Contract No. SPW 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Monthly EM&A Report (December 2024)

Drainage Services Department

2025-01-14

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Contract No. SPW 04/2024

Independent Environmental Checker for Construction of Yuen Long Effluent Polishing Plant Stage 1 (2024-2025)

Environmental Permit No. EP-565/2019/A

EP Condition 3.4 – Monthly EM&A Report for December 2024

15 January 2025

By Hand and By Email

Dear Sir,

I refer to the captioned Monthly EM&A Report for December 2024 (Revision 1) which was received via e-mail and certified by the Environmental Team Leader on 15 January 2025 (ref.: PL-202501031).

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 (in particular Sections 12.4.1 and 12.4.4) for the captioned project, in accordance with Condition 3.4 of Environmental Permit No. EP-565/2019/A.

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

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cc	DSD	Mr. Wallace CHENG – E/SP 16 (by e-mail)
	Aurecon Hong Kong Limited	Mr. Vincent LU – ET Leader (by e-mail)
	Paul Y – CREC Joint Venture	Mr. Gabriel WONG – Environmental Specialist (by e-mail)

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Ref: PL-202501031

By Email

15 January 2025

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

Attn: Mr. Brandon Wong, IEC

Dear Sir,

Contract No. SPW 02/2023
Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1
Environmental Permit No. EP-565/2019/A
EP Condition 3.4 – Monthly EM&A Report for December 2024

Pursuant to Clause 3.4 of Environmental Permit No. EP-565/2019/A for the captioned project, we are pleased to submit the certified Monthly EM&A Report for December 2024 (Rev.1) for your verification.

Should you have any queries regarding the captioned or require any further information, please contact the undersigned at 2531 0243.

Yours faithfully,
For and on behalf of
Aurecon Hong Kong Limited

Vincent M. J. Lu
Environmental Team Leader

Encl.

cc. AECOM – Mr. Patrick Leung (patrick.leung@ylepp-aecom.com)
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Reviewer's signature		Approver's signature	
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Title	Senior Environmental Consultant	Title	Environmental Team Leader

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Contents

Tables

Figures

Appendix

EXECUTIVE SUMMARY

This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Contract No. SPW 02/2023 “Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1”. Drainage Services Department (DSD) has appointed Aurecon Hong Kong Limited (Aurecon) to undertake the Environmental Team services for the project and implement the EM&A works.

This is the 45th Monthly EM&A Report for the construction phase which summaries findings of the EM&A programme during the reporting period from 1 December 2024 to 31 December 2024. As informed by the Contractor, major activities in the reporting month were:

- Fixing GRC panel at CLP Substation
- ELS works and pipeworks at emergency bypass chamber
- ABWF, E&M work and RC structure at IW
- ABWF and E&M works at PST
- ELS work at SDB
- External works at site-wide of predrilling at walkway and water meter cabinet
- ELS work at AGS
- ELS work at TTS
- RC Structure at STB
- Demolish Existing SDT 1-4
- ELS work at Sludge Digester no. 1-3
- E&M work at Biogas Holder no. 1
- Disposal of construction waste as indicated in **Appendix I**.

Breaches of Environmental Quality Performance Limits (AL levels)

No Action and Limit Level exceedance was recorded for air quality monitoring and construction noise monitoring in the reporting month.

No Action and Limit Level exceedance was recorded for water quality monitoring in the reporting month.

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.

No Action / Limit exceedance for the ecological monitoring of birds in the reporting month.

No corrective actions were required according to the Event and Action Plans for the Monitoring Parameters.

Land Contamination

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”, “SAS Thickener House-1”, “SAS Thickener House-2”and “Screening Press House” were submitted to EPD respectively on 1st November 2021, 23rd November 2021, 29th April 2022, 6th July 2022, 19th June 2023 and 29 October 2024. No contaminated soil and ground water was found within the Main Storeroom & Workshop, Mechanical Workshop, Waste Storage Area, SAS Thickener House-1, SAS Thickener House-2 and Screening Press House, and no remedial action is required for these locations.

Complaint Log

No complaints were received in the reporting period.

Notifications of Summons and Successful Prosecutions

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

Reporting Change

There were no reporting changes during the reporting month.

Future Key Issues

The main works will be anticipated in the next three months are as follow:

- Fixing GRC panel at CLP Substation
- ELS works and pipeworks at emergency bypass chamber
- ABWF, E&M work and RC structure at IW
- ABWF and E&M works at PST
- ELS work at SDB
- External works at site-wide include water meter cabinet
- ELS work and RC structure at AGS
- RC structure at TTS
- ABWF, E&M work and RC structure at STB
- Demolish Existing SDT 1-4 and Gas Holder GH2
- ELS work and RC structure at Sludge Digester no. 1-3
- E&M work at Biogas Holder no. 1

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. Variation of the Environmental Permit (EP) (EP No. EP-565/2019/A) was issued by EPD on 26 November 2024.

1.1.4 Fugro Technical Services Limited was 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”) for the period from July 2020 to 6 July 2023.

1.1.5 Aurecon Hong Kong Limited (Aurecon) 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 from July 2023. Air quality, noise, water quality and ecological monitoring, site inspections and auditing (as scheduled) under EM&A programme with effect from 7 July 2023 was conducted by Aurecon. Aurecon is undertaking the preparation (including reporting of monitoring results), certification by ET Leader and submission of this report to EPD.

1.1.6 All ET roles and responsibilities under the EP for this Project were undertaken by Fugro up to 6 July 2023 and by Aurecon with effect from 7 July 2023. Air quality, noise, water quality and ecological monitoring, site inspections and auditing (as scheduled) under EM&A programme up to 6 July 2023 was conducted by Fugro, and the corresponding monitoring results were shared with Aurecon for the purposes of reporting in this report.

1.1.7 This is the 45th Monthly EM&A report to document the findings of site inspection activities and EM&A programme for this project from 1 December 2024 to 31 December 2024 (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**.

Table 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 (Mott MacDonald Hong Kong Limited)	Independent Environmental Checker (IEC)	Mr. Brandon Wong	2828 5875
Contractor (Paul Y. - CREC Joint Venture)	Environmental Specialist	Mr. Gabriel Wong	5269 5723
	Environmental Officer	Mr. Henry Lau	5490 5271
Environmental Team (Aurecon Hong Kong Limited)	Environmental Team Leader (ETL)	Mr. Vincent Lu	6346 5908

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:

- Fixing GRC panel at CLP Substation
- ELS works and pipeworks at emergency bypass chamber
- ABWF, E&M work and RC structure at IW
- ABWF and E&M works at PST
- ELS work at SDB
- External works at site-wide of predrilling at walkway and water meter cabinet
- ELS work at AGS
- ELS work at TTS
- RC Structure at STB
- Demolish Existing SDT 1-4
- ELS work at Sludge Digester no. 1-3
- E&M work at Biogas Holder no. 1

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 2**.

Table 2 Environmental Licenses, Notification and Permits Summary

Permit/ Notification/ License	Reference No	Valid From	Valid Till
Environmental Permit	EP-565/2019/A	26-Nov-2024	The whole construction and operation period of the Project
Notification of Works under APCO	461616	6-Nov-2020	The whole construction and operation period of the Project
Construction Waste Disposal Billing Account	7038933	20-Nov-2020	The whole construction and operation period of the Project
Registration as Chemical Waste Producer under WDO	WPN5213-528-P2796-03	4-Feb-2021	The whole construction and operation period of the Project
Construction Noise Permit	GW-RN1253-24	17-Nov-2024	16-Apr-2025
Construction Noise Permit	GW-RN0998-24	6-Sep-2024	5-Feb-2025
Water Pollution Control Ordinance (WPCO) (CAP. 358) Licence pursuant to Section 20 (Variation of Licence Pursuant to Section 28 of WPCO)	WT00038102-2021	4-Aug-2021 (Variation approved on 11-Dec-2023 with immediate effect)	31-Aug-2026
Marine Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/25-009	28-Jun-2024	27-Dec-2024
Marine Dumping Permit (Type 1 – Open Sea Disposal (Dedicated Site) and Type 2 – Confined	EP/MD/25-028	28-Sep-2024	27-Dec-2024
Marine Dumping Permit (Excavated Sediment of Category L - Suitable for Capping Exhausted Contaminated Mud Pits)	EP/MD/25-023	26-Aug-2024	25-Feb-2025
Disposal of Special waste at Landfills Admission Ticket (Pond Sediment)	Admission Ticket Number: 94981	1-Oct-2024	31-Dec-2024
Disposal of Special waste at Landfills Admission Ticket (Sludge)	Admission Ticket Number: 100984	9-Dec-2024	10-Mar-2025
Revised Sediment Quality Report (SQR)	(19) in EP60/G1/12-583V	4-Dec-2024	3-Dec-2025

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 3**.

