FUGRO TECHNICAL SERVICES LIMITED Fugro Development Centre, Tel : +852 2450 8233 5 Lok Yi Street, Tai Lam, : +852 2450 6138 Fax Tuen Mun, N.T., E-mail : matlab@fugro.com Hong Kong. Website : www.fugro.com



### **ENVIRONMENTAL MONITORING & AUDIT** MONTHLY REPORT

### June 2019

- Client : SANG HING - KULY JOINT VENTURE
- Contract Name : Castle Peak Road Trunk Sewer and Tuen Mun Village Sewerage (Sewage Pumping Station at Lok Chui Street near Castle Peak Villas)
- Contract No. : DC/2014/01
- EP No. : EP-068/2000/A
- Title of Project : Sewage Pumping Stations at Tai Lam Chung Tsuen Luen On San Tsuen, Tai Lam Valley and Lok Chui Street near Castle Peak Villas under the scope of "Tuen Mun Sewerage -Eastern Coastal Sewerage Extension"
- **Report No.** : 0367/15/ED/1194

Prepared by 2

2

**Reviewed by** ÷

**Certified by** 

Wingo H. W. So Cyrus C. Y. Lai

Colin K. L. Yung **Environmental Team Leader Fugro Technical Services Limited** 

9 July 2019



Drainage Services Department 42/F., Revenue Tower 5 Gloucester Road Wan Chai Hong Kong Your reference:

Our reference:

HKDSD202/50/105890

Date: 12 July 2019

Attention: Mr Lee Wai Chung

BY EMAIL & POST (email: wclee@dsd.gov.hk)

Dear Sirs

Agreement No.: PM 08/2014 Services for Independent Environmental Checker for Construction of Lok Chui Street Sewage Pumping Station Verification of Monthly EM&A Report (June 2019)

We refer to the email of 9 July 2019 attaching a monthly EM&A Report (June 2019) for the captioned project prepared by the ET.

We have no comment and hereby verify the monthly EM&A Report in accordance with Clause 3.5 of the Environmental Permit no. EP-068/2000/A.

Please do not hesitate to contact the undersigned or our Mr Ricky Lau at 2618 2831 should you have any queries.

Yours faithfully ANEWR CONSULTING LIMITED

Independent Environmental Checker

LYMA/LCCR/lhmh





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# EXECUTIVE SUMMARY

i. This is the 40<sup>th</sup> monthly EM&A Report which summaries the impact monitoring results and audit findings for the Project within the period from 1 June to 30 June 2019.

# **Construction Activities for the Reporting Period**

- ii. During this reporting period, the principal work activities within the site included:
  - Construction of vehicle access

# Breaches of Action and Limit Levels for Air Quality

iii. No Action or Limit Level Exceedance of 1-hr TSP monitoring was recorded in the reporting period.

# Breaches of Action and Limit Levels for Noise

iv. No exceedance was recorded at all monitoring stations in the reporting period.

# **Complaint, Notifications of Summons and Successful Prosecutions**

v. No Action or Limit Level Exceedance of noise monitoring was recorded in the reporting period.

# **Reporting Change**

vi. There was no reporting change required in the reporting period.

# Future Key Issues

### **Construction Activities for the Coming Reporting Period**

- vii. During the coming reporting period, the principal work activities within the site included:
  - Construction of vehicle access
- viii. Potential environmental impacts due to the construction activities, including air quality, noise, water quality, waste, landscape and visual, will be monitored or reviewed. The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirements. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.

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# 1. INTRODUCTION

### 1.1 Background

- 1.1.1 Contract No. DC/2014/01 Castle Peak Road Trunk Sewer and Tuen Mun Village Sewerage ("the Project") includes the construction of a sewage pumping station at Lok Chui Street near Castle Peak Villas as shown in **Figure 1**.
- 1.1.2 The environmental impact assessment (EIA) report (Tuen Mun Sewerage Eastern Coastal Sewerage Extension) EIA Report (Register No. AEIAR-034/2000) for the Project was approved by Environmental Protection Department (EPD) dated 7 June 2000. The EIA Report involves the construction of four sewage pumping stations at Tai Lam Chung Tsuen, Luen On San Tsuen, Tai Lam Valley and Lok Chui Street near Castle Peak Villas. The scope of this EM&A Manual focuses on the Sewage Pumping Station at Lok Chui Street near Castle Peak Villas in the EIA Report. The Project is designated under Schedule 2, section F3(b) and Q1 of the Environmental Impact Assessment Ordinance (EIAO). EPD subsequently issued the Environmental Permit (EP) EP- 068/2000 on 25 July 2000.
- 1.1.3 A Register of Change to Environmental Permit was submitted to EPD to register any change to the conditions in the EP for adoption of the latest design of the Pumping Station at Lok Chui Street and justify that the latest changes would not violate the conditions as stated in the approved EIA Report and EP based on the latest engineering design information. A Variation of Environmental Permit (VEP) EP-068/2000/A was issued on 10 April 2015 and it is the current permit for the Project.
- 1.1.4 The amended EP (EP-068/2000/A) is the current permit for the Project.
- 1.1.5 In accordance to EP-068/2000/A Condition 2.3 and 2.4, an updated EM&A Manual was duly certified by ETL and verified by IEC and submitted to EPD for approval on 18 January 2016.
- 1.1.6 The construction phase and EM&A programme of the Project commenced on 29 February 2016.
- 1.1.7 This is the 40<sup>th</sup> monthly EM&A Report which summaries the impact monitoring results and audit findings for the Project within the period from 1 June to 30 June 2019.



# 1.2 **Project Organization**

1.2.1 The Project Organization structure is shown in **Appendix B**. The key personnel contact names and numbers are summarized in **Table 1.1**.

Party	Position	Name	Telephone	Fax
Drainage Services Department, HKSAR (DSD)	Project Management	Mr. Lee Wai Chung	2594 7265	2827 8526
Engineer/Engineer's Representative (AECOM)	Resident Engineer	Ms. Jacqueline Chan	3127 5103	2441 1755
Independent Environmental Checker (ANEWR)	Independent Environmental Checker	Mr. Adi Lee	2618 2836	3007 8648
Contractor	Site Agent	Mr. Alan Lo		
(SKLV)	Environmental Officer	Mr. Billy Wong	2674 3888	2674 6688
Environmental Team (FTS)	Environmental Team Leader	Mr. Colin Yung	3565 4114	3565 4160

Table 1.1Contact Information of Key Personnel

# **1.3** Construction Programme and Activities

- 1.3.1 The construction phase of the Project under the EP commenced on 29 February 2016.
- 1.3.2 The construction programme of the Project is shown in **Appendix A**.

# 1.4 Works undertaken during the month

- 1.4.1 During this reporting period, the principal work activities within the site included:
  - Construction of vehicle access
- 1.4.2 Illustrations of works undertaken during the reporting period are shown in **Table 1.2**:



Table 1.2 Works undertaken Illustrations



# **1.5** Status of Environmental Licences, Notification and Permits

1.5.1 A summary of the relevant permits, licences and/or notifications on environmental protection for this Contract is presented in **Table 1.3**.

### Table 1.3 Status of Environmental Licences, Notification and Permits

Permit / Direction / License	Ref No	Valid From	Valid Till
Environmental Permit	EP-068/2000/A	10/04/2015	N/A
Notification of Works Under APCO	391923	06/08/2015	N/A
Wastewater Discharge Licence	WT00022654-2015	23/10/2015	31/10/2020
Registration as a Chemical Waste Producer	5111-421-S3879-01	02/09/2015	N/A
Billing Account for Disposal of Construction Waste	7022922	06/08/2015	N/A



# 2. AIR QUALITY

# 2.1 Monitoring Requirement

2.1.1 In accordance with the updated EM&A Manual, for regular impact monitoring, the sampling frequency of at least once per week shall be strictly observed at designated monitoring stations for 1-hr TSP monitoring using the direct reading method.

# 2.2 Monitoring Equipment and Detection Limits

- 2.2.1 The impact air quality (1-hr TSP) monitoring was performed using the portable TSP Monitors (Sibata Model LD-3B).
- 2.2.2 **Table 2.1** summarizes the detail of monitoring equipment and detection limits:

Item	Equipment	Model Number	Serial Number	Measuring accuracy	Measuring range
1	Portable TSP	Sibata Model	561775	±10% of	0.001 –
2	Monitor	LD-3B	561790	calibrated particles	10.00mg/m <sup>3</sup>

 Table 2.1
 Air Quality Monitoring Equipment

# 2.3 Monitoring Parameters, Frequency and Duration

2.3.1 **Table 2.2** summarizes the monitoring parameters, monitoring duration and frequencies of air quality monitoring.

 Table 2.2
 Monitoring Parameters, Frequency and Duration of Air Quality Monitoring

Parameter	Duration	Frequency	
1-hr TSP	1 hour	At least 3 times in every 6 days	

# 2.4 Monitoring Locations

2.4.1 In accordance with the updated EM&A Manual, two designated air quality monitoring stations, LC6a and LC9 are selected for the Project Area of constructing a sewage pumping station at Lok Chui Street near Castle Peak Villas as they are the representative air sensitive receivers located near to the Project site. All designated air quality monitoring stations listed in the updated EM&A Manual and the air quality monitoring stations are shown in **Table 2.3** and the monitoring locations are shown in **Figure 2**.

Table 2.3Air Quality Monitoring Locations

Monitoring Station	Location
LC6a	The Castle Bay
LC9	Castle Peak Villas Block C

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# 2.5 Monitoring Methodology and QA/QC Procedures

- 2.5.1 The measuring procedures of the 1-hr dust meter are in accordance with the Manufacturer's instruction Manual as follows:
  - Pull up the air sampling inlet cover
  - Change the Mode 0 to BG with once
  - Push Start/Stop switch once
  - Turn the knob to SENSI.ADJ and press it
  - Push Start/Stop switch once
  - Return the knob to the position MEASURE slowly
  - Push the timer set switch to set measuring time
  - Remove the cap and make a measurement

#### Maintenance / Calibration

2.5.2 The portable TSP Monitors should be calibrated at 1 year intervals, Current calibration certificates are given in **Appendix D**.

### 2.6 Results and Observations

- 2.6.1 The schedule of air quality monitoring and data recovery schedule in reporting period is provided in **Appendix E**.
- 2.6.2 The weather conditions during the monitoring are provided in **Appendix L**.
- 2.6.3 The monitoring data of 1-hr TSP are summarized in **Table 2.4**. Detailed monitoring data are presented in **Appendix F**.

Monitoring Station	Average (µg/m³)	Range (µg/ m³)	Action Level (µg/ m <sup>3</sup> )	Limit Level (µg/ m³)
LC6a	56	22-105	344	500
LC9	45	19-62	335	500

Table2.4Summary of 1-hr TSP Monitoring Results

- 2.6.4 The adopted Action and Limit Levels for air quality impact monitoring are presented in **Appendix C**.
- 2.6.5 The Event and Action Plan for air quality is given in **Appendix J**.
- 2.6.6 No Action or Limit Level Exceedance of 1-hr TSP monitoring was recorded in the reporting period.

# Other factor influencing the monitoring results

2.6.7 There were no other noticeable external factors generally affecting the monitoring results in this reporting period.



# 3. NOISE

### 3.1 Monitoring Requirement

3.1.1 In accordance with the updated EM&A Manual, Leq (30min) monitoring is conducted for at least once a week during the construction phase between 0700 and 1900 on normal weekdays at the designated monitoring locations.

### 3.2 Monitoring Equipment and Detection Limits

- 3.2.1 The sound level meter used in noise monitoring will comply with the International Electrotechnical Commission Publication (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications as referred to in the Technical Memorandum issued under the Noise Control Ordinance (NCO).
- 3.2.2 Sound level calibrator will be used for the on-site calibration of the meter. This calibrator complies with the IEC Publication 942 (1988) Class 1 and ANSI S1.40 1984. Noise measurements were only accepted to be valid if the calibration levels from before and after the measurement agree to within 1.0dB.
- 3.2.3 Measurements shall be recorded to the nearest 1dB(A). This noise monitors are programmed to measure A-weighted equivalent continuous sound pressure level at 30-minute intervals between 0700 and 1900 during the daytime. The noise measurement shall be carried out at each of the designated monitoring stations closest to the areas of active construction works once every week.
- 3.2.4 **Table 3.1** summarizes the detail of monitoring equipment and detection limits:

Item	Equipment	Model Number	Serial Number	Measuring accuracy	Measuring range
1	Integrating Sound Level Meter	Casella CEL- 63X Series	4637931	N.A	20-140 dB
2	Calibrator	Casella CEL- 120/1	4358250	±0.1dB	94/114 dB
3	Wind Speed Anemometer	Smart Sensor AR816+	N.A	±5%	0-30m/s

Table 3.1 Noise Monitoring Equipment

# 3.3 Monitoring Parameters and Frequency

3.3.1 **Table 3.2** presents the noise monitoring parameters and frequencies.

Table3.2	Monitoring Parameters and Frequencies of Noise Monitoring

Monitoring Stations	Parameter	Frequency and Period
LC6a & LC9	LAeq <sub>(30min)</sub> L10 and L90 will be recorded for reference	At each station at 0700-1900 hours on normal weekdays at a frequency of once a week



# 3.4 Monitoring Locations

3.4.1 Noise monitoring were conducted at two designated monitoring stations as described in **Table 3.3** and the monitoring locations are shown in **Figure 2**.

 Table 3.3
 Location of noise monitoring station

Monitoring Station	Location
LC6a <sup>1</sup>	The Castle Bay
LC9	Castle Peak Villas Block C

Note:

1. The measurement of sound level is carried out at the fence wall outside the building of the sensitive receiver, a correction should be made to the measured level during impact monitoring in order to represent the actual sound level at the sensitive receiver building façade (Block E6, The Castle Bay).

### 3.5 Monitoring Methodology and QA/QC Procedures

- 3.5.1 The monitoring procedures are as follows:
  - Monitoring Stations:
    - LC6a: The monitoring station was set at a point 1m from the exterior of the sensitive receiver fence wall and set at a position 1.2m above the ground. Façade measurement is carried out for noise monitoring.
    - LC9: The monitoring station was set at the top of parapet wall of sensitive receivers building and the noise monitoring station is set at a point 1m from the exterior of the sensitive receivers building façade and set at a position 5m above the ground.
  - The battery condition was checked to ensure good functioning of the meter.
  - Parameters such as frequency weighting, the time weighting and the measurement time was set as follows:
    - frequency weighting : A
    - time weighting : Fast
    - measurement time : Leq (30min) was used as the monitoring parameter for the time period between 0700 - 1900 hours on normal weekdays. For all other time periods, Leq (5min) was recorded.
  - Prior to and after noise measurement, the meter was calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement will be considered invalid and repeat of noise measurement is required after re-calibration or repair of the equipment.
  - The wind speed at the monitoring station was checked with the portable wind meter. Noise monitoring should be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

#### Maintenance / Calibration

- 3.5.2 Maintenance and Calibration procedures are as follows:
  - The microphone head of the sound level meter and calibrator should be cleaned with a soft cloth at quarterly intervals.
  - The sound level meter and calibrator should be calibrated annually by a HOKLAS laboratory.
  - Relevant calibration certificates are provided in Appendix D.



### 3.6 Results and Observations

- 3.6.1 The schedule of noise monitoring and data recovery schedule in reporting period is provided in **Appendix E**.
- 3.6.2 The weather conditions during the monitoring period are provided in Appendix L.
- 3.6.3 The noise monitoring data are summarized in **Table 3.4**. Detailed monitoring data are presented in **Appendix G**.

Monitoring		(30min) , dB(A)	Leq (30min)
Station	Measured	Corrected	Limit Level, dB(A)
LC6a <sup>1</sup>	62-69	57-64	75
LC9	61-67	N.A	75

### Table 3.4 Summary of Noise Impact Monitoring Results

Note:

- Leq (30min) was measured at day-time (0700-1900) on normal weekdays.
- 1) A distance correction of -5dB(A) has been applied in monitoring data of LC6a according to baseline monitoring report (Appendix G).
- 3.6.4 The adopted Action and Limit Levels for noise impact monitoring are presented in Appendix C.
- 3.6.5 The Event and Action Plan for noise is given in **Appendix J**.
- 3.6.6 No Action or Limit Level Exceedance of noise monitoring was recorded in the reporting period.

#### Other factor influencing the monitoring results

3.6.7 There were no other noticeable external factors generally affecting the monitoring results in this reporting period.



### 4. LANDSCAPE AND VISUAL

#### 4.1 Audit Requirements

4.1.1 In accordance with the updated EM&A Manual, the landscape and visual mitigation measures during the construction phase are audited by a Landscape Architect, as a member of the ET, on a regular basis to ensure compliance with the intended aims of the measures. Site inspections are undertaken at least once every two weeks throughout the construction period and once every two months during the operational phase to ensure compliance with the intended aims of the measures.

#### 4.2 Results and Observations

- 4.2.1 Site audits were carried out to monitor and audit the implementation of landscape and visual mitigation measures. The summary of the site audits are given in **Appendix I**.
- 4.2.2 Should non-compliance of the landscape and visual impact occur, action in accordance to the event action plan presented in **Appendix J** shall be carried out.
- 4.2.3 No non-compliance of the landscape and visual impact was recorded in the reporting month.

