

FUGRO TECHNICAL SERVICES LIMITED

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QUARTERLY ENVIRONMENTAL MONITORING & AUDIT SUMMARY REPORT

June 2019 – August 2019

Client : SANG HING – KULY JOINT VENTURE

Contract Name : Castle Peak Road Trunk Sewer and Tuen Mun Village Sewerage (Sewage Pumping Station at Lok Chui Street near Castle Peak Villas)

Contract No. : DC/2014/01


EP No. : EP-068/2000/A

Title of Project : Sewage Pumping Stations at Tai Lam Chung Tsuen Luen On San Tsuen, Tai Lam Valley and Lok Chui Street near Castle Peak Villas under the scope of “Tuen Mun Sewerage – Eastern Coastal Sewerage Extension”

Report No. : 0367/15/ED/1208

Prepared by : Wingo H. W. So

Reviewed by : Cyrus C. Y. Lai

Certified by : 
Colin K. L. Yung
Environmental Team Leader
Fugro Technical Services Limited

10 September 2019



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

Your reference:

Our reference: HKDSD202/50/106031

Date: 18 September 2019

Attention: Mr Lee Wai Chung

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

Dear Sirs

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

We refer to email of 10 September 2019 attaching a Quarterly EM&A Summary Report (June – August 2019) for the captioned project prepared by the ET.

We have no comment and hereby verify the captioned report.

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

Yours faithfully
ANewR CONSULTING LIMITED

Adi Lee
Independent Environmental Checker

LYMA/LCCR/csym

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**EXECUTIVE SUMMARY**

- i. This is the 14th Quarterly Environmental Monitoring Audit (EM&A) Summary Report, it presents the environmental monitoring and audit works for the period from 1 June 2019 to 31 August 2019.

Construction Activities for the Reporting Period

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

| June 2019 | July 2019 | August 2019 |
|----------------------------------|---------------|------------------------|
| • Construction of vehicle access | • Bricklaying | • Laying paving blocks |

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.
- vi. No complaints, notification of summons or successful prosecutions were received in the reporting period.

Reporting Change

- vii. There was no reporting change required in the reporting period.

Future Key Issues

- 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.



1. INTRODUCTION

1.1 Background

- 1.1.1 Contract No. DC/2014/01 – Castle Peak Road Trunk Sewer and Tuen Mun Village Sewerage (“the Project”) includes the construction of a sewage pumping station at Lok Chui Street near Castle Peak Villas as shown in **Figure 1**.
- 1.1.2 The environmental impact assessment (EIA) report (Tuen Mun Sewerage - Eastern Coastal Sewerage Extension) – EIA Report (Register No. AEIAR-034/2000) for the Project was approved by Environmental Protection Department (EPD) dated 7 June 2000. The EIA Report involves the construction of four sewage pumping stations at Tai Lam Chung Tsuen, Luen On San Tsuen, Tai Lam Valley and Lok Chui Street near Castle Peak Villas. The scope of this EM&A Manual focuses on the Sewage Pumping Station at Lok Chui Street near Castle Peak Villas in the EIA Report. The Project is designated under Schedule 2, section F3(b) and Q1 of the Environmental Impact Assessment Ordinance (EIAO). EPD subsequently issued the Environmental Permit (EP) EP- 068/2000 on 25 July 2000.
- 1.1.3 A Register of Change to Environmental Permit was submitted to EPD to register any change to the conditions in the EP for adoption of the latest design of the Pumping Station at Lok Chui Street and justify that the latest changes would not violate the conditions as stated in the approved EIA Report and EP based on the latest engineering design information. A Variation of Environmental Permit (VEP) EP-068/2000/A was issued on 10 April 2015 and it is the current permit for the Project.
- 1.1.4 The amended EP (EP-068/2000/A) is the current permit for the Project.
- 1.1.5 In accordance to EP-068/2000/A Condition 2.3 and 2.4, an updated EM&A Manual was duly certified by ETL and verified by IEC and submitted to EPD for approval on 18 January 2016.
- 1.1.6 The construction phase and EM&A programme of the Project commenced on 29 February 2016.
- 1.1.7 This is the 14th Quarterly Environmental Monitoring Audit (EM&A) Summary Report, it presents the environmental monitoring and audit works for the period from 1 June 2019 to 31 August 2019.



1.2 Project Organization

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

Table 1.1 Contact Information of Key Personnel

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

1.4.1 During this reporting period, the principal work activities within the site included:

| June 2019 | July 2019 | August 2019 |
|----------------------------------|---------------|------------------------|
| • Construction of vehicle access | • Bricklaying | • Laying paving blocks |

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 1.2**.

Table 1.2 Status of Environmental Licences, Notification and Permits

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



2. ENVIRONMENTAL MONITORING & AUDIT REQUIREMENTS

2.1 Monitoring Parameters and Monitoring Locations

2.1.1 In accordance with the updated EM&A Manual, monitoring of the 1 hourly average of Total Suspended Particulates (TSP) levels for air quality and the A-weighted equivalent continuous sound pressure level Leq (30min) for the time period between 0700-1900 hours on normal weekdays for noise impact. The monitoring locations are shown in **Figure 2**.

2.2 Monitoring Methodology and Calibration

2.2.1 Monitoring equipment were conducted and calibrated regularly in accordance with the updated EM&A Manual. Copies of calibration certificates are attached in the appendices of the corresponding Monthly EM&A Reports.

2.3 Environmental Quality Performance Limits (Action and Limit Levels)

2.3.1 The adopted Action and Limit Levels for air quality impact and noise monitoring are presented in **Appendix C**.

2.4 Environmental Mitigation Measures

2.4.1 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 G**.

2.5 Results and Observations

2.5.1 The weather conditions during the monitoring are presented in the Appendices of the corresponding Monthly EM&A Reports.

2.5.2 The monitoring data of 1-hr TSP are summarized in **Table 2.1**. Detailed monitoring data are presented in **Appendix D**.

Table2.1 Summary of 1-hr TSP Monitoring Results

| Reporting Months | Monitoring Station | Average ($\mu\text{g}/\text{m}^3$) | Range ($\mu\text{g}/\text{m}^3$) | Action Level ($\mu\text{g}/\text{m}^3$) | Limit Level ($\mu\text{g}/\text{m}^3$) |
|------------------|--------------------|--------------------------------------|------------------------------------|---|--|
| June 2019 | LC6a | 56 | 22-105 | 344 | 500 |
| | LC9 | 45 | 19-62 | 335 | |
| July 2019 | LC6a | 59 | 25-114 | 344 | |
| | LC9 | 38 | 16-59 | 335 | |
| August 2019 | LC6a | 54 | 39-73 | 344 | |
| | LC9 | 47 | 35-72 | 335 | |



2.5.3 The noise monitoring data are summarized in **Table 2.2**. Detailed monitoring data are presented in **Appendix E**.

Table 2.2 Summary of Noise Impact Monitoring Results

| Reporting Month | Monitoring Station | Leq _(30min) Range, dB(A) | | Leq _(30min) Limit Level, dB(A) |
|-----------------|--------------------|-------------------------------------|-----------|---|
| | | Measured | Corrected | |
| June 2019 | LC6a ¹ | 62-69 | 57-64 | 75 |
| | LC9 | 61-67 | N.A | |
| July 2019 | LC6a ¹ | 64-73 | 59-68 | |
| | LC9 | 58-70 | N.A | |
| August 2019 | LC6a ¹ | 63-73 | 58-68 | |
| | LC9 | 59-68 | N.A | |

Note:

- Leq_(30min) was measured at day-time (0700-1900) on normal weekdays.
- 1) A distance correction of -5dB(A) has been applied in monitoring data of LC6a according to baseline monitoring report (Appendix G).

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

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

2.6 Other factor influencing the monitoring results

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

3. ADVICE ON THE SOLID AND LIQUID WASTE MANAGEMENT STATUS

3.1.1 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.

3.1.2 Monthly summary of waste flow table is detailed in **Appendix H**.



4. ENVIRONMENTAL SITE INSPECTION AND AUDIT

4.1 Site Inspection

- 4.1.1 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.
- 4.1.2 In the reporting period, site inspections were carried out on 6, 13, 21 and 27 June 2019, on 4, 12, 18 and 25 July 2019 and 1, 8, 15, 22 and 29 August 2019. The landscape and visual impact inspections were carried out on 13 and 27 June 2019, 11 and 25 July 2019 and 8 and 22 August 2019.
- 4.1.3 Detailed of site inspections during the reporting period are summarized in the appendices of the corresponding Monthly EM&A Reports.

5. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

5.1 Environmental Exceedance

- 5.1.1 No Action or Limit Level Exceedance of 1-hr TSP monitoring was recorded in the reporting period.
- 5.1.2 No Action or Limit Level Exceedance of noise monitoring was recorded in the reporting period.
- 5.1.3 The summary of noncompliance (exceedances) of the environmental quality performance limits (Action and Limit levels) are shown in **Table 5.1**:

Table 5.1 Summary of noncompliance (exceedances)

| Parameter | No. of Exceedance | | No. of Exceedance due to the Project | | Cumulative Project-to-Date |
|---------------------------------------|-------------------|-------------|--------------------------------------|-------------|----------------------------|
| | Action Level | Limit Level | Action Level | Limit Level | |
| 1-hr TSP | 0 | 0 | 0 | 0 | 0 |
| Noise Leq _(30min) dB(A) | 0 | 0 | 0 | 0 | 0 |

5.2 Complaints, Notification of Summons and Successful Prosecution

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

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6. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

6.1 Implementation Status

- 6.1.1 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 G**.
- 6.1.2 Based on the monitoring results and the implementation status of the mitigation measures during the reporting period, it is considered that the environmental mitigation measures implemented by the Contractor in the reporting period are effective.

7. FUTURE KEY ISSUES

- 7.1.1 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.

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8. CONCLUSIONS

- 8.1.1 The construction phase and EM&A programme of the Project commenced on 29 February 2016.
- 8.1.2 No Action or Limit Level Exceedance of 1-hr TSP monitoring was recorded in the reporting period.
- 8.1.3 No Action or Limit Level Exceedance of noise monitoring was recorded in the reporting period.
- 8.1.4 In the reporting period, site inspections were carried out on 6, 13, 21 and 27 June 2019, on 4, 12, 18 and 25 July 2019 and 1, 8, 15, 22 and 29 August 2019. The landscape and visual impact inspections were carried out on 13 and 27 June 2019, 11 and 25 July 2019 and 8 and 22 August 2019.
- 8.1.5 No complaints, notification of summons or successful prosecutions were received in the reporting period.

