



Monthly EM&A Report (July 2022)

0120/20/ED/0504 02

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

AECOM Asia Co. Ltd.
12/F, Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin, Hong Kong

Attn: Mr. Simon H.M. YEUNG – CRE(C)

Your Reference

Contract No. SPW 03/2022

Our Reference
AFK/EC/TC/BW/bw/
T601100019/02/02/L008

Independent Environmental Checker for Construction of Yuen Long Effluent Polishing Plant Stage 1 (2022-2023)

Environmental Permit No. EP-565/2019

Mott MacDonald
3/F Manulife Tower
348 Kwun Tong Road
Kwun Tong
Kowloon
Hong Kong

EP Condition 3.4 – Monthly EM&A Report for July 2022

12 August 2022

By Hand and By Email

T +852 2828 5757
F +852 2827 1823
mottmac.hk

Dear Sir,

I refer to the captioned Monthly EM&A Report for July 2022 (Document No. 0120/20/ED/0504, Issue No. 02) which was certified by the Environmental Team Leader and received via e-mail on 12 August 2022.

I have no comment on the captioned report and hereby verify that this submission has complied with the requirements set out in the EM&A Manual for the captioned project, in accordance with Condition 3.4 of Environmental Permit No. EP-565/2019.

Should you have any queries regarding the captioned or require any further information, please contact the undersigned at 2828 5875.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Brandon WONG
Independent Environmental Checker
T +852 2828 5875
Brandon.Wong@mottmac.com

Encl.

c.c. DSD
Fugro Technical Services Limited

Mr. Wallace CHENG – E/SP 16 By Email
Mr. YU Lap Bong – ETL By Email

Document Control




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Client Information

| | |
|----------------|---|
| Client | Drainage Services Department |
| Client Address | 45/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong |
| Client Contact | Mr. Wallace Cheng |

Environmental Team

| Initials | Name | Role | Signature |
|----------|----------------|---------------------------------|---|
| LB | Alvin L.B. Yu | Environmental Team Leader |  |
| CY | Cyrus C.Y. Lai | Senior Environmental Consultant |  |
| KH | Toby K.H. Wan | Environmental Consultant |  |

EXECUTIVE SUMMARY

- i. This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. SPW 07/2020 "Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1". Drainage Services Department (DSD) has appointed Fugro Technical Services Limited (FTS) to undertake the Environmental Team services for the project and implement the EM&A works.
- ii. This is the 16th Monthly EM&A Report for the Contract which summaries findings of the EM&A programme during the reporting period from 1 July 2022 to 31 July 2022. As informed by the Contractor, major activities in the reporting month were:
 - Piling work at PST;
 - Piling work at STB;
 - ELS works at IW & PST;
 - Zone 3 Diversion works:
 - a. Temp. Gravity thickening tank – Pipe laying and E&M installation work;
 - b. Temp. Sludge Holding Tank – Pipe laying and E&M installation work;
 - c. Temp. Water heater house – Pipe laying and E&M installation work;
 - d. Temp. Primary Sludge Pumping Station – RC work;
 - e. Temp. Digested sludge pump / Supernatant Pumping – RC Work;
 - f. Digested Sludge Pumping Station house – Pipe laying and E&M installation work;
 - g. Pipe laying for Zone 3 diversion;
 - Demolition of Sludge Holding Tank no. 1;
 - Backfilling work at Sludge Holding Tank no. 3 & 4;
 - Superstructure works at CLP substation;
 - Installation of MIC unit at MIC office;
 - Backfill work at A. Tank 6-8;
 - Construction of RC chamber at Zone 2B;
 - Disposal of Pond Sediment excavated from PST; and
 - Disposal of construction waste as indicated in **Appendix I**.

Breaches of Environmental Quality Performance Limits (AL levels)

- iii. No Action and Limit Level exceedance was recorded for air quality monitoring and construction noise monitoring in the reporting month.
- iv. No Action and Limit Level exceedance was recorded for water quality monitoring in the reporting month.
- v. No Action / Limit exceedance was recorded for noise levels at stations (NMS1 and NMS2) in close proximity to the two active ardeid night roosts (ANR1 and ANR2) observed within the Survey Area during the reporting month.
- vi. No Action / Limit exceedance for the ecological monitoring of birds in the reporting month.
- vii. No corrective actions were required according to the Event and Action Plans for the Monitoring Parameters.

Land Contamination

- viii. Regular site inspection was carried out to ensure the recommended mitigation measures are properly implemented. The signed final Contamination Assessment Report (CAR) for "Main Storeroom & Workshops", "Mechanical Workshop", "Waste Storage Area" and "SAS Thickener House-1" were submitted to EPD respectively on 1st November 2021, 23rd November 2021, 29th April 2022 and 6th July 2022. No contaminated soil and ground water was found within the Main Storeroom & Workshop, Mechanical Workshop, Waste Storage Area and SAS Thickener House-1, and no remedial action is required for both locations.

Complaint Log

- ix. No complaints were received in the reporting period.

Notifications of Summons and Successful Prosecutions

- x. No notifications of summons and successful prosecutions were received in the reporting period.

Reporting Change

- xi. There were no reporting changes during the reporting month.

Future Key Issues

- xii. The main works will be anticipated in the next three months are as follow:
- Demolition of Admin. Building, Settled Sewage Overflow Chamber, Sludge Holding Tanks no. 2, Water Heater House, Return Activated Sludge Screw Pump Pumping station, Air Floatation Thickener and Auxiliary Pumping Station (below ground);
 - Pipe Laying and construction of RC chamber at Zone 2B and subsequence diversion work;
 - ELS work and RC structure at IW & PST;
 - Installation of Sheet pile at TTB;
 - Piling work at PST;
 - Piling work at Sludge Thickening Building;
 - E&M work at 3 zone (Location D -Temp. Primary Sludge Pumping Station);
 - Pipe laying for Zone 3 diversion;
 - Backfilling work and installation of pipe pile wall for demolition of Aeration Tank no. 5-8 at AGS;
 - Construction of CLP Substation;
 - Construction of MiC office;
 - Demolition of PST no. 2;
 - Ground investigation at AGS, SDB, SDT & STB;
 - Sheet piling work around Sludge digester no. 1 – 3;
 - Installation of brand drain at Biogas Holder no. 1;
 - Installation of concrete blocks and soil Surcharge at Biogas Holder no. 1;
 - Construction of temp. traffic road at north of SHT no. 3 & 4;
 - Construction of PST structure;
 - 3 zone diversion works:
 - a. E&M work at temp. Gravity thickening tank (Atal);
 - b. E&M work at temp. Sludge Holding Tank (Atal);
 - c. E&M work at temp. water heater house (Atal);
 - d. RC work at temp. Primary sludge pumping station;
 - e. RC construction and E&M work at Temp. digested sludge pump, Ferric Chloride and Chemical Dosing System;

- f. E&M work at Digested Sludge Pumping Station.
- Construction of RC chamber at Zone 2B.

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1. INTRODUCTION

1.1 Background

- 1.1.1 The existing Yuen Long Sewage Treatment Works (YLSTW) is a secondary sewage treatment works, located at Yuen Long Industrial Estate serves Yuen Long Town, Yuen Long Industrial Estate and Kam Tin areas with a design capacity of 70,000 m³ per day. Based on the latest planning data, the volume of sewage generation from the YLSTW catchment is estimated to increase to 150,000 m³ per day after 20 years. In addition, since YLSTW has been operating for over 30 years and most of its facilities are of out-dated design and reaching the end of their design life, the environmental facilities of the plant will also be upgraded and hence improving the adjacent environment through upgrading the YLSTW to Yuen Long Effluent Polishing Plant (YLEPP). The Location of Proposed Yuen Long Effluent Polishing Plant is given in **Figure 1**.
- 1.1.2 YLSTW will be reconstructed in two stages to increase its capacity to 150,000 m³ per day. The proposed works, as Stage 1 of the project, will firstly increase the treatment capacity to 100,000 m³ per day. In the course of Stage 1 construction, about half of the existing facilities of YLSTW would be demolished, while the other half would be kept in operation to maintain the sewage treatment service for Yuen Long area. This 72-month works contract commenced on 9 November 2020. Demolition of existing YLSTW for construction of new treatment facilities are in progress.
- 1.1.3 The Project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) for which Environmental Impact Assessment (EIA) report and Environmental Monitoring and Audit (EM&A) Manual was approved by EPD (Register No.: AEIAR-220/2019) on 25 April 2019. The Environmental Permit (EP) (EP No. EP-565/2019) was issued by EPD on 26 April 2019.
- 1.1.4 Fugro Technical Services Limited (FTS) has been appointed as the Environmental Team (ET) by Drainage Services Department (DSD) to undertake the Environmental Team services for the Project and implement the EM&A works under the Contract No. DC/2019/10 Yuen Long Effluent Polishing Plant -Main Works for Stage 1 (hereinafter referred as "the Contract").
- 1.1.5 This is the 16th Monthly EM&A report to document the findings of site inspection activities and EM&A programme for this project from 1 July 2022 to 31 July 2022 (reporting period) and is submitted to fulfil Condition 3.4 of the EP and Section 12.4.1 of the EM&A Manual. According to Condition 4 of the EP, electronic reporting is provided on the internet website to facilitate public inspection of the report.

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 |
|---|--|-------------------|-----------|
| Project Proponent (Drainage Services Department) | Engineer | Mr. Wallace Cheng | 2594 7473 |
| Engineer's Representative (AECOM Asia Co. Ltd.) | Chief Resident Engineer | Mr. Simon Yeung | 9075 7172 |
| | Senior Resident Engineer | Mr. Patrick Leung | 6124 8838 |
| Independent Environmental Checker (Ramboll Hong Kong Limited) | Independent Environmental Checker (IEC) until 7 July 2022 | Mr. F.N. Wong | 2531 0247 |
| Independent Environmental Checker (Mott MacDonald Hong Kong Limited) | Independent Environmental Checker (IEC) From 8 July 2022 | Mr. Brandon Wong | 2828 5875 |
| Contractor (Paul Y. - CREC Joint Venture) | Environmental Officer From 11 July 2022 | Ms. Diana Lee | 5490 5271 |
| | Assistant Environmental Officer | Mr. Sam Tsang | 4634 2581 |
| Environmental Team (Fugro Technical Services Limited) | Environmental Team Leader (ETL) | Mr. Alvin Yu | 3565 4373 |

1.3 Construction Programme and Activities

1.3.1 The construction programme of this project is shown in **Appendix A**.

1.4 Works undertaken during the month

1.4.1 The main construction works carried out in the reporting period were as follow:

- Piling work at PST;
- Piling work at STB;
- ELS works at IW & PST;
- Zone 3 Diversion works:
 - a. Temp. Gravity thickening tank – Pipe laying and E&M installation work;
 - b. Temp. Sludge Holding Tank – Pipe laying and E&M installation work;
 - c. Temp. Water heater house – Pipe laying and E&M installation work;
 - d. Temp. Primary Sludge Pumping Station – RC work;
 - e. Temp. Digested sludge pump / Supernatant Pumping – RC Work;
 - f. Digested Sludge Pumping Station house – Pipe laying and E&M installation work;
 - g. Pipe laying for Zone 3 diversion;
- Demolition of Sludge Holding Tank no. 1;
- Backfilling work at Sludge Holding Tank no. 3 & 4;
- Superstructure works at CLP substation;
- Installation of MIC unit at MIC office;
- Backfill work at A. Tank 6-8;
- Construction of RC chamber at Zone 2B;
- Disposal of Pond Sediment excavated from PST; and

- Disposal of construction waste as indicated in **Appendix I**.

1.4.2 The environmental mitigation measures corresponding to the main construction works implemented in the reporting period can be referred to **Appendix J**.

1.5 Status of Environmental Licences, Notification and Permits

1.5.1 A summary of the status of the relevant permits, licenses and/or notifications on environmental protection for this project is presented in **Table 1.2**.

Table 1.2 – Environmental Licenses, Notification and Permits Summary

| Permit/ Notification/ License | Reference No | Valid From | Valid Till |
|---|--------------------------------|-------------|--|
| Environmental Permit | EP-565/2019 | 26-Apr-2019 | The whole construction and operation period of the Project |
| Notification of Works under APCO | 461616 | 6-Nov-2020 | The whole construction period of the Project |
| Construction Waste Disposal Billing Account | 7038933 | 20-Nov-2020 | The whole construction period of the Project |
| Registration as Chemical Waste Producer under WDO | WPN5213-528-P2796-03 | 4-Feb-2021 | The whole construction period of the Project |
| Construction Noise Permit (Percussive Piling) | PP-RN0015-22 | 6-Apr-2022 | 5-Jul-2022 |
| Construction Noise Permit (Percussive Piling) | PP-RN0023-22 | 6-Jul-2022 | 5-Oct-2022 |
| Construction Noise Permit | GW-RN0294-22 | 13-Apr-2022 | Cancelled from 8 Jun 2022 |
| Construction Noise Permit | GW-RN0489-22 | 8-Jun-2022 | 7-Sep-2022 |
| Water Pollution Control Ordinance (CAP. 358) Licence pursuant to Section 20 | WT00038102-2021 | 4-Aug-2021 | 31-Aug-2026 |
| Marine Dumping Permit Type 1 – Open Sea Disposal | EP/MD/22-030 | 10-Mar-2022 | 09-Sep-2022 |
| Marine Dumping Permit Type 1 – Open Sea Disposal (Dedicated Site) and Type 2 – Confined Marine Disposal | EP/MD/23-013 | 10-Jun-2022 | 09-Jul-2022 |
| Marine Dumping Permit Type 1 – Open Sea Disposal (Dedicated Site) and Type 2 – Confined Marine Disposal | EP/MD/23-019 | 10-Jul-2022 | 09-Aug-2022 |
| Disposal of Special waste at Landfills Admission Ticket (Pond Sediment) | Admission Ticket Number: 16792 | 1-May-2022 | 30-May-2022, Extended till 8-Jul-2022 |
| Disposal of Special waste at Landfills Admission Ticket (Sludge) | Admission Ticket Number: 16811 | 11-Apr-2022 | 10-Oct-2022 |

2. AIR QUALITY

2.1 Monitoring Requirement

2.1.1 In accordance with the EM&A Manual, 1-hour Total Suspended Particulates (TSP) levels should be measured at the designated air quality monitoring stations to ensure that any deteriorating air quality could be readily detected and timely action shall be undertaken to rectify such situation. Impact 1-hour TSP monitoring was conducted for at least three times every 6 days when the highest dust impact occurs.

2.2 Monitoring Equipment

2.2.1 A portable direct reading dust meter was used to carry out the 1-hour TSP monitoring at the designated monitoring stations.

2.2.2 Wind data monitoring equipment is provided at the conspicuous locations for logging wind speed and wind direction near to the dust monitoring locations. The equipment installation location is agreed with the ER and the IEC.

2.2.3 The details of the air quality monitoring equipment used are summarized in **Table 2.1**.

Table 2.1 – Air Quality Monitoring Equipment

| Item | Location | Brand | Model | Equipment | Serial No. |
|------|----------|--------------|-------------|-------------------------------------|------------|
| 1 | AM1 | Sibata | Model LD-5R | SIBATA LD-5R Digital Dust Indicator | 155716 |
| 2 | AM2 | | Model LD-5R | | 155717 |
| 3 | | Global Water | GL500-7-2 | Wind Station | 2012000974 |

2.3 Monitoring Methodology for Direct Reading Dust Meter

2.3.1 SIBATA LD-5R Digital Dust Indicator complete with appropriate sampling inlets are employed for 1-hour TSP measurement.

Measuring Procedures

- a) Pulling up the air sampling inlet cover
- b) Changing the Mode 0 to BG
- c) Pressing Start/Stop switch
- d) Turning the knob to SENSI.ADJ and press it
- e) Pressing Start/Stop switch again
- f) Returning the knob to the position MEASURE slowly
- g) Pressing the timer set switch to set measuring time
- h) Removing the cap and start the measurement

Equipment Calibration

1-hour dust meter should be calibrated at 1 year intervals. The calibration certificates are presented in **Appendix D**.

2.4 Maintenance and Calibration for Direct Reading Dust Meter

2.4.1 ET shall submit sufficient information to the IEC to prove that the instrument is capable of achieving comparable results to the HVS. The instrument should also be calibrated regularly, and the 1-hour sampling shall be determined periodically by the HVS to check the validity and accuracy of the results measured by direct reading method. The calibration certificate for the direct reading dust meter is provided in **Appendix D**.

2.5 Monitoring Locations

2.5.1 In accordance with the EM&A Manual, two air quality monitoring locations, namely AM1, AM2 are covered under Contract No. SPW 07/2020 "Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1".

2.5.2 The most updated locations are summarized in **Table 2.2** and the locations of the air monitoring stations shown in **Figure 2**.

Table 2.2 – Air Quality Monitoring Location

| Monitoring Station | Location |
|--------------------|-------------------------------------|
| AM1 | Topfine Machinery (China) Co. Ltd |
| AM2 | Squatter house at the west of YLSTW |

2.6 Monitoring Results

2.6.1 The schedule of air quality monitoring in reporting month is provided in **Appendix E**.

2.6.2 No Action / Limit Level exceedance was recorded for 1-hr TSP at AM1 and AM2.

2.6.3 No effect that arose from the other special phenomena and work progress of the concerned site was noted during the current monitoring month.

2.6.4 The weather and meteorological conditions during the monitoring are provided in **Appendix K**.

2.6.5 The Air Quality Monitoring Results of 1-hr TSP are summarized in **Table 2.3**. Detailed monitoring data are presented in **Appendix F**.

Table 2.3 – Summary of Air Quality Monitoring Results

| Monitoring Station | Average ($\mu\text{g}/\text{m}^3$) | Range ($\mu\text{g}/\text{m}^3$) | Action Level ($\mu\text{g}/\text{m}^3$) | Limit Level ($\mu\text{g}/\text{m}^3$) |
|--------------------|--------------------------------------|------------------------------------|---|--|
| 1-hour TSP | | | | |
| AM1 | 86 | 56-116 | 291 | 500 |
| AM2 | 103 | 63-130 | 296 | |

2.6.6 The Action and Limit Levels for air quality monitoring have been set and are presented in **Appendix C**.

2.6.7 The Event and Action Plan for air quality is given in **Appendix H**.

2.6.8 The wind data obtained from the on-site wind station during the reporting period is provided in **Appendix G**.

2.7 Comparison of 1-hr TSP Monitoring Results with EIA Predictions

2.7.1 The monitoring data of 1-hr TSP was compared with the EIA predictions as summarized in **Table 2.4**.

Table 2.4 – Comparison of 1-hr TSP data with EIA predictions

| Monitoring Station | EIA ID | Predicted Maximum Hourly Average TSP Concentration ($\mu\text{g}/\text{m}^3$) | Maximum 1-hr TSP Monitoring Results in July 2022 ($\mu\text{g}/\text{m}^3$) |
|--------------------|---------|---|---|
| 1-hour TSP | | | |
| AM1 | ASR A09 | 205-451 | 116 |
| AM2 | ASR A11 | | 130 |

Notes:

Predicted TSP Concentration extracted from Table 3.20 of EIA Report, AEIAR-220/2019

2.7.2 The 1-hr TSP monitoring results at AM1 and AM2 were below the Predicted Maximum Hourly Average TSP Concentration in the approved Environmental Impact Assessment (EIA) Report.

3. NOISE

3.1 Monitoring Requirement

3.1.1 In accordance with the EM&A Manual, Leq (30min) monitoring is conducted at least once a week when there are Project-related construction activities being undertaken within a radius of 300 m from the monitoring stations. The monitoring is conducted during the construction phase between 0700 and 1900 on normal weekdays at the designated monitoring locations.

3.2 Monitoring Equipment

3.2.1 As referred to the requirements of the Technical Memorandum (TM) issued under the NCO, the sound level meters in compliance with the International Electro technical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications should be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement, the accuracy of the sound level meter should be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. The measurements may be accepted as valid only if the difference between calibration levels obtained before and after the noise measurement is less than 1.0 dB (94 dB \pm 0.1 dB).

3.2.2 The details of the noise monitoring equipment used are summarized in **Table 3.1**.

Table 3.1 – Construction Noise Monitoring Equipment

| Item | Brand | Model | Equipment | Serial No. |
|------|---------|----------------|---------------------------------------|------------|
| 1 | Casella | CEL-63X Series | Casella 63x Digital Sound Level Meter | 1488304 |
| 2 | Casella | CEL-63X Series | Casella 63x Digital Sound Level Meter | 1488272 |
| 3 | Casella | CEL-120/1 | Casella 120 Acoustic Calibrator | 2383982 |
| 4 | Casella | CEL-120/1 | Casella 120 Acoustic Calibrator | 2383707 |
| 5 | SENSOR | AR816 | Anemometer | N/A |

3.3 Monitoring Parameters and Frequency

3.3.1 The parameters and frequencies of impact noise monitoring is summarized in **Table 3.2**.

Table 3.2 – Monitoring Parameters and Frequencies of Noise Monitoring

| Parameter | Frequency |
|---|---|
| L _{Aeq} (30 min) (L ₁₀ and L ₉₀ will be recorded for reference) | At each station at 0700-1900 hours on normal weekdays at a frequency of once a week when construction activities are underway |

3.4 Monitoring Methodology

3.4.1 Noise measurement should be conducted as the following procedures:

- The monitoring station will set at a point 1m from the exterior of the sensitive receivers building façade and set at a position 1.2m above the ground. (In case façade measurement is not feasible on-site, a free field correction of +3dB(A) will be applied.)
- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time will set as follows:
 - frequency weighting: A
 - time weighting: Fast
 - measurement time: 30 minutes
- Prior to and after noise measurement, the meter shall be 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 considered invalid and repeat of noise measurement is required after re-calibration or repair of the equipment.
- Noise measurement should be paused during periods of high intrusive noise if possible and observation shall be recorded when intrusive noise is not avoided.
- Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s. Calibration certificate of the anemometer is provided in **Appendix D**.

3.5 Maintenance and Calibration

3.5.1 Maintenance and calibration procedures should also be carried out, including:

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

3.6 Monitoring Locations

- 3.6.1 In accordance with the EM&A Manual, three noise monitoring locations, namely CM1, CM2 and CM3 are covered under Contract No. SPW 07/2020 "Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1".
- 3.6.2 The most updated locations are summarized in **Table 3.3** and the locations of the noise monitoring stations shown in **Figure 3**.

Table 3.3 – Construction Noise Monitoring Location

| Monitoring Station ID | Location | Measurements |
|-----------------------|--------------------------------------|--------------|
| CM1 | Squatter house at the north of YLSTW | Free Field |
| CM2 | Squatter house at the west of YLSTW | Free Field |
| CM3 | Squatter house at the east of YLSTW | Free Field |

Note: Correction of +3 dB(A) shall be made to the free field measurements.

3.7 Monitoring Results

- 3.7.1 The schedule of noise monitoring in reporting month is provided in **Appendix E**.
- 3.7.2 No Action / Limit Level exceedance of location CM1, CM2 and CM3 was recorded for construction noise in the reporting month.
- 3.7.3 During the monitoring month, at CM2, road traffic from the squatter house at the west of Yuen Long STW was observed, at CM3, road traffic from the Nam Sang Wai Road was observed. No effect that arose from the other special phenomena and work progress of the concerned site for CM1 was noted during the current monitoring month.
- 3.7.4 No raining and wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation. The weather and meteorological conditions during the monitoring month are provided in **Appendix K**.
- 3.7.5 The Construction Noise Monitoring Results are summarized in **Table 3.4**. Detailed monitoring data are presented in **Appendix F**.

Table 3.4 – Summary of Construction Noise Monitoring Results

| Time Period | Noise Monitoring Stations | L_{eq} (30min) dB(A) (Range) | Action Level | Limit Level dB(A) |
|--|---------------------------|-----------------------------------|--|----------------------|
| 0700-1900 hrs on normal weekdays | CM1 | 54-55 | When one documented complaint is received | 75 |
| | CM2 | 61-63 | | 75 |
| | CM3 | 61-63 | | 75 |

Remark:

CM1, CM2 and CM3: Free-field measurement (+3 dB(A) correction has been applied).

- 3.7.6 The Action and Limit Levels for Construction Noise have been set and are presented in **Appendix C**.
- 3.7.7 The Event and Action Plan for Construction Noise is given in **Appendix H**.

3.8 Comparison of Noise Monitoring data with EIA Predictions

3.8.1 The noise monitoring data was compared with the EIA predictions as summarized in **Table 3.5**.

Table 3.5 – Comparison of Noise monitoring data with EIA predictions

| Monitoring Station | EIA ID | Maximum Predicted Mitigated Construction Noise Level L_{eq} (30min) dB(A) | Maximum Construction Noise Level in July 2022 L_{eq} (30min) dB(A) |
|--------------------|--------|--|---|
| CM1 | NSR1 | 72 | 55 |
| CM2 | NSR2 | 74 | 63 |
| CM3 | NSR3 | 75 | 63 |

Notes:

Predicted TSP Concentration extracted from Table 4.9 of EIA Report, AEIAR-220/2019

3.8.2 The construction noise monitoring results at CM1, CM2 and CM3 were below the Maximum Predicted mitigated Construction Noise Level in the approved Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-220/2019).

4. WATER QUALITY

4.1 Monitoring Requirement

4.1.1 In accordance with the EM&A Manual, impact monitoring is conducted for three days per week at mid-flood and mid-ebb with sampling and measurement at the designated monitoring stations.

4.2 Monitoring Equipment

4.2.1 Equipment used for in-situ measurement and water sampling during impact water quality monitoring is summarised in **Table 4.1**. The equipment is in compliance with the requirements set out in the EM&A Manual. All in-situ monitoring instruments were calibrated by a HOKLAS-accredited laboratory. Calibration of temperature, DO, salinity, pH and turbidity is conducted in three month interval. Calibration certificates for the water quality monitoring equipment are attached in **Appendix D**.

Table 4.1 – Water Quality Monitoring and Sampling Equipment

| Parameter | Equipment | Model | Range | Equipment Accuracy | Serial No. |
|--|--|--------------------------------|---|---|------------|
| Temperature, Dissolved Oxygen, Salinity, pH, Turbidity | YSI Water Quality Multiparameter Sonde | Xylem EXO 3 | Temp: -5 to 50°C DO: 0-50mg/L DO%: 0-500% Sal: 0 to 70ppt pH: 0 to 14 pH units Turb: 0-4000NTU | Temp: ±0.2°C DO: ±0.1mg/L or 1% for 0-20mg/L; ±5% for 20-50mg/L Sal: ±2% of the reading or 0.2 ppt (whichever greater) pH: ±0.2 units Turb: ±3% or 0.3NTU (FNU) (whichever greater) | 19A105807 |
| | | | | | 19E100634 |
| Current Velocity and Direction | Current Meter | Valeport Model 106 | Speed: 0.03 to 5 m/s Direction: 0 to 360 | Speed: ± 1.5% of reading above 0.15m/s, ± 0.004 m/s below 0.15m/s Direction: ± 2.5o | 67738 |
| | | River Surveyor M9 | Water Depth: 0-80m | Water Depth: 1% Current speed: ±0.25% of measured velocity or ±0.2cm/s Current direction: ±2degree magnetic | 5906 |
| Water Sampling | Water Sampler | Acrylic Beta Water Bottle Kit, | NA | NA | NA |

| Parameter | Equipment | Model | Range | Equipment Accuracy | Serial No. |
|-------------|-----------------|--|---------------------------|--------------------|------------|
| | | Horizontal, 3.2L / 4.2L | | | |
| Positioning | DGPS | Simrad MX521B Smart Antenna with Simrad MX610 CDU | NA | GPS: ±1m | NA |
| Water Depth | Echo Sounder | Garmin ECHO 101 | Maximum depth: 457.2 m | 0.1 m | NA |

4.3 Equipment Calibration

- 4.3.1 All in-situ monitoring instruments shall be checked, calibrated and certified by a laboratory accredited under HOKLAS before use and subsequently re-calibrated at three monthly intervals throughout all stages of the water quality monitoring programme. Responses of sensors and electrodes shall be checked with certified standard solutions before each use. Wet bulb calibration for a DO meter shall be carried out before measurement at each monitoring location.
- 4.3.2 Sufficient stocks of spare parts shall be maintained for replacements when necessary. Backup monitoring equipment shall also be made available so that monitoring is uninterrupted even when some equipment is under maintenance or calibration etc.

4.4 Monitoring Parameters

The monitoring parameters and frequency for both in-situ measurement and laboratory analysis are summarised in **Table 4.2**.

Table 4.2 – Monitoring Parameters and Frequency

| Parameters | Monitoring Frequency |
|--|---|
| <u>In-situ Measurement</u> Turbidity (in NTU), pH, DO (in mg/L and % of saturation), Temperature (in °C), Salinity (in ppt) | 3 days per week, at mid-flood and mid-ebb tides (The interval between two sets of monitoring shall not be less than 36 hours.) |
| <u>Laboratory Analysis</u> Suspended Solids | |

4.5 Monitoring Operation

- 4.5.1 The position of water monitoring station will be located by the Differential Global Positioning System (DGPS) or equivalent. The water depth of water monitoring station will be determined by the echo sounder affixed to the bottom of the monitoring vessel or a portable echo sounder depth detector.
- 4.5.2 Once the location and water depth are confirmed, water samples shall be collected at 3 depths (1m below the surface, mid-depth, and 1m above the seabed) of the water column at each location, except where water depth is less than 6m, the mid-depth will be omitted and if the

water depth is less than 3m only the mid-depth station will be monitored. Duplicate marine samples will be collected in each sampling event. The water samples are decanted from the water sampler into the water sample bottles. The bottles are labelled, tightly sealed, placed into a cool-box and packed with ice ready for delivery to the laboratory.

- 4.5.3 Two consecutive measurements of water quality data, including pH, salinity, dissolved oxygen and turbidity will be recorded according to the monitoring locations. Separate deployment of the monitoring instruments and water samplers will be conducted for the consecutive measurements or samplings. The monitoring location / position, time, water depth, sampling depth, tidal stages, weather conditions, sea condition and any special phenomena or work underway nearby shall also be recorded. If the difference in value between the first and second measurement of DO or turbidity parameters is more than 25% of the value of the first reading, the reading shall be discarded and further readings should be taken.

4.6 Laboratory Measurement / Analysis

Background

- 4.6.1 Fugro Technical Services Limited (HOKLAS Reg: No.015) has been appointed to conduct the laboratory measurement or analysis of water sample in this project.

Quality Assurance / Quality Control

- 4.6.2 The laboratory incorporates a variety of QA/QC monitoring programme into their testing system. Where applicable or available, the quality of the analysis will be monitored by conducting the following QC analysis:

For each batch of 20 samples:

- A minimal of 1 laboratory method blank will be analyzed;
- A minimal of 1 sample duplicate will be analyzed;
- A minimal of 1 sample matrix spike will be analyzed.

4.7 Monitoring Locations

- 4.7.1 In accordance with the EM&A Manual, water quality monitoring should be carried out at 3 designated monitoring locations.

- 4.7.2 The coordinates of the monitoring location stated in the EM&A Manual is summarised in **Table 4.3** and the locations of the water quality monitoring stations shown in **Figure 4**.

Table 4.3 – Coordinates of Water Quality Monitoring Locations

| Sampling Location | | Easting | Northing |
|-------------------|--|---------|----------|
| M1 | Serve as the control station at upstream location of construction site (Flood Tide) / Serve as the impact station at downstream location of construction site (Ebb Tide) | 821 086 | 836 656 |
| M2 | Serve as the impact station at downstream location of construction site (Flood Tide)/ Serve as the control station at upstream location of construction site (Ebb Tide) | 820 996 | 836 246 |

| Sampling Location | | Easting | Northing |
|-------------------|--|---------|----------|
| M3 | Serve as the impact station at downstream location of construction site (Flood Tide) / Serve as the control station at upstream location of construction site (Ebb Tide) | 820 645 | 836 335 |

4.8 Monitoring Results

- 4.8.1 The schedule of water quality monitoring in reporting month is provided in **Appendix E**.
- 4.8.2 Impact water quality monitoring was conducted at all designated monitoring stations in the reporting month. Impact water quality monitoring results and graphical presentations are provided in **Appendix F**.
- 4.8.3 Typhoon Signal No. 8 was hoisted on 2 July 2022. Due to safety concerns, the water quality monitoring on 2 July 2022 has been cancelled.
- 4.8.4 The weather and meteorological conditions during the monitoring are provided in **Appendix K**.
- 4.8.5 Number of Action/ Limit exceedance recorded in the reporting month at each impact stations is summarized in **Table 4.4**.

Table 4.4 – Summary of Water Quality Exceedance

| Sampling Location | Exceedance Level | DO | | Turbidity | | Suspended Solids | | Total | |
|-------------------|------------------|-------|-----|-----------|-----|------------------|-----|-------|-----|
| | | Flood | Ebb | Flood | Ebb | Flood | Ebb | Flood | Ebb |
| M1 | Action | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Limit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M2 | Action | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Limit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M3 | Action | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Limit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | Action | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Limit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

- 4.8.6 During the reporting period, no Action and Limit Level exceedance was recorded for water quality monitoring.
- 4.8.7 The Event and Action Plan for water quality is given in **Appendix H**.

4.9 WetSepts

- 4.9.1 Two WetSepts are deployed within the site for treatment of the site runoff prior to disposal in compliance with the conditions stipulated in the water discharge license.

5. ECOLOGY MONITORING

5.1 Ardeid Night Roost Monitoring

5.1.1 Monitoring Requirement

With reference to the Pre-construction Ardeid Night Roost survey (January 2021) findings that identified two active ardeid night roosts within 100 m from the Project boundary (one approximately 40 m east of the Project boundary and the other one approximately 45 m northeast of the Project boundary), consequent monthly monitoring of these active ardeid night roosts was done in accordance to the **EM&A Manual Sections 7.3.10 and 7.3.11**; and **EIA Report Section 8.12.1.3**.

The Ardeid Night Roost Monitoring survey was conducted with the following objectives:

- Check the status and location of any active ardeid night roosts within 100 m from the Project boundary (Survey Area) with reference to **EM&A Manual Section 7.3.10**;
- Monitor the effectiveness of proposed mitigation measures and detect any unpredicted indirect ecological impacts arising from the proposed Project as specified in **EIA Report Section 8.12.1.3**; and
- Recommend remedial actions, where appropriate, based on the impact monitoring results (**EIA Report Section 8.12.1.3**) for the implementation of the contractor as only necessary.

5.1.2 Monitoring Methodology

5.1.2.1 Monitoring Area

With reference from **Section 7.3.10 of the approved EM&A Manual**, the monitoring was conducted in areas within 100 m from the Project boundary. The monitoring area and vantage points for direct observation of any active night roosts are shown in **Appendix O**.

5.1.2.2 Monitoring Activity

5.1.2.2.1 Active Ardeid Night Roost

Current Ardeid Night Roost Monitoring Survey focused on the two active night roosts within the Survey Area (100 m from the Project boundary) that were previously confirmed during the pre-construction Survey. These roosts include one that was approximately 40 m east of the Project boundary and another around 45 m northeast of the mentioned boundary (**Section 3 of the approved Pre-construction Survey Report of Ardeid Night Roost**). Primary data collection with the use of 7x and 10x binoculars; and field guides including the Avifauna of Hong Kong (Carey et al., 2001) and The Birds of Hong Kong and South China (Viney et al., 2005), was from about one hour before sunset time until one hour after sunset with reference to **Section 7.3.10 of the approved EM&A Manual**. Sunset time was according to Hong Kong Observatory (HKO). The survey was conducted on 15 July 2022.

Species composition, abundance and locations of night roosts were recorded. Species composition, abundance and location of pre-roosting aggregations (PRA) were also noted. PRAs are gatherings of avian individuals prior to flying into a night roost (Moore and Switzer, 1998). The time of return of the ardeids to the pre-roost and the final night roost were also recorded. Direct observations were made from vantage points adjacent the Project site with clear and unobstructed view of any active roosting location (s) within the Survey Area. However, aside from the established vantage points for the focused mangrove strips along Shan Pui River, observations were also conducted throughout the whole 100 m study site to cover other areas aside from the mangrove strips.

Observations such as any changes in site condition or disturbances detected or observed at the monitoring locations, including both construction and non-construction related activities, during the monitoring activity was recorded with reference to **Section 7.3.10 of the approved EM&A Manual**. Additionally, other observations such as bird droppings on the ground which may possibly indicate presence of night roosts were noted in addition to noting of the roosting substrate (i.e. substrate species and approximate height). Any breeding activity usage of the roosting locations within the Survey Area was also noted.

5.1.2.2.2 Noise Monitoring

Monitoring Locations, Frequency, Time and Parameters

The noise monitoring locations were established at 22°28'4.25"N, 114°1'41.32"E; and 22°28'10.43"N, 114°1'42.17"E for NMS1 and NMS2 stations, respectively. Monitoring frequency was only once a month in concurrence with the construction phase monthly monitoring of the active night roosts for correlation. Monitoring time for both stations started around 18:50, the earliest final night roost period recorded during the survey and lasted for 30 minutes. **Table 5.1** presents the monitoring parameters.

Table 5.1 – Noise Monitoring Parameters (For Active Ardeid Night Roost Survey)

| Parameter | Frequency and Period |
|---|--|
| LAeq (30 min) (L10 and L90 will be recorded for reference) | Monthly in concurrence with the construction phase monthly monitoring of the active night roosts |

The Action and Limit Levels for Active Ardeid Night Roost Survey have been set and are presented in **Appendix C**.

However, exceedances to the limit level were endeavoured to be prevented by the full implementation of mitigation measures (**Section 4.2 of the approved Pre-construction Survey Report of Ardeid Night Roost and Sections 5.2.1-5.2.2 of this Report**) during the construction phase.

Event and Action Plan

In instances of exceedance/s in the action and/or limit levels, the different measures as specified in **Table 3.3 Event and Action Plan for Construction Noise** of the approved EM&A

Manual and likewise presented in **Appendix H** of this report shall be implemented as responses.

5.1.3 Monitoring Results

5.1.3.1 Active Ardeid Night Roost

The monitoring activity was conducted on 15 July 2022 and started around 18:10 (one hour before sunset) on a low tide condition. During the pre-roost period (PRP), the period when avian individuals gather first before flying into a night roost, eight Chinese Pond Heron *Ardeola bacchus*, and four Little Egret *Egretta garzetta* individuals were observed in pre-roost aggregate (PRA) around 18:15 at the mudflat east side (ANR1) of the Project boundary while another three Little Egret individuals and one Great Egret *Ardea alba* were also concurrently noted at the mudflat northeast side (ANR2) of the Project boundary during the period (**Table 5.2**).

For the final night roost at around 18:50, two individuals each of Chinese Pond Heron and Little Egret were observed at the roosting area ANR1 utilizing the understory layer of the roosting substrate *Sonneratia apetala* and *S. caseolaris*; concurrently, similar two species (Chinese Pond Heron with 3 individuals; and Little Egret with 5 individuals) were also noted at ANR2 that utilized the canopy layer of the aforementioned roosting substrate.

No disturbance (construction related and/or otherwise) to the active night roost areas was observed during the period. Bird droppings were observed within the vicinity of the roosting area located east of the Project boundary.

Table 5.2 – Active Ardeid Night Roost Survey Findings

| Date: 15 July 2022 | | Sunset Time: 19:10 | | | |
|---|--|--|--|--|--|
| | | Tidal Condition: Low Tide | | | |
| Pre-roost Period | | Final roost Period | | | |
| Time of Return: | Chinese Pond Heron <i>Ardeola bacchus</i> , Great Egret <i>Ardea alba</i> , and Little Egret <i>Egretta garzetta</i> (18:15) | Time of Return: | Chinese Pond Heron <i>Ardeola bacchus</i> , and Little Egret <i>Egretta garzetta</i> (18:50) | | |
| Parameters | Location | | Parameters | Location | |
| | ANR1 | ANR2 | | ANR1 | ANR2 |
| Pre-roost Aggregation (Y/N): | N | Y | Substrate Species: | <i>Sonneratia apetala</i> and <i>S. caseolaris</i> | <i>Sonneratia apetala</i> and <i>S. caseolaris</i> |
| Substrate Species: | <i>Sonneratia apetala</i> and <i>S. caseolaris</i> | <i>Sonneratia apetala</i> and <i>S. caseolaris</i> | Substrate Height (m): | Approx. 5 m. | Approx. 3-4 m. |
| Substrate Height (m): | Approx. 5 m. | Approx. 3-4 m. | | | |
| Ardeid Species Composition | Abundance (individuals) | | Ardeid Species Composition | Abundance (individuals) | |
| | ANR1 | ANR2 | | ANR1 | ANR2 |
| Chinese Pond Heron <i>Ardeola bacchus</i> | 8 | - | Chinese Pond Heron <i>Ardeola bacchus</i> | 2 | 3 |
| Great Egret <i>Ardea alba</i> | - | 1 | Little Egret <i>Egretta garzetta</i> | 2 | 5 |
| Little Egret <i>Egretta garzetta</i> | 4 | 3 | | | |
| Breeding Activity (Y/N): | ANR1 | | N | | |
| | ANR2 | | N | | |

Notes:

Pre-roost Period: Period when avian individuals gather first before flying into a night roost

ANR1: Active ardeid night roost area east of the Project boundary

ANR2: Active ardeid night roost area northeast of the Project boundary

-: not recorded

5.1.3.2 Noise Monitoring

Noise monitoring activities were conducted on 15 July 2022 in concurrence with the construction phase monthly monitoring of the pre-identified active night roosts. Noise monitoring started at 18:50 and lasted for 30 minutes, until 19:20.

Current survey results showed noise levels (L_{Aeq} (30 min.)) at both monitoring stations to be well below the action and limit levels as presented in **Table 5.3**.

Table 5.3 – Noise Monitoring Results

| Frequency and Period | Location | Start Time | L_{Aeq} (30 min.) | Action Level | Limit Level |
|--|----------|------------|---------------------|-------------------------|-------------------------|
| Monthly in concurrence with the construction phase monthly monitoring of the active night roosts | NMS1 | 18:50 | 48.6 | 65.5 dB(A) ¹ | 72.2 dB(A) ² |
| | NMS2 | 18:50 | 46.6 | | |

Notes:

NMS1= Noise monitoring station 1 located east of the Project boundary

NMS2= Noise monitoring station 2 located northeast of the Project boundary

1= Behavioural response of some kind more likely to occur (Wright et al. 2010)

2= Flight with abandonment of the site becomes the most likely outcome of the disturbance (Wright et al. 2010)

5.1.4 Detection of Any Unpredicted Indirect Ecological Impacts Arising from the Project

No unpredicted indirect ecological impacts that arose from the project were noted during the current monitoring period.

5.1.5 Summary

5.1.5.1 Status and Location of Any Active Ardeid Night Roost

Two active ardeid night roost areas (ANR1 and ANR2) were observed within the Survey Area during the July 2022 monitoring period. These roosts were located at the mangrove strips in the east and northeast portions of the Project boundary. These were used by individuals of Chinese Pond Heron, and Little Egret.

5.1.5.2 Noise Monitoring Results

Both noise levels at each of the monitoring stations were below the action and limit levels.

5.2 Ecological Monitoring of Birds

5.2.1 Monitoring Requirement

With reference to **Section 7.3.6** of the **EM&A Manual**, monthly ecological monitoring of birds, focusing on avifauna species of conservation interest, and overwintering waterbirds utilising wetland habitats in Fung Lok Wai and Nam Sang Wai as well as along Shan Pui River and Kam Tin River within the monitoring area (500 m from the Project Boundary) was conducted in addition to monitoring on the utilization of wetland habitats by birds also within the same monitoring area as required by **Section 7.3.1** of the **EM&A Manual**.

5.2.2 Monitoring Methodology

5.2.2.1 Monitoring Area

The monitoring area included wetland habitats in Fung Lok Wai and Nam Sang Wai as well as along Shan Pui River and Kam Tin River within 500m from the Project boundary with reference to **Section 7.3.6** of the **EM&A Manual**. The location of point count sites and transect routes is shown in **Appendix P**.

5.2.2.2 Monitoring Activity

Avifauna surveys on the different wetland habitats using the transect count and point count methods was conducted last 15 July 2022 (night-time) which started around 19:10; and 18 July 2022 (daytime) which started around 07:45. For the survey overlooking the mudflats and mangroves in the Shan Pui River that was concurrently conducted on the same date with the daytime survey during the low tide (generally 1.5m or below) period, it started at around 07:45. The methodology for the monitoring activity followed **Sections 8.3.3.6** and **8.3.3.7** of the **EIA Report (AEIAR-220/2019)** and as detailed below.

For the transect count and point count methods, the presence and relative abundance of avifauna species at various wetland habitats were recorded visually and aurally.

Avifauna species were detected either by direct sighting or by their call and identified to species level. Any notable behaviours such as feeding, roosting and breeding were also recorded. Bird species encountered outside the point count locations and walk transects were also recorded. A comprehensive list of species recorded from the Assessment Area was prepared, with wetland-dependence, conservation and/or protection status indicated. Ornithological nomenclature in this report follows Carey et al. (2001), Viney et al. (2005) and the most recent updated list from Hong Kong Bird Watching Society (HKBWS).

Noise levels were recorded with the methodology and equipment as mentioned in **Section 3.4 and Section 3.2**, respectively, of this EM&A report. The parameter as shown in was recorded at each of the point count locations.

Table 5.4 - Noise Monitoring Parameters

| Parameter | Frequency and Location |
|---|---|
| L _{Aeq} (30 min) (L ₁₀ and L ₉₀ will be recorded for reference) | Monthly in concurrence with the monthly ecological bird monitoring at the different point count locations |

In addition to recording of noise levels, any changes in site condition or disturbances detected or observed at the monitoring locations, including both construction and non-construction related activities with reference to **Section 7.3.7** of the **EM&A Manual** were also noted.

5.2.2.3 Data Analysis

For the bird communities, the monitoring results were compared to pre-construction baseline condition during the dry and wet seasons as summarized in the Baseline Bird Survey Report

with reference to **Section 7.3.8** of the **EM&A Manual**. However, to further account the seasonality, monitoring results of the current month were compared to the results of the corresponding month of the baseline data.

The data for point count method and transect walk method were presented separately to account for the difference in the survey effort of the two methods. For each method, abundance and species composition of the avifauna communities during the monitoring month were summarized.

To check the presence of variation in bird abundance between baseline and impact monitoring, t-test was applied ($\alpha = 0.05$). Moreover, to check the presence of variation in bird species diversity, the two-sided Hutcheson t-test was also used. The two-sided Hutcheson t-test was developed as a method to compare the diversity of two community samples using the Shannon diversity index (Hutcheson 1970). Shannon diversity index will be computed using the formula,

$$H' = - \sum_{i=1}^s p_i \ln p_i$$

where, H' = Shannon Diversity Index; P_i = proportion of the population of species; i = number of species in sample; \ln = natural logarithm. Shannon diversity index is used as it accounts the proportion (relative abundance) of each species; thus, it gives a better description of diversity than a plain number of species (species richness).

The Action and Limit Levels for ecological monitoring of birds have been set and are presented in **Appendix C**.

Wetland habitat utilization during the construction phase monitoring shall only be compared seasonally, hence the comparison shall only be done after all the data (dry season and wet season) were collected with reference to **Appendix 8.5** of the approved **EIA Report**.

5.2.3 Monitoring Results

Results of the avifauna survey on the different habitats within the monitoring area using the transect count and point count methods as conducted last 15 July 2022 (night-time) which started around 19:10; and 18 July 2022 (daytime) which started around 07:45 are presented in **Sections 5.2.3.1** and **5.2.3.2**. Meanwhile, results for the surveys overlooking the mudflats and mangroves in the Shan Pui River, with monitoring activities conducted on similar date with the daytime survey during the low tide (generally 1.5m or below) period around 07:45 had results presented in **Section 5.2.3.3**.

5.2.3.1 Abundance

5.2.3.1.1 All Avifauna Species

An overall total of 156 avifauna individuals was recorded in the monitoring area during the July 2022 monitoring period, of which 112 individuals were recorded from the point count method and 44 individuals from the transect walk method. Relative to the July 2017 baseline data (point count method = 165; and transect walk = 36), a current insignificant decrease (t-value = 1.47;

p-value = 0.14; α = 0.05) in total abundance for the point count method was noted; while an increase for transect walk method was observed. Details of these findings are summarized in **Table 5.5** and **Appendix F.6.1**.

Table 5.5 – Abundance of all Avifauna Species

| Abundance of all Avifauna Species | | | | |
|-----------------------------------|----------------|------------|------------|---------|
| Point Count Method | | | | |
| EIA Report ID | EM&A Manual ID | July-17 | July-22 | Remarks |
| P1 | FLW1 | 0 | 15 | + |
| P2 | FLW2 | 4 | 4 | = |
| P3 | FLW3 | 0 | 5 | + |
| P4 | FLW4 | 10 | 4 | - |
| P5 | FLW5 | 21 | 13 | - |
| P6 | FLW6 | 6 | 8 | + |
| P7 | FLW7 | 10 | 8 | - |
| P9 | SP/NSW3 | 42 | 12 | - |
| P10 | SP/NSW2 | 23 | 11 | - |
| P11 | NSW1 | 43 | 13 | - |
| P12 | SP/NSW1 | 6 | 19 | + |
| Total | | 165 | 112 | - |
| Mean | | 15 | 10 | - |
| Transect Walk Method | | | | |
| EIA Report ID | EM&A Manual ID | July-17 | July-22 | Remarks |
| Fung Lok Wai | FLW | 35 | 18 | - |
| Nam Sang Wai | NSW | 1 | 20 | + |
| YLIE-CW | YLIE-CW | 0 | 6 | + |
| Total | | 36 | 44 | + |
| Mean | | 12 | 15 | + |

Notes:

+ increased abundance; - decreased abundance; = similar abundance

5.2.3.1.2 Avifauna Species of Conservation Importance

Of the 156 avifauna individuals recorded in the monitoring area during the July 2022 monitoring period, 56 individuals (point count method = 41 individuals; transect walk method = 15 individuals) were of conservation importance. With reference to July 2017 data, current results showed an insignificant decrease (t-value = 1.24; p-value = 0.22; α = 0.05) in total abundance for the point count method results; while an increase in transect walk method result was noted. Details of these findings are summarized in **Table 5.6** and **Appendix F.6.2**.

Table 5.6 – Abundance of Species of Conservation Importance

| Abundance of Species of Conservation Importance | | | | |
|---|----------------|-----------|-----------|----------|
| Point Count Method | | | | |
| EIA Report ID | EM&A Manual ID | July-17 | July-22 | Remarks |
| P1 | FLW1 | 0 | 6 | + |
| P2 | FLW2 | 2 | 0 | - |
| P3 | FLW3 | 0 | 0 | = |
| P4 | FLW4 | 2 | 1 | - |
| P5 | FLW5 | 3 | 5 | + |
| P6 | FLW6 | 3 | 5 | + |
| P7 | FLW7 | 4 | 4 | = |
| P9 | SP/NSW3 | 35 | 8 | - |
| P10 | SP/NSW2 | 15 | 3 | - |
| P11 | NSW1 | 10 | 0 | - |
| P12 | SP/NSW1 | 6 | 9 | + |
| Total | | 80 | 41 | - |
| Mean | | 7 | 4 | - |
| | | | | |
| Transect Walk Method | | | | |
| EIA Report ID | EM&A Manual ID | July-17 | July-22 | Remarks |
| Fung Lok Wai | FLW | 8 | 12 | + |
| Nam Sang Wai | NSW | 0 | 0 | = |
| YLIE-CW | YLIE-CW | 0 | 3 | + |
| Total | | 8 | 15 | + |
| Mean | | 3 | 5 | + |

Notes:

+ increased abundance; - decreased abundance; = similar abundance

5.2.3.2 Diversity (Species Richness¹ and Shannon Diversity Index²)

5.2.3.2.1 All Avifauna Species

A total of 30 avifauna species (species richness) were recorded during the July 2022 monitoring period, of which, 25 species were recorded by the point count method while 17 species were noted by the transect walk method. Relative to the baseline data (point count method = 26 species; transect walk method = 18 species), decreases in total species richness for both the point count and transect walk methods were noted. In terms of Shannon diversity index (H')

¹ actual number of species

² use to account the proportion (in terms of relative abundance) of each species

values, increases from baseline reference values were observed in both point count, and transect walk methods. Details of these findings are summarized in **Table 5.7**.

Table 5.7 – Shannon Diversity Index Value of all Avifauna Species

| Shannon Diversity Index Value of all Avifauna Species | | | | |
|---|----------------|---------|---------|---------|
| Point Count Method | | | | |
| EIA Report ID | EM&A Manual ID | July-17 | July-22 | Remarks |
| P1 | FLW1 | ** | 1.86 | + |
| P2 | FLW2 | 0.35 | 0.56 | + |
| P3 | FLW3 | ** | 0.50 | + |
| P4 | FLW4 | 1.56 | 1.04 | - |
| P5 | FLW5 | 1.82 | 1.99 | + |
| P6 | FLW6 | 1.79 | 1.32 | - |
| P7 | FLW7 | 1.70 | 1.49 | - |
| P9 | SP/NSW3 | 1.50 | 1.52 | + |
| P10 | SP/NSW2 | 1.90 | 1.64 | - |
| P11 | NSW1 | 1.98 | 1.99 | + |
| P12 | SP/NSW1 | 0.87 | 1.99 | + |
| Overall H' | | 2.73 | 2.76 | + |
| Species Richness | | 26 | 25 | - |
| | | | | |
| Transect Walk Method | | | | |
| EIA Report ID | EM&A Manual ID | July-17 | July-22 | Remarks |
| Fung Lok Wai | FLW | 2.54 | 1.99 | - |
| Nam Sang Wai | NSW | 0 | 2.08 | + |
| YLIE-CW | YLIE-CW | ** | 1.01 | + |
| Overall H' | | 2.60 | 2.66 | + |
| Species Richness | | 18 | 17 | - |

Notes:

** result when no species recorded; + increased Shannon diversity index (H'); - decreased Shannon diversity index (H'); = no change in Shannon diversity index (H')

5.2.3.2.2 Avifauna Species of Conservation Importance

Of the 30 avifauna species identified during the July 2022 monitoring period, six species were of conservation importance (point count method = 5 species; transect walk method = 5 species). Relative to the baseline values in July 2017, the number of species with conservation importance recorded from the point count method remained unchanged while the number of species with conservation importance from the transect walk method increased. In terms of Shannon diversity index (H'), an insignificant decrease in point count method (t-value = 1.26; t-crit = 2; p-value = 0.21; $\alpha = 0.05$) relative to the baseline reference value was observed while

an increase in the transect walk method was noted. Details of these findings are summarized in **Table 5.8** and **Appendix F.7.1**.

Table 5.8 – Shannon Diversity Index Value of Species with Conservation Importance

| Shannon Diversity Index Value of Species with Conservation Importance | | | | |
|---|----------------|---------|---------|---------|
| Point Count Method | | | | |
| EIA Report ID | EM&A Manual ID | July-17 | July-22 | Remarks |
| P1 | FLW1 | ** | 0.45 | + |
| P2 | FLW2 | 0 | ** | - |
| P3 | FLW3 | ** | ** | = |
| P4 | FLW4 | 0 | 0 | = |
| P5 | FLW5 | 0.64 | 1.05 | + |
| P6 | FLW6 | 1.10 | 0.67 | - |
| P7 | FLW7 | 1.04 | 0.56 | - |
| P9 | SP/NSW3 | 1.00 | 0.97 | - |
| P10 | SP/NSW2 | 0.99 | 0.64 | - |
| P11 | NSW1 | 1.37 | ** | - |
| P12 | SP/NSW1 | 0.87 | 1.06 | + |
| Overall H' | | 1.36 | 1.18 | - |
| Species Richness | | 5 | 5 | = |
| | | | | |
| Transect Walk Method | | | | |
| EIA Report ID | EM&A Manual ID | July-17 | July-22 | Remarks |
| Fung Lok Wai | FLW | 0.90 | 1.52 | + |
| Nam Sang Wai | NSW | ** | ** | = |
| YLIE-CW | YLIE-CW | ** | 0 | + |
| Overall H' | | 3 | 5 | + |
| Species Richness | | 0.90 | 1.40 | + |

Notes:

** result when no species recorded; 0 computation result from only one recorded species;

+ increased Shannon diversity index (H'); - decreased Shannon diversity index (H'); = similar Shannon diversity index (H')

5.2.3.3 Wetland Habitat Utilization

Avifauna communities were observed during the current monitoring period in the different wetland habitats, i.e. modified watercourse, ponds, and mangrove.

With reference to **Section 7.3.1** of the **EM&A Manual**, the utilization of the wetland habitats by birds within the monitoring area was recorded and monitored.

5.2.3.3.1 All Avifauna Species

During the current monitoring period, all of the different wetland habitats were observed with very low (VL) abundance. In terms of species richness, majority of these wetland habitats were also observed with very low (VL) number of species (Table 5.9).

Table 5.9 – Wetland habitat utilization of all avifauna species

| Wetland Habitats | Area Description | Abundance ¹ | Species Richness ² |
|----------------------|---|------------------------|-------------------------------|
| Modified Watercourse | Confluence of Shan Pui River and Kam Tin River | VL | VL |
| | Shan Pui River adjacent to Project site | VL | VL |
| | Upper course of Shan Pui River along YLIE | VL | VL-L |
| Ponds | Active Ponds adjacent to Project site in Fung Lok Wai | VL | L-M |
| | Active Ponds North to Nullah 2 in Fung Lok Wai | VL | L-M |
| | Inactive Ponds in Fung Lok Wai | VL | VL |
| | Active and Inactive Ponds in Nam Sang Wai | VL | VL-L |
| Mangrove | Mangrove within Assessment Area | VL | VL |
| Reedbed | Reedbed in Nam Sang Wai | - | - |

Notes:

- Abundance of avifauna species of conservation importance amongst wetland habitats within the assessment area: VL = Very Low (~<50 individuals); L = Low (~100 individuals); M = Moderate (~300 individuals); H = High (~500 individuals), VH = Very High (>700 individuals)
 - Species richness (total number of species) amongst wetland habitats within the assessment area: VL = Very Low (≤ 5 species); L = Low (~10 species); M = Moderate (~15 species); H = High (~20 species), VH = Very High (>25 species)
- : no recorded individuals

Source: approved EIA Report (AEIAR-220/2019)

5.2.3.3.2 Avifauna Species of Conservation Importance

All of the different wetland habitats had very low (VL) abundance of avifauna species of conservation importance; and were also utilized by very low (VL) number of these species (Table 5.10).

