP00030	H/O Date_NP-2 (135 days after start)	0	29	20-May-11		18-Jun-11																										
FNP00040	Vacation Date_NP-2 (on Sec. 3 completed)	0	0		14-Oct-14																											
FNP00050	H/O Date_NP-3 (after Sec. 1 completed)	0	0	02-Jun-13		02-Jun-13																										
FNP00060	Vacation Date_NP-3 (on Sec. 3 completed)	0	0		14-Oct-14																											
Wan Chai East																																
Possession / Vacation of Portions																																
FWC00010	H/O Date_WCE-1 (135 days after start)	0	0	20-May-11		20-May-11																										
FWC00020	Vacation Date_WCE-1 (on Sec. 5 completed)	0	0		23-Nov-13																											
FWC00030	H/O Date_WCE-2 (135 days after start)	0	0	20-May-11		20-May-11																										
FWC00040	Vacation Date_WCE-2 (on Sec. 4ii completed)	0	0		14-Nov-11																											
FWC00050	H/O Date_WCE-2 (after complete Sec. 5-iv)	0	0	27-Jul-13		27-Jul-13																										
FWC00060	Vacation Date_WCE-2 (on Sec. 5 completed)	0	0		23-Nov-13																											
FWC00070	H/O Date_WCE-3 (135 days after start)	0	59	20-May-11		18-Jul-11																										
FWC00080	Vacation Date_WCE-3 (on Sec. 5 completed)	0	0		23-Nov-13																											
FWC00090	H/O Date_WCE-4 (135 days after start)	0	59	20-May-11		18-Jul-11																										
FWC00100	Vacation Date_WCE-4 (on Sec. 5 completed)	0	0		23-Nov-13																											
FWC00110	H/O Date_WCE-T1 (135 days after start)	0	205	20-May-11		11-Dec-11																										
FWC00120	Vacation Date_WCE-T1 (on Sec. 6 completed)	0	0		22-May-14																											
FWC00130	H/O Date_WCE-T2 (135 days after start)	0	205	20-May-11		11-Dec-11																										
FWC00140	Vacation Date_WCE-T2 (on Sec. 6 completed)	0	0		22-May-14																											
Central																																
Possession / Vacation of Portions																																
FCT00110	H/O Date_CTL-1 (45 days after start)	0	0	19-Feb-11		19-Feb-11																										
FCT00120	Vacation Date_CTL-1 (on Sec. 9 completed)	0	0		25-May-14																											
FCT00130	H/O Date_CTL-2 (45 days after start)	0	50	19-Feb-11		10-Apr-11																										
FCT00140	Vacation Date_CTL-2 (on Sec. 9 completed)	0	0		25-May-14																											
FCT00150	H/O Date_CTL-3 (after Sec. 8 completed)	0	0	22-Mar-13		22-Mar-13																										
FCT00160	Vacation Date_CTL-3 (on Sec.10completed)	0	0		29-Oct-14																											
FCT00170	H/O Date_CTL-T	0	806	06-Jan-11		22-Mar-13																										
FCT00180	Vacation Date_CTL-T (on Sec.10completed)	0	0		29-Oct-14																											
Management Plans and Programmes																																
Contractor's Design, Submission / Approval																																
Particulars																																
FGN0200	Prepare/Submit Clause 16 Programme	60	11	06-Jan-11	06-Mar-11	17-Jan-11	17-Mar-11																									
FGN0210	Comment/Approval of Clause 16 Programme	30	41	07-Mar-11	05-Apr-11	17-Apr-11	16-May-11																									
FGN0220	Prepare/Submit Detailed Works Programme	60	11	07-Mar-11	05-May-11	18-Mar-11	16-May-11																									
FGN0230	Comments/Approval of Detailed Works Programme	30	11	06-May-11	04-Jun-11	17-May-11	15-Jun-11																									
FGN0250	Prepare/Submit Safety Plan	14	159	06-Jan-11	19-Jan-11	14-Jun-11	27-Jun-11																									
FGN0260	Comments/Approval of Safety Plan	60	159	20-Jan-11	28-Mar-11	28-Jun-11	26-Aug-11																									
FGN0300	Prepare/Submit Environmental Manag. Plan	21	152	06-Jan-11	26-Jan-11	07-Jun-11	27-Jun-11																									
FGN0310	Comments/Approval of Environmental Manag. Plan	60	152	27-Jan-11	27-Mar-11	28-Jun-11	26-Aug-11																									
FGN0330	Prepare / Submit Subcontractor Management Plan	30	143	06-Jan-11	04-Feb-11	29-May-11	27-Jun-11																									
FGN0340	Comments/Approval of Subcontractor Manag. Plan	60	143	05-Feb-11	05-Apr-11	28-Jun-11	26-Aug-11																									
FGN0400	Prepare / Submit Interface Management Plan	55	43	06-Jan-11	01-Mar-11	18-Feb-11	13-Apr-11																									
FGN0410	Comments / Approval of Interface Management Plan	45	43	02-Mar-11	15-Apr-11	14-Apr-11	28-May-11																									
FGN0420	Submit Detailed Interface Documents	60	43	16-Apr-11	14-Jun-11	29-May-11	27-Jul-11																									
FGN0430	Approval of Detailed Interface Documents	30	43	15-Jun-11	14-Jul-11	28-Jul-11	26-Aug-11																									
FGN0440	Prepare/Submit Env. Baseline Monitoring report	60	71	19-Feb-11	19-Apr-11	01-May-11	29-Jun-11																									
FGN0445	Comments/Approval Env. Baseline Report	28	71	20-Apr-11	17-May-11	30-Jun-11	27-Jul-11																									
FGN0448	Review/submit Construction Noise Permit	28	129	04-Apr-11	01-May-11	11-Aug-11	07-Sep-11																									
FGN0449	Comments/Approval of Construction Noise Permit	28	129	02-May-11	29-May-11	08-Sep-11	05-Oct-11																									
Technical Information & Drawings																																
FGN0450	Prepare/Submit initial record for CentralPTW	14	50	19-Feb-11	04-Mar-11	10-Apr-11	23-Apr-11																									
FGN0455	Prepare/Submit Tree Survey Report Pt. I	14	50	19-Feb-11	04-Mar-11	10-Apr-11	23-Apr-11																									
FGN0460	Prepare/Submit initial record for remaining area	14	50	20-May-11	02-Jun-11	09-Jul-11	22-Jul-11																									
FGN0465	Prepare/Submit Tree Survey Report Pt. II	14	13	20-May-11	02-Jun-11	02-Jun-11	15-Jun-11																									

Actual Work Remaining Work Critical Remaining Work Milestone

Page 1 of 11 TASK filter: Clause 16 Programme.