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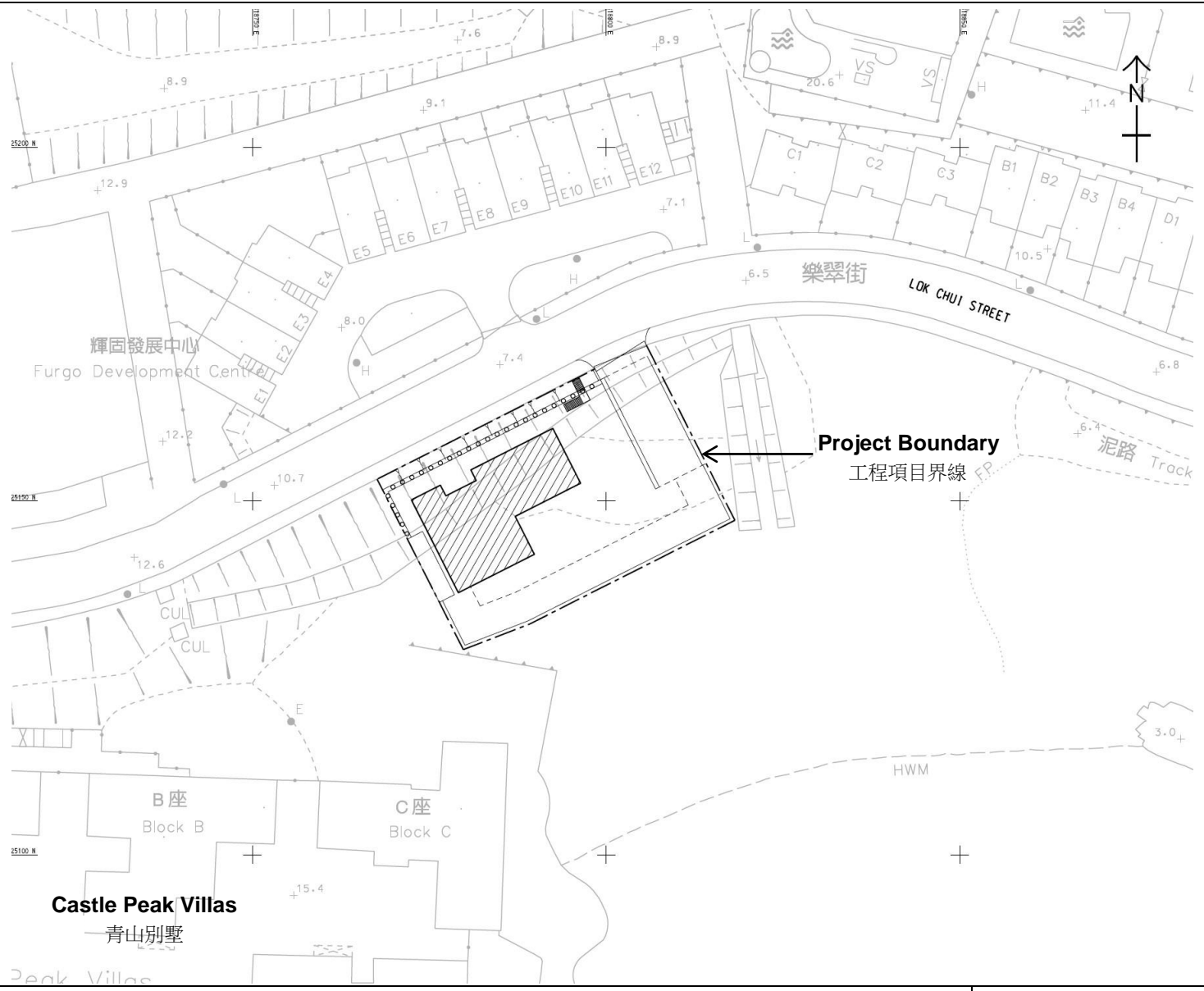
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Figure 1

Project General Layout



Location of the Proposed Sewage Pumping Station at Lok Chui Street near Castle Peak Villas
 位於樂翠街近青山別墅的擬建污水泵水站

Figure 1

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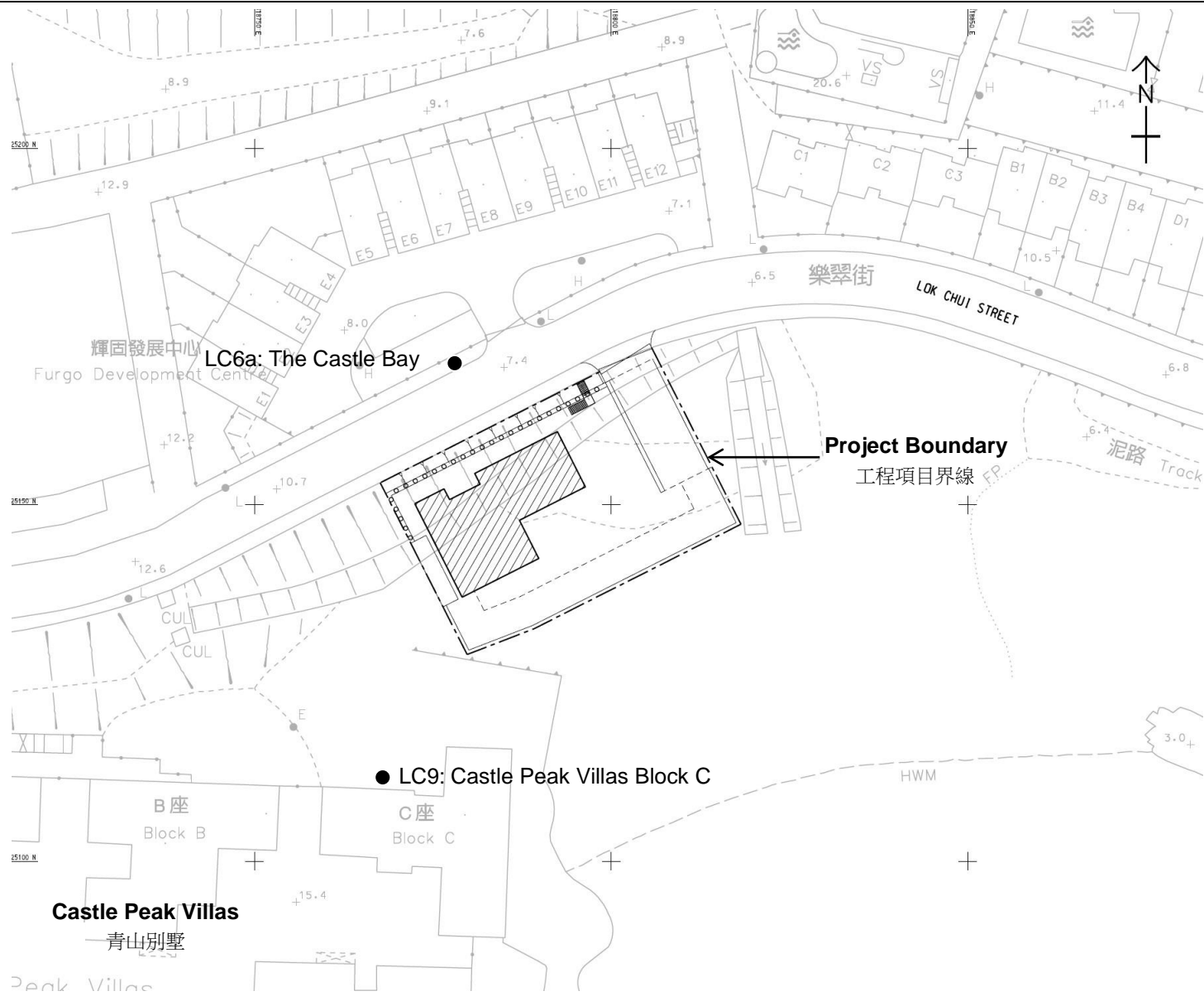
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Figure 2

Air and Noise Monitoring Locations



Air and Noise Monitoring Locations

Figure 2

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LC6a: The Castle Bay






LC9: Castle Peak Villas Block C



Note:

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

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

- Legend:
-  Proposed Air Monitoring Location
 -  Proposed Noise Monitoring Location
 -  1m from the exterior building façade