Table 5.10 – Wetland habitat utilization of avifauna species of conservation importance

| Wetland Habitats | Area Description | Abundance ¹ | Species Richness ² |
|----------------------|---|------------------------|-------------------------------|
| Modified Watercourse | Confluence of Shan Pui River and Kam Tin River | VL | VL |
| | Shan Pui River adjacent to Project site | VL | VL |
| | Upper course of Shan Pui River along YLIE | VL | VL |
| Ponds | Active Ponds adjacent to Project site in Fung Lok Wai | VL | VL |
| | Active Ponds North to Nullah 2 in Fung Lok Wai | VL | VL |

| Wetland Habitats | Area Description | Abundance ¹ | Species Richness ² |
|------------------|---|------------------------|-------------------------------|
| | Inactive Ponds in Fung Lok Wai | - | - |
| | Active and Inactive Ponds in Nam Sang Wai | - | - |
| Mangrove | Mangrove within Assessment Area | VL | VL |
| Reedbed | Reedbed in Nam Sang Wai | - | - |

Notes:

1. Abundance of avifauna species of conservation importance amongst wetland habitats within the assessment area: VL = Very Low (~<50 individuals); L = Low (~100 individuals); M = Moderate (~300 individuals); H = High (~500 individuals), VH = Very High (>700 individuals)
 2. Species richness (total number of species) amongst wetland habitats within the assessment area: VL = Very Low (≤5 species); L = Low (~10 species); M = Moderate (~15 species); H = High (~20 species), VH = Very High (>25 species)
- : no recorded individuals

Source: approved EIA Report (AEIAR-220/2019)

5.2.3.4 Noise Levels

Noise levels L_{Aeq} (30 min) recorded on 15 July 2022 (night-time) and 18 July 2022 (daytime) from each of the point count locations during the ecological bird monitoring are shown in **Table 5.11**.

Table 5.11 – Noise Monitoring Results (For Ecological Monitoring of Birds)

| Frequency and Period | Location | Night-time (15/07/2022) | | Day time (18/07/2022) | |
|--|----------|-------------------------|--------------------------|-----------------------|--------------------------|
| | | Start Time | L_{Aeq} (30 min) dB(A) | Start Time | L_{Aeq} (30 min) dB(A) |
| Monthly in concurrence with the ecological monitoring of birds | FLW1 | 21:45 | 48.6 | 10:50 | 45.8 |
| | FLW2 | 21:16 | 49.1 | 10:20 | 55.2 |
| | FLW3 | 21:18 | 49.6 | 10:15 | 54.5 |
| | FLW4 | 20:10 | 46.7 | 09:10 | 47.2 |
| | FLW5 | 20:16 | 46.0 | 09:15 | 48.7 |
| | FLW6 | 20:42 | 45.6 | 09:43 | 45.5 |
| | FLW7 | 20:45 | 44.9 | 09:46 | 46.5 |
| | SP/NSW3 | 19:10 | 61.6 | 07:45 | 53.3 |
| | SP/NSW2 | 19:14 | 58.0 | 07:50 | 64 |
| | NSW1 | 19:37 | 59.6 | 08:23 | 49.5 |
| | SP/NSW1 | 19:32 | 59.9 | 08:20 | 57.2 |

6. LANDSCAPE AND VISUAL

6.1 Audit Requirements

6.1.1 According to the EM&A Manual, a Landscape Architect or related professional shall be employed to audit the implementation of landscape construction works particularly during site clearance operations when the proposed tree felling and transplanting will take place and subsequent maintenance operations. Site audits should be undertaken every week during the construction phase to check that the proposed landscape and visual mitigation measures are properly implemented and maintained as per their intended objectives. The mitigation measure recommended in the EIA Report as the audit requirements for landscape and visual, including: preservation of existing vegetation, transplanting of affected trees, compensatory tree planting, control of night-time lighting glare, erection of decorative screen hoarding and management of construction activities and facilities are summarized in **Appendix J**.

6.2 Results and Observations

6.2.1 To monitor and audit the implementation of landscape and visual mitigation measures, four weekly landscape and visual site audits were carried out on 6, 12, 20 and 27 July 2022.

6.2.2 No outstanding issues were reported during the reporting month. The ET Leader's Site Environmental Audit are summarized in **Appendix M**.

7. LAND CONTAMINATION

7.1 Contamination Assessment Report

- 7.1.1 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the “Main Storeroom & Workshops” and the laboratory results for the sampling works (conducted between 30 June 2021 to 16 July 2021) show that there are no exceedances of the adopted RBRGs for the “Main Storeroom & Workshops”. As no contaminated soil and groundwater was found within the “Main Storeroom & Workshops”, no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the “Main Storeroom & Workshops”. Their findings are summarized in Contamination Assessment Report (CAR) and submitted to EPD on 1 November 2021.
- 7.1.2 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the “Mechanical Workshop” and the laboratory results for the sampling works (conducted between 23 July 2021 to 4 August 2021) show that there are no exceedances of the adopted RBRGs for the “Mechanical Workshop”. As no contaminated soil and groundwater was found within the “Mechanical Workshop”, no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the “Mechanical Workshop”. Their findings are summarized in Contamination Assessment Report (CAR) and submitted to EPD on 23 November 2021.
- 7.1.3 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the “Waste Storage Area” and the laboratory results for the sampling works (conducted between 24 November 2021 to 6 January 2022) show that there are no exceedances of the adopted RBRGs for the “Waste Storage Area”. As no contaminated soil and groundwater was found within the “Waste Storage Area”, no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the “Waste Storage Area”. Their findings are summarized in Contamination Assessment Report (CAR) and submitted to EPD on 29 April 2022.
- 7.1.4 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the “SAS Thickener House-1” and the laboratory results for the sampling works (conducted between 13 April 2022 to 16 May 2022) show that there are no exceedances of the adopted RBRGs for the “SAS Thickener House-1”. As no contaminated soil and groundwater was found within the “SAS Thickener House-1”, no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the “SAS Thickener House-1”. Their findings are summarized in Contamination Assessment Report (CAR) and submitted to EPD on 6 July 2022.

8. SITE INSPECTION AND AUDIT

8.1 Site Inspection

- 8.1.1 Site audits were carried out by ET on weekly basis at least once per week to monitor the implementation of proper environmental management practices and mitigation measures in the Project site.
- 8.1.2 In the reporting month, four site inspections were carried out on 6, 12, 20 and 27 July 2022.
- 8.1.3 No outstanding issues were reported during the reporting month. The ET Leader's Site Environmental Audit are summarized in **Appendix M**.

8.2 Advice on the Solid and Liquid Waste Management Status

- 8.2.1 The Contractor registered as a chemical waste producer for the Contract. Sufficient numbers of receptacles were available for general refuse collection and sorting.
- 8.2.2 The management of waste generated by the construction is presented in **Table 8.1**.

Table 8.1 – Waste Generated by the Construction and Disposal Ground

| Types of Waste | Disposal Ground |
|--|---|
| Inert C&D Waste (Excluding slurry and bentonite) | Tuen Mun Area 38 |
| Inert C&D Waste (For slurry and bentonite) | Tseung Kwan O Area 137 |
| Non-inert C&D Materials | North East New Territories Landfill (NENT) |
| Sludge | West New Territories Landfill (WENT) |
| Marine Sediment | Type 1 – Open Sea Disposal: South Cheung Chau Open Sea Sediment Disposal Area Type 1 – Open Sea Disposal (Dedicate Site) and Type 2 – Confined Marine Disposal: Contaminated Mud Pit Vb of the Confined Marine Disposal Facilities to the East of Sha Chau |

- 8.2.3 The monthly summary of waste flow table is detailed in **Appendix I**.
- 8.2.4 If off-site disposal is required, the excavated marine mud from the land-based works shall be disposed of at the designated disposal sites within Hong Kong as allocated by the Marine Fill Committee or other locations as agreed by the Director. The Contractor shall ensure no spilling and overflowing of materials during loading / unloading / transportation is allowed.
- 8.2.5 The Contractor was reminded that chemical waste should be properly handled temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packing, Labelling and Storage of Chemical Waste.

9. NON-COMPLIANCE, COMPLAINTS, NOTIFICATIONS OF SUMMONS AND SUCCESSFUL PROSECUTIONS

9.1 Non-compliance (Exceedances of AL levels)

- 9.1.1 No Action / Limit Level exceedance was recorded for 1-hr TSP level at AM1 and AM2 in the reporting month.
- 9.1.2 No Action / Limit Level exceedance was recorded for construction noise at CM1, CM2 and CM3 in the reporting month.
- 9.1.3 No Action and Limit Level exceedance were recorded for water quality at M1, M2 and M3 in the reporting month.
- 9.1.4 No Action / Limit exceedance was recorded for noise levels at stations (NMS1 and NMS2) in close proximity to the active ardeid night roosts in the reporting month.
- 9.1.5 No Action / Limit exceedance was noted for the ecological monitoring of birds in the reporting month.
- 9.1.6 No corrective actions were required according to the Event and Action Plans for the Monitoring Parameters.

9.2 Complaints, Notification of Summons and Successful Prosecutions

- 9.2.1 No environmental complaints, notification of summons and successful prosecutions was recorded in the reporting month.
- 9.2.2 Cumulative complaint log, summaries of complaints, notification of summons and successful prosecutions are presented in **Appendix L**.
- 9.2.3 No corrective actions were required.

10. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURE

10.1 Implementation Status of Environmental Protection and Pollution Control / Mitigation Measures

The Contractor had implemented environmental protection and pollution control / mitigation measures as stated in the EIA Report, the EP and EM&A Manual. **Appendix J** summarized the Implementation Status of Environmental Mitigation Measures.

The status of required submissions under the EP as of the reporting period are summarized in **Table 10.1**.

Table 10.1 – Status of submissions required under the EP

| EP Condition (EP-565/2019) | Submission Title | Submission Status |
|--------------------------------|--|--|
| Condition 2.9 | Construction Phase Emergency Response Plan | Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website. |
| Condition 2.11 | Pre-construction Ardeid Night Roost Survey Report | Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website. |
| EM&A Manual Sec. 7.3.3 & 7.3.4 | Baseline Bird Survey Report | Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website. |
| Condition 2.12 | Noise Mitigation Measures Plan | Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website. |
| Condition 2.13 | Proposal for Minimization of Overspill Light to Ecological Sensitive Areas | Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website. |
| Condition 2.14 | Supplementary Contamination Assessment Plan | Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website. |
| Condition 2.14 | Contamination Assessment Report for Main Storeroom & Workshops | Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website. |
| Condition 2.14 | Contamination Assessment Report for Mechanical Workshop | Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website. |
| Condition 2.14 | Contamination Assessment Report for Waste Storage Area | Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website. |
| Condition 2.14 | Contamination Assessment Report for SAS Thickener House-1 | Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website. |
| Condition 2.15 | Landscape and Visual Mitigation Plan | Submitted to EPD with ET certification and IEC verification, to be finalised and made available for public inspection via the dedicated website. |

| EP Condition (EP-565/2019) | Submission Title | Submission Status |
|-------------------------------|--|---|
| Condition 3.3 | Baseline Monitoring Report | Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website. |
| Condition 3.4 | Monthly EM&A Report (from April 2021 to June 2022) | Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website. |
| Condition 3.5 | Quarterly EM&A Report (from April 2021 to June 2022) | Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website. |
| Condition 4.2 | Environmental Monitoring Data from April 2021 to June 2022 | Submitted to EPD with ET certification and IEC verification, finalised and available for public inspection via the dedicated website. |

11. FUTURE KEY ISSUES

11.1 Construction Programme for the Next Three Month

- Demolition of Admin. Building, Settled Sewage Overflow Chamber, Sludge Holding Tanks no. 2, Water Heater House, Return Activated Sludge Screw Pump Pumping station, Air Floatation Thickener and Auxiliary Pumping Station (below ground);
- Pipe Laying and construction of RC chamber at Zone 2B and subsequence diversion work;
- ELS work and RC structure at IW & PST;
- Installation of Sheet pile at TTB;
- Piling work at PST;
- Piling work at Sludge Thickening Building;
- E&M work at 3 zone (Location D -Temp. Primary Sludge Pumping Station);
- Pipe laying for Zone 3 diversion;
- Backfilling work and installation of pipe pile wall for demolition of Aeration Tank no. 5-8 at AGS;
- Construction of CLP Substation;
- Construction of MiC office;
- Demolition of PST no. 2;
- Ground investigation at AGS, SDB, SDT & STB;
- Sheet piling work around Sludge digester no. 1 – 3;
- Installation of brand drain at Biogas Holder no. 1;
- Installation of concrete blocks and soil Surcharge at Biogas Holder no. 1;
- Construction of temp. traffic road at north of SHT no. 3 & 4;
- Construction of PST structure;
- 3 zone diversion works:
 - a. E&M work at temp. Gravity thickening tank (Atal);
 - b. E&M work at temp. Sludge Holding Tank (Atal);
 - c. E&M work at temp. water heater house (Atal);
 - d. RC work at temp. Primary sludge pumping station;
 - e. RC construction and E&M work at Temp. digested sludge pump, Ferric Chloride and Chemical Dosing System;
 - f. E&M work at Digested Sludge Pumping Station.
- Construction of RC chamber at Zone 2B.

11.2 Key Issues for the Coming Month

- 11.2.1 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, waste management, ecology, land contamination and landscape and visual impact issues.

11.3 Monitoring Schedules for the next three months

- 11.3.1 The tentative schedule for environmental monitoring in the next three months is provided in **Appendix E**.

12. CONCLUSION AND RECOMMENDATION

12.1 Conclusions

- 12.1.1 1-hour TSP impact monitoring was carried out in the reporting month. No Action / Limit Level exceedance at AM1 and AM2 was recorded during the period.
- 12.1.2 Construction noise monitoring was carried out in the reporting month. No Action / Limit Level exceedance at CM1, CM2 and CM3 was recorded during the period.
- 12.1.3 No Action and Limit Level exceedance was recorded for water quality at M1, M2 and M3 in the reporting month.
- 12.1.4 Ardeid night roost monitoring was carried out in the reporting month. Two active ardeid night roost areas (ANR1 and ANR2) were observed within the Survey Area. These roosts were located at the mangrove strips in the east and northeast portions of the Project boundary. No Action / Limit Level exceedance at NMS1 and NMS2 was recorded during the period.
- 12.1.5 Ecological bird monitoring was carried out in the reporting month. No Action / Limit Level exceedance was recorded for the ecological monitoring of birds on this period.
- 12.1.6 Four environmental site inspections were carried out in the reporting month. Recommendations on mitigation measures for Permit/ Licenses were given to the Contractor for remediating the deficiencies identified during the site inspections.
- 12.1.7 Four landscape and visual site audits were carried out in the reporting month. Recommendations on mitigation measures for Permit/ Licenses were given to the Contractor for remediating the deficiencies identified during the site inspections.
- 12.1.8 No environmental complaint, notification of summons and successful prosecution was recorded in the reporting month.

12.2 Comment and Recommendations

12.2.1 The recommended environmental mitigation measures, as proposed in the EIA report and EM&A Manual shall be effectively implemented to minimize the potential environmental impacts from the Project. The EM&A programme would effectively monitor the environmental impacts generated from the construction activities and ensure the proper implementation of mitigation measures.

12.2.2 According to the environmental site inspections performed in the reporting month, the following recommendations were provided:

Air Quality Impact

- No specific observation was identified in the reporting month.

Construction Noise Impact

- The Contractor shall properly maintain the function of the noise barriers and silentup at the northern and western site boundary.

Water Quality Impact

- The Contractor shall provide sand bags to prevent silty runoff into the storm drains.

Chemical Waste and Construction Waste Management

- No specific observation was identified in the reporting month.

Land Contamination

- No specific observation was identified in the reporting month.

Ecological Impact

- The Contractor shall maintain and reinstate the bird curtains at the eastern and northern site boundary.

Landscape and Visual Impact

- Please keep Tree Protection Zone clear of construction material.

Hazard to Life

- No specific observation was identified in the reporting month.

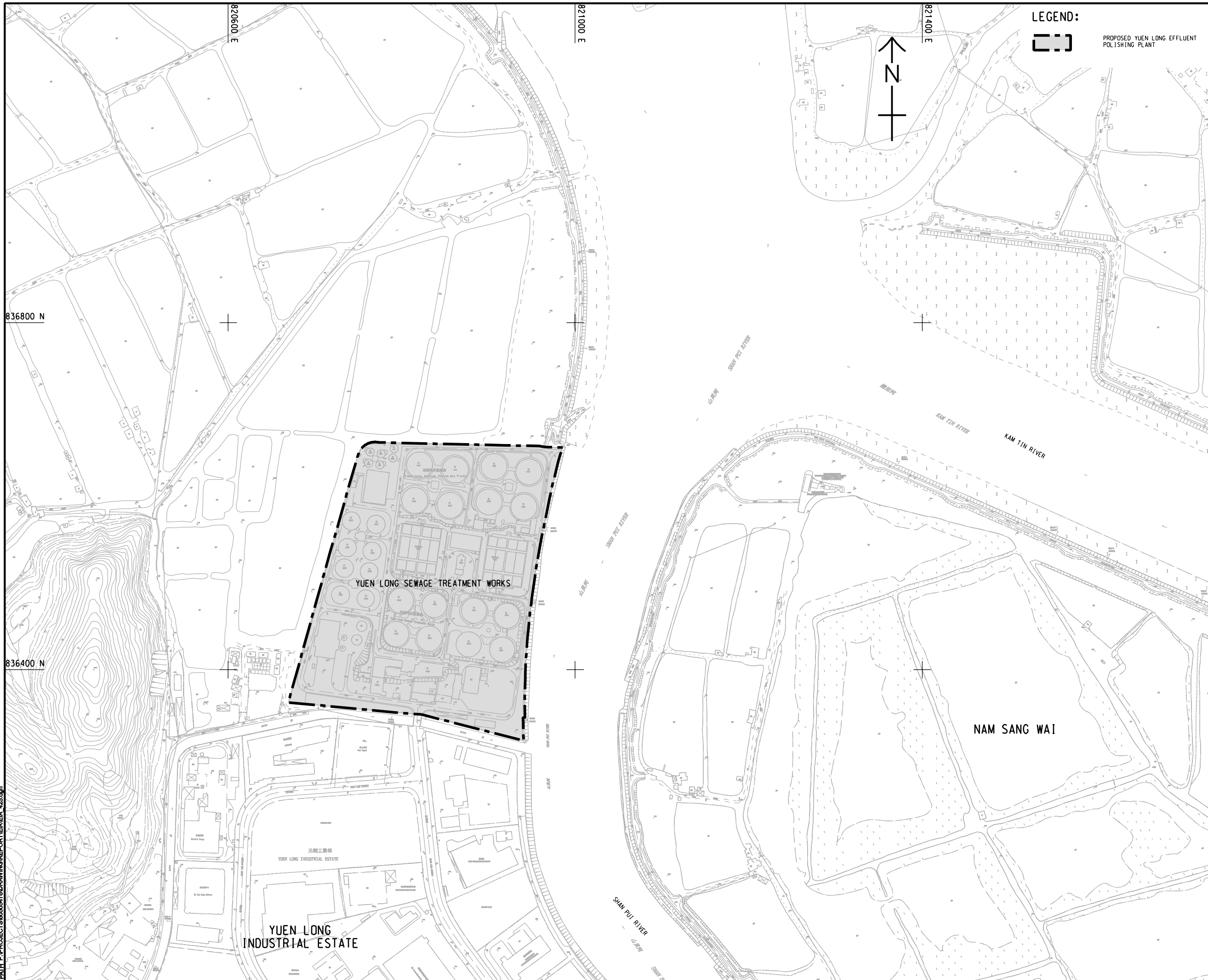
Permit/ Licenses

- No specific observation was identified in the reporting month.

Figure 1

Location of Proposed Yuen Long Effluent
Polishing Plant

Plot File by: Song YN 2018/02/27
 PATH: P:\PROJECTS\8060547\DRAWING\REPORT\EA\EA_425.dgn
 Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm



LEGEND:
 PROPOSED YUEN LONG EFFLUENT POLISHING PLANT

AECOM
 PROJECT
YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
 渠務署
 Drainage Services Department

CONSULTANT
 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS
 分判工程顧問公司

ISSUE/REVISION
 批註

| IR | DATE | DESCRIPTION | CHK. |
|----|------|-------------|------|
| 批註 | 日期 | 內容摘要 | 核對 |
| | | | |
| | | | |
| | | | |
| | | | |

STATUS
 階段

SCALE
 比例: A1 1 : 2000

DIMENSION UNIT
 尺寸單位: METRES

KEY PLAN
 索引圖

PROJECT NO.
 項目編號: 60505476

CONTRACT NO.
 合約編號: CE 3/2015 (DS)

SHEET TITLE
 圖紙名稱: LOCATION OF PROPOSED YUEN LONG EFFLUENT POLISHING PLANT

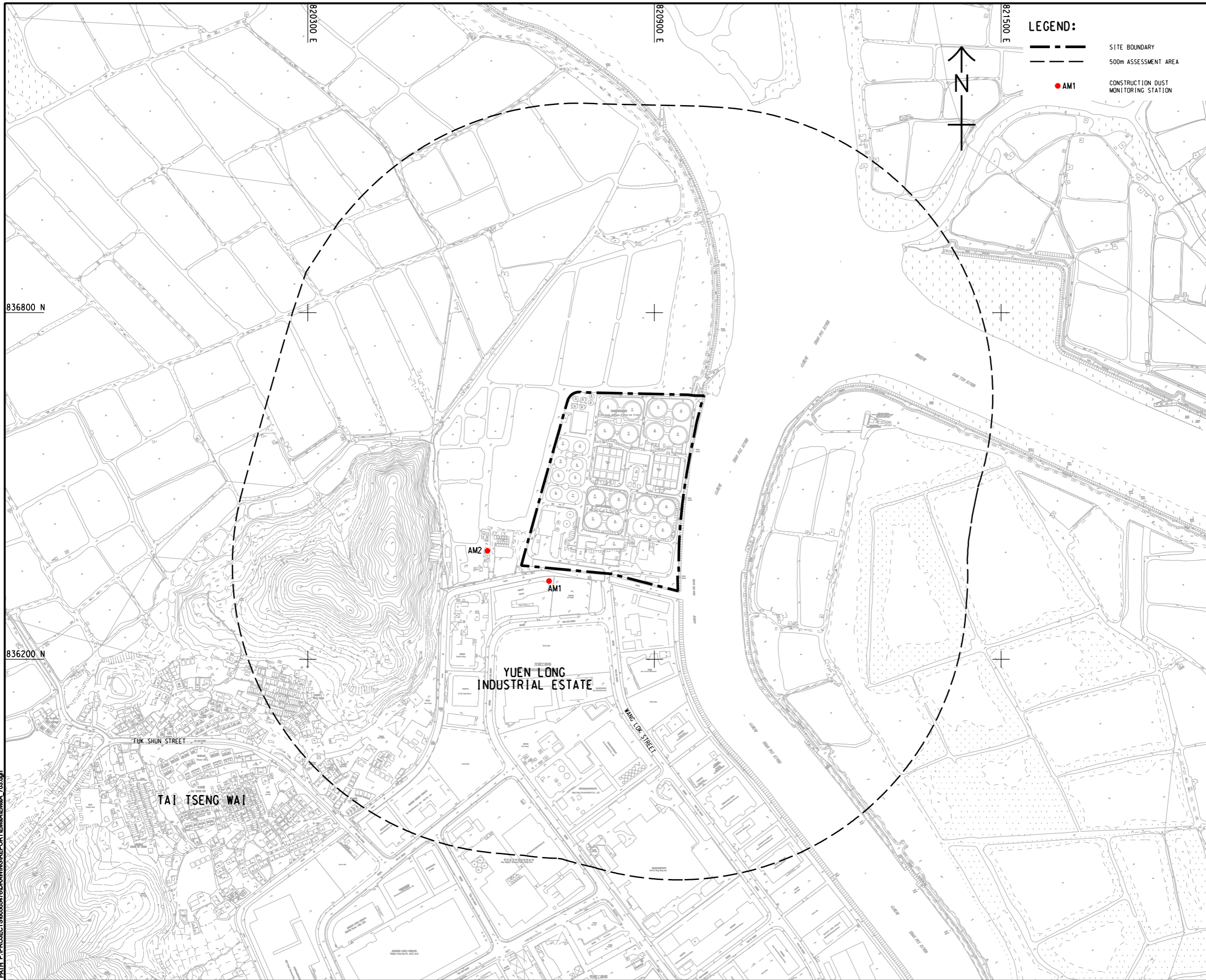
SHEET NUMBER
 圖紙編號

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Figure 2

Location of Construction Dust
Monitoring Stations

ISO A1 594mm x 841mm
 Approved:
 Checked:
 Designer:
 Project Management Initials:
 836800 N
 836200 N
 P:\PROJECTS\60565476\DRAWING\REPORT\EM\EA\EA_703.dgn
 11/29
 P:\PROJECTS\60565476\DRAWING\REPORT\EM\EA\EA_703.dgn



LEGEND:

- SITE BOUNDARY
- 500m ASSESSMENT AREA
- AM1 CONSTRUCTION DUST MONITORING STATION



PROJECT
 項目
YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
 業主
渠務署
 Drainage Services Department

CONSULTANT
 工程顧問公司
 AECOM Asia Company Ltd.
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SUB-CONSULTANTS
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ISSUE/REVISION
 修訂

| I/R | DATE | DESCRIPTION | CHK. |
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| 號 | 日期 | 內容摘要 | 核對 |
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STATUS
 階段

SCALE
 比例
 A1 1 : 3000

DIMENSION UNIT
 尺寸單位
 METRES

KEY PLAN
 索引圖

PROJECT NO.
 項目編號
 60505476

CONTRACT NO.
 合約編號
 CE 3/2015 (DS)

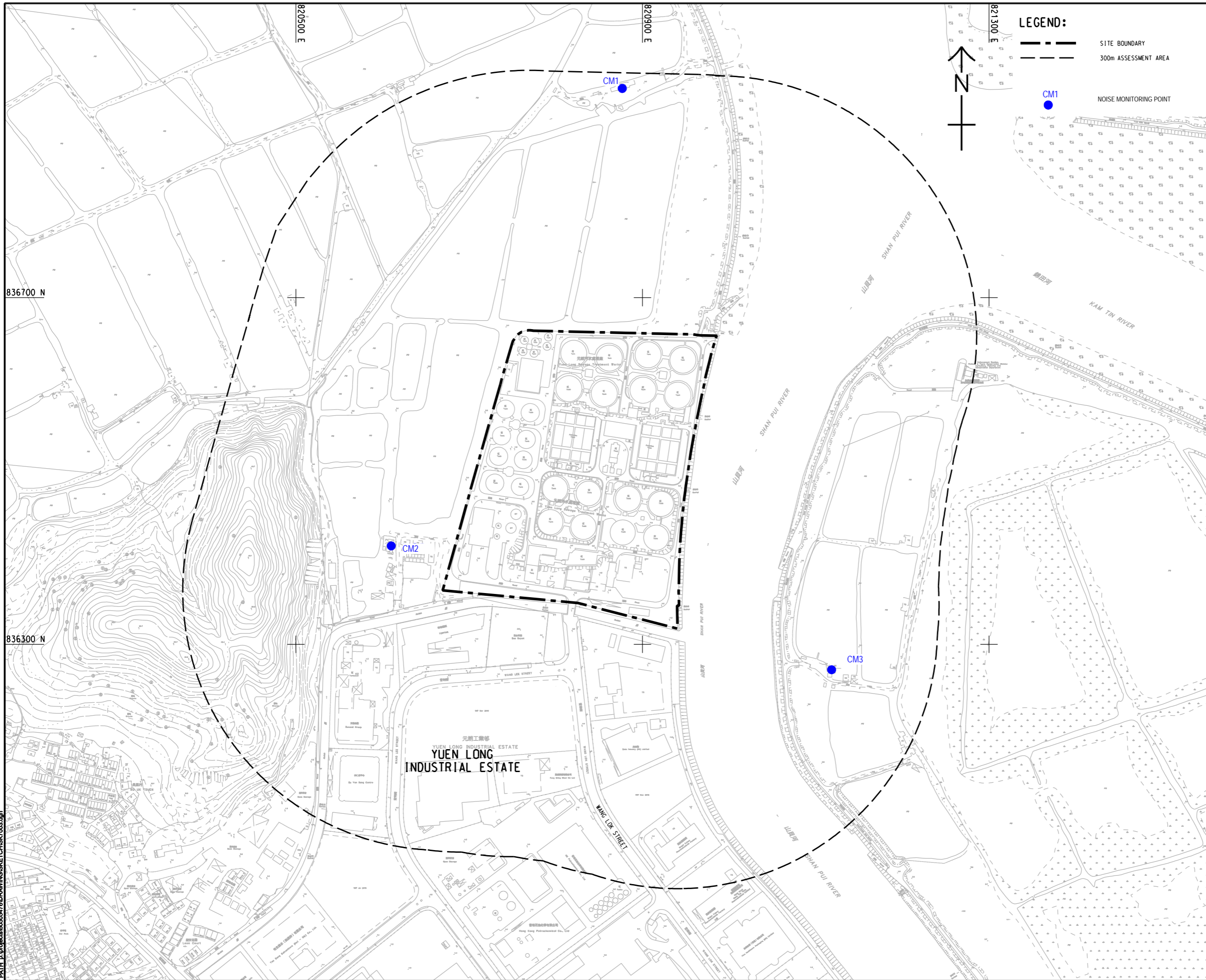
SHEET TITLE
 圖紙名稱
 LOCATION OF CONSTRUCTION DUST MONITORING STATIONS

SHEET NUMBER
 圖紙編號




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Figure 3

Noise Monitoring Locations



LEGEND:

-  SITE BOUNDARY
-  300m ASSESSMENT AREA
-  NOISE MONITORING POINT

AECOM

PROJECT
項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

 **渠務署**
Drainage Services Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
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STATUS
圖版

SCALE
比例

A1 1 : 2000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60505476

CONTRACT NO.
合約編號

CE 3/2015 (DS)

SHEET TITLE
圖紙名稱

LOCATIONS OF NOISE MONITORING POINTS

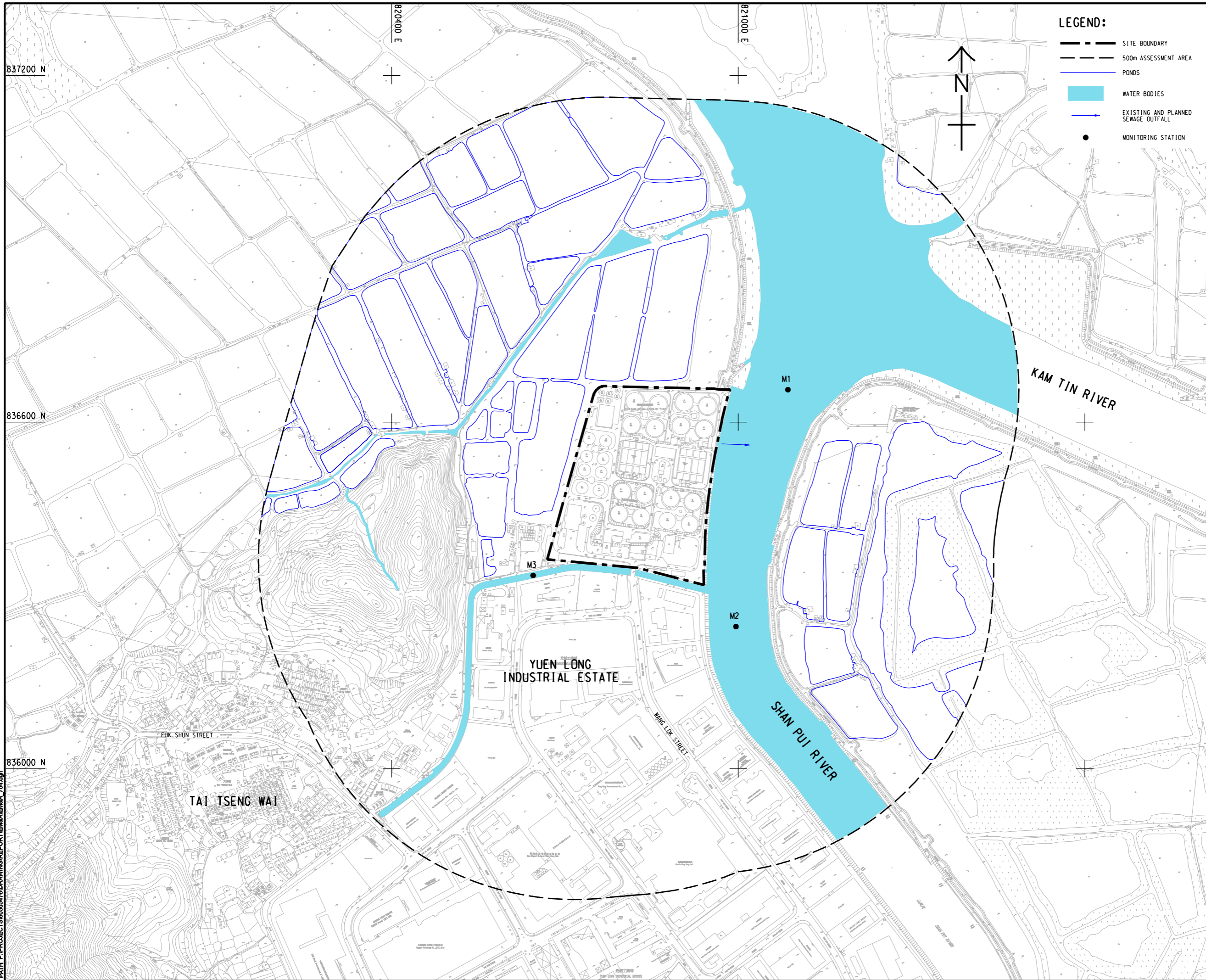
SHEET NUMBER
圖紙編號

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Figure 4

Water Quality Monitoring Locations

ISO A1 594mm x 841mm
 Approved:
 Checked:
 Designer:
 Project Management Initials:
 12/18
 P:\PROJECTS\60505476\DRAWING\REPORT\EMBA\6A_704.dgn



LEGEND:

- SITE BOUNDARY
- 500m ASSESSMENT AREA
- PONDS
- WATER BODIES
- EXISTING AND PLANNED SEWAGE OUTFALL
- MONITORING STATION

AECOM

PROJECT
 項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
 業主

渠務署
 Drainage Services Department

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| IR | DATE | DESCRIPTION | CHK. |
|----|------|-------------|------|
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STATUS
 階段

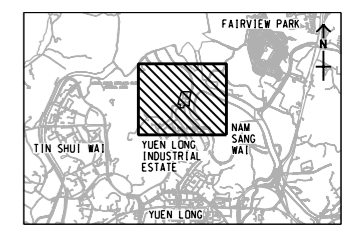
SCALE
 比例

A3 1: 8000

DIMENSION UNIT
 尺寸單位

METRES

KEY PLAN A3 1: 180000



PROJECT NO.
 項目編號

60505476

CONTRACT NO.
 合約編號

CE 3/2015 (DS)

SHEET TITLE
 圖名

LOCATIONS OF WATER QUALITY MONITORING STATIONS FOR CONSTRUCTION PHASE

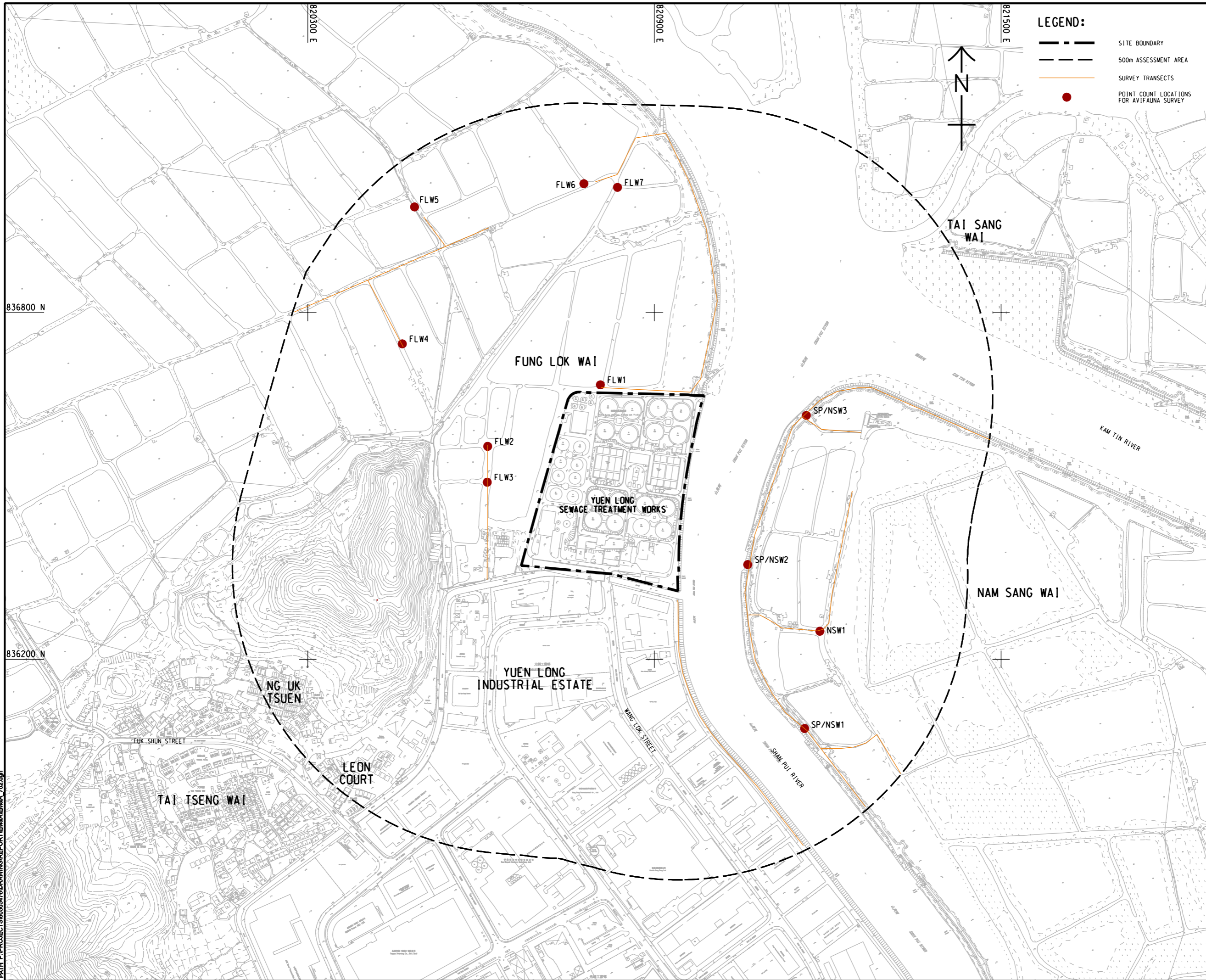
SHEET NUMBER
 圖號

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Figure 5

Ecology Monitoring Locations

ISO A1 594mm x 841mm
 Approved:
 Checked:
 Designer:
 Project Management Initials:
 836800 N
 836200 N
 Pld File by: ZENGFY 2018/05/30
 PATH: P:\PROJECTS\60505476\DRAWING\REPORT\EM\EN\EA_702.dgn



LEGEND:

- SITE BOUNDARY
- 500m ASSESSMENT AREA
- SURVEY TRANSECTS
- POINT COUNT LOCATIONS FOR AVIFAUNA SURVEY



AECOM

PROJECT
 項目
YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
 業主
 渠務署
 Drainage Services Department

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| I/R | DATE | DESCRIPTION | CHK. |
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STATUS
 階段

SCALE
 比例
 A1 1 : 3000

DIMENSION UNIT
 尺寸單位
 METRES

KEY PLAN
 索引圖

PROJECT NO.
 項目編號
 60505476

CONTRACT NO.
 合約編號
 CE 3/2015 (DS)

SHEET TITLE
 圖紙名稱
 ECOLOGICAL MONITORING LOCATIONS

SHEET NUMBER
 圖紙編號

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Appendix A

Construction Programme

| Activity ID | Activity Name | Orig Dur | Early Start | Early Finish | Total Float | June 20 | | | | | July 21 | | | | August 22 | | | | September 23 | | | | October 24 | | |
|--|--|----------|-------------|--------------|-------------|--|----|----|----|----|---------|----|----|----|-----------|----|----|----|--------------|----|----|----|------------|----|--|
| | | | | | | 29 | 05 | 12 | 19 | 26 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 04 | 11 | 18 | 25 | 02 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| YL Effluent Polishing Plant - Main Works Stage 1 - Detailed Works Programme DPv15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Data Part 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Access Dates | | | | | | | | | | | | | | | | | | | | | | | | | |
| ADWA2 | Work Area WA2 (sd) (new site possession) validity for 12 months and subject to renewal | 757 | 05-Mar-21 A | 31-Mar-23* | 0 | | | | | | | | | | | | | | | | | | | | |
| Environmental Constraints | | | | | | | | | | | | | | | | | | | | | | | | | |
| EBS-2155 | Egrets Breeding Season 2022 | 183 | 01-Mar-22 A | 30-Aug-22* | 0 | Egrets Breeding Season 2022 | | | | | | | | | | | | | | | | | | | |
| Preliminary and Preparation Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subletting | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUB-270 | Subletting for ELS works for IW, PST, SDB, STB, SD, MBB, TTB, underpass and open cut for admin. bldg | 312 | 12-Oct-21 A | 19-Aug-22 | -108 | Subletting for ELS works for IW, PST, SDB, STB, SD, MBB, TTB, underpass and open cut for admin. bldg | | | | | | | | | | | | | | | | | | | |
| SUB-280 | Subletting for RC works for IW, PST, SDB, STB, SD, Biogas holder, underpass and admin. bldg | 256 | 29-Nov-21 A | 11-Aug-22 | -66 | Subletting for RC works for IW, PST, SDB, STB, SD, Biogas holder, underpass and admin. bldg | | | | | | | | | | | | | | | | | | | |
| SUB-290 | Subletting for ABWF works for IW, PST, SDB, STB, MBR, TTB and admin. bldg | 60 | 12-Aug-22 | 10-Oct-22 | 4 | Subletting for ABWF works for IW, PST, SDB, STB, MBR, TTB and admin. bldg | | | | | | | | | | | | | | | | | | | |
| SUB-310 | Subletting for Utilities Corridor ELS | 59 | 30-Jun-22 | 27-Aug-22 | 93 | Subletting for Utilities Corridor ELS | | | | | | | | | | | | | | | | | | | |
| SUB-350 | Subletting for Waterproofing membrane and protection board | 299 | 29-Nov-21 A | 23-Sep-22 | 51 | Subletting for Waterproofing membrane and protection board | | | | | | | | | | | | | | | | | | | |
| SUB-380 | Subletting for Sheet piling works for remaining areas | 333 | 12-Oct-21 A | 09-Sep-22 | -31 | Subletting for Sheet piling works for remaining areas | | | | | | | | | | | | | | | | | | | |
| Design Submission | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temporary Works Design | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mainstream Bio-Reactor System | | | | | | | | | | | | | | | | | | | | | | | | | |
| TWD-240 | ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE) | 14 | 20-Jun-22 A | 13-Jul-22 | -37 | ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE) | | | | | | | | | | | | | | | | | | | |
| TWD-250 | ELS - Obtain Approval | 7 | 09-Jul-22 | 15-Jul-22 | -37 | ELS - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| TWD-520 | ELS - Submit to GEO (Dewatering Proposal) | 28 | 14-Jul-22 | 10-Aug-22 | 36 | ELS - Submit to GEO (Dewatering Proposal) | | | | | | | | | | | | | | | | | | | |
| Sludge Thickening Building | | | | | | | | | | | | | | | | | | | | | | | | | |
| TWD-200 | ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE) | 14 | 26-May-22 A | 11-Jul-22 | 22 | ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE) | | | | | | | | | | | | | | | | | | | |
| TWD-210 | ELS - Obtain Approval | 7 | 12-Jul-22 | 18-Jul-22 | 22 | ELS - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| TWD-540 | ELS - Submit to GEO (Dewatering Proposal) | 28 | 12-Jul-22 | 08-Aug-22 | 49 | ELS - Submit to GEO (Dewatering Proposal) | | | | | | | | | | | | | | | | | | | |
| Tertiary Treatment System | | | | | | | | | | | | | | | | | | | | | | | | | |
| TWD-150 | ELS - Review by PM's & ICE review (28 d + 7d) | 35 | 10-Jun-22 A | 31-Jul-22 | -73 | ELS - Review by PM's & ICE review (28 d + 7d) | | | | | | | | | | | | | | | | | | | |
| TWD-160 | ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE) | 14 | 01-Aug-22 | 14-Aug-22 | -73 | ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE) | | | | | | | | | | | | | | | | | | | |
| TWD-170 | ELS - Obtain Approval | 7 | 15-Aug-22 | 21-Aug-22 | -73 | ELS - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| TWD-550 | ELS - Submit to GEO (Dewatering Proposal) | 28 | 15-Aug-22 | 11-Sep-22 | -60 | ELS - Submit to GEO (Dewatering Proposal) | | | | | | | | | | | | | | | | | | | |
| Sludge Digester 1-3 & Utilities Corridor | | | | | | | | | | | | | | | | | | | | | | | | | |
| TWD-350 | ELS - Review by PM's & ICE review (28 d + 7d) | 35 | 03-May-22 A | 20-Jun-22 A | | ELS - Review by PM's & ICE review (28 d + 7d) | | | | | | | | | | | | | | | | | | | |
| TWD-360 | ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE) | 14 | 21-Jun-22 A | 13-Jul-22 | -138 | ELS - Resubmission for PM's & ICE review (7d prep & resub. + 7d ICE) | | | | | | | | | | | | | | | | | | | |
| TWD-370 | ELS - Obtain Approval | 7 | 14-Jul-22 | 20-Jul-22 | -134 | ELS - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| TWD-560 | ELS - Submit to GEO (Dewatering Proposal) | 28 | 14-Jul-22 | 10-Aug-22 | -138 | ELS - Submit to GEO (Dewatering Proposal) | | | | | | | | | | | | | | | | | | | |
| Sludge Digester 4-6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TWD-460 | ELS - Prepare & Submission for PM's review | 45 | 21-Jul-22 | 03-Sep-22 | 856 | ELS - Prepare & Submission for PM's review | | | | | | | | | | | | | | | | | | | |
| TWD-470 | ELS - Review by PM's & ICE review (28 d + 7d) | 35 | 04-Sep-22 | 08-Oct-22 | 856 | ELS - Review by PM's & ICE review (28 d + 7d) | | | | | | | | | | | | | | | | | | | |
| Sludge Dewatering and Underpass | | | | | | | | | | | | | | | | | | | | | | | | | |
| TWD-260 | ELS - Prepare & Submission for PM's review | 45 | 15-Aug-22 | 28-Sep-22 | 557 | ELS - Prepare & Submission for PM's review | | | | | | | | | | | | | | | | | | | |
| TWD-270 | ELS - Review by PM's & ICE review (28 d + 7d) | 35 | 29-Sep-22 | 02-Nov-22 | 557 | ELS - Review by PM's & ICE review (28 d + 7d) | | | | | | | | | | | | | | | | | | | |
| Contractor's Permanent Works Design (include ATAL) | | | | | | | | | | | | | | | | | | | | | | | | | |
| AIP | | | | | | | | | | | | | | | | | | | | | | | | | |
| Package 2A - Tertiary Treatment System (TTS) | | | | | | | | | | | | | | | | | | | | | | | | | |
| AIP-480 | E&M AIP Report for Tertiary Treatment System (TTS) - Resubmission for further review | 45 | 10-Mar-22 A | 23-Jul-22 | 163 | E&M AIP Report for Tertiary Treatment System (TTS) - Resubmission for further review | | | | | | | | | | | | | | | | | | | |
| AIP-490 | E&M AIP Report for Tertiary Treatment System (TTS) - Obtain Approval | 7 | 24-Jul-22 | 30-Jul-22 | 163 | E&M AIP Report for Tertiary Treatment System (TTS) - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| Package 3A - Plant Service Water | | | | | | | | | | | | | | | | | | | | | | | | | |
| AIP-520 | E&M AIP Report for Plant Service Water - Resubmission for further review | 45 | 20-Dec-21 A | 13-Aug-22 | 457 | E&M AIP Report for Plant Service Water - Resubmission for further review | | | | | | | | | | | | | | | | | | | |
| AIP-530 | E&M AIP Report for Plant Service Water - Obtain Approval | 7 | 14-Aug-22 | 20-Aug-22 | 457 | E&M AIP Report for Plant Service Water - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| Package 6A - Control & Monitoring System | | | | | | | | | | | | | | | | | | | | | | | | | |
| AIP-200 | Control & Monitoring System - Resubmission for further review | 14 | 24-Jan-22 A | 13-Jul-22 | 25 | Control & Monitoring System - Resubmission for further review | | | | | | | | | | | | | | | | | | | |
| AIP-620 | Control & Monitoring System - Obtain Approval | 7 | 14-Jul-22 | 20-Jul-22 | 25 | Control & Monitoring System - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| Package 7A - Building Services System | | | | | | | | | | | | | | | | | | | | | | | | | |
| AIP-240 | BS System - Resubmission for further review | 14 | 28-Mar-22 A | 13-Jul-22 | 324 | BS System - Resubmission for further review | | | | | | | | | | | | | | | | | | | |
| AIP-250 | BS System - Obtain Approval | 7 | 14-Jul-22 | 20-Jul-22 | 324 | BS System - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| Package 14A - E&M AIP Report for Deodorization Unit System | | | | | | | | | | | | | | | | | | | | | | | | | |
| AIP-850 | DEO - Resubmission for further review | 45 | 25-Nov-21 A | 26-Jul-22 | 371 | DEO - Resubmission for further review | | | | | | | | | | | | | | | | | | | |
| AIP-860 | DEO - Obtain Approval | 7 | 27-Jul-22 | 02-Aug-22 | 371 | DEO - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| Package 22A - Sampling System of YLEPP | | | | | | | | | | | | | | | | | | | | | | | | | |
| AIP-910 | Sampling System - Prepare & Submission for PM's review | 45 | 22-Aug-22* | 05-Oct-22 | 169 | Sampling System - Prepare & Submission for PM's review | | | | | | | | | | | | | | | | | | | |
| Package 23A - Security, Public Address and Communication System | | | | | | | | | | | | | | | | | | | | | | | | | |



- Remaining Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1

Monthly Progress Report No. 20 - 3MRP (Jun 2022)

Project ID : DWP.DPr15_220716-J
 Layout : DC201910 MPR20-3MRP
 Page 1 of 9

| Monthly Progress Report No. 20 - 3MRP | | | |
|---------------------------------------|----------|---------|----------|
| Date | Revision | Checked | Approved |
| 30-Jun-22 | Rev. 0 | | |

| Activity ID | Activity Name | Orig Dur | Early Start | Early Finish | Total Float | June 20 | | | | July 21 | | | | August 22 | | | | September 23 | | | | October 24 | | | |
|---|---|----------|-------------|--------------|-------------|---|----|----|----|---------|----|----|----|-----------|----|----|----|--------------|----|----|----|------------|----|----|--|
| | | | | | | 29 | 05 | 12 | 19 | 26 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 04 | 11 | 18 | 25 | 02 | |
| | | | | | | Gantt Chart Area | | | | | | | | | | | | | | | | | | | |
| AIP-950 | SPC - Prepare & Submission for PM's review | 45 | 01-Jun-22 A | 13-Aug-22 | 364 | SPC - Prepare & Submission for PM's review | | | | | | | | | | | | | | | | | | | |
| AIP-960 | SPC - Review by PM's & ICE review (28 d + 7d) | 35 | 14-Aug-22 | 17-Sep-22 | 364 | SPC - Review by PM's & ICE review | | | | | | | | | | | | | | | | | | | |
| AIP-970 | SPC - Resubmission for further review | 45 | 18-Sep-22 | 01-Nov-22 | 364 | SPC - Resubmission for further review | | | | | | | | | | | | | | | | | | | |
| DDA | | | | | | | | | | | | | | | | | | | | | | | | | |
| Package 1A - Hydraulic Detailed Design Approval (DDA) Report | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1480 | Contractor's Design for Hydraulic - Resubmission for further review | 45 | 25-Mar-22 A | 09-Aug-22 | 264 | Contractor's Design for Hydraulic - Resubmission for further review | | | | | | | | | | | | | | | | | | | |
| DDA-1490 | Contractor's Design for Hydraulic - Obtain Approval | 7 | 10-Aug-22 | 16-Aug-22 | 264 | Contractor's Design for Hydraulic - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| Package 1B - General Notes and Typical Details Drawings for Civil, Structural and Geotechnical | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1080 | Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Submit to GEO for comment and approval | 28 | 10-Aug-22 | 06-Sep-22 | 125 | Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Submit to GEO for comment and approval | | | | | | | | | | | | | | | | | | | |
| DDA-120 | Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Resubmission for further review | 45 | 25-Mar-22 A | 09-Aug-22 | 125 | Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Resubmission for further review | | | | | | | | | | | | | | | | | | | |
| DDA-130 | Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Obtain Approval | 7 | 31-Aug-22 | 06-Sep-22 | 125 | Contractor's Design for General Architecture, Civil, Structural & Geotechnical - Obtain Approval | | | | | | | | | | | | | | | | | | | |
| Package 2 - Tertiary Treatment System | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-150 | Foundation for TTS - Prepare (90d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d), GEO (28d) | 184 | 08-Oct-21 A | 30-Sep-22 | -38 | Foundation for TTS - Prepare (90d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d), GEO (28d) | | | | | | | | | | | | | | | | | | | |
| DDA-170 | Civil Req. for TTS (Foundation design) - Prepare(27d), Sub. & Review(45d),Comment & Resub.(14d), GEO(28d)& Approval (7d) | 121 | 13-Jun-21 A | 05-Aug-22 | 209 | Civil Req. for TTS (Foundation design) - Prepare(27d), Sub. & Review(45d),Comment & Resub.(14d), GEO(28d)& Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-180 | Civil Req. for TTS (Superstruct. design) - Prepare (147d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 213 | 11-Oct-21 A | 09-Dec-22 | 336 | Civil Req. for TTS (Superstruct. design) - Prepare (147d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-190 | P&ID for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 213 | 31-Dec-21 A | 18-Jan-23 | 336 | P&ID for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-200 | Mechanical for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 213 | 31-Dec-21 A | 18-Jan-23 | 336 | Mechanical for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-210 | Electrical& Control for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 213 | 31-Dec-21 A | 18-Jan-23 | 336 | Electrical& Control for TTS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| Package 3 - Mainstream Bio-Reactor System | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-230 | Architectural for MBS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 05-Oct-21 A | 27-Oct-22 | 48 | Architectural for MBS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-240 | Foundation for MBS - Prepare (97d), Sub. & Review(45d), Comment & Resub.(14d),GEO (28d) & Approval (7d) | 191 | 18-Mar-22 A | 28-Mar-23 | 48 | Foundation for MBS - Prepare (97d), Sub. & Review(45d), Comment & Resub.(14d),GEO (28d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-260 | Civil Req. for MBS-AGS (Foundation design) - Prepare (60d), Sub. & Review (45d), Comment & Resub.(14d) & Approval (7d) | 126 | 09-Jun-21 A | 05-Aug-22 | 63 | Civil Req. for MBS-AGS (Foundation design) - Prepare (60d), Sub. & Review (45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-270 | Civil Req. for MBS-AGS (Superstruct. design) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 01-Mar-22 A | 27-Oct-22 | 63 | Civil Req. for MBS-AGS (Superstruct. design) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-280 | P&ID for TTS - MBS (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 08-Oct-21 A | 27-Oct-22 | 314 | P&ID for TTS - MBS (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-290 | Mechanical for MBS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 08-Oct-21 A | 27-Oct-22 | 440 | Mechanical for MBS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-300 | Electrical& Control for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub.(14d) & Approval (7d) | 126 | 08-Oct-21 A | 27-Oct-22 | 440 | Electrical& Control for MBS - Prepare (60d), Sub. & Review (45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| Package 5A - Master Water Meter Cabinet | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-360 | Foundation for Master WM Cabinet- Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d),GEO(28d) & Approval (7d) | 154 | 15-Feb-22 A | 30-Oct-22 | 4 | Foundation for Master WM Cabinet- Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d),GEO(28d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-370 | Civil & Struct. for WM Cabinet- Prepare (90d), Sub. & Review (45d), Comment & Resub.(14d) & Approval (7d) | 156 | 15-Apr-22 A | 01-Nov-22 | 4 | Civil & Struct. for WM Cabinet- Prepare (90d), Sub. & Review (45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| Package 5B - Plant Service Water (PSW) | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1050 | Civil Requirement Drawings - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d) | 126 | 12-Jun-21 A | 27-Oct-22 | 200 | Civil Requirement Drawings - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| Package 6 - Sludge Thickening Chemical and Dosing System | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1120 | P&ID for STCDS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 14-Aug-21 A | 27-Oct-22 | 124 | P&ID for STCDS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1130 | Mechanical for STCDS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 15-Nov-21 A | 27-Oct-22 | -2 | Mechanical for STCDS - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1140 | Electrical & Control for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub.(14d) & Approval (7d) | 126 | 30-Nov-21 A | 27-Oct-22 | -2 | Electrical & Control for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-430 | Found. for STCS,WasteGasBurner & Guard Hse- Prepare(60d),Sub.&Review(45d),Comment & Resub.(14d),GEO(28d) & Approval (7d) | 126 | 28-Sep-22* | 31-Jan-23 | 28 | Found. for STCS,WasteGasBurner & Guard Hse- Prepare(60d),Sub.&Review(45d),Comment & Resub.(14d),GEO(28d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-440 | Civil & Struct. for STCS, WGB & Guard Hse - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 09-Nov-21 A | 05-Jan-23 | 54 | Civil & Struct. for STCS, WGB & Guard Hse - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-440B | Civil Req. for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub.(14d) & Approval (7d) | 126 | 15-Nov-21 A | 27-Oct-22 | -2 | Civil Req. for STCDS - Prepare (60d), Sub. & Review (45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| Package 7 - CLP Substation and 11kV Switchgear House | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1160 | Earthing & Lighting System Design Report - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | 78 | 02-Jul-21 A | 04-Jul-22 | 17 | Earthing & Lighting System Design Report - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1450 | VCAB, FSD & WSD Design Report - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | 78 | 02-Jul-21 A | 23-Jul-22 | 17 | VCAB, FSD & WSD Design Report - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-460 | Civil&Struct. for CLP Sub. & 11kV Switchgear Hse- Prep. (30d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | 82 | 01-Jun-21 A | 08-Jul-22 | 17 | Civil&Struct. for CLP Sub. & 11kV Switchgear Hse- Prep. (30d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-470 | Electrical System for all facilities - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | 78 | 01-Jun-21 A | 23-Jul-22 | 17 | Electrical System for all facilities - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-480 | UPS System for CLP Sub. & 11kV Switchgear Hse - Prepare (102d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 168 | 03-Jun-21 A | 16-Jul-22 | 41 | UPS System for CLP Sub. & 11kV Switchgear Hse - Prepare (102d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-490 | BS for CLP Sub. & 11kV Switchgear Hse - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | 78 | 01-Jun-21 A | 23-Jul-22 | 17 | BS for CLP Sub. & 11kV Switchgear Hse - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| Package 8 - Advance Works and SCADA Relocation | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-500 | Mechanical for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 78 | 22-May-21 A | 15-Jul-22 | -171 | Mechanical for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-510 | Electrical & Control for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 78 | 04-Jun-21 A | 15-Jul-22 | -171 | Electrical & Control for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-520 | BS for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 78 | 04-May-21 A | 15-Jul-22 | -163 | BS for Advance Works - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-530 | E&M for Advance Works - SCADA Relocation - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 76 | 24-Jun-21 A | 07-Jul-22 | -163 | E&M for Advance Works - SCADA Relocation - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| Package 9 - Inlet Work (IW) | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1170 | Civil Req. Drawing for Inlet Work - Prepare (30d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | 82 | 04-Aug-21 A | 15-Aug-22 | 153 | Civil Req. Drawing for Inlet Work - Prepare (30d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1180 | PID for Inlet Work - Prepare (30d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | 82 | 10-Jul-21 A | 14-Sep-22 | 153 | PID for Inlet Work - Prepare (30d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1190 | Mechanical for Inlet Work - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | 78 | 09-Aug-21 A | 14-Sep-22 | 153 | Mechanical for Inlet Work - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1200 | Electrical & Control for Inlet Work - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | 78 | 30-Oct-21 A | 14-Sep-22 | 153 | Electrical & Control for Inlet Work - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1210 | Building Services for Inlet Work - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | 76 | 30-Mar-22 A | 27-Sep-22 | 159 | Building Services for Inlet Work - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| Package 10 - Primary Sedimentation Tank (PST) | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1220 | Civil Req. Drawing for PST - Prepare (46d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | 98 | 01-Jun-21 A | 30-Jul-22 | 32 | Civil Req. Drawing for PST - Prepare (46d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1230 | PID for PST - Prepare (46d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | 98 | 01-Jun-21 A | 06-Sep-22 | 32 | PID for PST - Prepare (46d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1240 | Mechanical for PST - Prepare (46d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | 98 | 01-Jun-21 A | 06-Sep-22 | 32 | Mechanical for PST - Prepare (46d), Sub. & Review(30d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1250 | Electrical & Control for PST - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | 48 | 31-Aug-21 A | 14-Aug-22 | 32 | Electrical & Control for PST - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| DDA-1260 | Building Services for PST - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | 78 | 01-Oct-21 A | 12-Sep-22 | 32 | Building Services for PST - Prepare (28d), Sub. & Review(28d), Comment & Resub.(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |



