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ENVIRONMENTAL MONITORING & AUDIT MONTHLY REPORT

August 2017

- 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/0912A

Prepared by

Certified by

Wingo H. W. So

Reviewed by 2 Cyrus C. Y. Lai

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Colin K. L. Yung **Environmental Team Leader** MateriaLab Consultants Limited

12 September 2017



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

Our reference:

Date:

HKDSD202/50/104562

12 September 2017

Attention: Ms Winnie Ng

BY EMAIL & POST (email: wyng03@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 (August 2017)

We refer to emails of 11 and 12 September 2017 attaching a monthly EM&A Report (August 2017) for the captioned project prepared by the ET.

We have no further 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 Nic Lam at 2618 2831 should you have any queries.

Yours faithfully ANEWR CONSULTING LIMITED

Independent Environmental Checker

LYMA/LHHN/HCYD/lhmh





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EXECUTIVE SUMMARY

i. This is the 18th monthly EM&A Report which summaries the impact monitoring results and audit findings for the Project within the period from 1 August to 31 August 2017.

Construction Activities for the Reporting Period

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

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 Pumping Station
- 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.

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- The environmental impact assessment (EIA) report (Tuen Mun Sewerage Eastern Coastal 1.1.2 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.
- In accordance to EP-068/2000/A Condition 2.3 and 2.4, an updated EM&A Manual was 1.1.5 duly certified by ETL and verified by IEC and submitted to EPD for approval on 18 January 2016.
- The construction phase and EM&A programme of the Project commenced on 29 February 1.1.6 2016.
- This is the 18th monthly EM&A Report which summaries the impact monitoring results and 1.1.7 audit findings for the Project within the period from 1 August to 31 August 2017.

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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**.

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Party	Position	Name	Telephone	Fax	
Drainage Services Department, HKSAR (DSD)	Project Management	Ms. Winnie Ng	2594 7265	2827 8526	
Engineer/Engineer's Representative	Resident Engineer	Ms. Jacqueline Chan	3127 5103	2441 1755	
(AECOM)	Senior Inspector of Works	Mr. Raymond Au	3127 5160	2441 1755	
Independent Environmental Checker (ANEWR)	Independent Environmental Checker	Mr. Adi Lee	2618 2836	3007 8648	
Contractor	Site Agent	Mr. Alan Lo			
Contractor (SKLV)	Environmental Officer	Mr. Billy Wong	2674 3888	2674 6688	
Environmental Team (MCL)	Environmental Team Leader	Mr. Colin Yung	3565 4114	3565 4160	

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 Pumping Station
- 1.4.2 Illustrations of works undertaken during the reporting period are shown in **Table 1.2**:

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Table 1.2 Works undertaken Illustrations



Construction of Pumping Station

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

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2. AIR QUALITY

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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	476783	±10% of	0.001 –
2	Monitor	LD-3B	577229	calibrated particles	10.00mg/m ³

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 ³)	Limit Level (µg/ m³)
LC6a	40	13-53	344	500
LC9	38	28-49	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	1367959	N.A	20-140 dB
2	Calibrator	Casella CEL- 120/1	3321858	±0.1dB	94/114 dB
3	Wind Speed Anemometer	Smart Sensor AR816+	N.A	±5%	0-30m/s

Table 3.1Noise 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 _(30min) 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

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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 ¹	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.

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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**.

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- 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 ¹	61-68	56-63	75					
LC9	55-68	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.
- 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.

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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.

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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 3, 10, 17, 22 and 31 August 2017 and the landscape and visual impact inspections were carried out on 11 and 24 August 2017.
- 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, 20m³ of inert C&D materials were generated and 0m³ general refuse was generated in the reporting period. Monthly summary of waste flow table is detailed in **Appendix M**.

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7. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

7.1 Environmental Exceedance

- 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.**

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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**.

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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 Pumping Station

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**.

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10. CONCLUSIONS

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- 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 3, 10, 17, 22 and 31 August 2017 and the landscape and visual impact inspections were carried out on 11 and 24 August 2017.
- 10.1.5 No complaints, notification of summons or successful prosecutions were received in the reporting period.

Tel

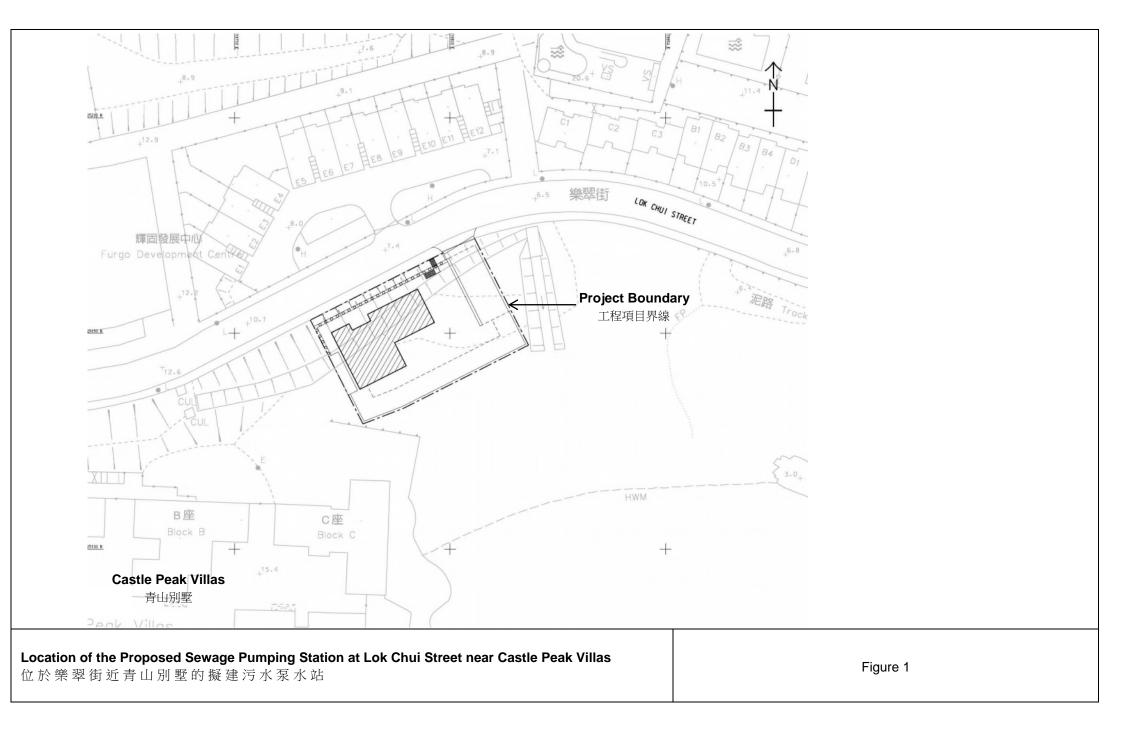
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Figure 1

Project General Layout



Tel

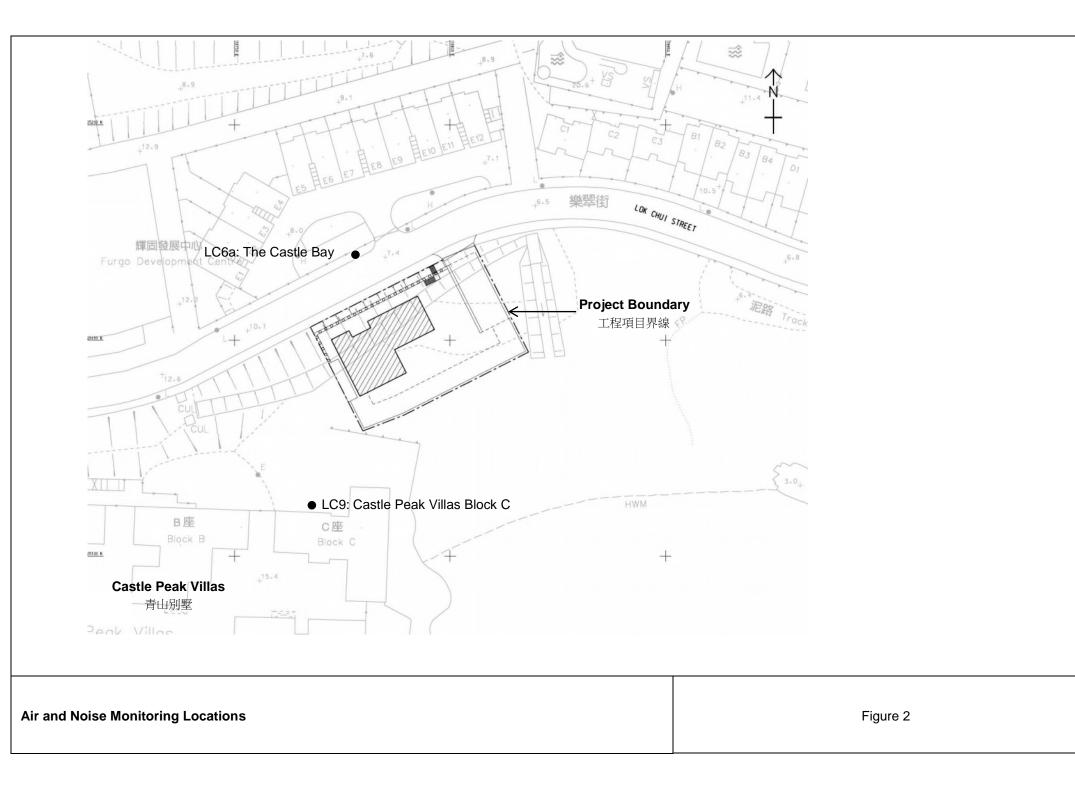
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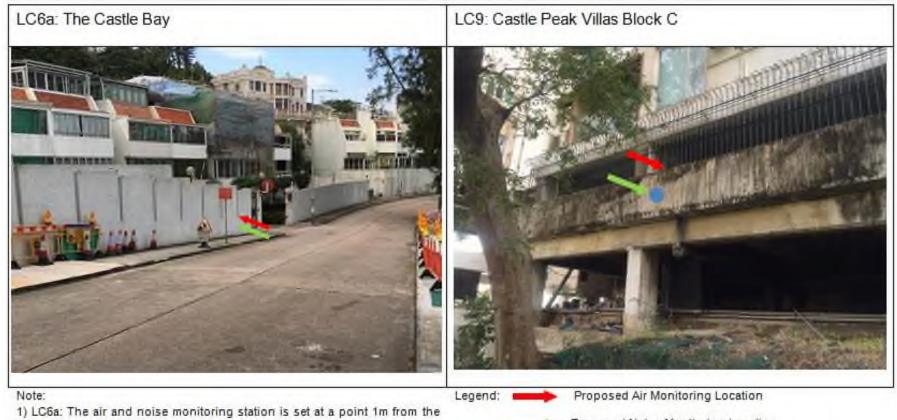
Figure 2