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Appendix A

Construction Programme

| ID | Task Name | Baseline Duration | Duration | Baseline Start | Baseline Finish | Actual Start | Actual Finish | % Complete | Start | Finish | Predecessors | Gantt Chart (2015-2020) | | | | | | | | | | | | | | | |
|------|---|-------------------|------------|----------------|-----------------|--------------|---------------|------------|--------------|--------------|------------------------|-------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 1301 | Trial pits proposal | 180 days | 180 days | Sun 18/10/15 | Thu 14/4/16 | Sun 18/10/15 | Thu 14/4/16 | 100% | Sun 18/10/15 | Thu 14/4/16 | 129755,129855 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1302 | Design of Temporary Work | 30 days | 30 days | Sat 16/1/16 | Mon 15/2/16 | Fri 16/9/16 | Sun 16/10/16 | 100% | Fri 16/9/16 | Sun 16/10/16 | 13035F | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1303 | Submission of Design Temporary Work | 0 days | 351 days | Mon 15/2/16 | Mon 15/2/16 | Sun 16/10/16 | Mon 2/10/17 | 100% | Sun 16/10/16 | Mon 2/10/17 | 13145F-60 days | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1304 | Hong Fai Road | 240 days | 240 days | Fri 18/8/17 | Sat 14/4/18 | Wed 8/2/17 | Thu 5/10/17 | 100% | Wed 8/2/17 | Thu 5/10/17 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1305 | From Manhole 1903 to 0716 | 240 days | 240 days | Fri 18/8/17 | Sat 14/4/18 | Wed 8/2/17 | Thu 5/10/17 | 100% | Wed 8/2/17 | Thu 5/10/17 | 1282FS-210 days | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1306 | From Manhole 0703 to 0701 | 25 days | 25 days | Wed 21/3/18 | Sat 14/4/18 | Mon 11/9/17 | Thu 5/10/17 | 100% | Mon 11/9/17 | Thu 5/10/17 | 1305FF | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1307 | Connection to Siu Lam Tsuen Road From Manhole 0716 to 0718 | 35 days | 35 days | Sun 11/3/18 | Sat 14/4/18 | Fri 1/9/17 | Thu 5/10/17 | 100% | Fri 1/9/17 | Thu 5/10/17 | 1305FF | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1308 | | | | | | | | | | | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1309 | EOT Claim 020 - Delay for construction of CSD Married Staff Quarter (On going event) | 0 days? | 1112 days? | NA | NA | NA | NA | 0% | Thu 15/12/16 | Tue 31/12/19 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1310 | Pending ER confirm works details | 0 days? | 382 days? | NA | NA | NA | NA | 0% | Thu 15/12/16 | Sun 31/12/17 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1311 | Design and Endorsement of TTA drawings and TTA Implementation | 0 days? | 150 days | NA | NA | NA | NA | 0% | Mon 1/1/18 | Wed 30/5/18 | 1310 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1312 | Additional construction time due to revised TTA implementation period | 0 days? | 300 days | NA | NA | NA | NA | 0% | Thu 7/3/19 | Tue 31/12/19 | 1319 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1313 | Access Road Leading to CSD Married Staff Quarter | 280 days | 280 days | Fri 15/4/16 | Thu 19/1/17 | NA | NA | 0% | Thu 31/5/18 | Wed 6/3/19 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1314 | From Manhole 1104 to Manhole 1110 | 45 days | 45 days | Fri 15/4/16 | Sun 29/5/16 | NA | NA | 0% | Thu 31/5/18 | Sat 14/7/18 | 1301SS+180 days,1311 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1315 | From Manhole 1201 to Manhole 1203 | 25 days | 25 days | Mon 30/5/16 | Thu 23/6/16 | NA | NA | 0% | Sun 15/7/18 | Wed 8/8/18 | 1314 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1316 | From Manhole 2001 to Manhole 1203 | 20 days | 20 days | Fri 24/6/16 | Wed 13/7/16 | NA | NA | 0% | Thu 9/8/18 | Tue 28/8/18 | 1315 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1317 | From Manhole 1203 to Manhole 1110 | 20 days | 20 days | Thu 14/7/16 | Tue 2/8/16 | NA | NA | 0% | Wed 29/8/18 | Mon 17/9/18 | 1316 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1318 | From Manhole 1110 to Manhole 1118 | 100 days | 100 days | Wed 3/8/16 | Thu 10/11/16 | NA | NA | 0% | Tue 18/9/18 | Wed 26/12/18 | 1317 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1319 | From Manhole 1118 to Manhole 1122 | 70 days | 70 days | Fri 11/11/16 | Thu 19/1/17 | NA | NA | 0% | Thu 27/12/18 | Wed 6/3/19 | 1318 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1320 | Siu Lam Road | 20 days | 20 days | Mon 26/3/18 | Sat 14/4/18 | NA | NA | 0% | Tue 31/7/18 | Sun 19/8/18 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1321 | Connection From Manhole 0901 to 0721 after trenchless | 20 days | 20 days | Mon 26/3/18 | Sat 14/4/18 | NA | NA | 0% | Tue 31/7/18 | Sun 19/8/18 | 1023SS,1049,1245 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1322 | CCTV inspection | 0 days? | 60 days | NA | NA | NA | NA | 0% | Sat 2/11/19 | Tue 31/12/19 | 1323FF | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1323 | Completion of Section 9C | 0 days | 0 days | Sat 14/4/18 | Sat 14/4/18 | NA | NA | 0% | Tue 31/12/19 | Tue 31/12/19 | 1321,1305,1306,1307,12 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1324 | Section 9C - Inclement Weather Granted (EOT Claim No. 3.18, up to 31 July 2017) | 0 days? | 53 days | NA | NA | NA | NA | 0% | Wed 1/1/20 | Sat 22/2/20 | 1323 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1325 | | | | | | | | | | | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1326 | Duration of Section 11A - Lok Chui Street Sewage Pumping Station | 929 days | 929 days | Mon 20/7/15 | Fri 2/2/18 | Mon 20/7/15 | NA | 93% | Mon 20/7/15 | Fri 2/2/18 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1327 | Inclement Weather Granted (EOT Claim No. 3.18, up to 31 July 2017) | 0 days? | 58 days | NA | NA | NA | NA | 0% | Sat 3/2/18 | Sun 1/4/18 | 1326 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1328 | Granted under EOT Ordrer 11 (Delayed Possession of Site) | 0 days? | 40 days | NA | NA | NA | NA | 0% | Mon 2/4/18 | Fri 11/5/18 | 1327 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1329 | Additional Time for Completion | 0 days? | 347 days | NA | NA | NA | NA | 0% | Mon 11/6/18 | Thu 23/5/19 | 1328,1456FF | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1330 | | | | | | | | | | | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1331 | EOT claim - Change of Design at LCS SPS (Double roof slab) | 0 days? | 326 days | NA | NA | Mon 7/8/17 | NA | 0% | Mon 7/8/17 | Thu 28/6/18 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1332 | Revised construction details from ER | 0 days? | 0 days | NA | NA | Mon 7/8/17 | Mon 7/8/17 | 100% | Mon 7/8/17 | Mon 7/8/17 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1333 | Additional roof slab of transformer room | 0 days? | 45 days | NA | NA | NA | NA | 0% | Tue 15/5/18 | Thu 28/6/18 | 1332,1432 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1334 | | | | | | | | | | | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1335 | EOT Claim - Additional Works in Transformer Room at Lok Chui Street SPS | 0 days? | 399 days | NA | NA | Thu 26/10/17 | NA | 22% | Thu 26/10/17 | Wed 28/11/18 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1336 | Revised construction details from ER | 0 days? | 0 days | NA | NA | Thu 26/10/17 | Thu 26/10/17 | 100% | Thu 26/10/17 | Thu 26/10/17 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1337 | Additional construction time due to revised details (ie. Box out, pump sump, additional wall opening) | 0 days? | 90 days | NA | NA | NA | NA | 0% | Sat 20/1/18 | Thu 19/4/18 | 1336,1431 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1338 | Laying additional DN100 DI drain pipe | 0 days? | 5 days | NA | NA | NA | NA | 0% | Fri 20/4/18 | Tue 24/4/18 | 1337 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1339 | Additional plastic chain storage box | 0 days? | 366 days | NA | NA | NA | NA | 0% | Thu 26/10/17 | Fri 26/10/18 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1340 | Procurement | 0 days? | 90 days | NA | NA | NA | NA | 0% | Thu 26/10/17 | Tue 23/1/18 | 1336 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1341 | Fabrication and delivery | 0 days? | 90 days | NA | NA | NA | NA | 0% | Wed 24/1/18 | Mon 23/4/18 | 1340 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1342 | Installation on site | 0 days? | 5 days | NA | NA | NA | NA | 0% | Mon 22/10/18 | Fri 26/10/18 | 1341,1445 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1343 | Additional CLP single door | 0 days? | 380 days | NA | NA | Thu 26/10/17 | NA | 22% | Thu 26/10/17 | Fri 9/11/18 | | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1344 | Procurement | 0 days? | 90 days | NA | NA | Thu 26/10/17 | NA | 67% | Thu 26/10/17 | Tue 23/1/18 | 1336 | [Gantt Chart Data] | | | | | | | | | | | | | | | |
| 1345 | Prepare and submission of shop drawing | 0 days? | 60 days | NA | NA | NA | NA | 0% | Wed 24/1/18 | Sat 24/3/18 | 1344 | [Gantt Chart Data] | | | | | | | | | | | | | | | |

Project: Rolling Programme (Nov 2017)
Date: 28 Nov 2017
EOT Entitlement Programme based on Master Programme (Rev 0-A)

| | | | | | | | | |
|------------------------|--|--------------------|--|-------------------------|--|------------------------------|--|--------------------|
| Task | | Critical Split | | Rolled Up Task | | Rolled Up Baseline Milestone | | Project Summary |
| Task Progress | | Baseline | | Rolled Up Critical Task | | Rolled Up Progress | | Group By Summary |
| Critical Task | | Milestone | | Rolled Up Milestone | | Split | | Inactive Task |
| Critical Task Progress | | Baseline Milestone | | Baseline Summary | | Baseline Split | | Inactive Milestone |
| Critical | | Summary | | Rolled Up Baseline | | External Tasks | | Deadline |

Contract no. DC/2014/01
 Castle Peak Road Trunk Sewer and
 Tuen Mun Village Sewerage