Table 3 Air Quality Monitoring Equipment

Item	Location	Brand	Model	Equipment	Serial No.
1	AM1	Sibata	Model LD-5R	SIBATA LD-5R Digital Dust Indicator	882106, 882107
2	AM2				

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 02/2023 “Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1”.

2.5.2 The most updated locations are summarized in **Table 4** and the locations of the air monitoring stations shown in **Figure 2**.

Table 4 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 5**. Detailed monitoring data are presented in **Appendix F**.

Table 5 Summary of Air Quality Monitoring Results

Monitoring Station	Average ($\mu g/m^3$)	Range ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
1-hour TSP				
AM1	44	40-48	291	500
AM2	43	39-47	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 6**.

Table 6 Comparison of 1-hr TSP data with EIA predictions

Monitoring Station	EIA ID	Predicted Maximum Hourly Average TSP Concentration (µg/ m^3)	Maximum 1-hr TSP Monitoring Results in December 2024 (µg/ m^3)
Content			
AM1	ASR A09	205-451	48
AM2	ASR A11		47

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 ± 0.1 dB).

3.2.2 The details of the noise monitoring equipment used are summarized in **Table 7**.

Table 7 Construction Noise Monitoring Equipment

Item	Brand	Model	Equipment	Serial No.
1	NTi Audio	XL2	NTi Audio XL2 Digital Sound Level Meter	A2A-09696-E0
2	NTi Audio	XL2	NTi Audio XL2 Digital Sound Level Meter	A2A-13548-E0
3	NTi Audio	XL2	NTi Audio XL2 Digital Sound Level Meter	A2A-13663-F0
4	RION	NC-75	RION NC-75 Acoustic Calibrator	34724244
5	RION	NC-75	RION NC-75 Acoustic Calibrator	34724245
6	RION	NC-75	RION NC-75 Acoustic Calibrator	34524163

3.3 Monitoring Parameters and Frequency

3.3.1 The parameters and frequencies of impact noise monitoring is summarized in **Table 8**.

Table 8 Monitoring Parameters and Frequencies of Noise Monitoring

Parameter	Frequency
LAeq (30 min) (L10 and L90 will be recorded for reference)	At each station at 0700-1900 hours on normal weekdays at a frequency of once a week 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 consider 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 02/2023 “Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1”.

3.6.2 The most updated locations are summarized in **Table 9** and the locations of the noise monitoring stations shown in **Figure 3**.

Table 9 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 10**. Detailed monitoring data are presented in **Appendix F**.

Table 10 Summary of Construction Noise Monitoring Results

Time Period	Noise Monitoring Stations	Leq (30min) dB(A) (Range)	Action Level	Limit Level dB(A)
0700-1900 hrs on normal weekdays	CM1	59.4 – 61.2	When one documented complaint is received	75
	CM2	56.6 – 60.4		75
	CM3	56.6 – 58.9		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 11**.

Table 11 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 December 2024 L_{eq} (30min) dB(A)
CM1	NSR1	72	61.2
CM2	NSR2	74	60.4
CM3	NSR3	75	58.9

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 12**. 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 12 Water Quality Monitoring and Sampling Equipment

Parameter	Equipment	Model	Range	Equipment Accuracy	Serial No.
Temperature Dissolved Oxygen Salinity pH Turbidity	YSI Water Quality Multipara meter Sonde	Xylem ProDSS	Tem: -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; ±8% for 20-50mg/L Sal: ±1% of reading or 0.1 ppt (whichever is greater) pH: ±0.2 units Turb: ±3% or 0.3NTU (FNU) (whichever greater)	15M101091
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	N/A
Water Sampling	Water Sampler	Aquatic Research Instruments 2.2L Horizontal Water Sampler HWS2.2CP	N/A	N/A	N/A
Positioning	DGPS	GARMIN GPSMAP 78s	N/A	GPS: ±1m	N/A
Water Depth	Echo Sounder	Garmin ECHO 101	Maximum depth: 457.2 m	0.1 m	N/A

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 13**.

Table 13 Monitoring Parameters and Frequency

Parameters	Monitoring Frequency
In-situ Measurement Turbidity (in NTU), pH, DO (in mg/L and % of saturation), Temperature (in °C), Salinity (in ppt) Laboratory Analysis Suspended Solids	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.)

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 Acumen Laboratory and Testing Limited (HOKLAS Reg: No.241) 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 14** and the locations of the water quality monitoring stations shown in **Figure 4**.

Table 14 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
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	820 335

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

4.8.4 Number of Action/ Limit exceedance recorded in the reporting month at each impact stations is summarized in **Table 15**.

Table 15 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	

4.8.5 During the reporting period, no Action and Limit Level exceedance was recorded for water quality monitoring.

4.8.6 The Event and Action Plan for water quality is given in **Appendix H**.

4.9 WetSeps

Four WetSeps 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 (Variation of WPCO Discharge Licence was approved by EPD on 11 December 2023 with immediate effect).

5 ECOLOGY MONITORING

5.1 Ardeid Night Roost Monitoring

5.1.1 Monitoring Requirement

With reference to the Pre-construction Ardeid Night Roost survey (December 2016) 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 8x 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 18 December 2024.

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 16:44, the earliest final night roost period recorded during the survey and lasted for 30 minutes. **Table 16** presents the monitoring parameters.

Table 16 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 18 December 2024 and started around 16:43 (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, individuals of Chinese Pond *Heron Ardeola bacchus* (4), Great Egret *Ardea alba* (1) and Grey Heron *Ardea cinerea* (1) were observed in pre-roost aggregate (PRA) around 17:28 at the mudflat east side ANR1 of the Project boundary while individuals of Chinese Pond Heron *Ardeola bacchus* (18), Great Egret *Ardea alba* (1) and Little Egret *Egretta garzetta* (2) were concurrently noted at the mudflat northeast side ANR2 of the Project boundary (Table 17).

For the final night roost at around 17:45, individuals of Chinese Pond Heron *Ardeola bacchus* (8), Great Egret *Ardea alba* (2) and Grey Heron *Ardea cinerea* (1) were observed at the roosting area ANR1 utilizing the understory to canopy layer of the roosting substrate *Sonneratia apetala* and *S. caseolaris*; while other individuals of Chinese Pond Heron *Ardeola bacchus* (27), Great Egret *Ardea alba* (6) and Little Egret *Egretta garzetta* (3) were noted at ANR2 that utilized the understory to 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 17 Active Ardeid Night Roost Survey Findings

Date: 18 December 2024			**Sunset Time: 17:43**	**Tidal Condition: Low Tide**	
Pre-roost Period			**Final roost Period**		
Time of Return:	Chinese Pond Heron *Ardeola bacchus*, Great Egret *Ardea alba,* Little Egret *Egretta garzetta* and Grey Heron *Ardea cinerea* (17:28)		**Time of Return:**	Chinese Pond Heron *Ardeola bacchus*, Great Egret *Ardea alba,* Little Egret *Egretta garzetta* and Grey Heron *Ardea cinerea* (17:45)	
Parameters	**Location**		**Parameters**	**Location**	
	ANR1	**ANR2**		**ANR1**	**ANR2**
Pre-roost Aggregation (Y/N):	Y	Y	**Substrate Species:**	*Sonneratia apetala* and *S. caseolaris*	*Sonneratia apetala* and *S. caseolaris*
Substrate Species:	*Sonneratia apetala* and *S. caseolaris*	*Sonneratia apetala* and *S. caseolaris*	**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 *Ardeola bacchus*	4	18	Chinese Pond Heron *Ardeola bacchus*	8	27
Great Egret *Ardea alba*	1	1	Great Egret *Ardea alba*	2	6
Little Egret *Egretta garzetta*	-	2	Little Egret *Egretta garzetta*	-	3
Grey Heron *Ardea cinerea*	1	-	Grey Heron *Ardea cinerea*	1	-
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 18 December 2024 in concurrence with the construction phase monthly monitoring of the pre-identified active night roosts. Noise monitoring started at 17:45 and lasted for 30 minutes, until 18:15.