Activity ID	Activity Name	Original Duration	Total Float	Early Start	Early Finish	Late Start	Late Finish	2011				2012				2013				2014				2015	2016										
								Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1						
FGN6050	Manufacture/Shipment of Pipework & Valves	150	173	29-Dec-12	27-May-13	20-Jun-13	16-Nov-13																												
FGN6100	Manufacture/Shipment of Misc. Items	120	83	28-Apr-13	25-Aug-13	20-Jul-13	16-Nov-13																												
FGN6150	Ordering of Electrical Equipment	7	283	01-Jun-11	07-Jun-11	10-Mar-12	16-Mar-12																												
FGN6200	Manufacturing/Delivery of Switchboard	210	13	04-Mar-12	29-Sep-12	17-Mar-12	12-Oct-12																												
FGN6250	Manufacturing/Delivery of UPS	150	43	03-Apr-12	30-Aug-12	16-May-12	12-Oct-12																												
FGN6300	Manufacturing/Delivery of Power Cables	90	33	12-Jun-12	09-Sep-12	15-Jul-12	12-Oct-12																												
FGN6350	Manufacturing/Delivery of Misc. Item for Elect.	90	43	02-Jun-12	30-Aug-12	15-Jul-12	12-Oct-12																												
FGN6500	Ordering of Control & Instrumentation	7	39	01-Jun-11	07-Jun-11	10-Jul-11	16-Jul-11																												
FGN6550	Manufacturing/Delivery of Control & Monitor Sys.	150	39	03-Apr-12	30-Aug-12	12-May-12	08-Oct-12																												
FGN6600	Manufacturing/Delivery of Field Instrument	150	39	03-Apr-12	30-Aug-12	12-May-12	08-Oct-12																												
FGN6650	Ordering of B.S. Equipment	7	33	01-Jun-11	07-Jun-11	04-Jul-11	10-Jul-11																												
FGN6700	Manufacturing/Delivery of B.S. Mat'l & Equip't	120	33	02-Jun-12	29-Sep-12	05-Jul-12	01-Nov-12																												
SISTW																																			
Key Dates																																			
Time For Completion																																			
FGN0170	Time for Completion of Section 11	1393	0	06-Jan-11	29-Oct-14	06-Jan-11	29-Oct-14																					Time for Completion of Section 11							
Temporary Land																																			
Key Dates																																			
Possession / Vacation of Portions																																			
FGN0350	H/O_ABN-T	0	0	06-Jan-11*		06-Jan-11																													
FGN0355	Vacation Date_ABN-T (Maintenance Completion)	0	0		29-Oct-14		29-Oct-14																					Vacation Date_ABN-T (Maintenance Completion)							
FGN0360	H/O Date_SBY-T1 (60 days after start)	0	0	06-Mar-11*		06-Mar-11																													
FGN0365	Vacation Date_SBY-T1 (on Sec. 6 completed)	0	0		22-May-14		22-May-14																					Vacation Date_SBY-T1 (on Sec. 6 completed)							
FGN0370	H/O Date_SBY-T2 (60 days after start)	0	0	06-Mar-11*		06-Mar-11																													
FGN0375	Vacation Date_SBY-T2 (183 days or earlier)	0	0		07-Jul-11*		07-Jul-11																												
FGN0380	H/O Date_SBY-T3 (60 days after start)	0	0	06-Mar-11*		06-Mar-11																													
FGN0385	Vacation Date_SBY-T3 (183 days or earlier)	0	0		07-Jul-11*		07-Jul-11																												
Engineer's Office and Accommodation																																			
Key Dates																																			
Aberdeen Office																																			
FGN0500	Construction of Engineer's Office	61	1247	01-Apr-11*	31-May-11	30-Aug-14	29-Oct-14																					Construction of Engineer's Office							
Wan Chai Office and Accommodation																																			
FGN0505	Design Submission and Approval of Engineer's Office and Accommodation	21	1178	20-May-11	09-Jun-11	10-Aug-14	30-Aug-14																					Design Submission and Approval of Engineer's Office and Accommodation							
FGN0510	Construction of Engineer's Office and Accommodation	60	1178	10-Jun-11	08-Aug-11	31-Aug-14	29-Oct-14																					Construction of Engineer's Office and Accommodation							
Works for Section 1																																			
North Point																																			
Civil Works Material Delivery on Site																																			