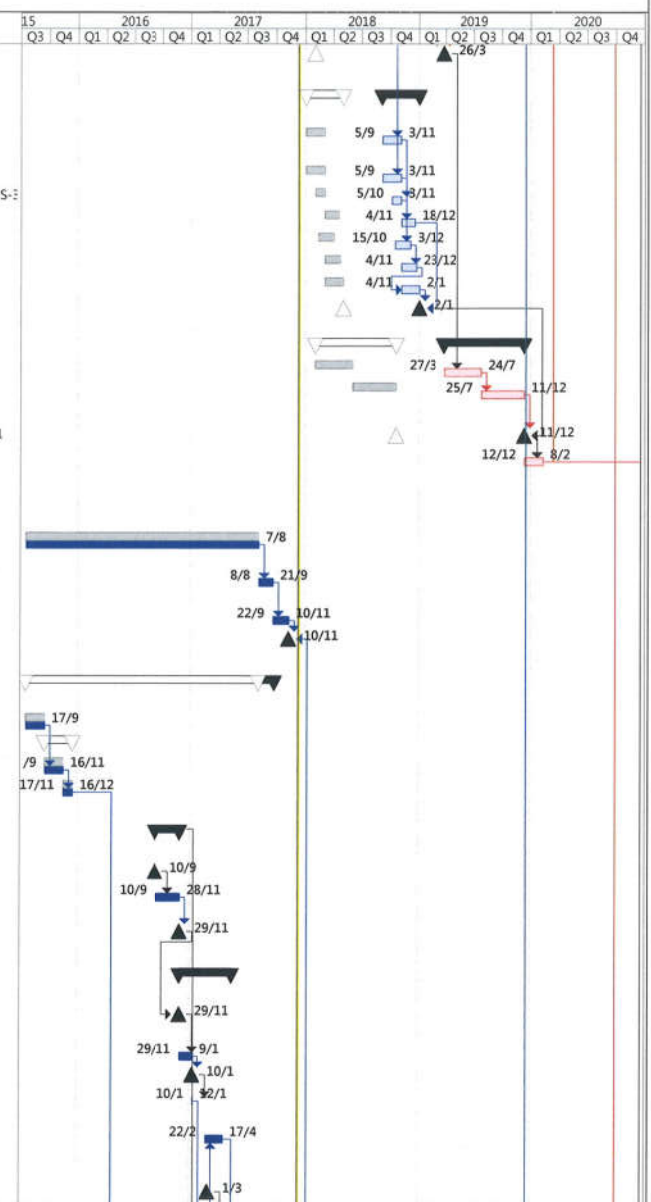
| ID | Task Name | Baseline Duration | Duration | Baseline Start | Baseline Finish | Actual Start | Actual Finish | % omplet | Start | Finish | Predecessors | Gantt Chart | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|-------------------|----------|----------------|-----------------|--------------|---------------|----------|--------------|--------------|--------------------------|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | | | | | | | | | | | | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 |
| 1396 | | | | | | | | | | | | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1397 | Mini-pile Foundation and Soldier Pile | 297 days | 369 days | Tue 1/12/15 | Thu 22/9/16 | Sun 31/1/16 | Thu 2/2/17 | 100% | Sun 31/1/16 | Thu 2/2/17 | | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1398 | Mobilization of plant for predrilling works | 7 days | 7 days | Tue 1/12/15 | Mon 7/12/15 | Sun 31/1/16 | Sat 6/2/16 | 100% | Sun 31/1/16 | Sat 6/2/16 | 1394 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1399 | Construct settlement and piezometer for monitoring | 10 days | 10 days | Tue 8/12/15 | Thu 17/12/15 | Sun 31/1/16 | Tue 16/2/16 | 100% | Sun 7/2/16 | Sat 16/2/16 | 1398 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1400 | Predrilling works of mini-pile and soldier pile | 23 days | 23 days | Fri 18/12/15 | Sat 9/1/16 | Fri 29/4/16 | Sat 21/5/16 | 100% | Fri 29/4/16 | Sat 21/5/16 | 1389,1399 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1401 | Submission of predrilling report | 15 days | 15 days | Sun 10/1/16 | Sun 24/1/16 | Sun 22/5/16 | Sun 5/6/16 | 100% | Sun 22/5/16 | Sun 5/6/16 | 1400 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1402 | Mobilization of plant for 610mm soldier pile | 14 days | 14 days | Sun 10/1/16 | Sat 23/1/16 | Sun 22/5/16 | Sat 4/6/16 | 100% | Sun 22/5/16 | Sat 4/6/16 | 1395,1400 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1403 | Construction of soldier pile (43 nos) | 130 days | 130 days | Sun 24/1/16 | Wed 1/6/16 | Sun 5/6/16 | Wed 12/10/16 | 100% | Sun 5/6/16 | Wed 12/10/16 | 1402 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1404 | Mobilization of plant for mini-pile (64 nos) | 14 days | 14 days | Thu 19/5/16 | Wed 1/6/16 | Thu 29/9/16 | Wed 12/10/16 | 100% | Thu 29/9/16 | Wed 12/10/16 | 1403FS-14 days | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1405 | Drilling of mini-piles | 50 days | 50 days | Thu 2/6/16 | Thu 21/7/16 | Thu 13/10/16 | Thu 1/12/16 | 100% | Thu 13/10/16 | Thu 1/12/16 | 1404 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1406 | Installation of Rein-bar and Grouting | 14 days | 14 days | Fri 2/12/16 | Thu 4/8/16 | Thu 15/12/16 | Fri 2/12/16 | 100% | Fri 2/12/16 | Thu 15/12/16 | 1405 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1407 | Mobilization for proof drilling | 7 days | 7 days | Fri 29/7/16 | Thu 4/8/16 | Fri 9/12/16 | Thu 15/12/16 | 100% | Fri 9/12/16 | Thu 15/12/16 | 1406FS-7 days | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1408 | Proof Drilling | 14 days | 14 days | Fri 5/8/16 | Thu 18/8/16 | Fri 16/12/16 | Thu 29/12/16 | 100% | Fri 16/12/16 | Thu 29/12/16 | 1407 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1409 | Submission of proof drilling report | 14 days | 14 days | Fri 19/8/16 | Thu 1/9/16 | Thu 12/1/17 | Fri 30/12/16 | 100% | Fri 30/12/16 | Thu 12/1/17 | 1408 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1410 | Preparation of loading Test | 21 days | 21 days | Fri 5/8/16 | Thu 25/8/16 | Fri 16/12/16 | Thu 5/1/17 | 100% | Fri 16/12/16 | Thu 5/1/17 | 1407 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1411 | Carry out loading test | 14 days | 14 days | Fri 26/8/16 | Thu 8/9/16 | Fri 6/1/17 | Thu 19/1/17 | 100% | Fri 6/1/17 | Thu 19/1/17 | 1410 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1412 | Submission of loadign test report | 14 days | 14 days | Fri 9/9/16 | Thu 22/9/16 | Fri 20/1/17 | Thu 2/2/17 | 100% | Fri 20/1/17 | Thu 2/2/17 | 1411 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1413 | | | | | | | | | | | | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1414 | Structural Work of Pumping Station | 377 days | 535 days | Fri 9/9/16 | Wed 20/9/17 | Fri 20/1/17 | NA | 80% | Fri 20/1/17 | Sun 8/7/18 | | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1415 | Temporary cofferdam for ELS for construction of pumping station | 90 days | 90 days | Fri 9/9/16 | Wed 7/12/16 | Fri 20/1/17 | Wed 19/4/17 | 100% | Fri 20/1/17 | Wed 19/4/17 | 1409,1411,1412FS-14 days | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1416 | Excavation and shoring to formation level for wet well construction (refer drg. No. 5321A, formation level = -2.375mPD - 0.15m) | 30 days | 30 days | Thu 8/12/16 | Fri 6/1/17 | Thu 20/4/17 | Fri 19/5/17 | 100% | Thu 20/4/17 | Fri 19/5/17 | 1415 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1417 | Welding of pile head (i.e.PC01 to PC 14) | 9 days | 9 days | Sat 7/1/17 | Sun 15/1/17 | Sat 20/5/17 | Sun 28/5/17 | 100% | Sat 20/5/17 | Sun 28/5/17 | 1416 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1418 | Blinding layer | 2 days | 2 days | Mon 16/1/17 | Tue 17/1/17 | Mon 29/5/17 | Tue 30/5/17 | 100% | Mon 29/5/17 | Tue 30/5/17 | 1417 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1419 | Construction of base slab of wet well | 14 days | 14 days | Wed 18/1/17 | Tue 31/1/17 | Wed 31/5/17 | Tue 13/6/17 | 100% | Wed 31/5/17 | Tue 13/6/17 | 1418 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1420 | Construction of pump plinth | 0 days? | 2 days | NA | NA | Mon 12/6/17 | Tue 13/6/17 | 100% | Mon 12/6/17 | Tue 13/6/17 | 1419FF | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1421 | Construction of Wall of wet well upto approx. -0.675mPD to 0.725mPD | 14 days | 14 days | Wed 1/2/17 | Tue 14/2/17 | Wed 14/6/17 | Tue 27/6/17 | 100% | Wed 14/6/17 | Tue 27/6/17 | 1419 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1422 | Excavation and shoring to formation levels for Valve chamber, Coarse screen chamber and emergency storage tank | 25 days | 25 days | Wed 15/2/17 | Sat 11/3/17 | Wed 28/6/17 | Sat 22/7/17 | 100% | Wed 28/6/17 | Sat 22/7/17 | 1421 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1423 | Welding of pile head (i.e.PB01 to PB15, PD01 to PD08 and PE01 to PE10 etc) | 20 days | 20 days | Sun 12/3/17 | Fri 31/3/17 | Sun 23/7/17 | Fri 11/8/17 | 100% | Sun 23/7/17 | Fri 11/8/17 | 1422 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1424 | Blinding layer | 2 days | 2 days | Sat 1/4/17 | Sun 2/4/17 | Sat 12/8/17 | Sun 13/8/17 | 100% | Sat 12/8/17 | Sun 13/8/17 | 1423 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1425 | 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 | Mon 14/8/17 | Thu 7/9/17 | 100% | Mon 14/8/17 | Thu 7/9/17 | 1424 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1426 | Excavation to formation level of switch room and transformer rooms | 20 days | 20 days | Fri 28/4/17 | Wed 17/5/17 | Fri 8/9/17 | Wed 27/9/17 | 100% | Fri 8/9/17 | Wed 27/9/17 | 1425 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1427 | Welding pile head (ie. PA01 to PA12) | 10 days | 10 days | Thu 18/5/17 | Sat 27/5/17 | Thu 28/9/17 | Sat 7/10/17 | 100% | Thu 28/9/17 | Sat 7/10/17 | 1426 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1428 | Construction of walls below ground level | 25 days | 25 days | Sun 28/5/17 | Wed 21/6/17 | Thu 26/10/17 | Sun 19/11/17 | 100% | Thu 26/10/17 | Sun 19/11/17 | 1427,1336 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1429 | Construction of ground floor slab | 20 days | 20 days | Thu 22/6/17 | Tue 11/7/17 | Mon 20/11/17 | Sat 9/12/17 | 100% | Mon 20/11/17 | Sat 9/12/17 | 1428 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1430 | Backfilling to ground floor slab | 25 days | 25 days | Wed 12/7/17 | Sat 5/8/17 | Sun 10/12/17 | NA | 50% | Sun 10/12/17 | Wed 3/1/18 | 1429 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1431 | Construction of walls up to roof slab | 25 days | 25 days | Fri 28/7/17 | Mon 21/8/17 | NA | NA | 0% | Tue 26/12/17 | Fri 19/1/18 | 1430FS-9 days | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1432 | Construction of roof slab | 20 days | 20 days | Tue 22/8/17 | Sun 10/9/17 | NA | NA | 0% | Wed 25/4/18 | Mon 14/5/18 | 1431,1338 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1433 | Water Tightness test of inlet chamber, coarse screen chamber and valve chamber | 15 days | 15 days | Tue 22/8/17 | Tue 5/9/17 | NA | NA | 0% | Wed 25/4/18 | Wed 9/5/18 | 1431,1338 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1434 | Roof kerb and staircase | 10 days | 10 days | Mon 11/9/17 | Wed 20/9/17 | NA | NA | 0% | Fri 29/6/18 | Sun 8/7/18 | 1432,1433,1333 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1435 | | | | | | | | | | | | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1436 | Internal Finishes | 135 days | 261 days | Thu 21/9/17 | Fri 2/2/18 | NA | NA | 0% | Mon 9/7/18 | Tue 26/3/19 | | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1437 | Installation of GRP cover | 0 days? | 14 days | NA | NA | NA | NA | 0% | Fri 20/7/18 | Thu 2/8/18 | 1438FF | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1438 | Plastering & Painting | 25 days | 25 days | Thu 21/9/17 | Sun 15/10/17 | NA | NA | 0% | Mon 9/7/18 | Thu 2/8/18 | 1434 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1439 | Glaze Tile (Toilet) | 14 days | 14 days | Mon 16/10/17 | Sun 29/10/17 | NA | NA | 0% | Fri 3/8/18 | Thu 16/8/18 | 1438 | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |
| 1440 | Installation of water closet and washing basin in toilet | 0 days? | 14 days | NA | NA | NA | NA | 0% | Fri 3/8/18 | Thu 16/8/18 | 1439FF | [Gantt Chart Area] | | | | | | | | | | | | | | | | | | | | | | | |