Air and Noise Monitoring Locations



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 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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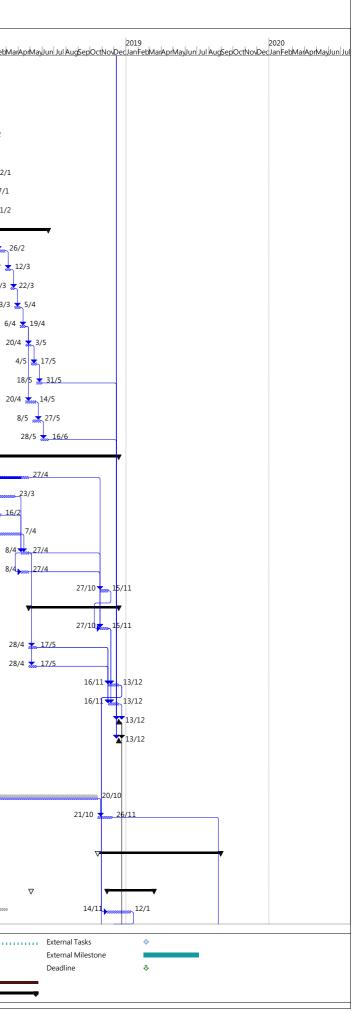
Appendix A

Construction Programme

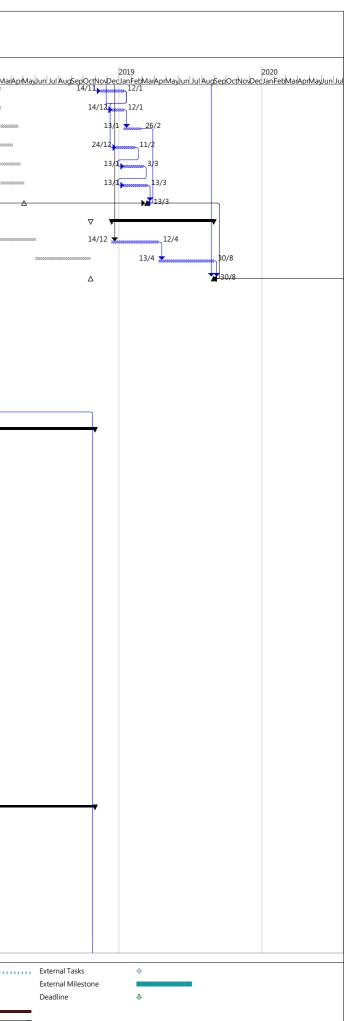
Contra	ictor : Sang Hing - Kuly Joint Venture									Contract no. Castle Peak Road Tuen Mun Villa	Trunk Sewer and
ID	Task Name	Baseline Duration	Duration	Baseline Start	Baseline Finish	Actual Start	Actual Finish	% Complet	Start	Finish Predecessors	2016 2017 2018
187		Baration						lompier			Jul AugSepOctNovDecJanFebMarAprMayJun Jul AugSepOctNovDecJanFebMarAprMayJun Jul AugSepOctNovDecJanFeb
188											
189	Duration of Section 11A	929 days	929 days	Mon 20/7/15	Fri 2/2/18	Mon 20/7/15	N	A 64%	Mon 20/7/15	Fri 2/2/18 1SS	2/
190	Inclement Weather Granted (EOT Claim No. 3.10, up to 31 Oct 16)	0 days?				NA	N	A 0%		Sat 10/3/18 1189	3/2
191	EOT for Delayed Possession of Site & Additional length of mini-pile	-	62 days	NA	NA	NA	N	A 0%	Sat 3/2/18	Thu 5/4/18 1189	3/2
192	(interim)										
193	Section 11 A - Lok Chui Street Sewage Pumping Station	929 days	1243 days?	Mon 20/7/15	Fri 2/2/18	Mon 20/7/15	NA	A 51%	Mon 20/7/15	Thu 13/12/18	▽
194 🗸	Portion 11 - Time of Possession of Site	90 days	90 days	Mon 20/7/15	Sat 17/10/15	Mon 20/7/15	Sat 17/10/1	5 100%	Mon 20/7/15	Sat 17/10/15 1SS	17/10
195 🗸	<i>EOT claim 002 - Delayed Possession of Site</i>	0 days?	41 days?	NA	NA	Sun 18/10/15	Fri 27/11/1	5 100%	Sun 18/10/15	Fri 27/11/15 1194	18/10 27/11
.96 🗸	Objection to commence of work by The Castle Bay	0 days?	21 days?	NA	NA	Sat 28/11/15	Fri 18/12/1	5 100%	Sat 28/11/15	Fri 18/12/15 1195	28/11 - 18/12
L97											
98 🗸	EOT Claim 011 - Increased Length of Mini-pile at Lok Chui	0 days?	72 days	NA	NA	Thu 18/2/16	Fri 29/4/1	6 100%	Thu 18/2/16	Fri 29/4/16 1208	18/2 29/4
99	Street Pumping Station										
00											
201 🗸	Preparation Work	74 days	74 days	Sun 18/10/15	Wed 30/12/15	Sat 19/12/15	Tue 1/3/10	6 100%	Sat 19/12/15	Tue 1/3/16	
02 🗸	Initial Survey	30 days	30 days	Sun 18/10/15	Mon 16/11/15	Sat 19/12/15	Sun 17/1/1	6 100%	Sat 19/12/15	Sun 17/1/16 1196	49/12 x 17/1
03 🗸	Agree extend of Site clearance	30 days	30 days	Sun 18/10/15	Mon 16/11/15	Sat 19/12/15	Sun 17/1/1	6 100%	Sat 19/12/15	Sun 17/1/16 1194	19/12
04 🗸	Site clearance	14 days	14 days	Tue 17/11/15	Mon 30/11/15	Mon 18/1/16	Sun 31/1/1	6 100%	Mon 18/1/16	Sun 31/1/16 1203,1202	***18/1 🗙 31/1
05 🗸	Hoarding	30 days	30 days	Tue 1/12/15	Wed 30/12/15	Mon 1/2/16	Tue 1/3/1	6 100%	Mon 1/2/16	Tue 1/3/16 1204	xxxx1/2 1/3
06 🗸	Mini-pile Foundation and Soldier Pile	297 days	369 days	Tue 1/12/15	Thu 22/9/16	Mon 1/2/16	Fri 3/2/1	7 100%	Mon 1/2/16	Fri 3/2/17	▽
07 🗸	Mobilization of plant for predrilling works	7 days	7 days	Tue 1/12/15	Mon 7/12/15	Mon 1/2/16	Sun 7/2/1	6 100%	Mon 1/2/16	Sun 7/2/16 1204	s 1/2 z 7/2
08 🗸	Construct settlement and piezometer for monitoring	10 days	10 days	Tue 8/12/15	Thu 17/12/15	Mon 8/2/16	Wed 17/2/1	6 100%	Mon 8/2/16	Wed 17/2/16 1207	× 8/2 17/2
09 🗸	Predrilling works of mini-pile and soldier pile	23 days	23 days	Fri 18/12/15	Sat 9/1/16	Sat 30/4/16	Sun 22/5/1	6 100%	Sat 30/4/16	Sun 22/5/16 1208,1198	30/4 22/5
10 🗸	Submission of predrilling report	15 days	15 days	Sun 10/1/16	Sun 24/1/16	Mon 23/5/16	Mon 6/6/1	6 100%	Mon 23/5/16	Mon 6/6/16 1209	23/5 <mark>x</mark> 6/6
11 🗸	Mobilization of plant for 610mm soldier pile	14 days	14 days	Sun 10/1/16	Sat 23/1/16	Mon 23/5/16	Sun 5/6/1	6 100%	Mon 23/5/16	Sun 5/6/16 1205,1209	23/5 🖕 5/6
12 🗸	Construction of soldier pile (43 nos)	130 days	130 days	Sun 24/1/16	Wed 1/6/16	Mon 6/6/16	Thu 13/10/1	6 100%	Mon 6/6/16	Thu 13/10/16 1211	13/10
13 🗸	Mobilization of plant for mini-pile (64 nos)	14 days	14 days	Thu 19/5/16	Wed 1/6/16	Fri 30/9/16	Thu 13/10/1	6 100%	Fri 30/9/16	Thu 13/10/16 1212FS-14 day	/s 30/9 13/10
14 🗸	Drilling of mini-piles	50 days	50 days	Thu 2/6/16	Thu 21/7/16	Fri 14/10/16	Fri 2/12/1	6 100%	Fri 14/10/16	Fri 2/12/16 1213	14/10 2/12
15 🗸	Installation of Rein-bar and Grouting	14 days	14 days	Fri 22/7/16	Thu 4/8/16	Sat 3/12/16	Fri 16/12/1	6 100%	Sat 3/12/16	Fri 16/12/16 1214	
16 🗸	Mobilization for proof drilling	7 days	7 days	Fri 29/7/16	Thu 4/8/16	Sat 10/12/16	Fri 16/12/1	6 100%	Sat 10/12/16	Fri 16/12/16 1215FS-7 days	s 10/12 1 0/12
17 🗸	Proof Drilling	14 days	14 days	Fri 5/8/16	Thu 18/8/16	Sat 17/12/16	Fri 30/12/1	6 100%	Sat 17/12/16	Fri 30/12/16 1216	∞ 17/12 × 30/12
218 🗸	Submission of proof drilling report	14 days	14 days	Fri 19/8/16	Thu 1/9/16	Sat 31/12/16	Fri 13/1/1	7 100%	Sat 31/12/16	Fri 13/1/17 1217	oo: 31/12 13/1
19 🗸	Preparation of loading Test	21 days	21 days	Fri 5/8/16	Thu 25/8/16	Sat 17/12/16	Fri 6/1/1	7 100%	Sat 17/12/16	Fri 6/1/17 1216	×××× 17/12 👱 6/1
20 🗸	Carry out loading test	14 days	14 days	Fri 26/8/16	Thu 8/9/16	Sat 7/1/17	Fri 20/1/1	7 100%	Sat 7/1/17	Fri 20/1/17 1219	∞ 7/1 <mark>≠</mark> 20/1
221 🗸	Submission of loadign test report	14 days	14 days	Fri 9/9/16	Thu 22/9/16	Sat 21/1/17	Fri 3/2/1	7 100%	Sat 21/1/17	Fri 3/2/17 1220	21/1 = 3/2
222	Strucutral Work of Pumping Station	377 days	377 days	Fri 9/9/16	Wed 20/9/17	Sat 21/1/17	NA	A 26%	Sat 21/1/17	Thu 1/2/18	∇ $$ ∇
223	Temporary cofferdam for ELS for construction of pumping station	90 days	90 days			Sat 21/1/17		A 90%	Sat 21/1/17	Thu 20/4/17 1220,1221FS-1 days,1218	
224	Excavation and shoring to formation level for wet well construction (refer drg. No. 5321A, formation level =	30 days	-			Fri 21/4/17			Fri 21/4/17	Sat 20/5/17 1223	2000× 21/4 20/5
25	Welding of pile head (i.e.PC01 to PC 14)	9 days				NA				Mon 29/5/17 1224	··· 21/5 🛫 29/5
26	Blinding layer	2 days				NA				Wed 31/5/17 1225	< 30/5 3 31/5
27	Construction of base slab of wet well	14 days				NA			Thu 1/6/17	Wed 14/6/17 1226	1/6 1/6
28	Construction of Wall of wet well upto approx0.675mPD to 0.725mPD	14 days				NA				Wed 28/6/17 1227	15/6 👷 28/6
29	Excavation and shoring to formation levels for Valve chamber, Coarse screen chamber and energency storage tank	-				NA				Sun 23/7/17 1228	29/6 📩 23/7
30	Welding of pile head (i.e PB01 to PB15, PD01 to PD08 and PE01 to PE10 etc)	20 days				NA				Sat 12/8/17 1229	24/7 📩 12/8
31	Blinding layer	2 days				NA				Mon 14/8/17 1230	: 13/8 214/8
32	Construction of base slabs of Valve chamber, Coarse screen chamber and emergency storage tank	25 days	25 days	Mon 3/4/17	Thu 27/4/17	NA	N	A 0%	Tue 15/8/17	Fri 8/9/17 1231	xxxxx 15/8 📩 8/9
	Task				ilestone	A	Roll	led Up Mil	lestone	▲ Split	
	Task Pro			Ba	seline Milestone		Base	eline Sum	mary	∇ ∇ Baseline Spli	it Inactive Milestone Manual Summary Rollup
roject: R	tolling Programme (Feb 2017) Critical Critical Critical	Fask Fask Progress			immary olled Up Task	V		led Up Bas led Up Bas	seline seline Milestone	Δ External Task Project Sum	
	Baseline				olled Up Critical Ta	ack		led Up Bas		Group By Su	