# 5. ENVIRONMENTAL SITE INSPECTION AND AUDIT

#### 5.1 Site Inspection

- 5.1.1 Weekly site inspections and bi-weekly landscape and visual impact inspections were carried out to monitor the implementation of proper environmental pollution control and mitigation measures for the Project.
- 5.1.2 In the reporting period, site inspections were carried out on 6, 13, 21 and 27 June 2019 and the landscape and visual impact inspection were carried out on 13 and 27 June 2019.
- 5.1.3 The summary of the site audits are given in **Appendix I**.

#### 6. Advice on the Solid and Liquid Waste Management status

- 6.1.1 The Contractor has been registered as a chemical waste producer for the Project. Construction and demolition (C&D) material sorting was carried out on site. Receptacles were available for general refuse collection.
- 6.1.2 As advised by the Contractor, 0m<sup>3</sup> of inert C&D materials were generated and 0m<sup>3</sup> general refuse was generated in the reporting period. Monthly summary of waste flow table is detailed in **Appendix M**.



# 7. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

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# 7.1 Environmental Exceedance

Hong Kong.

- 7.1.1 No Action or Limit Level Exceedance of 1-hr TSP monitoring was recorded in the reporting period.
- 7.1.2 No Action or Limit Level Exceedance of noise monitoring was recorded in the reporting period.

# 7.2 Complaints, Notification of Summons and Successful Prosecution

- 7.2.1 No complaints, notification of summons or successful prosecutions were received in the reporting period.
- 7.2.2 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix H.**

# 8. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

# 8.1 Implementation Status

8.1.1 The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures during the reporting period is summarized in **Appendix K**.

# 9. FUTURE KEY ISSUES

# 9.1 Construction Works for the Coming Month

- 9.1.1 During the coming reporting period, the principal work activities within the site included:
  - Construction of vehicle access

# 9.2 Key Issues for the Coming Month

- 9.2.1 Potential environmental impacts due to the construction activities, including air quality, noise, water quality, waste, landscape and visual, will be monitored or reviewed. The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirement. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.
- 9.2.2 The anticipated impact of principal work activities within the site and the recommended mitigation measures are shown in **Appendix N**.

# 9.3 Monitoring Schedules for the Coming Months

9.3.1 The tentative schedules for environmental monitoring in the coming months are provided in **Appendix E**.



# 10. CONCLUSIONS

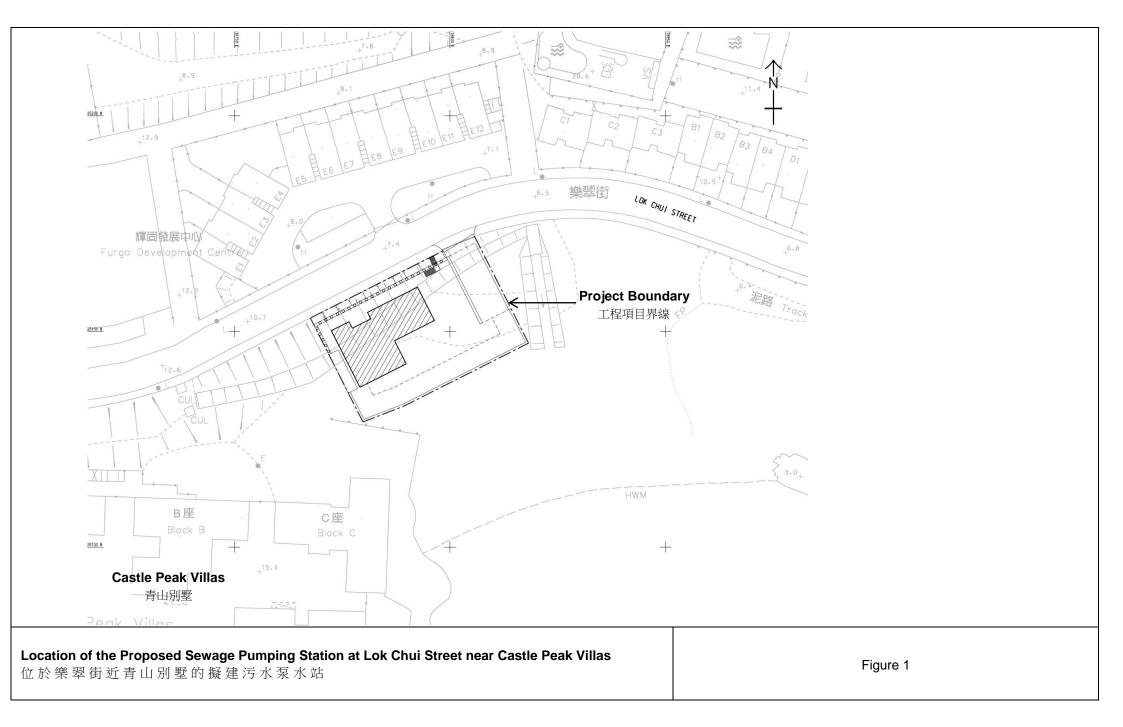
- 10.1.1 The construction phase and EM&A programme of the Project commenced on 29 February 2016.
- 10.1.2 No Action or Limit Level Exceedance of 1-hr TSP monitoring was recorded in the reporting period.
- 10.1.3 No Action or Limit Level Exceedance of noise monitoring was recorded in the reporting period.
- 10.1.4 In the reporting period, site inspections were carried out on 6, 13, 21 and 27 June 2019 and the landscape and visual impact inspection were carried out on 13 and 27 June 2019.
- 10.1.5 No complaints, notification of summons or successful prosecutions were received in the reporting period.

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Figure 1

**Project General Layout** 



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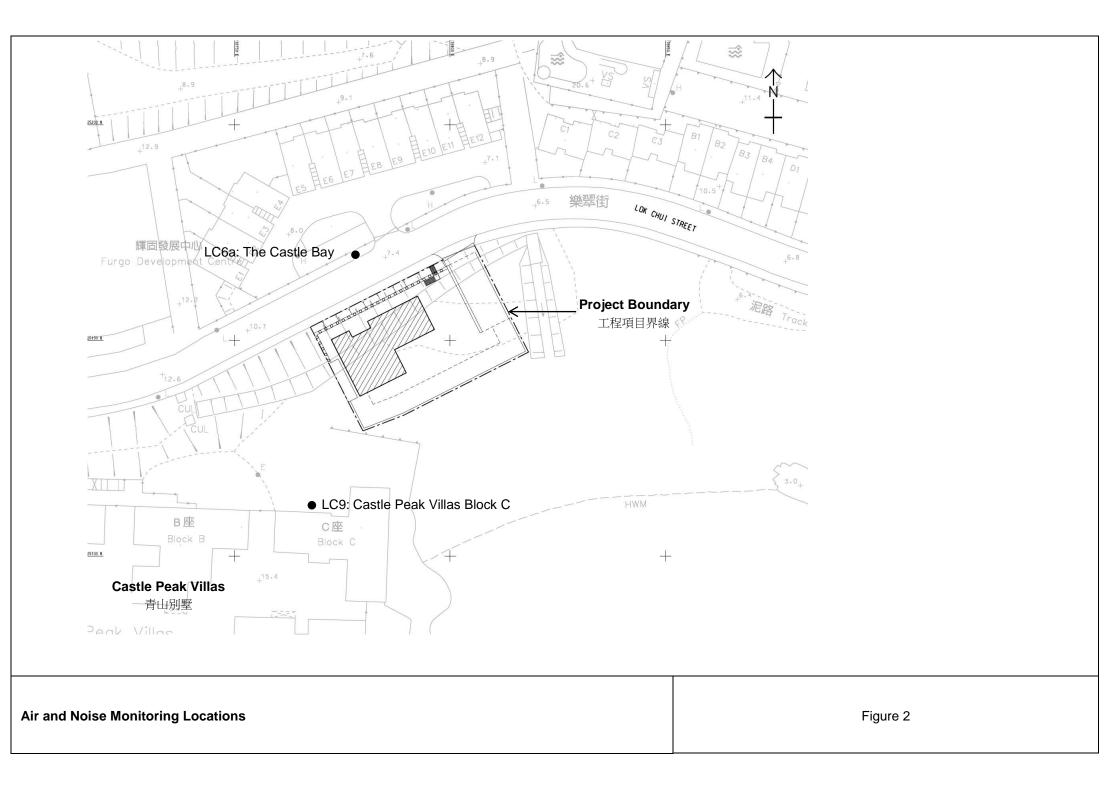
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Figure 2

**Air and Noise Monitoring Locations** 



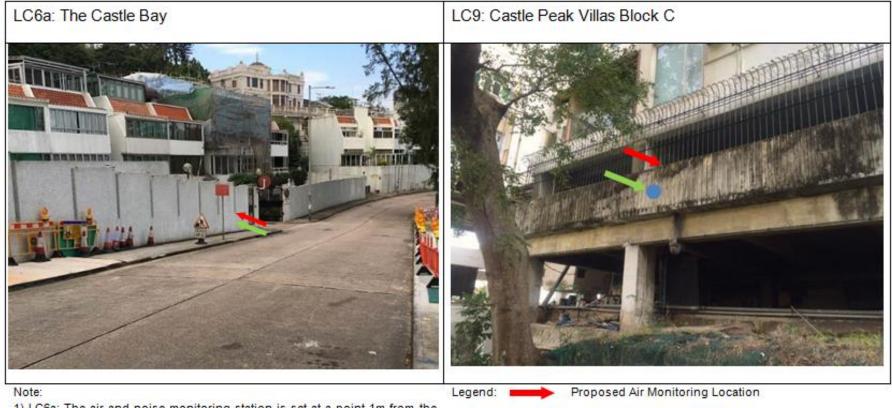
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1) LC6a: The air and noise monitoring station is set at a point 1m from the exterior of the sensitive receiver fence wall, and set at a position 1.2m above ground. Façade measurement will be carried out for noise monitoring.

2) LC9: The air monitoring station is set at the top of parapet wall of sensitive receivers building and the noise monitoring station is set at a point 1m from the exterior of the sensitive receivers building façade and set at a position 5m above the ground.



Proposed Noise Monitoring Location

1m from the exterior building façade

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Appendix A

**Construction Programme** 

Contrac	tor : Sang Hing - Kuly Joint Venture					Castle	ontract no. D Peak Road 1 en Mun Villag	runk	Sewer and			
ID O	Task Name	Baseline Duration	Duration	Baseline Start Ba	seline Finish	Actual Start	Actual Finish	%	Start	Finish Predecessors 15	2016 2017 2018	2019 2020
1301 🗸	Trial pits proposal	180 days	180 days	Sun 18/10/15	Thu 14/4/16	Sun 18/10/15	Thu 14/4/16	iomplet 100%	Sun 18/10/15	O3 Thu 14/4/16 129755,129855 /10	Q4 Q1 Q2 Q3 q4 q1 q2 q1 q2 q3 q4 q1 q1 q2 q3 q4 q1 q1 q2 q3 q1	Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q
1302 🗸	Design of Temporary Work	30 days	30 days	Sat 16/1/16	Mon 15/2/16	Fri 16/9/16	Sun 16/10/16	100%	Fri 16/9/16	Sun 16/10/16 1303SF	■ 16/9 <b>16/10</b>	
1303 🗸	Submission of Design Temporary Work	0 days	351 days	Mon 15/2/16	Mon 15/2/16	Sun 16/10/16	Mon 2/10/17	100%	Sun 16/10/16	Mon 2/10/17 13145F-60 days	16/10	
1304 🗸	Hong Fai Road	240 days	240 days	Fri 18/8/17	Sat 14/4/18	Wed 8/2/17	Thu 5/10/17	100%	Wed 8/2/17	Thu 5/10/17		
1305 🗸	From Manhole 1903 to 0716	240 days	240 days	Fri 18/8/17	Sat 14/4/18	Wed 8/2/17	Thu 5/10/17	100%	Wed 8/2/17	Thu 5/10/17 1282FS-210 days	8/2	
1306 🗸	From Manhole 0703 to 0701	25 days	25 days		Sat 14/4/18	Mon 11/9/17	Thu 5/10/17	100%	Mon 11/9/17	Thu 5/10/17 1305FF	11/9 =4 5/10 =	
1307 🗸	Connection to Siu Lam Tsuen Road From Manhole 0716 to 0718	35 days	35 days	Sun 11/3/18	Sat 14/4/18	Fri 1/9/17	Thu 5/10/17	100%	Fri 1/9/17	Thu 5/10/17 1305FF	1/9 5/10 📼	
1309	EOT Claim 020 - Delay for construction of CSD Married Staff Quarter (On going event)	0 days?	1112 days?	NA	NA	NA	NA	0%	Thu 15/12/16	Tue 31/12/19	↓ · · · · · · · · · · · · · · · · · · ·	
1310 🛅	Pending ER confirm works details	0 days?	382 days?	NA	NA	NA	NA	0%	Thu 15/12/16	Sun 31/12/17	15/12 31/12	
1311	Design and Endorsment of TTA drawings and TTA Implementaion	0 days?	150 days	NA	NA	NA	NA	0%	Mon 1/1/18	Wed 30/5/18 1310	1/1 - 30/5	
1312	Additional constructon time due to revised TTA implementation period	0 days?	300 days	NA	NA	NA	NA	0%	Thu 7/3/19	Tue 31/12/19 1319	7/3	331/12
1313	Access Road Leading to CSD Married Staff Quarter	280 days	280 days		Thu 19/1/17	NA	NA	0%	Thu 31/5/18	Wed 6/3/19		•
1314	From Manhole 1104 to Manhole 1110	45 days	45 days		Sun 29/5/16	NA	NA	0%	Thu 31/5/18	Sat 14/7/18 1301SS+180 days,1311	31/5 14/7	
1315 1316	From Manhole 1201 to Manhole 1203 From Manhole 2001 to Manhole 1203	25 days	25 days		Thu 23/6/16	NA	NA	0%	Sun 15/7/18	Wed 8/8/18 1314	■ 15/7 <u>8</u> /8 ■ 9/8 <u>9</u> /8 8/8	
1316	From Manhole 2001 to Manhole 1203 From Manhole 1203 to Manhole 1110	20 days	20 days		Ved 13/7/16	NA	NA	0%	Thu 9/8/18	Tue 28/8/18 1315	9/8 28/8 29/8 17/9	
1318	From Manhole 1110 to Manhole 1110	20 days	20 days	Thu 14/7/16	Tue 2/8/16	NA	NA	0%	Wed 29/8/18	Mon 17/9/18 1316 Wed 26/12/18 1317	100	26/12
1319	From Manhole 1118 to Manhole 1122	100 days 70 days	100 days 70 days		hu 10/11/16 Thu 19/1/17	NA	NA NA	0% 0%	Tue 18/9/18 Thu 27/12/18	Wed 6/3/19 1318	27/12	
1320	Siu Lam Road	20 days	20 days		Sat 14/4/18	NA	NA	0%	Tue 31/7/18	Sun 19/8/18		
321	Connection From Manhole 0901 to 0721 after trenchless	20 days	20 days		Sat 14/4/18	NA	NA	0%	Tue 31/7/18	Sun 19/8/18 1023SS,1049,1245	E31/7 19/8	
322	CCTV inspection	0 days?	60 days	NA	NA	NA	NA	0%	Sat 2/11/19	Tue 31/12/19 1323FF		2/1131/12
323	Completion of Section 9C	0 days	0 days	Sat 14/4/18	Sat 14/4/18	NA	NA	0%	Tue 31/12/19	Tue 31/12/19 1321,1305,1306,1307,12		31/12
324	Section 9C - Inclement Weather Granted (EOT Claim No. 3.18, up to 31 July 2017)	0 days?	53 days	NA	NA	NA	NA	0%	Wed 1/1/20	Sat 22/2/20 1323		1/1 22/2
326	Duration of Section 11A - Lok Chui Street Sewage Pumping Station	929 days	929 days	Mon 20/7/15	Fri 2/2/18	Mon 20/7/15	NA	93%	Mon 20/7/15	Fri 2/2/18	2/2	
327	Inclement Weather Granted (EOT Claim No. 3.18, up to 31 July 2017)	0 days?	58 days	NA	NA	NA	NA	0%	Sat 3/2/18	Sun 1/4/18 1326	3/2 📩 1/4	
328	Granted under EOT Order 11 (Delayed Possession of Site)	0 days?	40 days	NA	NA	NA	NA	0%	Mon 2/4/18	Fri 11/5/18 1327	2/4 11/5	
329 📑 330	Additional Time for Completion	0 days?	347 days	NA	NA	NA	NA	0%	Mon 11/6/18	Thu 23/5/19 1328,1456FF	11/6 +	×23/5
331	EOT claim - Change of Design at LCS SPS (Double roof slab)	0 days?	326 days	NA	NA	Mon 7/8/17	NA	0%	Mon 7/8/17	Thu 28/6/18	V	
332 🗸	Revised construction details from ER	0 days?	0 days	NA	NA	Mon 7/8/17	Mon 7/8/17	100%	Mon 7/8/17	Mon 7/8/17	<b>▲</b> -7/8.	
333 334	Additional roof slab of transformer room	0 days?	45 days	NA	NA	NA	NA	0%	Tue 15/5/18	Thu 28/6/18 1332,1432	15/5 28/6	
	EOT Claim - Additional Works in Transformer Room at Lok Chui Street SPS	0 days?	399 days	NA	NA	Thu 26/10/17	NA	22%	Thu 26/10/17	Wed 28/11/18		
336 🗸	Revised construction details from ER	0 days?	0 days	NA	NA	Thu 26/10/17	Thu 26/10/17	100%	Thu 26/10/17	Thu 26/10/17	▲- <mark>26/10</mark>	
337	Additional construction time due to revised details (ie. Box out, pump sump, additional wall opening)	0 days?	90 days	NA	NA	NA	NA	0%	Sat 20/1/18	Thu 19/4/18 1336,1431	20/1 + 19/4	
338	Laying additional DN100 DI drain pipe	0 days?	5 days	NA	NA	NA	NA	0%	Fri 20/4/18	Tue 24/4/18 1337	20/4 +24/4	
339	Additional plastic chain storage box	0 days?	366 days	NA	NA	NA	NA	0%	Thu 26/10/17	Fri 26/10/18		
340	Procurement	0 days?	90 days	NA	NA	NA	NA	0%	Thu 26/10/17	Tue 23/1/18 1336	26/10 23/1	
		0 days?	90 days	NA	NA	NA	NA	0%	Wed 24/1/18	Mon 23/4/18 1340	24/1 * 23/4	0
341	Fabrication and delivery	P		NA	NA	NA	NA	0%	Mon 22/10/18	Fri 26/10/18 1341,1445	22/10 + 26/1	
341 342	Installation on site	0 days?	5 days				NA	22%	Thu 26/10/17	Fri 9/11/18		
341 342 343	Installation on site Additional CLP single door	0 days?	380 days	NA	NA	Thu 26/10/17	NUM	670/	Thu 26/20/27	Tuo 22/1/10 1226	26/10 + 22/1	
341 342	Installation on site			NA NA	NA NA	Thu 26/10/17 NA	NA NA	67% 0%	Thu 26/10/17 Wed 24/1/18	Tue 23/1/18 1336 Sat 24/3/18 1344	26/10 23/1 24/1 24/3	
341 342 343 344	Installation on site Additional CLP single door Procurement Prepare and submission of shop drawing Task	0 days? 0 days? 0 days?	380 days 90 days	NA NA Critical Split	NA	Thu 26/10/17 NA	NA Rolled Up Task	0%		Sat 24/3/18 1344 Rolled Up Baseline Milestone	24/1 24/3	
341 342 343 344 345	Installation on site Additional CLP single door Procurement Prepare and submission of shop drawing Task Task Task Task Progr	0 days? 0 days? 0 days?	380 days 90 days	NA NA Critical Split Baseline	NA	Thu 26/10/17	NA Rolled Up Task Rolled Up Criti	0% cal Task		Sat 24/3/18 1344	24/1 24/3	
341 342 343 344 345 oject Rolling tte: 28 Nov 2	Installation on site Additional CLP single door Procurement Prepare and submission of shop drawing Task programme (Nov 2017) Critical Tas Critical Tas	0 days? 0 days? 0 days? 0 days? ess k	380 days 90 days	NA NA Critical Split Baseline Milestone	NA NA	Thu 26/10/17 NA	NA Rolled Up Task Rolled Up Criti Rolled Up Mile	0% cal Task stone		Sat 24/3/18 1344 Rolled Up Baseline Milestone Rolled Up Progress Split	24/1 24/3 Project Summary Group By Summary Inactive Task	
341 342 343 344 345 oject Rolling tte: 28 Nov 2	Installation on site Additional CLP single door Procurement Prepare and submission of shop drawing Task Task Task Task Progr	0 days? 0 days? 0 days? 0 days? ess k	380 days 90 days	NA NA Critical Split Baseline	NA NA	Thu 26/10/17 NA	NA Rolled Up Task Rolled Up Criti	0% cal Task stone hary		Sat 24/3/18 1344 Rolled Up Baseline Milestone Rolled Up Progress Split Baseline Split	24/1 24/3 Project Summary Group By Summary	