Project: Rolling Programme (Nov 2017)
 Date: 28 Nov 2017
 EOT Entitlement Programme based on Master Programme (Rev 0-A)

| | | | | | | | | |
|------------------------|--|--------------------|--|-------------------------|--|------------------------------|--|--------------------|
| Task | | Critical Split | | Rolled Up Task | | Rolled Up Baseline Milestone | | Project Summary |
| Task Progress | | Baseline | | Rolled Up Critical Task | | Rolled Up Progress | | Group By Summary |
| Critical Task | | Milestone | | Rolled Up Milestone | | Split | | Inactive Task |
| Critical Task Progress | | Baseline Milestone | | Baseline Summary | | Baseline Split | | Inactive Milestone |
| Critical | | Summary | | Rolled Up Baseline | | External Tasks | | Deadline |

Contract no. DC/2014/01
 Castle Peak Road Trunk Sewer and
 Tuen Mun Village Sewerage

| ID | Task Name | Baseline Duration | Duration | Baseline Start | Baseline Finish | Actual Start | Actual Finish | % Complete | Start | Finish | Predecessors | 15 | 2016 | 2017 | 2018 | 2019 | 2020 | | | | | |
|------|---|-------------------|-----------|----------------|-----------------|--------------|---------------|------------|--------------|--------------|-------------------------------|----|------|------|------|------|------|----|----|----|----|--|
| | | | | | | | | | | | | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | |
| 1488 | CLP energization | 0 days | 0 days | Fri 2/2/18 | Fri 2/2/18 | NA | NA | 0% | Tue 26/3/19 | Tue 26/3/19 | 1450,1487 | | | | | | | | | | | |
| 1489 | | | | | | | | | | | | | | | | | | | | | | |
| 1490 | Remaining works and Handing Over to E&M for Testing and Commissioning | 120 days | 120 days | Thu 4/1/18 | Thu 3/5/18 | NA | NA | 0% | Wed 5/9/18 | Wed 2/1/19 | | | | | | | | | | | | |
| 1491 | 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 5/9/18 | Sat 3/11/18 | 1452FS-30 days | | | | | | | | | | | |
| 1492 | Metal fence wall & Gate | 60 days | 60 days | Thu 4/1/18 | Sun 4/3/18 | NA | NA | 0% | Wed 5/9/18 | Sat 3/11/18 | 1453FS-30 days | | | | | | | | | | | |
| 1493 | Tempred glass fence on roof | 30 days | 30 days | Sat 3/2/18 | Sun 4/3/18 | NA | NA | 0% | Fri 5/10/18 | Sat 3/11/18 | 1491FS-30 days,1492FS-30 days | | | | | | | | | | | |
| 1494 | Green Roof | 45 days | 45 days | Mon 5/3/18 | Wed 18/4/18 | NA | NA | 0% | Sun 4/11/18 | Tue 18/12/18 | 1493 | | | | | | | | | | | |
| 1495 | U-channel | 50 days | 50 days | Tue 13/2/18 | Tue 3/4/18 | NA | NA | 0% | Mon 15/10/18 | Mon 3/12/18 | 1492FS-20 days | | | | | | | | | | | |
| 1496 | Road pavement around Pumping Station | 50 days | 50 days | Mon 5/3/18 | Mon 23/4/18 | NA | NA | 0% | Sun 4/11/18 | Sun 23/12/18 | 1495FS-30 days | | | | | | | | | | | |
| 1497 | Landscaping work | 60 days | 60 days | Mon 5/3/18 | Thu 3/5/18 | NA | NA | 0% | Sun 4/11/18 | Wed 2/1/19 | 1496FS-50 days | | | | | | | | | | | |
| 1498 | 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 | NA | 0% | Wed 2/1/19 | Wed 2/1/19 | 1494FF,1497 | | | | | | | | | | | |
| 1499 | E&M Work | 260 days | 260 days | Sat 3/2/18 | Sat 20/10/18 | NA | NA | 0% | Wed 27/3/19 | Wed 11/12/19 | | | | | | | | | | | | |
| 1500 | Installation of E&M work | 120 days | 120 days | Sat 3/2/18 | Sat 2/6/18 | NA | NA | 0% | Wed 27/3/19 | Wed 24/7/19 | 1488 | | | | | | | | | | | |
| 1501 | Installation of E&M works & Testing and Commissioning | 140 days | 140 days | Sun 3/6/18 | Sat 20/10/18 | NA | NA | 0% | Thu 25/7/19 | Wed 11/12/19 | 1500 | | | | | | | | | | | |
| 1502 | | | | | | | | | | | | | | | | | | | | | | |
| 1503 | Completion Section 11B | 0 days | 0 days | Sat 20/10/18 | Sat 20/10/18 | NA | NA | 0% | Wed 11/12/19 | Wed 11/12/19 | 1498FF+172 days,1501 | | | | | | | | | | | |
| 1504 | Section 11B - Inclement Weather Granted (EOT Claim No. 3.18, up to 31 July 2017) | 0 days? | 59 days | NA | NA | NA | NA | 0% | Thu 12/12/19 | Sat 8/2/20 | 1503 | | | | | | | | | | | |
| 1505 | | | | | | | | | | | | | | | | | | | | | | |
| 1506 | | | | | | | | | | | | | | | | | | | | | | |
| 1507 | Duration of Section 10A - Siu Lam Psychiatric Centre Sewage Pumping Station | 750 days | 750 days | Mon 20/7/15 | Mon 7/8/17 | Mon 20/7/15 | Mon 7/8/17 | 100% | Mon 20/7/15 | Mon 7/8/17 | | | | | | | | | | | | |
| 1508 | Inclement Weather Granted (EOT Claim No. 3.18, up to 31 July 2017) | 0 days? | 45 days | NA | NA | Tue 8/8/17 | Thu 21/9/17 | 100% | Tue 8/8/17 | Thu 21/9/17 | 1507 | | | | | | | | | | | |
| 1509 | Additional Time for Completion | 0 days? | 50 days | NA | NA | Fri 22/9/17 | Fri 10/11/17 | 100% | Fri 22/9/17 | Fri 10/11/17 | 1508 | | | | | | | | | | | |
| 1510 | Completion | 0 days? | 0 days | NA | NA | Fri 10/11/17 | Fri 10/11/17 | 100% | Fri 10/11/17 | Fri 10/11/17 | 1509,1565FF | | | | | | | | | | | |
| 1511 | | | | | | | | | | | | | | | | | | | | | | |
| 1512 | Section 10A - Siu Lam Psychiatric Centre Sewage Pumping Station | 750 days | 800 days? | Mon 20/7/15 | Mon 7/8/17 | Mon 20/7/15 | NA | 98% | Mon 20/7/15 | Tue 26/9/17 | | | | | | | | | | | | |
| 1513 | Portion 10 - Time Possession of Site | 60 days | 60 days | Mon 20/7/15 | Thu 17/9/15 | Mon 20/7/15 | Thu 17/9/15 | 100% | Mon 20/7/15 | Thu 17/9/15 | | | | | | | | | | | | |
| 1514 | Prepartation Work | 90 days | 90 days | Fri 18/9/15 | Wed 16/12/15 | Fri 18/9/15 | Wed 16/12/15 | 100% | Fri 18/9/15 | Wed 16/12/15 | | | | | | | | | | | | |
| 1515 | Initial Survey | 60 days | 60 days | Fri 18/9/15 | Mon 16/11/15 | Fri 18/9/15 | Mon 16/11/15 | 100% | Fri 18/9/15 | Mon 16/11/15 | 1513 | | | | | | | | | | | |
| 1516 | Site clearance | 30 days | 30 days | Tue 17/11/15 | Wed 16/12/15 | Tue 17/11/15 | Wed 16/12/15 | 100% | Tue 17/11/15 | Wed 16/12/15 | 1515 | | | | | | | | | | | |
| 1517 | | | | | | | | | | | | | | | | | | | | | | |
| 1518 | EOT Claim 021 - Delay due to Change of Design at SLPC SPS | 0 days? | 80 days | NA | NA | Sat 10/9/16 | Tue 29/11/16 | 100% | Sat 10/9/16 | Tue 29/11/16 | | | | | | | | | | | | |
| 1519 | Works were suspended due to design change | 0 days? | 0 days | NA | NA | Sat 10/9/16 | Sat 10/9/16 | 100% | Sat 10/9/16 | Sat 10/9/16 | | | | | | | | | | | | |
| 1520 | Partially updated design information was reviewed by AECOM and provided | 0 days? | 80 days | NA | NA | Sat 10/9/16 | Mon 28/11/16 | 100% | Sat 10/9/16 | Mon 28/11/16 | 1519 | | | | | | | | | | | |
| 1521 | Works resumed | 0 days? | 0 days | NA | NA | Tue 29/11/16 | Tue 29/11/16 | 100% | Tue 29/11/16 | Tue 29/11/16 | 1520 | | | | | | | | | | | |
| 1522 | | | | | | | | | | | | | | | | | | | | | | |
| 1523 | EOT Claim 033 - Change of Design in Siu Lam Psychiatric Centre SPS | 0 days? | 167 days? | NA | NA | Tue 29/11/16 | Sun 14/5/17 | 100% | Tue 29/11/16 | Sun 14/5/17 | | | | | | | | | | | | |
| 1524 | Additional cast-in socket for davit is requested to install under updated construction details | 0 days? | 0 days | NA | NA | Tue 29/11/16 | Tue 29/11/16 | 100% | Tue 29/11/16 | Tue 29/11/16 | 1521 | | | | | | | | | | | |
| 1525 | Order, Fabrication and Delivery of socket | 0 days? | 42 days? | NA | NA | Tue 29/11/16 | Mon 9/1/17 | 100% | Tue 29/11/16 | Mon 9/1/17 | 1524 | | | | | | | | | | | |
| 1526 | Ready for installation | 0 days? | 0 days | NA | NA | Tue 10/1/17 | Tue 10/1/17 | 100% | Tue 10/1/17 | Tue 10/1/17 | 1525 | | | | | | | | | | | |
| 1527 | Installation of cast-in davit and modification of installed RC bars | 0 days? | 3 days | NA | NA | Tue 10/1/17 | Thu 12/1/17 | 100% | Tue 10/1/17 | Thu 12/1/17 | 1526 | | | | | | | | | | | |
| 1528 | Construct Rising 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 | Wed 22/2/17 | Mon 17/4/17 | 100% | Wed 22/2/17 | Mon 17/4/17 | 1539 | | | | | | | | | | | |
| 1529 | Confirm details of additional 45 degree bend by AECOM | 0 days? | 0 days | NA | NA | Wed 1/3/17 | Wed 1/3/17 | 100% | Wed 1/3/17 | Wed 1/3/17 | | | | | | | | | | | | |