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External Tasks External Milestone	۵	
Deadline	Ŷ	

Non-Yorkey conversional 1500 Model Mod	Contra	actor : Sang Hing - Kuly Joint Venture									Castle F	ntract no. DC Peak Road Tru n Mun Village	ink Sewer and					
Del No. No. <th></th> <th></th> <th></th> <th>Duration</th> <th>Baseline Start</th> <th>Baseline Finish</th> <th>Actual Start</th> <th></th> <th></th> <th>Start</th> <th>Finish</th> <th>Predecessors</th> <th></th> <th>2016</th> <th>20:</th> <th>7</th> <th>111 AudenOctVIO/De</th> <th>2018</th>				Duration	Baseline Start	Baseline Finish	Actual Start			Start	Finish	Predecessors		2016	20:	7	111 AudenOctVIO/De	2018
His Mark Mark Mark Mark Mark Mark Mark Mark		Excavation to formation level of switch room and transformer	20 days	20 days	Fri 28/4/17	7 Wed 17/5/17	NA	NA	0%	Sat 9/9/17	Thu 28/9/17	1232	Jur Augsepocinoide	JanreowarApiwayJunijo	n Rugsepocinovoeciai		9/9 📩 28/9	ecjanjeuwi
	1234		10 days	10 days	Thu 18/5/17	7 Sat 27/5/17	NA	NA	0%	Fri 29/9/17	Sun 8/10/17	1233				201	29/9 🗙 8/10	
121 121 <td>1235</td> <td>Construction of walls below ground level</td> <td>25 days</td> <td>25 days</td> <td>Sun 28/5/17</td> <td>7 Wed 21/6/17</td> <td>NA</td> <td>NA</td> <td>0%</td> <td>Mon 9/10/17</td> <td>Thu 2/11/17</td> <td>1234</td> <td></td> <td></td> <td></td> <td>2002</td> <td>9/10 📩 2/11</td> <td>L</td>	1235	Construction of walls below ground level	25 days	25 days	Sun 28/5/17	7 Wed 21/6/17	NA	NA	0%	Mon 9/10/17	Thu 2/11/17	1234				2002	9/10 📩 2/11	L
ni 0xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	1236	Construction of ground floor slab	20 days	20 days	Thu 22/6/17	7 Tue 11/7/17	NA	NA	0%	Fri 3/11/17	Wed 22/11/17	1235						2/11
101 000000000000000000000000000000000000	1237	Backfilling to ground floor slab	25 days	25 days	Wed 12/7/17	7 Sat 5/8/17	NA	NA	0%	Thu 23/11/17	Sun 17/12/17	1236					23/11	17/12
Det Des Des <thdes< th=""> <thdes< th=""> <thdes< th=""></thdes<></thdes<></thdes<>	1238	Construction of walls up to roof slab	25 days	25 days	Fri 28/7/17	7 Mon 21/8/17	NA	NA	0%	Sat 9/12/17	Tue 2/1/18	1237FS-9 days					ssss 9/12 .	2/1
Data Data Partial	1239	Construction of roof slab	20 days	20 days	Tue 22/8/17	7 Sun 10/9/17	NA	NA	0%	Wed 3/1/18	Mon 22/1/18	1238						1 22/1
Disp Disp <thdisp< th=""> Disp Disp <thd< td=""><td>1240</td><td>Water Tightness test of wet well</td><td>15 days</td><td>15 days</td><td>Tue 22/8/17</td><td>7 Tue 5/9/17</td><td>NA</td><td>NA</td><td>0%</td><td>Wed 3/1/18</td><td>Wed 17/1/18</td><td>1238</td><td></td><td></td><td></td><td></td><td>ooo 3/1</td><td>1 🗙 17/1</td></thd<></thdisp<>	1240	Water Tightness test of wet well	15 days	15 days	Tue 22/8/17	7 Tue 5/9/17	NA	NA	0%	Wed 3/1/18	Wed 17/1/18	1238					ooo 3/1	1 🗙 17/1
Disp Disp< Disp Disp< Disp Disp Disp Disp Disp Disp< Disp< Disp< Disp< Disp< Disp< Disp< Disp< Disp< <thdisp< th=""> <thdisp< th=""> <thdisp< th=""></thdisp<></thdisp<></thdisp<>	1241	Roof kerb and staircase	10 davs	10 davs	Mon 11/9/17	7 Wed 20/9/17	NA	NA	0%	Tue 23/1/18	Thu 1/2/18	1239.1240	-				» 23	3/1 1/2
121 Maxma Ahorng Abor Abor <td></td>																		
144 440 540 5400 5400 5400 540 540 540 540 540 540 540 540 540 540 540 540 540 540 540 540 540 540 540 550 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td>·</td><td>2/2 2</td></t<>													-				·	2/2 2
131 Decognaming 340				-														
dia Diráq diado Jádo Jádo No No <td></td> <td>2000</td> <td></td>																	2000	
200 0 400000000000000000000000000000000000																	00	13/3
1210 Indexponden 1440 Hord 20 Mod2/202 100 1440 No 100 1440 No 100 1440 No 100 1	1246	Skirting	14 days	14 days	Thu 9/11/17	7 Wed 22/11/17	NA	NA	0%	Fri 23/3/18	Thu 5/4/18	1245					000	23/3
Line - Parken and have used base of the set of the se	1247	Granlithic screen and expoxy coating floor screen	14 days	14 days	Thu 23/11/17	7 Wed 6/12/17	NA	NA	0%	Fri 6/4/18	Thu 19/4/18	1246					888	6/4
328 Ladar are Ausorial 14 arg 14 a	1248	Painting on ceiling	14 days	14 days	Thu 7/12/17	7 Wed 20/12/17	NA	NA	0%	Fri 20/4/18	Thu 3/5/18	1247					201	20/
232 Orace to detered 26 do 26 do No 0.0 No 0.0 No 0.0 No 0.0 No 0.0 No 0.0 No	1249	Installation of lourves and Doors	14 days	14 days	Thu 21/12/17	7 Wed 3/1/18	NA	NA	0%	Fri 4/5/18	Thu 17/5/18	1248						000
2323 	1250	Ladder and Handrail	14 days	14 days	Thu 4/1/18	3 Wed 17/1/18	NA	NA	0%	Fri 18/5/18	Thu 31/5/18	1249						885
212 Ardreg sport 2199 2199 2199 10000 10000 10000 10000	1251	Cover to cable trench	25 days	25 days	Thu 7/12/17	7 Sun 31/12/17	NA	NA	0%	Fri 20/4/18	Mon 14/5/18	1247					00	
1283 Library was & & & & & & & & & & & & & & & & & & &	1252	cement sand screen for roofing system	20 days	20 days	Mon 25/12/17	7 Sat 13/1/18	NA	NA	0%	Tue 8/5/18	Sun 27/5/18	1251FS-7 days						10000
1283 Lagerg and are opplie bar on scher plan. 95.40 95.40 95.40 95.40 95.40 95.40 95.40 95.40 95.40 95.40 95.40 95.20 16.2000000000000000000000000000000000000	1253	Roofing system	20 days	20 days	Sun 14/1/18	8 Fri 2/2/18	NA	NA	0%	Mon 28/5/18	Sat 16/6/18	1252						5552
1253 Addition to genore three subset 0.6 stage 0.6 stage No. 10.401/20 No. 10.401/2	1254	External Works & External Finishes	145 days	325 days	Mon 11/9/17	7 Fri 2/2/18	Tue 23/1/18	NA	18%	Tue 23/1/18	Thu 13/12/18						∇	• V
1253 Addition to genore three subset 0.6 stage 0.6 stage No. 10.401/20 No. 10.401/2	1255	Lagging wall and capping beam on soldier piles	95 days	95 days	Mon 11/9/17	7 Thu 14/12/17	Tue 23/1/18	NA	80%	Tue 23/1/18	Fri 27/4/18	1239	-					3/1
Link Link <thlink< th=""> Link Link</thlink<>																		3/1
1212 Retarning Wald Addrs concente undit 71 day 75 day Monthly P 92 dalay NN <																		
1210 X core, Kang and hackeling X dogs				-									-					
1219 Biologication for Murphy Station for Murphy Statin for Murphy Statin for Murphy Station for Murphy Station for Mur																		
Internation Concretion Concre				-													5552	8/4