Contractor : Sang Hing - Kuly Joint Venture

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ID O	Task Name	Baseline Duration	Duration	Baseline Start	Baseline Finish	Actual Start	Actual Finish	% omplet	Start	Finish Predecessors	15 2016 2017 2018 2019 2020 Q3 Q4 Q1 Q2 Q3 Q4 Q1
1346	Approval of shop drawings	0 days?	14 days	NA	NA	NA	NA	0%	Sun 25/3/18	Sat 7/4/18 1345	25/3 ±7/4
1347	Fabrication and delivery	0 days?	90 days	NA	NA	NA	NA	0%	Sun 8/4/18	Fri 6/7/18 1346	8/4 - 6/7
1348	Installation on site	0 days?	14 days	NA	NA	NA	NA	0%	Sat 27/10/18	Fri 9/11/18 1347,1445,1342	27/10 + 9/11
1349	Additional CLP flood gate	0 days?	394 days	NA	NA	Thu 26/10/17	NA	56%	Thu 26/10/17	Fri 23/11/18	
1350 🗸	Procurement	0 days?	90 days	NA	NA	Thu 26/10/17	Tue 23/1/18	100%	Thu 26/10/17	Tue 23/1/18 1336	26/10 23/1
1351 🗸	Prepare and submission of shop drawing	0 days?	60 days	NA	NA	Wed 24/1/18	Sat 24/3/18	100%	Wed 24/1/18	Sat 24/3/18 1350	24/1 📥 24/3
1352	Approval of shop drawings	0 days?	14 days	NA	NA	NA	NA	0%	Sun 25/3/18	Sat 7/4/18 1351	25/3 27/4
1353	Fabrication and delivery	0 days?	90 days	NA	NA	NA	NA	0%	Sun 8/4/18	Fri 6/7/18 1352	8/4
1354	Installation on site	0 days?	14 days	NA	NA	NA	NA	0%	Sat 10/11/18	Fri 23/11/18 1353,1348,1445	10/11 + 23/11
1355	Installation of SS Cover	0 days?	399 days	NA	NA	NA	NA	0%	Thu 26/10/17	Wed 28/11/18	
1356	Procurement	0 days?	90 days	NA	NA	NA	NA	0%	Thu 26/10/17	Tue 23/1/18 1336	26/10 23/1
1357	Fabrication and delivery	0 days?	60 days	NA	NA	NA	NA	0%	Wed 24/1/18	Sat 24/3/18 1356	24/1 🛬 24/3
1358 1359	Installation on site	0 days?	5 days	NA	NA	NA	NA	0%	Sat 24/11/18	Wed 28/11/18 1357,1354,1445	24/11 22/11
1360	EOT Claim - Outstanding information for construction details for acoustic lourve	0 days?	509 days	NA	NA	Mon 7/8/17	NA	0%	Mon 7/8/17	Fri 28/12/18	
1361 🗸	First submission of shop darwing	0 days?	0 days	NA	NA	Mon 7/8/17	Mon 7/8/17	100%	Mon 7/8/17	Mon 7/8/17	▲ 7/8
1362 🗸	Comment from ER	0 days?	0 days	NA	NA	Wed 6/9/17	Wed 6/9/17	100%	Wed 6/9/17	Wed 6/9/17 1361	6/9
1363 🗸	Reply of ER comments	0 days?	0 days	NA	NA	Sat 16/9/17	Sat 16/9/17	100%	Sat 16/9/17	Sat 16/9/17 1362	16/9
1364 🗸	First letter for requesting working details from SKJV	0 days?	0 days	NA	NA	Mon 13/11/17	Mon 13/11/17	100%	Mon 13/11/17	Mon 13/11/17 1363	13/11
1365 🗸	Second letter for requesting working details from SKJV (RFI)	0 days?	0 days	NA	NA	Mon 20/11/17	Mon 20/11/17	100%	Mon 20/11/17	Mon 20/11/17 1364	20/11
1366 🗸	ER response (Acoustic lourve will be used)	0 days?	0 days	NA	NA	Mon 27/11/17	Mon 27/11/17	100%	Mon 27/11/17	Mon 27/11/17 1365	27/11
1367 🗸	Third letter for requesting working details from SKJV	0 days?	0 days	NA	NA	Sat 2/12/17	Sat 2/12/17	100%	Sat 2/12/17	Sat 2/12/17 1366	2/12
1368	Construction details from AECOM (Assume)	0 days?	30 days	NA	NA	NA	NA	0%	Sat 2/12/17	Sun 31/12/17 1367	2/12 31/12
1369	Procurement	0 days?	60 days	NA	NA	NA	NA	0%	Mon 1/1/18	Thu 1/3/18 1368	1/1 ±1/3
1370	Prepare and submission of shop drawing	0 days?	90 days	NA	NA	NA	NA	0%	Fri 2/3/18	Wed 30/5/18 1369	2/3 🛨 30/\$
371	Approval from AECOM	0 days?	14 days	NA	NA	NA	NA	0%	Thu 31/5/18	Wed 13/6/18 1370	31/5 213/6
1372	Fabication and delivery	0 days?	90 days	NA	NA	NA	NA	0%	Thu 14/6/18	Tue 11/9/18 1371	14/6 * 11/9
1373 1374	Installation on site	0 days?	30 days	NA	NA	NA	NA	0%	Thu 29/11/18	Fri 28/12/18 1372,1445,1358	29/11 👐 28/12
1375 E	OT Claim - Revised Design for Door D05 and D06 for ransformer Room at Lok Chui Street SPS	0 days?	494 days	NA	NA	Thu 21/9/17	NA	0%	Thu 21/9/17	Sun 27/1/19	
1376 🗸	First submission of shop drawings	0 days?	0 days	NA	NA	Thu 21/9/17	Thu 21/9/17	100%	Thu 21/9/17	Thu 21/9/17	▲-1 <sup>21/9</sup>
1377 🖌	Revised drawing received (size of door to be enlarged)	0 days?	0 days	NA	NA	Wed 18/10/17	Wed 18/10/17	100%	Wed 18/10/17	Wed 18/10/17 1376	18/10
1378 🗸	Second submission of shop drawings	0 days?	0 days	NA	NA	Tue 31/10/17	Tue 31/10/17	100%	Tue 31/10/17	Tue 31/10/17 1377	-31/10
1379 🗸	Comments from ER	0 days?	0 days	NA	NA	Fri 3/11/17	Fri 3/11/17	100%	Fri 3/11/17	Fri 3/11/17 1378	3/11
380 🗸	Third submission of shop drawings	0 days?	0 days	NA	NA	Tue 7/11/17	Tue 7/11/17	100%	Tue 7/11/17	Tue 7/11/17 1379	7/11
381 🔤	Approval details from ER (Assume)	0 days?	30 days	NA	NA	NA	NA	0%	Tue 7/11/17	Wed 6/12/17 1380	7/11 6/12
1382	Fabication and delivery	0 days?	90 days	NA	NA	NA	NA	0%	Thu 7/12/17	Tue 6/3/18 1381	7/12 - 6/3
383 384	Installation on site	0 days?	30 days	NA	NA	NA	NA	0%	Sat 29/12/18	Sun 27/1/19 1382,1373	25/12 + 27/1
385 S	ection 11A - Lok Chui Street Sewage Pumping Station	929 days	1346 days	Mon 20/7/15	Fri 2/2/18	Mon 20/7/15	NA	75%	Mon 20/7/15	Tue 26/3/19	
.386 🗸	Portion 11 - Time of Possession of Site	90 days	90 days	Mon 20/7/15	Sat 17/10/15	Mon 20/7/15	Sat 17/10/15	100%	Mon 20/7/15	Sat 17/10/15	17/10
.387 🗸	Granted under EOT Order 11 (Delayed Possession of Site)	0 days?	40 days	NA	NA	Sun 18/10/15	Thu 26/11/15	100%	Sun 18/10/15	Thu 26/11/15 1386	/10 26/11
388 🗸	Objection to commence of work by The Castle Bay	0 days?	21 days	NA	NA	Fri 27/11/15	Thu 17/12/15	100%	Fri 27/11/15	Thu 17/12/15 1387	27/11 17/12
1389 🗸	EOT Claim 011 - Increased Length of Mini-pile at Lok Chui Street Pumping Station	0 days?	72 days	NA	NA	Wed 17/2/16	Thu 28/4/16	100%	Wed 17/2/16	Thu 28/4/16 1399	17/2 = 28/4
390 391 🗸	Preparation Work	74 days	135 days	Sun 18/10/15	Wed 30/12/15	Sun 18/10/15	Mon 29/2/16	100%	Sun 18/10/15	Mon 29/2/16	
392 🗸	Initial Survey	30 days	30 days	a summer of the second	Mon 16/11/15	Fri 18/12/15	Sat 16/1/16	100%	Fri 18/12/15	Sat 16/1/16 1388	18/12 🙀 16/1
393 🗸	Agree extend of Site clearance	30 days	30 days		Mon 16/11/15	Sun 18/10/15			Sun 18/10/15	Mon 16/11/15 1386	/10 - 16/11
394 🗸	Site clearance	14 days	14 days		Mon 30/11/15	Sun 17/1/16	Sat 30/1/16		Sun 17/1/16	Sat 30/1/16 1392,1393	17/1 - 30/1
395 🗸	Hoarding	30 days	30 days		Wed 30/12/15	Sun 31/1/16	Mon 29/2/16		Sun 31/1/16	Mon 29/2/16 1394	31/1 29/2
	Task		0	Critical Sp	olit		Rolled Up Tasl	c	F	Rolled Up Baseline Milesto	ne Project Summary
roject: Rolling P	Programme (Nov 2017) Task Progr	ress		Baseline		L	Rolled Up Criti	ical Task		Rolled Up Progress	Group By Summary
late: 28 Nov 201	Programme based on Master Programme (Rev 0-A)	sk	<b>1</b>	Milestone	2		Rolled Up Mile	stone		Split	Inactive Task
Or Engligement	Programme based on Master Programme (Rev 0-A) Critical Tas	sk Progress	de la constanción de	Baseline I	vilestone		Baseline Sumn	nary	1	Baseline Split	Inactive Milestone
	Critical			Summary			Delle data Dese	4.	(	F	
	chical		and the second states and the	Summary			Rolled Up Base	eline	L'anna anna anna anna anna anna anna ann	External Tasks	Deadline