Project: Rolling Programme (Nov 2017)
 Date: 28 Nov 2017
 EOT Entitlement Programme based on Master Programme (Rev 0-A)

| | | | | | | | | |
|------------------------|--|--------------------|--|-------------------------|--|------------------------------|--|--------------------|
| Task | | Critical Split | | Rolled Up Task | | Rolled Up Baseline Milestone | | Project Summary |
| Task Progress | | Baseline | | Rolled Up Critical Task | | Rolled Up Progress | | Group By Summary |
| Critical Task | | Milestone | | Rolled Up Milestone | | Split | | Inactive Task |
| Critical Task Progress | | Baseline Milestone | | Baseline Summary | | Baseline Split | | Inactive Milestone |
| Critical | | Summary | | Rolled Up Baseline | | External Tasks | | Deadline |

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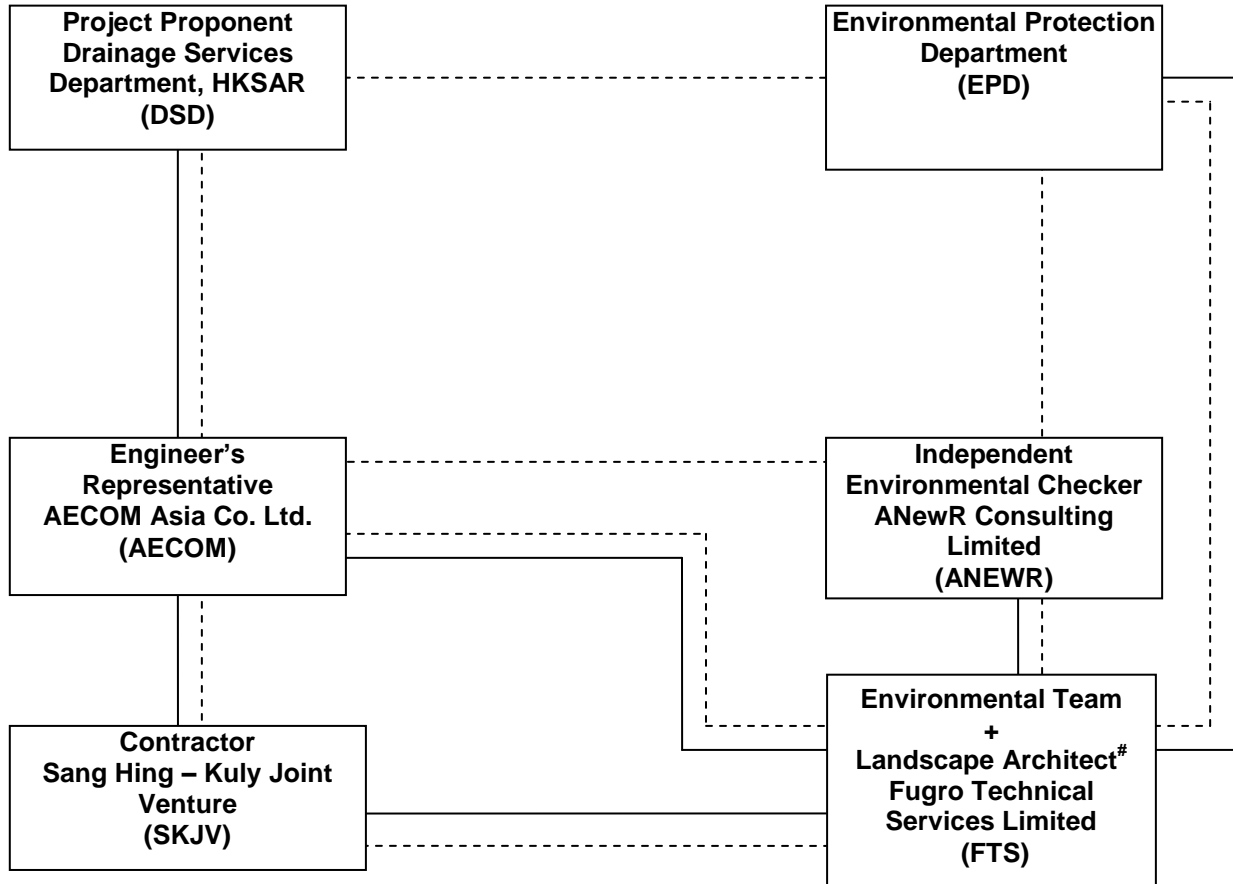
Appendix B

Project Organization Chart

FUGRO TECHNICAL SERVICES LIMITED

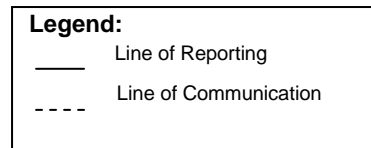
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Remark:

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.



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Appendix C

Action and Limit Levels for Air Quality and Noise

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Action and Limit Levels for Air Quality

| Parameter | Monitoring Station | Action Level ($\mu\text{g}/\text{m}^3$) | Limit Level ($\mu\text{g}/\text{m}^3$) |
|---------------------------------------|--------------------|---|--|
| 1-hr TSP ($\mu\text{g}/\text{m}^3$) | LC6a | 344 | 500 |
| | LC9 | 335 | |

Action and Limit Levels for Construction Noise

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

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

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Appendix D

Air Quality Monitoring Data and Graphical Presentations

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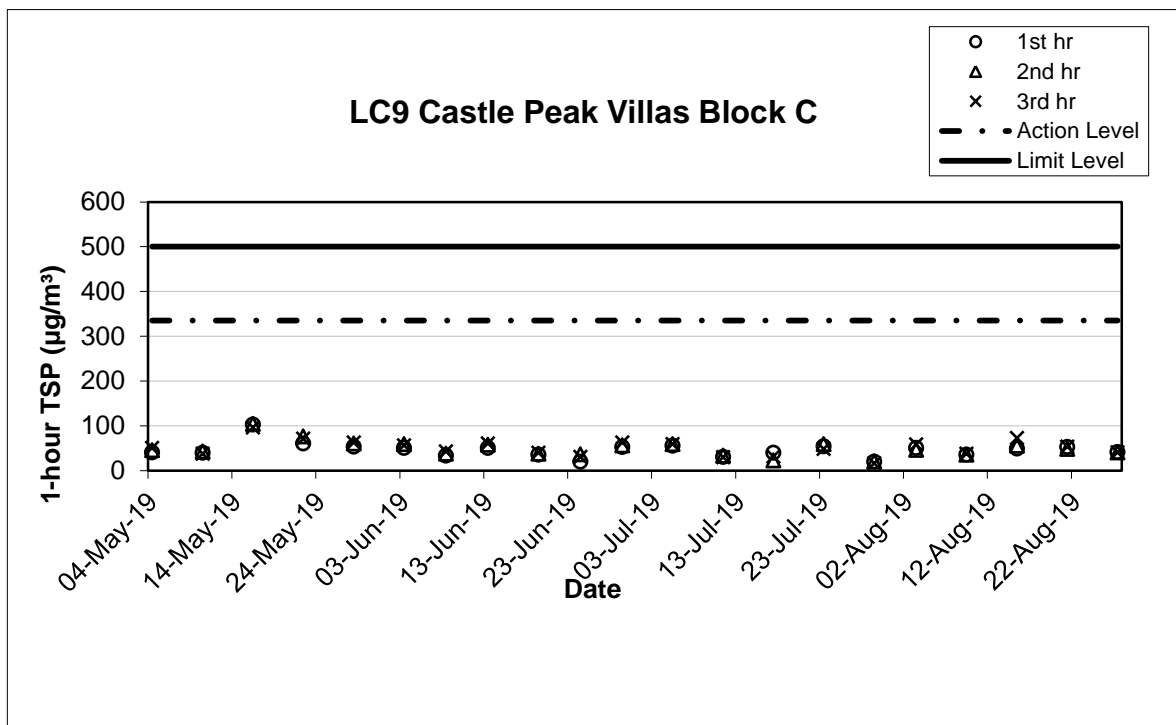
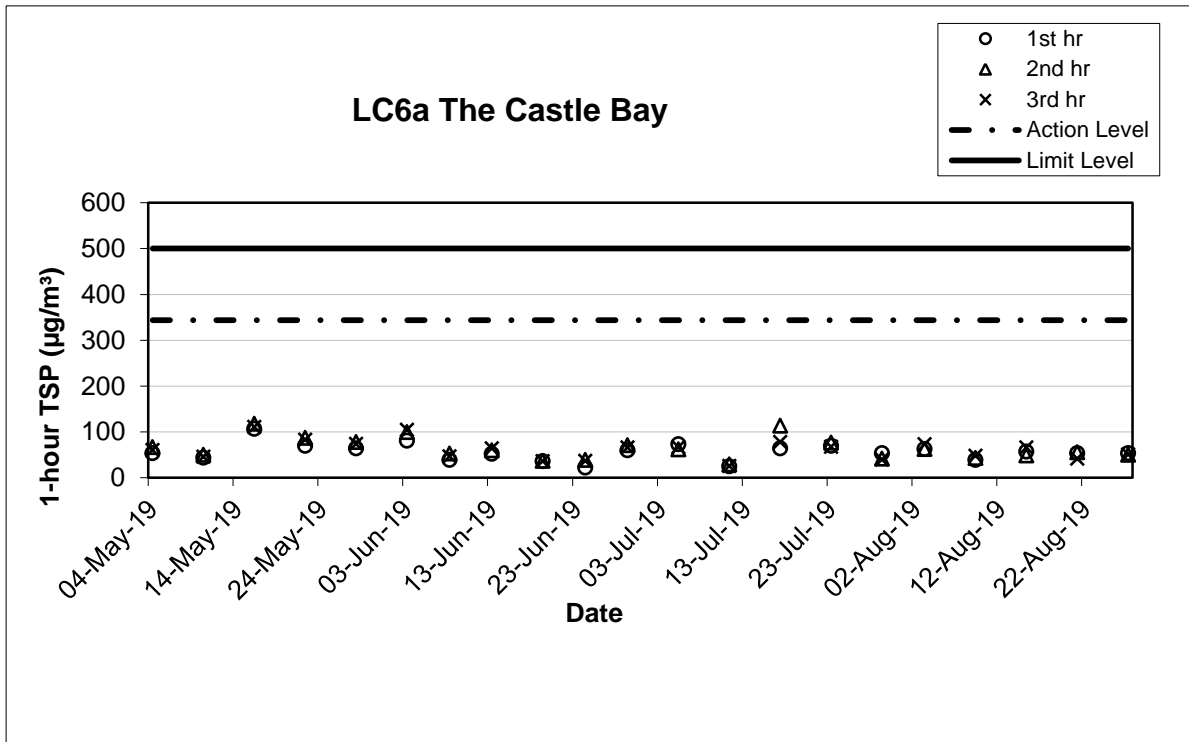
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**LC6a The Castle Bay**