http://without.public for utilitie 0.0000 0.	1260		20 days	20 days	Sat 25/11/17	7 Thu 14/12/17	NA	NA	0%	Sun 8/4/18	Fri 27/4/18	1259SS					0000	8/4
2128 Muter meter box 20 day 20 day 50 day 20 day 50 day 20 day 50 day 20 day 71 5/2/12 Wet 3/2/12 NM NM 0% 54 27/2/12 The 1/12/12 12/22/12/22/12/22/12 100 day 70 day 7	1261		20 days	20 days	Sun 17/12/17	7 Fri 5/1/18	NA	NA	0%	Sat 27/10/18	Thu 15/11/18						:	20202
1294 CCP drampts and cable ducts 30 day 71 day 90 day 71 day 90 day 91 day 100 day 91 day 100 day <td>1262</td> <td>Plumbing Work & Drawpits for utilities</td> <td>50 days</td> <td>230 days</td> <td>Fri 15/12/17</td> <td>7 Fri 2/2/18</td> <td>NA</td> <td>NA</td> <td>0%</td> <td>Sat 28/4/18</td> <td>Thu 13/12/18</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>∇</td> <td>⁄ ▽</td>	1262	Plumbing Work & Drawpits for utilities	50 days	230 days	Fri 15/12/17	7 Fri 2/2/18	NA	NA	0%	Sat 28/4/18	Thu 13/12/18						∇	⁄ ▽
128 Ughting pits 20 day 0 days 11 512/21 Wed 3/L18 N N 00 581 28/L18 Thu 13/2/28 1261 1261 1261 1261 1261 1261 1261 12	1263	Water meter box	20 days	20 days	Sun 17/12/17	7 Fri 5/1/18	NA	NA	0%	Sat 27/10/18	Thu 15/11/18	1259,1255,1261FS-						0000
Normal line of watermain 28 day	1264	CLP drawpits and cable ducts	20 days	20 days	Fri 15/12/17	7 Wed 3/1/18	NA	NA	0%	Sat 28/4/18	Thu 17/5/18	1259	-				2	
$ \left \begin{array}{c c c c c c c c c c c c c c c c c c c $	1265	Lighting pits	20 days	20 days	Fri 15/12/17	7 Wed 3/1/18	NA	NA	0%	Sat 28/4/18	Thu 17/5/18	1259	-				5	
128 CLP energization 0 day 0 day 0 day 0 fi 2/2/8 Fi 2/2/8 Fi 1 2/2/8 Fi 2/2/8 Fi 1 2/2/8 Fi 2/2/	1266	Installation of watermain	28 days	28 days	Sat 6/1/18	3 Fri 2/2/18	NA	NA	0%	Fri 16/11/18	Thu 13/12/18	1263,1264,1265						200000
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1267	Cabling and Installation of Transformer	28 days	28 days	Sat 6/1/18	8 Fri 2/2/18	NA	NA	0%	Fri 16/11/18	Thu 13/12/18	1264,1263,1265	-					100000
$ \frac{1}{127} $	1268	CLP energization	0 days	0 days	Fri 2/2/18	3 Fri 2/2/18	NA	NA	0%	Thu 13/12/18	Thu 13/12/18	1267,1253,1191						Δ
$ \frac{1}{1270} = \frac{1}{1272} $ $ \frac{1}{$	1269	Completion of Section 11A					NA	NA	0%	Thu 13/12/18	Thu 13/12/18	1268.1250.1190						
1271 Implement Meather Granted (207 Claim No. 3.10, up to 31 Oxt 10) 0 Grass 0 Gras 0 Grass			,.															-
1272 Duration of Section 118 1189 days 1189 days Mon 207/15 Sat 20/10/18 Mon 207/15 Sat 20/10/18 Mon 207/15 Mon 207/15 Sat 20/10/18 Mon 207/15 Sat 17/10/15 Mon 207/15 Sat 1													-					
1273 Inclement Weather Granted (EOT Claim No. 3.10, up to 31 Oct 10) 0 days 37 days NA NA NA NA OB Sun 22/10/18 Mon 26/11/28 1272 1274 I <td< td=""><td></td><td>Duration of Section 11P</td><td>1100</td><td>1100</td><td>Mc- 20 7 7</td><td>Cat 20 /2 0 /2 0</td><td>M 20 C (5</td><td></td><td>E 00/</td><td>Ma- 20 G #-</td><td>6-1-20/10/17</td><td>166</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		Duration of Section 11P	1100	1100	Mc- 20 7 7	Cat 20 /2 0 /2 0	M 20 C (5		E 00/	Ma- 20 G #-	6-1-20/10/17	166						
$ \frac{1}{1274} = \frac{1}{1274} = \frac{1}{1274} = \frac{1}{1274} = \frac{1}{189} + \frac{1}{189} +$													7					
$\frac{1275}{and Remaining Works} = \frac{1189 days}{and Remaining Works} = \frac{1189 days}{90 days} = \frac{1503 days}{90 days} = \frac{1000 days}{90 days} = 1000 da$		Inclement Weather Granted (EOT Claim No. 3.10, up to 31 Oct 16)	0 days?	37 days	NA	a <i>N</i> A	NA	NA	0%	Sun 21/10/18	Mon 26/11/18	1272						
and Remaining Works																		
1276 Portion 11 - Time of Possession of Site 90 days 90 days 90 days Mon 20/7/15 Sat 17/10/15 100% Mon 20/7/15 Sat 17/10/15 120 Sat 17/10/15 Mon 20/7/15 Sat 17/10/15 100% Mon 20/7/15 Sat 17/10/15 120 Mon 20/7/15 Sat 17/10/15 Mon	1275		1189 days	1503 days	Mon 20/7/15	5 Sat 20/10/18	Mon 20/7/15	NA	13%	Mon 20/7/15	Fri 30/8/19							
Commissioning	1276		90 days	90 days	Mon 20/7/15	5 Sat 17/10/15	Mon 20/7/15	Sat 17/10/15 10	00%	Mon 20/7/15	Sat 17/10/15	1SS	17/10					
1278 Recycle Timber plastic cladding of External Finishign of Pumping Station 60 days 60 days Thu 4/1/18 Sun 4/3/18 NA NA 0% Wed 14/11/18 Sat 12/1/19 1266FS-30 days Control of the state of the st	1277		120 days	120 days	Thu 4/1/18	3 Thu 3/5/18	NA	NA	0%	Wed 14/11/18	Wed 13/3/19							∇
Task Task Milestone Δ Rolled Up Milestone Δ Split Inactive Task Duration-only Task Progress Baseline Milestone Δ Baseline Summary ∇ ∇ Baseline Split Manual Summary Rollup Manual Summary Rollup Manual Summary Rollup Manual Summary	1278	Recycle Timber plastic cladding of External Finishign of	60 days	60 days	Thu 4/1/18	3 Sun 4/3/18	NA	NA	0%	Wed 14/11/18	Sat 12/1/19	1266FS-30 days						00000000000
Task Progress — Baseline Milestone △ Baseline Summary ▽ ⊽ Baseline Split Inactive Milestone • Manual Summary Rollup • Project: Rolling Programme (Feb 2017) Critical Task Summary ✓ Rolled Up Baseline • Rolled Up Baseline External Tasks Inactive Milestone • Manual Summary • Critical Task Progress — Rolled Up Task … Rolled Up Progress • Project Summary … Start-only — — Baseline Nilestone • Manual Task • Finish-only — … • … •																		
Project: Rolling Programme (Feb 2017) Critical Task Summary Rolled Up Baseline External Tasks Inactive Milestone Manual Summary Manual Summary Critical Task Progress Rolled Up Task Rolled Up Baseline Milestone Project Summary Inactive Milestone Manual Summary Inactive Milestone Start-only Baseline Rolled Up Critical Task Rolled Up Progress Group By Summary Manual Task Finish-only Inactive Milestone Manual Task Finish-only Inactive Milestone Finish-only Finish-only Finish-only Finish-only <			arocc														2	•
Critical Task Progress Rolled Up Task Rolled Up Baseline Milestone △ Project Summary Inactive Summary Start-only Baseline Rolled Up Critical Task Rolled Up Progress Group By Summary Manual Task Finish-only	Project:		-				~				• V						, i	•
	-					,					Δ						-	
Page 0		Baseline		000000000	R	tolled Up Critical T	ask 🛛	Rolled U	p Pro	ogress		Group By Summa	y 🛡	Manual Task	\diamond	Finish-	only	
												Page 6						