FNP00110	Delivery of DN 1800 & DN1650 Pipes on Site	50	50	01-Jul-11	19-Aug-11	20-Aug-11	08-Oct-11																					Delivery of DN 1800 & DN1650 Pipes on Site							
E&M Equipment Material Delivery on Site																																			
FNP10100	Fine Screen & Associate Equip't Delivery on Site	7	101	23-Apr-12	29-Apr-12	02-Aug-12	08-Aug-12																					Fine Screen & Associate Equip't Delivery on Site							
FNP10150	Fine Screening Conveyor Delivery on Site	7	91	03-May-12	09-May-12	02-Aug-12	08-Aug-12																					Fine Screening Conveyor Delivery on Site							
FNP10200	Grit Removal System Delivery on Site	7	141	14-Mar-12	20-Mar-12	02-Aug-12	08-Aug-12																					Grit Removal System Delivery on Site							
FNP10250	Penstocks Delivery on Site	7	1	01-Aug-12	07-Aug-12	02-Aug-12	08-Aug-12																					Penstocks Delivery on Site							
FNP10300	Stoplogs Delivery on Site	7	1	01-Aug-12	07-Aug-12	02-Aug-12	08-Aug-12																					Stoplogs Delivery on Site							
FNP10350	Lifting Equipment Delivery on Site	7	121	03-Apr-12	09-Apr-12	02-Aug-12	08-Aug-12																					Lifting Equipment Delivery on Site							
FNP10400	Weather Monitor Station Delivery on Site	7	61	02-Jun-12	08-Jun-12	02-Aug-12	08-Aug-12																					Weather Monitor Station Delivery on Site							
FNP10450	Deodorisation System Delivery on Site	7	61	02-Jun-12	08-Jun-12	02-Aug-12	08-Aug-12																					Deodorisation System Delivery on Site							
FNP10500	Activated Carbon Filter Delivery on Site	7	121	03-Apr-12	09-Apr-12	02-Aug-12	08-Aug-12																					Activated Carbon Filter Delivery on Site							
FNP10550	Pipework & Valves Delivery on Site	7	151	04-Mar-12	10-Mar-12	02-Aug-12	08-Aug-12																					Pipework & Valves Delivery on Site							
FNP10600	Misc. Items Delivery on Site	7	91	03-May-12	09-May-12	02-Aug-12	08-Aug-12																					Misc. Items Delivery on Site							
FNP10700	Switchboard Delivery on Site	7	313	04-Jan-12	10-Jan-12	12-Nov-12	18-Nov-12																					Switchboard Delivery on Site							
FNP10750	UPS Delivery on Site	7	368	05-Nov-11	11-Nov-11	07-Nov-12	13-Nov-12																					UPS Delivery on Site							
FNP10800	Power Cables Delivery on Site	7	108	10-Sep-12	16-Sep-12	27-Dec-12	02-Jan-13																					Power Cables Delivery on Site							
FNP10850	Misc. Item for Elect. Delivery on Site	7	118	31-Aug-12	06-Sep-12	27-Dec-12	02-Jan-13																					Misc. Item for Elect. Delivery on Site							
FNP10950	Control & Monitor Sys. Delivery on Site	7	388	05-Nov-11	11-Nov-11	27-Nov-12	03-Dec-12																					Control & Monitor Sys. Delivery on Site							
FNP11000	Field Instrument Delivery on Site	7	148	02-Jul-12	08-Jul-12	27-Nov-12	03-Dec-12																					Field Instrument Delivery on Site							
FNP11100	B.S. Mat'l & Equip't Delivery on Site	7	198	01-Aug-12	07-Aug-12	15-Feb-13	21-Feb-13																					B.S. Mat'l & Equip't Delivery on Site							
Civil Works																																			
Site Clearance & Prep. Works																																			
FNP12000	Site Clearance	14	29	20-May-11	02-Jun-11	18-Jun-11	01-Jul-11																					Site Clearance							
FNP12010	Site Utilities Supply	60	65	03-Jun-11	01-Aug-11	07-Aug-11	05-Oct-11																					Site Utilities Supply							
FNP12050	Erection of Fencing - NP-1 & NP2	20	29	03-Jun-11	22-Jun-11	02-Jul-11	21-Jul-11																					Erection of Fencing - NP-1 & NP2							
FNP12150	Site Survey, Extg. Utilities Investigation	14	7	15-Jul-11	28-Jul-11	22-Jul-11	04-Aug-11																					Site Survey, Extg. Utilities Investigation							
FNP12200	Division of Extg. Utilities	65	0	05-Aug-11	08-Oct-11	05-Aug-11	08-Oct-11																					Division of Extg. Utilities							
Geotechnical / Structural Monitoring																																			
FNP12160	Install Instrumentation Monitoring Pts.	28	0	08-Jul-11	04-Aug-11	08-Jul-11	04-Aug-11																					Install Instrumentation Monitoring Pts.							