Current survey results showed noise levels (LAeq (30 min.)) at both monitoring stations to be well below the action and limit levels as presented in **Table 18**.

Table 18 Noise Monitoring Parameters (For Active Ardeid Night Roost Survey)

Frequency and Period	Location	Start Time	LAeq (30 min.)	Action Level	Limit Level
Monthly in concurrence with the construction phase monthly monitoring of the active night roosts	NMS1	17:45	56.6	65.5 dB(A)[1]	72.2 dB(A)[2]
	NMS2	17:45	57.4		

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)

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.

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 December 2024 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 *Ardeola bacchus,* Great Egret *Ardea alba*, Little Egret *Egretta garzetta* and Grey Heron *Ardea cinerea*.

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 were conducted last 4 December 2024 (daytime) and 18 December 2024 (night-time) which started at around 07:15 and 18:00, respectively. Additionally, the survey overlooking the mudflats and mangroves in the Shan Pui River was concurrently conducted on the same date with the daytime survey during the low tide (generally 1.5m or below) period, and also started at around 07:15, respectively. 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 19 Noise Monitoring Parameters

Parameter	Frequency and Period
LAeq (30 min) (L10 and L90 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 (α = 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; *Pi* = 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 4 December 2024 (daytime) which started at around 07:15 and 18 December 2024 (night-time) which started at around 18:00 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 07:15 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 1132 avifauna individuals were recorded in the monitoring area during the December 2024 monitoring period, of which 914 individuals were recorded from the point count method and 218 individuals from the transect walk method. Relative to the December 2016 baseline data (point count method = 530; and transect walk = 85), a significant increase was noted for both point count method and transect walk method.

Details of these findings are summarized in **Table 20**.

Table 20 Abundance of all Avifauna Species

Abundance of all Avifauna Species				
EIA Report ID	**EM&A Manual ID**	**December-16**	**December-24**	**Remarks**
Point Count Method				
P1	FLW1	12	12	=
P2	FLW2	22	23	+
P3	FLW3	16	4	-
P4	FLW4	19	44	+
P5	FLW5	75	75	=
P6	FLW6	8	22	+
P7	FLW7	8	59	+
P9	SP/NSW3	206	333	+
P10	SP/NSW2	86	83	-
P11	NSW1	20	165	+
P12	SP/NSW1	58	94	+
Total		**530**	**914**	+
Mean		**48**	**83**	+
Transect Walk Method				
Fung Lok Wai	FLW	41	62	+
Nam Sang Wai	NSW	44	20	-
YLIE-CW	YLIE-CW	0	136	+
Total		**85**	**218**	+
Mean		**28**	**73**	+

Notes:
+ increased abundance;
- decreased abundance;
= no change in abundance.

No Action / Limit exceedance was recorded for the abundance of all avifauna species (including but not limited to overwintering waterbirds) for both the point-count and transect walk method.

5.2.3.1.2 Avifauna Species of Conservation Importance

Of the 1132 avifauna individuals recorded in the monitoring area during the December 2024 monitoring period, 704 individuals (point count method = 568 individuals; transect walk method = 136 individuals) were of conservation importance. With reference to December 2016 data, (point count method = 462; and transect walk = 16), an increase was noted for both the point count and transect walk methods. Details of these findings are summarized in **Table 21**.

Table 21 Abundance of Species of Conservation Importance

Abundance of Species of Conservation Importance				
EIA Report ID	**EM&A Manual ID**	**December-16**	**December -24**	**Remarks**
Point Count Method				
P1	FLW1	6	5	-
P2	FLW2	21	8	-
P3	FLW3	0	0	=
P4	FLW4	11	8	-
P5	FLW5	69	27	-
P6	FLW6	3	14	+
P7	FLW7	7	2	-
P9	SP/NSW3	196	294	+
P10	SP/NSW2	84	71	-
P11	NSW1	11	93	+
P12	SP/NSW1	54	46	-
Total		**462**	**568**	+
Mean		**42**	**52**	+
Transect Walk Method				
Fung Lok Wai	FLW	13	16	+
Nam Sang Wai	NSW	3	5	+
YLIE-CW	YLIE-CW	0	115	+
Total		**16**	**136**	+
Mean		**5**	**45**	+

Notes:
+ increased abundance;
- decreased abundance;
= no change in abundance.

No Action / Limit exceedance was recorded for the abundance of Species of Conservation Importance in both point-count and transect walk method.

5.2.3.2 Diversity (Species Richness[1] and Shannon Diversity Index[2])

5.2.3.2.1 All Avifauna Species

A total of 62 avifauna species (species richness) were recorded during the December 2024 monitoring period, of which, 62 species were recorded by the point count method while 36 species were noted by the transect walk method. Relative to the baseline data (point count method = 35 species; transect walk method = 22 species), an increase in total species richness for both point count and transect walk method was recorded. In terms of Shannon diversity index (H') values, current result in point count method showed an increase (t-value = 10.42; t-crit = 1.96; p-value = 3.20E-24; α = 0.05) relative to the baseline reference value. The current results in the transect walk method showed an increase (t-value = 2.58; t-crit = 1.97; p-value = 1.08E-02; α = 0.05) from baseline reference value. Details of these findings are summarized in **Table 22**, **Appendix F.6.1**, and **Appendix F.6.2**.

[1] actual number of species

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

Table 22 Shannon Diversity Index Value of all Avifauna Species

Shannon Diversity Index Value of all Avifauna Species				
EIA Report ID	**EM&A Manual ID**	**December-16**	**December-24**	**Remarks**
Point Count Method				
P1	FLW1	0.92	1.56	+
P2	FLW2	0.37	1.48	+
P3	FLW3	1.63	0.69	-
P4	FLW4	1.64	2.62	+
P5	FLW5	0.72	2.42	+
P6	FLW6	1.07	1.80	+
P7	FLW7	0.74	1.26	+
P9	SP/NSW3	2.07	2.07	=
P10	SP/NSW2	2.06	2.35	+
P11	NSW1	1.64	2.01	+
P12	SP/NSW1	2.33	2.59	+
Overall H'		**2.46**	**3.19**	+
Species Richness		**35**	**62**	+
Transect Walk Method				
Fung Lok Wai	FLW	2.48	2.74	+
Nam Sang Wai	NSW	1.83	2.28	+
YLIE-CW	YLIE-CW	**	2.31	+
Overall H'		**2.67**	**3.00**	+
Species Richness		**22**	**36**	+

Notes:

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

No Action / Limit exceedance was recorded for the species diversity of all avifauna species in both point count and transect walk method.

5.2.3.2.2 Avifauna Species of Conservation Importance

Of the 62 avifauna species identified during the December 2024 monitoring period, 29 species were of conservation importance (point count method = 29 species; transect walk method = 15 species). Meanwhile, relative to the baseline values in December 2016 (point count method = 18 species; transect walk method = 5 species), an increase in the number of species with conservation importance for both the point count method and the transect walk method was recorded. In terms of Shannon diversity index (H'), an increase was noted in point count method (t-value = 5.11; t-crit = 1.96; p-value = 3.87E-7; $\alpha = 0.05$) while a significant increase in transect walk method (t-value = 3.72; t-crit = 2.06; p-value = 1.08E-3; $\alpha = 0.05$) was observed relative to the baseline reference values. Details of these findings are summarized in **Table 23**, and **Appendix F.6.3**.