Contrac	ctor : Sang Hing - Kuly Joint Venture									Castle P	ntract no. DC eak Road Tru Mun Village	unk Sewer and					
ID	Task Name	Baseline Duration	Duration	Baseline Start	Baseline Finish	Actual Start	Actual Finish	% Complet	Start	Finish	Predecessors		2016	layJun Jul AugSepOctNovDe	2017		2018
1279	Metal fence wall & Gate	60 days	60 days	Thu 4/1/18	Sun 4/3/18	NA	N	A 0%	Wed 14/11/18	Sat 12/1/19	1266FS-30 days	Jul AugSepOctNovDe	ecJan FebMarAprM	layJun Jul AugSepOctNovDe	cJanFebMarAprMa	yJun Jul AugSepOctNovL	Jec Jan FebMarA
1280	Tempred glass fence on roof	30 days	30 days	Sat 3/2/18	Sun 4/3/18	NA	N	A 0%	Fri 14/12/18	Sat 12/1/19	1279FS-30 days,127	T.					2000000
1281	Green Roof	45 days	45 days	Mon 5/3/18	Wed 18/4/18	NA	N	A 0%	Sun 13/1/19	Tue 26/2/19	1280	-					10000000
1282	U-channel	50 days	50 days	Tue 13/2/18	Tue 3/4/18	NA	N	A 0%	Mon 24/12/18	Mon 11/2/19	1279FS-20 days	-					0000000000
1283	Road pavement around Pumping Station	50 days	50 days	Mon 5/3/18	Mon 23/4/18	NA	N	A 0%	Sun 13/1/19	Sun 3/3/19	1282FS-30 days	-					200000000
1284	Landscaping work	60 days	60 days	Mon 5/3/18	Thu 3/5/18	NA	N	A 0%	Sun 13/1/19	Wed 13/3/19	1283FS-50 days	-					
1285	Handing Over to E&M (1019 days after commencement of Pumping Station)	0 days	0 days	Thu 3/5/18	Thu 3/5/18	NA	N	A 0%	Wed 13/3/19		1SS+1019 days,1281FF,1284	-					
1286	E&M Work	260 days	260 days	Sat 3/2/18	Sat 20/10/18	NA	NA	A 0%	Fri 14/12/18		,	-					∇
1287	Installation of E&M work	120 days	120 days	Sat 3/2/18	Sat 2/6/18	NA	N	A 0%	Fri 14/12/18	Fri 12/4/19	1268	-					
1288	Installation of E&M works & Testing and Commissioning	140 days	140 days	Sun 3/6/18	Sat 20/10/18	NA	N	A 0%	Sat 13/4/19	Fri 30/8/19	1287	-					
1289	Completion Section 11B	0 days	0 days	Sat 20/10/18	Sat 20/10/18	NA	N	A 0%	Fri 30/8/19	Fri 30/8/19	1288,1285FF+170 da	a					
1290												-					
1291												-					
1292												-					
1293												-					
1294												-					
1295	Duration of Section 10A	750 days	750 days	Mon 20/7/15	Mon 7/8/17	Mon 20/7/15	N	A 80%	Mon 20/7/15	Mon 7/8/17	1SS	•				7/8	
1296	Inclement Weather Granted (EOT Claim No. 3.10, up to 31 Oct 16)	0 days?	22 days	NA	NA	NA	N	A 0%	Tue 8/8/17	Tue 29/8/17	1295	-				8/8 29/8	
1297	Section 10A - Siu Lam Psychiatric Centre Sewage	750 days	1200 days?	Mon 20/7/15	Mon 7/8/17	Mon 20/7/15	NA	A 29%	Mon 20/7/15	Wed 31/10/18		⊽				∇	
1298 🗸	Portion 10 - Time Possession of Site	60 days	60 days	Mon 20/7/15	Thu 17/9/15	Mon 20/7/15	Thu 17/9/1	5 100%	Mon 20/7/15	Thu 17/9/15	1SS	17/9					
1299 🗸	Prepartation Work	90 days	90 days	Fri 18/9/15	Wed 16/12/15	Fri 18/9/15	Wed 16/12/1	5 100%	Fri 18/9/15	Wed 16/12/15		- V V	7				
1300 🗸	Initial Survey	60 days	60 days	Fri 18/9/15	Mon 16/11/15	Fri 18/9/15	Mon 16/11/1	5 100%	Fri 18/9/15	Mon 16/11/15	1298	18/9	/11				
1301 🗸	Site clearance	30 days	30 days	Tue 17/11/15	Wed 16/12/15	Tue 17/11/15	Wed 16/12/1	5 100%	Tue 17/11/15	Wed 16/12/15	1300	17/11	16/12				
1302												-					
1303 🗸	EOT Claim 021 - Delay due to Change of Design at SLPC SPS	0 days?	80 days?	NA	NA	Sat 10/9/16	Tue 29/11/1	6 100%	Sat 10/9/16	Tue 29/11/16		-					
1304 🗸	Works were suspended due to design change	0 days?	0 days	NA	NA	Sat 10/9/16	Sat 10/9/1	6 100%	Sat 10/9/16	Sat 10/9/16		-		10/9			
1305 🗸	Partially updated design information was reviewed by AECOM and provided	0 days?	79 days?	NA	NA	Sun 11/9/16	Mon 28/11/1	6 100%	Sun 11/9/16	Mon 28/11/16	1304	-		11/9 🛨2	8/11		
1306 🗸	Works resumed	0 days?	0 days	NA	NA	Tue 29/11/16	Tue 29/11/1	6 100%	Tue 29/11/16	Tue 29/11/16	1305	-		*	29/11		
1307												-					
1308	EOT Claim XXX (34A) - Change of Design in Siu Lam Psychiatric Centre SPS	0 days?	168 days?	NA	NA	Mon 28/11/16	N/	A 26%	Mon 28/11/16	Sun 14/5/17		-		-			
1309 🗸	Additional cast-in socket for davit is requested to install under updated construction details	0 days?	0 days	NA	NA	Mon 28/11/16	Mon 28/11/1	6 100%	Mon 28/11/16	Mon 28/11/16	1306	-		42	28/11		
1310 🗸	Order, Fabrication and Delivery of socket	0 days?	42 days?	NA	NA	Tue 29/11/16	Mon 9/1/1	7 100%	Tue 29/11/16	Mon 9/1/17	1309	-		29/11 🛨	9/1		
1311 🗸	Ready for installation	0 days?	0 days	NA	NA	Tue 10/1/17	Tue 10/1/1	7 100%	Tue 10/1/17	Tue 10/1/17	1310	-			10/1		
1312 🗸	Installation of cast-in davit and modification of installed RC bars	0 days?	3 days	NA	NA	Tue 10/1/17	Thu 12/1/1	7 100%	Tue 10/1/17	Thu 12/1/17	1311	-		10/	1 12/1		
1313	Construct Rasing main (CH 307 to CH 282) from Pump House in advance Koisk due to increase of depth of pumping station	0 days?	55 days	NA	NA	NA	N	A 0%	Wed 22/2/17	Mon 17/4/17	1336	-			22/2 17,	14	
1314 🏢	Confirm details of additional 45 degree bend by AECOM	0 days?	0 days	NA	NA	NA	N	A 0%	Wed 1/3/17	Wed 1/3/17		-			1/3		
1315 🏢	Additional time for ordering of 45 degree bend in front of pumping station to aviod conflict with Koisk	0 days?	75 days	NA	NA	NA	N	A 0%	Wed 1/3/17	Sun 14/5/17	1314	-			1/3 🛨	14/5	
1316												-					
1317	EOT Claim XXX (33A) - Pending Details for Boundary Fencing and Vehicular Gate in Siu Lam Psychiatric Centre SPS	0 days?	659 days	NA	NA	Wed 11/1/17	N/	A 0%	Wed 11/1/17	Wed 31/10/18		-			•		
1318 🗸	Preliminary details for cost estimation were provised by AECOM	0 days?	0 days	NA	NA	Wed 11/1/17	Wed 11/1/1	7 100%	Wed 11/1/17	Wed 11/1/17		-			▲ 11/1		
1319	Provision of final construction details from AECOM (interim only)	0 days?	60 days	NA	NA	NA	N	A 0%	Wed 11/1/17	Sat 11/3/17	1318			11/	1 🗙 11/3		
1320	Subletting	0 days?	120 days	NA	NA	NA	N	A 0%	Sun 12/3/17	Sun 9/7/17	1319	-			12/3 🛨	9/7	
1321	Prepare shop drawings	0 days?	60 days	NA	NA	NA	N	A 0%	Mon 10/7/17	Thu 7/9/17	1320	-				10/7 7/9	
1322	Submission of shop drawings	0 days?	0 days	NA	NA	NA	N	A 0%	Thu 7/9/17	Thu 7/9/17	1321	-				7/9	
1323	Approval of shop drawings	0 days?	60 days	NA	NA	NA	N	A 0%	Fri 8/9/17	Mon 6/11/17	1322	-				8/9 📩 6/:	11
1324	Place order	0 days?	14 days	NA	NA	NA	N/	A 0%	Tue 7/11/17	Mon 20/11/17	1323	-				7/11 🗶 2	20/11
	Task				ilestone		Roll	led Up Mi	ilestone	A	Split		Inactive	e Task	Du	ration-only	
	Task Pro	-		Ba	aseline Milestone	Δ	Bas	eline Sum	nmary	∇ ∇	Baseline Split		Inactive	Milestone	Ma	inual Summary Rollup	•
Project: Ro	olling Programme (Feb 2017) Critical T. Critical T.	ask ask Progress			ummary olled Up Task	▼		led Up Ba led Up Ba	seline seline Milestone	^	External Tasks Project Summary		Inactive Inactive		Ma	inual Summary irt-only	•
	Baseline	-	0000000		olled Up Task olled Up Critical Ta	ask		led Up ва led Up Pro		-	Group By Summary		Manual			ish-only	-
	I										Page 7						



Tel Fax

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Appendix **B**

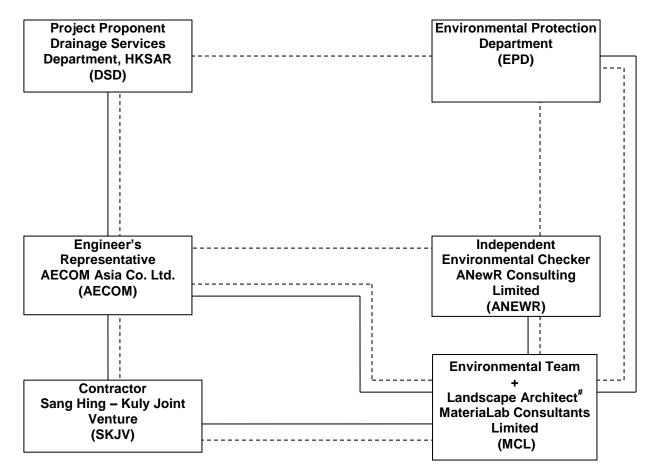
Project Organization Chart

Tel

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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.

	and.	
Leg	end:	

_ _ _ _

Line of Reporting

Line of Communication

Tel

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong.

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Appendix C

Action and Limit Levels for Air Quality and Noise

Room 723 & 725, 7/F, Block B,	
Profit Industrial Building,	Tel
1-15 Kwai Fung Crescent, Kwai Fong,	Fa
Hong Kong.	Em

el : (852)-24508238 ax : (852)-24508032 mail : mcl@fugro.com



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/m ³)	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.

Tel

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Appendix D

Calibration Certificates of Monitoring Equipment

Tel Fax

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong.