- Remaining Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone


Contract DC/2019/10 - YLEPP - Main Works for Stage 1

Monthly Progress Report No. 20 - 3MRP (Jun 2022)

Project ID : DWP.DPr15_220716-J
Layout : DC201910 MPR20-3MRP
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| Monthly Progress Report No. 20 - 3MRP | | | |
|---------------------------------------|----------|---------|----------|
| Date | Revision | Checked | Approved |
| 30-Jun-22 | Rev. 0 | | |

| Activity ID | Activity Name | Orig Dur | Early Start | Early Finish | Total Float | June 20 | | | | July 21 | | | | August 22 | | | | September 23 | | | | October 24 | | |
|---|--|----------|-------------|--------------|-------------|---------|----|----|----|---------|----|----|----|-----------|----|----|----|--------------|----|----|----|------------|----|----|
| | | | | | | 29 | 05 | 12 | 19 | 26 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 04 | 11 | 18 | 25 | 02 |
| Package 11 - Control and Monitoring System | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1270 | Gas Detection System - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d) | 78 | 01-Aug-22* | 17-Oct-22 | 146 | | | | | | | | | | | | | | | | | | | |
| DDA-550 | Supervisory Control&Data Application (SCADA) System - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d) | 78 | 14-May-22 A | 15-Sep-22 | 178 | | | | | | | | | | | | | | | | | | | |
| DDA-580 | Power Quality & Energy Management System (PQEMS) - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d) | 78 | 02-Oct-21 A | 12-Sep-22 | 181 | | | | | | | | | | | | | | | | | | | |
| Package 13 - Pipework System | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1030 | Pipeworks System for Sludge Digesters - Prep(60d),Sub.&Review(45d),Comment&Resub (14d) &Approval (7d) | 126 | 17-Jul-22 | 19-Nov-22 | 212 | | | | | | | | | | | | | | | | | | | |
| DDA-670 | Pipeworks System for Primary Sedimentation Tanks (PST) - Prep(57d), Sub.&Review(45d), Comment&Resub(14d) & Approval (7d) | 123 | 18-Sep-21 A | 30-Jul-22 | -33 | | | | | | | | | | | | | | | | | | | |
| DDA-680 | Pipeworks System for Biogas Holder (BH) - Prep(57d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d) | 123 | 18-Sep-21 A | 30-Jul-22 | -33 | | | | | | | | | | | | | | | | | | | |
| DDA-690 | Pipeworks System for Sludge Dewatering Building (SDB) - Prep(60d),Sub.&Review(45d),Comment&Resub (14d) & Approval (7d) | 126 | 17-Jul-22 | 19-Nov-22 | 212 | | | | | | | | | | | | | | | | | | | |
| DDA-700 | Pipeworks System for Utility Corridor&Pipe Portal (UC/PP) - Prep(103d),Sub.&Review(45d),Comment&Resub(14d) & Approval (7d) | 126 | 17-Jul-22 | 19-Nov-22 | 389 | | | | | | | | | | | | | | | | | | | |
| Package 14 - Sludge Anaerobic Digestion System (SDT) | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1290 | Civil Req. Drawing for SDT - Prepare (47d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 113 | 10-Jul-21 A | 22-Jul-22 | -220 | | | | | | | | | | | | | | | | | | | |
| DDA-1300 | PID for SDT - Prepare (47d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 113 | 10-Jul-21 A | 15-Oct-22 | 29 | | | | | | | | | | | | | | | | | | | |
| DDA-1310 | Mechanical for SDT & UC/PP - Prepare (47d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 113 | 10-Jul-21 A | 15-Oct-22 | 29 | | | | | | | | | | | | | | | | | | | |
| DDA-1320 | Electrical & Control for SDT & UC/PP - Prepare (55d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 121 | 02-Jul-21 A | 22-Oct-22 | 117 | | | | | | | | | | | | | | | | | | | |
| DDA-1340 | Civil Req. Drawing for UC/PP - Prepare (47d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 113 | 10-Jul-21 A | 15-Oct-22 | 29 | | | | | | | | | | | | | | | | | | | |
| Package 15 - Biogas H2S Removal, Storage and Delivery System | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1350 | Civil Req. Drawing for Biogas Storage&Delivery System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d) & Approval (7d) | 78 | 31-Aug-21 A | 18-Jul-22 | -220 | | | | | | | | | | | | | | | | | | | |
| DDA-1360 | PID for Biogas H2S Removal, Storage and Delivery System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d) & Approval (7d) | 75 | 13-Jul-21 A | 31-Aug-22 | -62 | | | | | | | | | | | | | | | | | | | |
| DDA-1370 | Mechanical for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d) & Approval (7d) | 78 | 05-Oct-21 A | 28-Aug-22 | -62 | | | | | | | | | | | | | | | | | | | |
| DDA-1380 | Electrical & Control for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d) & Approval (7d) | 79 | 01-Sep-22 | 18-Nov-22 | -144 | | | | | | | | | | | | | | | | | | | |
| DDA-1390 | Building Services for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d) & Approval (7d) | 79 | 01-Sep-22 | 18-Nov-22 | -144 | | | | | | | | | | | | | | | | | | | |
| DDA-1400 | Civil Req. Drawing for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d) & Approval (7d) | 78 | 07-Dec-21 A | 31-Aug-22 | -144 | | | | | | | | | | | | | | | | | | | |
| Package 16 - Deodorization Unit System | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-1410 | PID for DOU System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d) & Approval (7d) | 78 | 03-Sep-21 A | 10-Aug-22 | 371 | | | | | | | | | | | | | | | | | | | |
| DDA-1420 | Mechanical for DOU No. 1 - Prepare(28d),Sub& Review(28d),Comment&Resub(14d) & Approval (7d) | 78 | 04-Mar-22 A | 16-Oct-22 | 371 | | | | | | | | | | | | | | | | | | | |
| DDA-1440 | Mechanical for DOU No. 3 - Prepare(28d),Sub& Review(28d),Comment&Resub(14d) & Approval (7d) | 78 | 03-Aug-22* | 19-Oct-22 | 446 | | | | | | | | | | | | | | | | | | | |
| Package 17 - Sludge Dewatering Building (SDB) | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-890 | Architectural for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d) | 126 | 07-Jun-21 A | 01-Aug-22 | 1378 | | | | | | | | | | | | | | | | | | | |
| DDA-900 | Found. for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d), GEO (28d) & Approval (7d) | 154 | 10-Nov-21 A | 09-Oct-22 | 550 | | | | | | | | | | | | | | | | | | | |
| Package 19 - Elevated Walkways | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-710 | Civil & Structural for Elevated Walkways - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d), Comment&Resub (14d) & Approval (7d) | 154 | 30-Jun-22 | 30-Nov-22 | 830 | | | | | | | | | | | | | | | | | | | |
| Package 21 - Steel Working Platform | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-730 | Civil & Structural for Steel Working Platform - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d), Comment&Resub (14d) & Approval (7d) | 126 | 30-Jun-22 | 02-Nov-22 | 830 | | | | | | | | | | | | | | | | | | | |
| Building Services | | | | | | | | | | | | | | | | | | | | | | | | |
| DDA-590 | BS for Inlet Works (IW) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 31-Aug-21 A | 03-Aug-22 | 214 | | | | | | | | | | | | | | | | | | | |
| DDA-600 | BS for Sludge Thickening Building (STB) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 31-Aug-21 A | 03-Aug-22 | 371 | | | | | | | | | | | | | | | | | | | |
| DDA-610 | BS for Primary Sedimentation Tanks (PST) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 30-Sep-21 A | 02-Sep-22 | 238 | | | | | | | | | | | | | | | | | | | |
| DDA-620 | BS for Biogas Holder (BH) - Prepare (60d), Sub. & Review(45d), Comment & Resub.(14d) & Approval (7d) | 126 | 31-Aug-21 A | 03-Aug-22 | -37 | | | | | | | | | | | | | | | | | | | |
| Technical Submission | | | | | | | | | | | | | | | | | | | | | | | | |
| Inlet Works (IW) | | | | | | | | | | | | | | | | | | | | | | | | |
| TS-890 | PID - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 66 | 03-Sep-21 A | 22-Jul-22 | 110 | | | | | | | | | | | | | | | | | | | |
| TS-900 | Equipment Loading Summary - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 66 | 03-Sep-21 A | 22-Jul-22 | 110 | | | | | | | | | | | | | | | | | | | |
| TS-910 | General Arrangement Drawing - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 66 | 30-May-21 A | 25-Jul-22 | 204 | | | | | | | | | | | | | | | | | | | |
| TS-920 | Civil Requirement Drawings (Superstructure) - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 66 | 30-May-21 A | 25-Jul-22 | 204 | | | | | | | | | | | | | | | | | | | |
| Primary Sedimentation Tank (PST) | | | | | | | | | | | | | | | | | | | | | | | | |
| TS-930 | Equipment Loading Summary - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 66 | 03-Sep-21 A | 22-Jul-22 | 110 | | | | | | | | | | | | | | | | | | | |
| TS-940 | PID - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 66 | 03-Sep-21 A | 05-Aug-22 | 110 | | | | | | | | | | | | | | | | | | | |
| TS-950 | General Arrangement Drawing - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 66 | 30-Jun-22 | 03-Sep-22 | 110 | | | | | | | | | | | | | | | | | | | |
| TS-960 | Civil Requirement Drawings (Superstructure) - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 66 | 30-Jun-22 | 03-Sep-22 | 110 | | | | | | | | | | | | | | | | | | | |
| Sludge Thickening Building (STB) | | | | | | | | | | | | | | | | | | | | | | | | |
| TS-820 | Architectural for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d) | 126 | 01-Jun-21 A | 18-Jul-22 | 107 | | | | | | | | | | | | | | | | | | | |
| TS-830 | Found. for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d), GEO(28d) & Approval (7d) | 154 | 01-Jun-21 A | 18-Jul-22 | 585 | | | | | | | | | | | | | | | | | | | |
| TS-840 | Civil & Structural for Sludge Thickening Bldg (STB) - Prep(27d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d) | 93 | 13-Aug-22 | 13-Nov-22 | 107 | | | | | | | | | | | | | | | | | | | |
| TS-850 | General Arrangement & Civil Req. Drawings for STB - Prep(27d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d) | 93 | 13-Aug-22 | 13-Nov-22 | 466 | | | | | | | | | | | | | | | | | | | |
| TS-970 | PID - Prep(27d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 93 | 13-Aug-22 | 13-Nov-22 | 107 | | | | | | | | | | | | | | | | | | | |
| TS-980 | Equipment Loading Summary - Prep(27d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 93 | 13-Aug-22 | 13-Nov-22 | 541 | | | | | | | | | | | | | | | | | | | |
| Sludge Digesters (SD) | | | | | | | | | | | | | | | | | | | | | | | | |
| TS-1030 | PID - Prep(60d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 126 | 25-Sep-21 A | 03-Aug-22 | 320 | | | | | | | | | | | | | | | | | | | |
| TS-1040 | Equipment Loading Summary - Prep(60d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 126 | 25-Sep-21 A | 03-Aug-22 | 320 | | | | | | | | | | | | | | | | | | | |
| TS-740 | Found. for Sludge Digesters (SD) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d), GEO (28d) & Approval (7d) | 126 | 25-Sep-21 A | 03-Aug-22 | 106 | | | | | | | | | | | | | | | | | | | |
| TS-750 | Civil & Structural for Sludge Digesters (SD) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d), Comment&Resub (14d) & Approval (7d) | 126 | 25-Sep-21 A | 30-Jul-22 | 106 | | | | | | | | | | | | | | | | | | | |

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|  Paul Y 保華-中國中鐵聯營體 PAUL Y.-CREC JOINT VENTURE | <ul style="list-style-type: none">■ Remaining Level of Eff.■ Actual Work■ Remaining Work■ Critical Remaining Work◆ Milestone |
|---|--|

Contract DC/2019/10 - YLEPP - Main Works for Stage 1

Monthly Progress Report No. 20 - 3MRP (Jun 2022)

Project ID : DWP.DPr15_220716-J
Layout : DC201910 MPR20-3MRP
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| Monthly Progress Report No. 20 - 3MRP | | | |
|---------------------------------------|----------|---------|----------|
| Date | Revision | Checked | Approved |
| 30-Jun-22 | Rev. 0 | | |

| Activity ID | Activity Name | Orig Dur | Early Start | Early Finish | Total Float | June 20 | | | | | July 21 | | | | August 22 | | | | September 23 | | | | October 24 | | |
|---|--|----------|-------------|--------------|-------------|--|----|----|----|----|---------|----|----|----|-----------|----|----|----|--------------|----|----|----|------------|----|--|
| | | | | | | 29 | 05 | 12 | 19 | 26 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 04 | 11 | 18 | 25 | 02 | |
| | | | | | | Gantt Chart Area | | | | | | | | | | | | | | | | | | | |
| TS-760 | General Arrangement & Civil Req. Drawings for SD - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & App | 126 | 25-Sep-21 A | 28-Jul-22 | 205 | General Arrangement & Civil Req. Drawings for SD - Prep(60d), Sub.&Review(45d), Co | | | | | | | | | | | | | | | | | | | |
| TS-770 | Mechanical for Sludge Digesters (SD) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d) | 126 | 24-Jul-22 | 26-Nov-22 | 205 | Mechanical for Sludge Digesters (SD) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d) | | | | | | | | | | | | | | | | | | | |
| Biogas Holders (BH) | | | | | | | | | | | | | | | | | | | | | | | | | |
| TS-1050 | PID - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 66 | 31-Aug-21 A | 05-Jul-22 | -103 | PID - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| TS-1060 | Equipment Loading Summary - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 66 | 31-Aug-21 A | 05-Jul-22 | -103 | Equipment Loading Summary - Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| TS-780 | Foundation for Biogas Holders (BH) - Prep(53d), Sub.&Review(45d), Comment&Resub (14d), GEO (28d) & Appro | 147 | 12-Jun-21 A | 18-Jul-22 | -220 | Foundation for Biogas Holders (BH) - Prep(53d), Sub.&Review(45d), Comment&Resub (14d), GEO | | | | | | | | | | | | | | | | | | | |
| TS-790 | Civil & Structural for Biogas Holders (BH) - Sub.&Review(45d), Comment&Resub (14d) & Approval(7d) | 66 | 12-Jun-21 A | 30-Jul-22 | -135 | Civil & Structural for Biogas Holders (BH) - Sub.&Review(45d), Comment&Resub (14d) & Approval(7d) | | | | | | | | | | | | | | | | | | | |
| TS-800 | General Arrangement & Civil Req. Drawings for BH - Prep(127d), Sub.&Review(45d), Comment&Resub (14d) & App | 193 | 16-Sep-21 A | 09-Nov-22 | -135 | General Arrangement & Civil Req. Drawings for BH - Prep(127d), Sub.&Review(45d), Comment&Resub (14d) & App | | | | | | | | | | | | | | | | | | | |
| TS-810 | Mechanical for Biogas Holders (BH) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d) | 126 | 05-Nov-21 A | 08-Oct-22 | -103 | Mechanical for Biogas Holders (BH) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| SCADA | | | | | | | | | | | | | | | | | | | | | | | | | |
| TS-1070 | Layout and Wiring Diagram for YLEPP PLC Panel - Prep(144d), Sub.&Review(45d), Comment&Resub (14d)&App | 210 | 21-Jul-22 | 15-Feb-23 | 25 | Layout and Wiring Diagram for YLEPP PLC Panel - Prep(144d), Sub.&Review(45d), Comment&Resub (14d)&App | | | | | | | | | | | | | | | | | | | |
| TS-1080 | System Architecture for Existing YLSTW Temporary SCADA System - Prep(144d),Sub&Rev(45d),Comments&Resu | 210 | 21-Jul-22 | 15-Feb-23 | 25 | System Architecture for Existing YLSTW Temporary SCADA System - Prep(144d),Sub&Rev(45d),Comments&Resu | | | | | | | | | | | | | | | | | | | |
| TS-1090 | Layout and Wiring Diagram for Existing YLSTW Temp PLC Panel - Prep(144d),Sub&Rev(45d),Comments&Resub(| 210 | 21-Jul-22 | 15-Feb-23 | 25 | Layout and Wiring Diagram for Existing YLSTW Temp PLC Panel - Prep(144d),Sub&Rev(45d),Comments&Resub(| | | | | | | | | | | | | | | | | | | |
| TS-1100 | System Architecture for YLEPP SCADA System - Prep(144d), Sub.&Review(45d), Comment&Resub (14d)&Appro | 210 | 21-Jul-22 | 15-Feb-23 | 25 | System Architecture for YLEPP SCADA System - Prep(144d), Sub.&Review(45d), Comment&Resub (14d)&Appro | | | | | | | | | | | | | | | | | | | |
| Utility Corridor and Pipe Portal | | | | | | | | | | | | | | | | | | | | | | | | | |
| TS-1110 | General Arrangement Drawing - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 210 | 21-Jul-22 | 15-Feb-23 | 433 | General Arrangement Drawing - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| TS-1120 | Civil Requirement Drawings (Superstructure) - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 210 | 21-Jul-22 | 15-Feb-23 | 433 | Civil Requirement Drawings (Superstructure) - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| TS-1140 | Equipment Loading Summary - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 210 | 21-Jul-22 | 15-Feb-23 | 433 | Equipment Loading Summary - Prep(144d), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| Hazardous Area Classification and Fire Risk Assessment | | | | | | | | | | | | | | | | | | | | | | | | | |
| TS-1800 | Hazardous Area Classification and Fire Risk Assessment Specialist - Submission & Approval | 20 | 31-Aug-21 A | 30-Jun-22 | -38 | Hazardous Area Classification and Fire Risk Assessment Specialist - Submission & Approval | | | | | | | | | | | | | | | | | | | |
| TS-1810 | Hazardous Area Classification Assessment - Prep(60), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 126 | 20-Sep-21 A | 04-Aug-22 | -38 | Hazardous Area Classification Assessment - Prep(60), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| TS-1820 | Fire Risk Assessment - Prep(60), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | 126 | 20-Sep-21 A | 04-Aug-22 | -38 | Fire Risk Assessment - Prep(60), Sub.&Review(45d), Comment&resub(14d) & Approval (7d) | | | | | | | | | | | | | | | | | | | |
| Material Submission, Procurement, Manufacturing and Delivery | | | | | | | | | | | | | | | | | | | | | | | | | |
| PRE-230 | Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. | 270 | 09-Nov-20 A | 13-Mar-23 | 303 | Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. | | | | | | | | | | | | | | | | | | | |
| PRE-240 | Submit/Procure/Manufacture/Deliver TTS & Auxillary Facility Equip. | 270 | 09-Nov-20 A | 27-Feb-23 | 296 | Submit/Procure/Manufacture/Deliver TTS & Auxillary Facility Equip. | | | | | | | | | | | | | | | | | | | |
| PRE-250 | Submit/Procure/Manufacture/Deliver Thickening System/Digestion/sludge holding Tanks | 300 | 09-Nov-20 A | 11-Mar-23 | 600 | Submit/Procure/Manufacture/Deliver Thickening System/Digestion/sludge holding Tanks | | | | | | | | | | | | | | | | | | | |
| Site Establishment Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temporary Transformer 1600A | | | | | | | | | | | | | | | | | | | | | | | | | |
| P5-150 | Comepletion of Temp Transformer 1600A | 0 | | 15-Jun-22 A | | ◆ Comepletion of Temp Transformer 1600A | | | | | | | | | | | | | | | | | | | |
| PM and Contractor Accomodation | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Manager's & Contractor Site Accommodation | | | | | | | | | | | | | | | | | | | | | | | | | |
| MIC Section | | | | | | | | | | | | | | | | | | | | | | | | | |
| PMCA-190 | Installation of Green Roof | 16 | 09-Nov-21 A | 26-Aug-22 | 1639 | Installation of Green Roof | | | | | | | | | | | | | | | | | | | |
| Caving System | | | | | | | | | | | | | | | | | | | | | | | | | |
| PMCA-240 | Caving System Construction | 33 | 03-May-22 A | 23-Jul-22 | -18 | Caving System Construction | | | | | | | | | | | | | | | | | | | |
| PMCA-250 | Caving System Installation (Set-Up & T&C) | 60 | 25-Jul-22 | 05-Oct-22 | -18 | Caving System Installation (Set-Up & T&C) | | | | | | | | | | | | | | | | | | | |
| FSI, FSD and OP Requirements | | | | | | | | | | | | | | | | | | | | | | | | | |
| FSI Submission & Approval | | | | | | | | | | | | | | | | | | | | | | | | | |
| FSD-1030 | PM Review | 31 | 12-Nov-21 A | 19-Aug-22 | -123 | PM Review | | | | | | | | | | | | | | | | | | | |
| FSD-1040 | Submission Period for FSD Review (Assumed 12 Months) - Full GBP+GBP for TOP1 | 367 | 20-Aug-22 | 21-Aug-23 | -123 | Submission Period for FSD Review (Assumed 12 Months) - Full GBP+GBP for TOP1 | | | | | | | | | | | | | | | | | | | |
| Application Form Schedule EMSD (ATAL) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phase 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATAL-FS-0010 | Form 104 for Biogas Holder Tank 1(Submission and Approval Period) | 184 | 02-May-22 A | 12-Dec-22 | 1414 | Form 104 for Biogas Holder Tank 1(Submission and Approval Period) | | | | | | | | | | | | | | | | | | | |
| HAZOP Study | | | | | | | | | | | | | | | | | | | | | | | | | |
| HAZOP-010 | Engage Independent Consultant | 20 | 20-Aug-22 | 08-Sep-22 | -123 | Engage Independent Consultant | | | | | | | | | | | | | | | | | | | |
| Zone 1 (for PST(Stage1), others provide later) | | | | | | | | | | | | | | | | | | | | | | | | | |
| HAZOP-Z1-010 | Review Design / Installation HAZOP for PST (Stage 1) by independent consultant | 30 | 09-Sep-22 | 08-Oct-22 | 48 | Review Design / Installation HAZOP for PST (Stage 1) by independent consultant | | | | | | | | | | | | | | | | | | | |
| Zone 3 (for BH No.1 , others provide later) | | | | | | | | | | | | | | | | | | | | | | | | | |
| HAZOP-Z3-010 | Review Design / Installation HAZOP for Biogas Holder No. 1 by independent consultant | 30 | 09-Sep-22 | 08-Oct-22 | -123 | Review Design / Installation HAZOP for Biogas Holder No. 1 by independent consultant | | | | | | | | | | | | | | | | | | | |
| General Advance Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| NSWSPS Sensors | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATALGA-1160 | CGS - Method Statement for Installation | 101 | 03-Aug-21 A | 20-Jul-22 | 161 | CGS - Method Statement for Installation | | | | | | | | | | | | | | | | | | | |
| ATALGA-1170 | Procurement & Delivery of Sensor | 101 | 03-Aug-21 A | 20-Jul-22 | 161 | Procurement & Delivery of Sensor | | | | | | | | | | | | | | | | | | | |
| ATALGA-1260 | Installation of pressure sensors at NSWSPS | 22 | 21-Jul-22 | 15-Aug-22 | 133 | Installation of pressure sensors at NSWSPS | | | | | | | | | | | | | | | | | | | |
| Air Blower House | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATALGA-1280 | CMS - Air Blower System | 128 | 16-Aug-22 | 18-Jan-23 | 133 | CMS - Air Blower System | | | | | | | | | | | | | | | | | | | |
| Disc Filter (DF) Pilot Plant | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATALGA-1140 | E&M installation of DF Pilot Plant | 51 | 10-Feb-22 A | 25-Jul-22 | 457 | E&M installation of DF Pilot Plant | | | | | | | | | | | | | | | | | | | |
| ATALGA-1190 | T&C | 22 | 26-Jul-22 | 19-Aug-22 | 457 | T&C | | | | | | | | | | | | | | | | | | | |
| Dissolved Air Flotation (DAF) Pilot Plant | | | | | | | | | | | | | | | | | | | | | | | | | |



- Remaining Level of Eff...
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1

Monthly Progress Report No. 20 - 3MRP (Jun 2022)

Project ID : DWP.DPr15_220716-J
 Layout : DC201910 MPR20-3MRP
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| Monthly Progress Report No. 20 - 3MRP | | | |
|---------------------------------------|----------|---------|----------|
| Date | Revision | Checked | Approved |
| 30-Jun-22 | Rev. 0 | | |

| Activity ID | Activity Name | Orig Dur | Early Start | Early Finish | Total Float | June 20 | | | | | July 21 | | | | August 22 | | | | September 23 | | | | October 24 | | |
|---|--|----------|-------------|--------------|-------------|--|----|----|----|----|---------|----|----|----|-----------|----|----|----|--------------|----|----|----|------------|----|--|
| | | | | | | 29 | 05 | 12 | 19 | 26 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 04 | 11 | 18 | 25 | 02 | |
| | | | | | | Gantt Chart (Gantt bars showing activity duration and completion status) | | | | | | | | | | | | | | | | | | | |
| ATALGA-1150 | E&M installation of DAF Pilot Plant | 51 | 16-Jun-22 A | 30-Jul-22 | 319 | E&M installation of DAF Pilot Plant | | | | | | | | | | | | | | | | | | | |
| ATALGA-1200 | T&C | 11 | 01-Aug-22 | 12-Aug-22 | 319 | T&C | | | | | | | | | | | | | | | | | | | |
| ATALGA-1220 | Post-commissioning | 144 | 13-Aug-22 | 10-Feb-23 | 319 | Post-commissioning | | | | | | | | | | | | | | | | | | | |
| Aerobic Granular Sludge (AGS) Pilot Plant | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATALGA-1210 | Seeding, process start-up and T&C | 52 | 16-Jun-22 A | 30-Jul-22 | 335 | Seeding, process start-up and T&C | | | | | | | | | | | | | | | | | | | |
| ATALGA-1270 | Post-commissioning | 139 | 01-Aug-22 | 16-Jan-23 | 335 | Post-commissioning | | | | | | | | | | | | | | | | | | | |
| Zone 1 Construction | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inlet Works (IW) | | | | | | | | | | | | | | | | | | | | | | | | | |
| IW Foundation & ELS Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| IW Basement | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-IW-3950 | Pumping Test & Commissioning Period | 14 | 30-Jun-22 A | 09-Jul-22 | -59 | Pumping Test & Commissioning Period | | | | | | | | | | | | | | | | | | | |
| Z1-IW-4300 | Submit to GEO (28d) | 28 | 10-May-22 A | 20-Jul-22 | 1671 | Submit to GEO (28d) | | | | | | | | | | | | | | | | | | | |
| IW Excavation Works & ELS | | | | | | | | | | | | | | | | | | | | | | | | | |
| IW Zone A/D- ELS | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5760 | IW- Excavation: 1st Layer +5.5 ~ +3.5mPD | 5 | 18-Jul-22 | 22-Jul-22 | -59 | IW- Excavation: 1st Layer +5.5 ~ +3.5mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5770 | IW- Strutting: 1st Layer @+4.0mPD | 10 | 26-Jul-22 | 05-Aug-22 | -61 | IW- Strutting: 1st Layer @+4.0mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5780 | IW- Excavation: 2nd Layer +3.5 ~ 1.0mPD | 5 | 06-Aug-22 | 11-Aug-22 | -61 | IW- Excavation: 2nd Layer +3.5 ~ 1.0mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5790 | IW- Strutting: 2nd Layer @+1.5mPD | 10 | 12-Aug-22 | 23-Aug-22 | -61 | IW- Strutting: 2nd Layer @+1.5mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5800 | IW- Excavation: 3rd Layer +1.0 ~ -1.625mPD | 8 | 24-Aug-22 | 01-Sep-22 | -61 | IW- Excavation: 3rd Layer +1.0 ~ -1.625mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5810 | IW- Strutting: 3rd Layer @-1.125mPD | 10 | 02-Sep-22 | 14-Sep-22 | -61 | IW- Strutting: 3rd Layer @-1.125mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5820 | IW- Excavation: 4th Layer -1.625 ~ -3.38mPD | 7 | 15-Sep-22 | 22-Sep-22 | -61 | IW- Excavation: 4th Layer -1.625 ~ -3.38mPD | | | | | | | | | | | | | | | | | | | |
| IW Zone C - ELS | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5650 | IW- Excavation: 1st Layer +5.5~+3.5mPD | 10 | 20-Jun-22 A | 12-Jul-22 | -55 | IW- Excavation: 1st Layer +5.5~+3.5mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5660 | IW- Strutting: 1st Layer @+4.35mPD | 10 | 13-Jul-22 | 23-Jul-22 | -51 | IW- Strutting: 1st Layer @+4.35mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5670 | IW- Excavation: 2nd layer +3.5~+1.0mPD | 9 | 25-Jul-22 | 03-Aug-22 | -51 | IW- Excavation: 2nd layer +3.5~+1.0mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5680 | IW- Strutting: 2nd Layer @+2.50mPD | 10 | 04-Aug-22 | 15-Aug-22 | -51 | IW- Strutting: 2nd Layer @+2.50mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5690 | IW- Excavation: 3rd Layer +1.0~-1.625mPD | 10 | 16-Aug-22 | 26-Aug-22 | -51 | IW- Excavation: 3rd Layer +1.0~-1.625mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5700 | IW- Backprop installation | 7 | 21-Sep-22 | 28-Sep-22 | -51 | IW- Backprop installation | | | | | | | | | | | | | | | | | | | |
| Z1-IW-5710 | IW- Excavation to Formation -1.625~-3.125mPD | 5 | 29-Sep-22 | 06-Oct-22 | -51 | IW- Excavation to Formation -1.625~-3.125mPD | | | | | | | | | | | | | | | | | | | |
| IW Base Slab | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-IW-6060 | IW- Zone D - Pile Cap @-3.225mPD | 27 | 23-Sep-22 | 26-Oct-22 | -61 | IW- Zone D - Pile Cap @-3.225mPD | | | | | | | | | | | | | | | | | | | |
| Z1-IW-6070 | IW- Zone C - Pile Cap @-1.625mPD | 20 | 27-Aug-22 | 20-Sep-22 | -51 | IW- Zone C - Pile Cap @-1.625mPD | | | | | | | | | | | | | | | | | | | |
| IW Transformer House No. 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| IW-2785 | TX House No. 1 - Piling Works (8 nos.) | 10 | 17-May-22 A | 13-Jun-22 A | | TX House No. 1 - Piling Works (8 nos.) | | | | | | | | | | | | | | | | | | | |
| Primary Sedimentation Tank (PST) | | | | | | | | | | | | | | | | | | | | | | | | | |
| PST Stage 1 of Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| PST Stage 1 - Foundation (At First 3 Tanks, PST 7-8 Footprint) | | | | | | | | | | | | | | | | | | | | | | | | | |
| PST-1220 | PST Stage 1 - Driven H-Pile (21nos.+Additional Pile (10 nos.) @ ave. 1.5no/d/rig, 1 rig) | 14 | 03-May-22 A | 11-Jul-22 | -10 | PST Stage 1 - Driven H-Pile (21nos.+Additional Pile (10 nos.) @ ave. 1.5no/d/rig, 1 rig) | | | | | | | | | | | | | | | | | | | |
| PST-1230 | PST Stage 1 - Time Risk Allowance for Driven H-Pile | 2 | 12-Jul-22 | 13-Jul-22 | -10 | PST Stage 1 - Time Risk Allowance for Driven H-Pile | | | | | | | | | | | | | | | | | | | |
| PST-3020 | PST Stage 1 - Submit to GEO (28d) | 28 | 31-Mar-22 A | 06-Jul-22 | -59 | PST Stage 1 - Submit to GEO (28d) | | | | | | | | | | | | | | | | | | | |
| PST Stage 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Excavation Works (Southern Trench), (Excavation Volume: 5,795m3) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3600 | PST(S1) - Excavation FEL Level (-1.6-3.225mPD), (853m3, 300-400m3/day, 1excavator 8m3/truck, 5 trucks/hr, 1r | 5 | 21-Jun-22 A | 06-Jul-22 | -61 | PST(S1) - Excavation FEL Level (-1.6-3.225mPD), (853m3, 300-400m3/day, 1excavator 8m3/truck, 5 trucks/hr, 1r | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3810 | PST (S1) - Time Risk Allowance for Excavation and ELS Installation | 2 | 07-Jul-22 | 08-Jul-22 | -61 | PST (S1) - Time Risk Allowance for Excavation and ELS Installation | | | | | | | | | | | | | | | | | | | |
| ELS Erection Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3590 | PST(S1) - Erection and Installation of S1 Strut & W1 Waling (+1.375 mPD, 1crane, 4welders, 2work fronts) | 6 | 21-May-22 A | 20-Jun-22 A | | PST(S1) - Erection and Installation of S1 Strut & W1 Waling (+1.375 mPD, 1crane, 4welders, 2work fronts) | | | | | | | | | | | | | | | | | | | |
| ELS for Northern Trench (Zone E1) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3591 | Excavation S1 Level (+1.375mPD) | 15 | 21-May-22 A | 22-Jun-22 A | | Excavation S1 Level (+1.375mPD) | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3601 | Erection and Installation of S1 Strut & W1 Waling (+1.375 mPD) | 10 | 23-Jun-22 A | 12-Jul-22 | 7 | Erection and Installation of S1 Strut & W1 Waling (+1.375 mPD) | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3611 | Excavation FEL Level (-1.125mPD) | 10 | 13-Jul-22 | 23-Jul-22 | 7 | Excavation FEL Level (-1.125mPD) | | | | | | | | | | | | | | | | | | | |
| Basement RC Works (Stage 1 - Southern Portion) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Southern Trench (Lower Portion) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3630 | PST(S1) - Install Reprops R1 | 3 | 03-Aug-22 | 05-Aug-22 | -61 | PST(S1) - Install Reprops R1 | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3640 | PST(S1) - Wall Erection of Formworks and RC Works (Ground Level) | 10 | 22-Jul-22 | 02-Aug-22 | -61 | PST(S1) - Wall Erection of Formworks and RC Works (Ground Level) | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3800 | PST(S1) - Removal of S1 | 2 | 20-Jul-22 | 21-Jul-22 | -61 | PST(S1) - Removal of S1 | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3860 | PST(S1) - Base Slab & Wall Erection of Formworks and RC Works (-1.625 to -3.225 mPD) | 9 | 09-Jul-22 | 19-Jul-22 | -61 | PST(S1) - Base Slab & Wall Erection of Formworks and RC Works (-1.625 to -3.225 mPD) | | | | | | | | | | | | | | | | | | | |
| Northern Trench (Lower Portion) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3620 | PST(S1) - Base Slab & Wall Erection of Formworks and RC Works (-1.125 mPD) | 6 | 03-Aug-22 | 09-Aug-22 | -1 | PST(S1) - Base Slab & Wall Erection of Formworks and RC Works (-1.125 mPD) | | | | | | | | | | | | | | | | | | | |
| Z1-PST-4240 | PST(S1) - Removal of S1 | 2 | 10-Aug-22 | 11-Aug-22 | -1 | PST(S1) - Removal of S1 | | | | | | | | | | | | | | | | | | | |
| Z1-PST-4260 | PST(S1) - Wall Erection of Formworks and RC Works (Ground Level) | 6 | 12-Aug-22 | 18-Aug-22 | -1 | PST(S1) - Wall Erection of Formworks and RC Works (Ground Level) | | | | | | | | | | | | | | | | | | | |
| Excavation Works (North Portion), (Excavation Volume: 3,840m3) | | | | | | | | | | | | | | | | | | | | | | | | | |



- Remaining Level of Eff...
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1

Monthly Progress Report No. 20 - 3MRP (Jun 2022)

Project ID : DWP.DPr15_220716-J
 Layout : DC201910 MPR20-3MRP
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| Monthly Progress Report No. 20 - 3MRP | | | |
|---------------------------------------|----------|---------|----------|
| Date | Revision | Checked | Approved |
| 30-Jun-22 | Rev. 0 | | |

| Activity ID | Activity Name | Orig Dur | Early Start | Early Finish | Total Float | June 20 | | | | | July 21 | | | | August 22 | | | | September 23 | | | | October 24 | | |
|---|--|----------|-------------|--------------|-------------|--|----|----|----|----|---------|----|----|----|-----------|----|----|----|--------------|----|----|----|------------|----|--|
| | | | | | | 29 | 05 | 12 | 19 | 26 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 04 | 11 | 18 | 25 | 02 | |
| | | | | | | Gantt Chart Area | | | | | | | | | | | | | | | | | | | |
| Z1-PST-4180 | PST(S1) - Excavation F.E.L. Level (+1.875 mPD) (3,840m3, 1000m3/day) after stage 2 piling | 4 | 06-Aug-22 | 10-Aug-22 | -10 | PST(S1) - Excavation F.E.L. Level (+1.875 mPD) (3,840m3, 1000m3/day) | | | | | | | | | | | | | | | | | | | |
| Basement RC Works (North Portion) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-PST-4190 | PST(S1) - Base Slab & Wall Erection of Formworks and RC Works (+3.00 mPD) after stage 2 piling | 10 | 11-Aug-22 | 22-Aug-22 | -10 | PST(S1) - Base Slab & Wall Erection of Formworks and RC Works (+3.00 mPD) | | | | | | | | | | | | | | | | | | | |
| Z1-PST-4200 | PST(S1) - Wall Erection of Formworks and RC Works (Ground Level) after stage 2 piling | 6 | 23-Aug-22 | 29-Aug-22 | -10 | PST(S1) - Wall Erection of Formworks and RC Works (Ground Level) | | | | | | | | | | | | | | | | | | | |
| PST Stage 2 of Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| PST Foundation - Stage 2 (At Remaining 2 Tanks, PST 5-6 Footprint) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3980 | PST Stage 2 - Pile Loading Test (Batch 2 PST: 75nos.+8 nos. of piles at TX1+Additional Piles) | 20 | 14-Jul-22 | 05-Aug-22 | -10 | PST Stage 2 - Pile Loading Test (Batch 2 PST: 75nos.+8 nos. of piles at TX1+Additional Piles) | | | | | | | | | | | | | | | | | | | |
| Z1-PST-4230 | PST Stage 2 - Submit to GEO (28d) | 28 | 29-Jul-22 | 25-Aug-22 | 308 | PST Stage 2 - Submit to GEO (28d) | | | | | | | | | | | | | | | | | | | |
| PST Superstructure | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| RC Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3650 | PST - Wall Erection of Formworks and RC Works (+5.85mPD) | 6 | 30-Aug-22 | 05-Sep-22 | -10 | PST - Wall Erection of Formworks and RC Works (+5.85mPD) | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3660 | PST - Wall Erection of Formworks and RC Works (+7.5mPD) | 6 | 06-Sep-22 | 13-Sep-22 | -10 | PST - Wall Erection of Formworks and RC Works (+7.5mPD) | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3670 | PST - Intermediate Slab (+7.88mPD) and Wall Erection (+9mPD) of Falseworks, Formworks and RC Works | 10 | 14-Sep-22 | 24-Sep-22 | -10 | PST - Intermediate Slab (+7.88mPD) and Wall Erection (+9mPD) of Falseworks, Formworks and RC Works | | | | | | | | | | | | | | | | | | | |
| Z1-PST-3680 | PST - Intermediate Slab of Falseworks, Formworks and RC Works (+9mPD) | 13 | 26-Sep-22 | 12-Oct-22 | -10 | PST - Intermediate Slab of Falseworks, Formworks and RC Works (+9mPD) | | | | | | | | | | | | | | | | | | | |
| CLP Substations No. 1 & 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Foundation | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLP-1200 | Raft Foundation | 24 | 20-May-22 A | 28-Jun-22 A | | Raft Foundation | | | | | | | | | | | | | | | | | | | |
| Civil Provision for CLP (drawpits & ductings) | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLP-1270 | Ducting and Drawpits construction | 45 | 27-Aug-22 | 21-Oct-22 | 20 | Ducting and Drawpits construction | | | | | | | | | | | | | | | | | | | |
| CLP Substation No. 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLP-1010 | CLP Substation No.1 - Structure Level +3.7 to +6mPD (G/F) | 15 | 12-Jul-22 | 28-Jul-22 | -13 | CLP Substation No.1 - Structure Level +3.7 to +6mPD (G/F) | | | | | | | | | | | | | | | | | | | |
| CLP-1040 | CLP Substation No.1 - BS and ABWF Works | 48 | 25-Aug-22 | 22-Oct-22 | -13 | CLP Substation No.1 - BS and ABWF Works | | | | | | | | | | | | | | | | | | | |
| CLP-1280 | CLP Substation No.1 - Structure Level +6 to +11.73mPD (1/F) | 28 | 29-Jul-22 | 30-Aug-22 | -13 | CLP Substation No.1 - Structure Level +6 to +11.73mPD (1/F) | | | | | | | | | | | | | | | | | | | |
| CLP-1290 | CLP Substation No.1 - Structure Level +11.73 to +13.11mPD (R/F) | 19 | 31-Aug-22 | 22-Sep-22 | -13 | CLP Substation No.1 - Structure Level +11.73 to +13.11mPD (R/F) | | | | | | | | | | | | | | | | | | | |
| CLP Substation No. 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLP-1020 | CLP Substation No.2 - Structure Level +3.7 to +6mPD (G/F) | 15 | 12-Jul-22 | 28-Jul-22 | -13 | CLP Substation No.2 - Structure Level +3.7 to +6mPD (G/F) | | | | | | | | | | | | | | | | | | | |
| CLP-1050 | CLP Substation No.2 - BS and ABWF Works | 48 | 25-Aug-22 | 22-Oct-22 | -13 | CLP Substation No.2 - BS and ABWF Works | | | | | | | | | | | | | | | | | | | |
| CLP-1300 | CLP Substation No.2 - Structure Level +6 to +11.73mPD (1/F) | 28 | 29-Jul-22 | 30-Aug-22 | -13 | CLP Substation No.2 - Structure Level +6 to +11.73mPD (1/F) | | | | | | | | | | | | | | | | | | | |
| CLP-1310 | CLP Substation No.2 - Structure Level +11.73 to +13.11mPD (R/F) | 19 | 31-Aug-22 | 22-Sep-22 | -13 | CLP Substation No.2 - Structure Level +11.73 to +13.11mPD (R/F) | | | | | | | | | | | | | | | | | | | |
| DSD 11kV Switchgear | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLP-1030 | DSD11KV Switchgear - Structure Level +3.7 to +6mPD (G/F) | 15 | 12-Jul-22 | 28-Jul-22 | -13 | DSD11KV Switchgear - Structure Level +3.7 to +6mPD (G/F) | | | | | | | | | | | | | | | | | | | |
| CLP-1060 | DSD11KV Switchgear - BS and ABWF Works | 48 | 25-Aug-22 | 22-Oct-22 | -13 | DSD11KV Switchgear - BS and ABWF Works | | | | | | | | | | | | | | | | | | | |
| CLP-1320 | DSD11KV Switchgear - Structure Level +6 to +11.73mPD (1/F) | 28 | 29-Jul-22 | 30-Aug-22 | -13 | DSD11KV Switchgear - Structure Level +6 to +11.73mPD (1/F) | | | | | | | | | | | | | | | | | | | |
| CLP-1330 | DSD11KV Switchgear - Structure Level +11.73 to +13.11mPD (R/F) | 19 | 31-Aug-22 | 22-Sep-22 | -13 | DSD11KV Switchgear - Structure Level +11.73 to +13.11mPD (R/F) | | | | | | | | | | | | | | | | | | | |
| Sludge Dewatering Building (SDB) | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDB Foundation & ELS - Stage 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDB GI - Pre-drilling Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDB At PST 2,4 Footprint | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDB-1350 | PD4 w/ obstruction (PST4) | 14 | 30-Aug-22 | 15-Sep-22 | 457 | PD4 w/ obstruction (PST4) | | | | | | | | | | | | | | | | | | | |
| SDB-1360 | PD5 w/ obstruction (PST4) | 14 | 30-Aug-22 | 15-Sep-22 | 457 | PD5 w/ obstruction (PST4) | | | | | | | | | | | | | | | | | | | |
| Administration Building (ADB) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temporary Admin Office and Control Room | | | | | | | | | | | | | | | | | | | | | | | | | |
| ADB-1040 | Handover of Temp. Admin Office and Control Room | 20 | 07-Sep-22 | 30-Sep-22 | 445 | Handover of Temp. Admin Office and Control Room | | | | | | | | | | | | | | | | | | | |
| ADB-1250 | Relocation of Existing SCADA System of Admin Bldg (23) and Document Centre (24) | 21 | 07-Sep-22 | 03-Oct-22 | 445 | Relocation of Existing SCADA System of Admin Bldg (23) and Document Centre (24) | | | | | | | | | | | | | | | | | | | |
| Temp Admin Office - MIC Section | | | | | | | | | | | | | | | | | | | | | | | | | |
| ADB-1020A100 | Fabrication and Delivery of MiC Unit | 36 | 20-May-22 A | 18-Jul-22 | 445 | Fabrication and Delivery of MiC Unit | | | | | | | | | | | | | | | | | | | |
| ADB-1020A20 | Construction/Installation | 41 | 21-Jul-22 | 06-Sep-22 | 445 | Construction/Installation | | | | | | | | | | | | | | | | | | | |
| ADB-1020A30 | E&M Installation and T&C | 24 | 10-Aug-22 | 06-Sep-22 | 445 | E&M Installation and T&C | | | | | | | | | | | | | | | | | | | |
| ADB-1020A40 | Relocation of Admin Office (MiC) | 18 | 07-Sep-22 | 28-Sep-22 | 447 | Relocation of Admin Office (MiC) | | | | | | | | | | | | | | | | | | | |
| ADB-1020A90 | Completion of Admin Office (MiC) | 0 | | 28-Sep-22 | 448 | Completion of Admin Office (MiC) | | | | | | | | | | | | | | | | | | | |
| Zone 2 Construction | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temporary Diversion | | | | | | | | | | | | | | | | | | | | | | | | | |
| Zone 2B : FST, Temporary RAS to Aeration Tanks | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temporary RAS | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z2B-1030 | Construction of Temp RAS | 21 | 17-May-22 A | 13-Jul-22 | -57 | Construction of Temp RAS | | | | | | | | | | | | | | | | | | | |
| Z2B-1040 | Temp RAS E&M installation | 28 | 22-Jul-22 | 23-Aug-22 | -57 | Temp RAS E&M installation | | | | | | | | | | | | | | | | | | | |
| Z2B-1180 | Complete Zone 2B Temporary Diversion | 0 | | 23-Sep-22 | -57 | Complete Zone 2B Temporary Diversion | | | | | | | | | | | | | | | | | | | |
| Z2B-1190 | Break Wall for connection to temporary RAS & Switch over | 6 | 17-Sep-22 | 23-Sep-22 | -57 | Break Wall for connection to temporary RAS & Switch over | | | | | | | | | | | | | | | | | | | |
| Z2B-1200 | Laying of pipes from temp. RAS to Consolidation tanks & Aeration tanks | 25 | 30-Jun-22 | 29-Jul-22 | -36 | Laying of pipes from temp. RAS to Consolidation tanks & Aeration tanks | | | | | | | | | | | | | | | | | | | |
| Z2B-1210 | T&C | 20 | 24-Aug-22 | 16-Sep-22 | -57 | T&C | | | | | | | | | | | | | | | | | | | |



- Remaining Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1

Monthly Progress Report No. 20 - 3MRP (Jun 2022)

Project ID : DWP.DPr15_220716-J
 Layout : DC201910 MPR20-3MRP
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| Monthly Progress Report No. 20 - 3MRP | | | |
|---------------------------------------|----------|---------|----------|
| Date | Revision | Checked | Approved |
| 30-Jun-22 | Rev. 0 | | |

| Activity ID | Activity Name | Orig Dur | Early Start | Early Finish | Total Float | June 20 | | | | | July 21 | | | | August 22 | | | | September 23 | | | October 24 | | | |
|---|---|----------|-------------|--------------|-------------|---|----|----|----|----|---------|----|----|----|-----------|----|----|----|--------------|----|----|------------|----|----|--|
| | | | | | | 29 | 05 | 12 | 19 | 26 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 04 | 11 | 18 | 25 | 02 | |
| | | | | | | Gantt Chart Area | | | | | | | | | | | | | | | | | | | |
| Z2B-1220 | Plug-off abandoned pipes | 2 | 24-Sep-22 | 26-Sep-22 | -29 | █ Plug-off abandoned pipes | | | | | | | | | | | | | | | | | | | |
| Z2B-1230 | Watertightness test to temp. RAS pumping station | 7 | 14-Jul-22 | 21-Jul-22 | -57 | █ Watertightness test to temp. RAS pumping station | | | | | | | | | | | | | | | | | | | |
| Temporary Sewage Routing | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z2D-2160 | Complete Demolition of PST4 | 0 | | 29-Aug-22 | 457 | ◆ Complete Demolition of PST4 | | | | | | | | | | | | | | | | | | | |
| Demolition Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| Advance Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| MBR-1480 | MBR - Relocation of Noise barrier/ bird curtain | 58 | 20-Jun-22 A | 24-Aug-22 | -18 | █ MBR - Relocation of Noise barrier/ bird curtain | | | | | | | | | | | | | | | | | | | |
| MBR-1540 | MBR- G.I Works batch 2 (4 nos., 1rig, nos. of G.I. subject to GEO Further Comment) | 60 | 04-Jul-22 | 12-Sep-22 | 3 | █ MBR- G.I Works batch 2 (4 nos.) | | | | | | | | | | | | | | | | | | | |
| Z2D-4280 | Submit/Approve Method Statement for Pipe Pile Works | 15 | 11-Sep-21 A | 30-Jun-22 | -12 | █ Submit/Approve Method Statement for Pipe Pile Works | | | | | | | | | | | | | | | | | | | |
| Other Existing Pumping Stations | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z2T-152 | Demolition of Return Activated Sludge ScrewPumps PS (16) & Chamber (33) | 48 | 24-Sep-22 | 21-Nov-22 | -57 | █ Demolition of Return Activated Sludge ScrewPumps PS (16) & Chamber (33) | | | | | | | | | | | | | | | | | | | |
| Z2T-154 | Demolition of Flow Measurement Chamber (34) & SSD Chamber (32) | 48 | 24-Sep-22 | 21-Nov-22 | -57 | █ Demolition of Flow Measurement Chamber (34) & SSD Chamber (32) | | | | | | | | | | | | | | | | | | | |
| Z2T-154B | Demolition of Settled Sewage Overflow Chamber (31) | 25 | 07-Jul-22 | 04-Aug-22 | 10 | █ Demolition of Settled Sewage Overflow Chamber (31) | | | | | | | | | | | | | | | | | | | |
| Mainstream Bio-Reactor & Auxiliary Facility (MBR and AF) | | | | | | | | | | | | | | | | | | | | | | | | | |
| MBR and AF Structure | | | | | | | | | | | | | | | | | | | | | | | | | |
| MBR - ELS Excavation & Demolition stage 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| MBRAF-1010 | MBR - Pipe Pile Install (approx. 391m, 9,390m2 @ 120m2/d) After Advance works (zone 2A) | 58 | 21-Jul-22 | 27-Sep-22 | -35 | █ MBR - Pipe Pile Install | | | | | | | | | | | | | | | | | | | |
| MBRAF-1460 | MBR - Monitoring Installation | 18 | 28-Sep-22 | 20-Oct-22 | -28 | █ MBR - Monitoring Installation | | | | | | | | | | | | | | | | | | | |
| MBRAF-1500 | MBR - Decommissioning & Demolition of PST 4 | 31 | 25-Jul-22* | 29-Aug-22 | -11 | █ MBR - Decommissioning & Demolition of PST 4 | | | | | | | | | | | | | | | | | | | |
| MBRAF-1540 | MBR - Backfilling, advance coring for king post installation & wells installation | 25 | 15-Jun-22 A | 23-Jul-22 | -35 | █ MBR - Backfilling, advance coring for king post installation & wells installation | | | | | | | | | | | | | | | | | | | |
| MBRAF-1550 | MBR - King post installation at AT footprint | 30 | 25-Jul-22 | 27-Aug-22 | -35 | █ MBR - King post installation at AT footprint | | | | | | | | | | | | | | | | | | | |
| Tertiary Treatment System (TTS) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Foundation and ELS | | | | | | | | | | | | | | | | | | | | | | | | | |
| EBS-2135 | Egrets Breeding Season 2022 | 184 | 01-Mar-22 A | 01-Sep-22* | -3 | █ Egrets Breeding Season 2022 | | | | | | | | | | | | | | | | | | | |
| TTS-1000 | TTS - Site Clearance | 15 | 11-May-22 A | 14-Jul-22 | -37 | █ TTS - Site Clearance | | | | | | | | | | | | | | | | | | | |
| TTS-1010 | TTS - Sheet Piles Install (4,639m2 @120m2/d) | 52 | 12-Aug-22 | 14-Oct-22 | -61 | █ TTS - Sheet Piles Install | | | | | | | | | | | | | | | | | | | |
| TTS-1230 | TTS - Monitoring Installation and Pumping Test | 21 | 24-Sep-22 | 20-Oct-22 | -61 | █ TTS - Monitoring Installation and Pumping Test | | | | | | | | | | | | | | | | | | | |
| Zone 3 Construction | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 1 - Advance Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| Zone 3A (at SHT) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Relocation of Heater Room (Location C) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3A-000550 | Relocation and T&C (ATAL) | 24 | 30-Jun-22 A | 23-Jul-22 | -166 | █ Relocation and T&C (ATAL) | | | | | | | | | | | | | | | | | | | |
| Digested Sludge Pumping Station (Location F) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3B-330 | T&C Works (ATAL) | 8 | 30-Jun-22 | 09-Jul-22 | 1663 | █ T&C Works (ATAL) | | | | | | | | | | | | | | | | | | | |
| Pipe Connection | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3A-000370 | 240m3 Temp SHT Completion (Location B) | 0 | | 20-Jun-22 A | | ◆ 240m3 Temp SHT Completion (Location B) | | | | | | | | | | | | | | | | | | | |
| Z3A-000390 | Digested Sludge Pumping Station Completion (Location F) | 0 | | 09-Jul-22 | 1663 | ◆ Digested Sludge Pumping Station Completion (Location F) | | | | | | | | | | | | | | | | | | | |
| Z3A-000400 | Temp. Water Heater House Completion (Location C) | 0 | | 23-Jul-22 | -130 | ◆ Temp. Water Heater House Completion (Location C) | | | | | | | | | | | | | | | | | | | |
| Z3A-000410 | Completion of Zone 3A Diversion | 0 | | 22-Aug-22 | 1631 | ◆ Completion of Zone 3A Diversion | | | | | | | | | | | | | | | | | | | |
| Sludge/Supernatant DI Pipe | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3A-000360 | Connection between SDT and Temp. SHT & SDB | 5 | 11-Jul-22 | 15-Jul-22 | 1663 | █ Connection between SDT and Temp. SHT & SDB | | | | | | | | | | | | | | | | | | | |
| Gas Pipe - SS316L | | | | | | | | | | | | | | | | | | | | | | | | | |
| DN300 from Gas Holders to Compressor House | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3A-000380 | Connection at Gas Holders | 10 | 31-May-22 A | 17-Jun-22 A | | █ Connection at Gas Holders | | | | | | | | | | | | | | | | | | | |
| Z3A-000420 | Connection at Compressor House | 5 | 18-Jun-22 A | 24-Jun-22 A | | █ Connection at Compressor House | | | | | | | | | | | | | | | | | | | |
| DN300 from SDT, Compressor House to Gas Holders | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3A-000450 | Connection at Gas Holders | 10 | 05-May-22 A | 24-Jun-22 A | | █ Connection at Gas Holders | | | | | | | | | | | | | | | | | | | |
| Z3A-000460 | Gas Purging of SDT No.2 (YLEPP) | 21 | 05-May-22 A | 15-Jun-22 A | | █ Gas Purging of SDT No.2 (YLEPP) | | | | | | | | | | | | | | | | | | | |
| Z3A-000470 | Connection at SDT No.2,3 & 4 | 1 | 15-Jun-22 A | 18-Jun-22 A | | █ Connection at SDT No.2,3 & 4 | | | | | | | | | | | | | | | | | | | |
| Z3A-000480 | Gas Purging of SDT No.1 (YLEPP) | 21 | 04-Jun-22 A | 29-Jun-22 A | | █ Gas Purging of SDT No.1 (YLEPP) | | | | | | | | | | | | | | | | | | | |
| Z3A-000490 | Connection at SDT No.1 | 1 | 30-Jun-22 A | 30-Jun-22 A | | █ Connection at SDT No.1 | | | | | | | | | | | | | | | | | | | |
| DN200 from Gas Holder to Temp. Water Heater House | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3A-000440 | Connection at Gas Holders | 10 | 25-May-22 A | 24-Jun-22 A | | █ Connection at Gas Holders | | | | | | | | | | | | | | | | | | | |
| Hotwater DI Pipe | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3A-000500 | Connection between Compressor House and Temp. Water Heater House | 2 | 29-Jun-22 A | 30-Jun-22 A | | █ Connection between Compressor House and Temp. Water Heater House | | | | | | | | | | | | | | | | | | | |
| Zone 3B (at STB) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gravity Thickening Tank (Location A) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3B-000110 | T&C Works (North & South Tank) (ATAL) | 22 | 15-Jun-22 A | 13-Jul-22 | -132 | █ T&C Works (North & South Tank) (ATAL) | | | | | | | | | | | | | | | | | | | |
| Z3B-000260 | Temp. Gravity Thickening Tank (Location A) Completion | 0 | | 13-Jul-22 | -132 | ◆ Temp. Gravity Thickening Tank (Location A) Completion | | | | | | | | | | | | | | | | | | | |
| Temporary Primary Sludge Pumping Station (Location D) | | | | | | | | | | | | | | | | | | | | | | | | | |