Contractor : Sa	ang Hing - Ku	ly Joint Venture

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ID O	Task Name	Baseline Duration	Duration	Baseline Start	Baseline Finish	Actual Start	Actual Finish	% Complet	Start	Finish Predecessors	15         2016         2017         2018         2019         2020           Q3         Q4         Q1         Q2         Q3         Q4
96	Mini-pile Foundation and Soldier Pile	297 days	369 days	Tue 1/12/15	Thu 22/9/16	Sun 31/1/16	Thu 2/2/17	100%	Sun 31/1/16	Thu 2/2/17	
98 🗸	Mobilization of plant for predrilling works	7 days	7 days	Tue 1/12/15	Mon 7/12/15	Sun 31/1/16	Sat 6/2/16	100%	Sun 31/1/16	Sat 6/2/16 1394	31/1 +6/2
99 🗸	Construct settlement and piezometer for monitoring	10 days	10 days	Tue 8/12/15	Thu 17/12/15	Sun 7/2/16	Tue 16/2/16	100%	Sun 7/2/16	Tue 16/2/16 1398	7/2 16/2
0 🗸	Predrilling works of mini-pile and soldier pile	23 days	23 days	Fri 18/12/15	Sat 9/1/16	Fri 29/4/16	Sat 21/5/16	100%	Fri 29/4/16	Sat 21/5/16 1389,1399	E29/4 🙀 21/5
11 🗸	Submission of predrilling report	15 days	15 days	Sun 10/1/16	Sun 24/1/16	Sun 22/5/16	Sun 5/6/16	100%	Sun 22/5/16	Sun 5/6/16 1400	II.22/5 x 5/6
12 🗸	Mobilization of plant for 610mm soldier pile	14 days	14 days	Sun 10/1/16	Sat 23/1/16	Sun 22/5/16	Sat 4/6/16	100%	Sun 22/5/16	Sat 4/6/16 1395,1400	822/5 🚽 4/6
)3 🗸	Construction of soldier pile (43 nos)	130 days	130 days	Sun 24/1/16	Wed 1/6/16	Sun 5/6/16	Wed 12/10/16	100%	Sun 5/6/16	Wed 12/10/16 1402	12/10
4 🗸	Mobilization of plant for mini-pile (64 nos)	14 days	14 days	Thu 19/5/16	Wed 1/6/16	Thu 29/9/16	Wed 12/10/16		Thu 29/9/16	Wed 12/10/16 1403FS-14 days	129/9 <b>1</b> 2/10
5 🗸	Drilling of mini-piles	50 days	50 days	Thu 2/6/16	Thu 21/7/16	Thu 13/10/16	Thu 1/12/16		Thu 13/10/16	Thu 1/12/16 1404	13/10 🛓 1/12
6 🗸	Installation of Rein-bar and Grouting	14 days	14 days	Fri 22/7/16	Thu 4/8/16	Fri 2/12/16	Thu 15/12/16		Fri 2/12/16	Thu 15/12/16 1405	02/12 15/12
7 🗸	Mobilization for proof drilling	7 days	7 days	Fri 29/7/16	Thu 4/8/16	Fri 9/12/16	Thu 15/12/16		Fri 9/12/16	Thu 15/12/16 1406FS-7 days	19/12 +15/12
B 🖌	Proof Drilling	14 days	14 days	Fri 5/8/16	Thu 18/8/16	Fri 16/12/16	Thu 29/12/16		Fri 16/12/16	Thu 29/12/16 1407	16/12 229/12
5 2	Submission of proof drilling report	14 days	14 days	Fri 19/8/16	Thu 1/9/16	Fri 30/12/16	Thu 12/1/17		Fri 30/12/16	Thu 12/1/17 1408	30/12 12/1
1	Preparation of loading Test	21 days	21 days	Fri 5/8/16	Thu 25/8/16	Fri 16/12/16	Thu 5/1/17		Fri 16/12/16	Thu 5/1/17 1407	16/12 5/1
ž	Carry out loading test	14 days	14 days	Fri 26/8/16	Thu 8/9/16	Fri 6/1/17	Thu 19/1/17		Fri 6/1/17	Thu 19/1/17 1410	0 6/1 <b>2</b> 19/1 020/1 <b>2</b> 2/2
×	Submission of loadign test report	14 days	14 days	Fri 9/9/16	Thu 22/9/16	Fri 20/1/17	Thu 2/2/17	100%	Fri 20/1/17	Thu 2/2/17 1411	116V/ b C4/ 6
	Strucutral Work of Pumping Station	377 days	535 days	Fri 9/9/16	Wed 20/9/17	Fri 20/1/17	NA	80%	Fri 20/1/17	Sun 8/7/18	
~	Temporary cofferdam for ELS for construction of pumpin station		90 days	Fri 9/9/16	Wed 7/12/16	Fri 20/1/17	Wed 19/4/17	100%	Fri 20/1/17	Wed 19/4/17 1409,1411,1412FS-14 days	III20/1 <b>19</b> /4
~	Excavation and shoring to formation level for wet well construction (refer drg. No. 5321A, formation level = -2.375mPD - 0.15m)	30 days	30 days	Thu 8/12/16	Fri 6/1/17	Thu 20/4/17	Fri 19/5/17	100%	Thu 20/4/17	Fri 19/5/17 1415	E20/4 🛓 19/5
~	Welding of pile head (i.e.PC01 to PC 14)	9 days	9 days	Sat 7/1/17	Sun 15/1/17	Sat 20/5/17	Sun 28/5/17	100%	Sat 20/5/17	Sun 28/5/17 1416	120/5 28/5
~	Blinding layer	2 days	2 days	Mon 16/1/17	Tue 17/1/17	Mon 29/5/17	Tue 30/5/17	100%	Mon 29/5/17	Tue 30/5/17 1417	29/5 90/5
~	Construction of base slab of wet well	14 days	14 days	Wed 18/1/17	Tue 31/1/17	Wed 31/5/17	Tue 13/6/17	100%	Wed 31/5/17	Tue 13/6/17 1418	031/5 - 13/6
~	Construction of pump plinth	0 days?	2 days	NA	NA	Mon 12/6/17	Tue 13/6/17	100%	Mon 12/6/17	Tue 13/6/17 1419FF	12/6 13/6
~	Construction of Wall of wet well upto approx0.675mPD 0.725mPD	to 14 days	14 days	Wed 1/2/17	Tue 14/2/17	Wed 14/6/17	Tue 27/6/17	100%	Wed 14/6/17	Tue 27/6/17 1419	014/6 227/6
1	Excavation and shoring to formation levels for Valve chamber, Coarse screen chamber and energency storage tank	25 days	25 days	Wed 15/2/17	Sat 11/3/17	Wed 28/6/17	Sat 22/7/17	100%	Wed 28/6/17	Sat 22/7/17 1421	#28/6 🛓 22/7
~	Welding of pile head (i.e PB01 to PB15, PD01 to PD08 and PE01 to PE10 etc)	20 days	20 days	Sun 12/3/17	Fri 31/3/17	Sun 23/7/17	Fri 11/8/17	100%	Sun 23/7/17	Fri 11/8/17 1422	11/8
~	Blinding layer	2 days	2 days	Sat 1/4/17	Sun 2/4/17	Sat 12/8/17	Sun 13/8/17	100%	Sat 12/8/17	Sun 13/8/17 1423	12/8 13/8
1	Construction of base slabs of Valve chamber, Coarse scree chamber and emergency storage tank		25 days	Mon 3/4/17	Thu 27/4/17	Mon 14/8/17	Thu 7/9/17	100%	Mon 14/8/17	Thu 7/9/17 1424	■14/8 <b>≛</b> 7/9
~	Excavation to formation level of switch room and transformer rooms	20 days	20 days	Fri 28/4/17	Wed 17/5/17	Fri 8/9/17	Wed 27/9/17	100%	Fri 8/9/17	Wed 27/9/17 1425	III 8/9 🔭 27/9
~	Welding pile head (ie. PA01 to PA12)	10 days	10 days	Thu 18/5/17	Sat 27/5/17	Thu 28/9/17	Sat 7/10/17	100%	Thu 28/9/17	Sat 7/10/17 1426	∥28/9 <b>*</b> 7/10
~	Construction of walls below ground level	25 days	25 days	Sun 28/5/17	Wed 21/6/17	Thu 26/10/17	Sun 19/11/17	100%	Thu 26/10/17	Sun 19/11/17 1427,1336	©26/10 <b>**</b> 19/11
~	Construction of ground floor slab	20 days	20 days	Thu 22/6/17	Tue 11/7/17	Mon 20/11/17	Sat 9/12/17	100%	Mon 20/11/17	Sat 9/12/17 1428	E20/11 9/12
	Backfilling to ground floor slab	25 days	25 days	Wed 12/7/17	Sat 5/8/17	Sun 10/12/17	NA	50%	Sun 10/12/17	Wed 3/1/18 1429	10/12 🛃 1/1
	Construction of walls up to roof slab	25 days	25 days	Fri 28/7/17	Mon 21/8/17	NA	NA	0%	Tue 26/12/17	Fri 19/1/18 1430FS-9 days	126/12
	Construction of roof slab	20 days	20 days	Tue 22/8/17	Sun 10/9/17	NA	NA	0%	Wed 25/4/18	Mon 14/5/18 1431,1338	25/4 w 14/5
	Water Tightness test of inlet chamber, coarse screen chamber and valve chamber Roof kerb and staircase	15 days	15 days	Tue 22/8/17	Tue 5/9/17	NA	NA	0%	Wed 25/4/18	Wed 9/5/18 1431,1338	25/4 <u>+ 9/5</u>
		10 days	10 days	Mon 11/9/17	Wed 20/9/17	NA	NA	0%	Fri 29/6/18	Sun 8/7/18 1432,1433,1333	**************************************
	Internal Finishes	135 days	261 days	Thu 21/9/17	Fri 2/2/18	NA	NA	0%	Mon 9/7/18	Tue 26/3/19	
	Installation of GRP cover	0 days?	14 days	NA	NA	NA	NA	0%	Fri 20/7/18	Thu 2/8/18 1438FF	20/7 042/8
1	Plastering & Painting	25 days	25 days	Thu 21/9/17	Sun 15/10/17	NA	NA	0%	Mon 9/7/18	Thu 2/8/18 1434	= 9/7 <u>* 2</u> /8
-	Glaze Tile (Toilet) Installation of water closet and washing basin in toilet	14 days 0 days?	14 days 14 days	Mon 16/10/17 NA	Sun 29/10/17 NA	NA	NA NA	0% 0%	Fri 3/8/18	Thu 16/8/18 1438 Thu 16/8/18 1439FF	11 3/8 7 16/8 3/8 <sub>Det</sub> 6/8
S	installation of water croset and washing pasin in tollet	o days?	14 days	NA	NA	NA	NA	0%	Fri 3/8/18	100 10/0/10 1439PP	
28 Nov 2	nt Programme based on Master Programme (Rev 0-A)	ask		Critical Sp Baseline Milestone	6		Rolled Up Mile	cal Task stone		Rolled Up Baseline Milestone Rolled Up Progress Split	Project Summary Group By Summary Inactive Task
	Critical T	ask Progress	1993 - 1995 - 189	Baseline N			Baseline Sumn	167765	L	Baseline Split	Inactive Milestone
	Critical			Summary			Rolled Up Base	line		External Tasks	Deadline

Contractor : Sang Hing - Kuly Joint Venture

							n wun villag						
ID O	Task Name	Baseline Duration	Duration	Baseline Start	Baseline Finish	Actual Start	Actual Finish	% omplet	Start	Finish Predecessors	15 2016 2017 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q	2018 2	2019 2020
441	Expoxy coating	10 days	10 days	Mon 30/10/17	Wed 8/11/17	NA	NA	0%	Fri 17/8/18	Sun 26/8/18 1439	Q3 Q4 Q1 Q2 Q5 Q4 Q1 Q2 Q	17/8 26/8	2019 2020 2 Q3 Q4 Q1 Q2 Q3
442	Skirting	14 days	14 days	Thu 9/11/17	Wed 22/11/17	NA	NA	0%	Mon 27/8/18	Sun 9/9/18 1441		27/8 9/9	
43	Granlithic screen and expoxy coating floor screen	14 days	14 days	Thu 23/11/17	Wed 6/12/17	NA	NA	0%	Mon 10/9/18	Sun 23/9/18 1442		10/9 - 23/9	
44	Painting on ceiling	14 days	14 days	Thu 7/12/17	Wed 20/12/17	NA	NA	0%	Mon 24/9/18	Sun 7/10/18 1443		24/9 7/10	
45	Installation of lourves and Doors	14 days	14 days	Thu 21/12/17	Wed 3/1/18	NA	NA	0%	Mon 8/10/18	Sun 21/10/18 1444		n 8/10 -21/10	
16	Ladder and Handrail	14 days	14 days	Thu 4/1/18	Wed 17/1/18	NA	NA	0%	Mon 28/1/19	Sun 10/2/19 1445,1354,1358,1373,138		E 28/1 + 10/2	
47	Cover to cable trench	25 days	25 days	Thu 7/12/17	Sun 31/12/17	NA	NA	0%	Mon 28/1/19	Thu 21/2/19 1443,1354,1358,1373,138		28/1 221/2	2
48	cement sand screen for roofing system	20 days	20 days	Mon 25/12/17	Sat 13/1/18	NA	NA	0%	Fri 15/2/19	Wed 6/3/19 1447FS-7 days,1342		15/2 + 6/3	
19	Roofing system	20 days	20 days	Sun 14/1/18	Fri 2/2/18	NA	NA	0%	Thu 7/3/19	Tue 26/3/19 1448		E 7/3 🛨 26	/3
50	Water test of the roof	0 days?	7 days	NA	NA	NA	NA	0%	Wed 20/3/19	Tue 26/3/19 1449FF		20/3 26	
51		o days:	/ uays	110	13/5	104	114	0.0	WEG 20/ 5/15	100 2010/20 200010			
52	Installation of watermain	28 days	28 days	Sat 6/1/18	Fri 2/2/18	NA	NA	0%	Fri 7/9/18	Thu 4/10/18 1484,1485,1486		■ 7/9 4/10	
53	Installation of irrigation system within the permise of the	10000		5at 0/1/18 NA	PI1 2/ 2/ 16	NA	NA	0%	Fri 21/9/18	Thu 4/10/18 1452FF		21/9 4/10	
33	building	0 days?	14 days	INA	INA	NA	D/A	076	FII 21/9/10	110 4/10/16 1432FF		24/5 ptp/10	
4													
55	Completion of Section 11A	0 days	0 days	Fri 2/2/18	Fri 2/2/18	NA	NA	0%	Tue 26/3/19	Tue 26/3/19 1449		A 12	6/3
56	Inclement Weather Granted (EOT Claim No. 3.18, up to 31 July 2017	2	58 days	NA	NA	NA	NA	0%	Wed 27/3/19	Thu 23/5/19 1455		27/3	23/5
		,	50 0035	101	498.9		101		11002/10/25	110 20 9 22 2 102			
57													
58	Duration of Section 118 - Lok Chui Street Sewage Pumping Station	1189 days	1189 days	Mon 20/7/15	Sat 20/10/18	Mon 20/7/15	NA	73%	Mon 20/7/15	Sat 20/10/18		20/10	
			1-31909-5-512000									1000	
59	Inclement Weather Granted (EOT Claim No. 3.18, up to 31 July 2017	) 0 days?	59 days	NA	NA	NA	NA	0%	Sun 21/10/18	Tue 18/12/18 1458		21/10 18/12	
60	Created under FOT Order 11 (Deland Bernarden, 15%)	0.4	20.4			NA		004	W-410/22/22	5-1-26/2 (20, 1450)		19/12 👱 26/1	
	Granted under EOT Order 11 (Delayed Possession of Site)	0 days?	39 days	NA	NA		NA	0%	Wed 19/12/18	Sat 26/1/19 1459		26/2	
1 🔜	Additional Time for Completion	0 days?	348 days	NA	NA	NA	NA	0%	Tue 26/2/19	Sat 8/2/20 1504FF,1460		20/2	0/2
3								220					
1	Section 11B - Lok Chui street Sewage Pumping Station - E&M and Remaining Works	1189 days	1606 days	Mon 20/7/15	Sat 20/10/18	Mon 20/7/15	NA	8%	Mon 20/7/15	Wed 11/12/19	V		
4	Portion 11 - Time of Possession of Site	90 days	90 days	Mon 20/7/15	Sat 17/10/15	Mon 20/7/15	Sat 17/10/15	100%	Mon 20/7/15	Sat 17/10/15	17/10		
5		50 0095	50 0045	1110112077725	56( 17/10/15	110112011123	50(17)10/15	10070	11101120/1/10	30(17)10(15			
6	External Works & External Finishes	145 days	143 days	Mon 11/9/17	Fri 2/2/18	NA	NA	0%	Tue 17/4/18	Thu 6/9/18			
7	Lagging wall and capping beam on soldier piles	95 days	95 days	Mon 11/9/17	Thu 14/12/17	NA	NA	0%	Tue 15/5/18	Fri 17/8/18 1432		15/5 - 17/8	
8	Backfilling to ground floor slab	60 days	60 days	Mon 11/9/17	Thu 9/11/17	NA	NA	0%	Tue 15/5/18	Fri 13/7/18 1432		15/5 18/7	
9	Installation of Emergency overflow pipe		25 days	Mon 11/9/17	Thu 5/10/17	NA	NA	0%	Tue 15/5/18	Fri 8/6/18 1432		IS/S 8/6	
0	Dismantling of hoarding	25 days 0 days?	28 days	NA NA	NA NA	NA	NA	0%	Tue 17/4/18	Tue 15/5/18 1471SF		17/4 15/5	
1	Retaining Wall & Mass concrete wall	75 days	75 days	Mon 11/9/17	Fri 24/11/17	NA	NA	0%	Tue 15/5/18	Sat 28/7/18			
2												15/5 3/6	
3	Frist bay retaining wall	0 days?	20 days	NA	NA	NA	NA	0%	Tue 15/5/18	Sun 3/6/18 1432		4/6 23/5	
\$	Second bay retaining wall	0 days?	20 days	NA NA	NA NA	NA	NA	0%	Mon 4/6/18	Sat 23/6/18 1472		24/6 110 7	
S-12	Third bay retaining wall	0 days?	20 days				NA	0%	Sun 24/6/18	Fri 13/7/18 1473		24/6 13/7 14/7 28/7	
5	Mass concrete wall	0 days?	15 days	NA	NA	NA	NA	0%	Sat 14/7/18	Sat 28/7/18 1474			
7	Access Ramp and backfilling	20 days	20 days	Sat 25/11/17	Thu 14/12/17	NA	NA	0%	Sun 29/7/18	Fri 17/8/18		29/7 44/8	
20 L	First Bay of Access Ramp	0 days?	7 days	NA	NA	NA	NA	0%	Sun 29/7/18	Sat 4/8/18 1468,1469,1475		5/8 11/8	
В	Second Bay of Access Ramp	0 days?	7 days	NA	NA	NA	NA	0%	Sun 5/8/18	Sat 11/8/18 1477			
9	Backfilling	0 days?	6 days	NA	NA	NA	NA	0%	Sun 12/8/18	Fri 17/8/18 1478		12/8 17/8	
0	Rising main from Pumping Station to CBH 712 for future connection	20 days	20 days	Sat 25/11/17	Thu 14/12/17	NA	NA	0%	Sun 29/7/18	Fri 17/8/18 147655		a 29/7 <sub>€0</sub> ,17/8	
1	Connection of sewer drain from Pumping Station to	20 days	20 days	Sun 17/12/17	Fri 5/1/18	NA	NA	0%	Sat 18/8/18	Thu 6/9/18 1480		18/8 🛪 6/9	
-	Manhole 1807	en nays	zo udys	JUI 11/16/11	111 3/ 1/ 10	1974	104	0.0	381 10/0/10	110 0/ 5/ 40 4100			
2													
3	Plumbing Work & Drawpits for utilities	50 days	221 days	Fri 15/12/17	Fri 2/2/18	NA	NA	0%	Sat 18/8/18	Tue 26/3/19			
4	Water meter box	20 days	20 days	Sun 17/12/17	Fri 5/1/18	NA	NA	0%	Sat 18/8/18	Thu 6/9/18 1467,1476,1480,1481FS-2		18/8 6/9	
8	CLP drawpits and cable ducts	20 days	20 days	Fri 15/12/17	Wed 3/1/18	NA	NA	0%	Sat 18/8/18	Thu 6/9/18 1476		18/8 6/9	
5	Lighting pits	20 days	20 days	Fri 15/12/17	Wed 3/1/18	NA	NA	0%	Sat 18/8/18	Thu 6/9/18 1476		18/8 6/9	
5	Cabling and Installation of Transformer	28 days	28 days	Sat 6/1/18	Fri 2/2/18	NA	NA	0%	Fri 7/9/18	Thu 4/10/18 1484,1485,1486		■ 7/9 ★ 4/10	
-	- series and a second series of the later the	20 0095	20 00ys	301 0/ 1/ 10		110	1963	470					
	Task		-	Critical Sp	alit		Rolled Up Task			Rolled Up Baseline Milestone	Project Summary	president income to the	
	Task Progr	000	(Commission of the second	Baseline	(11) (1) (1) (1) (1) (1) (1) (1) (1) (1)		Rolled Up Task			Rolled Up Progress	Group By Summary	terror and the second se	
ct: Rollin	Programme (Nov 2017)												
	2017 Critical Tas Int Programme based on Master Programme (Rev 0-A)			Milestone			Rolled Up Mile			Split	Inactive Task		
28 Nov Entitlem	Int Programme based on Master Programme (Rev 0-A)												
28 Nov Entitlem	Critical Tas	k Progress		Baseline M			Baseline Summ Rolled Up Base	10.000		Baseline Split External Tasks	Inactive Milestone Deadline		