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5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong.	Tel : +852 2450 Fax : +852 2450 E-mail : matlab@fu Website : www.fugro.	6138 gro.com	ateriaLab
Report no. : 940891CA170	0013(5)		Page 1 of 1
CALIBRATION CEI	RTIFICATE OF DUST	METER	
Client Supplied Informatio			
Client : Fugro Technical			
Project : Calibration Servi	ces		
Details of Unit Under Test, L	JUT		
Description	Laser Dust Monitor		
Manufacturer	SIBATA		
Model No.	LD-3B		
Serial No.	476783		
Specification Limit	NA		
Next Calibration Date	07-Dec-2017		
l abandanı lufamında			
Laboratory Information			
Description + E	afaranca balanca		
	teference balance		
Equipment ID. : F	-039-10	hiant Tamparatura - 10	**
Equipment ID. : F Date of Calibration : 0 Calibration Location : 0 Method Used : E	-039-10 8-Dec-2016 Am alibration Lab. of MateriaLab y direct comparison the weight olume sampler (TSP method) for	or a certain period, with the r	filter paper using high eading of the UUT. They
Equipment ID. : F Date of Calibration : 0 Calibration Location : 0 Method Used : E	2-039-10 8-Dec-2016 Am alibration Lab. of MateriaLab y direct comparison the weight olume sampler (TSP method) for hould be placed at the same loo	of dust particle trapped in a or a certain period, with the r cation and powered on and o	filter paper using high eading of the UUT. They ff at the same time.
Equipment ID. : F Date of Calibration : 0 Calibration Location : 0 Method Used : E v S Calibration Results :	-039-10 8-Dec-2016 Am alibration Lab. of MateriaLab y direct comparison the weight olume sampler (TSP method) for	of dust particle trapped in a or a certain period, with the r	filter paper using high eading of the UUT. They ff at the same time.
Equipment ID. F Date of Calibration : 0 Calibration Location : 0 Method Used : E v s Calibration Results : Reference concentration	2-039-10 8-Dec-2016 Am alibration Lab. of MateriaLab y direct comparison the weight olume sampler (TSP method) for hould be placed at the same loo	of dust particle trapped in a or a certain period, with the r cation and powered on and o	filter paper using high eading of the UUT. They ff at the same time.
Equipment ID. : F Date of Calibration : 0 Calibration Location : 0 Method Used : E v S Calibration Results : Reference concentration (mg/m ³)	2-039-10 8-Dec-2016 Am alibration Lab. of MateriaLab y direct comparison the weight olume sampler (TSP method) for hould be placed at the same loo Total count for 1 hour	of dust particle trapped in a or a certain period, with the r cation and powered on and c CPM (Count per minute	filter paper using high eading of the UUT. They ff at the same time.
Equipment ID. : F Date of Calibration : 0 Calibration Location : 0 Method Used : E v S Calibration Results : Reference concentration (mg/m ³) 0.0853	-039-10 8-Dec-2016 Am alibration Lab. of MateriaLab y direct comparison the weight olume sampler (TSP method) for hould be placed at the same loc Total count for 1 hour 4521	of dust particle trapped in a or a certain period, with the r cation and powered on and o CPM (Count per minute 75.35	filter paper using high eading of the UUT. They ff at the same time.
Equipment ID. : F Date of Calibration : 0 Calibration Location : 0 Method Used : E v S Calibration Results : Reference concentration (mg/m ³) 0.0853 0.1217 0.1303 Remarks: 1. The equipment being used 2. The interpolation equation	2-039-10 8-Dec-2016 Am 3alibration Lab. of MateriaLab y direct comparison the weight y direct comparison the weight blume sampler (TSP method) for hould be placed at the same loc for Total count for 1 hour 4521 4875 5019 I in this calibration is traceable to concentration (mg/m³) = K x	of dust particle trapped in a prior a certain period, with the relation and powered on and other communication and powered on and	filter paper using high eading of the UUT. They off at the same time.
Equipment ID. : F Date of Calibration : 0 Calibration Location : 0 Method Used : E v S Calibration Results : Reference concentration (mg/m ³) 0.0853 0.1217 0.1303 Remarks: 1. The equipment being used	2-039-10 8-Dec-2016 Am 3alibration Lab. of MateriaLab y direct comparison the weight y direct comparison the weight blume sampler (TSP method) for hould be placed at the same loc for Total count for 1 hour 4521 4875 5019 I in this calibration is traceable to concentration (mg/m³) = K x	of dust particle trapped in a por a certain period, with the relation and powered on and other certain and powered on and powered on and powered on and other certain and powered on and powe	filter paper using high eading of the UUT. They iff at the same time.
Equipment ID. F Date of Calibration 10 Calibration Location 10 Method Used 10 E V S Calibration Results 1 Reference concentration (mg/m ³) 0.0853 0.1217 0.1303 Remarks: 1. The equipment being used 2. The interpolation equation 3. Correlation coefficient (r) 1	-039-10 8-Dec-2016 Am alibration Lab. of MateriaLab y direct comparison the weight olume sampler (TSP method) fe hould be placed at the same loc Total count for 1 hour 4521 4875 5019 I in this calibration is traceable t : Concentration (mg/m ³) = K × 1 0.9945	d by : Date : Date : Chan Chun Wai (Manager)	filter paper using high eading of the UUT. They iff at the same time.
Equipment ID. : F Date of Calibration : 0 Calibration Location : 0 Method Used : E v S Calibration Results : Reference concentration (mg/m ³) 0.0853 0.1217 0.1303 Remarks: 1. The equipment being used 2. The interpolation equation 3. Correlation coefficient (r) : Checked by : Checked by :	P-039-10 8-Dec-2016 Am alibration Lab. of MateriaLab y direct comparison the weight blume sampler (TSP method) for hould be placed at the same loc Total count for 1 hour 4521 4875 5019 A in this calibration is traceable to Concentration (mg/m ³) = K × 10.9945 Date : $(C1 - 2x^{-1})$ Certifie	d by : Date : Date : Ceport **	filter paper using high eading of the UUT. They off at the same time. e) e) e) e) e) e) e) e) e) e) e) e) e)

Tel Fax

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Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, N.T., Hong Kong,	Tel : +852 2450 / Fax : +852 2450 / E-meil : metleb⊠fug Website : www.fugro.t	6138 ro.com	MateriaLat
Report no. : 940891CA1700)13(6)		Page 1 of 1
CALIBRATION CER	TIFICATE OF DUST	METER	
Client Supplied Information			
Client Fugro Technical S	Services Limited		
Project : Calibration Servic	es		
Details of Unit Under Test, U	л		
	Laser Dust Monitor		
	SIBATA		
Model No. :	LD-3B		
Serial No.	577229		
Specification Limit :	NA		
Next Calibration Date :	07-Dec-2017		
Laboratory Information			
	eference balance		
Description ± Re	eference balance 039-10		
Description ± Re Equipment ID. : Re	039-10	bient Temperature	19 *C
Description : Ri Equipment ID. : R- Date of Calibration : 08 Calibration Location : Ca Method Used : By vo	039-10 -Dec-2016 Am alibration Lab, of MateriaLab r direct comparison the weight lume sampler (TSP method) for	of dust particle trapped or a certain period, with	in a filter paper using high the reading of the UUT. They
Description : Ri Equipment ID. : R- Date of Calibration : 08 Calibration Location : Ca Method Used : By vo sh Calibration Results : Reference concentration	039-10 -Dec-2016 Am slibration Lab, of MateriaLab r direct comparison the weight	of dust particle trapped or a certain period, with	in a filter paper using high the reading of the UUT. They and off at the same time,
Description : Ri Equipment ID. : R- Date of Calibration : 08 Calibration Location : Ca Method Used : By vo sh Calibration Results :	039-10 -Dec-2016 Am alibration Lab, of MateriaLab r direct comparison the weight lume sampler (TSP method) for ould be placed at the same loc	of dust particle trapped or a certain period, with ation and powered on a	in a filter paper using high the reading of the UUT. They and off at the same time,
Description : Ri Equipment ID. : R- Date of Calibration : 06 Calibration Location : Ca Method Used : By vo sh Calibration Results : Reference concentration (mg/m ³)	039-10 -Dec-2016 Am alibration Lab, of MateriaLab r direct comparison the weight lume sampler (TSP method) for ould be placed at the same loc Total count for 1 hour	of dust particle trapped or a certain period, with ation and powered on a CPM (Count per m	in a filter paper using high the reading of the UUT. They and off at the same time,
Description : Ri Equipment ID. : R- Date of Calibration : 08 Calibration Location : Ca Method Used : By vo sh Calibration Results : Reference concentration (mg/m ³) 0.0853 0.1217 0.1303	039-10 -Dec-2016 Am alibration Lab, of MateriaLab r direct comparison the weight lume sampler (TSP method) fo ould be placed at the same loc Total count for 1 hour 4513	of dust particle trapped or a certain period, with ation and powered on a CPM (Count per m 75.22	in a filter paper using high the reading of the UUT. They and off at the same time,
Description : Ri Equipment ID. : R- Date of Calibration : 08 Calibration Location : Ca Method Used : By vo sh Calibration Results : Reference concentration (mg/m ³) 0.0853 0.1217 0.1303 Remarks: 1. The equipment being used	039-10 -Dec-2016 Am alibration Lab, of MateriaLab r direct comparison the weight lume sampler (TSP method) for ould be placed at the same loc Total count for 1 hour 4513 4779	of dust particle trapped or a certain period, with cation and powered on a CPM (Count per m 75.22 79.65 80.02 to recognized National S UUT reading (CPM) w	in a filter paper using high the reading of the UUT. They and off at the same time. ninute) Standards. where $K = 0.001436$

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5 Lok Vi Streat, Tai L Tuen Mun, N.T. Hong Kong,	CHNICAL SERV Centre. am,	Tel +652 2450 6233 Fax +652 2450 6138 E-mail muEab@lugro.com Website , www.fugro.com	n	M	lateria	Lab
Report no.: 161	966CA170720			-	Page	1 of 1
CALIBRATI	ON CERTIFIC	ATE OF SOUND L	EVEL MI	ETER		
Address : Room / Project : Calibratio Details of Unit Unit Description Manufacturer Model No, Serial No, Next Calibratio Specification L Laboratory Inform Description Equipment ID, Date of Calibra Calibration Loo Method Used	on Services der Test, UUT Sound I Casella Casella 136795 n Date 29-Mar- imit EN 616 nation B & K Acoustic R-108-1 tion 30-Mar-201 ation Calibration	(Model no. CEL-63X(mete 9 (meter), 01308 (micropho 2018 72: 2003 Type 1 Multifunction Calibrator 42 7 Ambient Temper Laboratory of MateriaLab	r), CEL-251(one), 002748 26 (Tradition	(microph) (Pream nal free	ione), CEL-495(Pro iplifier))	
Calibration Resul	By direct comp	arison				
Parame	11.	Mean Value (dB)	Specific	ation Li	mit(dB)	
	4000Hz	2.5	2.6	to	-0.6	
	2000Hz	0.4	2.8	10	-0.4	
	1000Hz	-0.9	1.1	10	-1.1	
A-weighing	500Hz	-4.0	-1.8	to	-4.6	
frequency response	250Hz	-9.2	-7.2	to -	-10.0	
(coponer	125Hz	-16.6	-14.6	to -	-17.6	
	63Hz	-26.6	-24.7	to -	27.7	
	31.5Hz	-39,3	-37.4	to -	41.4	
	94dB-104dB	0.0		±0.6		
Differential level						
Differential level linearity	104dB-114dB	0.2		± 0.6		
linearity Remarks :	104dB-114dB					
linearity Remarks : 1. The equipment of 2. The mean value 3. For calibration: F	104dB-114dB used in this calibration is the average of for Reference SPL are 9 does comply with EN	n is traceable to recognize ur measurements. 4, 104 & 114dB, range sett 61672: 2003 Type 1 sound Control of the control of	ing is 20-140 d level meter	tandards DdB & tir for the	ne weighing is fast above measureme ate : <u>- 3- ਖ਼ਜ਼ ਕ</u> ੀ]	

Tel Fax

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong.