Table 23 Shannon Diversity Index Value of Species with Conservation Importance

Shannon Diversity Index Value of Species with Conservation Importance				
EIA Report ID	**EM&A Manual ID**	**December-16**	**December-24**	**Remarks**
Point Count Method				
P1	FLW1	0	0.18	+
P2	FLW2	0.19	0.90	+
P3	FLW3	**	**	=
P4	FLW4	0.99	1.07	+
P5	FLW5	0.44	1.64	+
P6	FLW6	1.10	1.24	+
P7	FLW7	0.41	0.69	+
P9	SP/NSW3	1.91	1.77	-
P10	SP/NSW2	1.99	1.98	-
P11	NSW1	0.30	0.44	+
P12	SP/NSW1	2.16	1.94	-
Overall H'		**2.04**	**2.40**	+
Species Richness		**18**	**29**	+
Transect Walk Method				
Fung Lok Wai	FLW	1.12	1.58	+
Nam Sang Wai	NSW	0.64	1.05	+
YLIE-CW	YLIE-CW	**	1.85	+
Overall H'		**1.39**	**2.09**	+
Species Richness		**5**	**15**	+

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')

No Action / Limit exceedance was recorded for the species diversity of avifauna species with conservation importance in both point count and transect walk method.

5.2.3.3 Wetland Habitat Utilization

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

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, majority of the different wetland habitats were observed with Low to Moderate (L – M) abundance. In terms of species richness, different wetland habitats were generally observed with Very High (VH) number of species (**Table 24**).

Table 24 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	M – H	M – H
	Shan Pui River adjacent to Project site	L – M	VH
	Upper course of Shan Pui River along YLIE	L – M	H – VH
Ponds	Active Ponds adjacent to Project site in Fung Lok Wai	VL	VL – L
	Active Ponds North to Nullah 2 in Fung Lok Wai	L – M	M – H
	Inactive Ponds in Fung Lok Wai	L – M	VH
	Active and Inactive Ponds in Nam Sang Wai	L – M	VH
Mangrove	Mangrove within Assessment Area	-	-
Reedbed	Reedbed in Nam Sang Wai	-	-

Notes:

1. Abundance of all avifauna species 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)

5.2.3.3.2 Avifauna Species of Conservation Importance

Majority of the different wetland habitats had Very Low (VL) and Low to Moderate (L – M) abundance of avifauna species of conservation importance; and were generally utilized by Low to Moderate (L – M) number of species (**Table 25**).

Table 25 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	L – M	L – M
	Shan Pui River adjacent to Project site	L – M	M
	Upper course of Shan Pui River along YLIE	L – M	L – M
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 – L
	Inactive Ponds in Fung Lok Wai	VL	L – M
	Active and Inactive Ponds in Nam Sang Wai	VL – L	VL – L
Mangrove	Mangrove within Assessment Area	-	-
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 LAeq (30 min) recorded on 4 December 2024 (daytime) and 18 December 2024 (night time) from each of the point count locations during the ecological bird monitoring are shown in **Table 26**.

Table 26 Noise Monitoring Results (For Ecological Monitoring of Birds)

Frequency and Period	Location	Day time (04/12/2024)		Night time (18/12/2024)	
		Start Time	LAeq (30 min) dB(A)	Start Time	LAeq (30 min) dB(A)
Monthly in concurrence with the ecological monitoring of birds	FLW1/ P1	09:07	58.4	18:22	53.4
	FLW2/ P2	09:41	58.9	18:56	52.3
	FLW3/ P3	10:16	59.4	19:30	53.9
	FLW4/ P4	10:38	57.6	20:16	54.4
	FLW5/ P5	10:29	57.9	19:40	53.5
	FLW6/ P6	09:45	58.4	19:01	53.8
	FLW7/ P7	09:13	58.5	18:28	53.9
	SP/NSW3/ P9	07:15	55.4	19:43	52.4
	SP/NSW2/ P10	07:49	54.5	19:09	53.3
	NSW1/ P11	08:24	53.9	18:34	52.1
	SP/NSW1/ P12	08:58	54.6	18:00	51.5

No Action / Limit exceedance was recorded for noise levels at all stations for the ecological monitoring of birds in the reporting month.

6 LANDSCAPE AND VISUAL

6.1 Audit Requirements

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

To monitor and audit the implementation of landscape and visual mitigation measures, four weekly landscape and visual site audits were carried out on 4, 10, 18 and 23 December 2024.

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.

7.1.5 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the “SAS Thickener House-2” and the laboratory results for the sampling works (conducted between 15 February 2023 to 23 February 2023) show that there are no exceedances of the adopted RBRGs for the “SAS Thickener House-2”. The laboratory results are compared against the adopted RBRGs and soil saturation limit (Csat) for soil samples and the adopted RBRGs and the solubility limits for groundwater samples. No exceedance of RBRG are recorded for both soil samples and groundwater samples. Furthermore, no exceedance of the soil saturation limit are recorded for soil samples. However, the exceedances of solubility limits for PCRs (C9-C16) are recorded for groundwater samples collected at BH-18, BH-19, BH-20 and BH-21; and also PCRs (C17-C35) for BH-21. As no non-aqueous phase liquid (NAPL) was observed during sampling, no further sampling and remediation are required. As no contaminated soil and groundwater is found within the

"SAS Thickener House-2", no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the "SAS Thickener House-2". Their findings are summarized in Contamination Assessment Report (CAR) which was certified by ET Leader and verified by IEC on 31 May 2023 and submitted to EPD on 19th June 2023.

7.1.6 Risk-Based Remediation Goals (RBRGs) for Industrial have been adopted for the "Screening Press House" and the laboratory results for the sampling works (conducted between 19 August 2024 to 20 August 2024) show that there are no exceedances of the adopted RBRGs for the "Screening Press House". As no contaminated soil and groundwater was found within the "Screening Press House", no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the "Screening Press House". Their findings are summarized in Contamination Assessment Report (CAR) and submitted to EPD on 29 October 2024.

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 4, 10, 18 and 23 December 2024.

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 27**.

Table 27 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 recorded for the ecological monitoring of birds on 4 December 2024 (daytime) and 18 December 2024 (Night time).

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.

Further to the variation of the Environmental Permit (EP) (EP No. EP-565/2019/A) issued by EPD on 26 November 2024, the tides predicted by the Hong Kong Observatory for the tidal station at Tsim Bei Tsui for the upcoming month is presented in **Appendix Q**.

The status of required submissions under the EP as of the reporting period are summarized in **Table 28**.

Table 28 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, finalised and 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, finalised and 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, finalised and 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, finalised and available for public inspection via the dedicated website.

EP Condition (EP-565/2019)	Submission Title	Submission Status
Condition 2.14	Contamination Assessment Report for SAS Thickener House-1	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 SAS Thickener House-2	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 Screening Press House	Certified by ET Leader and verified by IEC on 14 Oct 2024 and submitted to EPD on 29 Oct 2024, 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.
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 November 2024)	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 September 2024)	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 November 2024	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 Months

- Fixing GRC panel at CLP Substation
- ELS works and pipeworks at emergency bypass chamber
- ABWF, E&M work and RC structure at IW
- ABWF and E&M works at PST
- ELS work at SDB
- External works at site-wide include water meter cabinet
- ELS work and RC structure at AGS
- RC structure at TTS
- ABWF, E&M work and RC structure at STB
- Demolish Existing SDT 1-4 and Gas Holder GH2
- ELS work and RC structure at Sludge Digester no. 1-3
- E&M work at Biogas Holder no. 1

11.2 Key Issues for the Coming Month

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

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 exceedance for the ecological monitoring of birds in the reporting month.

12.1.6 Four environmental site inspections were carried out in the reporting month. Recommendations on mitigation measures for air quality impact, chemical waste and construction waste management and 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. No recommendations on mitigation measures 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 silentup at west of the Site should be enclosed.

Water Quality Impact

- No specific observation was identified in the reporting month.

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

- No specific observation was identified in the reporting month.

Landscape and Visual Impact

- No specific observation was identified in the reporting month.