Task Name	Baseline	Duration	Baseline Start	Baseline Finish	Antonia Charat	A stored Photo-	67	Pice .	Ptotak Budenness	10 0010 0010 0010 0010
o lask Name	Duration	Duration	baseline start	Baseline Finish	Actual Start	Actual Finish	% iomplet	Start	Finish Predecessors	15 2016 2017 2018 2019 20; O3 O4 O1 O2 O3 O4 O1 O2 O3 O4 O1 O2 O3 O4 O1 O2 O3 O4 O1 O2
CLP energization	0 days	0 days	Fri 2/2/18	Fri 2/2/18	NA	NA	0%	Tue 26/3/19	Tue 26/3/19 1450,1487	15 2016 2017 2018 2019 20 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 26/3
Remaining works and Handing Over to E&M fo Commissioning	r Testing and 120 days	120 days	Thu 4/1/18	Thu 3/5/18	NA	NA	0%	Wed 5/9/18	Wed 2/1/19	
Recycle Timber plastic cladding of External F Pumping Staticn	inishign of 60 days	60 days	Thu 4/1/18	Sun 4/3/18	NA	NA	0%	Wed 5/9/18	Sat 3/11/18 1452FS-30 days	5/9 3/11
Metal fence wall & Gate	60 days	60 days	Thu 4/1/18	Sun 4/3/18	NA	NA	0%	Wed 5/9/18	Sat 3/11/18 1453FS-30 days	5/9 🔫 3/11
Tempred glass fence on roof	30 days	30 days	Sat 3/2/18	Sun 4/3/18	NA	NA	0%	Fri 5/10/18	Sat 3/11/18 1491FS-30 days,1492F5	
Green Roof	45 days	45 days	Mon 5/3/18	Wed 18/4/18	NA	NA	0%	Sun 4/11/18	Tue 18/12/18 1493	4/11 4/12
U-channel	50 days	50 days	Tue 13/2/18	Tue 3/4/18	NA	NA	0%	Mon 15/10/18	Mon 3/12/18 1492FS-20 days	I5/10 × 3/12
Road pavement around Pumping Station	50 days	50 days	Mon 5/3/18	Mon 23/4/18	NA	NA	0%	Sun 4/11/18	Sun 23/12/18 1495FS-30 days	······································
Landscaping work	60 days	60 days	Mon 5/3/18	Thu 3/5/18	NA	NA	0%	Sun 4/11/18	Wed 2/1/19 1496FS-50 days	4/11 2/1
Handing Over to E&M (1019 days after comr Pumping Station)	nencement of 0 days	0 days	Thu 3/5/18	Thu 3/5/18	NA	NA	0%	Wed 2/1/19	Wed 2/1/19 1494FF,1497	A 221
E&M Work	260 days	260 days	Sat 3/2/18	Sat 20/10/18	NA	NA	0%	Wed 27/3/19	Wed 11/12/19	
Installation of E&M work	120 days	120 days	Sat 3/2/18	Sat 2/6/18	NA	NA	0%	Wed 27/3/19	Wed 24/7/19 1488	27/3 24/7
Installation of E&M works & Testing and Cor		140 days	Sun 3/6/18	Sat 20/10/18	NA	NA	0%	Thu 25/7/19	Wed 11/12/19 1500	25/711/12
Completion Section 11B	0 days	0 days	Sat 20/10/18	Sat 20/10/18	NA	NA	0%	Wed 11/12/19	Wed 11/12/19 1498FF+172 days,1501	
Section 11B - Inclement Weather Granted (EOT Claim to 31 July 2017)	an a san an a	59 days	NA	NA	NA	NA	0%	Thu 12/12/19	Sat 8/2/20 1503	12/12 8/2
Duration of Section 10A - Siu Lam Psychiatric Centre Pumping Station	e Sewage 750 days	750 days	Mon 20/7/15	Mon 7/8/17	Mon 20/7/15	Mon 7/8/17	100%	Mon 20/7/15	Mon 7/8/17	7/8
<ul> <li>Inclement Weather Granted (EOT Claim No. 3.18, up 2017)</li> </ul>	to 31 July 0 days?	45 days	NA	NA	Tue 8/8/17	Thu 21/9/17	100%	Tue 8/8/17	Thu 21/9/17 1507	8/8 📥 21/9
Additional Time for Completion	0 days?	50 days	NA	NA	Fri 22/9/17	Fri 10/11/17	100%	Fri 22/9/17	Fri 10/11/17 1508	22/9 🛌 10/11
Completion	0 days?	0 days	NA	NA	Fri 10/11/17	Fri 10/11/17	100%	Fri 10/11/17	Fri 10/11/17 1509,1565FF	A 10/11
Section 10A - Siu Lam Psychiatric Centre Sewage Pu Station	mping 750 days	800 days?	Mon 20/7/15	Mon 7/8/17	Mon 20/7/15	NA	98%	Mon 20/7/15	Tue 26/9/17	VV
<ul> <li>Portion 10 - Time Possession of Site</li> </ul>	60 days	60 days	Mon 20/7/15	Thu 17/9/15	Mon 20/7/15	Thu 17/9/15	100%	Mon 20/7/15	Thu 17/9/15	17/9
Prepartation Work	90 days	90 days	Fri 18/9/15	Wed 16/12/15	Fri 18/9/15	Wed 16/12/15	100%	Fri 18/9/15	Wed 16/12/15	
<ul> <li>Initial Survey</li> </ul>	60 days	60 days	Fri 18/9/15	Mon 16/11/15	Fri 18/9/15	Mon 16/11/15	100%	Fri 18/9/15	Mon 16/11/15 1513	/9 🚾 16/11
/ Site clearance	30 days	30 days	Tue 17/11/15	Wed 16/12/15	Tue 17/11/15	Wed 16/12/15	100%	Tue 17/11/15	Wed 16/12/15 1515	17/11 16/12
EOT Claim 021 - Delay due to Change of Design	at SLPC SPS 0 days?	80 days	NA	NA	Sat 10/9/16	Tue 29/11/15	100%	Sat 10/9/16	Tue 29/11/16	
/ Works were suspended due to design change	0 days?	0 days	NA	NA	Sat 10/9/16	Sat 10/9/16	100%	Sat 10/9/16	Sat 10/9/16	<b>▲</b> ] <sup>10/9</sup>
<ul> <li>Partially updated design information was revi</li> </ul>		80 days	NA	NA	Sat 10/9/16	Mon 28/11/15	100%	Sat 10/9/16	Mon 28/11/16 1519	10/9 28/11
AECOM and provided										
<ul> <li>Works resumed</li> </ul>	0 days?	0 days	NA	NA	Tue 29/11/16	Tue 29/11/15	100%	Tue 29/11/16	Tue 29/11/16 1520	229/11
EOT Claim 033 - Change of Design in Siu Lam Ps Centre SPS		167 days?	NA	NA	Tue 29/11/16		100%	Tue 29/11/16	Sun 14/5/17	
Additional cast-in socket for davit is requested under updated construction details		0 days	NA	NA	Tue 29/11/16	Tue 29/11/15	100%	Tue 29/11/16	Tue 29/11/16 1521	- <b>→▲</b> -29/11
Order, Fabrication and Delivery of socket	0 days?	42 days?	NA	NA	Tue 29/11/16	Mon 9/1/17	100%	Tue 29/11/16	Mon 9/1/17 1524	29/11 9/1
<ul> <li>Ready for installation</li> <li>Installation of cast-in davit and modification of</li> </ul>	0 days?	0 days	NA	NA	Tue 10/1/17	Tue 10/1/17	100%	Tue 10/1/17	Tue 10/1/17 1525	
bars		3 days	NA	NA	Tue 10/1/17	Thu 12/1/17	100%	Tue 10/1/17	Thu 12/1/17 1526	10/1 \$2/1
Construct Rising main (CH 307 to CH 282) from House in advance Koisk due to increase of dep pumping station		55 days	NA	NA	Wed 22/2/17	Mon 17/4/17	100%	Wed 22/2/17	Mon 17/4/17 1539	22/2 17/4
Confirm details of additional 45 degree bend	by AECOM 0 days?	0 days	NA	NA	Wed 1/3/17	Wed 1/3/17	100%	Wed 1/3/17	Wed 1/3/17	<b>A</b> 1 <sup>1</sup> /3
	Task		Critical Sp	lit		Rolled Up Task			Rolled Up Baseline Milestone	Project Summary
alling Programme (Nov 2017)	Task Progress		Baseline			Rolled Up Criti			Rolled Up Progress	Group By Summary
Vov 2017 lement Programme based on Masier Programme (Rev 0-A)	Critical Task	t	Milestone			Rolled Up Mile		_	Split	Inactive Task
	Critical Task Progress		Baseline N	filestone		Baseline Sumn	nary		Baseline Split	Inactive Milestone
	Critical		Summary			Rolled Up Base			External Tasks	Deadline

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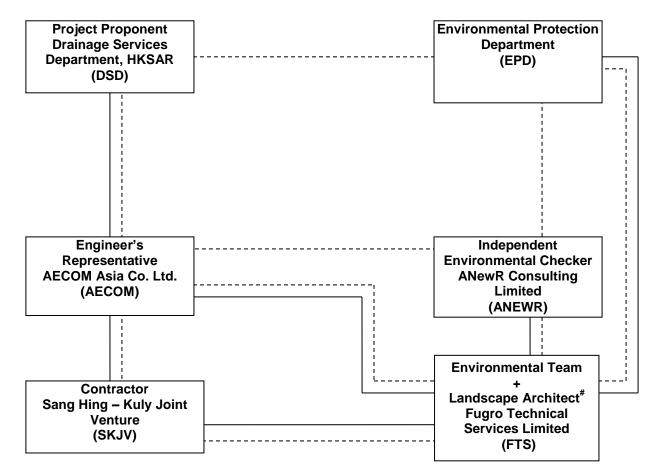


Appendix B

**Project Organization Chart** 

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong.





#### Remark:

# The Landscape Architect with a minimum of 1-2years on site experience as a member of the ET to monitor and audit the landscaping installation works and landscape protection measures.

Legen	d:
	Line of Reporting
	Line of Communication

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Appendix C

Action and Limit Levels for Air Quality and Noise

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#### Action and Limit Levels for Air Quality

Parameter	Monitoring Station	Action Level (µg/m³)	Limit Level (µg/ m³)
1-hr TSP	LC6a	344	500
(µg/m³)	LC9	335	500

#### Action and Limit Levels for Construction Noise

Time Period	Location	Action	Limit
0700-1900 hrs on normal weekdays	LC6a LC9	When one documented complaint is received	75* dB(A)

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

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Appendix D

**Calibration Certificates of Monitoring Equipment** 

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



#### FUGRO TECHNICAL SERVICES LIMITED Fugro Development Centre, : +852 2450 8233 Tel MateriaLab 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com Hong Kong. Report no.: 940891CA181789(8) Page 1 of 1 CALIBRATION CERTIFICATE OF DUST METER Client : Fugro Technical Services Limited Project : Calibration Services **Client Supplied Information** Details of Unit Under Test, UUT Description : Laser dust monitor Manufacturer : SIBATA Model No. : LD-5 Serial No : 561775 Specification Limit : NA Next Calibration Date : 10-Oct-2019 Laboratory Information Description : Reference balance Equipment ID. : R-039-12 Date of Calibration : 11-Oct-2018 Ambient Temperature : 21 °C Calibration Location : Calibration Laboratory of FTS : By direct comparison the weight of dust particle trapped in a filter paper using high Method Used volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time. Calibration Results : Reference concentration Total count for 1 hour CPM (Count per minute) $(mg/m^3)$ 0.0586 2253 37.55 0.0453 2044 34.07 0.1275 3030 50.50 Remarks: 1. The equipment being used in this calibration is traceable to recognized National Standards. 2. The interpolation equation : Concentration (mg/m<sup>3</sup>) = K x [UUT reading (CPM)], where K = 0.001895 3. Correlation coefficient (r): 0.9987 15-11-2018 Certified by : 107 Jenny Date : 15-(1-2018 Checked by :\_\_\_ Date : CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager) \*\* End of Report \*\* This report shall not be reproduced except in full with prior written approval from the Company. GEN01/0917

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong. Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.fugro.com



#### FUGRO TECHNICAL SERVICES LIMITED Fugro Development Centre, 5 Lok Yi Street, Tai Lam, : +852 2450 8233 Tel MateriaLab Fax : +852 2450 6138 Tuen Mun, N.T., E-mail : matlab@fugro.com Hong Kong. Website : www.fugro.com Report no.: 940891CA181789(10) Page 1 of 1 CALIBRATION CERTIFICATE OF DUST METER Client : Fugro Technical Services Limited Project : Calibration Services **Client Supplied Information** Details of Unit Under Test, UUT Description : Laser dust monitor Manufacturer : SIBATA Model No. : LD-5 Serial No. : 561790 Specification Limit : NA Next Calibration Date : 10-Oct-2019 Laboratory Information Description : Reference balance Equipment ID. : R-039-12 Date of Calibration : 11-Oct-2018 Ambient Temperature : 21 °C Calibration Location : Calibration Laboratory of FTS : By direct comparison the weight of dust particle trapped in a filter paper using high Method Used volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time. Calibration Results : Reference concentration Total count for 1 hour CPM (Count per minute) $(mg/m^3)$ 0.0586 2135 35.58 0.0453 1847 30.78 0.1275 3087 51.45 Remarks: 1. The equipment being used in this calibration is traceable to recognized National Standards. 2. The interpolation equation : Concentration (mg/m<sup>3</sup>) = K x [UUT reading (CPM)], where K = 0.001964 3. Correlation coefficient (r) : 0.9974 Checked by :\_\_\_ 15-11-2018 Certified by: KJ Joung Date: 15 -11-2018 Date : CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager) \*\* End of Report \*\* This report shall not be reproduced except in full with prior written approval from the Company GEN01/0917