Demolition Works																																			
FNP12350	Demolish Existing Medium Screens	30	39	09-Oct-11	07-Nov-11	17-Nov-11	16-Dec-11																					Demolish Existing Medium Screens							
FNP12400	Excavate / Remove Existing Buried Structures	21	39	08-Nov-11	28-Nov-11	17-Dec-11	06-Jan-12																					Excavate / Remove Existing Buried Structures							
Site Investigation																																			
FNP12330	7nos. Pre-drill holes	42	62	05-Aug-11	15-Sep-11	06-Oct-11	16-Nov-11																					7nos. Pre-drill holes							
FNP12410	3 nos. Pre-drill holes	18	42	08-Nov-11	25-Nov-11	20-Dec-11	06-Jan-12																					3 nos. Pre-drill holes							

Actual Work ■ Critical Remaining Work ◆
Remaining Work ■ Milestone ◆

Activity ID	Activity Name	Original Duration	Total Float	Early Start	Early Finish	Late Start	Late Finish	2011-2015																	
								Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Foundation Works																									
FNP12450	26nos. socket H-pile	65	0	07-Jan-12	11-Mar-12	07-Jan-12	11-Mar-12																		
FNP12480	ELS for pile cap construction for F.S&G.T.Bldg.	15	5	12-Mar-12	26-Mar-12	17-Mar-12	31-Mar-12																		
FNP12490	Construction of pile cap for F.S&G.T. Bldg.	25	5	27-Mar-12	20-Apr-12	01-Apr-12	25-Apr-12																		
RC Structural Works																									
FNP12550	R.C. Structure for Chamber FC-1	45	0	12-Mar-12	25-Apr-12	12-Mar-12	25-Apr-12																		
FNP12600	Construct floor slab for F.Screen,GritTrap Bldg.	47	0	26-Apr-12	11-Jun-12	26-Apr-12	11-Jun-12																		
FNP12610	Construct column&wall of F.Screen,GritTrap Bldg	14	0	12-Jun-12	25-Jun-12	12-Jun-12	25-Jun-12																		
FNP12620	Construct roof slab of FineScreen,Grit Trap Bldg	14	0	26-Jun-12	09-Jul-12	26-Jun-12	09-Jul-12																		
Drainage Works																									
FNP12250	Install New DN1800 & DN1650 Sewer pipes	45	0	09-Oct-11	22-Nov-11	09-Oct-11	22-Nov-11																		
FNP12260	Construct new sewer manholes	30	0	23-Nov-11	23-Dec-11	23-Nov-11	23-Dec-11																		
FNP12265	Connect to Extg. DN1800 & DN1650 Overflow Sewer	15	0	23-Dec-11	06-Jan-12	23-Dec-11	06-Jan-12																		
FNP12750	Construct new FC-2a flow chamber	30	57	12-Mar-12	10-Apr-12	08-May-12	06-Jun-12																		
FNP12755	Laying of Pipes from Fine Screen Bldg. to FC-2	30	47	21-Apr-12	20-May-12	07-Jun-12	06-Jul-12																		
FNP12765	Laying of Pipes from FC-2 to FC-2a	30	57	11-Apr-12	10-May-12	07-Jun-12	06-Jul-12																		
FNP12770	Construct new FC-2 flow chamber	30	47	21-May-12	19-Jun-12	07-Jul-12	05-Aug-12																		
FNP12780	Laying of Pipes from FC-2 to FC-3	30	47	20-Jun-12	19-Jul-12	06-Aug-12	04-Sep-12																		
FNP12800	Construct new FC-3 flow chamber	75	82	20-Jul-12	02-Oct-12	10-Oct-12	23-Dec-12																		
FNP12850	Modification works for existing flow chamber	70	47	20-Jul-12	27-Sep-12	05-Sep-12	13-Nov-12																		
FNP12900	Construct Seawater Intake Chamber	40	47	28-Sep-12	06-Nov-12	14-Nov-12	23-Dec-12																		
FNP13150	Relocate Extg. Rising Mains in NP-3 & NP-4	70	0	24-Dec-12	03-Mar-13	24-Dec-12	03-Mar-13																		
Electrical and Mechanical Works																									
FNP12290	Modification of existing Deodorization Plant	30	158	03-Jun-11	02-Jul-11	08-Nov-11	07-Dec-11																		
FNP12300	Demolish Extg. Deodorization Plant	30	60	09-Oct-11	07-Nov-11	08-Dec-11	06-Jan-12																		
Architectural Works																									
FNP12700	Internal Finishes for F.Screen&Grit Trap Bldg.	30	0	10-Jul-12	08-Aug-12	10-Jul-12	08-Aug-12																		
Transplantation, landscape works																									
FNP12100	2 nos.Trees Transplant	50	11	05-Jun-11	24-Jul-11	16-Jun-11	04-Aug-11																		
Mechanical Installation																									
Electrical and Mechanical Works																									
FNP13100	Install Fine Screen Equipment	60	0	09-Aug-12	07-Oct-12	09-Aug-12	07-Oct-12																		
FNP13110	Install Fine Screen conveyor system	40	0	08-Oct-12	16-Nov-12	08-Oct-12	16-Nov-12																		
FNP13120	Install compactors & equipment	20	27	17-Nov-12	06-Dec-12	14-Dec-12	02-Jan-13																		
FNP13130	Install Grit removal equipment	60	0	17-Nov-12	15-Jan-13	17-Nov-12	15-Jan-13																		
FNP13200	Install Temp. Air Duct to Extg. Deodorizer	21	66	07-Dec-12	27-Dec-12	11-Feb-13	03-Mar-13																		
FNP13250	New Treatment Facilities to Flow Meter Chamber	60	27	07-Dec-12	04-Feb-13	03-Jan-13	03-Mar-13																		
Electrical Installation																									
Electrical and Mechanical Works																									
FNP13500	Modify Extg. Switchboard	45	313	11-Jan-12	24-Feb-12	19-Nov-12	02-Jan-13																		
FNP13550	Install New Switchboard	45	102	09-Aug-12	22-Sep-12	19-Nov-12	02-Jan-13																		
FNP13600	Laying Power Supply Cables (including Termination)	60	47	17-Nov-12	15-Jan-13	03-Jan-13	03-Mar-13																		
FNP13650	Install UPS System	50	97	09-Aug-12	27-Sep-12	14-Nov-12	02-Jan-13																		
FNP13700	Install Electrical Equipments	45	177	28-Sep-12	11-Nov-12	24-Mar-13	07-May-13																		
FNP13800	Install Earthing & Lightning System	60	97	28-Sep-12	26-Nov-12	03-Jan-13	03-Mar-13																		
Control and Monitoring System																									