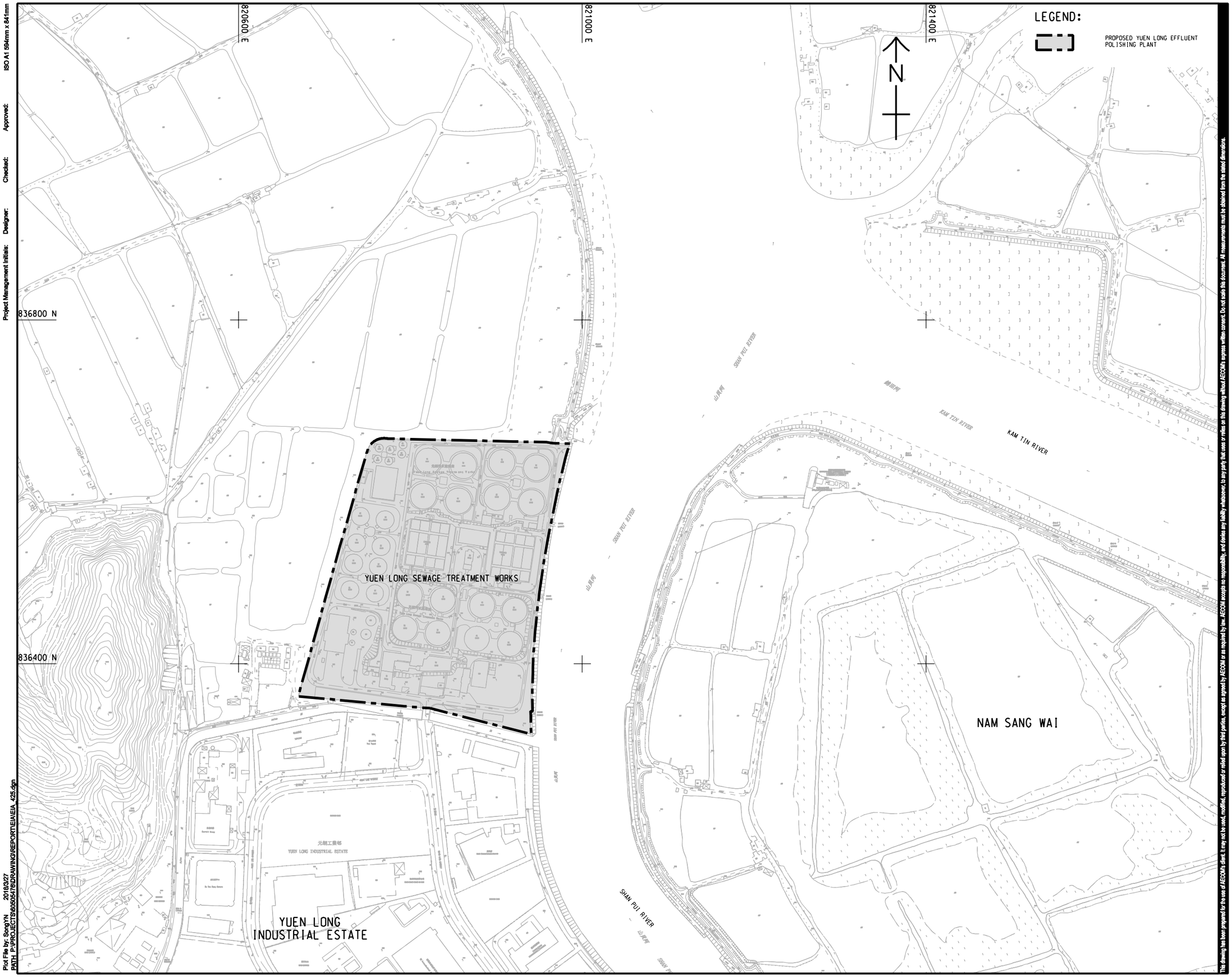
Hazard to Life

- The domestic waste should be stored in an enclosed rubbish bin and disposed of timely.

Permit/ Licenses

- NRMM label should be provided for the road roller at TTS.

Figure 1 Location of Proposed Yuen Long Effluent Polishing Plant



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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ISSUE/REVISION 修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS 階段

SCALE 比例
A1 1 : 2000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖

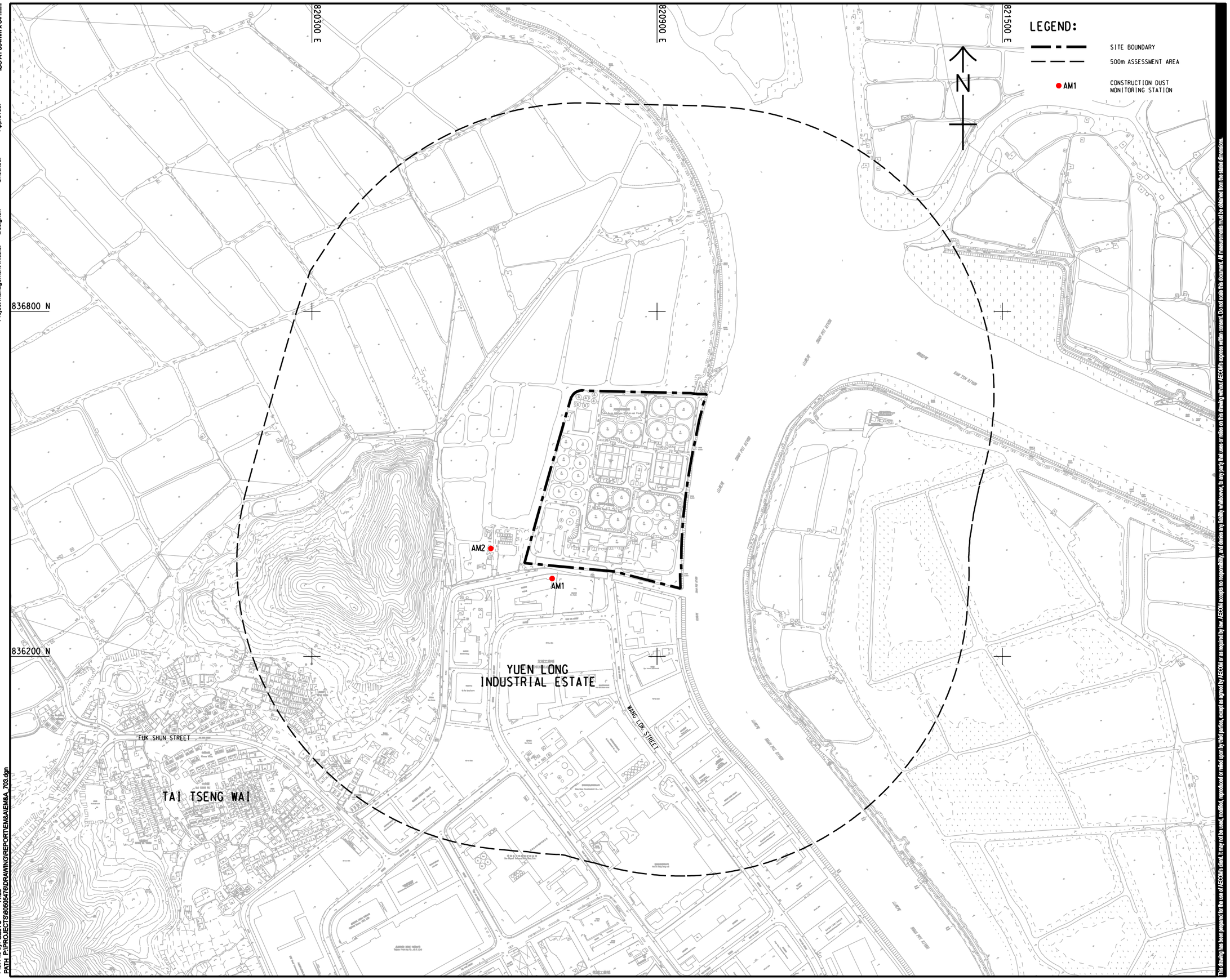
PROJECT NO. 項目編號
60505476

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

Figure 2 Location of Construction Dust Monitoring Stations



ISO A1 594mm x 841mm

Project Management Initials: Designer: Checked: Approved:

Plot File by: GaoYU 11/29
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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

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STATUS 用途

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 MONITOING STATIONS

SHEET NUMBER 圖紙編號

Figure 3 Noise Monitoring Locations

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

820500 E

820900 E

821300 E

836700 N

836300 N

CM1

CM2

CM3

LEGEND:

SITE BOUNDARY

300m ASSESSMENT AREA

NOISE MONITORING POINT

N

SHAN PUI RIVER

山貝河

KAM TIN RIVER

錦田河

元朗污水處理廠
Yuen Long Sewage Treatment Works

元朗工業邨
YUEN LONG INDUSTRIAL ESTATE

YUEN LONG
INDUSTRIAL ESTATE

WANG LOK STREET

WANG LEE STREET

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PROJECT
項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

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Drainage Services Department

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ISSUE/REVISION
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STATUS
狀況

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

Figure 4 Water Quality Monitoring Locations

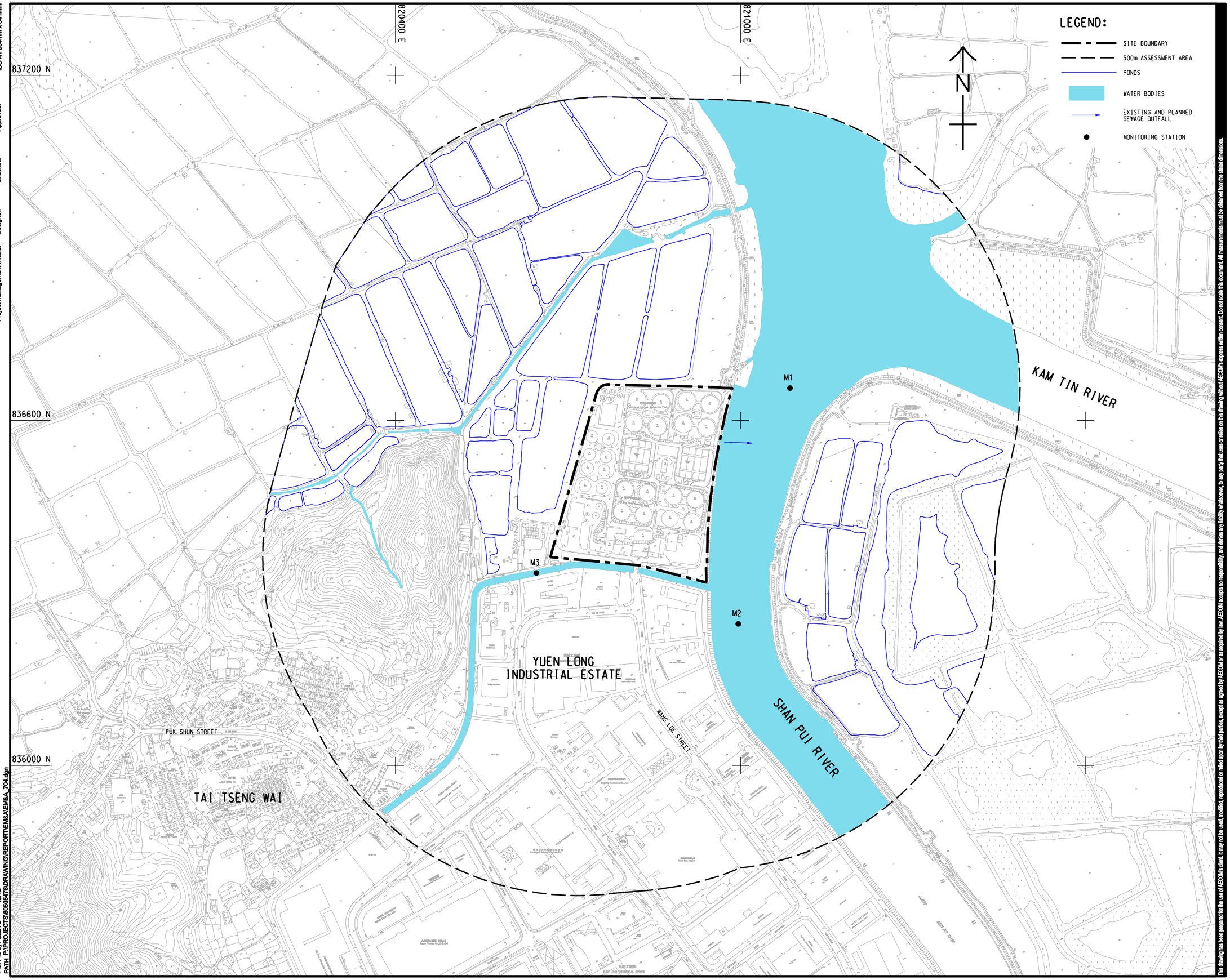
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



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PROJECT
項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
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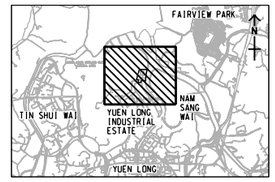
SCALE 比例
A3 1 : 6000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 A3 1 : 180000



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 WATER QUALITY MONITORING STATIONS FOR CONSTRUCTION PHASE

SHEET NUMBER
圖紙編號

Figure 5 Ecology Monitoring Locations

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

820300 E

820900 E

821500 E

836800 N

836200 N

LEGEND:

SITE BOUNDARY

500m ASSESSMENT AREA

SURVEY TRANSECTS

POINT COUNT LOCATIONS FOR AVIFAUNA SURVEY

N

FLW1

FLW2

FLW3

FLW4

FLW5

FLW6

FLW7

SP/NSW1

SP/NSW2

SP/NSW3

NSW1

FUNG LOK WAI

TAI SANG WAI

NAM SANG WAI

YUEN LONG SEWAGE TREATMENT WORKS

YUEN LONG INDUSTRIAL ESTATE

NG UK TSUEN

LEON COURT

TAI TSENG WAI

FUK SHUN STREET

WANG LOK STREET

SHAN PUI RIVER

KAM TIN RIVER

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YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

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分判工程顧問公司

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核查

STATUS
狀況

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)