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Hong Kong.		E-mail : mallab( Website : www.fu			eriaLat
Report no.: 1830	057CA18556	7			Page 1 of 1
CALIBRATIC	ON CERT	<b>IFICATE OF SOL</b>	ND LEVEL	METER	
<b>Client Supplied In</b>	nformation				
Client : Material	Lab Consulta	nts Ltd.			
Address : Room 7	23 & 725, 7/F	., Block B Profit Industria	Building, 1-15 k	wai Fung Crescent	Kwai Chung, N.T.
Project : Calibratio			2012		
Details of Unit Uno	der Test, UU1	Г			
Description	: 1	Sound Level Meter			
Manufacturer	5 (	Casella			
		Meter	Microphone	Preamplifier	
Model No.	1	CEL-63X	CE-251	CEL-495	
Serial No.	: E	4637931	01836	002752	1
Equipment ID	: 1	N-13			
Next Calibration	n Date : 1	14-Oct-2019			
Specification Li	imit : E	EN 61672: 2003 Type 1			
		1997 - 1997 -			
Laboratory Inform	nation				
Description		coustic Multifunction Cali	brator 4226 (Tra	ditional free field set	ttina)
Equipment ID.					
Date of Calibra			Temperature :	22 °C	
		States of the second	and a second sec		
Calibration Loc	ation : Calil	bration Laboratory of FTS	5		
		bration Laboratory of FTS at comparison	8		
Calibration Loc Method Used		bration Laboratory of FTS of comparison	3		
		옷을 많은 것이 많은 것이 많이 나는 것이 가지 않는 것이 같이 많이	5		
Method Used	: By direc	옷을 많은 것이 많은 것이 많이 나는 것이 가지 않는 것이 같이 많이	3		
Method Used Calibration Resul	: By direc	t comparison		erification Limik/dD1	1
Method Used	: By direc	t comparison Mean Value (	dB) Spo	ecification Limit(dB)	]
Method Used Calibration Resul	: By directs:	t comparison	dB) Spi	ecification Limit(dB) 2.6 to -0.6 2.8 to -0.4	
Method Used Calibration Resul	: By direc ts : eters 4000Hz 2000Hz 1000Hz	Mean Value ( 2.2 1.5 0.0	dB) Spr 2 2 1	2.6 to -0.6 2.8 to -0.4 1.1 to -1.1	
Method Used Calibration Resul Parame	: By direct ts : 2000Hz 1000Hz 500Hz	Mean Value ( 2.2 1.5 0.0 -3.4	dB) Spi 2 2 1	2.6 to -0.6 2.8 to -0.4 1.1 to -1.1 1.8 to -4.6	
Method Used Calibration Resul Parame A-weighting	: By direc ts : eters 4000Hz 2000Hz 1000Hz 500Hz 250Hz	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8	dB) Spo 2 2 1 1 -7	to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0	
Method Used Calibration Resul Parame A-weighting frequency	By direct ts : 2000Hz 2000Hz 1000Hz 250Hz 250Hz 63Hz	Mean Value ( 2.2 1.5 0.0 -3.4	dB) Sp 2 2 2 1 -7 -7 -7 -7	2.6 to -0.6 2.8 to -0.4 1.1 to -1.1 1.8 to -4.6	
Method Used Calibration Result Parame A-weighting frequency response	: By direct ts : 2000Hz 2000Hz 1000Hz 250Hz 250Hz 125Hz 63Hz 31.5Hz	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2	dB) Sp 2 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4	
Method Used Calibration Result Parame A-weighting frequency response Differential level	By direct ts : 2000Hz 2000Hz 1000Hz 500Hz 250Hz 125Hz 63Hz 31.5Hz 94dB-104d	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2 IB 0.0	dB) Sp 2 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	
Method Used Calibration Result Parame A-weighting frequency response	: By direct ts : 2000Hz 2000Hz 1000Hz 250Hz 250Hz 125Hz 63Hz 31.5Hz	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2 IB 0.0	dB) Sp 2 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4	
Method Used Calibration Result Parame A-weighting frequency response Differential level	By direct ts : 2000Hz 2000Hz 1000Hz 500Hz 250Hz 125Hz 63Hz 31.5Hz 94dB-104d	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2 IB 0.0	dB) Sp 2 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	
Method Used Calibration Result Parame A-weighting frequency response Differential level	By direct ts : 2000Hz 2000Hz 1000Hz 500Hz 250Hz 125Hz 63Hz 31.5Hz 94dB-104d	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2 IB 0.0	dB) Sp 2 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	
Method Used Calibration Result Parame A-weighting frequency response Differential level	By direct ts : 2000Hz 2000Hz 1000Hz 500Hz 250Hz 125Hz 63Hz 31.5Hz 94dB-104d	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2 IB 0.0	dB) Sp 2 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	
Method Used Calibration Resul Parame A-weighting frequency response Differential level linearity Remarks :	By direct ts : 2000Hz 2000Hz 250Hz 250Hz 250Hz 250Hz 3125Hz 63Hz 31.5Hz 94dB-104d 104dB-114d	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2 IB 0.0 dB 0.0	dB) Spr 2 1 	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	
Method Used Calibration Resul Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u	: By direct ts : 2000Hz 2000Hz 250Hz 250Hz 250Hz 250Hz 31.5Hz 94dB-104d 104dB-114d	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2 IB 0.0	dB) Spr 2 1 	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	
Method Used Calibration Resul Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value	: By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 250Hz 250Hz 250Hz 31.5Hz 94dB-104d 104dB-114d used in this call is the average	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2 IB 0.0 dB 0.0 dB 0.0	dB) Spa 2 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	
Method Used Calibration Resul Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value 3. For calibration: F	: By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 250Hz 250Hz 250Hz 31.5Hz 94dB-104d 104dB-114d used in this call is the average Reference rar	Mean Value (           2.2           1.5           0.0           -3.4           -8.8           -16.3           -26.3           -39.2           IB           0.0           dB           0.0	dB) Spa 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4           ± 0.6         ±           ± 0.6         ±           ± 10.6         ±           ± 1.4         ±           ± 0.6         ±	weighting is A,
Method Used Calibration Resul Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value 3. For calibration: F	: By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 250Hz 250Hz 250Hz 31.5Hz 94dB-104d 104dB-114d used in this call is the average Reference rar	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2 IB 0.0 dB 0.0 dB 0.0	dB) Spa 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4           ± 0.6         ±           ± 0.6         ±           ± 10.6         ±           ± 1.4         ±           ± 0.6         ±	weighting is A,
Method Used Calibration Resul Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value 3. For calibration: F	: By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 250Hz 250Hz 250Hz 31.5Hz 94dB-104d 104dB-114d used in this call is the average Reference rar	Mean Value (           2.2           1.5           0.0           -3.4           -8.8           -16.3           -26.3           -39.2           IB           0.0           dB           0.0	dB) Spa 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4           ± 0.6         ±           ± 0.6         ±           ± 10.6         ±           ± 1.4         ±           ± 0.6         ±	weighting is A,
Method Used Calibration Resul Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value 3. For calibration: F	: By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 250Hz 250Hz 250Hz 31.5Hz 94dB-104d 104dB-114d used in this call is the average Reference rar	Mean Value (           2.2           1.5           0.0           -3.4           -8.8           -16.3           -26.3           -39.2           IB           0.0           dB           0.0	dB) Spa 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4           ± 0.6         ±           ± 0.6         ±           ± 10.6         ±           ± 1.4         ±           ± 0.6         ±	weighting is A,
Method Used Calibration Resul Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value 3. For calibration: F	: By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 250Hz 250Hz 250Hz 31.5Hz 94dB-104d 104dB-114d used in this call is the average Reference rar	Mean Value (           2.2           1.5           0.0           -3.4           -8.8           -16.3           -26.3           -39.2           IB           0.0           dB           0.0	dB) Spa 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4           ± 0.6         ±           ± 0.6         ±           ± 10.6         ±           ± 1.4         ±           ± 0.6         ±	weighting is A,
Method Used Calibration Result Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value 3. For calibration: F 4. The equipment c	By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 2000Hz 300Hz 200Hz 20	Mean Value ( 2.2 1.5 0.0 -3.4 -8.8 -16.3 -26.3 -39.2 IB 0.0 dB 0.0 dB 0.0 dB 0.0	dB) Spr 2 1 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4           ± 0.6         ±           ± 0.6         ±           the description of the above reserves of the above re	r weighting is A, measurement.
Method Used Calibration Result Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value 3. For calibration: F 4. The equipment of Checked by :	By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 2000Hz 300Hz 200Hz 20	Mean Value (           2.2           1.5           0.0           -3.4           -8.8           -16.3           -26.3           -39.2           IB           0.0           dB           0.0	dB)         Spring           2         2           1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -2         -3           -3         -3           -1         -2           -3         -3           -1         -7           -2         -3           -3         -3           -4         -3           -5         -4           -6         -7           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4           ± 0.6         ±           ± 0.6         ±           the description of the above reserves         0.6	r weighting is A, measurement.
Method Used Calibration Result Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value 3. For calibration: F 4. The equipment c	By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 2000Hz 300Hz 200Hz 20	Mean Value (           2.2           1.5           0.0           -3.4           -8.8           -16.3           -26.3           -39.2           IB           0.0           dB           0.0           db           -39.2           ibration is traceable to rege of four measurements.           nge is 20-140dB, reference           with EN 61672: 2003 Type           Date : <u>22 - (e - 20) f</u> Ce	dB)         Spring           22         1           -7         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -2         -3           -3         -3           -4         -3           -5         -3           -6         -7           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4           ± 0.6         ±           ± 0.6         ±           the description of the above reserves of the above re	r weighting is A, measurement.
Method Used Calibration Result Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value 3. For calibration: F 4. The equipment of Checked by :	By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 2000Hz 300Hz 200Hz 20	Mean Value (           2.2           1.5           0.0           -3.4           -8.8           -16.3           -26.3           -39.2           IB           0.0           dB           0.0           db           -39.2           ibration is traceable to rege of four measurements.           nge is 20-140dB, reference           with EN 61672: 2003 Type           Date : <u>22 - (e - 20) f</u> Ce	dB)         Spring           2         2           1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -2         -3           -3         -3           -1         -2           -3         -3           -1         -7           -2         -3           -3         -3           -4         -3           -5         -4           -6         -7           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4           ± 0.6         ±           ± 0.6         ±           the description of the above reserves         0.6	r weighting is A, measurement.
Method Used Calibration Result Parame A-weighting frequency response Differential level linearity Remarks : 1. The equipment u 2. The mean value 3. For calibration: F 4. The equipment of Checked by :	By direct ts : 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 300Hz 2000Hz 2000Hz 2000Hz 300Hz 200Hz 20	Mean Value (           2.2           1.5           0.0           -3.4           -8.8           -16.3           -26.3           -39.2           IB           0.0           dB           0.0           db           -39.2           ibration is traceable to rege of four measurements.           nge is 20-140dB, reference           with EN 61672: 2003 Type           Date : <u>22 - (e - 20) f</u> Ce	dB)         Spring           22         1           -7         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -1         -7           -2         -3           -3         -3           -4         -3           -5         -3           -6         -7           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7         -3           -7	2.6         to         -0.6           2.8         to         -0.4           1.1         to         -1.1           1.8         to         -4.6           7.2         to         -10.0           4.6         to         -17.6           4.7         to         -27.7           7.4         to         -41.4           ± 0.6         ±           ± 0.6         ±           the description of the above reserves         0.6	r weighting is A, measurement.

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Hong Kong.	Tel :+852 2450 8233 Fax :+852 2450 6138 E-mail :matlab@fugro.com Website :www.fugro.com	Mate	eriaLab
Report no.: 183057CA185248 CALIBRATION CERTIF	ICATE OF SOUND C	ALIBRATOR	Page 1 of 1
<b>Client Supplied Information</b>			
Client : MateriaLab Consultants	Ltd.		
Project : Calibration Services			
Details of Unit Under Test, UUT			
Description : Sou	und Calibrator		
Manufacturer : Cas	sella (Model CEL-120/1)		
Serial No. : 435	8250		
Equipment ID : N/A			
Next Calibration Date : 02-	Jul-2019		
Specification Limit : EN	60942: 2003 Type 1		
Laboratory Information			
Description : Reference	Sound level meter		
Equipment ID. : R-119-1			
Equipment ID. : R-119-1 Date of Calibration : 03-Jul-2	2018 Ambient Tempera	ature ; 22 °C	
Date of Calibration : 03-Jul-2	2018 Ambient Tempera	ature : 22 °C	
Date of Calibration : 03-Jul-2	tion Laboratory of FTS	ature : 22 °C	
Date of Calibration : 03-Jul-2 Calibration Location : Calibrat	tion Laboratory of FTS	ature : 22 °C	
Date of Calibration : 03-Jul-2 Calibration Location : Calibrat	tion Laboratory of FTS	ature : 22 °C	
Date of Calibration : 03-Jul-2 Calibration Location : Calibrat Method Used : By direct co	tion Laboratory of FTS	ature : 22 °C	]
Date of Calibration : 03-Jul-2 Calibration Location : Calibrat Method Used : By direct co Calibration Results :	tion Laboratory of FTS omparison Mean Value (error of		
Date of Calibration : 03-Jul-2 Calibration Location : Calibrat Method Used : By direct co Calibration Results : Parameters (Setting of UUT) 94dB 114dB	tion Laboratory of FTS omparison Mean Value (error of measurement)		
Date of Calibration : 03-Jul-2 Calibration Location : Calibrat Method Used : By direct of Calibration Results : Parameters (Setting of UUT) 94dB 114dB Remarks : 1. The equipment used in this calibr 2. The mean value is the average o 3. The equipment does comply with	tion Laboratory of FTS omparison Mean Value (error of measurement) 0.0 dB 0.1 dB ration is traceable to recognized f four measurements. the specification limit. :_ <u>(c - 7 - 70)</u> Certified by :_	Specification Limit(dB) ±0.4dB	7.501

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Appendix E

**Environmental Monitoring and Data Recovery Schedule** 

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# Project: <u>Sewage Pumping Stations at Tai Lam Chung Tsuen Luen On San Tsuen, Tai Lam Valley and</u> <u>Lok Chui Street near Castle Peak Villas under the scope of "Tuen Mun Sewerage – Eastern</u> <u>Coastal Sewerage Extension" – DC/2014/01</u>

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3 A & N Impact Monitoring	4	5	6	7	8 A & N Impact Monitoring
9	10	11	12	13 A & N Impact Monitoring	14	15
16	17	18	19 A & N Impact Monitoring	20	21	22
23	24 A & N Impact Monitoring	25	26	27	28	29 A & N Impact Monitoring
30	31					

Impact Monitoring Schedule (June 2019)

### Remarks

- 1. A: 1-hr TSP monitoring at LC6a and LC9.
- 2. N: Noise monitoring at LC6a and LC9.

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### DATA RECOVERY SCHEDULE

	Air Quality	Monitoring	Noise Monitoring Monitoring Station*		
Date	Monitoring	g Station*			
	1-hr		LAeq	(30min)	
1	LC6a	LC9	LC6a	LC9	
1					
2			γ		
3	Ň	N	Ň		
4					
5					
6					
7	1	1	1	1	
8					
9					
10					
11					
12		1			
13				$\checkmark$	
14					
15					
16					
17					
18					
19		$\checkmark$	√		
20					
21					
22					
23					
24		$\checkmark$		$\checkmark$	
25					
26					
27					
28					
29				$\checkmark$	
30					
31					
% of R	100	100	100	100	

\* Remark type of parameters

% of R The percentage of Data Recovery is the actual monitoring over the scheduled monitoring

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Tentative Impact Monitoring Schedule (July 2019)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5 A & N Impact Monitoring	6
7	8	9	10	11 A & N Impact Monitoring	12	13
14	15	16	17 A & N Impact Monitoring	18	19	20
21	22	23 A & N Impact Monitoring	24	25	26	27
28	29 A & N Impact Monitoring	30	31			

### Remarks

- 1. A: 1-hr TSP monitoring at LC6a and LC9.
- 2. N: Noise monitoring at LC6a and LC9.
- 3. Actual monitoring schedule may be subjected to change due to any safety concern or adverse weather condition.

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Appendix F

Air Quality Monitoring Data and Graphical Presentations

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# LC6a The Castle Bay

	1-hour TSP (µg/m³)						
Date	Start Time	1st hr	2nd hr	3rd hr	Weather		
03-Jun-19	13:11	81	100	105	Fine		
08-Jun-19	08:31	39	53	47	Fine		
13-Jun-19	13:19	52	60	64	Fine		
19-Jun-19	08:35	36	37	36	Fine		
24-Jun-19	14:45	22	39	37	Cloudy		
29-Jun-19	08:46	60	71	66	Fine		
	Average	56					
	Max	105					
	Min		22				

# LC9 Castle Peak Villas Block C

	1-hour TSP (µg/m³)						
Date	Start Time	1st hr	2nd hr	3rd hr	Weather		
03-Jun-19	13:26	50	59	56	Fine		
08-Jun-19	08:56	33	37	42	Fine		
13-Jun-19	13:36	50	57	60	Fine		
19-Jun-19	08:42	35	37	39	Fine		
24-Jun-19	14:52	19	36	30	Cloudy		
29-Jun-19	08:58	52	56	62	Fine		
	Average		45				
	Max	62					
	Min		19				

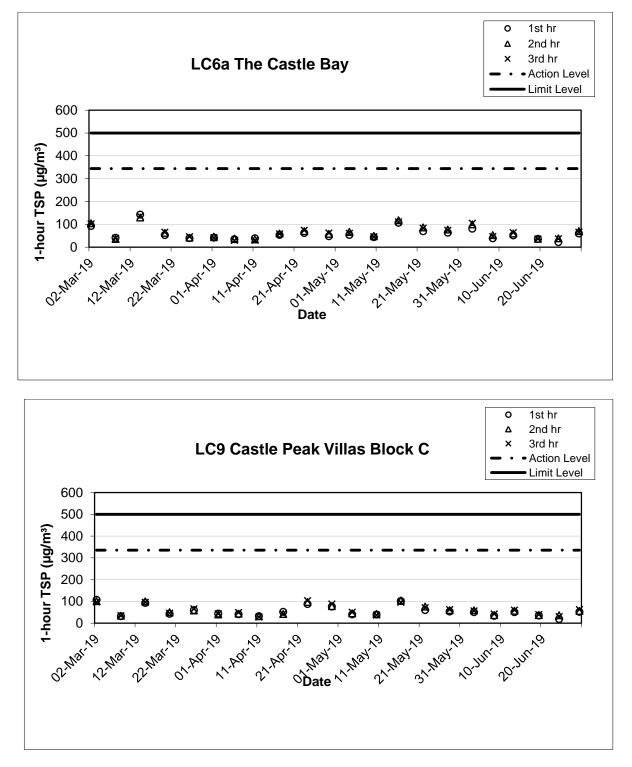
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Note:

- 1) The QA/QC procedures and detection Limits refer to section 2.2 and 2.5.
- 2) The other factors influencing the monitoring results refer to section 2.7.