FNP14100	Install Monitoring & Control System	90	117	09-Aug-12	06-Nov-12	04-Dec-12	03-Mar-13																		
Building Services Installation																									
FNP12650	Construct U/G Drains, Cable Pits & Ducting	90	87	10-Jul-12	07-Oct-12	05-Oct-12	02-Jan-13																		
FNP14500	Install Building Services	75	197	09-Aug-12	22-Oct-12	22-Feb-13	07-May-13																		
Testing and Commissioning																									
FNP15200	T&C of Building Services	25	112	16-Jan-13	09-Feb-13	08-May-13	01-Jun-13																		
FNP15300	T&C of PTW System	90	0	04-Mar-13	01-Jun-13	04-Mar-13	01-Jun-13																		
FNP15500	Complete the Works of Section 1	0	0		01-Jun-13		01-Jun-13																		
Works for Section 2																									
North Point																									
E&M Equipment / Material Delivery on Site																									
FNP20010	Deodorisation System Delivery on Site	7	53	05-Oct-13	11-Oct-13	27-Nov-13	03-Dec-13																		
FNP20060	Control & Monitoring System Delivery on Site	7	108	05-Oct-13	11-Oct-13	21-Jan-14	27-Jan-14																		
Civil Works																									
Site Clearance & Prep. Works																									
FNP20100	Possession of NP-3 (after Sec. 1 completed)	0	0	02-Jun-13		02-Jun-13																			
Demolition Works																									
FNP20200	Demolish the Extg. Fine Screen Chamber	30	0	23-Jun-13	22-Jul-13	23-Jun-13	22-Jul-13																		
Site Investigation																									
FNP20210	6nos. Pre-drill holes	19	0	23-Jul-13	10-Aug-13	23-Jul-13	10-Aug-13																		
Foundation Works																									
FNP20250	Piling Works for Deodorization Bldg.	55	0	11-Aug-13	04-Oct-13	11-Aug-13	04-Oct-13																		
Drainage Works																									
FNP20150	Relocate DN300 Sewer	50	20	02-Jun-13	21-Jul-13	22-Jun-13	10-Aug-13																		
RC Structural Works																									
FNP20400	Construct Deodorization Bldg. including finishes	60	0	05-Oct-13	03-Dec-13	05-Oct-13	03-Dec-13																		
FNP20450	Construct U/G Drains, Cable Pits & Ducting	24	91	05-Oct-13	28-Oct-13	04-Jan-14	27-Jan-14																		

■ Actual Work ■ Critical Remaining Work
■ Remaining Work ◆ Milestone

Activity ID	Activity Name	Original Duration	Total Float	Early Start	Early Finish	Late Start	Late Finish	2011					2012				2013				2014				2015	2016
								Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Electrical and Mechanical Works																										
FNP21100	Decommission the Existing Grit Traps, Fine Screens	21	0	02-Jun-13	22-Jun-13	02-Jun-13	22-Jun-13																■ Decommission the Existing Grit Traps, Fine Screens			
FNP21150	Install New Deodorization System	55	0	04-Dec-13	27-Jan-14	04-Dec-13	27-Jan-14																■ Install New Deodorization System			
Electrical Installation																										
FNP21200	Install Switchgear	45	10	04-Dec-13	17-Jan-14	14-Dec-13	27-Jan-14																■ Install Switchgear			
FNP21400	Power Cables Laying (including termination)	20	0	28-Jan-14	16-Feb-14	28-Jan-14	16-Feb-14																■ Power Cables Laying (including termination)			
FNP21500	Install Earthing & Lightning System	45	10	04-Dec-13	17-Jan-14	14-Dec-13	27-Jan-14																■ Install Earthing & Lightning System			
Control and Monitoring System																										
FNP23500	Install Control & Monitoring System	20	0	28-Jan-14	16-Feb-14	28-Jan-14	16-Feb-14																■ Install Control & Monitoring System			
Building Services Installation																										
FNP24500	Install Building Services System	20	0	28-Jan-14	16-Feb-14	28-Jan-14	16-Feb-14																■ Install Building Services System			
Testing and Commissioning																										
FNP25000	T&C of Deodorization System	30	0	17-Feb-14	18-Mar-14	17-Feb-14	18-Mar-14																■ T&C of Deodorization System			
FNP25500	Completion of the Works of Section 2	0	0		18-Mar-14		18-Mar-14																◆ Completion of the Works of Section 2			
Works for Section 3																										
North Point																										
E&M Equipment / Material Delivery on Site																										
FNP31100	Delivery of Seawater Pumps on Site	10	140	01-Aug-13	10-Aug-13	19-Dec-13	28-Dec-13																■ Delivery of Seawater Pumps on Site			
FNP31150	Delivery of Pipes, Valve, Penstock & Accessories	14	206	02-Jun-13	15-Jun-13	25-Dec-13	07-Jan-14																■ Delivery of Pipes, Valve, Penstock & Accessories			
FNP31250	Delivery of Control & Instrumentation	10	55	25-Oct-13	03-Nov-13	19-Dec-13	28-Dec-13																■ Delivery of Control & Instrumentation			
Civil Works																										
Site Clearance & Prep. Works																										
FNP32050	Possession of NP-3 (after Sec. 1 completed)	0	0	02-Jun-13		02-Jun-13																	◆ Possession of NP-3 (after Sec. 1 completed)			
FNP33100	Demolish Extg. Deodour. Plant & Screen Chamber	30	0	02-Jun-13	01-Jul-13	02-Jun-13	01-Jul-13																■ Demolish Extg. Deodour. Plant & Screen Chamber			
Foundation Works																										
FNP32150	Construct substructure of Seawater Pump. Station	30	60	02-Jul-13	31-Jul-13	31-Aug-13	29-Sep-13																■ Construct substructure of Seawater Pump. Station			
RC Structural Works																										
FNP32160	Construct superstructural for Seawater Pump. St.	90	60	01-Aug-13	29-Oct-13	30-Sep-13	28-Dec-13																■ Construct superstructural for Seawater Pump. St.			