- █ Remaining Level of Eff.
- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1

Monthly Progress Report No. 20 - 3MRP (Jun 2022)

Project ID : DWP.DPr15_220716-J
 Layout : DC201910 MPR20-3MRP
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| Monthly Progress Report No. 20 - 3MRP | | | |
|---------------------------------------|----------|---------|----------|
| Date | Revision | Checked | Approved |
| 30-Jun-22 | Rev. 0 | | |

| Activity ID | Activity Name | Orig Dur | Early Start | Early Finish | Total Float | June 20 | | | | | July 21 | | | | | August 22 | | | | | September 23 | | | October 24 | |
|--|---|----------|-------------|--------------|-------------|---|----|----|----|----|---------|----|----|----|----|-----------|----|----|----|----|--------------|----|----|------------|--|
| | | | | | | 29 | 05 | 12 | 19 | 26 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 04 | 11 | 18 | 25 | 02 | |
| | | | | | | Gantt Chart Data | | | | | | | | | | | | | | | | | | | |
| Z3A-290 | Civil and Structural Works Construction | 27 | 25-Mar-22 A | 16-Jul-22 | -158 | Civil and Structural Works Construction | | | | | | | | | | | | | | | | | | | |
| Z3A-300 | E&M Installation (ATAL) | 14 | 12-Jul-22 | 27-Jul-22 | -158 | E&M Installation (ATAL) | | | | | | | | | | | | | | | | | | | |
| Z3A-310 | T&C Works (ATAL) | 14 | 28-Jul-22 | 12-Aug-22 | -158 | T&C Works (ATAL) | | | | | | | | | | | | | | | | | | | |
| Z3A-430 | Temp. Primary Sludge Pumping Station (Location D) Completion | 0 | | 12-Aug-22 | -158 | Temp. Primary Sludge Pumping Station (Location D) Completion | | | | | | | | | | | | | | | | | | | |
| Temporary Thickened Sludge / Supernatant Pumping Station (Location E1) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3B-000150 | E&M Works (ATAL) & T&C (ATAL) | 38 | 02-Jul-22 | 15-Aug-22 | -160 | E&M Works (ATAL) & T&C (ATAL) | | | | | | | | | | | | | | | | | | | |
| Z3B-000270 | Temp. Thickening Sludge/Supernatant Pumping Station (Location E1) Completion | 0 | | 15-Aug-22 | -160 | Temp. Thickening Sludge/Supernatant Pumping Station (Location E1) Completion | | | | | | | | | | | | | | | | | | | |
| Z3B-000450 | Civil and Structural Works Construction | 20 | 19-Jun-22 A | 12-Jul-22 | -160 | Civil and Structural Works Construction | | | | | | | | | | | | | | | | | | | |
| Relocation of Ferri Chloride (FeCl3) Dosing System & LV Switchboard (Location E2) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3B-000200 | E&M Works (ATAL) & T&C Works (ATAL) | 40 | 09-Jun-22 A | 06-Aug-22 | -153 | E&M Works (ATAL) & T&C Works (ATAL) | | | | | | | | | | | | | | | | | | | |
| Z3B-000280 | FeCl3 Relocation (Location E2) Completion | 0 | | 06-Aug-22 | -153 | FeCl3 Relocation (Location E2) Completion | | | | | | | | | | | | | | | | | | | |
| Pipe Laying | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3B-000240 | Pipe Installation from CT to MH2 (Batch 1 - DN250 Supernatant) | 20 | 18-Dec-21 A | 12-Jul-22 | -130 | Pipe Installation from CT to MH2 (Batch 1 - DN250 Supernatant) | | | | | | | | | | | | | | | | | | | |
| Z3B-000350 | Pipe Installation from Location A to Location E (Batch 6 - DN250 Supernatant) | 36 | 31-Dec-21 A | 21-Jul-22 | -139 | Pipe Installation from Location A to Location E (Batch 6 - DN250 Supernatant) | | | | | | | | | | | | | | | | | | | |
| Z3B-000360 | Pipe Installation from Location A to Location E & SDT (Batch 7 - DN200 Sludge) | 36 | 17-Jan-22 A | 21-Jul-22 | -139 | Pipe Installation from Location A to Location E & SDT (Batch 7 - DN200 Sludge) | | | | | | | | | | | | | | | | | | | |
| Z3B-000370 | Pipe Installation from Temp. Primary Sludge Pumping Station (Location D) to CT (Batch 7 - DN200 Sludge) | 20 | 17-Jan-22 A | 12-Jul-22 | -131 | Pipe Installation from Temp. Primary Sludge Pumping Station (Location D) to CT (Batch 7 - DN200 Sludge) | | | | | | | | | | | | | | | | | | | |
| Pipe Connection | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3B-000380 | Connection at Temp. Thickened Sludge/ Supernatant Pumping Station (Location E1) | 1 | 16-Aug-22 | 16-Aug-22 | -160 | Connection at Temp. Thickened Sludge/ Supernatant Pumping Station (Location E1) | | | | | | | | | | | | | | | | | | | |
| Z3B-000390 | Temp. Gravity Thickening Tank (Location A) Completion | 0 | | 13-Jul-22 | -132 | Temp. Gravity Thickening Tank (Location A) Completion | | | | | | | | | | | | | | | | | | | |
| Z3B-000400 | Temp. Primary Sludge Pumping Station (Location D) Completion | 0 | | 12-Aug-22 | -158 | Temp. Primary Sludge Pumping Station (Location D) Completion | | | | | | | | | | | | | | | | | | | |
| Z3B-000410 | Connection at Temp. Primary Sludge Pumping Station (Location D) | 1 | 13-Aug-22 | 13-Aug-22 | -158 | Connection at Temp. Primary Sludge Pumping Station (Location D) | | | | | | | | | | | | | | | | | | | |
| Z3B-000420 | FeCl3 System (Location E) Relocation Completion | 0 | | 06-Aug-22 | -153 | FeCl3 System (Location E) Relocation Completion | | | | | | | | | | | | | | | | | | | |
| Z3B-000430 | Temp. Thickened Sludge/ Supernatant Pumping Station (Location E1) Completion | 0 | | 15-Aug-22 | -160 | Temp. Thickened Sludge/ Supernatant Pumping Station (Location E1) Completion | | | | | | | | | | | | | | | | | | | |
| Z3B-000435 | Completion of Zone 3B Diversion - time risk allowance | 9 | 17-Aug-22 | 26-Aug-22 | -160 | Completion of Zone 3B Diversion - time risk allowance | | | | | | | | | | | | | | | | | | | |
| Z3B-000440 | Completion of Zone 3B Diversion | 0 | | 26-Aug-22 | -160 | Completion of Zone 3B Diversion | | | | | | | | | | | | | | | | | | | |
| Advance Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3S1A-3010 | Completion of Stage 1 (Construction & E&M for Temporary facilities) | 0 | | 23-Jul-22 | -130 | Completion of Stage 1 (Construction & E&M for Temporary facilities) | | | | | | | | | | | | | | | | | | | |
| Stage 1 Demolition Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| SHT 3&4 Demolition Works below ground | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3A-000030 | Demolition Works for Sludge Holding Tank No. 4 (below ground) | 25 | 16-Jun-22 A | 12-Jul-22 | -126 | Demolition Works for Sludge Holding Tank No. 4 (below ground) | | | | | | | | | | | | | | | | | | | |
| Z3A-000140 | Backfill to Ground Level | 7 | 07-Jul-22 | 14-Jul-22 | -173 | Backfill to Ground Level | | | | | | | | | | | | | | | | | | | |
| UC Decommission Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3A-000110 | Decommission Works for Existing Utilities Gallery | 12 | 23-Aug-22 | 05-Sep-22 | 1631 | Decommission Works for Existing Utilities Gallery | | | | | | | | | | | | | | | | | | | |
| Stage 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 2 : New Sludge Thickening Building (STB) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 2 - Demolition Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATALZ3S1-1050 | Switching Duty from SDT No.1 & 2 to SDT No.1 & 3 (9) for STB Demolition and Utility Corridor Construction | 23 | 30-Jun-22 | 27-Jul-22 | -56 | Switching Duty from SDT No.1 & 2 to SDT No.1 & 3 (9) for STB Demolition and Utility Corridor Construction | | | | | | | | | | | | | | | | | | | |
| ATALZ3S1-2210 | Switching Duty from SDT No.1 & 3 to SDT No. 3 & 4 (9) for STB Construction | 15 | 25-Jul-22 | 10-Aug-22 | -68 | Switching Duty from SDT No.1 & 3 to SDT No. 3 & 4 (9) for STB Construction | | | | | | | | | | | | | | | | | | | |
| Z3S2-2030 | Demolition of Existing Sludge Thickening House (8, Air Floatation Thickener) | 35 | 26-Aug-22 | 08-Oct-22 | -68 | Demolition of Existing Sludge Thickening House (8, Air Floatation Thickener) | | | | | | | | | | | | | | | | | | | |
| Z3S2-2040 | Demolition of Consolidation Tank (7) C1 & C2 | 24 | 27-Aug-22 | 24-Sep-22 | -53 | Demolition of Consolidation Tank (7) C1 & C2 | | | | | | | | | | | | | | | | | | | |
| Z3S2-2050 | Submission of Demolition Plan for STB, Review by PM(28d), Resubmission(14d), Obtain Approval(7d) | 49 | 15-Mar-22 A | 30-Jul-22 | -46 | Submission of Demolition Plan for STB, Review by PM(28d), Resubmission(14d), Obtain Approval(7d) | | | | | | | | | | | | | | | | | | | |
| Z3S2-2310 | Submission of Method Statement for demolition of STB, Review by PM(28d), Resubmission(14d), Obtain Approval(7d) | 26 | 30-Jun-22 | 30-Jul-22 | -46 | Submission of Method Statement for demolition of STB, Review by PM(28d), Resubmission(14d), Obtain Approval(7d) | | | | | | | | | | | | | | | | | | | |
| Stage 2 : STB Pre-drilling Works | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3S1a.7-70 | Complete Predrilling Works for STB | 0 | | 19-Sep-22 | 26 | Complete Predrilling Works for STB | | | | | | | | | | | | | | | | | | | |
| Z3S3-3480 | Predrilling Works (2 nos. STB-PD7,9) | 10 | 07-Sep-22 | 19-Sep-22 | -34 | Predrilling Works (2 nos. STB-PD7,9) | | | | | | | | | | | | | | | | | | | |
| Z3S3-3490 | Environment GI (4 nos., 7d/no., 2 rigs) & Submit RAP Report to EPD (30 days) | 14 | 26-Sep-22 | 13-Oct-22 | -60 | Environment GI (4 nos., 7d/no., 2 rigs) & Submit RAP Report to EPD (30 days) | | | | | | | | | | | | | | | | | | | |
| Stage 2 : Existing Sludge Holding Tanks | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3S1a.7-60 | Completion Connection to Temporary SHT & Dewatering House | 0 | | 23-Jul-22 | -130 | Completion Connection to Temporary SHT & Dewatering House | | | | | | | | | | | | | | | | | | | |
| Z3S2-2010 | Demolition of SHT 2 (10) superstructure | 20 | 29-Aug-22 | 21-Sep-22 | -160 | Demolition of SHT 2 (10) superstructure | | | | | | | | | | | | | | | | | | | |
| Z3S2-2015 | Demolition of SHT 1 (10) | 26 | 23-Jun-22 A | 19-Jul-22 | -172 | Demolition of SHT 1 (10) | | | | | | | | | | | | | | | | | | | |
| Z3S2.5-10 | Demolition of Existing Water Heater House | 25 | 25-Jul-22 | 22-Aug-22 | -166 | Demolition of Existing Water Heater House | | | | | | | | | | | | | | | | | | | |
| Stage 2 : Biogas Holder No. 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Z3BH-0995 | Biogas Holder No. 1 - GI Works | 21 | 16-May-22 A | 13-Jul-22 | -172 | Biogas Holder No. 1 - GI Works | | | | | | | | | | | | | | | | | | | |
| Z3BH-1000 | Biogas Holder No. 1 - Band drain Installation for Ground Improvement | 25 | 15-Jul-22 | 12-Aug-22 | -173 | Biogas Holder No. 1 - Band drain Installation for Ground Improvement | | | | | | | | | | | | | | | | | | | |
| Z3BH-1040 | Biogas Holder No. 1 - Surge | 18 | 25-Aug-22 | 15-Sep-22 | -173 | Biogas Holder No. 1 - Surge | | | | | | | | | | | | | | | | | | | |
| Z3BH-1050 | Biogas Holder No. 1 - Consolidation test | 70 | 16-Sep-22 | 08-Dec-22 | -173 | Biogas Holder No. 1 - Consolidation test | | | | | | | | | | | | | | | | | | | |
| Z3BH-1060 | Biogas Holder No. 1 - Band drain Installation for Ground Improvement @ SHT 1 and existing water heater house | 10 | 13-Aug-22 | 24-Aug-22 | -173 | Biogas Holder No. 1 - Band drain Installation for Ground Improvement @ SHT 1 and existing water heater house | | | | | | | | | | | | | | | | | | | |
| Stage 2 : Utility Corridor Construction | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATALZ3S1-2230 | Switching Duty from SDT No.4 to No. 1 (9) | 23 | 14-Sep-22 | 12-Oct-22 | 30 | Switching Duty from SDT No.4 to No. 1 (9) | | | | | | | | | | | | | | | | | | | |
| Stage 3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 3 : New Sludge Thickening Building (STB) (Continued) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 3 : STB - Driven H-pile | | | | | | | | | | | | | | | | | | | | | | | | | |



- █ Remaining Level of Effort
- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1

Monthly Progress Report No. 20 - 3MRP (Jun 2022)

Project ID : DWP.DPr15_220716-J
Layout : DC201910 MPR20-3MRP
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| Monthly Progress Report No. 20 - 3MRP | | | |
|---------------------------------------|----------|---------|----------|
| Date | Revision | Checked | Approved |
| 30-Jun-22 | Rev. 0 | | |

| Activity ID | Activity Name | Orig Dur | Early Start | Early Finish | Total Float | June 20 | | | | | July 21 | | | | August 22 | | | | September 23 | | | | October 24 |
|--|---|----------|-------------|--------------|-------------|---------|----|----|----|----|--|----|----|----|-----------|----|----|----|--------------|----|----|----|------------|
| | | | | | | 29 | 05 | 12 | 19 | 26 | 03 | 10 | 17 | 24 | 31 | 07 | 14 | 21 | 28 | 04 | 11 | 18 | 25 |
| Z3S3-3500 | STB - Driven H-pile Start | 0 | 06-Jul-22 | | -68 | | | | | | ◆ STB - Driven H-pile Start | | | | | | | | | | | | |
| Z3S3-3510 | STB - Driven H-pile Zone P1 (23 nos., 1219m) @40m/day | 31 | 06-Jul-22 | 10-Aug-22 | -68 | | | | | | STB - Driven H-pile Zone P1 (23 nos., 1219m) @40m/day | | | | | | | | | | | | |
| Z3S3-3520 | STB - Driven H-pile Zone P2 (37 nos., 1961m) @60m/day | 33 | 14-Sep-22 | 24-Oct-22 | -68 | | | | | | | | | | | | | | | | | | |
| Z3S3-3540 | STB - Driven H-pile Zone P3 (12 nos., 636m) @20m/day | 32 | 27-Aug-22 | 06-Oct-22 | -61 | | | | | | | | | | | | | | | | | | |
| Z3S3-3550 | STB - Driven H-pile Zone P4A&B (21 nos., 1113m) @40m/day | 28 | 11-Aug-22 | 13-Sep-22 | -68 | | | | | | STB - Driven H-pile Zone P4A | | | | | | | | | | | | |
| Stage 3 : STB Foundation and ELS | | | | | | | | | | | | | | | | | | | | | | | |
| Z3S3-3010 | STB - Site Setup & Mobilization | 9 | 15-Jun-22 A | 05-Jul-22 | -68 | | | | | | STB - Site Setup & Mobilization | | | | | | | | | | | | |
| Stage 4 | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 4 : New Sludge Digester No. 1-3 (Continued) | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 4 : SD 1-3 Foundation and ELS | | | | | | | | | | | | | | | | | | | | | | | |
| Z3S3-2045 | Backfilling after SHT 4 demolition | 10 | 13-Jul-22 | 23-Jul-22 | -126 | | | | | | Backfilling after SHT 4 demolition | | | | | | | | | | | | |
| Z3S3-2050 | Sludge Digester No. 1-3 - Sheet Piles Install Portion 1 (SHT 4 area) | 16 | 25-Jul-22 | 11-Aug-22 | -126 | | | | | | Sludge Digester No. 1-3 - Sheet Piles Install Portion 1 (SHT 4 area) | | | | | | | | | | | | |
| Z3S3-2060 | Sludge Digester No. 1-3 - Sheet Piles Install Portion 2 (3,128m2 @90m2/d) | 36 | 22-Sep-22 | 04-Nov-22 | -160 | | | | | | | | | | | | | | | | | | |
| Stage 7 | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 7: New Sludge Digester No. 4 | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 7 : SD 4 Foundation and ELS Works | | | | | | | | | | | | | | | | | | | | | | | |
| Z3S8SD-2000 | Sludge Digester No. 4 - Pre-drill (1 no. SD-BH6) | 14 | 16-May-22 A | 14-Jun-22 A | | | | | | | Sludge Digester No. 4 - Pre-drill (1 no. SD-BH6) | | | | | | | | | | | | |
| Stage 7 : New Sludge Digester No. 5 and 6 | | | | | | | | | | | | | | | | | | | | | | | |
| Stage 7 : SD 5,6 Foundation and ELS Works | | | | | | | | | | | | | | | | | | | | | | | |
| Z3S8SD-1010 | Sludge Digester No. 5-6 - Pre-drill (3 nos. SD-BH1,SD-BH3,SD-BH4) | 48 | 13-Sep-22 | 09-Nov-22 | 769 | | | | | | | | | | | | | | | | | | |



- █ Remaining Level of Ef...
- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1

Monthly Progress Report No. 20 - 3MRP (Jun 2022)

Project ID : DWP.DPr15_220716-J
 Layout : DC201910 MPR20-3MRP
 Page 9 of 9

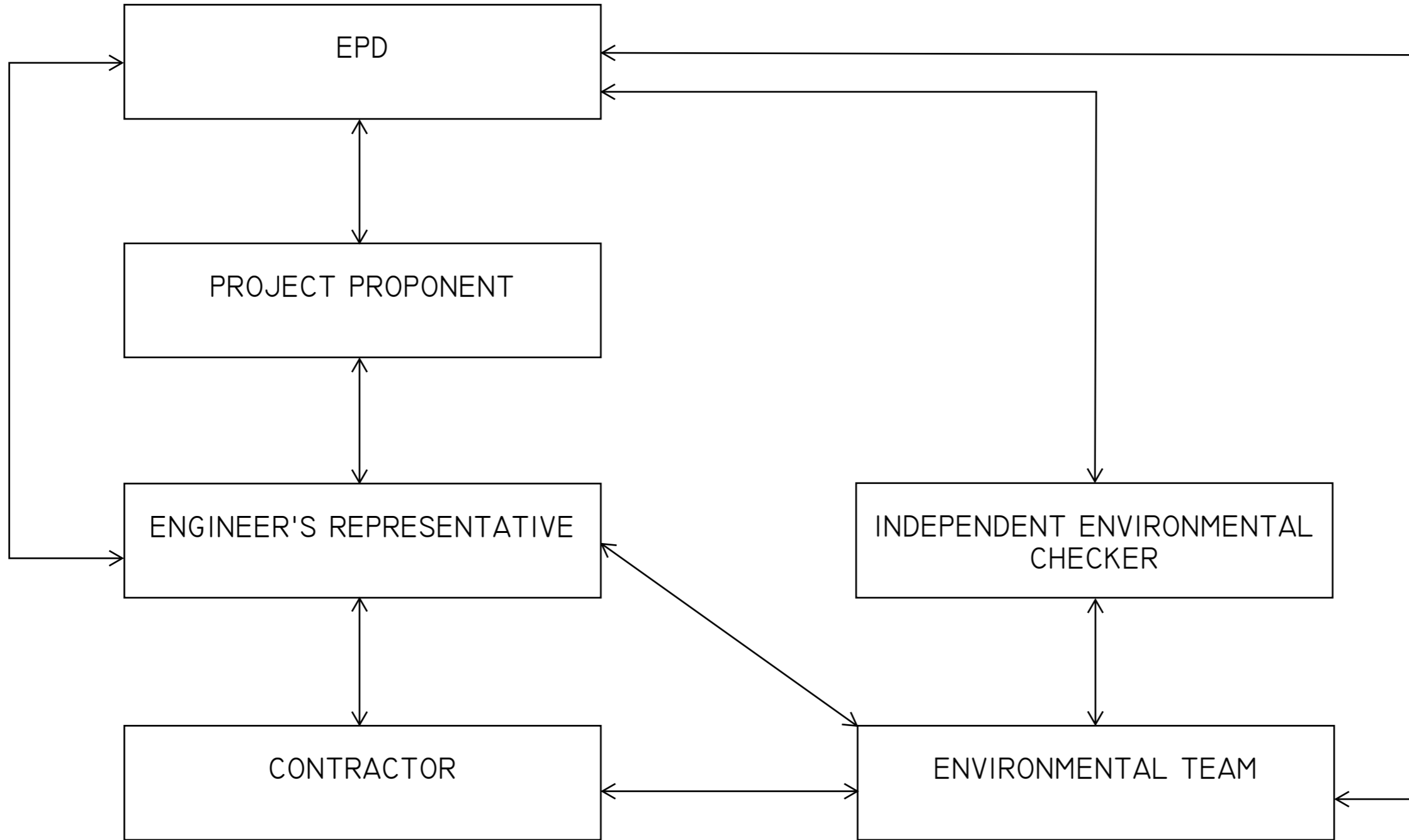
| Monthly Progress Report No. 20 - 3MRP | | | |
|---------------------------------------|----------|---------|----------|
| Date | Revision | Checked | Approved |
| 30-Jun-22 | Rev. 0 | | |

Appendix B

Project Organization Chart

LEGEND:

↔ LINE OF COMMUNICATION



PROJECT
項目

YUEN LONG EFFLUENT
POLISHING PLANT -
INVESTIGATION, DESIGN
AND CONSTRUCTION

CLIENT
業主

渠務署
Drainage Services Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
分判工程顧問公司

ISSUE/REVISION
發行

| I/R 發行 | DATE 日期 | DESCRIPTION 內容摘要 | CHK. 審核 |
|-----------|------------|---------------------|------------|
| | | | |
| | | | |
| | | | |
| | | | |

STATUS
階段

SCALE
比例

A3 1 : 40000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60505476

CONTRACT NO.
合約編號

CE 3/2015 (DS)

SHEET TITLE
圖紙名稱

PROJECT ORGANISATION

SHEET NUMBER
圖紙編號

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Appendix C

Action and Limit Levels

Action and Limit Levels for Air Quality

| Parameters | Action Level | Limit Level |
|--|--|------------------------------|
| 1-hour TSP Level in $\mu\text{g}/\text{m}^3$ | ¹ For baseline level $\leq 384 \mu\text{g}/\text{m}^3$, Action level = $(\text{baseline level} * 1.3 + \text{Limit level})/2$; For baseline level $> 384 \mu\text{g}/\text{m}^3$, Action level = Limit level | 500 $\mu\text{g}/\text{m}^3$ |

Notes:

1. The Action Level for 1-hour TSP Level:

a) $AM1 = (63 * 1.3 + 500) / 2 = 291 \mu\text{g}/\text{m}^3$;

b) $AM2 = (70 * 1.3 + 500) / 2 = 296 \mu\text{g}/\text{m}^3$.

Action and Limit Levels for Construction Noise

| Time Period | Action Level | Limit Level |
|--------------------------------------|---|-------------|
| 0700 - 1900 hours on normal weekdays | When one documented complaint is received | 75 dB(A) * |

Notes:

- If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.
- Correction of +3 dB(A) shall be made to the free field measurements.

Action and Limit Levels for Water Quality

| Parameters | Action Levels | Limit Levels |
|--|---|---|
| <i>Construction Phase Water Quality Monitoring</i> | | |
| DO in mg/L (Surface, Middle & Bottom) ² | <p><u>Surface & Middle</u> 5%-ile of baseline data for surface and middle layer.</p> <p><u>Bottom</u> 5%-ile of baseline data for bottom layer.</p> | <p><u>Surface & Middle</u> 4 mg/L or 1%-ile of baseline data for surface and middle layer.</p> <p><u>Bottom</u> 2 mg/L or 1%-ile of baseline data for bottom layer.</p> |
| SS in mg/L (depth-averaged ¹) ³ | 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day | 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day |
| Turbidity in NTU (depth-averaged ¹) ³ | 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day | 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day |

Notes:

- "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths;
- For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits;
- For SS and turbidity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

Action and Limit Levels for Ecology

Active Ardeid Night Roost Survey

As there are no specific guidelines on noise thresholds for roosting ardeids, the Action and Limit levels specified in below table were based on study conducted on exploring behavioural responses of shorebirds to impulsive noise (Wright et al. 2010).

| Time Period | Action Level | Limit Level |
|--|-------------------------|-------------------------|
| after 17:30 during dry season after 18:00 during wet season | 65.5 dB(A) ¹ | 72.2 dB(A) ² |

Notes:

1. Behavioural response of some kind more likely to occur
2. Flight with abandonment of the site becomes the most likely outcome of the disturbance

Ecological Monitoring of Birds

| Method | Parameters | Action Level ³ | Limit Level ³ |
|-------------|---|---|--|
| Transect | Abundance of all avifauna species (including but not only limited to overwintering waterbirds) in the community | Significant decline ^{1,2} in any of these parameters during the current monitoring month relative to the corresponding month during the baseline survey. | Significant decline in any of these parameters for three consecutive months. |
| | Species diversity of all avifauna species (including but not only limited to overwintering waterbirds) in the community | | |
| | Abundance of species with conservation importance only | | |
| | Species diversity of species with conservation importance only | | |
| Point Count | Abundance of all avifauna species (including but not only limited to overwintering waterbirds) in the community | | |
| | Species diversity of all avifauna species (including but not only limited to overwintering waterbirds) in the community | | |
| | Abundance of species with conservation importance only | | |
| | Species diversity of species with conservation importance only | | |

Notes:

1. Significant decline in abundance will be determined using two-tailed t-test, $\alpha = 0.05$.
2. Significant decline in species diversity will be determined using the Hutcheson t-test, two tailed.
3. Response will be triggered if any of the above level is reached for each parameter.

Appendix D

Calibration Certificates/ reports of
Monitoring Equipments

Air Quality Monitoring Equipments

Report no. : 940891CA212394(1)

Page 1 of 1

CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Laser dust monitor
Manufacturer : SIBATA
Model No. : LD-5R
Serial No. : 155716
Specification Limit : NA
Next Calibration Date : 02-Sep-2022

Laboratory Information

Description : 1. Balance 2. TSP high volume air sampler
Equipment ID. / Serial no. : 1. C-065-9 2. 4350
Date of Calibration : 03-Sep-2021 Ambient Temperature : 25 ± 10 °C
Calibration Location : General Chemical Laboratory of FTS and Ma Wan A1 Site Boundary
Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

Calibration Results :

| Reference concentration (mg/m ³) | Total count for 1 hour | CPM (Count per minute) |
|--|------------------------|------------------------|
| 0.0416 | 631 | 10.52 |
| 0.0388 | 626 | 10.43 |
| 0.0266 | 598 | 9.97 |

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m³) = K x [UUT reading (CPM)], where K = 0.003460
3. Correlation coefficient (r) : 0.9992

Checked by : Chan Chun Wai Date : 28-9-2021 Certified by : Chan Chun Wai Date : 28-9-2021
CA-R-297 (22/07/2009) Chan Chun Wai (Manager)

**** End of Report ****

Report no. : 940891CA212394

Page 1 of 1

CALIBRATION CERTIFICATE OF DUST METER

Client : Fugro Technical Services Limited

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Laser dust monitor
 Manufacturer : SIBATA
 Model No. : LD-5R
 Serial No. : 155717
 Specification Limit : NA
 Next Calibration Date : 02-Sep-2022

Laboratory Information

Description : 1. Balance 2. TSP high volume air sampler
 Equipment ID. / Serial no. : 1. C-065-9 2. 4350
 Date of Calibration : 03-Sep-2021 Ambient Temperature : 25 ± 10 °C
 Calibration Location : General Chemical Laboratory of FTS and Ma Wan A1 Site Boundary
 Method Used : By direct comparison the weight of dust particle trapped in a filter paper using high volume sampler (TSP method) for a certain period, with the reading of the UUT. They should be placed at the same location and powered on and off at the same time.

Calibration Results :

| Reference concentration (mg/m ³) | Total count for 1 hour | CPM (Count per minute) |
|--|------------------------|------------------------|
| 0.0416 | 672 | 11.20 |
| 0.0388 | 650 | 10.83 |
| 0.0266 | 597 | 9.95 |

Remarks:

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The interpolation equation : Concentration (mg/m³) = K x [UUT reading (CPM)], where K = 0.003345
3. Correlation coefficient (r) : 0.9940

Checked by : Canny Date : 28-9-2021 Certified by : Chan Chun Wai Date : 28-9-2021
 CA-R-297 (22/07/2009) Chan Chun Wai (Manager)

** End of Report **



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

| | |
|-------------------------------|----------------------------------|
| Location : MaWTF, Ma Wan | Date of Calibration: 26-Jul-21 |
| Location ID: A1 Site Boundary | Next Calibration Date: 30-Oct-21 |
| | Technician: Herman Wang |

CONDITIONS

| | | | |
|---------------------------|-------|-----------------------------|-----|
| Sea Level Pressure (hPa): | 998.1 | Corrected Pressure (mm Hg): | 749 |
| Temperature (°C): | 34.0 | Temperature (K): | 307 |

CALIBRATION ORIFICE

| | | | |
|-------------------|-----------|-----------------|-----------|
| Make: | Tisch | Qstd Slope: | 2.11508 |
| Model: | TE-5025A | Qstd Intercept: | -0.02962 |
| Calibration Date: | 11-Sep-20 | Expiry Date: | 11-Sep-21 |

CALIBRATIONS

| Plate No. | H2O (L) (in) | H2O (R) (in) | H2O (in) | Qstd (m ³ /min) | I (chart) | IC (corrected) | LINEAR REGRESSION |
|-----------|--------------|--------------|----------|----------------------------|-----------|----------------|---|
| 18 | 5.50 | -6.50 | 12.000 | 1.616 | 57.00 | 55.74 | Slope = 28.3811 Intercept = 9.9481 Corr. coeff.= 0.9979 |
| 13 | 4.30 | -5.40 | 9.700 | 1.454 | 52.00 | 50.85 | |
| 10 | 2.90 | -4.50 | 7.400 | 1.272 | 48.00 | 46.94 | |
| 7 | 1.90 | -2.80 | 4.700 | 1.016 | 39.00 | 38.14 | |
| 5 | 1.00 | -2.00 | 3.000 | 0.815 | 34.00 | 33.25 | |

Calculations:

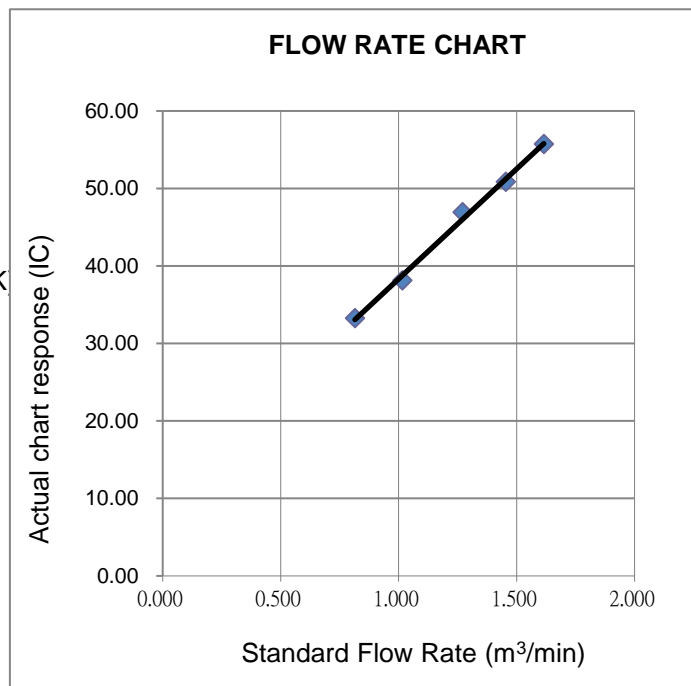
Qstd = 1/m[$\sqrt{H_2O(P_a/P_{std})(T_{std}/T_a)}$]-b]
 IC = I[$\sqrt{P_a/P_{std})(T_{std}/T_a)}$]

- Qstd = standard flow rate
- IC = corrected chart response
- I = actual chart response
- m = calibrator Qstd slope
- b = calibrator Qstd intercept
- Ta = actual temperature during calibration (deg K)
- Pa = actual pressure during calibration (mm Hg)
- Tstd = 298 deg K
- Pstd = 760 mm Hg

For subsequent calculation of sampler flow:

$1/m((I)[\sqrt{298/T_{av}}(P_{av}/760)]-b)$

- m = sampler slope
- b = sampler intercept
- I = chart response
- Tav = daily average temperature
- Pav = daily average pressure



CALIBRATION REPORT OF WIND METER

| | |
|---|---|
| Project: Contract No. SPW 07/2020 Location: Yuen Long Sewage Treatment Works | Date of Calibration: 26-Mar-2022 Next Calibration Date: 25-Sep-2022 Technician: Sam Fong |
| Brand: Global Water Model: GL500-7-2 | Serial No: 2012000974 |
| Anemometer | |
| Brand: Benetech Model: GM816 | Equipment ID: 08 |
| Procedures: | |
| 1. Wind Still Test: | The wind speed sensor was held by hand until stabilized. |
| 2. Wind Speed Test: | The wind meter was calibrated in-situ and compared with the Anemometer. |
| 3. Wind Direction Test: | The wind meter was calibrated in-situ and compared with a marine compass from four directions. |

Wind Still Test:

| Wind Speed (m/s) |
|------------------|
| 0.00 |

Wind Speed Test:

| Global Water (m/s) | Anemometer (m/s) |
|--------------------|------------------|
| 1.4 | 1.2 |
| 2.1 | 2.3 |
| 2.9 | 2.8 |

Wind Direction Test:

| | Marine Compass (o) |
|-----|--------------------|
| 348 | 352 |
| 206 | 208 |
| 267 | 265 |
| 293 | 290 |



Wan Ka Ho
 Project Consultant

Report Date: 28/3/2022

Noise Monitoring Equipments

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter
 Manufacturer : Casella
 Model No. :
 Serial No. :
 Equipment ID : N/A
 Next Calibration Date : 27-Oct-2022
 Specification Limit : EN 61672-1: 2003 Class 1

| | Meter | Microphone | Preamplifier |
|------------|---------|------------|--------------|
| Model No. | CEL-63X | CE-251 | CEL-495 |
| Serial No. | 1488272 | 03876 | 002752 |

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)
 Equipment ID. : R-108-1
 Date of Calibration : 28-Oct-2021
 Calibration Location : Calibration Laboratory of FTS Ambient Temperature : 20±2 °C
 Method Used : By direct comparison Relative Humidity : <80% R.H.

Calibration Results :

| Parameters | Mean Value (dB) | Specification Limit(dB) |
|--------------------------------|-----------------|---------------------------|
| A-weighting frequency response | 4000Hz | 1.8 2.6 to -0.6 |
| | 2000Hz | 1.5 2.8 to -0.4 |
| | 1000Hz | 0.2 1.1 to -1.1 |
| | 500Hz | -3.2 -1.8 to -4.6 |
| | 250Hz | -8.7 -7.2 to -10.0 |
| | 125Hz | -16.1 -14.6 to -17.6 |
| | 63Hz | -26.2 -24.7 to -27.7 |
| Differential level linearity | 94dB-104dB | 0.0 ± 0.6 |
| | 104dB-114dB | 0.0 ± 0.6 |

Remarks :

- The equipment used in this calibration is traceable to recognized National Standards.
- The mean value is the average of four measurements.
- For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast
- The UUT does comply with EN 61672-1: 2003 Class 1 sound level meter for the above measurement.
- The values given in this Calibration Certificate only relate to unit under test and the values measured at the time of the test. Any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of :

Checked by : Date : 3-11-2021 Certified by : K.T. Leung Date : 4.11.2021
 CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

**** End of Report ****

Report no.: 212769CA220043

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

| | | |
|-----------------------|---|--------------------------|
| Description | : | Sound Level Meter |
| Manufacturer | : | Casella |
| Model No. | : | Meter |
| Serial No. | : | Microphone |
| Equipment ID | : | Preamplifier |
| Next Calibration Date | : | CEL-63X |
| Specification Limit | : | 1488304 |
| | | 03456 |
| | | 002850 |
| | | N-62 |
| | | 05-Jan-2023 |
| | | EN 61672-1: 2003 Class 1 |

Laboratory Information

Details of Reference Equipment -

| | | | |
|----------------------|---|---|-------------------------------|
| Description | : | B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting) | |
| Equipment ID. | : | R-108-1 | |
| Date of Calibration | : | 06-Jan-2022 | |
| Calibration Location | : | Calibration Laboratory of FTS | Ambient Temperature : 20±2 °C |
| Method Used | : | By direct comparison | Relative Humidity : <80% R.H. |

Calibration Results :

| Parameters | Mean Value (dB) | Specification Limit(dB) |
|--------------------------------|-----------------|-------------------------|
| A-weighting frequency response | 4000Hz | 2.6 to -0.6 |
| | 2000Hz | 2.8 to -0.4 |
| | 1000Hz | 1.1 to -1.1 |
| | 500Hz | -1.8 to -4.6 |
| | 250Hz | -7.2 to -10.0 |
| | 125Hz | -14.6 to -17.6 |
| | 63Hz | -24.7 to -27.7 |
| Differential level linearity | 94dB-104dB | ± 0.6 |
| | 104dB-114dB | ± 0.6 |

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. For calibration: Reference SPL are 94, 104 & 114dB, range setting is 20-140dB & time weighting is fast.
4. The UUT does comply with EN 61672-1: 2003 Class 1 sound level meter for the above measurement.
5. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

| | | | |
|--------------------------|-------------------------|------------------------------------|-------------------------|
| Checked by : <u>Cuny</u> | Date : <u>10-1-2022</u> | Certified by : <u>K.H. Leung</u> | Date : <u>11-1-2022</u> |
| CA-R-297 (22/07/2009) | | Leung Kwok Tai (Assistant Manager) | |

** End of Report **

Report no.: 212769CA212069(3)

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Client Supplied Information

Details of Unit Under Test, UUT

Description : Sound Calibrator
Manufacturer : Casella (Model CEL-120/1)
Serial No. : 2383707
Equipment ID : N/A

Next Calibration Date : 25-Aug-2022

Specification Limit : EN 60942: 2003 Class 1

Laboratory Information

Details of Calibration Equipment

Description : Reference Sound level meter
Equipment ID. : R-119-2

Date of Calibration : 26-Aug-2021

Calibration Location : Calibration Laboratory of FTS Ambient Temperature : 20±2 °C

Method Used : By direct comparison Relative Humidity : <80% R.H.

Calibration Results :

| Parameters (Setting of UUT) | Mean Value (error of measurement) | Specification Limit(dB) |
|-----------------------------|-----------------------------------|-------------------------|
| 94dB | -0.4 dB | ±0.4dB |
| 114dB | -0.3 dB | |

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The unit under test complies with the specification limit.
4. The values given in this Calibration Certificate only relate to the unit-under-test and the values measured at the time of the test. Any uncertainties quoted will not include allowances for the environmental changes, variation and shock during transportation, or the capability of any other laboratory to repeat the measurement.

Checked by : Canny Date : 27-8-2021 Certified by : K. Leung Date : 27-8-2021
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

**** End of Report ****

Report no.: 212769CA220043(1)

Page 1 of 1

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Calibrator
 Manufacturer : Casella (Model CEL-120/1)
 Serial No. : 2383982
 Equipment ID : N/A
 Next Calibration Date : 05-Jan-2023
 Specification Limit : EN 60942: 2003 Class 1

Laboratory Information


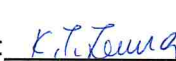
Description : Reference Sound level meter
 Equipment ID. : R-119-1
 Date of Calibration : 06-Jan-2022 Ambient Temperature : 22 °C
 Calibration Location : Calibration Laboratory of FTS Relative Humidity : <80% R.H.
 Method Used : By direct comparison

Calibration Results :

| Parameters (Setting of UUT) | Mean Value (error of measurement) | Specification Limit(dB) |
|-----------------------------|-----------------------------------|-------------------------|
| 94dB | 0.0 dB | ±0.4dB |
| 114dB | -0.2 dB | |

Remarks :

1. The equipment used in this calibration is traceable to recognized National Standards.
2. The mean value is the average of four measurements.
3. The equipment does comply with the specification limit.
4. The values given in this Calibration Certificate only relate to the values at the time of the test and any uncertainties will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling or the capability of any other laboratory to repeat the measurement.

Checked by :  Date : 10-1-2022 Certified by :  Date : 11-1-2022
 CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)

**** End of Report ****

Report No. : 212769CA220614

Page 1 of 1

CALIBRATION CERTIFICATE OF ANEMOMETER**Client Supplied Information**

Client : Fugro Technical Services Limited

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Anemometer

Manufacturer : Smart Sensor

Model No. : AR816

Serial No. : N/A

Equipment ID. : AM-001

Next Calibration Date : 28-Mar-2023

Laboratory Information

Details of Reference Equipment –

Description : Reference Anemometer

Equipment ID. : R-101-4

Date of Calibration : 29-Mar-2022 Ambient Temperature : 22 °C

Calibration Location : Calibration Laboratory of FTS

Method Used : In-house Method R-C-279

Calibration Results :

| Reference Reading (m/s) | UUT Reading (m/s) | Error (m/s) |
|----------------------------|----------------------|----------------|
| 2.1 | 2.0 | -0.1 |
| 3.6 | 4.0 | 0.4 |
| 5.4 | 6.0 | 0.6 |
| 7.0 | 8.0 | 1.0 |
| 8.8 | 10.0 | 1.2 |

Remarks :

1. The equipment being used in this calibration is traceable to recognized National Standards.
2. The expanded uncertainty is 0.5 m/s with a coverage factor of 2 at a confidence level of 95%.
3. The reported readings in this calibration are an average from 10 trials.

Checked by : Cenny Date : 31-3-2022 Certified by : K. T. Leung Date : 1-4-2022
CA-R-297 (22/07/2009) Leung Kwok Tai (Assistant Manager)**** End of Report ****

Water Quality Monitoring Equipments

Report No. : 142626WA220952



Page 1 of 3

Report on Calibration of YSI EXO-3 Multi-parameter Water Quality Meter**Information Supplied by Client**

Client : Fugro Technical Services Limited (MCL)

Client's address : 13/F, Fugro House – KCC2, No. 1 Kwai On Road, Kwai Chung, N.T., H.K.

Sample description : One YSI EXO-3 Multi-parameter Water Quality Meter

Client sample ID : Serial No. 19A105807

Test required : Calibration of the YSI EXO-3 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID : WA220952/1

Date sample received : 10/05/2022

Date of calibration : 26/05/2022

Next calibration date : 25/08/2022

Test method used : In-house comparison method

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

Report No. : 142626WA220952

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Results :
A. pH calibration

| pH reading at 25°C for Q.C. solution(6.86) and at 25°C for Q.C. solution(9.18) | | |
|--|----------|-----------|
| Theoretical | Measured | Deviation |
| 9.18 | 9.21 | +0.03 |
| 6.86 | 6.85 | -0.01 |

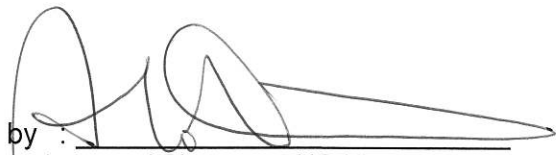
B. Salinity calibration

| Salinity, ppt | | | |
|---------------|----------|-----------|------------------------------|
| Theoretical | Measured | Deviation | Maximum acceptable Deviation |
| 1 | 1.00 | 0.00 | ± 0.1 |
| 10 | 10.03 | +0.03 | ± 0.5 |
| 20 | 19.98 | -0.02 | ± 1.0 |
| 30 | 29.97 | -0.07 | ± 1.5 |
| 40 | 40.00 | 0.00 | ± 2.0 |

C. Dissolved Oxygen calibration

| Trial No. | Dissolved oxygen content, mg/L | |
|-----------|--------------------------------|---------------|
| | By Titration | By D.O. meter |
| 1 | 8.01 | 8.06 |
| 2 | 8.01 | 8.04 |
| 3 | 7.91 | 8.02 |
| Average | 7.97 | 8.04 |

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.2 mg/L.

Certified by : 
 Approved Signatory : HO Kin Man, John
 Assistant General Manager – Laboratories
 Date : 16/2/2022

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

Report No. : 142626WA220952

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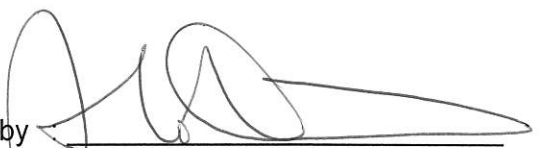
Results :

D. Temperature calibration

| Thermometer reading, °C | Meter reading, °C |
|-------------------------|-------------------|
| 22.7 | 22.856 |

E. Turbidity calibration

| Turbidity, N.T.U. | | | |
|-------------------|----------|-----------|------------------------------|
| Theoretical | Measured | Deviation | Maximum acceptable Deviation |
| 4 | 4.23 | +0.23 | ± 0.6 |
| 8 | 8.50 | +0.50 | ± 0.8 |
| 40 | 39.81 | -0.19 | ± 3.0 |
| 80 | 79.98 | -0.02 | ± 4.0 |

Certified by 
 Approved Signatory : HO Kin Man, John
 Assistant General Manager – Laboratories

Date : 16/2022
 ** End of Report **

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

Report No. : 142626WA221212



Page 1 of 3

Report on Calibration of YSI EXO-3 Multi-parameter Water Quality Meter**Information Supplied by Client**

Client : Fugro Technical Services Limited (MCL)

Client's address : 13/F, Fugro House – KCC2, No. 1 Kwai On Road, Kwai Chung, N.T., H.K.

Sample description : One YSI EXO-3 Multi-parameter Water Quality Meter

Client sample ID : Serial No. 19E100634

Test required : Calibration of the YSI EXO-3 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID : WA221212/1

Date sample received : 14/06/2022

Date of calibration : 28/06/2022

Next calibration date : 27/09/2022

Test method used : In-house comparison method

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

Report No. : 142626WA221212

Page 2 of 3

Results :
A. pH calibration

| pH reading at 25°C for Q.C. solution(6.86) and at 25°C for Q.C. solution(9.18) | | |
|--|----------|-----------|
| Theoretical | Measured | Deviation |
| 9.18 | 9.10 | -0.08 |
| 6.86 | 6.83 | -0.03 |

B. Salinity calibration

| Salinity, ppt | | | |
|---------------|----------|-----------|------------------------------|
| Theoretical | Measured | Deviation | Maximum acceptable Deviation |
| 1 | 0.99 | -0.01 | ± 0.1 |
| 10 | 9.98 | -0.02 | ± 0.5 |
| 20 | 20.04 | +0.04 | ± 1.0 |
| 30 | 29.97 | -0.03 | ± 1.5 |
| 40 | 40.10 | +0.10 | ± 2.0 |

C. Dissolved Oxygen calibration

| Trial No. | Dissolved oxygen content, mg/L | |
|-----------|--------------------------------|---------------|
| | By Titration | By D.O. meter |
| 1 | 7.84 | 8.01 |
| 2 | 7.91 | 7.99 |
| 3 | 7.96 | 8.01 |
| Average | 7.90 | 8.00 |

Differences of D.O. Content between Winkler Titration and D.O. meter should be less than 0.2 mg/L.

Certified by : 
 Approved Signatory : HO Kin Man, John
 Assistant General Manager – Laboratories
 Date : 18/7/2022

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

Report No. : 142626WA221212

Page 3 of 3

Results :

D. Temperature calibration

| Thermometer reading, °C | Meter reading, °C |
|-------------------------|-------------------|
| 22.3 | 22.360 |

E. Turbidity calibration

| Turbidity, N.T.U. | | | |
|-------------------|----------|-----------|------------------------------|
| Theoretical | Measured | Deviation | Maximum acceptable Deviation |
| 4 | 4.19 | +0.19 | ± 0.6 |
| 8 | 8.35 | +0.35 | ± 0.8 |
| 40 | 38.94 | -1.06 | ± 3.0 |
| 80 | 81.43 | +1.43 | ± 4.0 |

Certified by : 

Approved Signatory : HO Kin Man, John
Assistant General Manager – Laboratories

Date : 18/7/2022

** End of Report **

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

CALIBRATION CERTIFICATE

This document certifies that the instrument detailed below has been calibrated according to Valeport Limited's Standard Procedures, using equipment with calibrations traceable to UKAS or National Standards.

Calibration Certificate Number:

61134

Instrument Type:

MODEL 106

Instrument Serial Number:

67738

Calibrated By:

N.PADDON

Date:

11TH NOVEMBER 2019

Signed:

N. Paddon

Full details of the results from the calibration procedure applied to each fitted sensor are available, on request, via email. This summary certificate should be kept with the instrument.

A large, stylized number '50' in a bold, sans-serif font, with a small square icon above the '0'.

Valeport Limited
St. Peter's Quay, Totnes,
Devon TQ9 5EW UK

+44 (0) 1803 869292
sales@valeport.co.uk
www.valeport.co.uk

VAT No: CB 165 8753 67
Registered in England No: 1950444





a xylem brand

9940 Summers Ridge Road
San Diego, CA 92121
Tel: (858) 546-8327
support@sontek.com

Certificate of Calibration

TEST REPORT

| | |
|--------------------------|------------|
| Serial Number | 5906 |
| System Type | M9 |
| System Orientation | Down |
| Compass Type | Sontek |
| Compass Offset (degrees) | N/A |
| Communications Output | RS232 |
| Recorder Size (GB) | 14.9 |
| Firmware Version | 4.02 |
| Date Tested | 05/23/2017 |

POWER TEST

| | | |
|----------------------|------|---------------------|
| Command Mode (W): | 0.17 | Range : 0.00 – 0.30 |
| Sleep Mode (W): | N/A | Range : N/A |
| Ping Mode - 18V (W): | 2.67 | Range : 1.50 – 3.50 |
| Power Check | | PASS |

NOISE TEST

| | |
|---------------------------------|------|
| Beam 1 – 3.0 MHz (counts) | 95 |
| Beam 2 – 1.0 MHz (counts) | 96 |
| Beam 3 – 3.0 MHz (counts) | 95 |
| Beam 4 – 1.0 MHz (counts) | 101 |
| Beam 5 – 3.0 MHz (counts) | 93 |
| Beam 6 – 1.0 MHz (counts) | 95 |
| Beam 7 – 3.0 MHz (counts) | 91 |
| Beam 8 – 1.0 MHz (counts) | 100 |
| Beam Vertical – 500KHz (counts) | 88 |
| Noise Test | PASS |

VERIFICATION

| | |
|-------------------------|------|
| Velocity Check | PASS |
| Transmit Output | PASS |
| Sensitivity | PASS |
| Temperature Sensor | PASS |
| Compass Heading Check | PASS |
| Compass Level Check | PASS |
| Burn-in (24 hrs) | PASS |
| Load Default Parameters | DONE |

OPTIONS

| | |
|-----------------------------|-----------|
| Bottom Track | Installed |
| SmartPulse HD TM | Enabled |
| Stationary | Disabled |
| GPS Compass Integration | Disabled |
| RiverSurveyor | Enabled |
| HydroSurveyor | Disabled |

Verified by: **ainthasane**

This report was generated on 5/24/2017.

ATTENTION: New Warranty Terms as of March 4, 2013:

This system is covered under a two year limited warranty that extends to all parts and labor for any malfunction due to workmanship or errors in the manufacturing process. The warranty is valid only if you properly maintain and operate this system under normal use as outlined in the User's Manual. The warranty does not cover shortcomings that are due to the design, or any incidental damages as a result of errors in the measurements.

SonTek will repair and/or replace, at its sole option, any product established to be defective with a product of like type. CLAIMS FOR LABOR COSTS AND/OR OTHER CHARGES RESULTING FROM THE USE OF SonTek GOODS AND/OR PRODUCTS ARE NOT COVERED BY THIS LIMITED WARRANTY.

SonTek DISCLAIMS ALL EXPRESS WARRANTIES OTHER THAN THOSE CONTAINED ABOVE AND ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE. SonTek DISCLAIMS AND WILL NOT BE LIABLE, UNDER ANY CIRCUMSTANCE, IN CONTRACT, TORT OR WARRANTY, FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO LOST PROFITS, BUSINESS INTERRUPTION LOSSES, LOSS OF GOODWILL, OR LOSS OF BUSINESS OR CUSTOMER RELATIONSHIPS.

If your system is not functioning properly, first try to identify the source of the problem. If additional support is required, we encourage you to contact us immediately. We will work to resolve the problem as quickly as possible.

If the system needs to be returned to the factory, please contact SonTek to obtain a Service Request (SR) number. We reserve the right to refuse receipt of shipments without SRs. We require the system to be shipped back in the original shipping container using the original packing material with all delivery costs covered by the customer (including all taxes and duties). If the system is returned without appropriate packing, the customer will be required to cover the cost of a new packaging crate and material.

The warranty for repairs performed at an authorized SonTek Service Center is one year.

Appendix E

Environmental Monitoring Schedule

Project: Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Environmental Monitoring Schedule (July 2022)

| Sun | Mon | Tue | Wed | Thur | Fri | Sat |
|----------|----------------------|---|---------------|---|--|--|
| | | | | | 1 | 2 *WQM (Cancelled) |
| 3 | 4 AQM, NM | 5 WQM Mid Flood(10:33) Mid Ebb(5:26) | 6 | 7 WQM Mid Flood(12:43) Mid Ebb(7:22) | 8 | 9 AQM WQM Mid Flood(16:05) Mid Ebb(9:26) |
| 10 | 11 | 12 WQM Mid Flood(5:13) Mid Ebb(12:26) | 13 | 14 WQM Mid Flood(6:44) Mid Ebb(14:11) | 15 AQM, NM ANRM, EMB (Night Time) | 16 WQM Mid Flood(8:28) Mid Ebb(15:47) |
| 17 | 18 EMB (Day Time) | 19 WQM Mid Flood(11:17) Mid Ebb(6:08) | 20 | 21 AQM, NM WQM Mid Flood(13:19) Mid Ebb(8:04) | 22 | 23 WQM Mid Flood(17:03) Mid Ebb(9:57) |
| 24 31 | 25 | 26 WQM Mid Flood(19:48) Mid Ebb(12:21) | 27 AQM, NM | 28 WQM Mid Flood(20:58) Mid Ebb(13:43) | 29 | 30 WQM Mid Flood(21:57) Mid Ebb(14:57) |

Remarks

1. Air Quality Monitoring (**AQM**): 3 x 1-hour TSP Monitoring per 6 days.
2. Noise Monitoring (**NM**): L_{eq} (30 min) during between 0700 - 1900.
3. Water Quality Monitoring (**WQM**): Once per day for 3 days per week.
4. Ecological Monitoring of Birds (**EMB**): Once per month.
5. Ardeid Night Roost Monitoring (**ANRM**): Once per month.
6. Air Quality Location: AM1 and AM2
7. Noise Monitoring Location: CM1, CM2 and CM3
8. Water Quality Monitoring Location: M1, M2, M3
9. *Typhoon Signal No. 8 was hoisted on 2 July 2022. Due to safety concerns, the water quality monitoring on 2 July 2022 has been cancelled.