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Appendix G

**Noise Monitoring Data and Graphical Presentations** 

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# LC6a The Castle Bay

		• • •				
Date	Start Time	L <sub>eq</sub> 30min dB(A)	Corrected L <sub>eq</sub> 30min dB(A) <sup>1</sup>	L <sub>90</sub> dB(A)	L <sub>10</sub> dB(A)	Weather
03-Jun-19	14:19	65	60	61	67	Fine
08-Jun-19	10:03	65	60	62	68	Fine
13-Jun-19	10:03	62	57	62	66	Fine
19-Jun-19	08:35	69	64	67	72	Fine
24-Jun-19	14:45	62	57	57	64	Cloudy
29-Jun-19	10:57	63	58	60	65	Fine

Note:

1) A distance correction of -5dB(A) has been applied in monitoring data of LC6a according to baseline monitoring report (Appendix G).

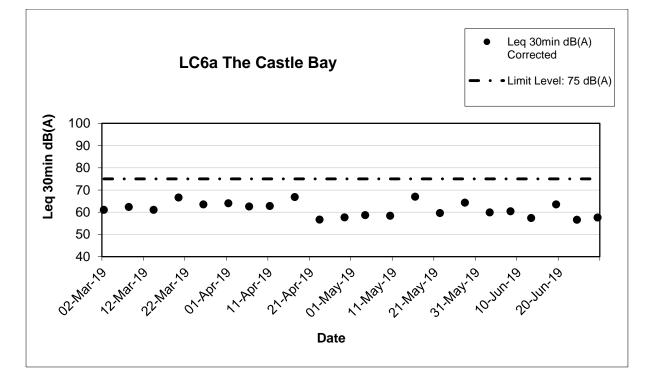
Date	Start Time	L <sub>eq</sub> 30min dB(A)	Corrected L <sub>eq</sub> 30min dB(A)	L <sub>90</sub> dB(A)	L <sub>10</sub> dB(A)	Weather	
03-Jun-19	13:33	66	N.A	60	68	Fine	
08-Jun-19	09:07	66	N.A	61	68	Fine	
13-Jun-19	13:47	65	N.A	60	66	Fine	
19-Jun-19	09:50	67	N.A	67	73	Fine	
24-Jun-19	15:23	61	N.A	58	63	Cloudy	
29-Jun-19	09:09	63	N.A	61	66	Fine	

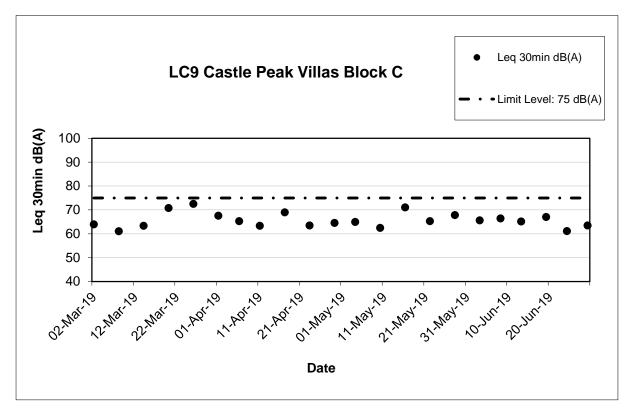
# LC9 Castle Peak Villas Block C



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Note:

- The QA/QC procedures and detection Limits refer to section 3.2 and 3.5. 1)
- 2) The other factors influencing the monitoring results refer to section 3.7.

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Appendix H

Cumulative Statistics on Exceedances, Complaints, Notifications of Summons and Successful Prosecutions

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### **Environmental Complaints Log**

Complaint Log No.	Date of Receipt	Received From and Received By	Nature of Complaint	Date Investigated	Outcome	Date of Reply
Nil	-	-	-	-	-	-

### **Cumulative Statistics on Complaints**

Environmental Parameters	Cumulative No. Brought Forward	No. of Complaints This Month	Cumulative Project-to-Date	
Air	0	0	0	
Noise	0	0	0	
Water	0	0	0	
Waste	0	0	0	
Total	0	0	0	

### **Cumulative Statistics on Notifications of Summons and Successful Prosecutions**

Environmental Parameters	Cumulative No. Brought Forward	No. of Prosecutions This Month	Cumulative Project-to-Date	
Air	0	0	0	
Noise	0	0	0	
Water	0	0	0	
Waste	0	0	0	
Total	0	0	0	

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Appendix I

Site Audit Summary

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### Summary of Site Audit

Inspection Date	Observation/ Comment	Follow Up Action	Completion Date
Follow-up action(	s) of last reporting month:		
N.A			
21/06/2019	The Contractor was reminded to regularly water spraying on-site.	N.A	
Landscape and	Visual Impact Inspection		
13/06/2019 & 27/06/2019	Condition of LC-TC07 (R) and T0490 (R) was found recovering with newly grown leaves. Leaning trunk and broken branches remained. Yellow leaves were observed in T0489 (R)	Tree specialist should conduct a tree risk assessment for suitable treatment and continue to monitor the risk of falling.	ASAP

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Appendix J

**Events and Action Plans** 

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### Event / Action Plan for Air Quality

EVENT					
	ET	IEC	ER	Contractor	
Action Level Exceedance for one sample.	<ul> <li>Identify the source.</li> <li>Inform the IEC and the ER.</li> <li>Repeat measurement to confirm finding.</li> <li>Increase monitoring frequency to daily.</li> </ul>	<ul> <li>Check monitoring data submitted by the ET.</li> <li>Check Contractor's working method.</li> </ul>	Notify Contractor.	<ul> <li>Rectify any unacceptable practice.</li> <li>Amend working methods if appropriate.</li> </ul>	
Exceedance for two or more consecutive samples.	<ul> <li>Identify the source.</li> <li>Inform the IEC and the ER.</li> <li>Repeat measurements to confirm findings.</li> <li>Increase monitoring frequency to daily.</li> <li>Discuss with the IEC and the Contractor on remedial actions required.</li> <li>If exceedance continues, arrange meeting with the IEC and the ER.</li> <li>If exceedance stops, cease additional monitoring.</li> </ul>	<ul> <li>Check monitoring data submitted by the ET.</li> <li>Check the Contractor's working method.</li> <li>Discuss with the ET and the Contractor on possible remedial measures.</li> <li>Advise the ER on the effectiveness of the proposed remedial measures.</li> <li>Supervisor implementation of remedial measures.</li> </ul>	<ul> <li>Confirm receipt of notification of failure in writing.</li> <li>Notify the Contractor.</li> <li>Ensure remedial measures properly implemented.</li> </ul>	<ul> <li>Submit proposals for remedial actions to IEC within 3 working days of notification.</li> <li>Implement the agreed proposals.</li> <li>Amend proposal if appropriate.</li> </ul>	
Limit Level					
Exceedance for one sample.	<ul> <li>Identify the source.</li> <li>Inform the ER and the DEP.</li> <li>Repeat measurement to confirm finding.</li> <li>Increase monitoring frequency to daily.</li> <li>Assess effectiveness of Contractor's remedial actions and keep the IEC, the DEP and the ER informed of the results.</li> </ul>	<ul> <li>Check monitoring data submitted by the ET.</li> <li>Check Contractor's working method.</li> <li>Discuss with the ET and the Contractor on possible remedial measures.</li> <li>Advise the ER on the effectiveness of the proposed remedial measures.</li> <li>Supervisor implementation of remedial measures.</li> </ul>	<ul> <li>Confirm receipt of notification of failure in writing.</li> <li>Notify the Contractor.</li> <li>Ensure remedial measures are properly implemented.</li> </ul>	<ul> <li>Take immediate action to avoid further exceedance.</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification.</li> <li>Implement the agreed proposals.</li> <li>Amend proposal if appropriate.</li> </ul>	
Exceedance for two or more consecutive samples	<ul> <li>Notify the IEC, the ER, the DEP and the Contractor.</li> <li>Identify the source.</li> <li>Repeat measurements to confirm findings.</li> <li>Increase monitoring frequency to daily.</li> <li>Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented.</li> <li>Arrange meeting with the IEC and the ER to discuss the remedial actions to be taken.</li> <li>Assess effectiveness of the Contractor's remedial actions and keep the IEC, the DEP and the ER informed of the results.</li> <li>If exceedance stops, cease additional monitoring.</li> </ul>	<ul> <li>Discuss amongst the ER, ET and the Contractor on the potential remedial actions.</li> <li>Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.</li> <li>Supervise the implementation of remedial measures.</li> </ul>	<ul> <li>Confirm receipt of notification of failure in writing.</li> <li>Notify the Contractor.</li> <li>In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented.</li> <li>Ensure remedial measures are properly implemented.</li> <li>If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated.</li> </ul>	<ul> <li>Take immediate action to avoid further exceedance.</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification.</li> <li>Implement the agreed proposals.</li> <li>Resubmit proposals if problem still not under control.</li> <li>Stop the relevant activity of works as determined by the ER until the exceedance is abated.</li> </ul>	

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### **Event / Action Plan for Construction Noise**

EVENT		ACT	ION	
	ET	IEC	ER	Contractor
Action Level	<ul> <li>Notify the IEC and the Contractor.</li> <li>Carry out investigation.</li> <li>Report the results of investigation to the IEC and the Contractor.</li> <li>Discuss with the Contractor and formulate remedial measures.</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> </ul>	<ul> <li>Review the analysed results submitted by the ET.</li> <li>Review the proposed remedial measures by the Contractor and advise the ER accordingly.</li> <li>Supervise the implementation of remedial measures.</li> </ul>	<ul> <li>Confirm receipt of notification of failure in writing.</li> <li>Notify the Contractor.</li> <li>Require the Contractor to propose remedial measures for the analysed noise problem.</li> <li>Ensure remedial measures are properly implemented.</li> </ul>	<ul> <li>Submit noise mitigation proposals to IEC</li> <li>Implement noise mitigation proposals</li> </ul>
Limit Level	<ul> <li>Notify the IEC, the ER, the DEP and the Contractor.</li> <li>Identify the source.</li> <li>Repeat measurement to confirm findings.</li> <li>Increase monitoring frequency.</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented.</li> <li>Inform the IEC, the ER and the DEP the causes &amp; actions taken for the exceedances.</li> <li>Assess effectiveness of the Contractor's remedial actions and keep the IEC, the DEP and the ER informed of the results.</li> <li>If exceedance stops, cease additional monitoring.</li> </ul>	<ul> <li>Discuss amongst the ER, the ET and the Contractor on the potential remedial actions.</li> <li>Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.</li> <li>Supervise the implementation of remedial measures.</li> </ul>	<ul> <li>Confirm receipt of notification of failure in writing.</li> <li>Notify the Contractor.</li> <li>Require the Contractor to propose remedial measures for the analysed noise problem.</li> <li>Ensure remedial measures are properly implemented.</li> <li>If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated.</li> </ul>	<ul> <li>Take immediate action to avoid further exceedance.</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification.</li> <li>Implement the agreed proposals.</li> <li>Resubmit proposals if problem still not under control.</li> <li>Stop the relevant activity of works as determined by the ER until the exceedance is abated.</li> </ul>

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### Event / Action Plan for Landscape and Visual Impact

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

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Appendix K

Implementation Status of Environmental Mitigation Measures

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### Air Quality

EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
4.5	Undertake all air pollution measures to prevent dust nuisance as a result of and during construction activities.	All unpaved haul roads, bulldozed material, exposed site areas / Throughout construction period	Contractor	TMEIA	*
4.5	No debris or other materials shall be burnt on the works areas.	All areas / Throughout construction period	Contractor	TMEIA. Avoid smoke impacts and disturbance	۸
4.5	Dust suppression measures shall be provided and to be submitted to and approved by the Engineer.	All areas / Throughout construction period	Contractor	TMEIA	^
4.5	Stockpiles of imported material kept on site shall be contained within hoardings, dampened and/or covered during dry and windy weather.	All areas / Throughout construction period	Contractor	TMEIA Avoid dust generation	۸
4.5	Material stockpiled along side trenches should be covered with tarpaulins whenever works are within village boundaries.	All areas / Throughout construction period	Contractor	TMEIA Avoid dust generation / visual impacts	^
4.5	Water sprays shall be used during the delivery and handling of cement, sands aggregates and the like.	All areas / Throughout construction period	Contractor	TMEIA Avoid dust generation	۸
4.5	No batching of concrete should be carried out on site. Concrete should be used in ready mixed form and off loaded adjacent to designated works areas.	All areas / Throughout construction period	Contractor	TMEIA	۸

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EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
4.5	Any vehicle used for moving cement, sands, aggregates and construction waste and the like shall have properly fitting side and tail boards. Materials shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin. The tarpaulin shall be properly secured and shall extend at least 300mm over the edges of the side and tail boards.	All areas / Throughout construction period	Contractor	TMEIA Avoid dust and spillage of material	^
4.5	No earth, mud, debris, dust and the like shall be deposited on public roads. Details of proposals for the wheel cleaning facilities shall be agreed with the Engineer. Such wheel washing facility shall be usable prior to any earthworks excavation activity on the Site.	All areas, particularly pumping station sites / Throughout construction period	Contractor	TMEIA Avoid spread/ deposition of mud	^
4.6.9	Pumping station vent shafts should be located away from sensitive receivers.	All pumping stations	DSD	TMEIA Avoid odour impacts	N/A
4.6.18	Use a covered container to store and transport the screenings from the pump house.	All pumping stations /operational phase	DSD	TMEIA Avoid odour impacts	N/A
4.6.18	Undertake the collection of the screenings and transfer to the covered container within the confines of the pump house.	All pumping stations / operational phase	DSD	TMEIA Avoid odour impacts	N/A
11.2.8	EM&A in the form of 1 hour total suspended particulates monitoring once per week	All sensitive representative receivers / Throughout construction period	Contractor	EM&A Manual	٨

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#### Noise Implementation Relevant EIA Status in Implementation **Environmental Protection Measures** Location/ Timing Standard or Construction Reference Agent Requirement Phase 5.7.1 & Ensure silencers are installed on the exhaust pipes of the trucks, All areas / Throughout ٨ Contractor TMEIA 5.8.1 excavators, compactors, concrete lorry mixer, and cranes for all activities. construction period 5.7.1 & All areas / Throughout ٨ Contractor Use of mufflers on the breakers for all activities. TMEIA 5.8.1 construction period All pumping stations Use of temporary noise barriers for all activities at the pumping station and main sewer sites and during main sewer construction. During main sewer 5.7.1 & ۸ construction locations / Contractor TMEIA 5.8.1 construction, barriers should be used to screen the activities of mobile Throughout construction equipment including the crane and excavator. period Village sewer alignment Use of temporary noise barriers for all activities in the villages, where ٨ 5.5.10 / Throughout Contractor TMEIA there is at least a 5m clearance construction period Sewer alignment 5.8.6 & N/A Manual breaking of concrete, where the concrete is less than 50mm thick construction / concrete Contractor TMEIA 5.9.6 breaking activities Sewer alignment 5.8.6 & Use of alternative pavement removal methods/equipment (kick ripper), N/A construction / concrete Contractor TMEIA where the concrete is less than 100mm thick 5.9.6 breaking activities

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EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
5.8.6 & 5.9.6	Use of acoustic enclosure in place of a barrier where there is a 6m clearance.	Sewer alignment construction / Throughout construction period	Contractor	TMEIA	N/A
5.8.6 & 5.9.6	Scheduling the numbers and operating times of equipment, when noise levels cannot be reduced to within the standards by other means	Sewer alignment construction / Throughout construction period	Contractor	TMEIA	۸
5.8.11	The construction activities should be carried out in the daytime period (08.00- 18.00) only and shall exclude Sundays and public holidays.	All areas	Contractor	TMEIA	٨
5.8.11	Powered mechanical equipment shall not be used within 5m of an NSR without the permission of the Engineer	All areas / Throughout construction period	Contractor	TMEIA	٨
5.8.11	Carry out good site practice to limit noise emission at source.	All areas / Throughout construction period	Contractor	TMEIA	۸
5.8.11	Avoid simultaneous noisy activities.	All areas / Throughout construction period	Contractor	TMEIA	۸
11.2.8	EM&A in the form of noise monitoring.	All representative receivers / Throughout construction period	Contractor	EM&A Manual	٨