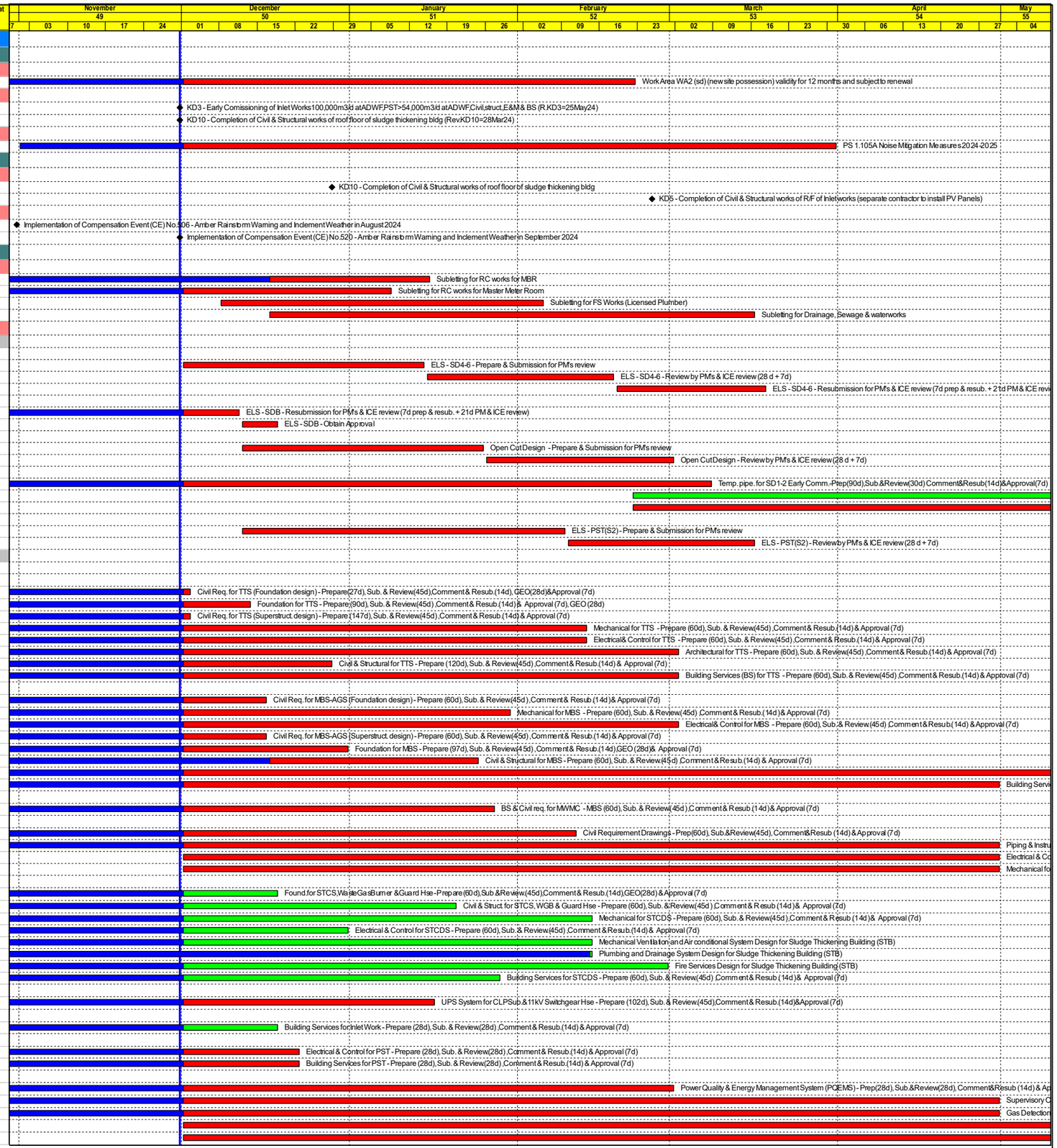
SHEET TITLE
圖紙名稱

ECOLOGICAL MONITORING LOCATIONS

SHEET NUMBER
圖紙編號

Appendix A
Construction Programme

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
YL Effluent Polishing Plant - Main Works Stage 1 - Detailed Works Programme DPv44					
Contract Data Part 1					
Access Dates					
ADWA2	WorkArea WA2 (sd) (new site possession) validity for 12 months and subject to renewal	757	05-Mar-21 A	22-Feb-25*	0
Contract Key Dates					
CKD3	KD3 - Early Comissioning of Inlet Works100,000m3/d at ADWF;PST>54,000m3/d at ADWF,Civil,struct,E&M & BS (R.KD3=25May24)	0		30-Nov-24*	-173
CKD10	KD10 - Completion of Civil & Structural works of roof floor of sludge thickening bldg (RevKD10=28Mar24)	0		30-Nov-24*	-220
Environmental Constraints					
NMM-2175	PS 1.105A Noise Mitigation Measures 2024-2025	151	01-Nov-24 A	31-Mar-25	0
Planned Completion					
Planned Key Dates					
PKD10	KD10 - Completion of Civil & Structural works of roof floor of sludge thickening bldg	0		28-Dec-24*	-247
PKD5	KD5 - Completion of Civil & Structural works of R/F of Inlet works (separate contractor to install PV Panels)	0		25-Feb-25*	41
Compensation Events					
CE506	Implementation of Compensation Event (CE) No.506 - Amber Rainstorm Warning and Inclement Weather in August 2(	0		31-Oct-24 A	
CE520	Implementation of Compensation Event (CE) No.520 - Amber Rainstorm Warning and Inclement Weather in Septemb	0		30-Nov-24 A	
Preliminary and Preparation Works					
Subletting					
SUB-300	Subletting for RC works for MBR	90	15-Apr-24 A	15-Jan-25	-351
SUB-400	Subletting for RC works for Master Meter Room	60	14-Oct-24 A	08-Jan-25	-326
SUB-410	Subletting for FS Works (Licensed Plumber)	60	08-Dec-24	05-Feb-25	-310
SUB-340	Subletting for Drainage, Sewage & waterworks	90	17-Dec-24	16-Mar-25	-16
Design Submission					
Temporary Works Design					
Sludge Digester 4-6					
TWD-460	ELS - SD4-6 - Prepare & Submission for PMs review	45	01-Dec-24	14-Jan-25	-214
TWD-470	ELS - SD4-6 - Review by PMs & ICE review (28 d + 7d)	35	15-Jan-25	18-Feb-25	-214
TWD-480	ELS - SD4-6 - Resubmission for PM's & ICE review (7d prep & resub. + 21d PM & ICE review)	28	19-Feb-25	18-Mar-25	-214
Sludge Dewatering and Underpass					
TWD-280	ELS - SDB - Resubmission for PM's & ICE review (7d prep & resub. + 21d PM & ICE review)	28	10-Sep-24 A	11-Dec-24	-221
TWD-290	ELS - SDB - Obtain Approval	7	12-Dec-24	18-Dec-24	-47
Administration Building					
TWD-300	Open Cut Design - Prepare & Submission for PM's review	45	12-Dec-24	25-Jan-25	-221
TWD-310	Open Cut Design - Review by PM's & ICE review (28 d + 7d)	35	26-Jan-25	01-Mar-25	-59
Temporary diversion scheme for Early commissioning of SD, BH1, H2S and STB					
TWD-1010	Temp. pipe. for SD1-2 Early Comm.-Prep(90d),Sub.&Review(30d) Comment&Resub(14d)&Approval(7d)	141	29-Dec-23 A	08-Mar-25	-41
TWD-990	Temp. pipe. SD1&2 and BH1 to H2S for T&C-Prep(90d),Sub.&Review(30d) Comment&Resub(14d)&Approval(7d)	141	22-Feb-25	12-Jul-25	131
TWD-1000	Temp. pipe. SD1&2 for T&C of STB -Prep(90d),Sub.&Review(30d) Comment&Resub(14d)&Approval(7d)	141	22-Feb-25	12-Jul-25	-41
PST Stage 2					
TWD-1060	ELS - PST(S2) - Prepare & Submission for PM's review	60	12-Dec-24*	09-Feb-25	-221
TWD-1070	ELS - PST(S2) - Review by PM's & ICE review (28 d + 7d)	35	10-Feb-25	16-Mar-25	-221
Contractor 's Permanent Works Design (Include ATAL)					
DDA					
Package 2 - Tertiary Treatment System					
DDA-170	Civil Req. for TTS (Foundation design) - Prepare(27d), Sub. & Review(45d),Comment & Resub.(14d), GEO(28d)&App	121	13-Jun-21 A	02-Dec-24	-328
DDA-150	Foundation for TTS - Prepare (90d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d), GEO (28d)	213	08-Oct-21 A	13-Dec-24	-339
DDA-180	Civil Req. for TTS (Superstruct. design) - Prepare (147d), Sub. & Review(45d),Comment & Resub.(14d) & Approval (7	213	11-Oct-21 A	02-Dec-24	-326
DDA-200	Mechanical for TTS - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	213	31-Dec-21 A	13-Feb-25	-151
DDA-210	Electrical& Control for TTS - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	213	31-Dec-21 A	13-Feb-25	-151
DDA-140	Architectural for TTS - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	126	17-Nov-22 A	02-Mar-25	-326
DDA-160	Civil & Structural for TTS - Prepare (120d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	177	17-Nov-22 A	28-Dec-24	-326
DDA-220	Building Services (BS) for TTS - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	199	30-Oct-23 A	02-Mar-25	-168
Package 3 - Mainstream Bio-Reactor System					
DDA-260	Civil Req. for MBS-AGS (Foundation design) - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approv	126	09-Jun-21 A	16-Dec-24	-351
DDA-290	Mechanical for MBS - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	126	08-Oct-21 A	30-Jan-25	-50
DDA-300	Electrical& Control for MBS - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	405	08-Oct-21 A	02-Mar-25	-81
DDA-270	Civil Req. for MBS-AGS (Superstruct. design) - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approv	126	01-Mar-22 A	16-Dec-24	-351
DDA-240	Foundation for MBS - Prepare (97d), Sub. & Review(45d) ,Comment & Resub.(14d),GEO (28d)& Approval (7d)	230	18-Mar-22 A	31-Dec-24	-336
DDA-250	Civil & Structural for MBS - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	170	20-Jan-23 A	24-Jan-25	-351
DDA-1530	VCAB for AGS& TTS - Prepare (30d), Sub. & Review(30d)	204	16-Jun-23 A	20-May-25	-188
DDA-310	Building Services (BS) for MBS - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	151	23-Oct-24 A	30-Apr-25	-105
Package 5A - Master Water Meter Room					
DDA-390	BS & Civil req. for MWMC - MBS (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	64	16-Dec-22 A	27-Jan-25	-326
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	11-Feb-25	-227
DDA-1040	Piping & Instrumentation Diagram (P&ID) - Prep(30d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	220	26-Jun-23 A	30-Apr-25	-227
DDA-1060	Electrical & Control for PSW - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	151	01-Dec-24	30-Apr-25	-227
DDA-1070	Mechanical for PSW - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	151	01-Dec-24	30-Apr-25	-227
Package 6 - Sludge Thickening Chemical and Dosing System					
DDA-430	Found.for STCS,WasteGasBurner &Guard Hse - Prepare (60d), Sub.&Review(45d),Comment & Resub.(14d),GEO(28	96	09-Nov-21 A	18-Dec-24	463
DDA-440	Civil & Struct.for STCS, WGB & Guard Hse - Prepare (60d), Sub. & Review(45d) ,Comment & Resub (14d) & Approva	250	09-Nov-21 A	20-Jan-25	430
DDA-1130	Mechanical for STCDS - Prepare (60d), Sub. & Review(45d),Comment & Resub (14d) & Approval (7d)	340	16-Nov-21 A	14-Feb-25	438
DDA-1140	Electrical & Control for STCDS - Prepare (60d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	315	30-Nov-21 A	31-Dec-24	491
DDA-1520	Mechanical Ventilation and Air conditional System Design for Sludge Thickening Building (STB)	320	16-Jun-22 A	14-Feb-25	68
DDA-1510	Plumbing and Drainage System Design for Sludge Thickening Building (STB)	320	07-Jul-22 A	14-Feb-25	68
DDA-1500	Fire Services Design for Sludge Thickening Building (STB)	320	08-Jul-22 A	28-Feb-25	54
DDA-1150	Building Services for STCDS - Prepare (60d), Sub. & Review(45d) ,Comment & Resub (14d) & Approval (7d)	126	24-Oct-22 A	28-Jan-25	422
Package 7 - CLP Substation and 11kV Switchgear House					
DDA-480	UPS System for CLPSub.&11kV Switchgear Hse - Prepare (102d), Sub. & Review.(45d),Comment & Resub.(14d)&Ap	168	03-Jun-21 A	16-Jan-25	-310
Package 9 - Inlet Work (IW)					
DDA-1210	Building Services for Inlet Work - Prepare (28d), Sub. & Review(28d) ,Comment & Resub.(14d) & Approval (7d)	76	30-Mar-22 A	18-Dec-24	7
Package 10 - Primary Sedimentation Tank (PST)					
DDA-1250	Electrical & Control for PST - Prepare (28d), Sub. & Review(28d) ,Comment & Resub.(14d) & Approval (7d)	48	31-Aug-21 A	22-Dec-24	-350
DDA-1260	Building Services for PST - Prepare (28d), Sub. & Review(28d) ,Comment & Resub.(14d) & Approval (7d)	90	01-Oct-21 A	22-Dec-24	-350
Package 11 - Control and Monitoring System					
DDA-580	Power Quality & Energy Management System (PQEMS) - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & A	130	02-Oct-21 A	01-Mar-25	-178
DDA-550	Supervisory Control&Data Application (SCADA) System - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & A	238	24-Apr-23 A	30-Apr-25	-178
DDA-1270	Gas Detection System - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Approval (7d)	91	08-May-23 A	30-Apr-25	-178
DDA-560	Computerised Mainatenance Mangement System (CMMS) - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) &	273	01-Dec-24	30-Aug-25	-178
DDA-570	Information and Document mangement System (IDMS) - Prep(28d), Sub.&Review(28d), Comment&Resub (14d) & Ap	273	01-Dec-24	30-Aug-25	-178