Project: Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Environmental Monitoring Schedule (August 2022)

| Sun | Mon | Tue | Wed | Thur | Fri | Sat |
|-----|---------------------|--|----------------------|--|----------------------|--|
| | 1 | 2 AQM, NM WQM Mid Flood(9:49) Mid Ebb(16:34) | 3 | 4 WQM Mid Flood(11:24) Mid Ebb(17:42) | 5 | 6 WQM Mid Flood(13:39) Mid Ebb(7:21) |
| 7 | 8 AQM, NM | 9 WQM Mid Flood(19:02) Mid Ebb(11:12) | 10 | 11 WQM Mid Flood(20:36) Mid Ebb(13:11) | 12 | 13 AQM WQM Mid Flood(21:49) Mid Ebb(14:47) |
| 14 | 15 | 16 WQM Mid Flood(10:12) Mid Ebb(16:35) | 17 | 18 WQM Mid Flood(11:42) Mid Ebb(17:34) | 19 AQM, NM | 20 WQM Mid Flood(14:59) Mid Ebb(7:27) |
| 21 | 22 | 23 WQM Mid Flood(19:00) Mid Ebb(11:13) | 24 | 25 AQM, NM WQM Mid Flood(19:56) Mid Ebb(12:45) | 26 | 27 WQM Mid Flood(20:47) Mid Ebb(14:00) |
| 28 | 29 | 30 WQM Mid Flood(9:07) Mid Ebb(15:36) | 31 AQM, NM | | | |

Remarks

- Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
- Air Quality Monitoring (**AQM**): 3 x 1-hour TSP Monitoring per 6 days.
- Noise Monitoring (**NM**): L_{eq} (30 min) during between 0700 - 1900.
- Water Quality Monitoring (**WQM**): Once per day for 3 days per week.
- Ecological Monitoring of Birds (**EMB**): Once per month.
- Ardeid Night Roost Monitoring (**ANRM**): Once per month.
- Air Quality Location: AM1 and AM2
- Noise Monitoring Location: CM1, CM2 and CM3
- Water Quality Monitoring Location: M1, M2, M3

Project: Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Environmental Monitoring Schedule (September 2022)

| Sun | Mon | Tue | Wed | Thur | Fri | Sat |
|-----|---------------------|---|----------------------|--|----------------------|--|
| | | | | 1 WQM Mid Flood(10:29) Mid Ebb(16:36) | 2 | 3 WQM Mid Flood(12:13) Mid Ebb(17:55) |
| 4 | 5 AQM, NM | 6 WQM Mid Flood(17:57) Mid Ebb(9:40) | 7 | 8 WQM Mid Flood(19:31) Mid Ebb(12:05) | 9 | 10 AQM WQM Mid Flood(20:33) Mid Ebb(13:43) |
| 11 | 12 | 13 WQM Mid Flood(9:15) Mid Ebb(15:29) | 14 | 15 WQM Mid Flood(10:38) Mid Ebb(16:23) | 16 AQM, NM | 17 WQM Mid Flood(12:46) Mid Ebb(17:49) |
| 18 | 19 | 20 WQM Mid Flood(18:00) Mid Ebb(9:24) | 21 | 22 AQM, NM WQM Mid Flood(18:47) Mid Ebb(11:34) | 23 | 24 WQM Mid Flood(19:33) Mid Ebb(12:54) |
| 25 | 26 | 27 WQM Mid Flood(8:21) Mid Ebb(14:38) | 28 AQM, NM | 29 WQM Mid Flood(9:44) Mid Ebb(15:41) | 30 | |

Remarks

- Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
- Air Quality Monitoring (**AQM**): 3 x 1-hour TSP Monitoring per 6 days.
- Noise Monitoring (**NM**): L_{eq} (30 min) during between 0700 - 1900.
- Water Quality Monitoring (**WQM**): Once per day for 3 days per week.
- Ecological Monitoring of Birds (**EMB**): Once per month.
- Ardeid Night Roost Monitoring (**ANRM**): Once per month.
- Air Quality Location: AM1 and AM2
- Noise Monitoring Location: CM1, CM2 and CM3
- Water Quality Monitoring Location: M1, M2, M3

Project: Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Environmental Monitoring Schedule (October 2022)

| Sun | Mon | Tue | Wed | Thur | Fri | Sat |
|-----|---------------------|---|----------------------|---|----------------------|---|
| | | | | | | 1 WQM Mid Flood(11:46) Mid Ebb(17:15) |
| 2 | 3 AQM, NM | 4 WQM Mid Flood(16:44) Mid Ebb(7:47) | 5 | 6 WQM Mid Flood(18:20) Mid Ebb(10:49) | 7 | 8 AQM WQM Mid Flood(19:21) Mid Ebb(12:35) |
| 9 | 10 | 11 WQM Mid Flood(8:23) Mid Ebb(14:26) | 12 | 13 WQM Mid Flood(9:50) Mid Ebb(15:25) | 14 AQM, NM | 15 WQM Mid Flood(11:37) Mid Ebb(16:39) |
| 16 | 17 | 18 WQM Mid Flood(19:18) Mid Ebb(6:37) | 19 | 20 AQM, NM WQM Mid Flood(17:30) Mid Ebb(9:52) | 21 | 22 WQM Mid Flood(18:14) Mid Ebb(11:37) |
| 23 | 24 | 25 WQM Mid Flood(7:30) Mid Ebb(13:35) | 26 AQM, NM | 27 WQM Mid Flood(9:08) Mid Ebb(14:53) | 28 | 29 WQM Mid Flood(11:08) Mid Ebb(16:24) |
| | 30 | 31 | | | | |

Remarks

- Actual monitoring may be subjected to change due to any safety concern or adverse weather condition.
- Air Quality Monitoring (**AQM**): 3 x 1-hour TSP Monitoring per 6 days.
- Noise Monitoring (**NM**): L_{eq} (30 min) during between 0700 - 1900.
- Water Quality Monitoring (**WQM**): Once per day for 3 days per week.
- Ecological Monitoring of Birds (**EMB**): Once per month.
- Ardeid Night Roost Monitoring (**ANRM**): Once per month.
- Air Quality Location: AM1 and AM2
- Noise Monitoring Location: CM1, CM2 and CM3
- Water Quality Monitoring Location: M1, M2, M3

Appendix F

Environmental Monitoring Results

Air Quality Monitoring Results

Air Quality Monitoring Results for

Contract No. SPW 07/2020

Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

AM1 - Topfine Machinery (China) Co. Ltd.

| Date | Weather Condition | Start Time | 1-hour TSP ($\mu\text{g}/\text{m}^3$) | | | Action Level (ug/m^3) | Limit Level (ug/m^3) |
|-----------|-------------------|------------|---|-----------------|-----------------|---|--|
| | | | 1st Measurement | 2nd Measurement | 3rd Measurement | | |
| 4-Jul-22 | Cloudy | 8:35 | 70 | 56 | 74 | 291 | 500 |
| 9-Jul-22 | Cloudy | 8:39 | 77 | 81 | 70 | | |
| 15-Jul-22 | Fine | 8:33 | 84 | 98 | 98 | | |
| 21-Jul-22 | Fine | 8:41 | 95 | 102 | 84 | | |
| 27-Jul-22 | Fine | 8:30 | 95 | 116 | 91 | | |
| | | Min | 56 | | | | |
| | | Max | 116 | | | | |
| | | Average | 86 | | | | |

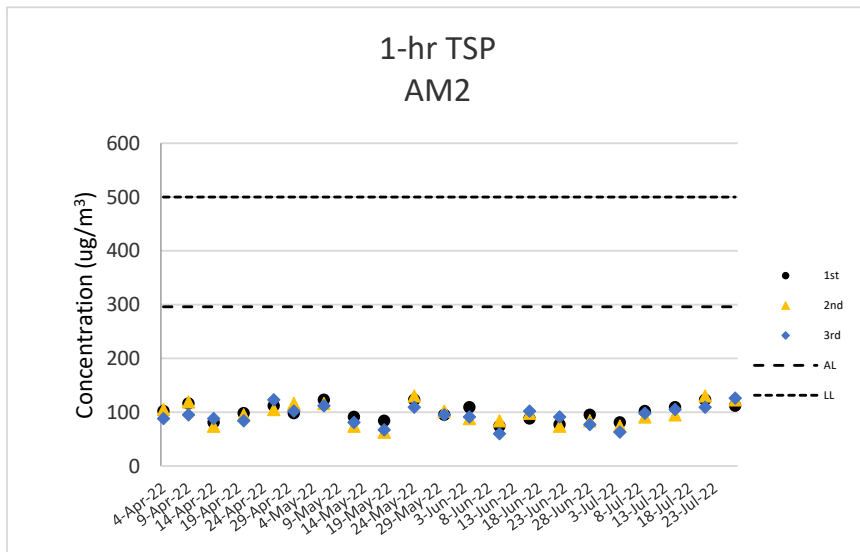
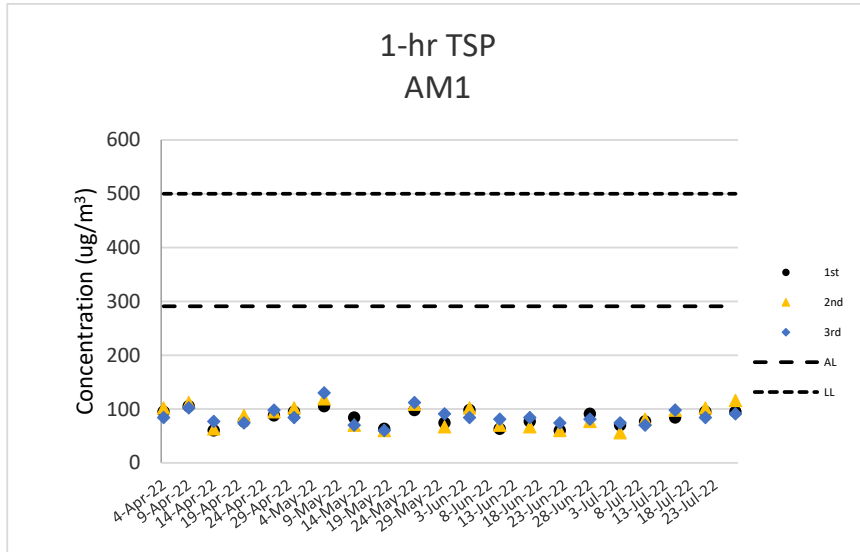
AM2 - Squatter house at the west of Yuen Long STW

| Date | Weather Condition | Start Time | 1-hour TSP ($\mu\text{g}/\text{m}^3$) | | | Action Level (ug/m^3) | Limit Level (ug/m^3) |
|-----------|-------------------|------------|---|-----------------|-----------------|---|--|
| | | | 1st Measurement | 2nd Measurement | 3rd Measurement | | |
| 4-Jul-22 | Cloudy | 8:47 | 81 | 74 | 63 | 296 | 500 |
| 9-Jul-22 | Cloudy | 8:53 | 102 | 91 | 98 | | |
| 15-Jul-22 | Fine | 8:43 | 109 | 95 | 105 | | |
| 21-Jul-22 | Fine | 8:32 | 123 | 130 | 109 | | |
| 27-Jul-22 | Fine | 8:41 | 112 | 123 | 126 | | |
| | | Min | 63 | | | | |
| | | Max | 130 | | | | |
| | | Average | 103 | | | | |

Note:

Underline: Exceedance of Action Level

Underline and Bold: Exceedance of Limit Level



Air Quality Monitoring Results

Noise Monitoring Results

**Noise Monitoring Results for
Contract No. SPW 07/2020
Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1**

CM1 - Squatter house to the north of YLSTW

| Date | Start Time | L _{eq} 30min dB(A) | L ₁₀ dB(A) | L ₉₀ dB(A) | Wind Speed (m/s) | Weather | Limit Level dB(A) |
|-----------|------------|--------------------------------|--------------------------|--------------------------|---------------------|---------|----------------------|
| 4-Jul-22 | 10:31 | 55 | 58 | 52 | 0.5 | Cloudy | 75 |
| 15-Jul-22 | 10:10 | 54 | 56 | 51 | 0.2 | Fine | 75 |
| 21-Jul-22 | 9:33 | 54 | 57 | 51 | 0.1 | Fine | 75 |
| 27-Jul-22 | 10:08 | 55 | 59 | 51 | 0.2 | Fine | 75 |
| | Max | 55 | | | | | |
| | Min | 54 | | | | | |

CM2 - Squatter house to the west of YLSTW

| Date | Start Time | L _{eq} 30min dB(A) | L ₁₀ dB(A) | L ₉₀ dB(A) | Wind Speed (m/s) | Weather | Limit Level dB(A) |
|-----------|------------|--------------------------------|--------------------------|--------------------------|---------------------|---------|----------------------|
| 4-Jul-22 | 8:53 | 63 | 65 | 55 | 0.6 | Cloudy | 75 |
| 15-Jul-22 | 8:49 | 61 | 64 | 54 | 0.2 | Fine | 75 |
| 21-Jul-22 | 13:41 | 62 | 65 | 55 | 0.3 | Fine | 75 |
| 27-Jul-22 | 8:46 | 63 | 66 | 56 | 0.2 | Fine | 75 |
| | Max | 63 | | | | | |
| | Min | 61 | | | | | |

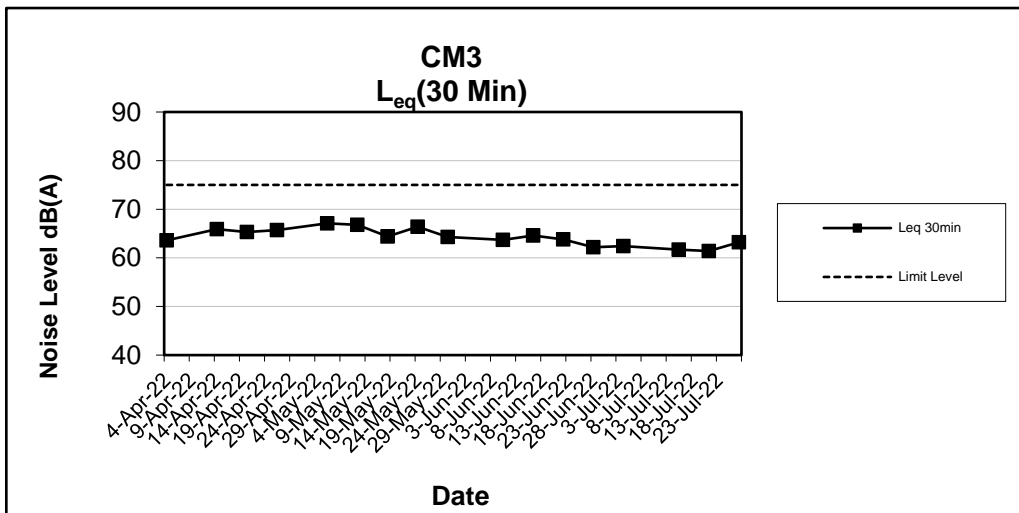
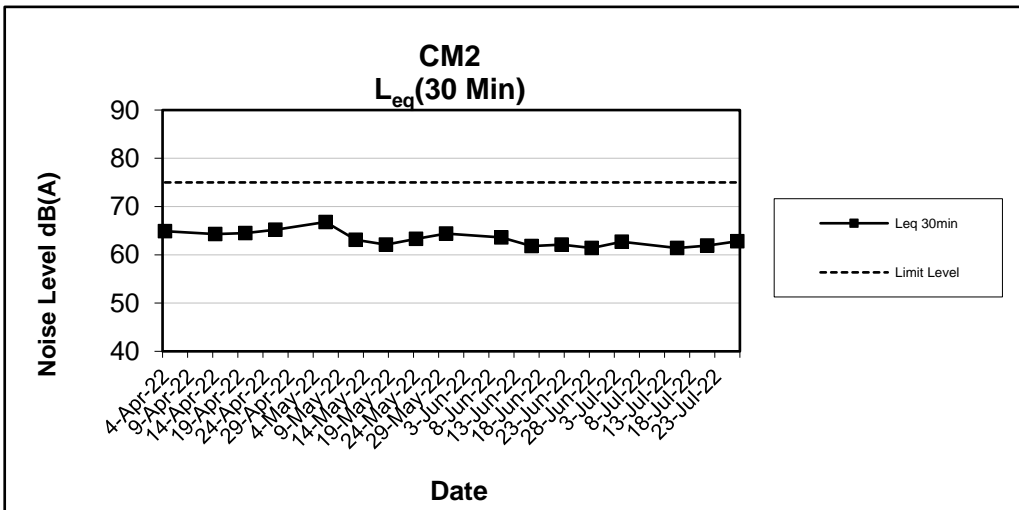
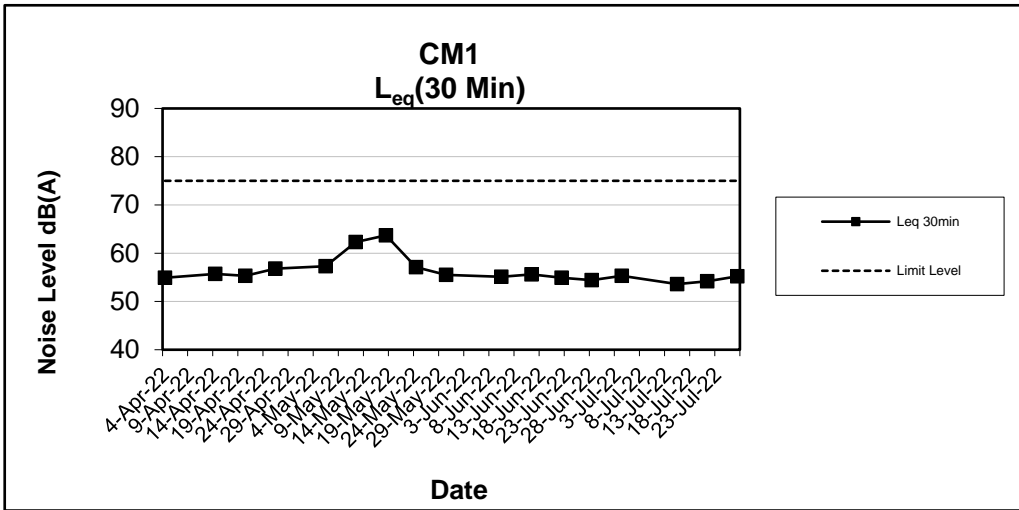
CM3 - Squatter house to the east of YLSTW

| Date | Start Time | L _{eq} 30min dB(A) | L ₁₀ dB(A) | L ₉₀ dB(A) | Wind Speed (m/s) | Weather | Limit Level dB(A) |
|-----------|------------|--------------------------------|--------------------------|--------------------------|---------------------|---------|----------------------|
| 4-Jul-22 | 13:06 | 62 | 65 | 55 | 0.5 | Cloudy | 75 |
| 15-Jul-22 | 11:29 | 62 | 64 | 55 | 0.3 | Fine | 75 |
| 21-Jul-22 | 11:03 | 61 | 64 | 55 | 0.3 | Fine | 75 |
| 27-Jul-22 | 11:29 | 63 | 66 | 57 | 0.3 | Fine | 75 |
| | Max | 63 | | | | | |
| | Min | 61 | | | | | |

Note:

CM1, CM2 and CM3: Free-field measurement (+3dB(A) correction has been applied).

No raining or wind with speed over 5 m/s was observed during noise monitoring according to the onsite observation.



Noise Monitoring Results

Water Quality Monitoring Results

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 5/7/2022 | Mid-Flood | Cloudy | Moderate | 10:59 | 2.4 | M | 1.2 | 1 | 0.273 | 174 | 7.41 | 7.42 | 1.31 | 1.32 | 27.52 | 27.52 | 57.4 | 57.3 | 4.51 | 4.50 | 19.3 | 19.4 | 18 | 17 |
| M1 | 5/7/2022 | Mid-Flood | Cloudy | Moderate | 10:59 | 2.4 | M | 1.2 | 2 | | | 7.42 | | 7.42 | | 1.32 | | 27.52 | | 57.1 | | 57.3 | | 4.48 | |
| M2 | 5/7/2022 | Mid-Flood | Cloudy | Moderate | 10:40 | 1.2 | M | 0.6 | 1 | 0.258 | 222 | 7.24 | 7.24 | 1.08 | 1.08 | 27.90 | 27.91 | 47.4 | 47.8 | 3.72 | 3.76 | 24.9 | 24.7 | 16 | 15 |
| M2 | 5/7/2022 | Mid-Flood | Cloudy | Moderate | 10:40 | 1.2 | M | 0.6 | 2 | | | 7.23 | | 7.23 | | 1.07 | | 27.91 | | 48.2 | | 47.8 | | 3.79 | |
| M3 | 5/7/2022 | Mid-Flood | Fine | Moderate | 10:40 | 0.9 | M | 0.45 | 1 | 0.074 | 81 | 7.17 | 7.16 | 0.72 | 0.73 | 27.61 | 27.60 | 63.5 | 63.7 | 5.29 | 5.32 | 22.8 | 22.8 | 19 | 20 |
| M3 | 5/7/2022 | Mid-Flood | Fine | Moderate | 10:40 | 0.9 | M | 0.45 | 2 | | | 7.14 | | 7.14 | | 0.73 | | 27.58 | | 63.8 | | 63.7 | | 5.34 | |
| M1 | 5/7/2022 | Mid-Ebb | Cloudy | Moderate | 5:39 | 2 | M | 1 | 1 | 0.219 | 252 | 7.09 | 7.10 | 0.89 | 0.90 | 26.04 | 26.05 | 46.2 | 45.8 | 3.62 | 3.59 | 20.5 | 20.8 | 11 | 12 |
| M1 | 5/7/2022 | Mid-Ebb | Cloudy | Moderate | 5:39 | 2 | M | 1 | 2 | | | 7.10 | | 7.10 | | 0.91 | | 26.05 | | 45.3 | | 45.8 | | 3.55 | |
| M2 | 5/7/2022 | Mid-Ebb | Cloudy | Moderate | 5:55 | 1 | M | 0.5 | 1 | 0.236 | 289 | 7.33 | 7.33 | 1.13 | 1.13 | 26.12 | 26.13 | 50.5 | 50.3 | 3.94 | 3.93 | 17.6 | 18.1 | 18 | 19 |
| M2 | 5/7/2022 | Mid-Ebb | Cloudy | Moderate | 5:55 | 1 | M | 0.5 | 2 | | | 7.32 | | 7.32 | | 1.12 | | 26.14 | | 50.1 | | 50.3 | | 3.91 | |
| M3 | 5/7/2022 | Mid-Ebb | Fine | Moderate | 5:35 | 1.1 | M | 0.55 | 1 | 0.057 | 92 | 7.30 | 7.29 | 0.69 | 0.69 | 27.80 | 27.81 | 60.7 | 60.6 | 4.92 | 4.89 | 19.7 | 19.7 | 21 | 21 |
| M3 | 5/7/2022 | Mid-Ebb | Fine | Moderate | 5:35 | 1.1 | M | 0.55 | 2 | | | 7.28 | | 7.28 | | 0.68 | | 27.81 | | 60.4 | | 60.6 | | 4.86 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|----|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 59 | 68 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 7/7/2022 | Mid-Flood | Fine | Moderate | 13:05 | 1.3 | M | 0.65 | 1 | 0.055 | 205 | 7.11 | 7.12 | 2.71 | 2.72 | 28.27 | 28.26 | 66.1 | 66.2 | 4.85 | 4.87 | 19.3 | 19.3 | 19 | 19 |
| M1 | 7/7/2022 | Mid-Flood | Fine | Moderate | 13:05 | 1.3 | M | 0.65 | 2 | | | 7.12 | | 2.72 | | 28.24 | | 66.3 | | 4.88 | | 19.3 | | 18 | |
| M2 | 7/7/2022 | Mid-Flood | Fine | Moderate | 12:43 | 1 | M | 0.5 | 1 | 0.085 | 265 | 7.23 | 7.24 | 2.64 | 2.66 | 28.43 | 28.46 | 62.4 | 62.3 | 4.69 | 4.68 | 19.6 | 19.6 | 14 | 13 |
| M2 | 7/7/2022 | Mid-Flood | Fine | Moderate | 12:43 | 1 | M | 0.5 | 2 | | | 7.24 | | 2.67 | | 28.49 | | 62.2 | | 4.67 | | 19.6 | | 12 | |
| M3 | 7/7/2022 | Mid-Flood | Cloudy | Smooth | 12:46 | 0.6 | M | 0.3 | 1 | 0.221 | 87 | 7.30 | 7.29 | 1.29 | 1.28 | 28.92 | 28.93 | 48.3 | 48.6 | 3.75 | 3.78 | 23.9 | 24.2 | 23 | 24 |
| M3 | 7/7/2022 | Mid-Flood | Cloudy | Smooth | 12:46 | 0.6 | M | 0.3 | 2 | | | 7.28 | | 1.27 | | 28.93 | | 48.9 | | 3.81 | | 24.5 | | 25 | |
| M1 | 7/7/2022 | Mid-Ebb | Fine | Moderate | 7:39 | 1.1 | M | 0.55 | 1 | 0.043 | 175 | 7.07 | 7.08 | 2.39 | 2.39 | 28.67 | 28.68 | 49.8 | 49.8 | 4.38 | 4.37 | 23.0 | 23.1 | 28 | 28 |
| M1 | 7/7/2022 | Mid-Ebb | Fine | Moderate | 7:39 | 1.1 | M | 0.55 | 2 | | | 7.08 | | 2.38 | | 28.69 | | 49.7 | | 4.36 | | 23.1 | | 27 | |
| M2 | 7/7/2022 | Mid-Ebb | Fine | Moderate | 7:55 | 0.9 | M | 0.45 | 1 | 0.062 | 94 | 7.06 | 7.06 | 2.44 | 2.45 | 28.64 | 28.64 | 51.8 | 51.7 | 4.43 | 4.42 | 23.8 | 23.9 | 22 | 23 |
| M2 | 7/7/2022 | Mid-Ebb | Fine | Moderate | 7:55 | 0.9 | M | 0.45 | 2 | | | 7.05 | | 2.46 | | 28.64 | | 51.6 | | 4.40 | | 23.9 | | 23 | |
| M3 | 7/7/2022 | Mid-Ebb | Cloudy | Smooth | 7:29 | 0.4 | M | 0.2 | 1 | 0.202 | 251 | 7.21 | 7.22 | 0.73 | 0.74 | 26.23 | 26.24 | 42.7 | 43.0 | 3.31 | 3.33 | 21.5 | 21.1 | 21 | 22 |
| M3 | 7/7/2022 | Mid-Ebb | Cloudy | Smooth | 7:29 | 0.4 | M | 0.2 | 2 | | | 7.22 | | 0.74 | | 26.24 | | 43.2 | | 3.35 | | 20.8 | | 22 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|----|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 59 | 68 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 9/7/2022 | Mid-Flood | Fine | Moderate | 16:20 | 1.4 | M | 0.7 | 1 | 0.078 | 302 | 7.32 | 7.32 | 2.83 | 2.84 | 28.53 | 28.56 | 71.4 | 71.5 | 5.30 | 5.32 | 22.6 | 22.7 | 16 | 16 |
| M1 | 9/7/2022 | Mid-Flood | Fine | Moderate | 16:20 | 1.4 | M | 0.7 | 2 | | | 7.31 | | 2.84 | | 28.59 | | 71.6 | | 5.34 | | 22.7 | | 15 | |
| M2 | 9/7/2022 | Mid-Flood | Fine | Moderate | 16:05 | 1.1 | M | 0.55 | 1 | 0.056 | 261 | 7.25 | 7.27 | 2.62 | 2.63 | 29.18 | 29.19 | 70.2 | 70.4 | 5.13 | 5.16 | 21.6 | 21.6 | 17 | 16 |
| M2 | 9/7/2022 | Mid-Flood | Fine | Moderate | 16:05 | 1.1 | M | 0.55 | 2 | | | 7.28 | | 2.64 | | 29.19 | | 70.5 | | 5.19 | | 21.6 | | 15 | |
| M3 | 9/7/2022 | Mid-Flood | Cloudy | Calm | 16:09 | 0.4 | M | 0.2 | 1 | 0.208 | 97 | 7.39 | 7.39 | 1.36 | 1.37 | 31.09 | 31.10 | 55.9 | 55.5 | 4.26 | 4.23 | 17.2 | 16.8 | 10 | 11 |
| M3 | 9/7/2022 | Mid-Flood | Cloudy | Calm | 16:09 | 0.4 | M | 0.2 | 2 | | | 7.38 | | 1.37 | | 31.10 | | 55.1 | | 4.19 | | 16.5 | | 11 | |
| M1 | 9/7/2022 | Mid-Ebb | Fine | Moderate | 9:37 | 1.3 | M | 0.65 | 1 | 0.045 | 124 | 7.16 | 7.15 | 2.34 | 2.37 | 30.01 | 30.02 | 56.2 | 56.3 | 4.43 | 4.45 | 18.8 | 18.8 | 10 | 10 |
| M1 | 9/7/2022 | Mid-Ebb | Fine | Moderate | 9:37 | 1.3 | M | 0.65 | 2 | | | 7.14 | | 2.39 | | 30.02 | | 56.4 | | 4.46 | | 18.8 | | 10 | |
| M2 | 9/7/2022 | Mid-Ebb | Fine | Moderate | 9:57 | 1 | M | 0.5 | 1 | 0.048 | 104 | 7.18 | 7.19 | 2.61 | 2.62 | 30.29 | 30.29 | 60.7 | 60.6 | 4.81 | 4.77 | 19.2 | 19.2 | 11 | 10 |
| M2 | 9/7/2022 | Mid-Ebb | Fine | Moderate | 9:57 | 1 | M | 0.5 | 2 | | | 7.19 | | 2.62 | | 30.28 | | 60.4 | | 4.73 | | 19.2 | | 9 | |
| M3 | 9/7/2022 | Mid-Ebb | Cloudy | Calm | 9:28 | 0.6 | M | 0.3 | 1 | 0.234 | 245 | 7.59 | 7.58 | 0.65 | 0.66 | 29.11 | 29.12 | 45.4 | 45.8 | 3.46 | 3.49 | 13.3 | 13.5 | 6 | 6 |
| M3 | 9/7/2022 | Mid-Ebb | Cloudy | Calm | 9:28 | 0.6 | M | 0.3 | 2 | | | 7.57 | | 0.66 | | 29.13 | | 46.1 | | 3.52 | | 13.6 | | 6 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|----|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 59 | 68 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|-----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 12/7/2022 | Mid-Flood | Fine | Calm | 5:34 | 2.4 | M | 1.2 | 1 | 0.263 | 238 | 7.54 | 7.54 | 1.95 | 1.94 | 27.33 | 27.34 | 65.2 | 65.4 | 4.82 | 4.84 | 28.5 | 29.0 | 36 | 36 |
| M1 | 12/7/2022 | Mid-Flood | Fine | Calm | 5:34 | 2.4 | M | 1.2 | 2 | | | 7.53 | | 1.93 | | 27.34 | | 65.6 | | 4.85 | | 4.84 | | 29.5 | |
| M2 | 12/7/2022 | Mid-Flood | Fine | Calm | 5:51 | 1.4 | M | 0.7 | 1 | 0.297 | 210 | 7.40 | 7.41 | 1.66 | 1.67 | 27.81 | 27.82 | 62.2 | 61.8 | 4.58 | 4.55 | 22.9 | 23.3 | 21 | 22 |
| M2 | 12/7/2022 | Mid-Flood | Fine | Calm | 5:51 | 1.4 | M | 0.7 | 2 | | | 7.42 | | 1.68 | | 27.82 | | 61.3 | | 4.51 | | 4.55 | | 23.6 | |
| M3 | 12/7/2022 | Mid-Flood | Fine | Moderate | 5:29 | 0.9 | M | 0.45 | 1 | 0.065 | 110 | 7.57 | 7.56 | 1.10 | 1.11 | 31.59 | 31.59 | 75.0 | 75.2 | 5.48 | 5.48 | 49.5 | 49.5 | 54 | 54 |
| M3 | 12/7/2022 | Mid-Flood | Fine | Moderate | 5:29 | 0.9 | M | 0.45 | 2 | | | 7.54 | | 1.11 | | 31.58 | | 75.4 | | 5.47 | | 5.48 | | 49.4 | |
| M1 | 12/7/2022 | Mid-Ebb | Fine | Calm | 12:51 | 2 | M | 1 | 1 | 0.391 | 271 | 7.26 | 7.27 | 0.81 | 0.80 | 32.59 | 32.59 | 50.6 | 51.1 | 3.74 | 3.78 | 31.1 | 30.9 | 35 | 36 |
| M1 | 12/7/2022 | Mid-Ebb | Fine | Calm | 12:51 | 2 | M | 1 | 2 | | | 7.27 | | 0.79 | | 32.58 | | 51.5 | | 3.81 | | 3.78 | | 30.7 | |
| M2 | 12/7/2022 | Mid-Ebb | Fine | Calm | 12:33 | 1 | M | 0.5 | 1 | 0.364 | 329 | 7.33 | 7.33 | 0.88 | 0.88 | 32.19 | 32.20 | 56.1 | 55.9 | 4.13 | 4.12 | 27.8 | 27.4 | 14 | 13 |
| M2 | 12/7/2022 | Mid-Ebb | Fine | Calm | 12:33 | 1 | M | 0.5 | 2 | | | 7.32 | | 0.87 | | 32.21 | | 55.7 | | 4.10 | | 4.12 | | 26.9 | |
| M3 | 12/7/2022 | Mid-Ebb | Fine | Moderate | 12:34 | 1.1 | M | 0.55 | 1 | 0.104 | 78 | 7.89 | 7.89 | 1.44 | 1.46 | 31.09 | 31.07 | 87.0 | 87.1 | 6.36 | 6.35 | 45.9 | 46.0 | 39 | 39 |
| M3 | 12/7/2022 | Mid-Ebb | Fine | Moderate | 12:34 | 1.1 | M | 0.55 | 2 | | | 7.88 | | 1.48 | | 31.04 | | 87.2 | | 6.34 | | 6.35 | | 46.0 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|----|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 59 | 68 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|-----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 14/7/2022 | Mid-Flood | Fine | Moderate | 7:05 | 1.2 | M | 0.6 | 1 | 0.062 | 124 | 8.88 | 8.88 | 3.43 | 3.41 | 30.91 | 30.90 | 81.2 | 81.0 | 6.97 | 6.91 | 31.1 | 31.0 | 44 | 42 |
| M1 | 14/7/2022 | Mid-Flood | Fine | Moderate | 7:05 | 1.2 | M | 0.6 | 2 | | | 8.87 | | 3.39 | | 30.90 | | 80.7 | | 6.84 | | 6.91 | | 31.0 | |
| M2 | 14/7/2022 | Mid-Flood | Fine | Moderate | 7:29 | 1 | M | 0.5 | 1 | 0.048 | 92 | 8.72 | 8.72 | 3.49 | 3.49 | 30.64 | 30.65 | 79.4 | 79.7 | 6.72 | 6.75 | 30.0 | 30.1 | 32 | 32 |
| M2 | 14/7/2022 | Mid-Flood | Fine | Moderate | 7:29 | 1 | M | 0.5 | 2 | | | 8.71 | | 3.48 | | 30.66 | | 79.9 | | 6.77 | | 6.75 | | 30.1 | |
| M3 | 14/7/2022 | Mid-Flood | Fine | Calm | 6:58 | 1.2 | M | 0.6 | 1 | 0.306 | 82 | 7.79 | 7.79 | 1.73 | 1.74 | 27.96 | 27.97 | 86.9 | 86.8 | 6.36 | 6.35 | 41.7 | 41.9 | 40 | 40 |
| M3 | 14/7/2022 | Mid-Flood | Fine | Calm | 6:58 | 1.2 | M | 0.6 | 2 | | | 7.78 | | 1.75 | | 27.97 | | 86.6 | | 6.33 | | 6.35 | | 42.1 | |
| M1 | 14/7/2022 | Mid-Ebb | Fine | Moderate | 14:43 | 1 | M | 0.5 | 1 | 0.067 | 277 | 8.74 | 8.73 | 2.64 | 2.65 | 31.97 | 31.98 | 70.4 | 70.6 | 6.45 | 6.48 | 28.0 | 28.0 | 38 | 39 |
| M1 | 14/7/2022 | Mid-Ebb | Fine | Moderate | 14:43 | 1 | M | 0.5 | 2 | | | 8.72 | | 2.66 | | 31.99 | | 70.8 | | 6.51 | | 6.48 | | 28.0 | |
| M2 | 14/7/2022 | Mid-Ebb | Fine | Moderate | 14:23 | 0.9 | M | 0.45 | 1 | 0.076 | 245 | 8.91 | 8.92 | 2.58 | 2.59 | 31.68 | 31.69 | 74.4 | 74.5 | 6.71 | 6.72 | 28.3 | 28.4 | 29 | 30 |
| M2 | 14/7/2022 | Mid-Ebb | Fine | Moderate | 14:23 | 0.9 | M | 0.45 | 2 | | | 8.93 | | 2.59 | | 31.69 | | 74.6 | | 6.73 | | 6.72 | | 28.4 | |
| M3 | 14/7/2022 | Mid-Ebb | Fine | Calm | 14:13 | 0.8 | M | 0.4 | 1 | 0.369 | 266 | 7.33 | 7.34 | 1.36 | 1.36 | 32.89 | 32.90 | 97.1 | 97.4 | 7.15 | 7.17 | 39.5 | 39.6 | 43 | 43 |
| M3 | 14/7/2022 | Mid-Ebb | Fine | Calm | 14:13 | 0.8 | M | 0.4 | 2 | | | 7.34 | | 1.35 | | 32.90 | | 97.6 | | 7.19 | | 7.17 | | 39.8 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|----|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 59 | 68 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|-----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 16/7/2022 | Mid-Flood | Fine | Moderate | 8:28 | 1.2 | M | 0.6 | 1 | 0.04 | 118 | 8.35 | 8.36 | 1.53 | 1.54 | 30.18 | 30.19 | 89.2 | 89.0 | 6.67 | 6.61 | 21.0 | 21.1 | 11 | 11 |
| M1 | 16/7/2022 | Mid-Flood | Fine | Moderate | 8:28 | 1.2 | M | 0.6 | 2 | | | 8.36 | | 1.54 | | 30.19 | | 88.7 | | 6.54 | | 6.61 | | 21.1 | |
| M2 | 16/7/2022 | Mid-Flood | Fine | Moderate | 8:42 | 0.9 | M | 0.45 | 1 | 0.038 | 53 | 8.39 | 8.39 | 1.84 | 1.86 | 30.34 | 30.37 | 87.8 | 87.4 | 6.58 | 6.55 | 24.0 | 24.1 | 20 | 20 |
| M2 | 16/7/2022 | Mid-Flood | Fine | Moderate | 8:42 | 0.9 | M | 0.45 | 2 | | | 8.39 | | 1.88 | | 30.39 | | 86.9 | | 6.51 | | 6.55 | | 24.1 | |
| M3 | 16/7/2022 | Mid-Flood | Fine | Calm | 8:38 | 1.2 | M | 0.6 | 1 | 0.287 | 87 | 7.65 | 7.66 | 2.08 | 2.09 | 30.01 | 30.02 | 66.8 | 66.5 | 4.93 | 4.90 | 38.2 | 38.6 | 29 | 28 |
| M3 | 16/7/2022 | Mid-Flood | Fine | Calm | 8:38 | 1.2 | M | 0.6 | 2 | | | 7.66 | | 2.09 | | 30.02 | | 66.1 | | 4.87 | | 4.90 | | 39.0 | |
| M1 | 16/7/2022 | Mid-Ebb | Fine | Moderate | 16:09 | 1 | M | 0.5 | 1 | 0.074 | 98 | 8.37 | 8.38 | 2.94 | 2.95 | 29.43 | 29.44 | 85.7 | 85.7 | 6.41 | 6.41 | 18.8 | 18.8 | 25 | 25 |
| M1 | 16/7/2022 | Mid-Ebb | Fine | Moderate | 16:09 | 1 | M | 0.5 | 2 | | | 8.39 | | 2.95 | | 29.44 | | 85.6 | | 6.40 | | 6.41 | | 18.8 | |
| M2 | 16/7/2022 | Mid-Ebb | Fine | Moderate | 15:52 | 0.8 | M | 0.4 | 1 | 0.092 | 192 | 8.32 | 8.33 | 2.93 | 2.94 | 29.26 | 29.25 | 84.1 | 84.0 | 6.37 | 6.36 | 19.8 | 19.8 | 32 | 34 |
| M2 | 16/7/2022 | Mid-Ebb | Fine | Moderate | 15:52 | 0.8 | M | 0.4 | 2 | | | 8.34 | | 2.94 | | 29.24 | | 83.8 | | 6.34 | | 6.36 | | 19.8 | |
| M3 | 16/7/2022 | Mid-Ebb | Fine | Calm | 15:51 | 1 | M | 0.5 | 1 | 0.34 | 256 | 7.43 | 7.44 | 1.23 | 1.24 | 33.19 | 33.20 | 73.8 | 74.3 | 5.40 | 5.44 | 26.9 | 26.2 | 37 | 36 |
| M3 | 16/7/2022 | Mid-Ebb | Fine | Calm | 15:51 | 1 | M | 0.5 | 2 | | | 7.44 | | 1.25 | | 33.21 | | 74.7 | | 5.47 | | 5.44 | | 25.6 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|----|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 59 | 68 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|-----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 19/7/2022 | Mid-Flood | Fine | Calm | 11:36 | 2.2 | M | 1.1 | 1 | 0.27 | 221 | 7.51 | 7.52 | 1.98 | 1.98 | 30.58 | 30.59 | 72.2 | 71.8 | 5.44 | 5.41 | 29.2 | 29.5 | 57 | 56 |
| M1 | 19/7/2022 | Mid-Flood | Fine | Calm | 11:36 | 2.2 | M | 1.1 | 2 | | | 7.52 | | 1.98 | | 30.59 | | 71.4 | | 5.38 | | 29.9 | | 54 | |
| M2 | 19/7/2022 | Mid-Flood | Fine | Calm | 11:18 | 1.2 | M | 0.6 | 1 | 0.257 | 275 | 7.67 | 7.67 | 1.69 | 1.70 | 30.47 | 30.48 | 64.4 | 64.7 | 4.83 | 4.85 | 26.2 | 25.8 | 59 | 60 |
| M2 | 19/7/2022 | Mid-Flood | Fine | Calm | 11:18 | 1.2 | M | 0.6 | 2 | | | 7.66 | | 1.71 | | 30.48 | | 64.9 | | 4.87 | | 25.4 | | 60 | |
| M3 | 19/7/2022 | Mid-Flood | Fine | Calm | 11:20 | 0.6 | M | 0.3 | 1 | 0.213 | 95 | 7.55 | 7.55 | 1.33 | 1.34 | 30.81 | 30.82 | 67.3 | 67.1 | 5.07 | 5.05 | 36.1 | 36.5 | 34 | 33 |
| M3 | 19/7/2022 | Mid-Flood | Fine | Calm | 11:20 | 0.6 | M | 0.3 | 2 | | | 7.54 | | 1.34 | | 30.83 | | 66.8 | | 5.03 | | 36.8 | | 31 | |
| M1 | 19/7/2022 | Mid-Ebb | Fine | Calm | 6:19 | 2 | M | 1 | 1 | 0.229 | 292 | 7.27 | 7.27 | 1.17 | 1.16 | 27.59 | 27.60 | 54.2 | 53.8 | 4.03 | 4.00 | 25.3 | 25.0 | 55 | 53 |
| M1 | 19/7/2022 | Mid-Ebb | Fine | Calm | 6:19 | 2 | M | 1 | 2 | | | 7.26 | | 1.15 | | 27.61 | | 53.4 | | 3.97 | | 24.6 | | 51 | |
| M2 | 19/7/2022 | Mid-Ebb | Fine | Calm | 6:41 | 1.2 | M | 0.6 | 1 | 0.243 | 312 | 7.41 | 7.41 | 1.06 | 1.05 | 28.03 | 28.04 | 60.1 | 59.8 | 4.53 | 4.50 | 26.2 | 26.7 | 59 | 62 |
| M2 | 19/7/2022 | Mid-Ebb | Fine | Calm | 6:41 | 1.2 | M | 0.6 | 2 | | | 7.40 | | 1.04 | | 28.04 | | 59.4 | | 4.47 | | 27.1 | | 64 | |
| M3 | 19/7/2022 | Mid-Ebb | Fine | Calm | 6:21 | 0.4 | M | 0.2 | 1 | 0.191 | 263 | 7.31 | 7.31 | 1.19 | 1.20 | 27.35 | 27.36 | 56.8 | 56.5 | 4.23 | 4.21 | 24.0 | 23.6 | 61 | 61 |
| M3 | 19/7/2022 | Mid-Ebb | Fine | Calm | 6:21 | 0.4 | M | 0.2 | 2 | | | 7.30 | | 1.20 | | 27.36 | | 56.1 | | 4.18 | | 23.2 | | 61 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|------|--------|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 73.5 | 79.625 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|-----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 21/7/2022 | Mid-Flood | Fine | Smooth | 13:38 | 2 | M | 1 | 1 | 0.241 | 238 | 7.32 | 7.32 | 1.31 | 1.31 | 32.88 | 32.89 | 66.1 | 66.5 | 4.95 | 4.98 | 29.4 | 30.1 | 26 | 26 |
| M1 | 21/7/2022 | Mid-Flood | Fine | Smooth | 13:38 | 2 | M | 1 | 2 | | | 7.31 | | 1.30 | | 32.40 | | 66.8 | | 5.01 | | 30.8 | | 26 | |
| M2 | 21/7/2022 | Mid-Flood | Fine | Smooth | 13:19 | 1 | M | 0.5 | 1 | 0.255 | 250 | 7.27 | 7.26 | 1.23 | 1.24 | 32.40 | 32.39 | 63.7 | 63.5 | 4.76 | 4.74 | 27.7 | 28.1 | 27 | 27 |
| M2 | 21/7/2022 | Mid-Flood | Fine | Smooth | 13:19 | 1 | M | 0.5 | 2 | | | 7.25 | | 1.25 | | 31.53 | | 62.9 | | 4.72 | | 28.5 | | 26 | |
| M3 | 21/7/2022 | Mid-Flood | Fine | Moderate | 13:20 | 1.3 | M | 0.65 | 1 | 0.071 | 132 | 7.14 | 7.15 | 0.67 | 0.67 | 31.54 | 31.54 | 61.4 | 62.2 | 4.53 | 4.47 | 29.8 | 29.9 | 25 | 25 |
| M3 | 21/7/2022 | Mid-Flood | Fine | Moderate | 13:20 | 1.3 | M | 0.65 | 2 | | | 7.15 | | 0.66 | | 31.54 | | 61.4 | | 4.41 | | 29.9 | | 24 | |
| M1 | 21/7/2022 | Mid-Ebb | Fine | Smooth | 8:25 | 2.2 | M | 1.1 | 1 | 0.233 | 264 | 7.14 | 7.14 | 0.94 | 0.95 | 28.91 | 28.92 | 45.7 | 45.3 | 3.38 | 3.35 | 24.0 | 23.7 | 24 | 24 |
| M1 | 21/7/2022 | Mid-Ebb | Fine | Smooth | 8:25 | 2.2 | M | 1.1 | 2 | | | 7.13 | | 0.96 | | 28.92 | | 44.8 | | 3.31 | | 23.3 | | 23 | |
| M2 | 21/7/2022 | Mid-Ebb | Fine | Smooth | 8:44 | 1.2 | M | 0.6 | 1 | 0.218 | 174 | 7.21 | 7.22 | 1.12 | 1.13 | 29.33 | 29.34 | 48.2 | 48.4 | 3.61 | 3.63 | 26.7 | 26.2 | 24 | 24 |
| M2 | 21/7/2022 | Mid-Ebb | Fine | Smooth | 8:44 | 1.2 | M | 0.6 | 2 | | | 7.22 | | 1.13 | | 29.35 | | 48.6 | | 3.64 | | 25.7 | | 23 | |
| M3 | 21/7/2022 | Mid-Ebb | Fine | Moderate | 8:10 | 1.1 | M | 0.55 | 1 | 0.058 | 237 | 6.81 | 6.82 | 0.50 | 0.51 | 31.16 | 31.15 | 52.3 | 52.4 | 3.85 | 3.86 | 23.1 | 23.1 | 12 | 12 |
| M3 | 21/7/2022 | Mid-Ebb | Fine | Moderate | 8:10 | 1.1 | M | 0.55 | 2 | | | 6.82 | | 0.52 | | 31.14 | | 52.4 | | 3.86 | | 23.0 | | 11 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
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4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
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6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|----|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 59 | 68 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|-----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 23/7/2022 | Mid-Flood | Fine | Moderate | 17:25 | 1 | M | 0.5 | 1 | 0.048 | 313 | 7.40 | 7.35 | 0.55 | 0.55 | 32.46 | 32.48 | 60.4 | 60.6 | 3.39 | 3.40 | 31.4 | 31.2 | 26 | 26 |
| M1 | 23/7/2022 | Mid-Flood | Fine | Moderate | 17:25 | 1 | M | 0.5 | 2 | | | 7.29 | | 7.35 | | 0.54 | | 32.49 | | 60.7 | | 60.6 | | 3.41 | |
| M2 | 23/7/2022 | Mid-Flood | Fine | Moderate | 17:06 | 1.1 | M | 0.55 | 1 | 0.093 | 74 | 7.39 | 7.38 | 0.72 | 0.73 | 32.93 | 32.94 | 62.8 | 62.7 | 3.58 | 3.56 | 29.5 | 29.5 | 27 | 27 |
| M2 | 23/7/2022 | Mid-Flood | Fine | Moderate | 17:06 | 1.1 | M | 0.55 | 2 | | | 7.36 | | 7.38 | | 0.73 | | 32.94 | | 62.5 | | 62.7 | | 3.54 | |
| M3 | 23/7/2022 | Mid-Flood | Fine | Calm | 17:04 | 0.4 | M | 0.2 | 1 | 0.195 | 85 | 7.65 | 7.64 | 1.40 | 1.41 | 33.86 | 33.87 | 63.2 | 63.0 | 4.63 | 4.62 | 21.5 | 21.2 | 15 | 16 |
| M3 | 23/7/2022 | Mid-Flood | Fine | Calm | 17:04 | 0.4 | M | 0.2 | 2 | | | 7.63 | | 7.64 | | 1.42 | | 33.88 | | 62.7 | | 63.0 | | 4.60 | |
| M1 | 23/7/2022 | Mid-Ebb | Fine | Moderate | 10:01 | 0.9 | M | 0.45 | 1 | 0.065 | 123 | 7.27 | 7.27 | 0.59 | 0.59 | 32.79 | 32.79 | 64.1 | 64.2 | 3.87 | 3.87 | 30.4 | 30.5 | 24 | 24 |
| M1 | 23/7/2022 | Mid-Ebb | Fine | Moderate | 10:01 | 0.9 | M | 0.45 | 2 | | | 7.26 | | 7.27 | | 0.58 | | 32.78 | | 64.3 | | 64.2 | | 3.86 | |
| M2 | 23/7/2022 | Mid-Ebb | Fine | Moderate | 10:21 | 0.7 | M | 0.35 | 1 | 0.057 | 73 | 7.80 | 7.80 | 0.42 | 0.43 | 31.65 | 31.66 | 72.3 | 72.4 | 4.26 | 4.29 | 31.1 | 31.2 | 24 | 24 |
| M2 | 23/7/2022 | Mid-Ebb | Fine | Moderate | 10:21 | 0.7 | M | 0.35 | 2 | | | 7.80 | | 7.80 | | 0.43 | | 31.66 | | 72.5 | | 72.4 | | 4.31 | |
| M3 | 23/7/2022 | Mid-Ebb | Fine | Calm | 9:59 | 0.6 | M | 0.3 | 1 | 0.229 | 256 | 7.30 | 7.31 | 0.67 | 0.67 | 31.27 | 31.28 | 54.9 | 55.2 | 4.01 | 4.03 | 18.2 | 18.1 | 12 | 13 |
| M3 | 23/7/2022 | Mid-Ebb | Fine | Calm | 9:59 | 0.6 | M | 0.3 | 2 | | | 7.31 | | 7.31 | | 0.66 | | 31.29 | | 55.4 | | 55.2 | | 4.05 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|----|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 59 | 68 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|-----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 26/7/2022 | Mid-Flood | Fine | Moderate | 20:13 | 1.1 | M | 0.55 | 1 | 0.082 | 71 | 7.81 | 7.82 | 2.47 | 2.47 | 31.24 | 31.23 | 66.1 | 66.2 | 5.03 | 5.02 | 29.4 | 29.4 | 28 | 28 |
| M1 | 26/7/2022 | Mid-Flood | Fine | Moderate | 20:13 | 1.1 | M | 0.55 | 2 | | | 7.82 | | 2.46 | | 31.22 | | 66.2 | | 5.01 | | 29.4 | | 27 | |
| M2 | 26/7/2022 | Mid-Flood | Fine | Moderate | 19:51 | 1 | M | 0.5 | 1 | 0.064 | 123 | 7.69 | 7.68 | 2.25 | 2.26 | 32.73 | 32.71 | 64.8 | 63.9 | 4.87 | 4.88 | 29.5 | 29.5 | 34 | 33 |
| M2 | 26/7/2022 | Mid-Flood | Fine | Moderate | 19:51 | 1 | M | 0.5 | 2 | | | 7.66 | | 1.94 | | 32.71 | | 62.9 | | 4.88 | | 29.6 | | 32 | |
| M3 | 26/7/2022 | Mid-Flood | Fine | Moderate | 19:53 | 1.2 | M | 0.6 | 1 | 0.065 | 122 | 7.35 | 7.28 | 1.94 | 1.93 | 33.05 | 33.09 | 56.6 | 56.5 | 4.02 | 4.02 | 44.6 | 44.3 | 50 | 49 |
| M3 | 26/7/2022 | Mid-Flood | Fine | Moderate | 19:53 | 1.2 | M | 0.6 | 2 | | | 7.20 | | 1.92 | | 33.12 | | 56.3 | | 4.01 | | 43.9 | | 47 | |
| M1 | 26/7/2022 | Mid-Ebb | Fine | Moderate | 12:25 | 0.8 | M | 0.4 | 1 | 0.044 | 75 | 7.67 | 7.65 | 1.72 | 1.73 | 33.06 | 33.06 | 45.7 | 45.7 | 3.41 | 3.41 | 30.3 | 30.3 | 33 | 34 |
| M1 | 26/7/2022 | Mid-Ebb | Fine | Moderate | 12:25 | 0.8 | M | 0.4 | 2 | | | 7.63 | | 1.74 | | 33.06 | | 45.6 | | 3.40 | | 30.3 | | 34 | |
| M2 | 26/7/2022 | Mid-Ebb | Fine | Moderate | 12:46 | 0.7 | M | 0.35 | 1 | 0.068 | 215 | 7.64 | 7.65 | 1.83 | 1.85 | 33.15 | 33.16 | 52.3 | 52.2 | 4.07 | 4.06 | 29.5 | 29.5 | 50 | 52 |
| M2 | 26/7/2022 | Mid-Ebb | Fine | Moderate | 12:46 | 0.7 | M | 0.35 | 2 | | | 7.66 | | 1.87 | | 33.16 | | 52.1 | | 4.05 | | 29.5 | | 54 | |
| M3 | 26/7/2022 | Mid-Ebb | Fine | Moderate | 12:32 | 0.9 | M | 0.45 | 1 | 0.044 | 210 | 7.40 | 7.30 | 1.92 | 1.87 | 33.56 | 33.66 | 55.6 | 55.0 | 3.91 | 3.54 | 43.6 | 43.3 | 51 | 53 |
| M3 | 26/7/2022 | Mid-Ebb | Fine | Moderate | 12:32 | 0.9 | M | 0.45 | 2 | | | 7.20 | | 1.82 | | 33.76 | | 54.3 | | 3.16 | | 43.1 | | 55 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|-------|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 63 | 68.25 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|-----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 28/7/2022 | Mid-Flood | Fine | Moderate | 21:16 | 1.5 | M | 0.75 | 1 | 0.056 | 208 | 7.86 | 7.85 | 2.93 | 2.94 | 28.34 | 28.35 | 80.5 | 80.5 | 5.74 | 5.75 | 30.9 | 30.9 | 32 | 31 |
| M1 | 28/7/2022 | Mid-Flood | Fine | Moderate | 21:16 | 1.5 | M | 0.75 | 2 | | | 7.84 | | 2.94 | | 28.36 | | 80.5 | | 5.76 | | 30.9 | | 30 | |
| M2 | 28/7/2022 | Mid-Flood | Fine | Moderate | 20:59 | 1.3 | M | 0.65 | 1 | 0.047 | 123 | 7.97 | 7.94 | 2.58 | 2.59 | 29.14 | 29.16 | 83.8 | 83.8 | 5.96 | 5.95 | 30.2 | 30.2 | 29 | 30 |
| M2 | 28/7/2022 | Mid-Flood | Fine | Moderate | 20:59 | 1.3 | M | 0.65 | 2 | | | 7.91 | | 2.59 | | 29.18 | | 83.7 | | 5.94 | | 30.2 | | 30 | |
| M3 | 28/7/2022 | Mid-Flood | Fine | Moderate | 21:20 | 1.4 | M | 0.7 | 1 | 0.045 | 74 | 7.99 | 8.00 | 1.73 | 1.73 | 33.00 | 33.00 | 84.8 | 84.7 | 6.03 | 6.03 | 33.1 | 32.7 | 27 | 29 |
| M3 | 28/7/2022 | Mid-Flood | Fine | Moderate | 21:20 | 1.4 | M | 0.7 | 2 | | | 8.00 | | 1.73 | | 33.00 | | 84.5 | | 6.02 | | 32.2 | | 30 | |
| M1 | 28/7/2022 | Mid-Ebb | Fine | Moderate | 13:53 | 0.9 | M | 0.45 | 1 | 0.066 | 24 | 7.80 | 7.81 | 4.11 | 4.12 | 31.94 | 31.95 | 68.5 | 68.6 | 4.90 | 4.92 | 27.5 | 27.5 | 25 | 25 |
| M1 | 28/7/2022 | Mid-Ebb | Fine | Moderate | 13:53 | 0.9 | M | 0.45 | 2 | | | 7.81 | | 4.12 | | 31.95 | | 68.7 | | 4.94 | | 27.4 | | 24 | |
| M2 | 28/7/2022 | Mid-Ebb | Fine | Moderate | 14:21 | 0.8 | M | 0.4 | 1 | 0.052 | 295 | 7.83 | 7.84 | 4.26 | 4.27 | 30.73 | 30.72 | 67.1 | 67.2 | 4.83 | 4.84 | 28.1 | 28.1 | 26 | 25 |
| M2 | 28/7/2022 | Mid-Ebb | Fine | Moderate | 14:21 | 0.8 | M | 0.4 | 2 | | | 7.84 | | 4.27 | | 30.71 | | 67.2 | | 4.84 | | 28.1 | | 24 | |
| M3 | 28/7/2022 | Mid-Ebb | Fine | Moderate | 13:57 | 0.9 | M | 0.45 | 1 | 0.063 | 143 | 7.91 | 7.91 | 1.49 | 1.49 | 32.80 | 32.90 | 82.6 | 82.4 | 5.88 | 5.87 | 34.1 | 33.1 | 33 | 34 |
| M3 | 28/7/2022 | Mid-Ebb | Fine | Moderate | 13:57 | 0.9 | M | 0.45 | 2 | | | 7.90 | | 1.49 | | 33.00 | | 82.1 | | 5.85 | | 32.1 | | 35 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|----|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 59 | 68 |

Contract No. SPW 07/2020 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Water Quality Monitoring Results

| Monitoring Location | Date | Tide Mode | Weather | Sea Condition | Time | Water Depth (m) | Monitoring Level | Monitoring Level (m) | Replicate | In-situ Measurement | | | | | | | | | | | | Laboratory Analysis | | | |
|---------------------|-----------|-----------|---------|---------------|-------|-----------------|------------------|----------------------|-----------|---------------------|-----------------------|-------|-------|----------------|------|------------------------|-------|-------------------|------|-----------|------|---------------------|------|-------------------------------|------|
| | | | | | | | | | | Current Speed (m/s) | Current Direction (°) | pH | | Salinity (ppt) | | Temperature (degree C) | | DO Saturation (%) | | DO (mg/L) | | Turbidity (NTU) | | Total Suspended Solids (mg/L) | |
| | | | | | | | | | | | | Value | Value | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. | Value | Ave. |
| M1 | 30/7/2022 | Mid-Flood | Fine | Moderate | 22:15 | 1.1 | M | 0.55 | 1 | 0.07 | 234 | 7.41 | 7.42 | 2.56 | 2.57 | 28.71 | 28.72 | 64.3 | 64.4 | 4.71 | 4.72 | 26.3 | 26.3 | 24 | 23 |
| M1 | 30/7/2022 | Mid-Flood | Fine | Moderate | 22:15 | 1.1 | M | 0.55 | 2 | | | 7.42 | | 2.58 | | 28.72 | | 64.4 | | 4.72 | | 26.2 | | 22 | |
| M2 | 30/7/2022 | Mid-Flood | Fine | Moderate | 21:57 | 0.9 | M | 0.45 | 1 | 0.086 | 203 | 7.38 | 7.39 | 2.43 | 2.46 | 28.91 | 28.93 | 62.4 | 62.2 | 4.53 | 4.50 | 27.3 | 27.3 | 19 | 21 |
| M2 | 30/7/2022 | Mid-Flood | Fine | Moderate | 21:57 | 0.9 | M | 0.45 | 2 | | | 7.39 | | 2.49 | | 28.94 | | 61.9 | | 4.47 | | 27.2 | | 23 | |
| M3 | 30/7/2022 | Mid-Flood | Cloudy | Moderate | 21:49 | 1.2 | M | 0.6 | 1 | 0.095 | 123 | 7.66 | 7.65 | 1.77 | 1.76 | 31.10 | 30.90 | 55.7 | 55.3 | 4.09 | 4.06 | 48.9 | 48.6 | 24 | 23 |
| M3 | 30/7/2022 | Mid-Flood | Cloudy | Moderate | 21:49 | 1.2 | M | 0.6 | 2 | | | 7.64 | | 1.75 | | 30.70 | | 54.8 | | 4.03 | | 48.3 | | 22 | |
| M1 | 30/7/2022 | Mid-Ebb | Fine | Moderate | 15:04 | 0.9 | M | 0.45 | 1 | 0.066 | 92 | 7.24 | 7.23 | 3.55 | 3.55 | 30.87 | 30.87 | 53.8 | 53.6 | 4.01 | 3.99 | 30.1 | 30.2 | 20 | 19 |
| M1 | 30/7/2022 | Mid-Ebb | Fine | Moderate | 15:04 | 0.9 | M | 0.45 | 2 | | | 7.22 | | 3.54 | | 30.87 | | 53.4 | | 3.97 | | 30.2 | | 17 | |
| M2 | 30/7/2022 | Mid-Ebb | Fine | Moderate | 15:21 | 0.7 | M | 0.35 | 1 | 0.044 | 103 | 7.31 | 7.30 | 3.62 | 3.63 | 30.47 | 30.46 | 58.2 | 58.5 | 4.41 | 4.45 | 29.2 | 29.3 | 27 | 27 |
| M2 | 30/7/2022 | Mid-Ebb | Fine | Moderate | 15:21 | 0.7 | M | 0.35 | 2 | | | 7.29 | | 3.64 | | 30.44 | | 58.8 | | 4.49 | | 29.3 | | 27 | |
| M3 | 30/7/2022 | Mid-Ebb | Cloudy | Moderate | 14:48 | 1 | M | 0.5 | 1 | 0.083 | 63 | 7.54 | 7.54 | 1.64 | 1.63 | 31.20 | 31.17 | 51.9 | 51.6 | 3.81 | 3.80 | 42.7 | 42.5 | 34 | 34 |
| M3 | 30/7/2022 | Mid-Ebb | Cloudy | Moderate | 14:48 | 1 | M | 0.5 | 2 | | | 7.54 | | 1.62 | | 31.14 | | 51.3 | | 3.79 | | 42.3 | | 34 | |

Remark

1. Orange and Bold: Action Level Exceedance (For Impact Station Only)
2. Red and Bold: Limit Level Exceedance (For Impact Station Only)
3. Action Level for Turbidity: 95%-ile of baseline data or 120% of upstream control station's turbidity recorded on the same day.
4. Limit Level for Turbidity: 99%-ile of baseline data or 130% of upstream control station's turbidity recorded on the same day.
5. Action Level for SS: 95%-ile of baseline data or 120% of upstream control station's SS recorded on the same day.
6. Limit Level for SS: 99%-ile of baseline data or 130% of upstream control station's SS recorded on the same day.