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### Water Quality

EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
6.4.3	Stockpiles of excavated material should be kept to a minimum and covered during times of heavy rainfall.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
6.4.10	Pass any trench dewatering through a portable sand/silt removal traps prior to discharge.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
6.5.2	When works are carried out during the rainy season exposed slopes, stockpiles should be covered with tarpaulin and temporary access roads protected with a layer of gravel or crushed stone.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
0.0.2	Surface run off should be discharged to storm drains via sand/silt removal traps.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
6.5.2	Channels, bunds or sand bags should be used to direct any storm water to the traps and perimeter channels should be constructed before the main works begin to prevent external run off from crossing the site.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
6.5.2	Silt removal structures, channels and manholes should be maintained to remove accumulated material, specifically at the onset and end of rainy periods.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	٨

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EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
6.5.2	Trenches for the sewer main should be dug and backfilled in short sections to minimise the quantities of rain water which will need to be pumped from them and upslope bunding provided to prevent surface water from flowing into the trenches.		Contractor	WPCO, TMEIA & ProPECC PN 1/94	٨
6.5.2	Rainwater pumped from the trenches should be discharged to storm drains via sand/silt removal traps.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
667	Discharges to natural water courses should only take place when the effluent can be shown to comply with the relevant specified standards.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94 & Technical Memorandum on Standards for Effluent Discharged in Drainage and Sewerage Systems, Inland and Coastal Waters	۸
6.5.3	All plant should be in proper working order and maintained such that there is no leakage of fuel or oil. Any waste oils should be collected in designated tanks prior to disposal off site.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
6.5.3	All mechanical plant maintenance and refuelling areas shall be sited on paved areas. All storm water run-off from these areas should be discharged via oil separators/petrol separators and sand/silt removal traps.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸

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EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
654	Groundwater pumped out of excavations for the construction of pump sumps should only be discharged following removal of silt by sand/silt removal traps.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	٨
655	Water from drilling of rock should be discharged following removal of silt by sand/silt removal traps.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
6.5.6	The wheels of all vehicles leaving the construction site should be washed before leaving the site to minimise the carry over of mud onto public roads. Wheel wash water should be recycled and only discharged following removal of silt by sand/silt removal traps.	All areas particularly pumping station sites / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
6.5.7	Run off from the roofs of site buildings should be conveyed in closed drains to the nearest surface water course to prevent the generation of excessive quantities of surface water run off carrying suspended solids.	Site Office areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
667	All spillages should be cleaned up immediately to prevent their downward migration into the groundwater.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸
6.5.7	Sewage from toilets and any kitchens in the site facilities should be treated via a septic tank system or if this is not practicable chemical toilets should be provided and the waste from these together with 'grey water' removed from the site on a daily basis for disposal at an appropriate receiving point.	All areas / throughout construction period	Contractor	WPCO, TMEIA & ProPECC PN 1/94	۸

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EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
6.6.2	Overflow bypasses to be used in emergency situations only and no effluent should be discharged during regular maintenance.	All pumping stations / Operation	DSD	WPCO, TMEIA	N/A
	Supply pumping stations with stand-by pumps, emergency power supplies and telemetry system.	All Pumping Stations	DSD	WPCO, TMEIA & ProPECC PN 1/94	N/A
1128		All areas/ Throughout construction period	Contractor	EM&A	۸

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### Waste Management

EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
7.12.1	The Contractor shall identify a coordinator for the management of waste. The coordinator shall prepare a Waste Management Plan which specifies procedures such as a ticketing system, to facilitate tracking of loads and to ensure that illegal disposal of wastes does not occur, and protocols for the maintenance of records of the quantities of wastes generated, recycled and disposed. The Waste Management Plan shall be prepared with reference to Works Branch Technical Circular (WBTC) No. 5/99 for the Trip-ticket System for Disposal of Construction and Demolition Material and issued to the DEP and CED to confirm the availability for C&D and public fill waste.	Plan to be prepared prior to the start of construction, Implementation throughout construction period / All areas	Contractor	TMEIA.Works Branch Technical Circular (WBTC) No. 5/99 for the Trip-ticket System for Disposal of Construction and Demolition Material	۸
7.12.1	Stockpiled material should avoid vegetated areas where possible and covered by tarpaulins. Storage of material on site should be kept to a minimum.	All areas/ Throughout construction period	Contractor	TMEIA. Prevent windblown dust and/or surface run-off / avoid nuisance to local residents	۸
7.12.1	Surplus material should be sorted on site into C&D waste and that suitable for public fill	All areas /throughout construction period	Contractor	TMEIA. Maximise reusable material	۸
7.12.1	The contractor should provide a temporary storage area for general refuse during the construction phase which should be enclosed to avoid refuse being windblown and affected by rain. General refuse should be stored on site for a minimum period and disposed of at a licenced facility.	All areas / throughout construction period	Contractor	TMEIA	۸

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EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
7.12.1	Excavated material in trucks shall be covered by tarpaulins to reduce the potential for spillage.	All areas / throughout construction period	Contractor	TMEIA	۸
7.12.1	Suitable chemical waste storage areas shall be formed on the site for temporary storage pending collection. All chemical wastes shall be handled, stored, transported and disposed of in accordance with the relevant practices.	All areas / throughout construction period	Contractor	TMEIA/ Code of Practice on the Package, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme	۸
7.12.1	Nightsoil arising from chemical toilets and on site chemical treatment facilities shall be transported by a licensed contractor to government Sewage Treatment Works for disposal.	All areas / throughout construction period	Contractor	TMEIA/ Sanitation and Conservancy (Regional Council) By-laws	۸
7.12.1	Any screenings and grit that are removed during maintenance shall be disposed of at a landfill site. The material shall be suitably contained and covered.	All areas / operational phase	DSD	TMEIA	N/A
11.2.8	EM&A in the form of supervision of waste management practices	All areas / throughout construction period	Contractor	EM&A	۸

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### Landscape and Visual

EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Standard or	Implementation Status in Construction Phase
10.8.5, 10.9.15, 10.10.6, 10.10.11, 10.10.20, 10.11.6	Use of a suitable colour scheme to the pump station building to match the design of the adjacent properties.	All pumping stations	DSD & Contractor	Reduce visual intrusion of pumping stations	N/A
10.8.5, 10.9.15, 10.10.11, 10.10.20, 10.11.6	Construction of boundary wall similar to the adjacent housing instead of standard chain link and barbed wire fence.	All pumping stations except Tai Lam Correctional Institution	DSD & Contractor	Screen pumping stations	N/A
10.8.5, 10.9.15, 10.10.11, 10.10.20, 10.11.6	Planting of trees and shrubs to the boundary of the pumping station compound.	All pumping stations except Tai Lam Correctional Institution	DSD & Contractor	Screen pumping stations	N/A
10.8.6	Minimise damage to the rootball of the tree east of the pumping station site.	East of Castle Peak Villas pumping station/ During excavation	DSD and Contractor		۸
11.2.8	EM&A in the form of site supervision of protection measures for trees and landscaping and compensatory planting establishment during the construction and operational phases respectively	All areas	Contractor	EM&A	۸
Remarks: ^	Compliance of mitigation measure Recommendation was made during site audit but improved/ rectif	ied by the Contractor			

/ Recommendation was made during site audit but not improved/ rectified by the Contractor

x Non-compliance of mitigation measure

N/A Not Applicable at this stage as no such site activities were conducted in the reporting month

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Appendix L

Weather and Meteorological Conditions during Monitoring Period

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	Mean	Ai	r Temperatu	Mean Relative	Total							
Date	Pressure (hPa)	Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)	Humidity (%)	Rainfall (mm)						
	June 2019											
1	1007.5	30.6	27.2	24.9	87	32.6						
2	1007.2	31.2	27.2	25.4	86	3.0						
3	1007.3	30.2	27.5	25.3	85	34.1						
4	1008.6	31.1	28.0	25.9	89	38.1						
5	1009.5	32.6	29.4	27.4	82	0.0						
6	1010.4	33.0	30.2	28.5	78	Trace						
7	1010.4	33.2	30.1	28.6	77	0.0						
8	1008.5	32.4	30.1	28.2	76	1.1						
9	1005.4	32.3	30.1	28.4	79	4.1						
10	1003.5	31.7	29.5	25.8	81	3.3						
11	1004.4	29.4	27.5	24.6	91	111.6						
12	1005.3	29.6	27.5	26.5	91	1.5						
13	1003.0	30.7	27.7	25.5	88	55.8						
14	1002.4	31.6	28.4	25.4	76	16.5						
15	1005.3	31.4	28.6	26.4	74	Trace						
16	1006.5	30.1	27.9	26.8	80	0.0						
17	1007.3	28.7	27.6	26.8	88	4.7						
18	1008.1	30.0	28.6	27.5	88	11.1						
19	1007.8	31.7	28.9	26.5	87	14.0						
20	1006.9	32.5	30.1	28.2	80	0.5						
21	1005.9	32.8	30.8	29.5	77	0.7						
22	1004.7	33.0	30.7	28.7	78	0.7						
23	1004.8	32.2	30.3	29.1	80	3.2						
24	1006.2	30.6	29.1	24.7	85	16.8						
25	1006.7	29.7	27.2	24.8	89	35.4						
26	1004.0	31.4	28.6	26.1	86	0.9						
27	1001.7	32.5	30.2	28.3	83	3.5						
28	1001.7	32.7	30.5	29.3	82	2.2						
29	1001.6	33.3	31.0	29.5	79	0.6						
30	1001.6	33.0	29.5	26.9	85	33.1						

Source:

Hong Kong Observatory - Daily Extract of Meteorological Observations

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### Weather Conditions during noise monitoring

### LC6a The Castle Bay

Date	Start Time	Weather	Wind Speed m/s	Wind Direction
03-Jun-19	14:19	Fine	0.8	NE
08-Jun-19	10:03	Fine	0.7	NE
13-Jun-19	10:03	Fine	0.8	NE
19-Jun-19	08:35	Fine	0.3	E
24-Jun-19	14:45	Cloudy	0.2	Ν
29-Jun-19	10:57	Fine	0.9	NE

### LC9 Castle Peak Villas Block C

Date	Start Time	Weather	Wind Speed m/s	Wind Direction
03-Jun-19	13:33	Fine	0.7	NE
08-Jun-19	09:07	Fine	0.6	NE
13-Jun-19	13:47	Fine	0.7	NE
19-Jun-19	09:50	Fine	0.3	E
24-Jun-19	15:23	Cloudy	0.1	Ν
29-Jun-19	09:09	Fine	0.8	NE

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Appendix M

Monthly Summary of Waste Flow Table

### Sang Hing – Kuly Joint Venture Environmental Monthly Report for Contract No. DC/2014/01 Castle Peak Road Trunk Sewer and Tuen Mun Village Sewage

Name of Department: DSD

Contract No.: DC/2014/01

		-	wioning	Summar y	vasic ri				•)		
	Actual Quantities of Inert C&D Materials Generated Monthly							al Quantities o	of C&D Wastes	Generated Mo	onthly
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	$(in '000m^3)$	(in '000m <sup>3</sup> )	$(in '000m^3)$	(in '000m <sup>3</sup> )	$(in '000m^3)$	$(in '000m^3)$	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	$(in '000m^3)$
Jan 2019	0.000	0.000	0.000	-	0.000	-	-	-	-	-	0
Feb 2019	0.000	0.000	0.000	-	0.000	-	-	-	-	-	0
Mar 2019	0.000	0.000	0.000	-	0.000	-	-	-	-	-	0
Apr 2019	0.000	0.000	0.000	-	0.000	-	-	-	-	-	0
May 2019	0.000	0.000	0.000	-	0.000	-	-	-	-	-	0
Jun 2019	0.000	0.000	0.000	-	0.000	-	-	-	-	-	0
Jul 2019											
Aug 2019											
Sept 2019											
Oct 2019											
Nov 2019											
Dec 2019											
Total	0.000	0.000	0.000	-	0.000	-	-	-	-	-	0

# Monthly Summary Waste Flow Table for <u>06/19</u> (MM/YY)

### Sang Hing – Kuly Joint Venture Environmental Monthly Report for Contract No. DC/2014/01 Castle Peak Road Trunk Sewer and Tuen Mun Village Sewage

	Forecast of Total Quantities of C&D Materials to be Generated from the Contract*									
Total Quantity Generated	Hard Rock and Large Broken Concrete		Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
$(in '000m^3)$	$(in '000m^3)$	$(in '000m^3)$	$(in '000m^3)$	$(in '000m^3)$	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	$(in '000m^3)$
27	10	8	1	1	0	2	1	1	1	2

Notes:

(1) The performance targets are given in ETWB Technical Circular 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 the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m3. (ETWB Technical Circular PS Clause 5(4)(b) refers). [Delete Note (4) and the table above on the forecast, where inapplicable].

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Appendix N

**Proactive Environmental Protection Proforma** 

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Reporting Period	Construction Works	Anticipated Impacts	Recommended Mitigation Measures															
	Hoarding Erection		<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Properly cover the stockpiles.</li> </ul>															
20/02/2016	Pre-Drilling	Dust, Noise	<ul> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> </ul>															
29/02/2016 - 31/03/2016	Earth Excavation	and water quality	and water quality	and water quality	and water quality		quality	<ul> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before disabarase.</li> </ul>										
Plant Mobilization	Plant Mobilization		<ul> <li>before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>															
01/04/2016			<ul> <li>Shield the piling rig to avoid spreading of slurry during boring.</li> <li>Regular maintenance of machines.</li> </ul>															
- 30/04/2016		Noise and																<ul> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment</li> </ul>
01/05/2016 - 31/05/2016	01/05/2016 -	water quality impact	<ul> <li>Provision of appropriate desining/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>															
01/06/2016 - 30/06/2016	Construction of lagging wall	Dust, Noise impact and waste management.	<ul> <li>Water sprays shall be used during the delivery and handling of dusty materials.</li> <li>Carry out good site practice to limit noise emission at source.</li> <li>Avoid simultaneous noisy activities.</li> <li>Surplus material should be sorted on site into C&amp;D waste and that suitable for public fill.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>															

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Reporting Period	Construction Works	Anticipated Impacts	Recommended Mitigation Measures					
01/07/2016 - 31/07/2016			<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> </ul>					
01/08/2016	Construction of Mini-pile	Dust, Noise and water	<ul> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> </ul>					
- 31/08/2016		quality impact.						<ul> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual</li> </ul>
01/09/2016			requirement.					
- 30/09/2016								
01/10/2016			<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy</li> </ul>					
- 31/10/2016	Proof drill and Loading Test		operation. • Regular maintenance of machines.					
01/11/2016		Dust, Noise and water quality impact.	<ul> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment</li> </ul>					
- 30/11/2016			<ul><li>before discharge.</li><li>Regular check and maintenance of desilting/sedimentation devices.</li></ul>					
01/12/2016	Construction of ELS			<ul> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>				
- 31/12/2016								

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Reporting Period	Construction Works	Anticipated Impacts	Recommended Mitigation Measures
01/01/2017			<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy</li> </ul>
31/01/2017			<ul><li>operation.</li><li>Regular maintenance of machines.</li></ul>
01/02/2017	Excavation of ELS		<ul> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment</li> </ul>
- 28/02/2017			<ul><li>before discharge.</li><li>Regular check and maintenance of desilting/sedimentation devices.</li></ul>
01/03/2017			• Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.
- 31/03/2017			
01/04/2017 - 31/05/2017	Construction of Wet Well Chamber	Dust, Noise and water quality impact.	<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual</li> </ul>

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Reporting Period	Construction Works	Anticipated Impacts	Recommended Mitigation Measures
01/06/2017 - 30/11/2017	Construction of Pumping Station	Dust, Noise and water quality impact.	<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>
01/12/2017 - 28/02/2018	Construction of Pumping Station	Dust, Noise and water quality impact.	<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>

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Reporting Period	Construction Works	Anticipated Impacts	Recommended Mitigation Measures
01/03/2018 - 30/04/2018	Construction of retaining wall	Dust, Noise and water quality impact.	<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>
01/05/2018 - 31/05/2018	Retaining wall and internal finishing	Dust, Noise and water quality impact.	<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>

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Reporting Period	Construction Works	Anticipated Impacts	Recommended Mitigation Measures
01/06/2018 - 30/06/2018	Excavation of U-sharped retaining wall and internal finishing	Dust, Noise and water quality impact.	<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>
01/07/2018 - 31/07/2018	Backfilling	Dust, Noise and water quality impact.	<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>

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Reporting Period	Construction Works	Anticipated Impacts	Recommended Mitigation Measures
01/08/2018 - 30/11/2018	Construction of U shape wall at permanent access	Dust, Noise and water quality impact.	<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>
01/12/2018 - 31/03/2019	Reinstate and construct of access	Dust, Noise and water quality impact.	<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>

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Reporting Period	Construction Works	Anticipated Impacts	Recommended Mitigation Measures
01/04/2019 - 31/07/2019	Construction of vehicle access	Dust, Noise and water quality impact.	<ul> <li>Sufficient watering of the works site with active dust emitting activities.</li> <li>Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.</li> <li>Regular maintenance of machines.</li> <li>Use of acoustic barriers if necessary.</li> <li>Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.</li> <li>Regular check and maintenance of desilting/sedimentation devices.</li> <li>Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.</li> </ul>