FNP32200	Construct Twin Seawater Pumping Main	90	0	02-Jul-13	29-Sep-13	02-Jul-13	29-Sep-13																■ Construct Twin Seawater Pumping Main			
FNP32350	Construct U/G Drains, Cable Pits & Ducting	90	0	30-Sep-13	28-Dec-13	30-Sep-13	28-Dec-13																■ Construct U/G Drains, Cable Pits & Ducting			
Drainage Works																										
FNP32300	Laying pipes between FC-3,FC-3a,FC-3b &FC-4	40	105	02-Jul-13	10-Aug-13	15-Oct-13	23-Nov-13																■ Laying pipes between FC-3,FC-3a,FC-3b &FC-4			
FNP32310	Construct Chamber FC3a,FC-3,FC-4&Flume Channels	35	105	11-Aug-13	14-Sep-13	24-Nov-13	28-Dec-13																■ Construct Chamber FC3a,FC-3,FC-4&Flume Channels			
Road Works																										
FNP32320	Roadworks for PTW	60	65	24-Mar-14	22-May-14	28-May-14	26-Jul-14																■ Roadworks for PTW			
Transplantation, landscape works																										
FNP32330	Planting and landscape works for PTW	80	65	23-May-14	10-Aug-14	27-Jul-14	14-Oct-14																■ Planting and landscape works for PTW			
Mechanical Installation																										
Electrical and Mechanical Works																										
FNP33150	Install Seawater Pump Sets	120	60	30-Oct-13	26-Feb-14	29-Dec-13	27-Apr-14																■ Install Seawater Pump Sets			
Electrical Installation																										
FNP34150	Install Switchgear	30	0	29-Dec-13	27-Jan-14	29-Dec-13	27-Jan-14																■ Install Switchgear			
FNP34250	Power Cables Laying	60	0	28-Jan-14	28-Mar-14	28-Jan-14	28-Mar-14																■ Power Cables Laying			
FNP34300	Install Earthing & Lightning System	55	35	28-Jan-14	23-Mar-14	04-Mar-14	27-Apr-14																■ Install Earthing & Lightning System			
Control and Monitoring System																										
FNP35100	Install DCS Outstation & Instrumentation	90	0	29-Dec-13	28-Mar-14	29-Dec-13	28-Mar-14																■ Install DCS Outstation & Instrumentation			
Building Services Installation																										
FNP36100	Install Building Services	60	0	27-Feb-14	27-Apr-14	27-Feb-14	27-Apr-14																■ Install Building Services			
Testing and Commissioning																										
FNP37100	T&C of Building Services and E&M Equipment	80	0	28-Apr-14	16-Jul-14	28-Apr-14	16-Jul-14																■ T&C of Building Services and E&M Equipment			
FNP37110	Final T&C of North Point PTW	30	0	17-Jul-14	15-Aug-14	17-Jul-14	15-Aug-14																■ Final T&C of North Point PTW			
FNP37115	Submission of Draft O&M Manuals for North Point	0	0	09-Jun-12*		08-Jun-12																	◆ Submission of Draft O&M Manuals for North Point			
FNP37116	Submission of Updated Draft O&M Manuals for North Point	0	0	16-Oct-12*		15-Oct-12																	◆ Submission of Updated Draft O&M Manuals for North Point			
FNP37120	Modified O&M Manuals for North Point	60	30	17-Jul-14	14-Sep-14	16-Aug-14	14-Oct-14																■ Modified O&M Manuals for North Point			
FNP37125	Submission of Modified O&M Manuals for North Point	0	30		14-Sep-14		14-Oct-14																◆ Submission of Modified O&M Manuals for North Point			
FNP37130	As-Built Drawings for North Point	60	30	17-Jul-14	14-Sep-14	16-Aug-14	14-Oct-14																■ As-Built Drawings for North Point			
FNP37140	FSD submission, application and inspection for North Point	60	0	16-Aug-14	14-Oct-14	16-Aug-14	14-Oct-14																■ FSD submission, application and inspection for North Point			
FNP37150	Completion of the Works of Section 3	0	0		14-Oct-14		14-Oct-14																◆ Completion of the Works of Section 3			
Water Supply from WSD for North Point PTW																										
Key Dates																										
FNP40000	Application for Water Connection	60	5	28-Apr-14	26-Jun-14	03-May-14	01-Jul-14																■ Application for Water Connection			
FNP40010	Inspection from representative of WSD	1	5	27-Jun-14	27-Jun-14	02-Jul-14	02-Jul-14																■ Inspection from representative of WSD			
FNP40020	Release of Completion Certificate by WSD	7	5	28-Jun-14	04-Jul-14	03-Jul-14	09-Jul-14																■ Release of Completion Certificate by WSD			
FNP40030	Installation of Water Meter and Main line connection	7	5	05-Jul-14	11-Jul-14	10-Jul-14	16-Jul-14																■ Installation of Water Meter and Main line connection			
Works for Section 4																										
Wan Chai East																										
Statutory Submission / Approval / Inspection																										
FWC00270	Application of temporary D.G. Store Licence	0	0	02-May-11		02-May-11																	◆ Application of temporary D.G. Store Licence			
FWC00320	Approval of temp. D.G. Store Licence	30	0	02-May-11	31-May-11	02-May-11	31-May-11																■ Approval of temp. D.G. Store Licence			
FWC00370	Application of temp. D.G. Store Inspection	0	0	17-Aug-11		17-Aug-11																	◆ Application of temp. D.G. Store Inspection			
FWC00420	Temp. D.G. Store Inspection by FSD	35	0	17-Aug-11	20-Sep-11	17-Aug-11	20-Sep-11																■ Temp. D.G. Store Inspection by FSD			
FWC00470	Obtain Temp. D.G. Store Licence	0	0		20-Sep-11		20-Sep-11																◆ Obtain Temp. D.G. Store Licence			

■ Actual Work
 ■ Critical Remaining Work
 ■ Remaining Work
 ◆ Milestone

Activity ID	Activity Name	Original Duration	Total Float	Early Start	Early Finish	Late Start	Late Finish	2011 2012 2013 2014 2015 2016																											
								Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1		