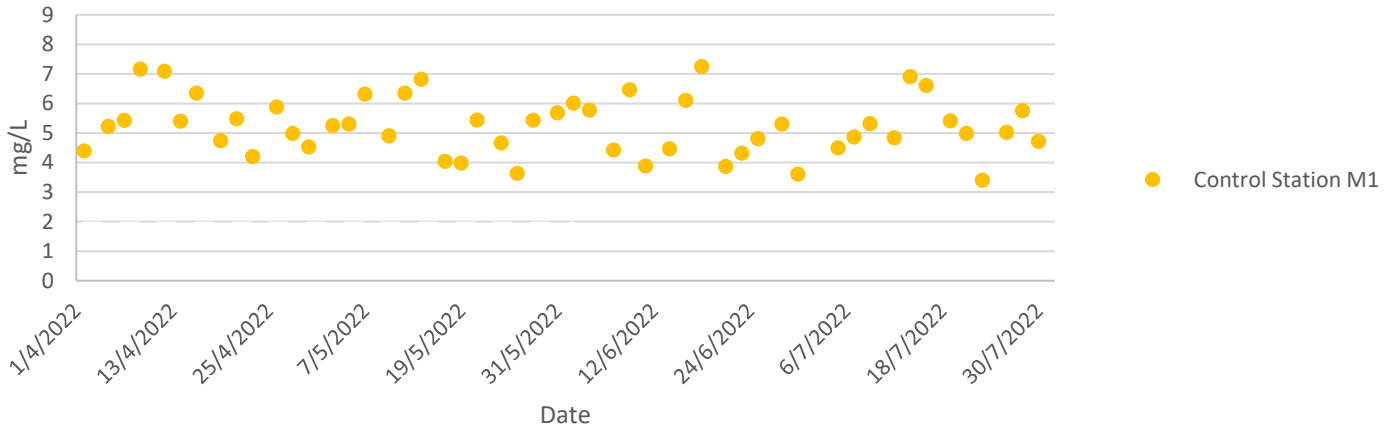
For Flood Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|-----|-----|
| | AL | LL | AL | LL | AL | LL |
| M2(Impact Station) | 1.88 | 1.79 | 43.0 | 52.4 | 81 | 112 |
| M3(Impact Station) | 3.28 | 3.14 | 74.3 | 78.0 | 104 | 167 |

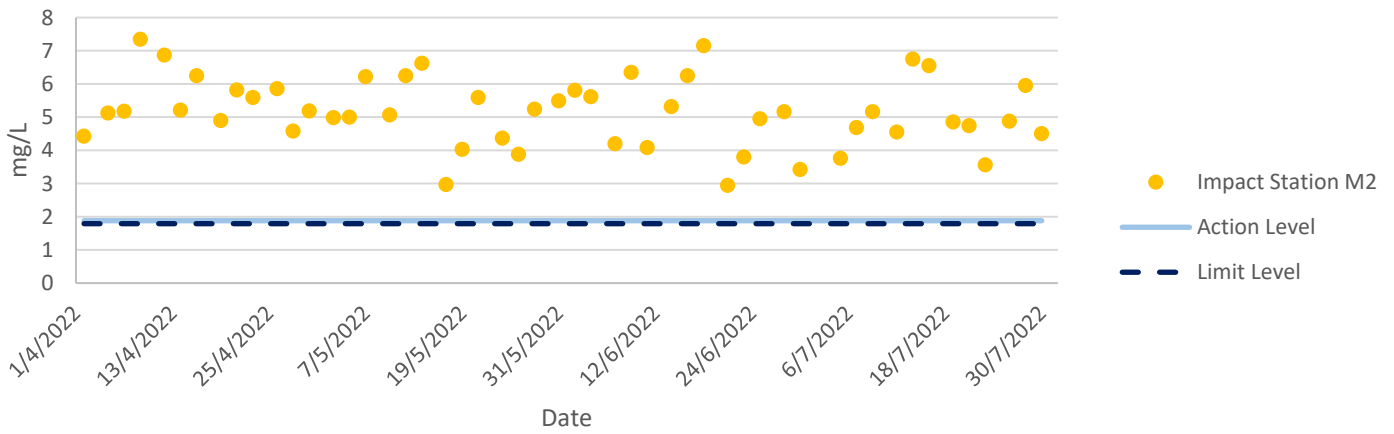
For Ebb Tide

| Monitoring Location | DO | | NTU | | SS | |
|---------------------|------|------|------|------|----|----|
| | AL | LL | AL | LL | AL | LL |
| M1(Impact Station) | 2.25 | 1.91 | 48.4 | 50.4 | 59 | 68 |

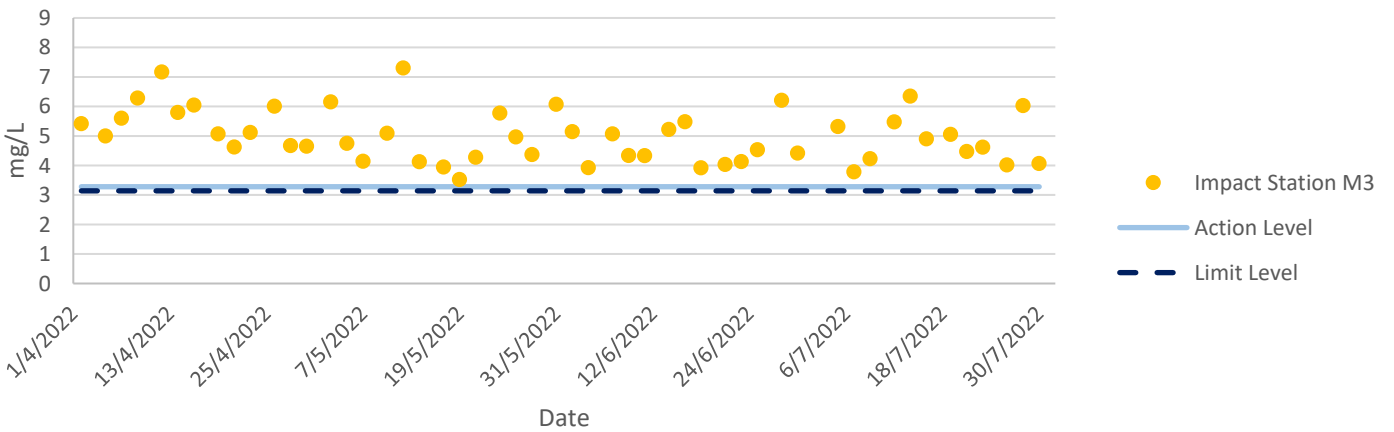
Dissolved Oxygen at Mid-Flood Tide



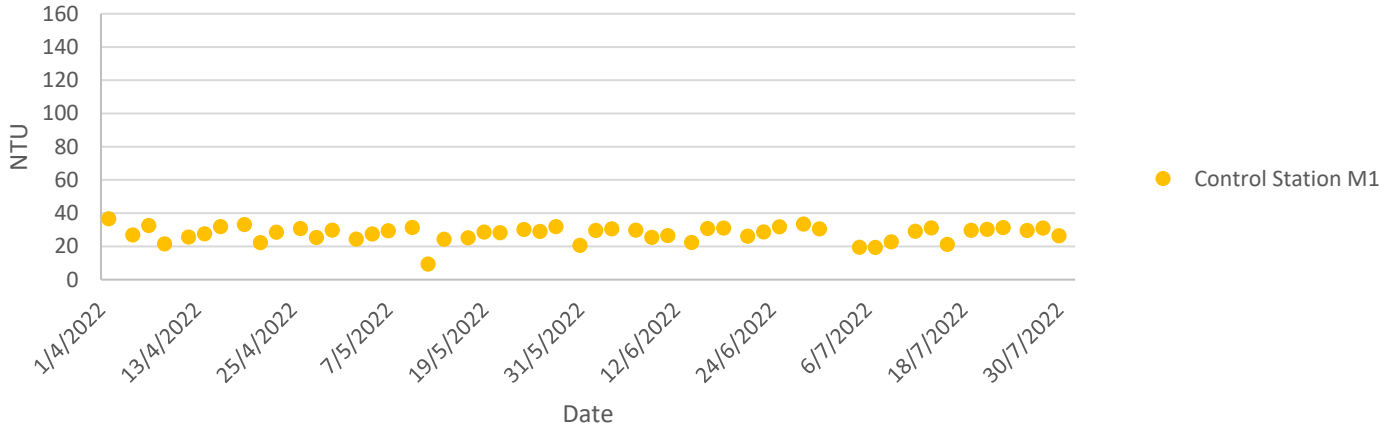
Dissolved Oxygen at Mid-Flood Tide



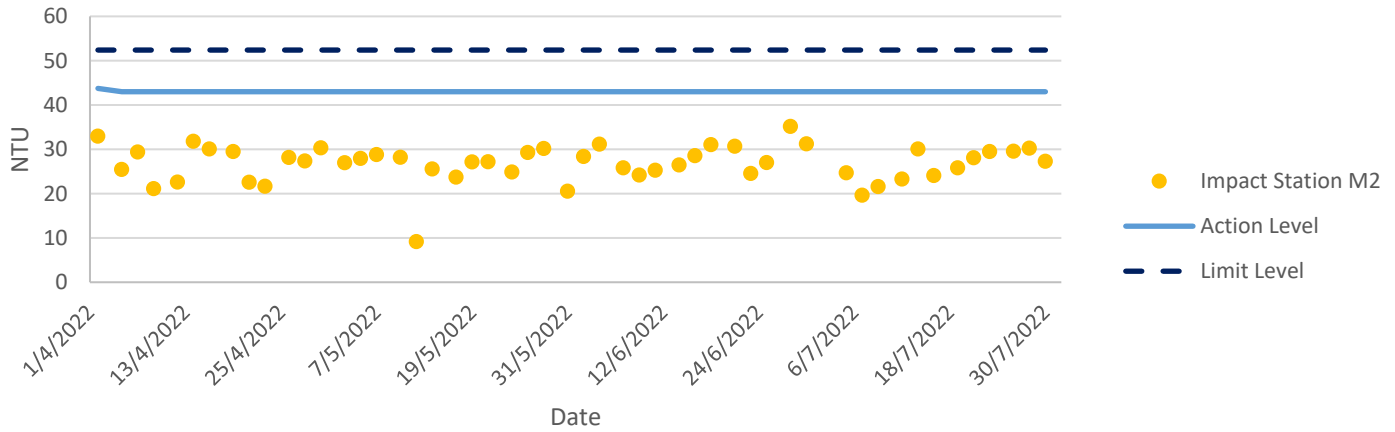
Dissolved Oxygen at Mid-Flood Tide



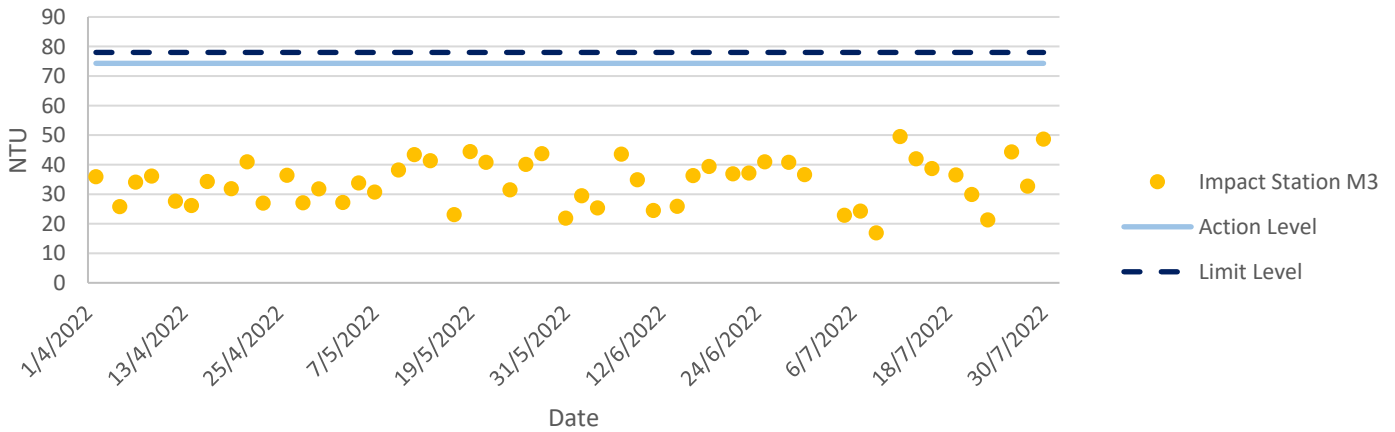
Turbidity at Mid-Flood Tide



Turbidity at Mid-Flood Tide

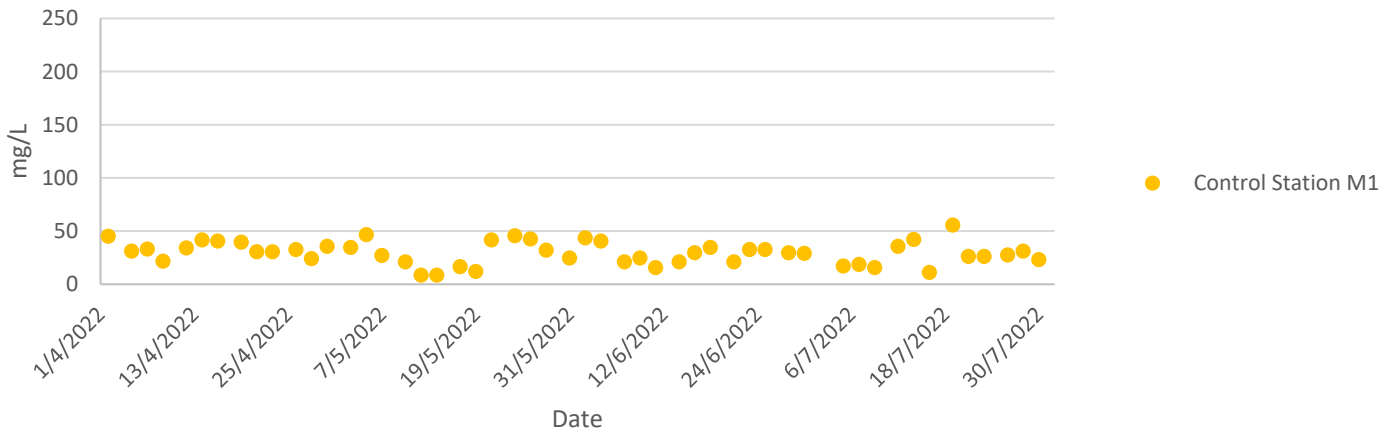


Turbidity at Mid-Flood Tide

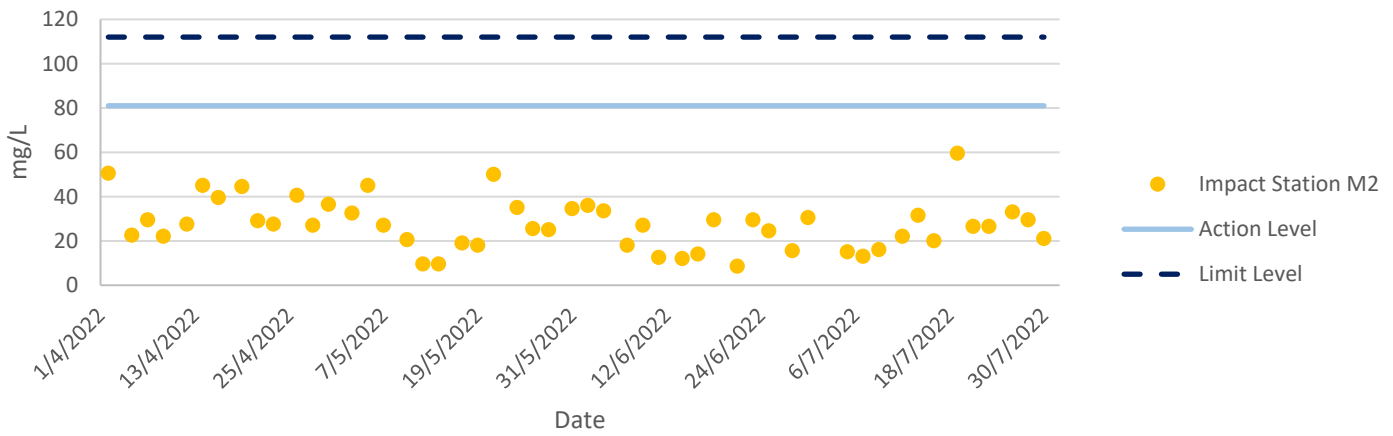


Water Quality Monitoring Results

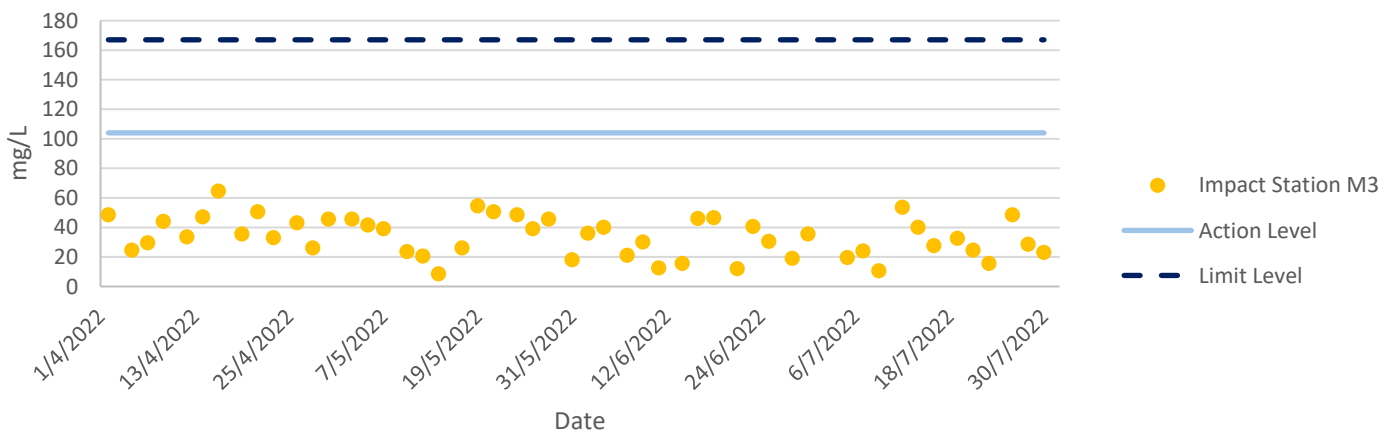
Total Suspended Solids at Mid-Flood Tide



Total Suspended Solids at Mid-Flood Tide

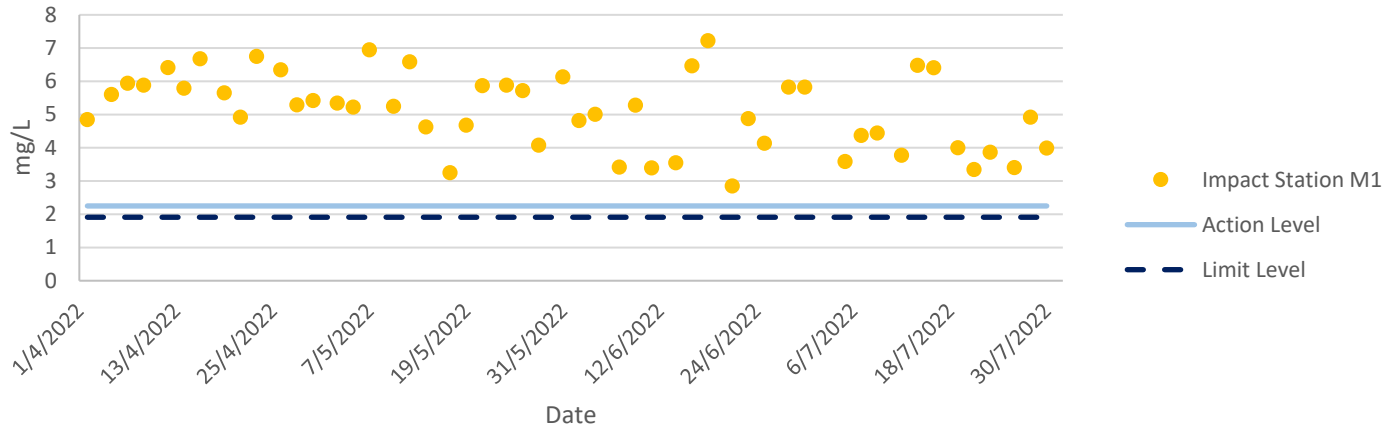


Total Suspended Solids at Mid-Flood Tide

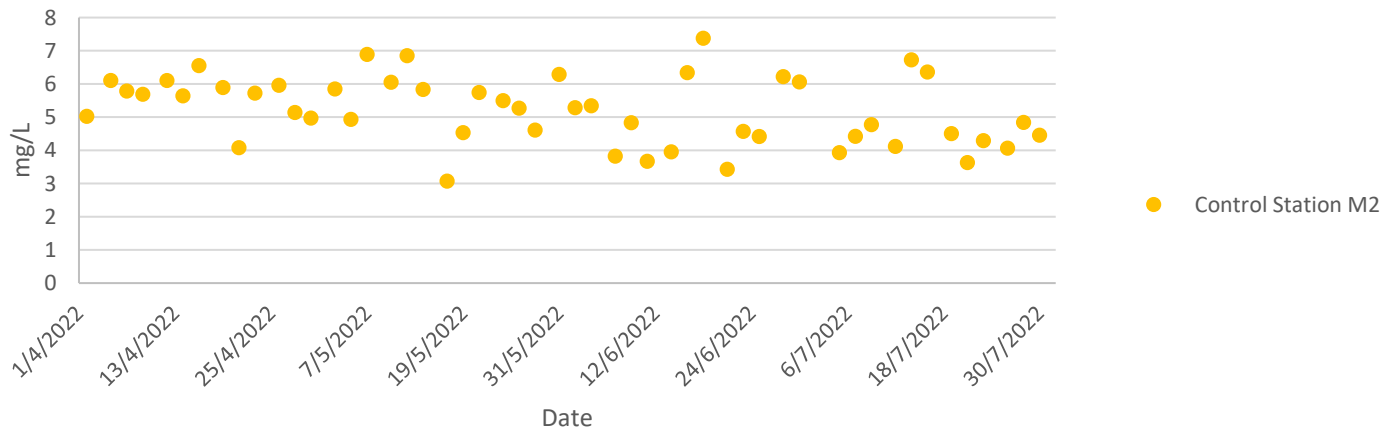


Water Quality Monitoring Results

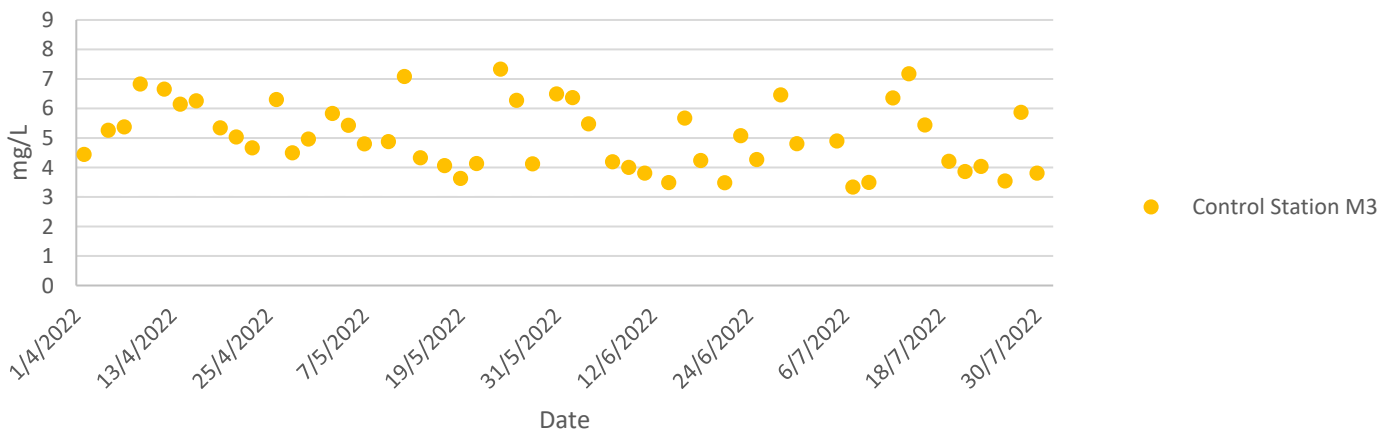
Dissolved Oxygen at Mid-Ebb Tide



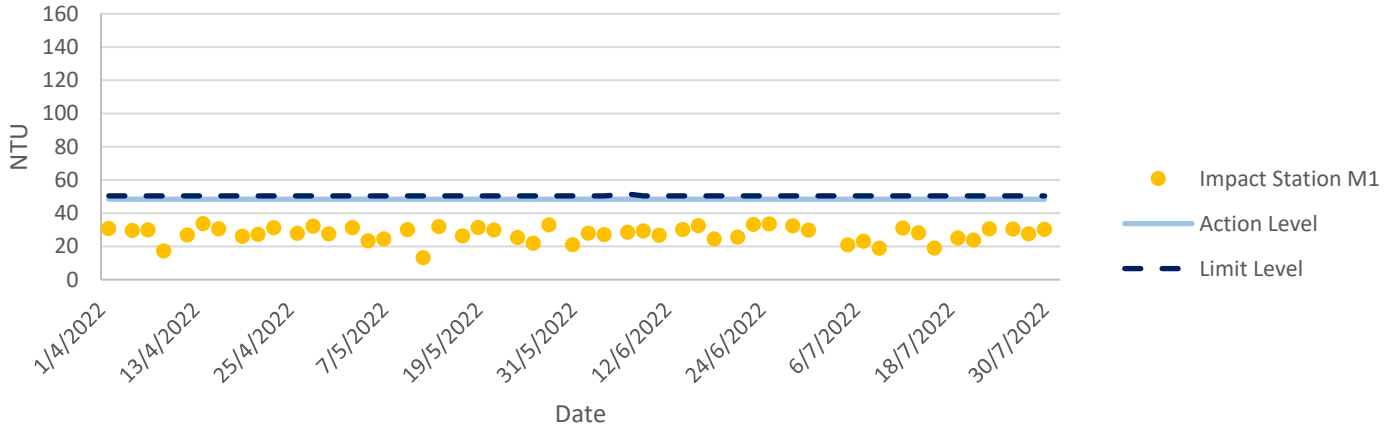
Dissolved Oxygen at Mid-Ebb Tide



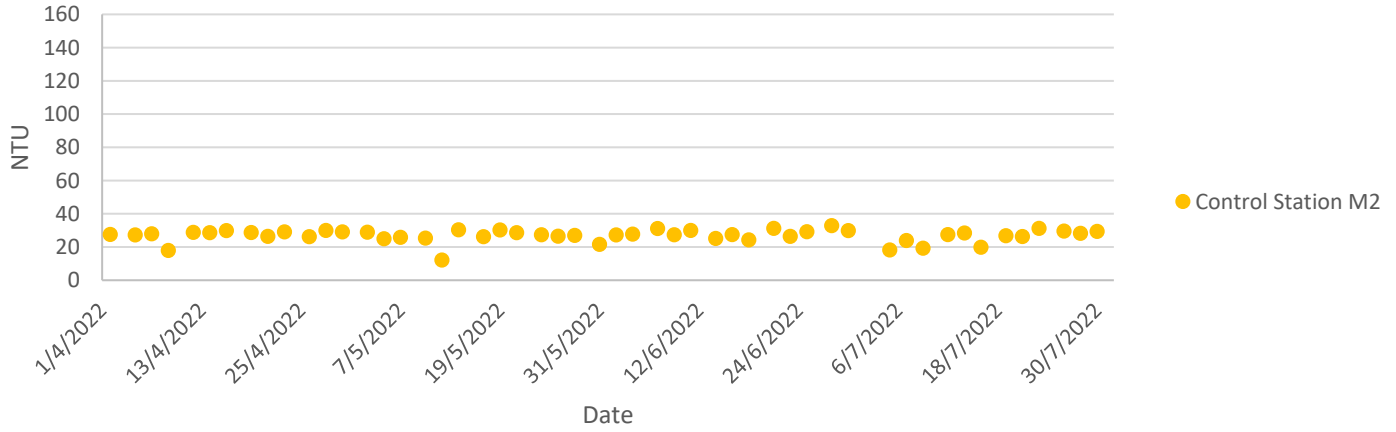
Dissolved Oxygen at Mid-Ebb Tide



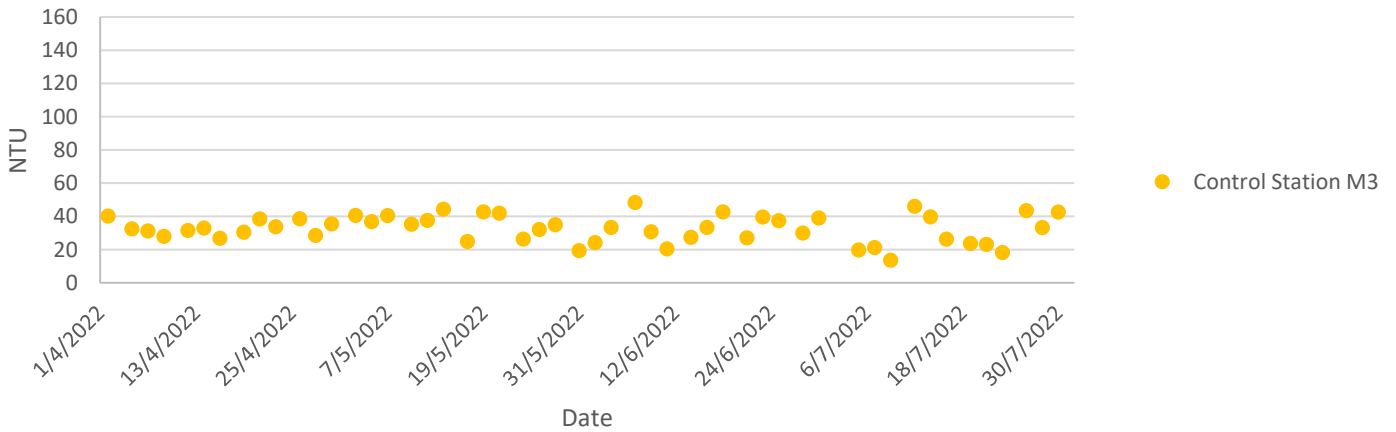
Turbidity at Mid-Ebb Tide



Turbidity at Mid-Ebb Tide

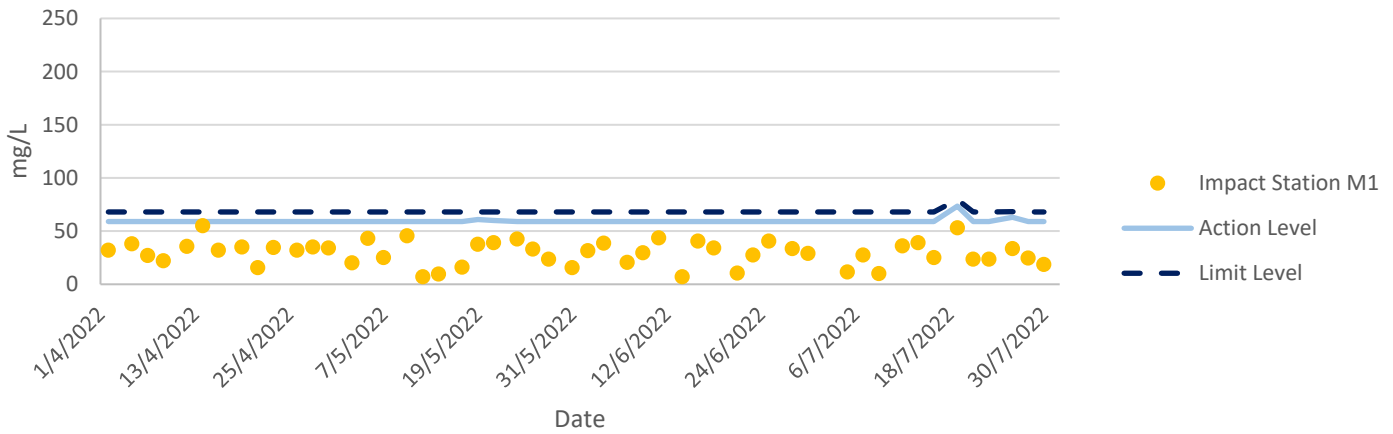


Turbidity at Mid-Ebb Tide

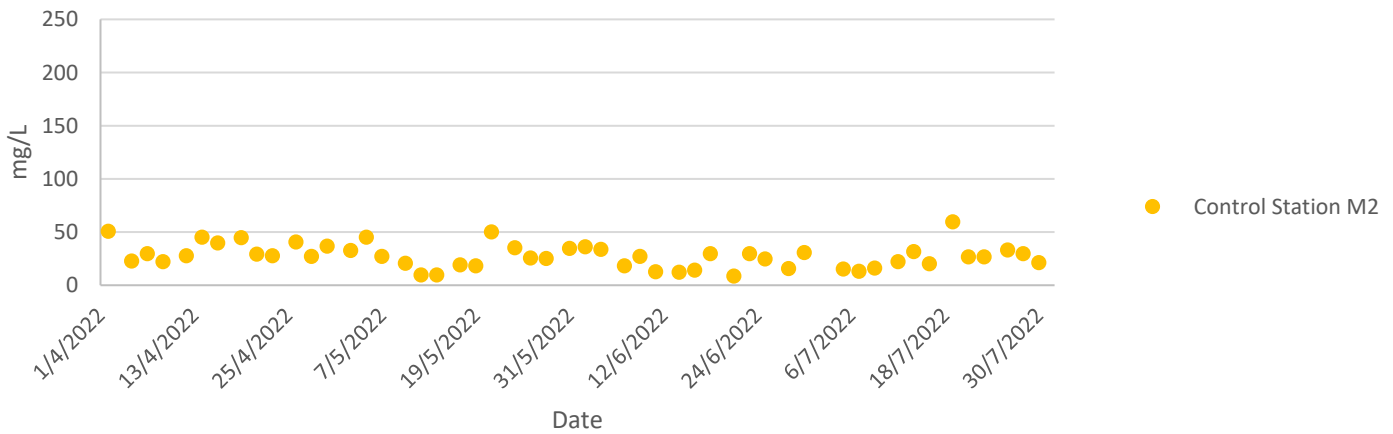


Water Quality Monitoring Results

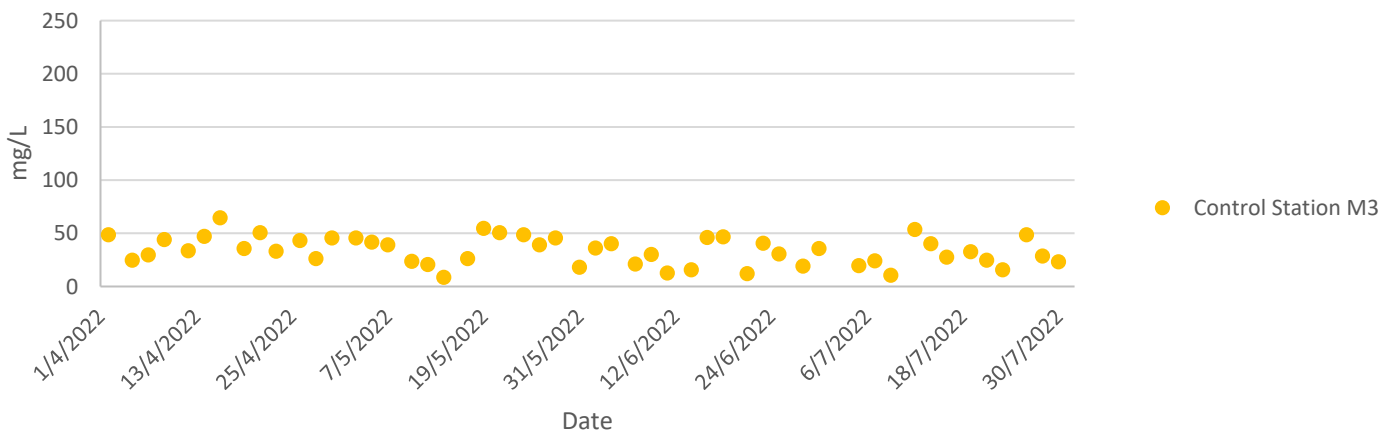
Total Suspended Solids at Mid-Ebb Tide



Total Suspended Solids at Mid-Ebb Tide



Total Suspended Solids at Mid-Ebb Tide



Ecology Monitoring Results

Ecology Monitoring Results for

Contract No. SPW 07/2020

Environmental Team for Construction of Yuen long Effluent Polishing Plant Stage 1

Appendix F.1 Ecological Bird Monitoring Result (15&18 July 2022)

| Date (dd/mm/yyyy) | Daytime/Night time | Season | Area | Transect/Point Count | Point Count (Location)/Transect Impact | Habitat | Common Name | Scientific Name | Abundance | Distribution in Hong Kong ² | Principal Status ³ | Level of Concern ⁴ | Protection Status in China ⁵ | China Red Data Book ⁶ | Red List of China's Vertebrates ¹⁰ | IUCN Red List ⁷ (v.2020-3) | Species of Conservation Importance | Wetland Dependent |
|-------------------|--------------------|------------|------|----------------------|--|-----------|-------------------------|----------------------------------|-----------|--|-------------------------------|-------------------------------|---|----------------------------------|---|---------------------------------------|------------------------------------|-------------------|
| 18/07/2022 | Daytime | Wet Season | FLW | Transect | FLW | In Flight | Barn Swallow | <i>Hirundo rustica</i> | 1 | Abundant | PM,SV | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Transect | FLW | Pond-FLW | Chinese Pond Heron | <i>Ardeola bacchus</i> | 4 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Transect | FLW | Pond-FLW | Common Myna | <i>Acridotheres tristis</i> | 3 | Uncommon | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Transect | FLW | Pond-FLW | Crested Myna | <i>Acridotheres cristatellus</i> | 2 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Transect | FLW | Pond-FLW | Great Egret | <i>Ardea alba</i> | 2 | Common | R,WV | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Transect | FLW | Pond-FLW | Intermediate Egret | <i>Egretta intermedia</i> | 1 | Common | PM | RC | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Transect | FLW | Pond-FLW | Little Egret | <i>Egretta garzetta</i> | 3 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Transect | FLW | Pond-FLW | Little Grebe | <i>Tachybaptus ruficollis</i> | 2 | Common | R | LC | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW1 | Pond-FLW | Barn Swallow | <i>Hirundo rustica</i> | 1 | Abundant | PM,SV | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW1 | Pond-FLW | Black-collared Starling | <i>Gracupica nigricollis</i> | 1 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW1 | Pond-FLW | Chinese Pond Heron | <i>Ardeola bacchus</i> | 5 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW1 | Pond-FLW | Crested Myna | <i>Acridotheres cristatellus</i> | 1 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW1 | Pond-FLW | Greater Coucal | <i>Centropus sinensis</i> | 1 | Common | R | - | Class II | Vulnerable | LC | LC | Y | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW1 | Pond-FLW | Plain Prinia | <i>Prinia inornata</i> | 1 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW1 | Pond-FLW | Spotted Dove | <i>Spilopelia chinensis</i> | 2 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW1 | Pond-FLW | Yellow-bellied Prinia | <i>Prinia flaviventris</i> | 3 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW2 | Pond-FLW | Plain Prinia | <i>Prinia inornata</i> | 3 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW2 | Pond-FLW | Yellow Bittern | <i>Ixobrychus sinensis</i> | 1 | Uncommon | PM,SV | - | - | - | LC | LC | N | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW3 | Pond-FLW | Oriental Magpie Robin | <i>Copsychus saularis</i> | 1 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW3 | Pond-FLW | Spotted Dove | <i>Spilopelia chinensis</i> | 4 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW4 | Pond-FLW | Chinese Bulbul | <i>Pycnonotus sinensis</i> | 2 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW4 | Pond-FLW | Chinese Pond Heron | <i>Ardeola bacchus</i> | 1 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW4 | Pond-FLW | Yellow-bellied Prinia | <i>Prinia flaviventris</i> | 1 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW5 | Pond-FLW | Black-collared Starling | <i>Gracupica nigricollis</i> | 1 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW5 | Pond-FLW | Chinese Pond Heron | <i>Ardeola bacchus</i> | 2 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW5 | Pond-FLW | Common Myna | <i>Acridotheres tristis</i> | 2 | Uncommon | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW5 | Pond-FLW | Crested Myna | <i>Acridotheres cristatellus</i> | 1 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW5 | Pond-FLW | Eurasian Tree Sparrow | <i>Passer montanus</i> | 3 | Abundant | R | - | - | - | LC | LC | N | N |

| | | | | | | | | | | | | | | | | | | |
|------------|---------|------------|-----|-------------|---------|----------------------|---------------------------|----------------------------------|---|--|-------|----------|---|---|----|----|---|---|
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW5 | Pond-FLW | Great Egret | <i>Ardea alba</i> | 1 | Common | R,WV | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW5 | Pond-FLW | Little Grebe | <i>Tachybaptus ruficollis</i> | 2 | Common | R | LC | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW5 | Pond-FLW | Japanese White-eye | <i>Zosterops japonicus</i> | 1 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW6 | Pond-FLW | Black-collared Starling | <i>Gracupica nigricollis</i> | 1 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW6 | Pond-FLW | Chinese Pond Heron | <i>Ardeola bacchus</i> | 3 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW6 | Pond-FLW | Crested Myna | <i>Acridotheres cristatellus</i> | 2 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW6 | Pond-FLW | Great Egret | <i>Ardea alba</i> | 2 | Common | R,WV | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW7 | Pond-FLW | Chinese Pond Heron | <i>Ardeola bacchus</i> | 3 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW7 | Pond-FLW | Crested Myna | <i>Acridotheres cristatellus</i> | 1 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW7 | Pond-FLW | Little Egret | <i>Egretta garzetta</i> | 1 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW7 | Pond-FLW | Pied Kingfisher | <i>Ceryle rudis</i> | 2 | Uncommon | R | - | - | - | LC | LC | N | Y |
| 18/07/2022 | Daytime | Wet Season | FLW | Point Count | FLW7 | Pond-FLW | White-throated Kingfisher | <i>Halcyon smyrnensis</i> | 1 | Common | R | - | - | - | LC | LC | N | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Transect | NSW | Plantation-NSW | Chinese Bulbul | <i>Pycnonotus sinensis</i> | 2 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Transect | NSW | Plantation-NSW | Crested Myna | <i>Acridotheres cristatellus</i> | 2 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Transect | NSW | Plantation-NSW | Eurasian Tree Sparrow | <i>Passer montanus</i> | 2 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Transect | NSW | Plantation-NSW | Japanese White-eye | <i>Zosterops japonicus</i> | 2 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Transect | NSW | Plantation-NSW | Masked Laughingthrush | <i>Garrulax perspicillatus</i> | 5 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Transect | NSW | Plantation-NSW | Plain Prinia | <i>Prinia inornata</i> | 3 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Transect | NSW | Plantation-NSW | Spotted Dove | <i>Spilopelia chinensis</i> | 1 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Transect | NSW | Plantation-NSW | Common Tailorbird | <i>Orthotomus sutorius</i> | 2 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Transect | NSW | Plantation-NSW | Asian Koel | <i>Eudynamis scolopaceus</i> | 1 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | NSW1 | Pond-NSW | Chinese Bulbul | <i>Pycnonotus sinensis</i> | 3 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | NSW1 | Pond-NSW | Crested Myna | <i>Acridotheres cristatellus</i> | 2 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | NSW1 | Pond-NSW | Eurasian Collared Dove | <i>Streptopelia decaocto</i> | 2 | Found in Mai Po, Tsim Bei Tsui, Fung Lok Wai | - | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | NSW1 | Pond-NSW | Spotted Dove | <i>Spilopelia chinensis</i> | 1 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | NSW1 | Pond-NSW | White Wagtail | <i>Motacilla alba</i> | 1 | Common | PM,WV | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | NSW1 | Pond-NSW | White-shouldered Starling | <i>Sturnia sinensis</i> | 2 | Common | PM | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | NSW1 | Pond-NSW | Common Kingfisher | <i>Alcedo atthis</i> | 1 | Common | PM,WV | - | - | - | LC | LC | N | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | NSW1 | Pond-NSW | White-throated Kingfisher | <i>Halcyon smyrnensis</i> | 1 | Common | R | - | - | - | LC | LC | N | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW1 | Modified Watercourse | Chinese Pond Heron | <i>Ardeola bacchus</i> | 4 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |

| | | | | | | | | | | | | | | | | | | |
|------------|------------|------------|------|-------------|---------|----------------------|-------------------------|----------------------------------|---|----------|-------|----------|---|---|----|----|---|---|
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW1 | Modified Watercourse | Common Moorhen | <i>Gallinula chloropus</i> | 1 | Common | R | - | - | - | LC | LC | N | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW1 | Modified Watercourse | Crested Myna | <i>Acridotheres cristatellus</i> | 3 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW1 | Modified Watercourse | Eurasian Tree Sparrow | <i>Passer montanus</i> | 2 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW1 | Modified Watercourse | Great Egret | <i>Ardea alba</i> | 3 | Common | R,WV | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW1 | Modified Watercourse | Common Sandpiper | <i>Actitis hypoleucos</i> | 1 | Common | PM,WV | - | - | - | LC | LC | N | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW1 | Modified Watercourse | Little Egret | <i>Egretta garzetta</i> | 2 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW1 | Modified Watercourse | Yellow-bellied Prinia | <i>Prinia flaviventris</i> | 3 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW2 | Modified Watercourse | Chinese Bulbul | <i>Pycnonotus sinensis</i> | 4 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW2 | Mangrove | Chinese Pond Heron | <i>Ardeola bacchus</i> | 2 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW2 | Modified Watercourse | Crested Myna | <i>Acridotheres cristatellus</i> | 2 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW2 | Modified Watercourse | Great Egret | <i>Ardea alba</i> | 1 | Common | R,WV | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW2 | Modified Watercourse | Yellow-bellied Prinia | <i>Prinia flaviventris</i> | 1 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW2 | Modified Watercourse | White Wagtail | <i>Motacilla alba</i> | 1 | Common | PM,WV | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW3 | Modified Watercourse | Barn Swallow | <i>Hirundo rustica</i> | 2 | Abundant | PM,SV | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW3 | Modified Watercourse | Chinese Pond Heron | <i>Ardeola bacchus</i> | 3 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW3 | Modified Watercourse | Crested Myna | <i>Acridotheres cristatellus</i> | 2 | Common | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW3 | Modified Watercourse | Great Egret | <i>Ardea alba</i> | 1 | Common | R,WV | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW3 | Modified Watercourse | Little Egret | <i>Egretta garzetta</i> | 3 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | NSW | Point Count | SP/NSW3 | Mangrove | Little Egret | <i>Egretta garzetta</i> | 1 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | YLIE | Transect | YLIE-CW | Modified Watercourse | Chinese Pond Heron | <i>Ardeola bacchus</i> | 3 | Common | R | PRC (RC) | - | - | LC | LC | Y | Y |
| 18/07/2022 | Daytime | Wet Season | YLIE | Transect | YLIE-CW | Modified Watercourse | Eurasian Tree Sparrow | <i>Passer montanus</i> | 2 | Abundant | R | - | - | - | LC | LC | N | N |
| 18/07/2022 | Daytime | Wet Season | YLIE | Transect | YLIE-CW | Modified Watercourse | White-breasted Waterhen | <i>Amaurornis phoenicurus</i> | 1 | Common | R | - | - | - | LC | LC | N | Y |
| 15/07/2022 | Night-time | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Notes:

- (1) All wild birds are protected under Wild Animals Protection Ordinance (Cap. 170).
- (2) AFCD (2021). Hong Kong Biodiversity Database.
- (3) Carey et al. (2001): R=resident; WV=winter visitor; SV=summer visitor; PM=passage migrant; Sp=spring; A=autumn;
- (4) Fellowes et al. (2002): GC=Global Concern; LC=Local Concern; RC=Regional Concern; PRC=Potential Regional Concern; PGC: Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.
- (5) List of Wild Animals under State Protection (promulgated by State Forestry Administration and Ministry of Agriculture on 14 January, 1989).
- (6) Zheng, G. M. and Wang, Q. S. (1998). China Red Data Book
- (7) IUCN 2021. The IUCN Red List of Threatened Species. Version 2020-3.
- (9) Wetland-dependent species (including wetland-dependent species and waterbirds).
- (10) Jiang et al. (2016). Red List of China's Vertebrates

Appendix F.2.1 Ecological Bird Monitoring Diversity (All avifauna species in Point Count Method) in All Habitats (15&18 July 2022)

| Scientific Name | Count | P | Ln(P) | P*Ln(P) | P*Ln(P) ² |
|----------------------------------|-------|----------|----------|----------|----------------------|
| <i>Acridotheres cristatellus</i> | 14 | 0.125 | -2.07944 | -0.25993 | 0.54051 |
| <i>Acridotheres tristis</i> | 2 | 0.017857 | -4.02535 | -0.07188 | 0.289347 |
| <i>Actitis hypoleucos</i> | 1 | 0.008929 | -4.7185 | -0.04213 | 0.198788 |
| <i>Alcedo atthis</i> | 1 | 0.008929 | -4.7185 | -0.04213 | 0.198788 |
| <i>Ardea alba</i> | 8 | 0.071429 | -2.63906 | -0.1885 | 0.497473 |
| <i>Ardeola bacchus</i> | 23 | 0.205357 | -1.583 | -0.32508 | 0.514605 |
| <i>Centropus sinensis</i> | 1 | 0.008929 | -4.7185 | -0.04213 | 0.198788 |
| <i>Ceryle rudis</i> | 2 | 0.017857 | -4.02535 | -0.07188 | 0.289347 |
| <i>Copsychus saularis</i> | 1 | 0.008929 | -4.7185 | -0.04213 | 0.198788 |
| <i>Egretta garzetta</i> | 7 | 0.0625 | -2.77259 | -0.17329 | 0.480453 |
| <i>Gallinula chloropus</i> | 1 | 0.008929 | -4.7185 | -0.04213 | 0.198788 |
| <i>Gracupica nigricollis</i> | 3 | 0.026786 | -3.61989 | -0.09696 | 0.350989 |
| <i>Halcyon smyrnensis</i> | 2 | 0.017857 | -4.02535 | -0.07188 | 0.289347 |
| <i>Hirundo rustica</i> | 3 | 0.026786 | -3.61989 | -0.09696 | 0.350989 |
| <i>Ixobrychus sinensis</i> | 1 | 0.008929 | -4.7185 | -0.04213 | 0.198788 |
| <i>Motacilla alba</i> | 2 | 0.017857 | -4.02535 | -0.07188 | 0.289347 |
| <i>Passer montanus</i> | 5 | 0.044643 | -3.10906 | -0.1388 | 0.431529 |
| <i>Prinia flaviventris</i> | 8 | 0.071429 | -2.63906 | -0.1885 | 0.497473 |
| <i>Prinia inornata</i> | 4 | 0.035714 | -3.3322 | -0.11901 | 0.396557 |
| <i>Pycnonotus sinensis</i> | 9 | 0.080357 | -2.52127 | -0.2026 | 0.510816 |
| <i>Spilopelia chinensis</i> | 7 | 0.0625 | -2.77259 | -0.17329 | 0.480453 |
| <i>Streptopelia decaocto</i> | 2 | 0.017857 | -4.02535 | -0.07188 | 0.289347 |
| <i>Sturnia sinensis</i> | 2 | 0.017857 | -4.02535 | -0.07188 | 0.289347 |
| <i>Tachybaptus ruficollis</i> | 2 | 0.017857 | -4.02535 | -0.07188 | 0.289347 |
| <i>Zosterops japonicus</i> | 1 | 0.008929 | -4.7185 | -0.04213 | 0.198788 |
| | | | | | |
| Total | 112 | 1 | -91.895 | -2.761 | 8.468793 |
| Richness | 25 | | | | |
| SS | 8.47 | | | | |
| SQ | 7.62 | | | | |
| H | 2.76 | | | | |
| S²_H | 0.01 | | | | |

Appendix F.2.2 Ecological Bird Monitoring Diversity (Avifauna species of conservation importance in Point Count Method) in All Habitats (15&18 July 2022)

| Scientific Name | Count | P | Ln(P) | P*Ln(P) | P*Ln(P) ² |
|-------------------------------|-------|----------|----------|----------|----------------------|
| <i>Ardea alba</i> | 8 | 0.195122 | -1.63413 | -0.31885 | 0.52105 |
| <i>Ardeola bacchus</i> | 23 | 0.560976 | -0.57808 | -0.32429 | 0.187463 |
| <i>Centropus sinensis</i> | 1 | 0.02439 | -3.71357 | -0.09057 | 0.336357 |
| <i>Egretta garzetta</i> | 7 | 0.170732 | -1.76766 | -0.3018 | 0.533473 |
| <i>Tachybaptus ruficollis</i> | 2 | 0.04878 | -3.02042 | -0.14734 | 0.445023 |
| | | | | | |
| Total | 41 | 1 | -10.7139 | -1.18285 | 2.023366 |

| | | | | | |
|-----------------------------|------|--|--|--|--|
| Richness | 5 | | | | |
| SS | 2.02 | | | | |
| SQ | 1.4 | | | | |
| H | 1.18 | | | | |
| S ² _H | 0.02 | | | | |

Appendix F.2.3 Ecological Bird Monitoring Diversity (All avifauna species in Transect Walk Method) in All Habitats (15&18 July 2022)