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Tuen Mun, N.T., Hong Kong.	Tel : +852 2450 8233 Fax : +852 2450 6138 E-mail : matlab@fugro.com Website : www.materialab.com.		riaLal
Report no.: 161966CA162202(1		IBRATOR	Page 1 of 1
Client Supplied Information			
Client : Materialab Consultants	Ltd.		
Address : Room 723 & 725, 7/F.,	Block B Profit Industrial Building, 1	-15 Kwai Fung Crescent,	Kwai Chung, N.T.
Project : Calibration Services			
Details of Unit Under Test, UUT			
Description : So	und Calibrator		
Manufacturer : Ca	sella (Model no. CEL-120/1)		
Serial No. : 332	21858		
Next Calibration Date : 31-	Oct-2017		
Specification Limit : ±0.	5dB		
Laboratory Information			
	Sound level meter		
Equipment ID. : R-119-1			
Date of Calibration : 01-Nov	v-2016 Ambient Temperatu	re : 22 ℃	
	tion Laboratory of MateriaLab		
	· · · · · · · · · · · · · · · · · · ·		
Method Used : By direct of	comparison		
Method Used : By direct of	comparison		
Method Used : By direct of Calibration Results :	comparison		
	omparison Mean Value (error of measurement)	Specification Limit(dB)	
Calibration Results :	Mean Value (error of		
Calibration Results : Parameters (Setting of UUT)	Mean Value (error of measurement)	Specification Limit(dB) ±0.5dB	
Calibration Results : Parameters (Setting of UUT) 94dB	Mean Value (error of measurement) -0.3 dB		
Calibration Results : Parameters (Setting of UUT) 94dB 114dB	Mean Value (error of measurement) -0.3 dB -0.2 dB	±0.5dB	
Calibration Results : Parameters (Setting of UUT) 94dB 114dB Remarks :	Mean Value (error of measurement) -0.3 dB -0.2 dB	±0.5dB	
Calibration Results : Parameters (Setting of UUT) 94dB 114dB Remarks : 1. The equipment used in this calib	Mean Value (error of measurement) -0.3 dB -0.2 dB pration is traceable to recognized N of four measurements.	±0.5dB	
Calibration Results : Parameters (Setting of UUT) 94dB 114dB Remarks : 1. The equipment used in this calib 2. The mean value is the average of 3. The equipment does comply with	Mean Value (error of measurement) -0.3 dB -0.2 dB oration is traceable to recognized N of four measurements. h the specification limit.	±0.5dB	
Calibration Results : Parameters (Setting of UUT) 94dB 114dB Remarks : 1. The equipment used in this calib 2. The mean value is the average of 3. The equipment does comply with	Mean Value (error of measurement) -0.3 dB -0.2 dB oration is traceable to recognized N of four measurements. h the specification limit.	±0.5dB	uurolb_
Calibration Results : Parameters (Setting of UUT) 94dB 114dB Remarks : 1. The equipment used in this calib 2. The mean value is the average of 3. The equipment does comply with	Mean Value (error of measurement) -0.3 dB -0.2 dB pration is traceable to recognized N of four measurements. h the specification limit. e : $3 - 1 - 20 + 6$ Certified by : _	±0.5dB	uuroch_
Calibration Results : Parameters (Setting of UUT) 94dB 114dB Remarks : 1. The equipment used in this calib 2. The mean value is the average of 3. The equipment does comply wit Checked by :	Mean Value (error of measurement) -0.3 dB -0.2 dB pration is traceable to recognized N of four measurements. h the specification limit. e : $3 - 1 - 20 + 6$ Certified by : _	±0.5dB	Culosolb

Tel

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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> Lok Chui Street near Castle Peak Villas under the scope of "Tuen Mun Sewerage – Eastern Coastal Sewerage Extension" – DC/2014/01

Impact Monitoring Schedule (August 2017)

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

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 Mo Monitorin	onitoring	
Date	Monitorin	g Station*	Monitorin	g Station*	
	1-hr LC6a		LC6a LC9		
1	$\sqrt{\frac{1000}{1000}}$	LC9	LC6a V	$\frac{100}{10000000000000000000000000000000$	
2	v	v	V	v	
3					
4					
4 5					
6					
7	√	√			
	N	N N	N		
8					
9					
10					
11			ν		
12	N	N	N	N	
13					
14					
15					
16					
17	1	1	1	1	
18	√	ν	ν		
19					
20					
21					
22					
23	1	1	1	1	
24					
25					
26					
27					
28					
29	1				
30	\checkmark				
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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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>

Tentative Impact Monitoring Schedule (September 2017)

Sun	Mon	Tue	Wed	Thur	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 A & N Impact Monitoring
17	18	19	20	21	22 A & N Impact Monitoring	23
24	25	26	27	28 A & N Impact Monitoring	29	30

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

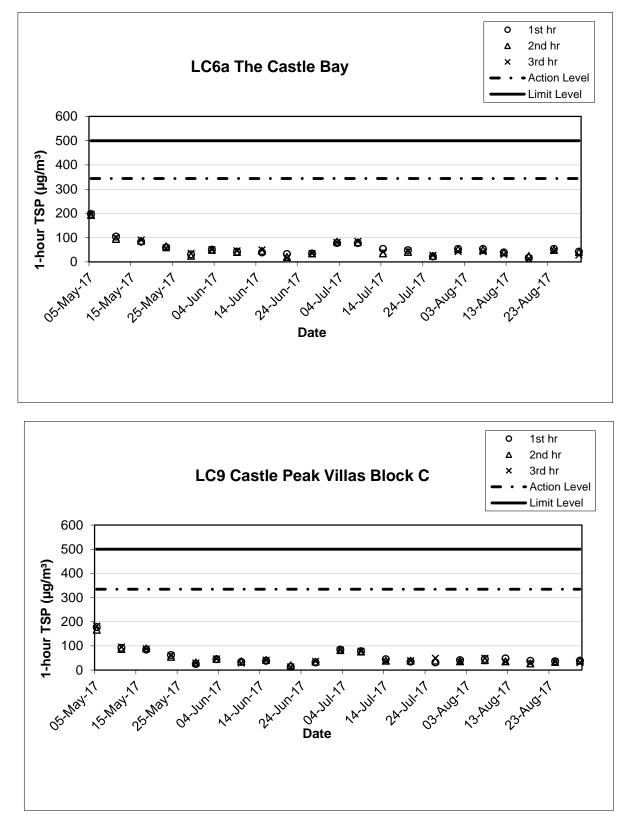
1-hour TSP (μg/m³)						
Date	Start Time	1st hr	2nd hr	3rd hr	Weather	
01-Aug-17	09:00	53	52	43	Fine	
07-Aug-17	08:51	53	49	42	Fine	
12-Aug-17	08:45	39	39	31	Fine	
18-Aug-17	08:32	16	24	13	Sunny	
24-Aug-17	14:05	53	49	46	Fine	
30-Aug-17	09:00	42	41	28	Fine	
	Average		40			
	Max	53				
	Min	13				

LC9 Castle Peak Villas Block C

1-hour TSP (μg/m³)							
Date	Start Time	1st hr	2nd hr	3rd hr	Weather		
01-Aug-17	09:15	41	36	36	Fine		
07-Aug-17	09:00	46	41	49	Fine		
12-Aug-17	09:30	48	36	34	Fine		
18-Aug-17	09:17	38	28	29	Sunny		
24-Aug-17	14:45	36	34	34	Fine		
30-Aug-17	08:45	39	39	31	Fine		
	Average		38				
	Max	49					
	Min	28					

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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 _{eq} 30min dB(A)	Corrected L _{eq} 30min dB(A) ¹	L ₉₀ dB(A)	L ₁₀ dB(A)	Weather
01-Aug-17	09:00	68	63	65	70	Fine
07-Aug-17	10:28	64	59	59	67	Fine
12-Aug-17	09:00	66	61	63	70	Fine
18-Aug-17	08:34	61	56	57	66	Sunny
24-Aug-17	14:00	63	58	52	67	Sunny
30-Aug-17	09:05	66	61	58	71	Fine

Note:

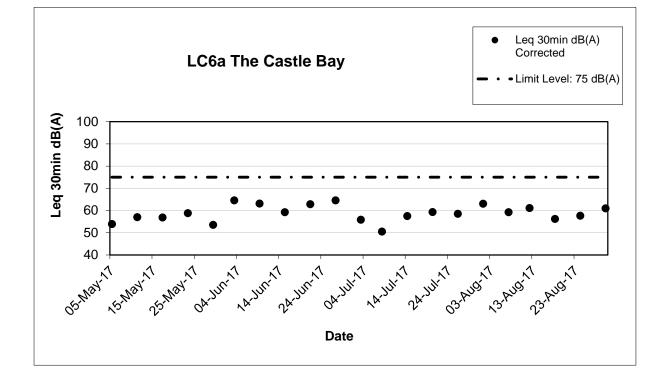
1) A distance correction of -5dB(A) has been applied in monitoring data of LC6a according to baseline monitoring report (Appendix G).