Building Service Installation																																			
FWC23250	Install Building Services	60	46	25-Apr-13	23-Jun-13	10-Jun-13	08-Aug-13																												
FWC23300	Install F.S. System	60	46	24-Jun-13	22-Aug-13	09-Aug-13	07-Oct-13																												
Testing and Commissioning																																			
FWC23350	Testing & Commissioning	45	0	10-Oct-13	23-Nov-13	10-Oct-13	23-Nov-13																												
FWC23400	Completion of the Works of Section 5	0	0		23-Nov-13		23-Nov-13																												
Works for Section 6																																			
Wan Chai East																																			
Possession / Vacation of Portions																																			
FWC30110	ST2 approval for working in Area WCE-5	0	338	05-Aug-11		08-Jul-12																													
Civil Works Material Delivery on Site																																			
FWC32100	Ordering of Building Materials	14	209	02-May-11	15-May-11	27-Nov-11	10-Dec-11																												
FWC32150	Manufacturing & Delivery of Building Materials	210	205	20-May-11	15-Dec-11	11-Dec-11	07-Jul-12																												
E&M Equipment / Material Delivery on Site																																			
FWC33100	Sewage Pumps Delivery on Site	10	371	07-Jul-12	16-Jul-12	13-Jul-13	22-Jul-13																												
FWC33150	Pipes & Valves Delivery on Site	14	127	04-Mar-12	17-Mar-12	09-Jul-12	22-Jul-12																												
FWC33200	Electrical Equipment Delivery on Site	7	59	01-Aug-12	07-Aug-12	29-Sep-12	05-Oct-12																												
FWC33250	Deodorization Equipment Delivery on Site	10	191	04-Jan-12	13-Jan-12	13-Jul-12	22-Jul-12																												
FWC33300	Control & monitoring Equipment Delivery on Site	14	97	29-Nov-12	12-Dec-12	06-Mar-13	19-Mar-13																												
Civil Works																																			
RC Structural Works																																			
FWC33310	Modify existing boundary wall	70	219	10-Mar-13	18-May-13	15-Oct-13	23-Dec-13																												
Transplantation, landscape works																																			
FWC33320	Planting and landscape works	90	30	24-Nov-13	21-Feb-14	24-Dec-13	23-Mar-14																												
Modification of Existing Fine Screen Grit Trap / Pumping Station Building																																			
FWC35100	Demolition works for existing Roof Landscape & Advertising Sign	90	205	16-Dec-11	14-Mar-12	08-Jul-12	05-Oct-12																												
FWC35110	Removal of Existing Pipes and Ladders	60	219	15-Mar-12	13-May-12	20-Oct-12	18-Dec-12																												
FWC35120	External Finishing Works	300	219	14-May-12	09-Mar-13	19-Dec-12	14-Oct-13																												
Mechanical Installation																																			
FWC50100	Install Sewage Pumps(phase 1)	50	202	02-Jan-13*	20-Feb-13	23-Jul-13	10-Sep-13																												
FWC50105	Install Pipes, Valves & Accessories (phase1)	50	202	02-Jan-13	20-Feb-13	23-Jul-13	10-Sep-13																												
FWC50110	Install Sewage Pumps(phase2)	50	0	01-Oct-13*	19-Nov-13	01-Oct-13	19-Nov-13																												
FWC50115	Install Pipes, Valves & Accessories (phase2)	50	0	01-Oct-13	19-Nov-13	01-Oct-13	19-Nov-13																												
FWC50120	Install Sewage Pumps(phase3)	50	0	10-Dec-13	28-Jan-14	10-Dec-13	28-Jan-14																												
FWC50125	Install Pipes, Valves & Accessories(phase3)	50	0	10-Dec-13	28-Jan-14	10-Dec-13	28-Jan-14																												
FWC50200	Lay new Deodorization pipeline/ducting	120	127	18-Mar-12	15-Jul-12	23-Jul-12	19-Nov-12																												
FWC50210	Install new Deodorization equipments	60	127	16-Jul-12	13-Sep-12	20-Nov-12	18-Jan-13																												
FWC50220	Connect the new Deod. system to PTW	30	127	14-Sep-12	13-Oct-12	19-Jan-13	17-Feb-13																												
FWC50230	Removal of existing Deod. system	30	127	14-Oct-12	12-Nov-12	18-Feb-13	19-Mar-13																												
Electrical Installation																																			
FWC50106	Electrical Modification on pumps (phase 1)	50	202	02-Jan-13	20-Feb-13	23-Jul-13	10-Sep-13																												
FWC50116	Electrical Modification on pumps (phase 2)	50	0	01-Oct-13	19-Nov-13	01-Oct-13	19-Nov-13																												
FWC50126	Electrical Modification on pumps (phase 3)	50	0	10-Dec-13	28-Jan-14	10-Dec-13	28-Jan-14																												
FWC51100	Install LV Switchboard	90	59	08-Aug-12	05-Nov-12	06-Oct-12	03-Jan-13																												
FWC51200	Install MCBs	75	59	06-Nov-12	19-Jan-13	04-Jan-13	19-Mar-13																												
FWC51500	Laying Power Cables (Including Termination)	60	74	17-Sep-13	15-Nov-13	30-Nov-13	28-Jan-14																												
Control and Monitoring System																																			
FWC52100	Install Control & Monitoring System	120	59	20-Jan-13	19-May-13	20-Mar-13	17-Jul-13																												
Building Services Installation																																			
FWC53100	Install Building Services	120	59	20-May-13	16-Sep-13	18-Jul-13	14-Nov-13																												
Testing and Commissioning																																			
FWC55000	T&C for Pump (Phase 1)	20	202	21-Feb-13	12-Mar-13	11-Sep-13	30-Sep-13																												
FWC55010	T&C for Pump (Phase 2)	20	0	20-Nov-13	09-Dec-13	20-Nov-13	09-Dec-13																												