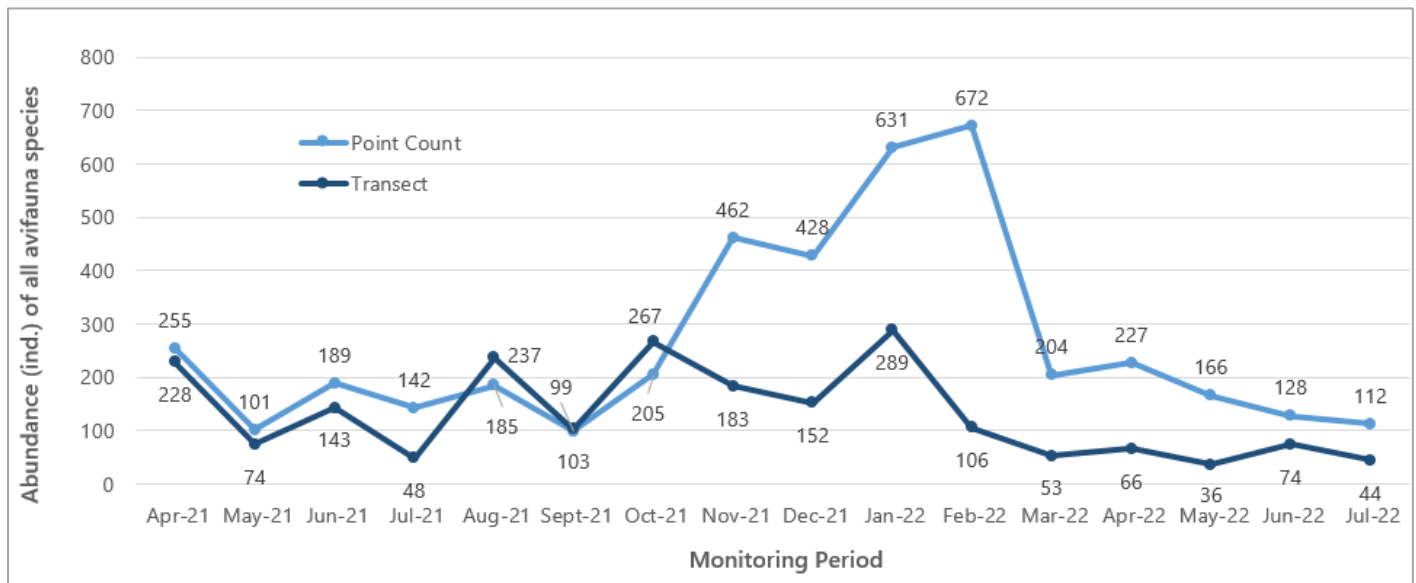
| Scientific Name | Count | P | Ln(P) | P*Ln(P) | P*Ln(P) ² |
|----------------------------------|-------|----------|----------|----------|----------------------|
| <i>Acridotheres cristatellus</i> | 4 | 0.090909 | -2.3979 | -0.21799 | 0.522718 |
| <i>Acridotheres tristis</i> | 3 | 0.068182 | -2.68558 | -0.18311 | 0.491749 |
| <i>Amaurornis phoenicurus</i> | 1 | 0.022727 | -3.78419 | -0.086 | 0.325457 |
| <i>Ardea alba</i> | 2 | 0.045455 | -3.09104 | -0.1405 | 0.434297 |
| <i>Ardeola bacchus</i> | 7 | 0.159091 | -1.83828 | -0.29245 | 0.537611 |
| <i>Egretta garzetta</i> | 3 | 0.068182 | -2.68558 | -0.18311 | 0.491749 |
| <i>Egretta intermedia</i> | 1 | 0.022727 | -3.78419 | -0.086 | 0.325457 |
| <i>Eudynamis scolopaceus</i> | 1 | 0.022727 | -3.78419 | -0.086 | 0.325457 |
| <i>Garrulax perspicillatus</i> | 5 | 0.113636 | -2.17475 | -0.24713 | 0.537448 |
| <i>Hirundo rustica</i> | 1 | 0.022727 | -3.78419 | -0.086 | 0.325457 |
| <i>Orthotomus sutorius</i> | 2 | 0.045455 | -3.09104 | -0.1405 | 0.434297 |
| <i>Passer montanus</i> | 4 | 0.090909 | -2.3979 | -0.21799 | 0.522718 |
| <i>Prinia inornata</i> | 3 | 0.068182 | -2.68558 | -0.18311 | 0.491749 |
| <i>Pycnonotus sinensis</i> | 2 | 0.045455 | -3.09104 | -0.1405 | 0.434297 |
| <i>Spilopelia chinensis</i> | 1 | 0.022727 | -3.78419 | -0.086 | 0.325457 |
| <i>Tachybaptus ruficollis</i> | 2 | 0.045455 | -3.09104 | -0.1405 | 0.434297 |
| <i>Zosterops japonicus</i> | 2 | 0.045455 | -3.09104 | -0.1405 | 0.434297 |
| | | | | | |
| Total | 44 | 1 | -51.2417 | -2.65742 | 7.394515 |
| Richness | 17 | | | | |
| SS | 7.39 | | | | |
| SQ | 7.06 | | | | |
| H | 2.66 | | | | |
| S²_H | 0.01 | | | | |

Appendix F.2.4 Ecological Bird Monitoring Diversity (Avifauna species of conservation importance in Transect Walk Method) in All Habitats (15&18 July 2022)

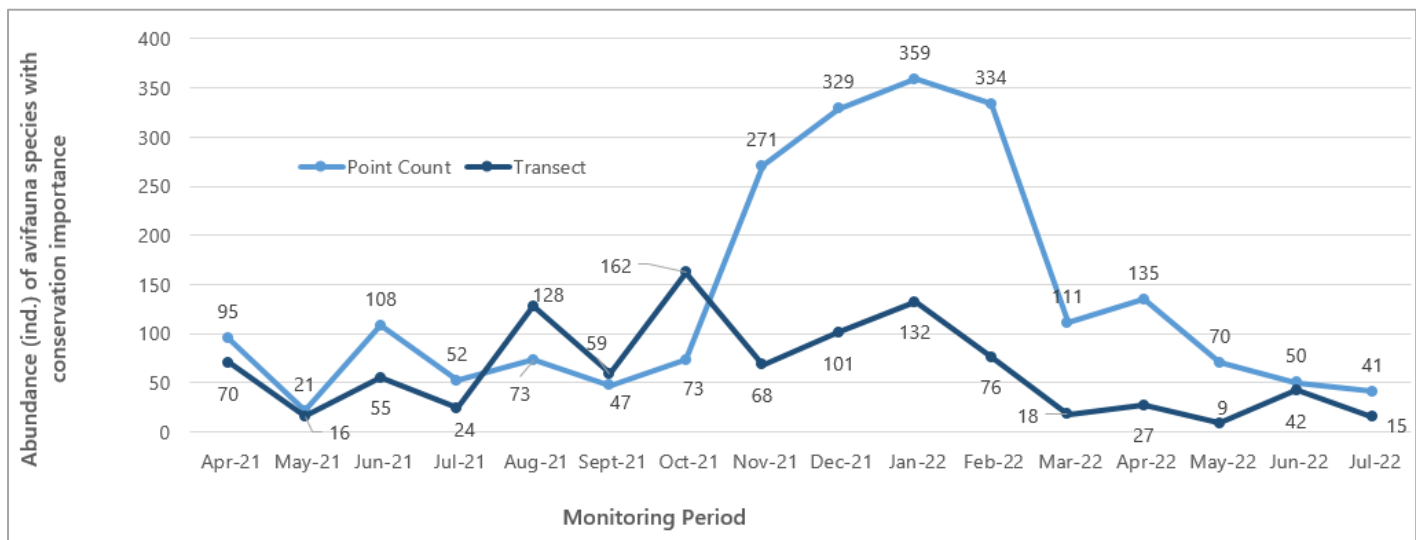
| Scientific Name | Count | P | Ln(P) | P*Ln(P) | P*Ln(P) ² |
|-------------------------------|-------|----------|----------|----------|----------------------|
| <i>Ardea alba</i> | 2 | 0.133333 | -2.0149 | -0.26865 | 0.541311 |
| <i>Ardeola bacchus</i> | 7 | 0.466667 | -0.76214 | -0.35567 | 0.271067 |
| <i>Egretta garzetta</i> | 3 | 0.2 | -1.60944 | -0.32189 | 0.518058 |
| <i>Egretta intermedia</i> | 1 | 0.066667 | -2.70805 | -0.18054 | 0.488902 |
| <i>Tachybaptus ruficollis</i> | 2 | 0.133333 | -2.0149 | -0.26865 | 0.541311 |
| | | | | | |
| Total | 15 | 1 | -9.10943 | -1.3954 | 2.36065 |
| Richness | 5 | | | | |
| SS | 2.36 | | | | |
| SQ | 1.95 | | | | |

| | | | | | |
|-----------------------------|------|--|--|--|--|
| H | 1.40 | | | | |
| S ² _H | 0.04 | | | | |

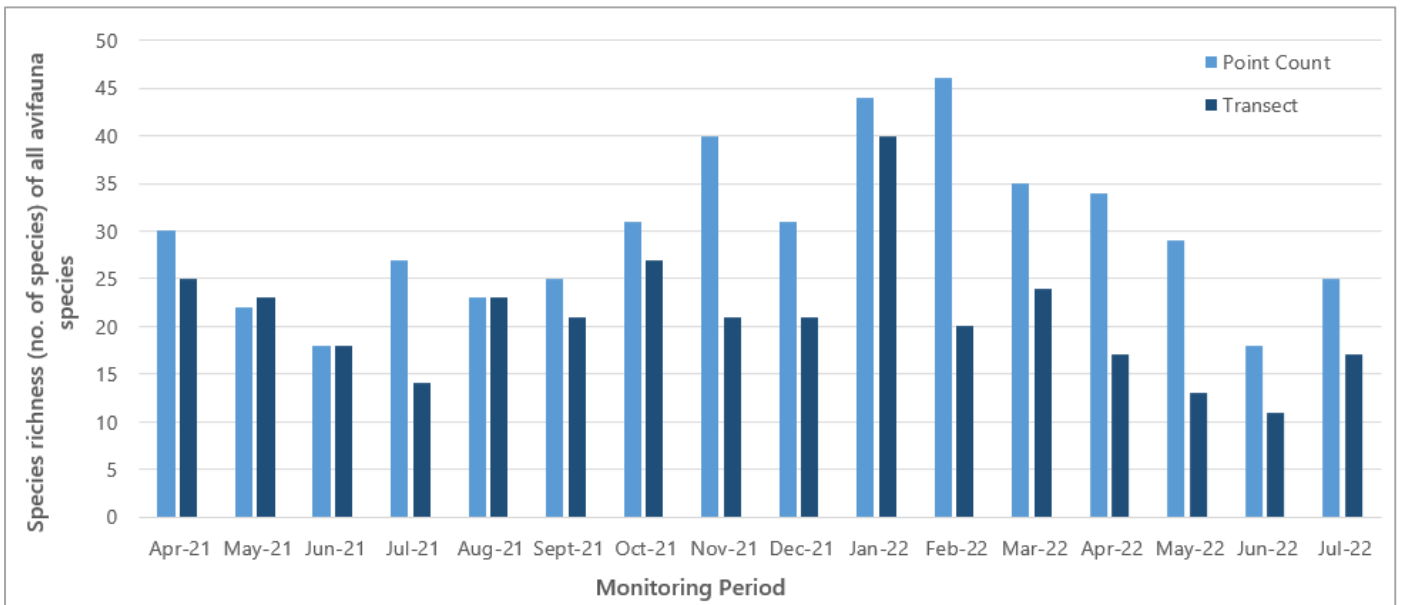
Appendix F.3.1 Abundance of all avifauna species throughout the monitoring period



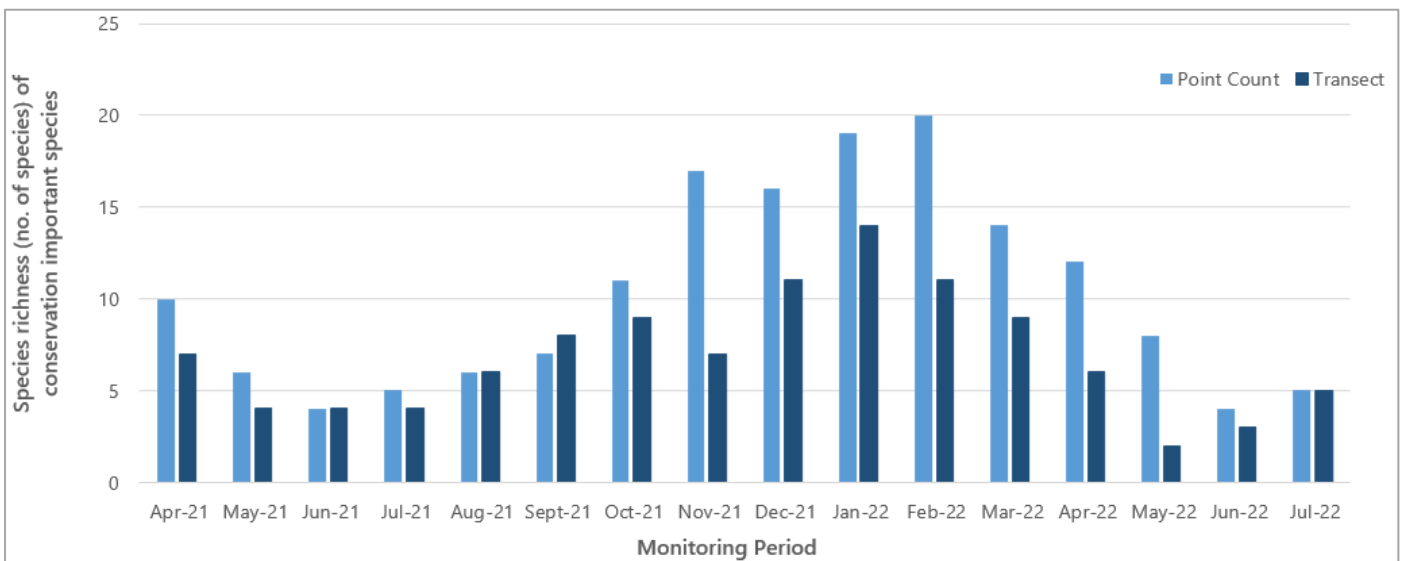
Appendix F.3.2 Abundance of avifauna species with conservation importance throughout the monitoring period



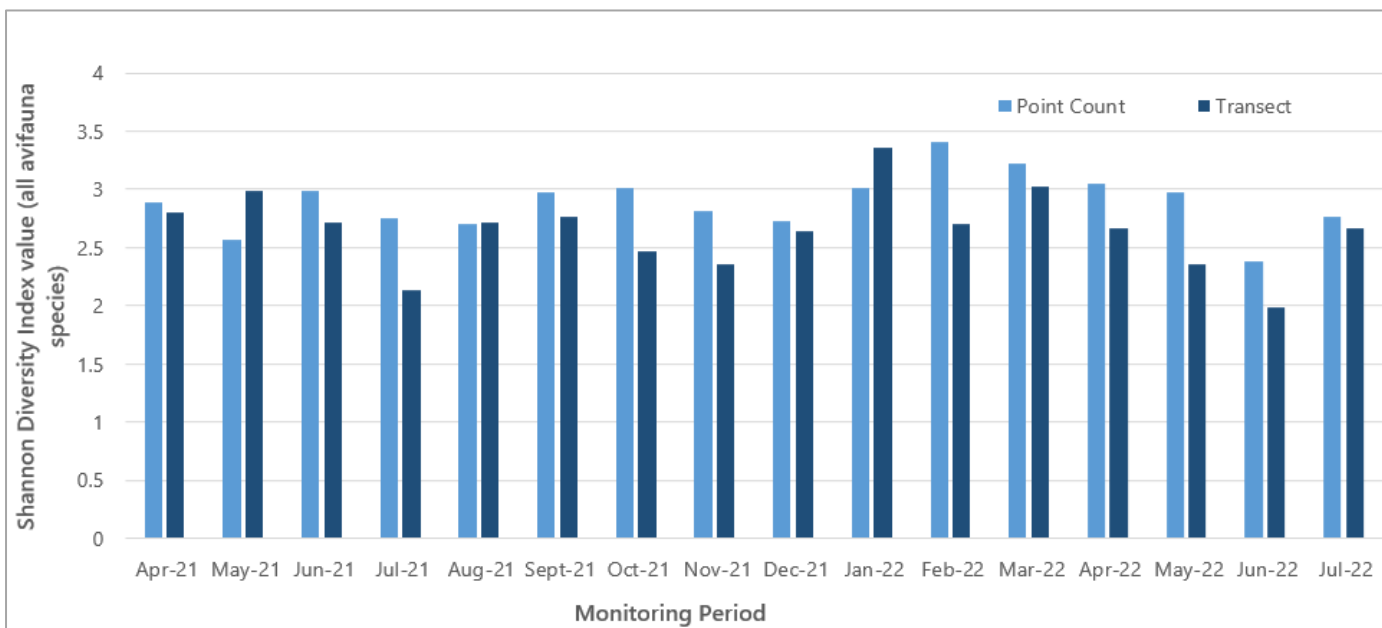
Appendix F.4.1 Species richness of all avifauna species throughout the monitoring period



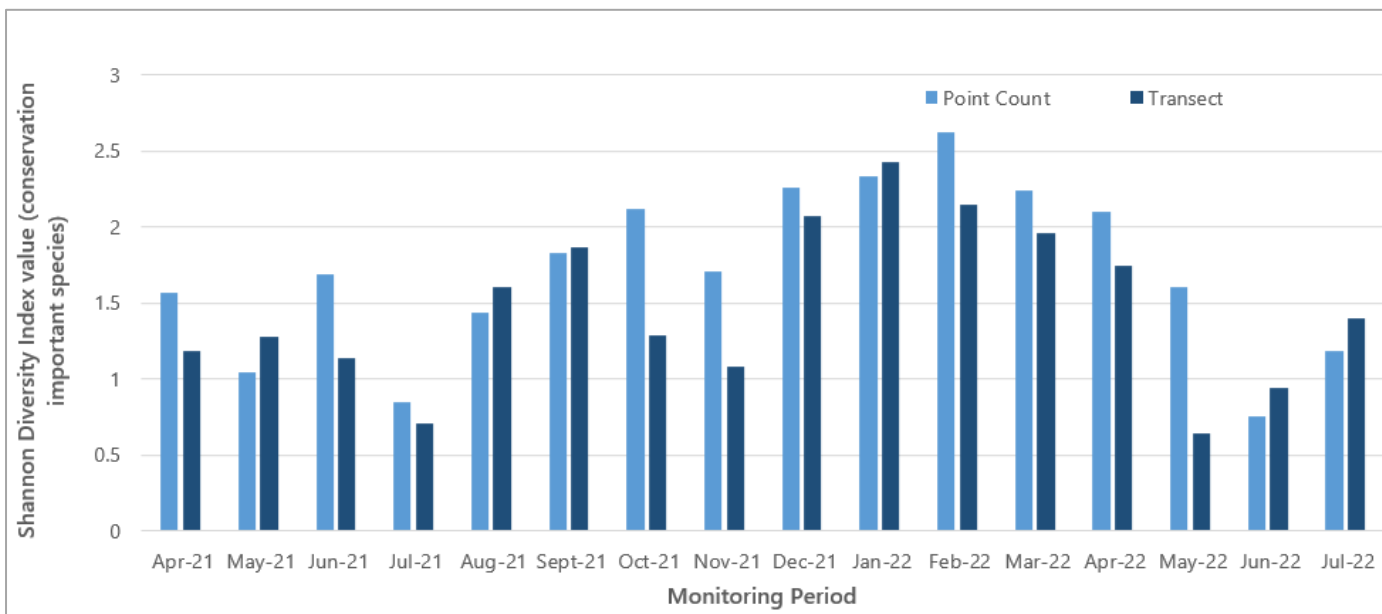
Appendix F.4.2 Species richness of avifauna species with conservation importance throughout the monitoring period



Appendix F.5.1 Shannon Diversity Index values of all avifauna species throughout the monitoring period



Appendix F.5.2 Shannon Diversity Index values of avifauna species with conservation importance throughout the monitoring period



Appendix F.6 Two-tailed Unpaired T-test

Formula:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{(N_1 - 1)s_1^2 + (N_2 - 1)s_2^2}{N_1 + N_2 - 2}\right)\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}$$

Appendix F.6.1 Abundance of all avifauna species – Point Count Method

| Months | July 2017 | July 2022 |
|--------|-----------|-----------|
| N | 65 | 60 |

| Months | July 2017 | July 2022 |
|--|-----------|-----------|
| df | 64 | 59 |
| M | 2.54 | 1.87 |
| SS | 744.15 | 58.93 |
| S ² | 11.63 | 1 |
| t-value | 1.47 | |
| p-value | 0.14 | |
| Notes: N: Number of samples/observation df: Degrees of freedom M: Mean SS: Sum of Squares S ² : Measure on a random sample that is used to estimate the variance of the population | | |

Appendix F.6.2 Abundance of avifauna species with conservation importance – Point Count Method

| Months | July 2017 | July 2022 |
|--|-----------|-----------|
| N | 24 | 19 |
| df | 23 | 18 |
| M | 3.33 | 2.16 |
| SS | 363.33 | 24.53 |
| S ² | 15.8 | 1.36 |
| t-value | 1.24 | |
| p-value | 0.22 | |
| Notes: N: Number of samples/observation df: Degrees of freedom M: Mean SS: Sum of Squares S ² : Measure on a random sample that is used to estimate the variance of the population | | |

Appendix F.7. Hutcheson t-test testing method and output

Formula:

$$t = \frac{H_a - H_b}{\sqrt{S_{H_a}^2 + S_{H_b}^2}}$$

Appendix F.7.1 Species diversity of avifauna species with conservation importance – Point Count Method

| Months | July 2017 | July 2022 |
|-----------------------------|-----------|-----------|
| Total | 80 | 41 |
| Richness | 5 | 5 |
| H | 1.36 | 1.18 |
| S ² _H | 0.004 | 0.016 |
| t | 1.26 | |
| df | 63.94 | |
| Crit | 2 | |
| p | 0.21 | |
| CI | 0.13 | 0.26 |

Appendix G

Wind Data

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 01/07/2022 00:00 | 5.0 | NE |
| 01/07/2022 01:00 | 3.1 | NNE |
| 01/07/2022 02:00 | 1.5 | NE |
| 01/07/2022 03:00 | 2.8 | NE |
| 01/07/2022 04:00 | 0.8 | NNE |
| 01/07/2022 05:00 | 0.6 | NE |
| 01/07/2022 06:00 | 3.2 | NE |
| 01/07/2022 07:00 | 8.6 | NEE |
| 01/07/2022 08:00 | 4.4 | NNE |
| 01/07/2022 09:00 | 6.0 | NEE |
| 01/07/2022 10:00 | 22.2 | NE |
| 01/07/2022 11:00 | 18.1 | NE |
| 01/07/2022 12:00 | 4.7 | NEE |
| 01/07/2022 13:00 | 6.1 | NE |
| 01/07/2022 14:00 | 14.3 | NE |
| 01/07/2022 15:00 | 3.1 | NEE |
| 01/07/2022 16:00 | 10.6 | NNE |
| 01/07/2022 17:00 | 16.8 | E |
| 01/07/2022 18:00 | 25.1 | NE |
| 01/07/2022 19:00 | 15.8 | NEE |
| 01/07/2022 20:00 | 6.7 | NE |
| 01/07/2022 21:00 | 12.5 | NE |
| 01/07/2022 22:00 | 12.7 | NNE |
| 01/07/2022 23:00 | 18.9 | NE |
| 02/07/2022 00:00 | 1.0 | E |
| 02/07/2022 01:00 | 4.6 | SEE |
| 02/07/2022 02:00 | 0.7 | SEE |
| 02/07/2022 03:00 | 16.0 | NE |
| 02/07/2022 04:00 | 6.9 | NEE |
| 02/07/2022 05:00 | 4.3 | NNE |
| 02/07/2022 06:00 | 0.4 | E |
| 02/07/2022 07:00 | 2.8 | SE |
| 02/07/2022 08:00 | 8.6 | E |
| 02/07/2022 09:00 | 6.6 | SW |
| 02/07/2022 10:00 | 2.8 | SEE |
| 02/07/2022 11:00 | 0.4 | E |
| 02/07/2022 12:00 | 1.5 | SE |
| 02/07/2022 13:00 | 2.4 | E |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 02/07/2022 14:00 | 3.8 | SEE |
| 02/07/2022 15:00 | 14.3 | E |
| 02/07/2022 16:00 | 0.4 | SE |
| 02/07/2022 17:00 | 2.9 | SEE |
| 02/07/2022 18:00 | 3.1 | E |
| 02/07/2022 19:00 | 3.9 | SSE |
| 02/07/2022 20:00 | 1.5 | SEE |
| 02/07/2022 21:00 | 12.1 | SEE |
| 02/07/2022 22:00 | 11.2 | SEE |
| 02/07/2022 23:00 | 16.3 | SE |
| 03/07/2022 00:00 | 10.2 | SSE |
| 03/07/2022 01:00 | 17.5 | SEE |
| 03/07/2022 02:00 | 2.5 | SEE |
| 03/07/2022 03:00 | 9.9 | SSE |
| 03/07/2022 04:00 | 5.8 | SE |
| 03/07/2022 05:00 | 5.1 | SEE |
| 03/07/2022 06:00 | 4.7 | SE |
| 03/07/2022 07:00 | 1.0 | SE |
| 03/07/2022 08:00 | 3.8 | SSE |
| 03/07/2022 09:00 | 14.6 | SSE |
| 03/07/2022 10:00 | 7.2 | SE |
| 03/07/2022 11:00 | 9.3 | SE |
| 03/07/2022 12:00 | 15.9 | SSE |
| 03/07/2022 13:00 | 10.7 | S |
| 03/07/2022 14:00 | 0.3 | SEE |
| 03/07/2022 15:00 | 3.9 | SSW |
| 03/07/2022 16:00 | 14.4 | SSE |
| 03/07/2022 17:00 | 11.4 | S |
| 03/07/2022 18:00 | 1.4 | SE |
| 03/07/2022 19:00 | 0.8 | SSE |
| 03/07/2022 20:00 | 0.5 | SSE |
| 03/07/2022 21:00 | 4.4 | S |
| 03/07/2022 22:00 | 1.3 | SE |
| 03/07/2022 23:00 | 4.0 | SSE |
| 04/07/2022 00:00 | 2.3 | SSE |
| 04/07/2022 01:00 | 3.9 | SSE |
| 04/07/2022 02:00 | 4.3 | SSE |
| 04/07/2022 03:00 | 2.5 | SSW |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 04/07/2022 04:00 | 1.7 | SE |
| 04/07/2022 05:00 | 13.0 | S |
| 04/07/2022 06:00 | 15.3 | SSE |
| 04/07/2022 07:00 | 4.8 | SSE |
| 04/07/2022 08:00 | 0.9 | S |
| 04/07/2022 09:00 | 0.1 | S |
| 04/07/2022 10:00 | 1.1 | S |
| 04/07/2022 11:00 | 1.2 | S |
| 04/07/2022 12:00 | 5.6 | SSW |
| 04/07/2022 13:00 | 4.5 | SSW |
| 04/07/2022 14:00 | 12.1 | SSW |
| 04/07/2022 15:00 | 4.0 | SSW |
| 04/07/2022 16:00 | 0.1 | S |
| 04/07/2022 17:00 | 0.1 | SSE |
| 04/07/2022 18:00 | 2.4 | SSE |
| 04/07/2022 19:00 | 0.1 | SE |
| 04/07/2022 20:00 | 3.7 | SSE |
| 04/07/2022 21:00 | 1.0 | SSE |
| 04/07/2022 22:00 | 0.3 | S |
| 04/07/2022 23:00 | 0.4 | SSE |
| 05/07/2022 00:00 | 0.4 | SSE |
| 05/07/2022 01:00 | 0.4 | SSE |
| 05/07/2022 02:00 | 5.5 | SSW |
| 05/07/2022 03:00 | 4.3 | SSE |
| 05/07/2022 04:00 | 1.8 | SSE |
| 05/07/2022 05:00 | 0.1 | SSE |
| 05/07/2022 06:00 | 0.4 | S |
| 05/07/2022 07:00 | 0.1 | SSW |
| 05/07/2022 08:00 | 1.4 | S |
| 05/07/2022 09:00 | 1.5 | SE |
| 05/07/2022 10:00 | 2.6 | S |
| 05/07/2022 11:00 | 0.2 | S |
| 05/07/2022 12:00 | 7.3 | S |
| 05/07/2022 13:00 | 1.6 | S |
| 05/07/2022 14:00 | 0.1 | SSE |
| 05/07/2022 15:00 | 0.1 | SW |
| 05/07/2022 16:00 | 0.0 | NWW |
| 05/07/2022 17:00 | 0.1 | NNE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 05/07/2022 18:00 | 0.2 | SE |
| 05/07/2022 19:00 | 0.2 | SSE |
| 05/07/2022 20:00 | 0.1 | SSE |
| 05/07/2022 21:00 | 1.4 | SSE |
| 05/07/2022 22:00 | 0.8 | S |
| 05/07/2022 23:00 | 0.1 | SSE |
| 06/07/2022 00:00 | 0.9 | S |
| 06/07/2022 01:00 | 0.0 | SSE |
| 06/07/2022 02:00 | 1.2 | S |
| 06/07/2022 03:00 | 1.1 | SSW |
| 06/07/2022 04:00 | 0.1 | SSE |
| 06/07/2022 05:00 | 0.1 | SSE |
| 06/07/2022 06:00 | 0.2 | S |
| 06/07/2022 07:00 | 0.1 | S |
| 06/07/2022 08:00 | 0.9 | SSW |
| 06/07/2022 09:00 | 2.0 | SSE |
| 06/07/2022 10:00 | 2.1 | S |
| 06/07/2022 11:00 | 2.3 | SSE |
| 06/07/2022 12:00 | 0.2 | SEE |
| 06/07/2022 13:00 | 6.4 | SSE |
| 06/07/2022 14:00 | 0.7 | SSE |
| 06/07/2022 15:00 | 0.3 | SE |
| 06/07/2022 16:00 | 0.1 | NE |
| 06/07/2022 17:00 | 1.5 | S |
| 06/07/2022 18:00 | 2.0 | SE |
| 06/07/2022 19:00 | 1.1 | SSW |
| 06/07/2022 20:00 | 0.1 | SES |
| 06/07/2022 21:00 | 0.1 | SE |
| 06/07/2022 22:00 | 0.1 | N |
| 06/07/2022 23:00 | 0.1 | SSE |
| 07/07/2022 00:00 | 0.1 | NNE |
| 07/07/2022 01:00 | 0.1 | SE |
| 07/07/2022 02:00 | 0.1 | SE |
| 07/07/2022 03:00 | 0.1 | SEE |
| 07/07/2022 04:00 | 0.1 | S |
| 07/07/2022 05:00 | 0.1 | NE |
| 07/07/2022 06:00 | 0.1 | SSW |
| 07/07/2022 07:00 | 0.8 | NE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 07/07/2022 08:00 | 0.4 | S |
| 07/07/2022 09:00 | 0.6 | SSE |
| 07/07/2022 10:00 | 3.6 | SSE |
| 07/07/2022 11:00 | 2.1 | SSE |
| 07/07/2022 12:00 | 4.1 | SE |
| 07/07/2022 13:00 | 5.5 | SSE |
| 07/07/2022 14:00 | 1.3 | SE |
| 07/07/2022 15:00 | 1.6 | SSE |
| 07/07/2022 16:00 | 0.1 | SE |
| 07/07/2022 17:00 | 0.1 | NE |
| 07/07/2022 18:00 | 0.1 | NE |
| 07/07/2022 19:00 | 0.1 | NE |
| 07/07/2022 20:00 | 0.1 | SEE |
| 07/07/2022 21:00 | 0.1 | E |
| 07/07/2022 22:00 | 0.1 | NNE |
| 07/07/2022 23:00 | 0.0 | NNE |
| 08/07/2022 00:00 | 0.1 | N |
| 08/07/2022 01:00 | 0.1 | N |
| 08/07/2022 02:00 | 0.1 | N |
| 08/07/2022 03:00 | 0.1 | N |
| 08/07/2022 04:00 | 0.1 | N |
| 08/07/2022 05:00 | 0.1 | NNE |
| 08/07/2022 06:00 | 0.1 | NNE |
| 08/07/2022 07:00 | 0.1 | NE |
| 08/07/2022 08:00 | 2.3 | NE |
| 08/07/2022 09:00 | 5.2 | NE |
| 08/07/2022 10:00 | 5.1 | E |
| 08/07/2022 11:00 | 0.5 | SEE |
| 08/07/2022 12:00 | 0.1 | SSE |
| 08/07/2022 13:00 | 0.3 | NEE |
| 08/07/2022 14:00 | 0.5 | W |
| 08/07/2022 15:00 | 0.1 | SE |
| 08/07/2022 16:00 | 0.1 | SE |
| 08/07/2022 17:00 | 1.5 | NEE |
| 08/07/2022 18:00 | 1.5 | NE |
| 08/07/2022 19:00 | 0.1 | SSE |
| 08/07/2022 20:00 | 0.1 | N |
| 08/07/2022 21:00 | 0.0 | N |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 08/07/2022 22:00 | 0.1 | NE |
| 08/07/2022 23:00 | 1.6 | NE |
| 09/07/2022 00:00 | 3.2 | NE |
| 09/07/2022 01:00 | 0.1 | NEE |
| 09/07/2022 02:00 | 0.1 | NNE |
| 09/07/2022 03:00 | 0.1 | NE |
| 09/07/2022 04:00 | 0.1 | NNE |
| 09/07/2022 05:00 | 0.3 | NNE |
| 09/07/2022 06:00 | 0.1 | NE |
| 09/07/2022 07:00 | 0.5 | S |
| 09/07/2022 08:00 | 0.1 | NEE |
| 09/07/2022 09:00 | 4.6 | NNE |
| 09/07/2022 10:00 | 4.8 | NNE |
| 09/07/2022 11:00 | 0.5 | SEE |
| 09/07/2022 12:00 | 3.3 | NEE |
| 09/07/2022 13:00 | 13.4 | NE |
| 09/07/2022 14:00 | 0.8 | SEE |
| 09/07/2022 15:00 | 0.1 | NEE |
| 09/07/2022 16:00 | 0.8 | SEE |
| 09/07/2022 17:00 | 0.1 | E |
| 09/07/2022 18:00 | 0.1 | NEE |
| 09/07/2022 19:00 | 0.1 | NEE |
| 09/07/2022 20:00 | 0.1 | NEE |
| 09/07/2022 21:00 | 0.1 | E |
| 09/07/2022 22:00 | 0.1 | NE |
| 09/07/2022 23:00 | 0.1 | NE |
| 10/07/2022 00:00 | 1.4 | NNE |
| 10/07/2022 01:00 | 0.1 | NNE |
| 10/07/2022 02:00 | 0.1 | NE |
| 10/07/2022 03:00 | 0.0 | NNE |
| 10/07/2022 04:00 | 0.1 | SSE |
| 10/07/2022 05:00 | 0.1 | W |
| 10/07/2022 06:00 | 0.1 | W |
| 10/07/2022 07:00 | 0.1 | NE |
| 10/07/2022 08:00 | 0.1 | NEE |
| 10/07/2022 09:00 | 0.5 | NE |
| 10/07/2022 10:00 | 0.1 | S |
| 10/07/2022 11:00 | 0.4 | SSE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 10/07/2022 12:00 | 0.4 | W |
| 10/07/2022 13:00 | 2.3 | SE |
| 10/07/2022 14:00 | 4.3 | SE |
| 10/07/2022 15:00 | 0.1 | SE |
| 10/07/2022 16:00 | 0.4 | SSE |
| 10/07/2022 17:00 | 2.2 | SEE |
| 10/07/2022 18:00 | 0.1 | SE |
| 10/07/2022 19:00 | 0.0 | NE |
| 10/07/2022 20:00 | 0.1 | NE |
| 10/07/2022 21:00 | 0.1 | NE |
| 10/07/2022 22:00 | 0.1 | NE |
| 10/07/2022 23:00 | 0.1 | W |
| 11/07/2022 00:00 | 0.1 | NEE |
| 11/07/2022 01:00 | 0.1 | NEE |
| 11/07/2022 02:00 | 0.1 | NEE |
| 11/07/2022 03:00 | 0.1 | NEE |
| 11/07/2022 04:00 | 0.1 | NEE |
| 11/07/2022 05:00 | 0.1 | NEE |
| 11/07/2022 06:00 | 0.1 | NEE |
| 11/07/2022 07:00 | 0.2 | NE |
| 11/07/2022 08:00 | 0.9 | NNE |
| 11/07/2022 09:00 | 0.2 | SE |
| 11/07/2022 10:00 | 0.1 | SE |
| 11/07/2022 11:00 | 0.1 | SW |
| 11/07/2022 12:00 | 7.7 | S |
| 11/07/2022 13:00 | 6.9 | SWW |
| 11/07/2022 14:00 | 0.1 | W |
| 11/07/2022 15:00 | 0.5 | SSW |
| 11/07/2022 16:00 | 2.2 | SE |
| 11/07/2022 17:00 | 0.0 | SSE |
| 11/07/2022 18:00 | 5.3 | SSE |
| 11/07/2022 19:00 | 4.8 | SSE |
| 11/07/2022 20:00 | 0.1 | SSE |
| 11/07/2022 21:00 | 1.3 | SSE |
| 11/07/2022 22:00 | 0.1 | NEE |
| 11/07/2022 23:00 | 0.1 | NEE |
| 12/07/2022 00:00 | 0.1 | NEE |
| 12/07/2022 01:00 | 0.1 | NEE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 12/07/2022 02:00 | 0.1 | NEE |
| 12/07/2022 03:00 | 0.1 | NEE |
| 12/07/2022 04:00 | 0.1 | NEE |
| 12/07/2022 05:00 | 0.1 | NEE |
| 12/07/2022 06:00 | 0.1 | NEE |
| 12/07/2022 07:00 | 0.1 | NE |
| 12/07/2022 08:00 | 0.6 | SSE |
| 12/07/2022 09:00 | 0.1 | E |
| 12/07/2022 10:00 | 0.1 | SWW |
| 12/07/2022 11:00 | 0.6 | SSW |
| 12/07/2022 12:00 | 2.7 | SW |
| 12/07/2022 13:00 | 0.2 | SSW |
| 12/07/2022 14:00 | 0.1 | SSW |
| 12/07/2022 15:00 | 0.1 | SEE |
| 12/07/2022 16:00 | 5.7 | SSE |
| 12/07/2022 17:00 | 4.1 | SSE |
| 12/07/2022 18:00 | 4.0 | SSE |
| 12/07/2022 19:00 | 0.0 | SSE |
| 12/07/2022 20:00 | 0.5 | SSE |
| 12/07/2022 21:00 | 0.1 | SE |
| 12/07/2022 22:00 | 0.1 | SEE |
| 12/07/2022 23:00 | 0.1 | E |
| 13/07/2022 00:00 | 0.1 | E |
| 13/07/2022 01:00 | 0.1 | E |
| 13/07/2022 02:00 | 0.1 | E |
| 13/07/2022 03:00 | 0.1 | E |
| 13/07/2022 04:00 | 0.1 | E |
| 13/07/2022 05:00 | 0.1 | NEE |
| 13/07/2022 06:00 | 0.1 | NEE |
| 13/07/2022 07:00 | 0.1 | NE |
| 13/07/2022 08:00 | 0.6 | SSE |
| 13/07/2022 09:00 | 0.9 | W |
| 13/07/2022 10:00 | 0.1 | SWW |
| 13/07/2022 11:00 | 0.6 | SWW |
| 13/07/2022 12:00 | 4.4 | SW |
| 13/07/2022 13:00 | 0.2 | SW |
| 13/07/2022 14:00 | 3.7 | S |
| 13/07/2022 15:00 | 5.7 | SSE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 13/07/2022 16:00 | 5.6 | SSE |
| 13/07/2022 17:00 | 7.1 | SSE |
| 13/07/2022 18:00 | 1.3 | SSE |
| 13/07/2022 19:00 | 0.4 | SSE |
| 13/07/2022 20:00 | 0.7 | SSE |
| 13/07/2022 21:00 | 0.5 | SSE |
| 13/07/2022 22:00 | 0.1 | E |
| 13/07/2022 23:00 | 0.0 | NEE |
| 14/07/2022 00:00 | 0.1 | NE |
| 14/07/2022 01:00 | 0.1 | NE |
| 14/07/2022 02:00 | 0.1 | NE |
| 14/07/2022 03:00 | 0.1 | NE |
| 14/07/2022 04:00 | 0.1 | NE |
| 14/07/2022 05:00 | 0.0 | NE |
| 14/07/2022 06:00 | 0.1 | NE |
| 14/07/2022 07:00 | 0.1 | SSE |
| 14/07/2022 08:00 | 1.3 | SW |
| 14/07/2022 09:00 | 3.7 | SW |
| 14/07/2022 10:00 | 2.1 | SWW |
| 14/07/2022 11:00 | 1.8 | SW |
| 14/07/2022 12:00 | 0.7 | SWW |
| 14/07/2022 13:00 | 9.3 | SW |
| 14/07/2022 14:00 | 2.6 | SSW |
| 14/07/2022 15:00 | 0.6 | S |
| 14/07/2022 16:00 | 2.5 | SEE |
| 14/07/2022 17:00 | 5.0 | SSE |
| 14/07/2022 18:00 | 2.0 | S |
| 14/07/2022 19:00 | 3.0 | SE |
| 14/07/2022 20:00 | 0.5 | SSE |
| 14/07/2022 21:00 | 1.5 | SSE |
| 14/07/2022 22:00 | 5.5 | SSE |
| 14/07/2022 23:00 | 0.3 | SSE |
| 15/07/2022 00:00 | 1.3 | SSE |
| 15/07/2022 01:00 | 0.1 | SE |
| 15/07/2022 02:00 | 0.3 | SSE |
| 15/07/2022 03:00 | 0.4 | S |
| 15/07/2022 04:00 | 0.1 | W |
| 15/07/2022 05:00 | 0.1 | W |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 15/07/2022 06:00 | 0.1 | S |
| 15/07/2022 07:00 | 0.1 | SE |
| 15/07/2022 08:00 | 1.4 | SWW |
| 15/07/2022 09:00 | 0.1 | SW |
| 15/07/2022 10:00 | 7.9 | SW |
| 15/07/2022 11:00 | 1.0 | SSW |
| 15/07/2022 12:00 | 0.1 | SSW |
| 15/07/2022 13:00 | 3.5 | SSW |
| 15/07/2022 14:00 | 2.2 | S |
| 15/07/2022 15:00 | 0.7 | SSE |
| 15/07/2022 16:00 | 2.3 | S |
| 15/07/2022 17:00 | 6.4 | SSE |
| 15/07/2022 18:00 | 1.2 | SSE |
| 15/07/2022 19:00 | 1.1 | SSE |
| 15/07/2022 20:00 | 0.8 | SSE |
| 15/07/2022 21:00 | 1.3 | SSE |
| 15/07/2022 22:00 | 0.1 | SSE |
| 15/07/2022 23:00 | 1.0 | SSE |
| 16/07/2022 00:00 | 0.4 | SSE |
| 16/07/2022 01:00 | 0.1 | SSE |
| 16/07/2022 02:00 | 0.0 | SSE |
| 16/07/2022 03:00 | 0.1 | S |
| 16/07/2022 04:00 | 1.3 | S |
| 16/07/2022 05:00 | 0.9 | S |
| 16/07/2022 06:00 | 1.0 | S |
| 16/07/2022 07:00 | 2.4 | S |
| 16/07/2022 08:00 | 3.5 | S |
| 16/07/2022 09:00 | 0.1 | S |
| 16/07/2022 10:00 | 1.3 | S |
| 16/07/2022 11:00 | 12.5 | SSE |
| 16/07/2022 12:00 | 0.9 | S |
| 16/07/2022 13:00 | 8.4 | SSE |
| 16/07/2022 14:00 | 7.6 | SSE |
| 16/07/2022 15:00 | 5.9 | SSE |
| 16/07/2022 16:00 | 3.1 | SSE |
| 16/07/2022 17:00 | 9.3 | SE |
| 16/07/2022 18:00 | 0.0 | SSE |
| 16/07/2022 19:00 | 0.5 | SSE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 16/07/2022 20:00 | 1.9 | SSE |
| 16/07/2022 21:00 | 0.1 | SE |
| 16/07/2022 22:00 | 0.2 | SE |
| 16/07/2022 23:00 | 1.4 | SSE |
| 17/07/2022 00:00 | 0.8 | SSE |
| 17/07/2022 01:00 | 0.3 | S |
| 17/07/2022 02:00 | 0.1 | SSE |
| 17/07/2022 03:00 | 1.6 | S |
| 17/07/2022 04:00 | 0.9 | S |
| 17/07/2022 05:00 | 0.7 | SSE |
| 17/07/2022 06:00 | 3.4 | S |
| 17/07/2022 07:00 | 15.2 | SSE |
| 17/07/2022 08:00 | 4.0 | SSE |
| 17/07/2022 09:00 | 4.7 | SSE |
| 17/07/2022 10:00 | 6.5 | SSW |
| 17/07/2022 11:00 | 9.6 | SSE |
| 17/07/2022 12:00 | 1.7 | SSE |
| 17/07/2022 13:00 | 19.1 | SSE |
| 17/07/2022 14:00 | 17.6 | S |
| 17/07/2022 15:00 | 7.1 | S |
| 17/07/2022 16:00 | 0.3 | SSE |
| 17/07/2022 17:00 | 3.0 | SSE |
| 17/07/2022 18:00 | 8.0 | SSE |
| 17/07/2022 19:00 | 1.5 | SEE |
| 17/07/2022 20:00 | 0.8 | SSE |
| 17/07/2022 21:00 | 1.6 | SSE |
| 17/07/2022 22:00 | 0.9 | SE |
| 17/07/2022 23:00 | 0.5 | SSE |
| 18/07/2022 00:00 | 0.1 | SE |
| 18/07/2022 01:00 | 0.1 | SSE |
| 18/07/2022 02:00 | 0.1 | SSE |
| 18/07/2022 03:00 | 0.1 | SSE |
| 18/07/2022 04:00 | 0.1 | SSE |
| 18/07/2022 05:00 | 0.1 | SSE |
| 18/07/2022 06:00 | 0.1 | NE |
| 18/07/2022 07:00 | 0.3 | S |
| 18/07/2022 08:00 | 0.9 | SSE |
| 18/07/2022 09:00 | 1.6 | SSE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 18/07/2022 10:00 | 1.0 | SSW |
| 18/07/2022 11:00 | 4.4 | SE |
| 18/07/2022 12:00 | 1.3 | SE |
| 18/07/2022 13:00 | 6.1 | SE |
| 18/07/2022 14:00 | 15.3 | SE |
| 18/07/2022 15:00 | 8.4 | SEE |
| 18/07/2022 16:00 | 0.7 | SEE |
| 18/07/2022 17:00 | 1.1 | SE |
| 18/07/2022 18:00 | 0.9 | SE |
| 18/07/2022 19:00 | 0.5 | SSE |
| 18/07/2022 20:00 | 0.8 | SE |
| 18/07/2022 21:00 | 0.1 | SE |
| 18/07/2022 22:00 | 0.5 | SE |
| 18/07/2022 23:00 | 6.5 | SE |
| 19/07/2022 00:00 | 8.8 | SE |
| 19/07/2022 01:00 | 2.6 | SE |
| 19/07/2022 02:00 | 0.1 | SSE |
| 19/07/2022 03:00 | 0.1 | SEE |
| 19/07/2022 04:00 | 3.0 | SE |
| 19/07/2022 05:00 | 0.2 | SSE |
| 19/07/2022 06:00 | 0.2 | SE |
| 19/07/2022 07:00 | 0.5 | SE |
| 19/07/2022 08:00 | 4.0 | SE |
| 19/07/2022 09:00 | 2.8 | SSE |
| 19/07/2022 10:00 | 0.6 | SE |
| 19/07/2022 11:00 | 2.1 | S |
| 19/07/2022 12:00 | 5.5 | SE |
| 19/07/2022 13:00 | 4.3 | SEE |
| 19/07/2022 14:00 | 5.7 | SE |
| 19/07/2022 15:00 | 0.1 | SE |
| 19/07/2022 16:00 | 0.1 | SEE |
| 19/07/2022 17:00 | 3.2 | SE |
| 19/07/2022 18:00 | 1.6 | SE |
| 19/07/2022 19:00 | 0.1 | NE |
| 19/07/2022 20:00 | 0.1 | NEE |
| 19/07/2022 21:00 | 0.1 | E |
| 19/07/2022 22:00 | 0.1 | NEE |
| 19/07/2022 23:00 | 0.1 | NEE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 20/07/2022 00:00 | 0.1 | NEE |
| 20/07/2022 01:00 | 0.1 | NEE |
| 20/07/2022 02:00 | 0.1 | NEE |
| 20/07/2022 03:00 | 0.1 | E |
| 20/07/2022 04:00 | 0.1 | NEE |
| 20/07/2022 05:00 | 0.1 | NE |
| 20/07/2022 06:00 | 0.1 | NE |
| 20/07/2022 07:00 | 0.1 | NE |
| 20/07/2022 08:00 | 0.1 | SE |
| 20/07/2022 09:00 | 1.4 | SEE |
| 20/07/2022 10:00 | 7.2 | SSE |
| 20/07/2022 11:00 | 1.3 | SE |
| 20/07/2022 12:00 | 10.7 | SE |
| 20/07/2022 13:00 | 5.5 | SE |
| 20/07/2022 14:00 | 4.8 | SE |
| 20/07/2022 15:00 | 1.4 | SEE |
| 20/07/2022 16:00 | 1.2 | SEE |
| 20/07/2022 17:00 | 3.7 | SEE |
| 20/07/2022 18:00 | 0.0 | SE |
| 20/07/2022 19:00 | 3.4 | SE |
| 20/07/2022 20:00 | 0.1 | SE |
| 20/07/2022 21:00 | 2.0 | SSE |
| 20/07/2022 22:00 | 0.1 | NEE |
| 20/07/2022 23:00 | 0.5 | NNE |
| 21/07/2022 00:00 | 0.1 | NNE |
| 21/07/2022 01:00 | 0.1 | NNE |
| 21/07/2022 02:00 | 0.1 | NNE |
| 21/07/2022 03:00 | 0.1 | NE |
| 21/07/2022 04:00 | 0.1 | NE |
| 21/07/2022 05:00 | 0.1 | NNE |
| 21/07/2022 06:00 | 0.1 | SEE |
| 21/07/2022 07:00 | 0.1 | NNE |
| 21/07/2022 08:00 | 0.0 | E |
| 21/07/2022 09:00 | 0.9 | SE |
| 21/07/2022 10:00 | 0.3 | SE |
| 21/07/2022 11:00 | 2.6 | SE |
| 21/07/2022 12:00 | 4.2 | SE |
| 21/07/2022 13:00 | 6.6 | SE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 21/07/2022 14:00 | 2.3 | SE |
| 21/07/2022 15:00 | 2.4 | SE |
| 21/07/2022 16:00 | 2.1 | SE |
| 21/07/2022 17:00 | 2.2 | SE |
| 21/07/2022 18:00 | 0.3 | SEE |
| 21/07/2022 19:00 | 1.7 | SE |
| 21/07/2022 20:00 | 1.5 | SE |
| 21/07/2022 21:00 | 0.1 | SEE |
| 21/07/2022 22:00 | 0.0 | SE |
| 21/07/2022 23:00 | 0.1 | SE |
| 22/07/2022 00:00 | 0.1 | SE |
| 22/07/2022 01:00 | 0.1 | SE |
| 22/07/2022 02:00 | 0.1 | SEE |
| 22/07/2022 03:00 | 0.1 | E |
| 22/07/2022 04:00 | 0.1 | E |
| 22/07/2022 05:00 | 0.1 | E |
| 22/07/2022 06:00 | 0.1 | SEE |
| 22/07/2022 07:00 | 0.1 | SEE |
| 22/07/2022 08:00 | 0.1 | S |
| 22/07/2022 09:00 | 4.3 | E |
| 22/07/2022 10:00 | 0.3 | S |
| 22/07/2022 11:00 | 1.3 | S |
| 22/07/2022 12:00 | 3.3 | S |
| 22/07/2022 13:00 | 3.8 | S |
| 22/07/2022 14:00 | 5.4 | S |
| 22/07/2022 15:00 | 3.5 | S |
| 22/07/2022 16:00 | 2.5 | SSE |
| 22/07/2022 17:00 | 5.7 | SE |
| 22/07/2022 18:00 | 0.1 | SE |
| 22/07/2022 19:00 | 0.1 | SE |
| 22/07/2022 20:00 | 0.1 | SE |
| 22/07/2022 21:00 | 0.9 | SSE |
| 22/07/2022 22:00 | 0.8 | SE |
| 22/07/2022 23:00 | 0.3 | SE |
| 23/07/2022 00:00 | 0.7 | SE |
| 23/07/2022 01:00 | 2.8 | SE |
| 23/07/2022 02:00 | 1.4 | SE |
| 23/07/2022 03:00 | 0.1 | SE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 23/07/2022 04:00 | 0.1 | SEE |
| 23/07/2022 05:00 | 0.1 | SEE |
| 23/07/2022 06:00 | 0.1 | S |
| 23/07/2022 07:00 | 0.5 | SEE |
| 23/07/2022 08:00 | 0.1 | SSW |
| 23/07/2022 09:00 | 0.3 | SSW |
| 23/07/2022 10:00 | 4.0 | SSW |
| 23/07/2022 11:00 | 0.3 | S |
| 23/07/2022 12:00 | 8.2 | S |
| 23/07/2022 13:00 | 2.5 | S |
| 23/07/2022 14:00 | 4.0 | S |
| 23/07/2022 15:00 | 3.1 | SE |
| 23/07/2022 16:00 | 2.6 | SSE |
| 23/07/2022 17:00 | 2.7 | SEE |
| 23/07/2022 18:00 | 1.4 | SE |
| 23/07/2022 19:00 | 1.1 | SE |
| 23/07/2022 20:00 | 1.4 | SE |
| 23/07/2022 21:00 | 3.7 | SE |
| 23/07/2022 22:00 | 0.1 | SEE |
| 23/07/2022 23:00 | 2.9 | SEE |
| 24/07/2022 00:00 | 0.9 | SEE |
| 24/07/2022 01:00 | 0.1 | SE |
| 24/07/2022 02:00 | 0.1 | SE |
| 24/07/2022 03:00 | 0.1 | SEE |
| 24/07/2022 04:00 | 0.1 | E |
| 24/07/2022 05:00 | 0.1 | E |
| 24/07/2022 06:00 | 0.1 | E |
| 24/07/2022 07:00 | 0.1 | NEE |
| 24/07/2022 08:00 | 0.6 | SEE |
| 24/07/2022 09:00 | 1.5 | SSW |
| 24/07/2022 10:00 | 1.1 | SSW |
| 24/07/2022 11:00 | 1.3 | SSW |
| 24/07/2022 12:00 | 1.9 | S |
| 24/07/2022 13:00 | 1.9 | SSW |
| 24/07/2022 14:00 | 0.7 | SSW |
| 24/07/2022 15:00 | 3.0 | SSW |
| 24/07/2022 16:00 | 0.2 | SE |
| 24/07/2022 17:00 | 8.2 | SE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 24/07/2022 18:00 | 6.3 | SE |
| 24/07/2022 19:00 | 0.5 | SE |
| 24/07/2022 20:00 | 1.2 | SE |
| 24/07/2022 21:00 | 0.8 | SEE |
| 24/07/2022 22:00 | 4.8 | SE |
| 24/07/2022 23:00 | 5.5 | SE |
| 25/07/2022 00:00 | 0.0 | SE |
| 25/07/2022 01:00 | 0.2 | SE |
| 25/07/2022 02:00 | 2.8 | SE |
| 25/07/2022 03:00 | 0.7 | SE |
| 25/07/2022 04:00 | 0.1 | SEE |
| 25/07/2022 05:00 | 0.1 | SE |
| 25/07/2022 06:00 | 0.1 | SEE |
| 25/07/2022 07:00 | 0.1 | NEE |
| 25/07/2022 08:00 | 0.7 | SSE |
| 25/07/2022 09:00 | 1.6 | SEE |
| 25/07/2022 10:00 | 0.3 | S |
| 25/07/2022 11:00 | 3.6 | SSE |
| 25/07/2022 12:00 | 2.3 | S |
| 25/07/2022 13:00 | 0.1 | SSE |
| 25/07/2022 14:00 | 1.9 | SSE |
| 25/07/2022 15:00 | 2.6 | SE |
| 25/07/2022 16:00 | 1.5 | SEE |
| 25/07/2022 17:00 | 3.5 | SEE |
| 25/07/2022 18:00 | 10.3 | SEE |
| 25/07/2022 19:00 | 3.0 | SEE |
| 25/07/2022 20:00 | 10.3 | SE |
| 25/07/2022 21:00 | 1.7 | SEE |
| 25/07/2022 22:00 | 3.4 | SEE |
| 25/07/2022 23:00 | 1.8 | SEE |
| 26/07/2022 00:00 | 2.4 | SEE |
| 26/07/2022 01:00 | 0.1 | SEE |
| 26/07/2022 02:00 | 0.0 | E |
| 26/07/2022 03:00 | 0.1 | E |
| 26/07/2022 04:00 | 0.6 | SEE |
| 26/07/2022 05:00 | 2.1 | SEE |
| 26/07/2022 06:00 | 0.2 | SEE |
| 26/07/2022 07:00 | 0.3 | SEE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 26/07/2022 08:00 | 0.7 | NEE |
| 26/07/2022 09:00 | 0.8 | E |
| 26/07/2022 10:00 | 3.4 | SSE |
| 26/07/2022 11:00 | 3.1 | SSW |
| 26/07/2022 12:00 | 1.9 | SSE |
| 26/07/2022 13:00 | 1.4 | SEE |
| 26/07/2022 14:00 | 4.7 | SE |
| 26/07/2022 15:00 | 0.1 | E |
| 26/07/2022 16:00 | 1.3 | SEE |
| 26/07/2022 17:00 | 3.8 | SEE |
| 26/07/2022 18:00 | 2.5 | SEE |
| 26/07/2022 19:00 | 5.4 | SEE |
| 26/07/2022 20:00 | 1.7 | SEE |
| 26/07/2022 21:00 | 3.6 | SEE |
| 26/07/2022 22:00 | 0.2 | SEE |
| 26/07/2022 23:00 | 4.5 | SEE |
| 27/07/2022 00:00 | 0.1 | SE |
| 27/07/2022 01:00 | 3.9 | SEE |
| 27/07/2022 02:00 | 0.1 | SEE |
| 27/07/2022 03:00 | 0.1 | SE |
| 27/07/2022 04:00 | 0.1 | SEE |
| 27/07/2022 05:00 | 0.1 | SEE |
| 27/07/2022 06:00 | 0.1 | SEE |
| 27/07/2022 07:00 | 0.1 | SE |
| 27/07/2022 08:00 | 1.3 | SSE |
| 27/07/2022 09:00 | 0.1 | SE |
| 27/07/2022 10:00 | 4.2 | S |
| 27/07/2022 11:00 | 7.3 | SSE |
| 27/07/2022 12:00 | 5.3 | SSE |
| 27/07/2022 13:00 | 3.9 | SSE |
| 27/07/2022 14:00 | 1.0 | SE |
| 27/07/2022 15:00 | 2.7 | SSE |
| 27/07/2022 16:00 | 2.1 | SE |
| 27/07/2022 17:00 | 5.2 | SEE |
| 27/07/2022 18:00 | 3.4 | SEE |
| 27/07/2022 19:00 | 7.0 | SEE |
| 27/07/2022 20:00 | 2.3 | SEE |
| 27/07/2022 21:00 | 2.5 | SEE |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 27/07/2022 22:00 | 3.1 | SEE |
| 27/07/2022 23:00 | 0.4 | SEE |
| 28/07/2022 00:00 | 0.3 | SEE |
| 28/07/2022 01:00 | 0.1 | SEE |
| 28/07/2022 02:00 | 0.1 | SEE |
| 28/07/2022 03:00 | 0.1 | SEE |
| 28/07/2022 04:00 | 0.1 | SEE |
| 28/07/2022 05:00 | 0.1 | SEE |
| 28/07/2022 06:00 | 0.1 | SEE |
| 28/07/2022 07:00 | 0.1 | SE |
| 28/07/2022 08:00 | 0.9 | SE |
| 28/07/2022 09:00 | 1.1 | S |
| 28/07/2022 10:00 | 0.7 | SSE |
| 28/07/2022 11:00 | 1.5 | S |
| 28/07/2022 12:00 | 1.1 | SSE |
| 28/07/2022 13:00 | 0.9 | SSE |
| 28/07/2022 14:00 | 3.1 | SSE |
| 28/07/2022 15:00 | 6.9 | SE |
| 28/07/2022 16:00 | 1.3 | SEE |
| 28/07/2022 17:00 | 3.7 | SEE |
| 28/07/2022 18:00 | 4.9 | SEE |
| 28/07/2022 19:00 | 5.9 | SEE |
| 28/07/2022 20:00 | 5.5 | SEE |
| 28/07/2022 21:00 | 0.4 | SEE |
| 28/07/2022 22:00 | 0.1 | SEE |
| 28/07/2022 23:00 | 0.1 | SEE |
| 29/07/2022 00:00 | 0.4 | SEE |
| 29/07/2022 01:00 | 0.1 | SEE |
| 29/07/2022 02:00 | 0.1 | E |
| 29/07/2022 03:00 | 0.1 | E |
| 29/07/2022 04:00 | 0.1 | E |
| 29/07/2022 05:00 | 0.1 | E |
| 29/07/2022 06:00 | 0.1 | E |
| 29/07/2022 07:00 | 0.1 | E |
| 29/07/2022 08:00 | 0.1 | SE |
| 29/07/2022 09:00 | 0.5 | SE |
| 29/07/2022 10:00 | 0.1 | SE |
| 29/07/2022 11:00 | 0.5 | S |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 29/07/2022 12:00 | 0.7 | S |
| 29/07/2022 13:00 | 2.5 | S |
| 29/07/2022 14:00 | 2.8 | SE |
| 29/07/2022 15:00 | 1.3 | NEE |
| 29/07/2022 16:00 | 1.6 | NEE |
| 29/07/2022 17:00 | 0.1 | NE |
| 29/07/2022 18:00 | 1.9 | SEE |
| 29/07/2022 19:00 | 1.2 | NEE |
| 29/07/2022 20:00 | 0.1 | E |
| 29/07/2022 21:00 | 0.1 | NE |
| 29/07/2022 22:00 | 0.1 | NEE |
| 29/07/2022 23:00 | 0.4 | SEE |
| 30/07/2022 00:00 | 0.1 | NEE |
| 30/07/2022 01:00 | 0.1 | NE |
| 30/07/2022 02:00 | 0.1 | NE |
| 30/07/2022 03:00 | 0.1 | NE |
| 30/07/2022 04:00 | 0.1 | NEE |
| 30/07/2022 05:00 | 0.1 | SEE |
| 30/07/2022 06:00 | 0.1 | SE |
| 30/07/2022 07:00 | 0.1 | NNE |
| 30/07/2022 08:00 | 1.4 | E |
| 30/07/2022 09:00 | 2.0 | E |
| 30/07/2022 10:00 | 0.4 | E |
| 30/07/2022 11:00 | 4.0 | NNE |
| 30/07/2022 12:00 | 1.3 | SEE |
| 30/07/2022 13:00 | 1.2 | NEE |
| 30/07/2022 14:00 | 0.1 | SEE |
| 30/07/2022 15:00 | 0.0 | SEE |
| 30/07/2022 16:00 | 0.1 | NNE |
| 30/07/2022 17:00 | 0.1 | SE |
| 30/07/2022 18:00 | 0.1 | SEE |
| 30/07/2022 19:00 | 0.1 | SEE |
| 30/07/2022 20:00 | 0.0 | E |
| 30/07/2022 21:00 | 0.0 | E |
| 30/07/2022 22:00 | 0.1 | E |
| 30/07/2022 23:00 | 0.0 | E |
| 31/07/2022 00:00 | 0.0 | E |
| 31/07/2022 01:00 | 0.0 | E |