| 1-hour TSP ($\mu\text{g}/\text{m}^3$) | | | | | |
|---|------------|--------|--------|--------|---------|
| Date | Start Time | 1st hr | 2nd hr | 3rd hr | Weather |
| 04-May-19 | 08:33 | 54 | 67 | 61 | Fine |
| 10-May-19 | 08:50 | 44 | 50 | 46 | Fine |
| 16-May-19 | 13:30 | 107 | 118 | 111 | Fine |
| 22-May-19 | 08:39 | 70 | 87 | 83 | Fine |
| 28-May-19 | 13:39 | 64 | 78 | 74 | Cloudy |
| 03-Jun-19 | 13:11 | 81 | 100 | 105 | Fine |
| 08-Jun-19 | 08:31 | 39 | 53 | 47 | Fine |
| 13-Jun-19 | 13:19 | 52 | 60 | 64 | Fine |
| 19-Jun-19 | 08:35 | 36 | 37 | 36 | Fine |
| 24-Jun-19 | 14:45 | 22 | 39 | 37 | Cloudy |
| 29-Jun-19 | 08:46 | 60 | 71 | 66 | Fine |
| 05-Jul-19 | 13:25 | 73 | 62 | 67 | Fine |
| 11-Jul-19 | 14:00 | 25 | 29 | 26 | Fine |
| 17-Jul-19 | 13:07 | 64 | 114 | 78 | Fine |
| 23-Jul-19 | 13:15 | 70 | 77 | 68 | Sunny |
| 29-Jul-19 | 08:30 | 54 | 42 | 40 | Fine |
| 03-Aug-19 | 08:50 | 63 | 63 | 73 | Cloudy |
| 09-Aug-19 | 09:20 | 39 | 43 | 48 | Fine |
| 15-Aug-19 | 08:49 | 57 | 49 | 66 | Fine |
| 21-Aug-19 | 14:02 | 54 | 56 | 42 | Fine |
| 27-Aug-19 | 09:09 | 54 | 50 | 51 | Fine |

LC9 Castle Peak Villas Block C

| 1-hour TSP ($\mu\text{g}/\text{m}^3$) | | | | | |
|---|------------|--------|--------|--------|---------|
| Date | Start Time | 1st hr | 2nd hr | 3rd hr | Weather |
| 04-May-19 | 08:50 | 40 | 45 | 50 | Fine |
| 10-May-19 | 09:00 | 39 | 42 | 37 | Fine |
| 16-May-19 | 13:40 | 102 | 104 | 96 | Fine |
| 22-May-19 | 08:58 | 60 | 76 | 71 | Fine |
| 28-May-19 | 13:47 | 53 | 60 | 62 | Cloudy |
| 03-Jun-19 | 13:26 | 50 | 59 | 56 | Fine |
| 08-Jun-19 | 08:56 | 33 | 37 | 42 | Fine |
| 13-Jun-19 | 13:36 | 50 | 57 | 60 | Fine |
| 19-Jun-19 | 08:42 | 35 | 37 | 39 | Fine |
| 24-Jun-19 | 14:52 | 19 | 36 | 30 | Cloudy |
| 29-Jun-19 | 08:58 | 52 | 56 | 62 | Fine |
| 05-Jul-19 | 13:05 | 55 | 59 | 59 | Fine |
| 11-Jul-19 | 14:17 | 30 | 33 | 29 | Fine |
| 17-Jul-19 | 13:45 | 39 | 22 | 31 | Fine |
| 23-Jul-19 | 13:25 | 54 | 59 | 48 | Sunny |
| 29-Jul-19 | 08:45 | 19 | 20 | 16 | Fine |
| 03-Aug-19 | 08:35 | 50 | 46 | 58 | Cloudy |
| 09-Aug-19 | 08:30 | 35 | 35 | 37 | Fine |
| 15-Aug-19 | 08:35 | 49 | 55 | 72 | Fine |
| 21-Aug-19 | 13:50 | 52 | 48 | 53 | Fine |
| 27-Aug-19 | 09:40 | 41 | 40 | 40 | Fine |



Note:

- 1) The major activities during the reporting period refer to section 1.4.1.
- 2) The weather conditions during the period refer to section 2.5.1.
- 3) The other factors influencing the monitoring results refer to section 2.6.

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Appendix E

Noise Monitoring Data and Graphical Presentations

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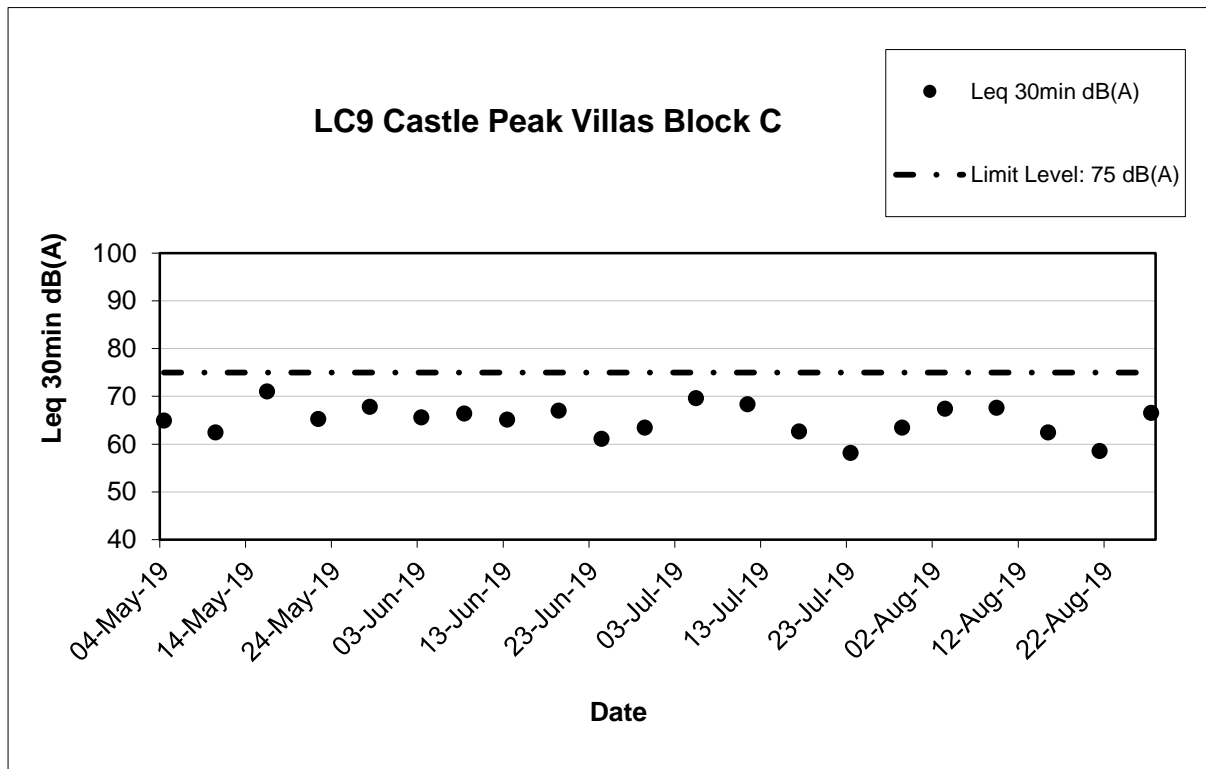
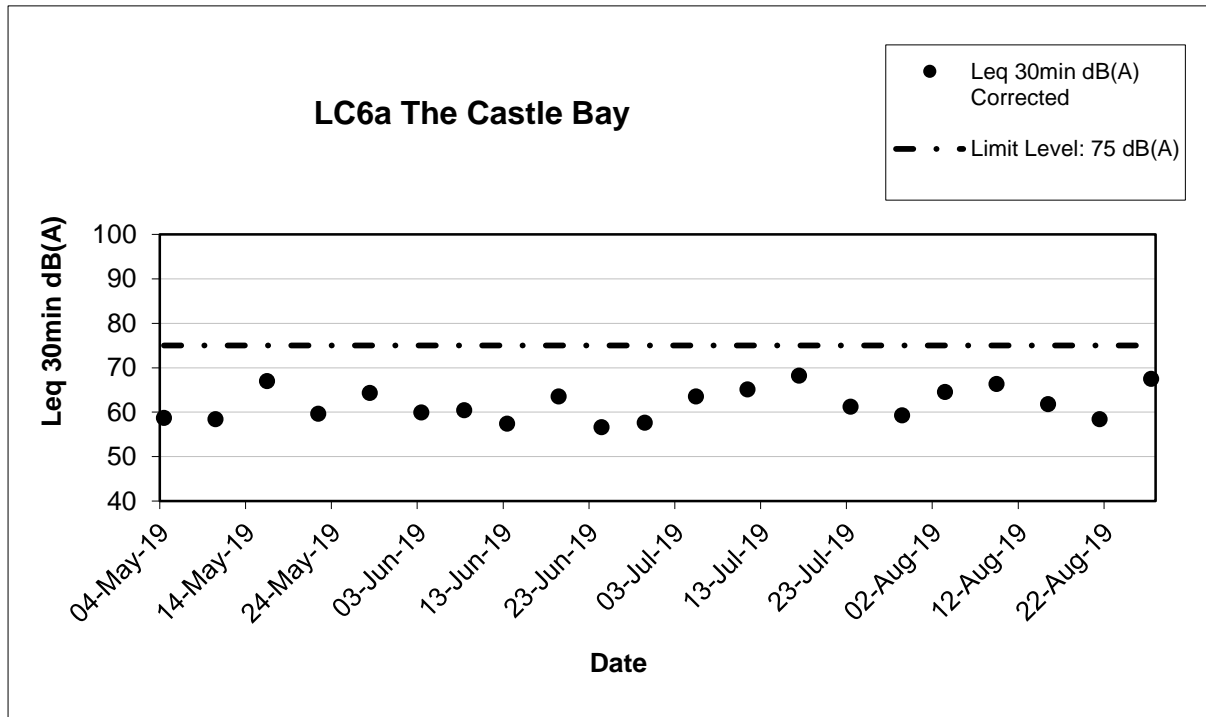
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**LC6a The Castle Bay**