FWC55020	T&C for Pump (Phase 3)	20	0	29-Jan-14	17-Feb-14	29-Jan-14	17-Feb-14																												
FWC55100	T&C of Building Services and E&M Equipment	30	0	29-Jan-14	27-Feb-14	29-Jan-14	27-Feb-14																												
FWC55110	Final T&C of Wan Chai East PTW	54	0	29-Jan-14	23-Mar-14	29-Jan-14	23-Mar-14																												
FWC55115	Submission of Draft O&M Manuals for Wan Chai East	0	0	19-Apr-12*		18-Apr-12																													
FWC55116	Submission of Updated Draft O&M Manuals for Wan Chai East	0	0	21-Nov-12*		21-Nov-12																													
FWC55120	Modified O&M Manuals for Wan Chai East	60	24	28-Feb-14	28-Apr-14	24-Mar-14	22-May-14																												
FWC55125	Submission of Modified Draft O&M Manuals for Wan Chai East	0	24		28-Apr-14		22-May-14																												
FWC55130	As-Built Drawings for Wan Chai East	60	24	28-Feb-14	28-Apr-14	24-Mar-14	22-May-14																												
FWC55140	FSD submission, application and inspection for Wan Chai East	60	0	24-Mar-14	22-May-14	24-Mar-14	22-May-14																												
FWC55150	Completion of the Works of Section 6	0	0		22-May-14		22-May-14																												
Water Supply from WSD for Wan Chai East PTW																																			
Key Dates																																			
FWC60000	Application for Water Connection	60	59	17-Sep-13	15-Nov-13	15-Nov-13	13-Jan-14																												
FWC60010	Inspection from representative of WSD	1	59	16-Nov-13	16-Nov-13	14-Jan-14	14-Jan-14																												
FWC60020	Release of Completion Certificate by WSD	7	59	17-Nov-13	23-Nov-13	15-Jan-14	21-Jan-14																												
FWC60030	Installation of Water Meter and Main line connection	7	59	24-Nov-13	30-Nov-13	22-Jan-14	28-Jan-14																												
Works for Section 7																																			
Central																																			
Possession / Vacation of Portions																																			
FCT00250	ST2 approval for working in Area CTL-4	0	431	29-Jul-11		02-Oct-12																													

Actual Work Remaining Work Critical Remaining Work Milestone

Activity ID	Activity Name	Original Duration	Total Float	Early Start	Early Finish	Late Start	Late Finish	2011												2012				2013				2014				2015				2016
								Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1			
Electrical and Mechanical Works FCT10050 Provision of Deod. facility to temp. Sr.&Grit Other Works FCT07850 Provision of Deod. Facilities to F.S. Bldg. FCT10100 Install Fine Screen in F.S.Bldg. FCT10110 Install compactor equip. in F.S. Bldg. FCT10120 Install grit removal & conveyor in F.S. Bldg. Electrical Installation FCT11110 Electrical Installation Control and Monitoring System FCT12100 Install Monitoring & Control System Building Service Installation FCT13100 Building Services Installation Testing and Commissioning FCT14100 T&C of Fine Screen & Grit Trap System FCT14150 Completion of the Works of Section 8																																				
Works for Section 9 Central Possession / Vacation of Portions FCT16150 Possession of Works Area CTL-3 E&M Equipment / Material Delivery on Site FCT19100 PTW Equipment Delivery on Site FCT19150 Pipes & Valves Delivery on Site FCT19200 Electrical Equipment Delivery on Site FCT19250 Control & monitoring Equipment Delivery on Site CTL-3 Demolition / Modification Works Site Investigation FCT20460 5 nos. of Pre-drill holes Other Works FCT20400 Dismantle Extg. PTW Sys. in Portion CTL-3 FCT20450 Excavate & removal Extg. Structure in CTL-3 Temp. Works for Screening & Grit Handling FCT21300 Demolish Temp. Screening Facilities in CTL-1 Civil Works Foundation Works FCT21500 Remaining 8 Nos. Piling works in CTL-3 FCT21700 ELS for pile cap for remaining S&G.Bldg. FCT21710 Construct pile cap for remaining S&G.Bldg. Other Works FCT21800 Construct remaining base slab - S & G Bldg. FCT21810 Construct remaining columns/walls - S&G Bldg. FCT21820 Construct remaining roof - F & G Bldg. FCT30100 Int'l Finishes for E&M Rooms, Works Area FCT30500 Ext'l Finishes for Fine Screen Bldg. Mechanical Installation FCT32100 Install PTW Equip't for Fine Screen Bldg. FCT32200 Pipework for PTW System Electrical Installation FCT33100 Installation of Electrical System Control and Monitoring System FCT34100 Modify Monitoring & Control Sys. for Sec. 8 & 9 FCT34200 Install Monitoring & Control System FCT34300 T&C of Monitoring and Control System Building Services Installation FCT35100 Building Services Installation Testing and Commissioning FCT36100 T&C for PTW System FCT36110 FSD Submission, application and inspection for Fine Screen Bldg. FCT36200 Completion of the Works of Section 9																																				
Works for Section 10 Central Possession / Vacation of Portions FCT40200 Possession of Works Area CTL-3 Statutory Submission / Approval / Inspections FCT40550 Submit F314(as-built) & F501 for FS Inspection FCT40600 F.S. Inspection FCT40650 Issuance of F.S. Certificate FCT40700 Application of D.G. Store License FCT40710 Approval of D.G. Store License FCT40800 Application of D.G. Store Inspection FCT40850 D.G. Store Inspection by FSD FCT40900 Obtain D.G. Store Licence E&M Equipment / Material Delivery on Site																																				

█ Actual Work █ Critical Remaining Work
█ Remaining Work ◆ Milestone

TASK filter: Clause 16 Programme.