Wind Data for
Contract No. SPW 07/2020 Environmental Team for Construction of
Yuen Long Effluent Polishing Plant Stage 1

| Date | Wind Speed (m/s) | Wind Direction |
|------------------|------------------|----------------|
| 31/07/2022 02:00 | 0.0 | E |
| 31/07/2022 03:00 | 0.0 | E |
| 31/07/2022 04:00 | 0.1 | E |
| 31/07/2022 05:00 | 0.1 | E |
| 31/07/2022 06:00 | 0.1 | NEE |
| 31/07/2022 07:00 | 0.1 | E |
| 31/07/2022 08:00 | 0.1 | SEE |
| 31/07/2022 09:00 | 0.8 | SEE |
| 31/07/2022 10:00 | 0.8 | SE |
| 31/07/2022 11:00 | 0.4 | SE |
| 31/07/2022 12:00 | 0.6 | SE |
| 31/07/2022 13:00 | 1.6 | SE |
| 31/07/2022 14:00 | 3.9 | SE |
| 31/07/2022 15:00 | 2.0 | SEE |
| 31/07/2022 16:00 | 4.8 | SEE |
| 31/07/2022 17:00 | 0.7 | E |
| 31/07/2022 18:00 | 0.4 | E |
| 31/07/2022 19:00 | 6.8 | E |
| 31/07/2022 20:00 | 1.8 | E |
| 31/07/2022 21:00 | 3.9 | E |
| 31/07/2022 22:00 | 0.5 | E |
| 31/07/2022 23:00 | 0.7 | E |
| 01/08/2022 00:00 | 0.1 | SEE |

Sources/ reference of the wind data: On-site wind station

Appendix H

Event and Action Plan

Event and Action Plan for Air Quality (Construction Dust)

| EVENT | ACTION | | | |
|---|--|---|---|---|
| | ET | IEC | ER | Contractor |
| Action level being exceeded by one sampling | <ol style="list-style-type: none"> 1. Identify source, investigate the causes of complaint and propose remedial measures; 2. Inform Contractor, IEC and ER; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures. | <ol style="list-style-type: none"> 1. Notify Contractor. | <ol style="list-style-type: none"> 1. Identify source(s), investigate the causes of exceedance and propose remedial measures; 2. Implement remedial measures; and 3. Amend working methods agreed with the ER as appropriate. |
| Action level being exceeded by two or more consecutive sampling | <ol style="list-style-type: none"> 1. Identify source; 2. Inform Contractor, IEC and ER; 3. Advise the Contractor and ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with Contractor, IEC and ER; and 8. If exceedance stops, cease additional monitoring. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise Implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. | <ol style="list-style-type: none"> 1. Identify source and investigate the causes of exceedance; 2. Submit proposals for remedial measures to the ER with a copy to ET and IEC within three working days of notification; 3. Implement the agreed proposals; and 4. Amend proposal as appropriate. |
| Limit level being exceeded by one sampling | <ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform Contractor, IEC, ER, and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; and 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; and 5. Supervise implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented. | <ol style="list-style-type: none"> 1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to ER with a copy to ET and IEC within three working days of notification; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate. |
| Limit level being exceeded by two or more consecutive sampling | <ol style="list-style-type: none"> 1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET; 2. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 3. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 4. Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 3. Supervise the implementation of remedial measures; and 4. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | <ol style="list-style-type: none"> 1. Identify source(s) and investigate the causes of exceedance; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial measures to the ER with a copy to the IEC and ET within three working days of notification; 4. Implement the agreed proposals; 5. Revise and resubmit proposals if problem still not under control; and 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

Event and Action Plan for Noise (Construction)

| EVENT | ACTION | | | |
|--------------|--|---|--|---|
| | ET | IEC | ER | Contractor |
| Action Level | <ol style="list-style-type: none"> 1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; and 5. Increase monitoring frequency to check mitigation effectiveness. | <ol style="list-style-type: none"> 1. Review the analyzed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and 3. Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; and 4. Ensure remedial measures are properly implemented. | <ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC; and 2. Implement noise mitigation proposals. |
| Limit Level | <ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring. | <ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 3. Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; 4. Ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | <ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; and 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

Event and Action Plan for Water Quality Monitoring

| EVENT | ACTION | | | |
|--|---|--|--|--|
| | ET | IEC | ER | Contractor |
| Action level being exceeded by one sampling day | <ol style="list-style-type: none"> 1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice |
| Action level being exceeded by two or more consecutive sampling days | <ol style="list-style-type: none"> 1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Consider changes of working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures. |

| EVENT | ACTION | | | |
|---|---|--|--|---|
| | ET | IEC | ER | Contractor |
| Limit level being exceeded by one sampling day | <ol style="list-style-type: none"> 1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. 4. Request Contractor(s) to critically review the working methods. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures. |
| Limit level being exceeded by two or more consecutive sampling days | <ol style="list-style-type: none"> 1. Repeat in situ measurement on the next day of exceedance to confirm findings; 2. Check monitoring data, plant, equipment and Contractor(s)'s working methods; 3. Identify source(s) of impact and record in notification of exceedance; 4. Inform IEC, Contractor(s) and ER; 5. Discuss with IEC and Contractor(s) on additional mitigation measures and ensure that they are implemented. | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD; 3. Discuss with ET and Contractor(s) on additional mitigation measures and advise ER accordingly; 4. Assess the effectiveness of the implemented mitigation measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Discuss with the IEC on the proposed additional mitigation measures and agree on the mitigation measures to be implemented. 3. Ensure additional mitigation measures are properly implemented. 4. Request Contractor(s) to critically review the working methods. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of exceedance in writing; 2. Check plant and equipment and rectify unacceptable practice; 3. Critically review the need to change working methods; 4. Discuss with ET and IEC on additional mitigation measures and propose them to ER within 3 working days; 5. Implement the agreed mitigation measures. |

Event and Action Plan for Ecology Monitoring

| Event | Action | | | |
|--------------|--|--|--|---|
| | ET | IEC | ER | Contractor |
| Action Level | <ol style="list-style-type: none"> 1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; and 5. Increase monitoring frequency to check mitigation effectiveness. | <ol style="list-style-type: none"> 1. Review the analyzed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and 3. Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; and 4. Ensure remedial measures are properly implemented. | <ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC; and 2. Implement noise mitigation proposals. |
| Limit Level | <ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring. | <ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 3. Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. | <ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; and 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated. |

Appendix I

Waste Flow Table

| Waste Flow Table for Year 2022 | | | | | | | | | | | |
|--------------------------------|--------------------------|--|------------------------|--------------------------|-------------------------|---------------|---|----------------------------|-----------------------|----------------|-----------------------------|
| Monthly Ending | Total Quantity Generated | Actual Quantities of Inert C&D Materials Generated Monthly | | | | | Actual Quantities of Non-inert C&D Wastes Generated Monthly | | | | |
| | | 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 2) | Chemical Waste | Others, e.g. general refuse |
| | (in tonnes) | (in tonnes) | (in tonnes) | (in tonnes) | (in tonnes) | (in tonnes) | (in tonnes) | (in tonnes) | (in tonnes) | (in tonnes) | (in tonnes) |
| 2022 Jan | 243.88 | Nil | Nil | Nil | 215.24 | Nil | 17.46 | 0.04 | Nil | Nil | 11.14 |
| 2022 Feb | 92.65 | Nil | Nil | Nil | 38.73 | Nil | 43.95 | Nil | Nil | Nil | 9.97 |
| 2022 Mar | 398.96 | Nil | Nil | Nil | 312.08 | Nil | 76.31 | Nil | Nil | Nil | 10.57 |
| 2022 Apr | 3619.84 | Nil | Nil | Nil | 3552.01 | Nil | 58.86 | 0.13 | Nil | Nil | 8.84 |
| 2022 May | 2708.03 | Nil | Nil | Nil | 2692.75 | Nil | 8.61 | Nil | Nil | Nil | 6.67 |
| 2022 Jun | 94.92 | Nil | Nil | Nil | Nil | Nil | 78.34 | Nil | Nil | Nil | 16.58 |
| 2022 Jul | 227.99 | Nil | Nil | Nil | Nil | Nil | 209.20 | 0.13 | Nil | Nil | 18.66 |
| 2022 Aug | | | | | | | | | | | |
| 2022 Sep | | | | | | | | | | | |
| 2022 Oct | | | | | | | | | | | |
| 2022 Nov | | | | | | | | | | | |
| 2022 Dec | | | | | | | | | | | |
| Total | 7386.27 | 0 | 0 | 0 | 6810.81 | 0 | 492.73 | 0.30 | 0 | 0 | 82.43 |

Note:

- 1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- 2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.

Sources/ reference of the waste flow data; From the Contractor

Appendix J

Implementation Status of

Environmental Mitigation Measures

Construction of Yuen Long Effluent Polishing Plant Stage 1

| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|---------------------------|---|--|--|
| Air Quality Impact | | | |
| Construction Phase | | | |
| 3.6.1.6 | Watering once per every two hours on active works areas to reduce dust emission. | All active works areas during construction phase | Implemented |
| 3.8.1.1 | <p>Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices listed below shall be carried out to further minimize construction dust impact:</p> <ul style="list-style-type: none"> • Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. • Use of frequent watering for particularly dusty construction areas and areas close to ASRs. • Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines. • Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. • Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. • Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading area of barging point, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods. • Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit. • Imposition of speed controls for vehicles on site haul roads. • Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs. | Construction Sites | <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>N/A</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> |

Construction of Yuen Long Effluent Polishing Plant Stage 1

| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|-----------------------------|---|--|---|
| | <ul style="list-style-type: none"> • Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise. | | Implemented |
| Noise Impact | | | |
| Construction Phase | | | |
| 4.8.1 | <p>Movable noise barriers are recommended for hydraulic breakers mounted on excavators to be adopted during construction.</p> <p>Good site practices listed below and the noise control requirements stated in EPD's "Recommended Pollution Control Clauses for Construction Contracts" should be included in the Contract Specification for the Contractors to follow and should be implemented to further minimize the potential noise impacts during the construction phase of the Project.</p> <ul style="list-style-type: none"> • Quiet PME, such that those listed in EPD's Quality Powered Mechanical Equipment, should be considered for construction works to further minimize the potential construction noise impact. • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme. • Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction programme. • Mobile plant, if any, should be sited as far away from noise sensitive receivers (NSRs) as possible. • Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs • Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities. | Construction Sites | Partially Implemented Implemented Implemented Implemented Implemented N/A Implemented N/A N/A |
| Water Quality Impact | | | |
| Construction Phase | | | |
| 5.8.1.2 | Water used in ground boring and drilling for site investigation or rock / soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities | Construction Sites / Construction Phase | Implemented |

Construction of Yuen Long Effluent Polishing Plant Stage 1

| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|----------------------|---|--|-----------------------|
| 5.8.1.3 | All vehicles and plant should be cleaned before they leave a construction site to minimise the deposition of earth, mud, debris on roads. A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains. | Construction Sites / Construction Phase | Implemented |
| 5.8.1.4 | Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis. | Construction Sites / Construction Phase | Implemented |
| 5.8.1.5 – 5.8.1.6 | The site practices outlined in ProPECC PN 1/94 “Construction Site Drainage” should be followed where applicable to minimise surface run-off and the chance of erosion. Surface run-off from construction sites should be discharged into storm drains via adequately designed sand / silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided as necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks. | Construction Sites /Construction Phase | Implemented |
| 5.8.1.7 | Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly (as well as at the onset of and after each rainstorm) to prevent overflows and localised flooding. | Construction Sites / Construction Phase | Implemented |
| 5.8.1.8 | Construction works should be programmed to minimise soil excavation in the wet season (i.e. April to September). If soil excavation cannot be avoided in these months or at any time of year when rainstorms are likely, temporarily exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest / edge of excavation) to prevent storm run-off from washing across exposed soil surfaces. | Construction Sites / Construction Phase | Implemented |
| 5.8.1.9 | Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion | Construction Sites / Construction Phase | Implemented |

Construction of Yuen Long Effluent Polishing Plant Stage 1

| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|----------|--|--|-----------------------|
| | caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary | | |
| 5.8.1.10 | Measures should be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in the wet season is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. | Construction Sites / Construction Phase | Implemented |
| 5.8.1.11 | Construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms | Construction Sites / Construction Phase | Implemented |
| 5.8.1.12 | Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system. | Construction Sites / Construction Phase | Implemented |
| 5.8.1.13 | The practices outlined in Environment, Transport and Works Bureau (ETWB) TC (Works) No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" should also be adopted where applicable to minimise the water quality impacts upon any natural streams or surface water systems. | Construction Sites / Construction Phase | Implemented |
| 5.8.1.14 | Sufficient chemical toilets should be provided in the works areas. A licensed waste collector should be deployed to clean the chemical toilets on a regular basis. | Construction Sites / Construction Phase | Implemented |
| 5.8.1.15 | Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the surrounding environment. | Construction Sites / Construction Phase | Implemented |
| 5.8.1.16 | Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The WDO (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes. | Construction Sites / Construction Phase | Implemented |

Construction of Yuen Long Effluent Polishing Plant Stage 1

| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|----------|---|--|-----------------------|
| 5.8.1.17 | Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges. | Construction Sites /Construction Phase | N/A |
| 5.8.1.18 | Disposal of chemical wastes should be carried out in compliance with the WDO. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the WDO should be followed to avoid leakage or spillage of chemicals. | Construction Sites / Construction Phase | Implemented |
| 5.8.1.19 | All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS). | Construction Sites / Construction Phase | Implemented |
| 5.8.2.11 | Chemical should be stored on site at bunded area and separate drainage system as appropriate should be provided to avoid any spilled chemicals from entering the storm drain in case of accidental spillage. Also, adequate tools for cleanup of spilled chemicals should be stored on site and appropriate training shall be provided to staffs to further prevent potential adverse water quality impacts from happening. | Project site / Design and Operation Phase | Implemented |

Waste Management Implication
Construction Phase

| | | | |
|---------|--|--------------------|-------------|
| 6.6.1.3 | <u>Good Site Practices</u> Recommendations for good site practices during the construction phase include: | Construction Sites | |
| | <ul style="list-style-type: none"> • Nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility; | | Implemented |
| | <ul style="list-style-type: none"> • Training of site personnel in proper waste management and chemical waste handling procedures; | | Implemented |
| | <ul style="list-style-type: none"> • Provision of sufficient waste reception/ disposal points, of a suitable vermin-proof design that minimises windblown litter; | | N/A |
| | <ul style="list-style-type: none"> • Arrangement for regular collection of waste for transport off-site and final disposal; | | Implemented |
| | <ul style="list-style-type: none"> • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; | | Implemented |
| | <ul style="list-style-type: none"> • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; | | N/A |

Construction of Yuen Long Effluent Polishing Plant Stage 1

| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|--|---|--|-----------------------|
| 6.6.1.5 | <ul style="list-style-type: none"> • A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed; and | | Implemented |
| | <ul style="list-style-type: none"> • A WMP should be prepared and should be submitted to the Engineer for approval. One may make reference to ETWB TCW No. 19/2005 for details. | | Implemented |
| | <p>Waste Reduction Measures Recommendations to achieve waste reduction include:</p> | Construction Sites | |
| | <ul style="list-style-type: none"> • Segregate and store different types of construction related waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; | | Implemented |
| | <ul style="list-style-type: none"> • Provide separate labelled bins to segregate recyclable waste such as aluminium cans from other general refuse generated by the work force, and to encourage collection by individual collectors; | | Implemented |
| | <ul style="list-style-type: none"> • Any unused chemicals or those with remaining functional capacity shall be recycled; | | N/A |
| | <ul style="list-style-type: none"> • Maximising the use of reusable steel formwork to reduce the amount of C&D material; | | N/A |
| | <ul style="list-style-type: none"> • Prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill; | | Implemented |
| | <ul style="list-style-type: none"> • Adopt proper storage and site practices to minimise the potential for damage to, or contamination of, construction materials; | | Implemented |
| | <ul style="list-style-type: none"> • Plan the delivery and stock of construction materials carefully to minimise the amount of surplus waste generated; | | N/A |
| <ul style="list-style-type: none"> • Adopt pre-cast construction method instead of cast-in-situ method for construction of concrete structures as much as possible; and | N/A | | |
| <ul style="list-style-type: none"> • Minimise over ordering of concrete, mortars and cement grout by doing careful check before ordering. | N/A | | |
| 6.6.1.7 | <p><u>Storage of Waste</u> Recommendations to minimise the impacts include:</p> | Construction Sites | |
| | <ul style="list-style-type: none"> • Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimising the potential of pollution; | | Implemented |
| | <ul style="list-style-type: none"> • Maintain and clean storage areas routinely; | | Implemented |

Construction of Yuen Long Effluent Polishing Plant Stage 1

| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|----------|---|--|---|
| | <ul style="list-style-type: none"> • Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and | | Implemented |
| | <ul style="list-style-type: none"> • Different locations should be designated to stockpile each material to enhance reuse. | | Implemented |
| 6.6.1.8 | <p><u>Collection of Waste</u>Licensed waste haulers should be employed for the collection and transportation of waste generated. The following measures should be enforced to minimise the potential adverse impacts:</p> <ul style="list-style-type: none"> • Remove waste in timely manner; • Waste collectors should only collect wastes prescribed by their permits; • Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers; • Obtain relevant waste disposal permits from the appropriate authorities, in accordance with the WDO (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 345) and the Land (Miscellaneous Provisions) Ordinance (Cap. 28); • Waste should be disposed of at licensed waste disposal facilities; and • Maintain records of quantities of waste generated, recycled and disposed. | Construction Sites | <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> |
| 6.6.1.10 | <p><u>Transportation of Waste</u></p> <p>In order to monitor the disposal of C&D materials at PFRFs and landfills and to control fly-tipping, a trip-ticket system should be established in accordance with DEVB TCW No. 6/2010. A recording system for the amount of waste generated, recycled and disposed, including the disposal sites, should also be set up. Warning signs should be put up to remind the designated disposal sites. CCTV should be installed at the vehicular entrance and exit of the site as additional measures to prevent fly-tipping.</p> | Transportation Route of Waste / Construction Phase | N/A |

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| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|----------|--|--|---|
| 6.6.1.12 | <p><u>Construction and Demolition Material</u> Careful design, planning together with good site management can reduce over-ordering and generation of C&D materials such as concrete, mortar and cement grouts. Formwork should be designed to maximize the use of standard wooden panels, so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic facing should be considered to increase the potential for reuse</p> | Construction Sites | N/A |
| 6.6.1.13 | <p>The excavated material arising from site formation and foundation works should be reused on-site as backfilling material and for landscaping works as far as practicable. Other mitigation requirements are listed below:</p> <ul style="list-style-type: none"> • A WMP, which becomes part of the EMP, should be prepared in accordance with ETWB TCW No.19/2005; • A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and • In order to monitor the disposal of C&D materials at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be adopted (refer to DEVB TCW 06/2010). | Construction Sites | <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> |
| 6.6.1.14 | <p>It is recommended that specific areas should be provided by the Contractors for sorting and to provide temporary storage areas (if required) for the sorted materials. Control measures for temporary stockpiles on-site should be taken in order to minimise the noise, generation of dust and pollution of water. These measures include:</p> <ul style="list-style-type: none"> • Surface of stockpiled soil should be regularly wetted with water especially during dry season; • Disturbance of stockpile soil should be minimised; • Stockpiled soil should be properly covered with tarpaulin especially when heavy storms are predicted; and • Stockpiling areas should be enclosed where space is available. | Construction Sites | <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> |

Construction of Yuen Long Effluent Polishing Plant Stage 1

| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|------------------------|---|--|-----------------------|
| 6.6.1.15 | The Contactor should prepare and implement an EMP in accordance with ETWB TCW No.19/2005, which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from construction activities. Such a management plan should incorporate site-specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor, preferably on a monthly basis. | Construction Sites | Implemented |
| 6.6.1.16 | The Contractor would be responsible for devising a system to work for on-site sorting of C&D materials and promptly removing all sorted and process materials arising from the construction activities to minimise temporary stockpiling on-site. The system should be included in the EMP identifying the source of generation, estimated quantity, arrangement for on-site sorting, collection, temporary storage areas and frequency of collection by recycling Contractors or frequency of removal off-site. | Construction Sites | Implemented |
| 6.6.1.17 – 6.6.1.18 | The sediment should be excavated, handled, transported and disposed of in a manner that would minimise adverse environmental impacts. To minimise sediment disposal, it is proposed to reuse the Type 1 sediment generated (e.g. as backfilling materials) as far as possible. Requirements of the Air Pollution Control (Construction Dust) Regulation, where relevant, shall be adhered to during excavation, transportation and disposal of the sediment. | Construction Sites | N/A |
| 6.6.1.19 | Workers shall, if necessary, wear appropriate personal protective equipments (PPE) when handling contaminated sediments. Adequate washing and cleaning facilities shall also be provided on site. | Construction Sites | Implemented |
| 6.6.1.20 | For off-site disposal, the basic requirements and procedures specified under ETWB TC(W) No. 34/2002 shall be followed. | Transportation Route of Waste / Construction Phase | Implemented |
| 6.6.1.24 | Stockpiling of contaminated sediments should be avoided as far as possible. If temporary stockpiling of contaminated sediments is necessary, the excavated sediment should be covered by tarpaulin and the area should be placed within earth bunds or sand bags to prevent leachate from entering the ground, nearby drains and surrounding water bodies. The stockpiles should be completely paved or covered by linings in order to avoid contamination to underlying soil or groundwater. Separate and clearly defined areas should be provided for stockpiling of contaminated and uncontaminated materials. Leachate, if any, should be collected and discharged according to the Water Pollution Control Ordinance (WPCO). | Construction Sites | N/A |

Construction of Yuen Long Effluent Polishing Plant Stage 1

| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|---------------------------|--|---|-----------------------|
| 6.6.1.25 | In order to minimise the potential odour / dust emissions during excavation and transportation of the sediment, the excavated sediments shall be wetted during excavation / material handling and shall be properly covered when placed on trucks or barges. Loading of the excavated sediment to the barge shall be controlled to avoid splashing and overflowing of the sediment slurry to the surrounding water. | Construction sites & transportation route of waste / Construction phase | N/A |
| 6.6.1.26 | The barge transporting the sediments to the designated disposal sites shall be equipped with tight fitting seals to prevent leakage and shall not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP. | Transportation route of waste / Construction phase | N/A |
| 6.6.1.27 | Suitable containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall employ a licensed collector to transport and dispose of the chemical wastes, to the licensed CWTC, or other licensed facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. | Construction and Operation Phases | Implemented |
| 6.6.1.28 | It is recommended to place clearly labelled recycling bins at designated locations with convenient access. Other general refuse should be separated from chemical and industrial waste by providing separated bins or skips for storage to maximise the recyclable volume. A reputable licensed waste collector should be employed to remove general refuse on a daily basis to minimise odour, pest and litter impacts. | Construction and Operation Phases | Implemented |
| 6.6.1.29 | Should buildings are found with potential ACM, sufficient and reasonable lead time shall be allowed for preparation, vetting and implementation of Asbestos Investigation Report and Asbestos Abatement Plan in accordance with Air Pollution Control Ordinance before commencement of any demolition or site clearance work. | Demolition | N/A |
| Land Contamination | | | |

Construction of Yuen Long Effluent Polishing Plant Stage 1

| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|---------------------------|---|--|--|
| 7.8.1.2 - 7.8.1.3;7.8.2.1 | <p>Prior to the commencement of the SI works, a review of the Contamination Assessment Plan (CAP) should be conducted to confirm whether the proposed SI works (e.g. sampling locations, testing parameters etc.) are still valid. Supplementary CAP(s), presenting findings of the review, the latest site conditions and updated sampling strategy and testing protocol, should be submitted to EPD for endorsement. The SI works should be carried out according to EPD's agreed supplementary CAP(s). SI works should be carried out according to the supplementary CAP endorsed by EPD. Following completion of SI works and receipt of laboratory test results, Contamination Assessment Report(s) ((CAR)(s)) should be prepared to present the findings of the SI works and to discuss the presence, nature and extent of contamination. If contamination is identified, Remedial Action Plan(s) ((RAP)(s)) which provides details of the remedial actions for the identified contaminated soil and / or groundwater should be endorsed by EPD. The possible remediation methods are detailed in Section 5.2 of the CAP provided in Appendix 7.1 of the EIA Report. Remediation action, if necessary, will be carried out according to EPD endorsed RAP(s) and Remediation Report(s) (RR(s)) will be submitted after completion of the remediation action. The RR(s) should be endorsed by EPD prior to the commencement of construction works at the respective identified contaminated areas (if any).</p> | Existing YLSTW /Construction Phase (after decommissioning of the concerned facilities / areas but prior to the construction works at the concerned facilities / areas) | Implemented |
| 7.8.3.1 | <p>The mitigation measures will be recommended in the RAP and would typically include the following:</p> <ul style="list-style-type: none"> • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; • Excavation shall be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils; Supply of suitable clean backfill material (or treated soil) after excavation; • Stockpiling site(s) shall be lined with impermeable sheeting and bunded. Stockpiles shall be fully covered by impermeable sheeting to reduce dust emission. If this is not practicable due to frequent usage, regular watering shall be applied. However, watering shall be avoided on stockpiles of contaminated soil to minimise contaminated runoff. • Vehicles containing any excavated materials shall be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates shall be sealed to prevent any discharge during transport or during wet conditions; • Speed control for the trucks carrying contaminated materials shall be enforced; | Project Site / Construction Phase | <p>Implemented</p> <p>N/A</p> <p>Implemented</p> <p>Implemented</p> <p>Implemented</p> |

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| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|--|---|--|-----------------------|
| | <ul style="list-style-type: none"> • Vehicle wheel and body washing facilities at the site's exist points shall be established and used; and • Pollution control measures for air emissions (e.g. from biopile blower and handling of cement), noise emissions (e.g. from blower or earthmoving equipment), and water discharges (e.g. runoff control from treatment facility) shall be implemented and complied with relevant regulations and guidelines. | | Implemented |
| | | | Implemented |
| Ecological Impact (Terrestrial and Aquatic) | | | |
| Construction Phase | | | |
| 8.10.2.1 | <u>Avoidance of Recognised Site of Conservation Importance</u> Construction works are designed to be confined to the boundary of the existing YLSTW that direct impacts on all other sites of conservation importance within the assessment area, including the Ramsar Site, Priority Site, WCA, WBA, SSSI and CA would be avoided. | Project site / Construction Phase | Implemented |
| 8.10.2.3 – 8.10.2.4 | <u>Avoidance of Demolition Works Using Breakers Mounted on Excavators and Percussive Piling during Dry Season</u> In order to minimise the construction noise disturbance on overwintering waterbirds, the noisy construction works, i.e. all percussive piling works and demolition using breakers mounted on excavators, would therefore be scheduled outside the dry season (i.e. November to March, which is the peak overwintering period of waterbirds). | Construction sites / Construction Phase | Implemented |
| 8.10.2.5 | <u>Restriction of Construction Hours</u> No construction activities with the use of PME should be conducted within 100m from any night roost confirmed by the pre-construction survey after 18:00 during wet season and 17:30 during dry season to avoid disturbance to the nearby ardeids night roosts. | Construction sites / Construction Phase | Implemented |
| 8.10.3.2 – 8.10.3.3 | <u>Minimising Construction Noise Disturbance Impacts through Consideration of Alternative Construction Methods</u> Demolition using concrete crusher is quieter than demolition using breaker that its construction noise level is comparable to other general construction activities and concrete crusher would be used for demolition works to be undertaken during dry season months. The quieter foundation methods, including bored piling, raft foundation and shallow foundation, would be adopted as far as possible. | Construction sites / Construction Phase | Implemented |

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| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|------------------------|---|--|-----------------------|
| 8.10.3.4 – 8.10.3.5 | <p><u>Minimising Construction Noise Disturbance Impacts Through Careful Phasing of Construction Activities</u> Percussive piling works and demolition using breakers mounted on excavators would typically be completed over two wet seasons and not be undertaken in the same construction zone at the same time to localise the construction disturbance and to reduce the duration of high level of disturbances on sensitive wetland habitats and associated waterbirds nearby each construction zone.</p> <p>Facilities in the eastern side of the Project site (i.e. Phase 1A and Phase 1B) are scheduled to be developed first that the new structures could screen the works in the middle and western parts of the site in later stage of the construction phase after the structures in Phase 1A and Phase 1B are completed, hence minimising the construction noise and human disturbance on sensitive wetland habitats adjacent to the Project site in Shan Pui River, including the confluence of Shan Pui River and Kam Tin River and ardeid night roost to the immediate east of the Project site.</p> | Project site / Construction Phase | Implemented |
| 8.10.3.6 – 8.10.3.8 | <p><u>Minimising Construction Noise Disturbance Impacts through Use of Noise Barriers</u> Noise barriers with absorptive materials of about 4m high will be erected along the northern, eastern and western sides of the site, throughout the construction phase to screen the construction noise and human disturbance to the waterbirds foraging in ponds in Fung Lok Wai and Shan Pui River during construction phase.</p> <p>Adequate noise barriers should also be provided for demolition works using breakers mounted on excavators and percussive piling works, to further minimise the construction noise disturbance from these construction activities. Movable noise barriers should be provided to breaker mounted on excavator used for demolition works as discussed in Section 4.8 and acoustic mat should be provided to the piling plants around the rig.</p> <p>The contractor should provide enclosure for construction equipment, especially static plants, as appropriate to minimise the noise disturbance as far as practicable.</p> | Construction sites / Construction Phase | Implemented |

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| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|---------------------------------------|---|--|-----------------------|
| 8.10.3.9 | <p><u>Use of Quality Powered Mechanical Equipment</u> The contractor should source QPMEs for construction as far as practicable to further minimise the overall construction noise and other disturbance to the nearby wetland habitats and associated waterbirds to the maximum practical extent.</p> | Construction sites / Construction Phase | Implemented |
| Ecology & Fisheries Impact | | | |
| 8.12.1.4, 9.7 | <p>Groundwater observation wells and recharge wells will be provided at the northern and western side of the site. Groundwater table will be closely monitored at the observation well. In case of any unlikely events of abnormal drawdown of groundwater table near the excavation area, groundwater dewatering will stop and water will be pumped into the recharge wells to recover the normal groundwater table as necessary.</p> | Construction Phase | N/A |
| Fisheries Impact | | | |
| 9.7 | <p>The implementation of good site practices during construction could minimise the potential water quality impacts from the land-based construction works. Mitigation measures recommended in the Water Quality Impact Assessment (Section 5) for controlling water quality impact would also serve to protect fisheries resources and activities from indirect impacts.</p> | Construction and Operation Phase | N/A |
| Landscape and Visual Impact | | | |
| Table 10.11 | <p><u>Preservation of Existing Vegetation (CM1)</u> All the existing Trees to be retained and not to be affected by the Project shall be carefully protected during construction accordance with DEVB TCW No. 7/2015 - Tree Preservation and the latest Guidelines on Tree Preservation during Development issued by GLTM Section of DevB. Any existing vegetation in landscaped areas and natural terrain not to be affected by the Project shall be carefully preserved.</p> | Project site / Construction Phase | Implemented |
| Table 10.11 | <p><u>Transplanting of Affected Trees (CM2)</u> Trees unavoidably affected by the works shall be transplanted as far as possible in accordance with DEVB TCW No. 7/2015 - Tree Preservation and the latest Guidelines on Tree Transplanting issued by GLTM Section of DevB.</p> | Project site / Construction Phase | Implemented |

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| EIA Ref. | Environmental Protection Measures | Location / Duration of Measures / Timing of Completion of Measures | Implementation Status |
|---------------------------|--|--|-----------------------|
| Table 10.11 | <u>Compensatory Tree Planting (CM3)</u> Any trees to be felled under the Project shall be compensated in accordance with DEVB TCW No. 7/2015 - Tree Preservation. For trees to be compensated on slopes, the guidelines for tree planting stipulated in GEO Publication No. 1/2011 will be followed. | Project site / Construction Phase | N/A |
| Table 10.11 | <u>Control of Night-time Lighting Glare (CM4)</u> All the night time lighting shall be avoided except for safety purpose. No light glare shall illuminate directly outside the site. | Project site / Construction Phase | Implemented |
| Table 10.11 | <u>Erection of Decorative Screen Hoarding (CM5)</u> Site hoardings, if any, shall be painted in dull green colour | Project site / Construction Phase | Implemented |
| Table 10.11 | <u>Management of Construction Activities and Facilities (CM6)</u> Construction activities shall be well scheduled and avoid powered mechanical equipment's operating simultaneously. All stockpiling areas and idled area shall be covered by tarpaulin sheet or hydroseeded as far as possible. | Project site / Construction Phase | Implemented |
| Hazard to Life | | | |
| Construction Phase | | | |
| 11.5.6.9-11.5.6.12 | <ul style="list-style-type: none"> Implementation of those major construction works and movement of plants and vehicles would be stringently controlled to have a setback of at least 15m clear distance, or physical barrier with an empty digester / gas holder from the digesters / gas holders in operation; | Project site / Construction Phase | N/A |
| | <ul style="list-style-type: none"> For those construction works to be carried out in close proximity to the 15m zone from digesters / gas holders in operation, the height of plants for those major construction shall be limited to 15m such that the plants would not damage digesters /gas holders in such incident as plant collapse or overturning; | | N/A |
| | <ul style="list-style-type: none"> Whenever practicable, the construction sequence shall be arranged with empty unit(s) for separating the major construction works from these digesters / gas holders in use; and | | N/A |

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|----------|---|--|-----------------------|
| | <ul style="list-style-type: none"> Physical barriers such as concrete blocks shall be set up at the 15m zone in order to avoid those construction plants or vehicles from colliding to the digester / gas holder units in use. | | N/A |
| 11.5.8 | <ul style="list-style-type: none"> Method statements and risk assessments shall be prepared and safety control measures shall be in place before commencement of work | Project site / Construction Phase | Implemented |
| | <ul style="list-style-type: none"> All work procedures shall be complied with the operating plant procedures or guidelines and regulatory requirements; | | Implemented |
| | <ul style="list-style-type: none"> Work permit system, on-site pre-work risk assessment and emergency response procedure shall be in place before commencement of work; | | Implemented |
| | <ul style="list-style-type: none"> All construction workers shall equip with appropriate personal protective equipment (PPE) when working at the Project Site; | | Implemented |
| | <ul style="list-style-type: none"> Safety training and briefings shall be provided to all construction workers; | | Implemented |
| | <ul style="list-style-type: none"> Regular site safety inspections shall be conducted during the construction phase of the Project; | | Implemented |
| 11.9.1.2 | <ul style="list-style-type: none"> Ensure speed limit enforcement is specified in the contractor's method statement to limit the speed of construction vehicles onsite; | Project site / ConstructionPhase | Implemented |
| | <ul style="list-style-type: none"> Conduct speed checks to ensure enforcement of speed limits and to ensure adequate site access control; | | N/A |
| | <ul style="list-style-type: none"> A lifting plan, with detailed risk assessment, should be prepared and endorsed for heavy lifting of large equipment; | | Implemented |
| | <ul style="list-style-type: none"> Vehicle crash barriers should be provided between the construction site and the operating biogas facilities; | | N/A |
| | <ul style="list-style-type: none"> Ensure that a hazardous are classification study is conducted and hazardous area maps are updated before the start of the construction activities to ensure ignition sources are controlled during both construction and operation phases; | | Implemented |
| | <ul style="list-style-type: none"> Ensure work permit system for hot work activities within the Project Site is specified in the contractor's method statement to minimize and control the ignition sources during the construction phase; | | Implemented |
| | <ul style="list-style-type: none"> Ensure effective communication system / protocol is in place between the contractors and the operation staff; | | Implemented |
| | <ul style="list-style-type: none"> Ensure the Project Construction Emergency Response Plan is integrated with the Emergency Response Plan for the YLEPP during construction phase. The plan should address stop work instructions to be promptly communicated to all construction workers performing hot works in case a confirmed biogas detection at the Project Site; | | N/A |

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|----------|---|--|-----------------------|
| | <ul style="list-style-type: none"> • Ensure that the construction activities do not impede the functions of fire and gas detection system, fire protection system, muster areas, fire-fighting vehicle access and escape routes; | | Implemented |
| | <ul style="list-style-type: none"> • Ensure a Job Safety Analysis is conducted for construction activities of the Project during the construction phase, to identify and analyze hazards associated with the construction activities (e.g. lifting operations by cranes) onto the operating biogas facilities. | | Implemented |
| | Potential risks of the construction activities shall be assessed, and risk precautionary measures shall be implemented in Contractor's works procedures. | | Implemented |

Note:

Implementation status: Implemented / Partially Implemented / Not Implemented / Not Applicable (N/A)

Sources / reference of the Implementation Status: Appendix B of EIA Report, AEIAR-220/2019

Appendix K

Weather and Meteorological
Conditions

June 2022 Weather

Station: Wetland Park

| Date | Mean Pressure (hPa) | Air Temperature | | | Mean Relative Humidity (%) | Total Rainfall (mm) |
|-----------|---------------------|------------------|---------------|------------------|----------------------------|---------------------|
| | | Maximum (deg. C) | Mean (deg. C) | Minimum (deg. C) | | |
| June 2022 | | | | | | |
| 1 | 1007.5 | 31.7 | 28.3 | 25.9 | 89 | 0 |
| 2 | 1006.5 | 31.6 | 28.6 | 26.2 | 88 | 6.0 |
| 3 | 1006.0 | 30.8# | 28.4 | 25.8# | 92 | 6.0 |
| 4 | 1006.0 | 32.5# | 29.5 | 27.0# | 84 | 0.5 |
| 5 | 1004.9 | 32.6# | 29.7 | 27.7# | 82 | 0 |
| 6 | 1003.9 | 32.1# | 28.6 | 26.6# | 89 | 5.0 |
| 7 | 1004.8 | 31.1# | 27.1 | 24.4# | 94 | 31.5 |
| 8 | 1006.0 | 28.3# | 25.1 | 24.4# | 99 | 110.0 |
| 9 | 1005.7 | 29.1# | 26.6 | 24.6# | 94 | 2.5 |
| 10 | 1005.7 | 29.8# | 26.8 | 24.9# | 94 | 2.5 |
| 11 | 1006.9 | 29.8 | 26.5 | 25.0 | 96 | 40.5 |
| 12 | 1007.4 | 31.4 | 28.2 | 25.1 | 90 | 28.0 |
| 13 | 1006.6 | 31.2 | 29.3 | 26.9 | 84 | 0 |
| 14 | 1007.3 | 29.9 | 27.4 | 25.2 | 91 | 2.0 |
| 15 | 1009.5 | 31.6 | 27.0 | 23.8 | 91 | 19.5 |
| 16 | 1009.1 | 31.2 | 27.7 | 23.9 | 89 | 0 |
| 17 | 1007.8 | 31.7 | 29.2 | 27.1 | 83 | 0 |
| 18 | 1007.0 | 31.3 | 28.7 | 27.1 | 88 | 1.0 |
| 19 | 1006.2 | 31.4 | 29.2 | 27.3 | 88 | 0.5 |
| 20 | 1005.0 | 31.5 | 29.0 | 27.2 | 87 | 0.5 |
| 21 | 1006.2 | 31.3 | 29.1 | 27.9 | 87 | 0 |
| 22 | 1009.9 | 33.5 | 29.5 | 27.2 | 84 | 0 |
| 23 | 1010.8 | 33.1 | 29.6 | 27.0 | 82 | 0 |
| 24 | 1008.9 | 34.8 | 29.8 | 25.6 | 80 | 0 |
| 25 | 1008.2 | 34.7 | 29.7 | 25.9 | 79 | 0 |
| 26 | 1009.6 | 34.0 | 29.6 | 26.2 | 83 | 0.5 |
| 27 | 1008.5 | 33.6 | 29.7 | 26.8 | 82 | 0 |
| 28 | 1005.4 | 35.3# | 30.3 | 25.8# | 76 | 0 |
| 29 | 1003.3# | 34.1# | 29.1# | 26.2# | 86# | 0# |
| 30 | 1003.4 | 29.3# | 27.1 | 25.7# | 95 | 16.5 |

Note (From Hong Kong Observatory):

1. # Data incomplete
2. Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Source: Hong Kong Observatory

July 2022 Weather

Station: Hong Kong Observatory

| Date | Mean Pressure (hPa) | Air Temperature | | | Mean Relative Humidity (%) | Total Rainfall (mm) |
|-----------|---------------------|------------------|---------------|------------------|----------------------------|---------------------|
| | | Maximum (deg. C) | Mean (deg. C) | Minimum (deg. C) | | |
| July 2022 | | | | | | |
| 1 | 1000.7 | 29.7 | 27.2 | 25.4 | 85 | 63.0 |
| 2 | 999.1 | 28.4 | 26.9 | 25.6 | 89 | 72.4 |
| 3 | 1001.5 | 30.3 | 29.0 | 28.2 | 82 | 0 |
| 4 | 1002.2 | 29.4 | 28.8 | 27.9 | 83 | 0.4 |
| 5 | 1004.2 | 29.7 | 29.0 | 28.4 | 82 | 0.2 |
| 6 | 1005.7 | 30.3 | 28.8 | 28.0 | 81 | 0.5 |
| 7 | 1007.3 | 31.6 | 28.7 | 27.2 | 86 | 13.1 |
| 8 | 1007.4 | 33.8 | 30.0 | 27.7 | 79 | Trace |
| 9 | 1005.7 | 33.3 | 29.9 | 28.6 | 81 | Trace |
| 10 | 1006.5 | 34.2 | 30.5 | 28.6 | 77 | Trace |
| 11 | 1007.3 | 35.1 | 30.9 | 28.5 | 73 | 0 |
| 12 | 1006.9 | 35.2 | 31.1 | 28.6 | 72 | 0 |
| 13 | 1005.9 | 35.2 | 31.0 | 28.4 | 71 | 0 |
| 14 | 1005.6 | 33.1 | 30.4 | 28.5 | 75 | 0 |
| 15 | 1006.5 | 34.3 | 30.4 | 28.6 | 77 | 0.2 |
| 16 | 1006.0 | 33.3 | 30.5 | 28.8 | 77 | 1.5 |
| 17 | 1005.7 | 32.6 | 30.5 | 28.8 | 76 | 1.2 |
| 18 | 1004.9 | 32.7 | 30.4 | 28.5 | 78 | 2.7 |
| 19 | 1006.6 | 33.7 | 30.8 | 29.1 | 75 | Trace |
| 20 | 1009.8 | 34.2 | 30.8 | 29.2 | 76 | 0.6 |
| 21 | 1012.0 | 35.2 | 30.9 | 28.1 | 74 | 0.3 |
| 22 | 1010.8 | 35.6 | 31.2 | 28.2 | 72 | 0 |
| 23 | 1008.7 | 34.9 | 31.4 | 29.2 | 74 | 0 |
| 24 | 1007.1 | 36.1 | 32.0 | 29.5 | 72 | 0 |
| 25 | 1007.6 | 35.8 | 32.0 | 29.9 | 74 | 0 |
| 26 | 1007.7 | 35.2 | 31.2 | 29.1 | 71 | 0 |
| 27 | 1007.1 | 34.2 | 31.0 | 29.0 | 69 | 0 |
| 28 | 1006.2 | 35.3 | 31.2 | 28.8 | 73 | 0 |
| 29 | 1004.7 | 35.3 | 31.7 | 29.7 | 74 | 0 |
| 30 | 1004.3 | 31.2 | 29.5 | 26.5 | 81 | 2.4 |
| 31 | 1004.3 | 34.0 | 30.8 | 28.3 | 76 | 0 |

Note (From Hong Kong Observatory):
Trace means rainfall less than 0.05 mm

Source: Hong Kong Observatory

Remark: The corresponding weather station at Wetland Park were unavailable at the time of preparation of this report. The corresponding month's weather will be provided in the next reporting month.

Appendix L

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

Environmental Complaints Log

| Reference No. | Date of Complaint Received | Received From | Received By | Nature of Complaint | Date of Investigation | Outcome | Date of Reply |
|---------------|----------------------------|---------------|-------------|---------------------|-----------------------|---------|---------------|
| | | | | | | | |

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 Notification of Summons and Successful Prosecutions

| Environmental Parameters | Cumulative No. Brought Forward | No. of Notification of Summons and 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 |

Appendix M

ET Leader's Site Environmental Audit

Summary of ET Leader's Site Environmental Audit in the Reporting Month

| Parameters | Date | Observations and Recommendations | Follow-up |
|-------------------------------|-------------|---|-----------|
| Air Quality | | NA | |
| Noise | 6 Jul 2022 | Reminder 1: The Contractor is reminded to properly maintain the function of the noise barriers and silentup at the northern and western site boundary (Portion 1 - YLSTW). | NA |
| | 12 Jul 2022 | Reminder 1: The Contractor is reminded to properly maintain the function of the noise barriers and silentup at the northern and western site boundary (Portion 1 - YLSTW). | NA |
| Water Quality | 12 Jul 2022 | Reminder 1: The Contractor is reminded to provide sand bags to prevent silty runoff into the storm drains (Portion 1 - YLSTW). | NA |
| Chemical and Waste Management | | NA | |
| Land Contamination | | NA | |
| Ecological Impact | 12 Jul 2022 | Reminder 1: The Contractor is reminded to maintain and reinstate the bird curtains at the eastern and northern site boundary (Portion 1 - YLSTW). | NA |
| | 20 Jul 2022 | Reminder 1: The Contractor is reminded to maintain and reinstate the bird curtains at the eastern and northern site boundary (Portion 1 - YLSTW). | NA |
| Landscape and Visual Impact | 27 Jul 2022 | Recommendation 1: Please keep Tree Protection Zone clear of construction material (Portion 1 - YLSTW). | NA |
| Permit / Licenses | | NA | |
| Others | | NA | |

Appendix N

Outstanding Issues and Deficiencies

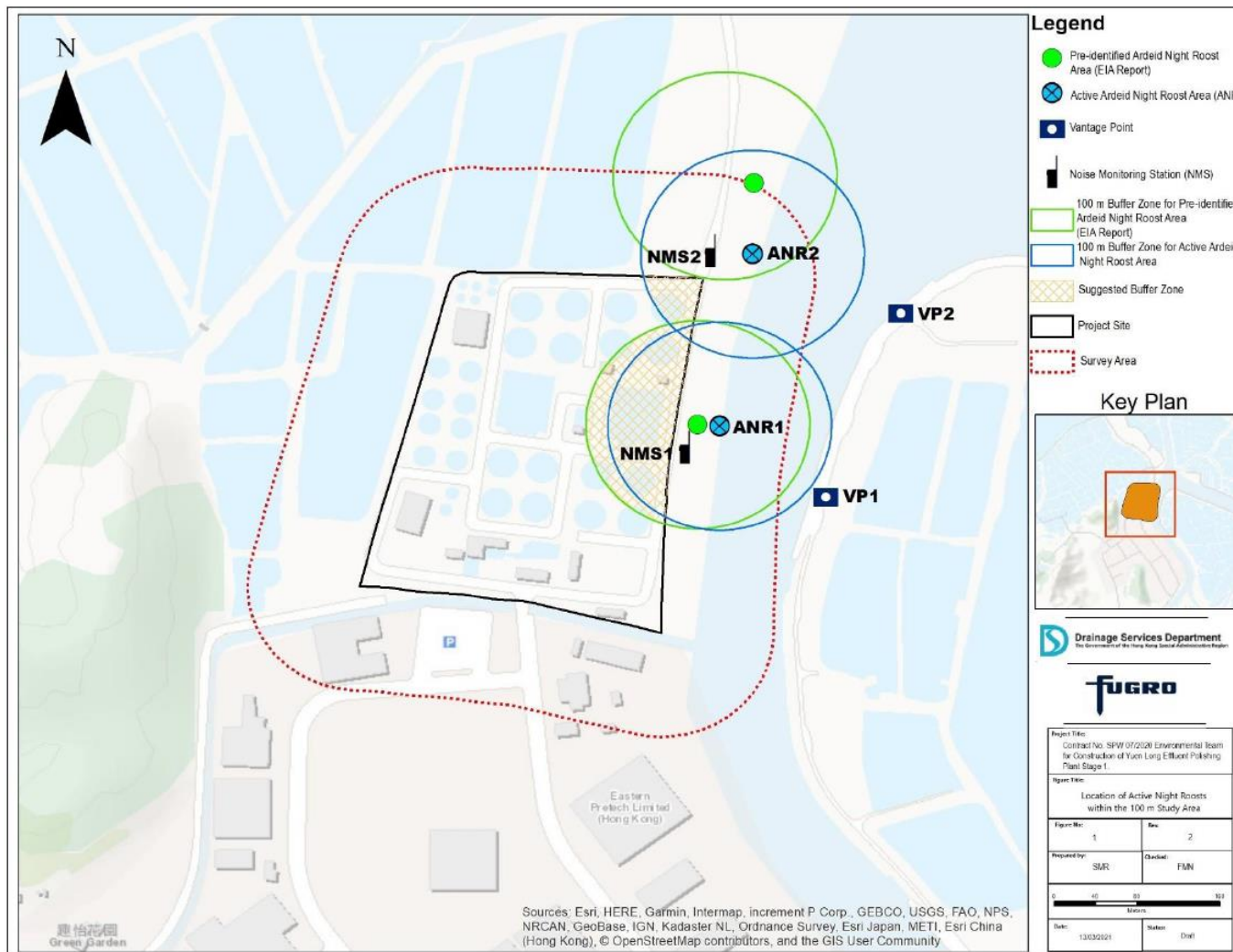
Summary of Outstanding Issues and Deficiencies in the Reporting Month

| Parameters | Outstanding Issues | Deficiencies |
|-------------------------------|--------------------|--|
| Air Quality | NA | Any items of deficiencies can be referred to Appendix M . |
| Noise | NA | |
| Water Quality | NA | |
| Chemical and Waste Management | NA | |
| Land Contamination | NA | |
| Landscape and Visual Impact | NA | |
| Permit / Licenses | NA | |
| Others | NA | |

Appendix O

Active Night Roost Monitoring Area and Vantage
Points; and Noise Monitoring Stations

O.1 Map of the Monitoring Area, Vantage Points for Observation of Active Night Roosts and Noise Monitoring Stations



Appendix O.1: Monitoring Area, Vantage Points for Observation of Active Night Roosts and Noise Monitoring Stations

O.2 Survey Photos

O.2.1 Pre-roosting Aggregate



Appendix O.2.1a: Pre-roost aggregate of Chinese Pond heron *Ardeola bacchus* and Little Egret *Egretta garzetta* in the mudflat area east of the Project boundary observed on 15 July 2022 around 18:15



Appendix O.2.1b: Pre-roost aggregate of Little Egret *Egretta garzetta* in the mudflat area northeast of the Project boundary observed on 15 July 2022 around 18:15

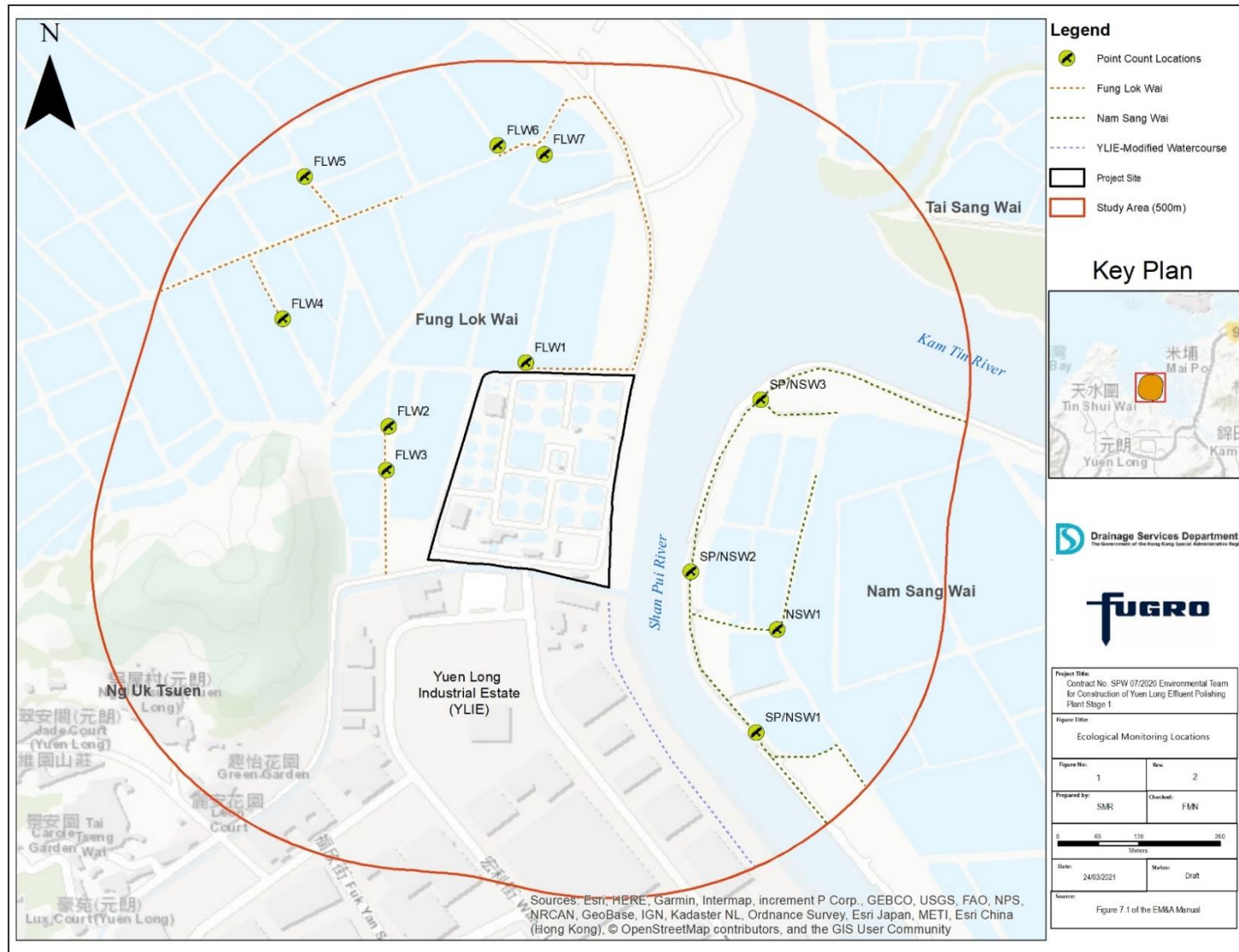
O.2.2 Active Night Roosting Site and Roosting Substrates



Appendix O.2.2a: Active night roost on *Sonneratia apetala* and *S. caseolaris* mangrove roosting substrate located east of the Project boundary observed on 15 July 2022 around 18:50

Appendix P

Ecological Bird Monitoring Area with Locations
of Point Count Sites and Transect Routes



Appendix P: Ecological bird monitoring area with the locations of point count sites and transect routes