| Date | Start Time | L _{eq} 30min dB(A) | Corrected Leq 30min dB(A) | L ₉₀ dB(A) | L ₁₀ dB(A) | Weather |
|-----------|------------|-----------------------------|---------------------------|-----------------------|-----------------------|---------|
| 04-May-19 | 09:48 | 64 | 59 | 59 | 66 | Fine |
| 10-May-19 | 11:25 | 63 | 58 | 53 | 65 | Fine |
| 16-May-19 | 14:45 | 72 | 67 | 70 | 75 | Fine |
| 22-May-19 | 09:57 | 65 | 60 | 60 | 67 | Fine |
| 28-May-19 | 15:37 | 69 | 64 | 66 | 73 | Cloudy |
| 03-Jun-19 | 14:19 | 65 | 60 | 61 | 67 | Fine |
| 08-Jun-19 | 10:03 | 65 | 60 | 62 | 68 | Fine |
| 13-Jun-19 | 10:03 | 62 | 57 | 62 | 66 | Fine |
| 19-Jun-19 | 08:35 | 69 | 64 | 67 | 72 | Fine |
| 24-Jun-19 | 14:45 | 62 | 57 | 57 | 64 | Cloudy |
| 29-Jun-19 | 10:57 | 63 | 58 | 60 | 65 | Fine |
| 05-Jul-19 | 13:30 | 69 | 64 | 65 | 71 | Fine |
| 11-Jul-19 | 14:00 | 70 | 65 | 66 | 73 | Fine |
| 17-Jul-19 | 13:08 | 73 | 68 | 71 | 79 | Fine |
| 23-Jul-19 | 13:30 | 66 | 61 | 59 | 68 | Sunny |
| 29-Jul-19 | 09:45 | 64 | 59 | 62 | 65 | Fine |
| 03-Aug-19 | 08:55 | 70 | 65 | 67 | 73 | Cloudy |
| 09-Aug-19 | 09:26 | 71 | 66 | 66 | 74 | Fine |
| 15-Aug-19 | 09:28 | 67 | 62 | 63 | 72 | Fine |
| 21-Aug-19 | 14:10 | 63 | 58 | 61 | 65 | Fine |
| 27-Aug-19 | 09:05 | 73 | 68 | 69 | 75 | Fine |

LC9 Castle Peak Villas Block C

| Date | Start Time | L _{eq} 30min dB(A) | Corrected Leq 30min dB(A) | L ₉₀ dB(A) | L ₁₀ dB(A) | Weather |
|-----------|------------|-----------------------------|---------------------------|-----------------------|-----------------------|---------|
| 04-May-19 | 09:02 | 65 | N.A | 59 | 66 | Fine |
| 10-May-19 | 10:48 | 62 | N.A | 61 | 64 | Fine |
| 16-May-19 | 14:00 | 71 | N.A | 69 | 73 | Fine |
| 22-May-19 | 09:09 | 65 | N.A | 59 | 67 | Fine |
| 28-May-19 | 14:00 | 68 | N.A | 59 | 69 | Cloudy |
| 03-Jun-19 | 13:33 | 66 | N.A | 60 | 68 | Fine |
| 08-Jun-19 | 09:07 | 66 | N.A | 61 | 68 | Fine |
| 13-Jun-19 | 13:47 | 65 | N.A | 60 | 66 | Fine |
| 19-Jun-19 | 09:50 | 67 | N.A | 67 | 73 | Fine |
| 24-Jun-19 | 15:23 | 61 | N.A | 58 | 63 | Cloudy |
| 29-Jun-19 | 09:09 | 63 | N.A | 61 | 66 | Fine |
| 05-Jul-19 | 14:15 | 70 | N.A | 63 | 72 | Fine |
| 11-Jul-19 | 15:07 | 68 | N.A | 64 | 71 | Fine |
| 17-Jul-19 | 13:46 | 63 | N.A | 61 | 66 | Fine |
| 23-Jul-19 | 14:10 | 58 | N.A | 57 | 61 | Sunny |
| 29-Jul-19 | 09:00 | 63 | N.A | 63 | 64 | Fine |
| 03-Aug-19 | 09:45 | 67 | N.A | 64 | 71 | Cloudy |
| 09-Aug-19 | 08:32 | 68 | N.A | 63 | 69 | Fine |
| 15-Aug-19 | 08:32 | 62 | N.A | 60 | 68 | Fine |
| 21-Aug-19 | 14:52 | 59 | N.A | 57 | 61 | Fine |
| 27-Aug-19 | 09:43 | 67 | N.A | 61 | 69 | Fine |



Note:

- 1) The major activities during the reporting period refer to section 1.4.1.
- 2) The weather conditions during the period refer to section 2.5.1.
- 3) The other factors influencing the monitoring results refer to section 2.6.

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Appendix F

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

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Environmental Complaints Log

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

Cumulative Statistics on Complaints

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

Cumulative Statistics on Notifications of Summons and Successful Prosecutions

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

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Appendix G

Implementation Status of Environmental Mitigation Measures

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Air Quality

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

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

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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 | ^ |
| 5.7.1 & 5.8.1 | Use of mufflers on the breakers for all activities. | All areas / Throughout construction period | Contractor | TMEIA | N/A |
| 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 | N/A |
| 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 | ^ |
| 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 | N/A |
| 5.8.6 & 5.9.6 | Scheduling the numbers and operating times of equipment, when noise levels cannot be reduced to within the standards by other means | Sewer alignment construction / Throughout construction period | Contractor | TMEIA | ^ |
| 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 | ^ |
| 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 | ^ |
| 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 | ^ |
| 11.2.8 | EM&A in the form of noise monitoring. | All representative receivers / Throughout construction period | Contractor | EM&A Manual | ^ |

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Water Quality

| EIA Reference | Environmental Protection Measures | Location/ Timing | Implementation Agent | Relevant Standard or Requirement | Implementation Status in Construction Phase |
|---------------|---|--|----------------------|----------------------------------|---|
| 6.4.3 | Stockpiles of excavated material should be kept to a minimum and covered during times of heavy rainfall. | All areas / throughout construction period | Contractor | WPCO, TMEIA & ProPECC PN 1/94 | ^ |
| 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 | ^ |
| 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 | N/A |
| 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 | ^ |
| 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 | ^ |

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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. | All areas / throughout construction period | Contractor | WPCO, TMEIA & ProPECC PN 1/94 | N/A |
| 6.5.2 | Rainwater pumped from the trenches should be discharged to storm drains via sand/silt removal traps. | All areas / throughout construction period | Contractor | WPCO, TMEIA & ProPECC PN 1/94 | N/A |
| 6.5.2 | 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 | ^ |
| 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 | ^ |
| 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 | ^ |

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| EIA Reference | Environmental Protection Measures | Location/ Timing | Implementation Agent | Relevant Standard or Requirement | Implementation Status in Construction Phase |
|---------------|---|---|----------------------|----------------------------------|---|
| 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 | ^ |
| 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 | ^ |
| 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 | ^ |
| 6.5.7 | Run off from the roofs of site buildings should be conveyed in closed drains to the nearest surface water course to prevent the generation of excessive quantities of surface water run off carrying suspended solids. | Site Office areas / throughout construction period | Contractor | WPCO, TMEIA & ProPECC PN 1/94 | ^ |
| 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 | ^ |
| 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 | ^ |

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| EIA Reference | Environmental Protection Measures | Location/ Timing | Implementation Agent | Relevant Standard or Requirement | Implementation Status in Construction Phase |
|---------------|--|---|----------------------|----------------------------------|---|
| 6.6.2 | Overflow bypasses to be used in emergency situations only and no effluent should be discharged during regular maintenance. | All pumping stations / Operation | DSD | WPCO, TMEIA | N/A |
| 6.6.3 & 6.6.4 | 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 |
| 11.2.8 | EM&A in the form of site supervision to ensure water quality protection measures are implemented. | All areas/ Throughout construction period | Contractor | EM&A | ^ |

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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 | ^ |

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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 | ^ |
| 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 | ^ |

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Landscape and Visual

| EIA Reference | Environmental Protection Measures | Location/ Timing | Implementation Agent | Relevant Standard or Requirement | 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 | | ^ |
| 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 | ^ |

Remarks: ^

Compliance of mitigation measure

*

Recommendation was made during site audit but improved/ rectified by the Contractor

N/A

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

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Appendix H

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

| Forecast of Total Quantities of C&D Materials to be Generated from the Contract* | | | | | | | | | | |
|--|---|--|--|---|---|------------------------|---|--------------------------------------|-------------------------------|---|
| Total Quantity Generated (in '000m ³) | Hard Rock and Large Broken Concrete (in '000m ³) | Reused in the Contract (in '000m ³) | Reused in other Projects (in '000m ³) | Disposed as Public Fill (in '000m ³) | Imported Fill (in '000m ³) | Metals (in '000 kg) | Paper/ cardboard packaging (in '000kg) | Plastics (see Note 3) (in '000kg) | Chemical Waste (in '000kg) | Others, e.g. general refuse (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].