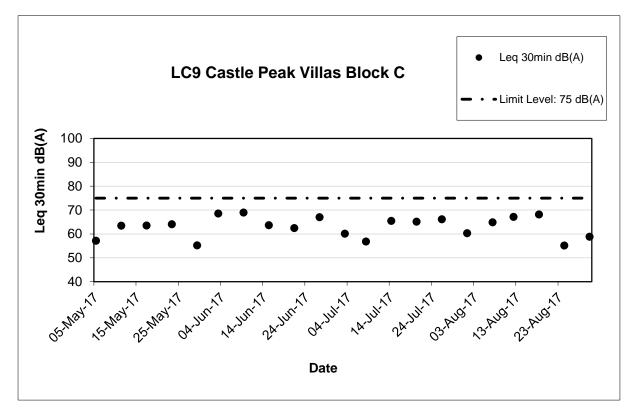
Date	Start Time	L _{eq} 30min dB(A)	Corrected L _{eq} 30min dB(A)	L ₉₀ dB(A)	L ₁₀ dB(A)	Weather
01-Aug-17	09:40	60	N.A	59	62	Fine
07-Aug-17	09:32	65	N.A	59	67	Fine
12-Aug-17	10:00	67	N.A	66	68	Fine
18-Aug-17	09:19	68	N.A	67	70	Sunny
24-Aug-17	15:00	55	N.A	53	57	Fine
30-Aug-17	09:45	59	N.A	57	61	Fine

LC9 Castle Peak Villas Block C

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Note:

- 1) The QA/QC procedures and detection Limits refer to section 3.2 and 3.5.
- 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

Tel Fax

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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	n(s) of last reporting month:		
20/07/2017 &	Wastewater leakage was observed from the pipe of the wastewater treatment facility.	The Contractor should regularly check and maintain the treatment facility is proper function.	03/08/2017
27/07/2017	Insufficient mitigation measurement for wastewater control near site boundary.	The Contractor should provide sufficient sand bags to prevent improper discharge.	03/06/2017
22/08/2017	Stagnant water was observed on site.	The Contractor should clear up the stagnant water with proper treatment to prevent accumulated.	31/08/2017
Landscape and	Visual Impact Inspection		
	Trunks of the dead trees LC- TC03 (R), LC-TC04 (R) and LC-TC06 should be stabilized with external support before tree felling is completed.	Tree specialist/ Site safety staff should continue to monitor the risk of falling.	ASAP
	The trunks were loaded with invasive climber <i>Mikania</i> <i>micrantha</i> (薇甘菊), which is also extending to the living tree LC-TC07 (R).	The climber should be cleared and removed.	24/08/2017
11/08/2017	All leaves wilted and no regeneration of young leaves observed in T0483 (R). Bark starts peeling off with cracks on trunk.	Assessment by tree specialist should be conducted to assess the risk of falling. Tree fell application should be prepared if necessary.	ASAP
	T0480(R) was leaning on T0479 (R). Root was exposed.	Tree specialist should conduct a tree risk assessment.	ASAP
	Another young <i>Leucaena leucocephala</i> (銀合歡; DBH<95mm) was blown down.	The plant should be cleared and removed.	24/08/2017
24/08/2017	Trunks of the dead trees LC- TC03 (R), LC-TC04 (R) and LC-TC06 should be stabilized with external support before tree felling is completed.	Tree specialist/ Site safety staff should continue to monitor the risk of falling.	ASAP
	LC-TC07 (R) was observed with broken branches and all wilted leaves.		

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Inspection Date	Observation/ Comment	Follow Up Action	Completion Date
	All leaves wilted and no regeneration of young leaves observed in T0483 (R). Bark starts peeling off with cracks on trunk.	Assessment by tree specialist should be conducted to assess the risk of falling.	ASAP
	A suspected bird nest was found on T0482 (R)	Precaution is needed for any tree works nearby to avoid any disturbance to the nest, if it is not abandoned.	ASAP
	T0480 (R) was leaning on T0479 (R). Root was exposed.	Tree specialist should conduct a tree risk assessment.	

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

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Event / Action Plan for Construction Noise

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

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Event / Action Plan for Landscape and Visual Impact

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

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

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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	۸
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	۸
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	۸
5.8.11	Carry out good site practice to limit noise emission at source.	All areas / Throughout construction period	Contractor	TMEIA	^
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	۸

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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	^
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
6.5.2	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	*
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	*

Water Quality

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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	۸
	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	*
669	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	٨
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

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EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
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
6.5.4	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
6.5.5	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
	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	Λ
6.5.7	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	٨

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EIA Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Status in Construction Phase
6.5.7	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	٨
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	EM&A in the form of site supervision to ensure water quality protection measures are implemented.	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	^
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	^
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	^
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	^
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	^
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		1	<u> </u>

/ 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		r Temperatu	Mean Relative	Total				
Date	Pressure (hPa)	Maximum (deg. C)	Mean (deg. C)	Minimum (deg. C)	Humidity (%)	Rainfall (mm)			
	August 2017								
1	1001.4	33.2	30.5	28.3	80	5.9			
2	1002.2	31.0	29.3	27.3	83	14.8			
3	1001.8	29.8	27.8	25.3	88	66.7			
4	1003.0	29.3	27.6	25.9	89	19.3			
5	1005.5	34.0	30.0	27.1	80	0.9			
6	1006.4	32.9	30.3	28.5	78	0.0			
7	1006.3	33.0	30.5	27.3	77	6.9			
8	1006.6	32.8	30.4	28.4	78	1.9			
9	1006.1	31.0	29.6	26.3	81	14.3			
10	1006.1	31.4	29.6	27.6	81	11.1			
11	1007.6	31.6	30.0	28.9	79	3.5			
12	1008.7	32.5	30.0	29.0	76	0.0			
13	1009.1	32.4	29.8	28.6	76	0.0			
14	1008.8	32.5	29.9	28.8	75	Trace			
15	1008.4	32.9	29.8	28.1	74	0.2			
16	1008.3	31.2	29.3	28.2	75	Trace			
17	1009.1	33.0	29.9	27.9	73	0.0			
18	1010.3	34.3	30.4	28.1	76	0.0			
19	1009.8	34.0	30.6	28.4	71	0.0			
20	1007.1	33.4	30.5	28.5	75	0.0			
21	1003.2	34.5	31.3	28.6	72	0.0			
22	999.7	36.6	30.9	28.0	76	2.0			
23	996.9	29.5	26.9	25.4	89	67.1			
24	1007.8	31.5	29.1	27.3	86	Trace			
25	1008.3	32.7	29.2	27.8	81	0.1			
26	1006.4	34.3	29.8	26.2	73	6.3			
27	1004.3	26.9	25.6	24.0	95	165.3			
28	1010.2	26.3	25.2	24.5	96	98.3			
29	1010.1	31.4	28.2	24.6	79	0.0			
30	1008.3	31.6	28.9	27.0	79	0.4			
31	1007.3	32.8	28.9	26.2	77	4.1			

Source: Hong Kong Observatory – Hong Kong Observatory

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Weather Conditions during noise monitoring

LC6a The Castle Bay

Date	Start Time	Weather	Wind Speed m/s	Wind Direction
01-Aug-17	09:00	Fine	0.6	NW
07-Aug-17	10:28	Fine	0.4	S
12-Aug-17	09:00	Fine	0.0	NA
18-Aug-17	08:34	Sunny	0.0	NA
24-Aug-17	14:00	Sunny	1.1	SE
30-Aug-17	09:05	Fine	1.2	SE

LC9 Castle Peak Villas Block C

Date	Start Time	Weather	Wind Speed m/s	Wind Direction
01-Aug-17	09:40	Fine	0.2	NW
07-Aug-17	09:32	Fine	0.2	S
12-Aug-17	10:00	Fine	0.0	N.A
18-Aug-17	09:19	Sunny	0.0	N.A
24-Aug-17	15:00	Fine	0.0	N.A
30-Aug-17	09:45	Fine	0.8	SE

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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

		-	wioneny	Summar y	vasie ri	ow labic.			•)		
	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly			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)	$(in '000m^3)$	(in '000m ³)	$(in '000m^3)$	$(in '000m^3)$	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	$(in '000m^3)$
Jan 2017	0.040	0.040	0.040	-	0.000	-	-	-	-	-	0
Feb 2017	0.580	0.580	0.080	-	0.500	-	-	-	-	-	0
Mar 2017	0.910	0.910	0.460	-	0.450	-	-	-	-	-	0
Apr 2017	0.050	0.050	0.050	-	0.000	-	-	-	-	-	0
May 2017	0.050	0.050	0.050	-	0.000	-	-	-	-	-	0
Jun 2017	0.020	0.020	0.020	-	0.000	-	-	-	-	-	0
Jul 2017	0.020	0.020	0.020	-	0.000	-	-	-	-	-	0
Aug 2017	0.020	0.020	0.020	-	0.000	-	-	-	-	-	0
Sept 2017											
Oct 2017											
Nov 2017											
Dec 2017											
Total	1.690	1.690	0.740	-	0.950	-	-	-	-	-	0

Monthly Summary Waste Flow Table for <u>08/17</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 ³)	(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		Sufficient watering of the works site with active dust emitting activities.Properly cover the stockpiles.		
20/02/2010	Pre-Drilling	Dust, Noise	 Scheduling of noisy construction activities if necessary to avoid persistent noisy operation. 		
29/02/2016 - 31/03/2016	Earth Excavation	and water quality	and water	and water quality	 Regular maintenance of machines. Use of acoustic barriers if necessary. Provision of appropriate desilting/sedimentation devices provided on site for treatment before disabarase.
	Plant Mobilization		 before discharge. Regular check and maintenance of desilting/sedimentation devices. Provide sufficient mitigation measures as recommended in approved EIA Manual requirement. 		
01/04/2016 - 30/04/2016		Noise and	 Shield the piling rig to avoid spreading of slurry during boring. Regular maintenance of machines. Use of acoustic barriers if necessary. Provision of appropriate desilting/sedimentation devices provided on site for treatment 		
01/05/2016 - 31/05/2016	Soldier pile work	water quality impact	• •	 before discharge. Regular check and maintenance of desilting/sedimentation devices. Provide sufficient mitigation measures as recommended in approved EIA Manual requirement. 	
01/06/2016 - 30/06/2016	Construction of lagging wall	Dust, Noise impact and waste management.	 Water sprays shall be used during the delivery and handling of dusty materials. Carry out good site practice to limit noise emission at source. Avoid simultaneous noisy activities. Surplus material should be sorted on site into C&D waste and that suitable for public fill. Provide sufficient mitigation measures as recommended in approved EIA Manual requirement. 		

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

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Reporting Period	Construction Works	Anticipated Impacts	Recommended Mitigation Measures
01/01/2017			 Sufficient watering of the works site with active dust emitting activities. Scheduling of noisy construction activities if necessary to avoid persistent noisy
31/01/2017			operation.Regular maintenance of machines.
01/02/2017			Use of acoustic barriers if necessary.
-	Excavation of ELS		• Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.
28/02/2017	4		Regular check and maintenance of desilting/sedimentation devices.
01/03/2017			Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.
- 31/03/2017			
			 Sufficient watering of the works site with active dust emitting activities. Scheduling of noisy construction activities if necessary to avoid persistent noisy operation.
01/04/2017		Dust, Noise	Regular maintenance of machines.
31/05/2017	Construction of wet well	and water quality impact.	 Use of acoustic barriers if necessary. Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge.
			 Regular check and maintenance of desilting/sedimentation devices. Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.

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Reporting Period	Construction Works	Anticipated Impacts	Recommended Mitigation Measures
01/06/2017 - 30/09/2017	Construction of Pumping Station	Dust, Noise and water quality impact.	 Sufficient watering of the works site with active dust emitting activities. Scheduling of noisy construction activities if necessary to avoid persistent noisy operation. Regular maintenance of machines. Use of acoustic barriers if necessary. Provision of appropriate desilting/sedimentation devices provided on site for treatment before discharge. Regular check and maintenance of desilting/sedimentation devices. Provide sufficient mitigation measures as recommended in approved EIA Manual requirement.