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

Remaining Level of Ef...
Actual Work
Remaining Work
Critical Remaining Work
Milestone

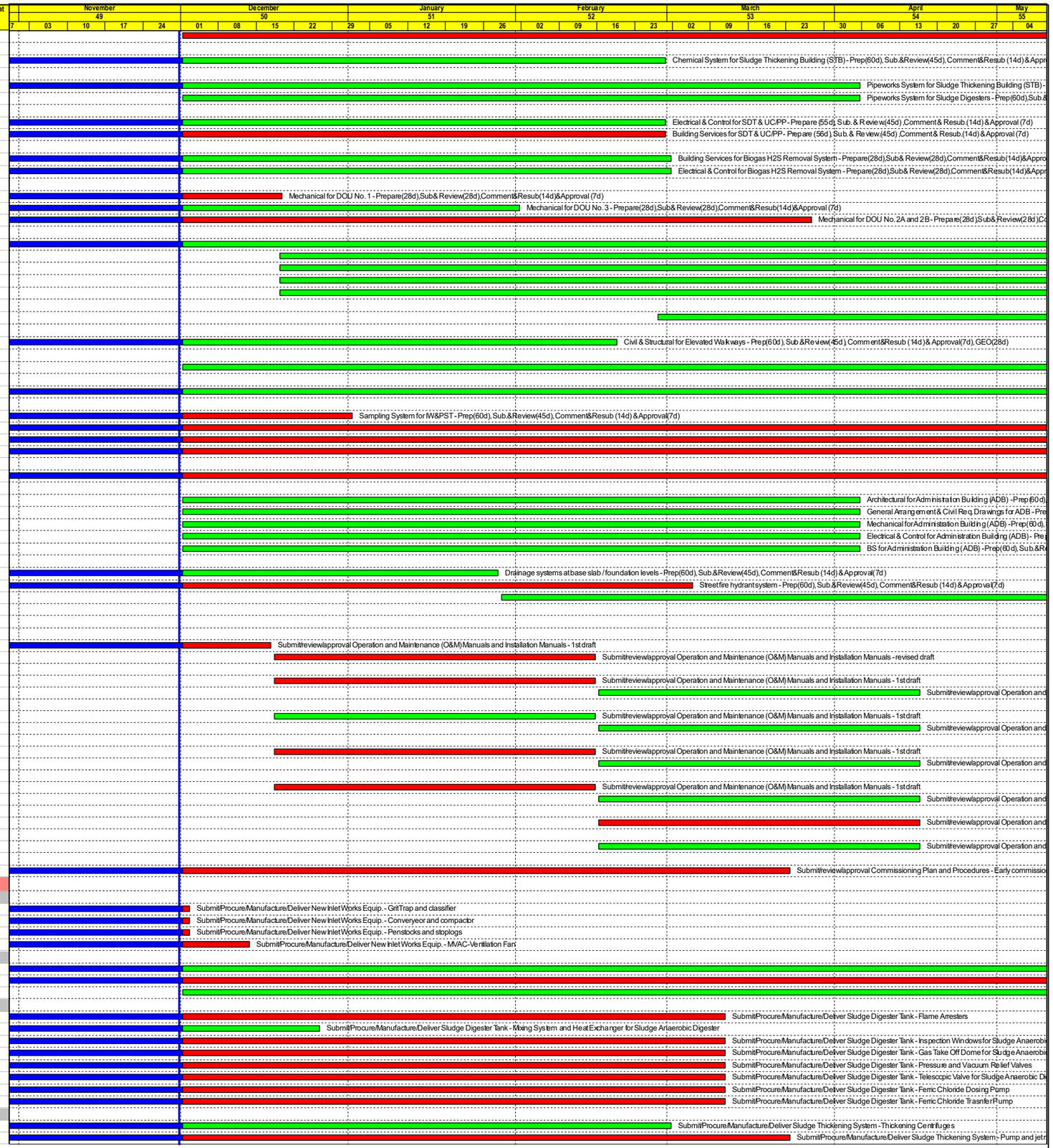
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Monthly Progress Report No. 49- 3MRP (Nov 24)

Project ID : DWPr44_241209
Layout : DC201910 MPR49-3MRP

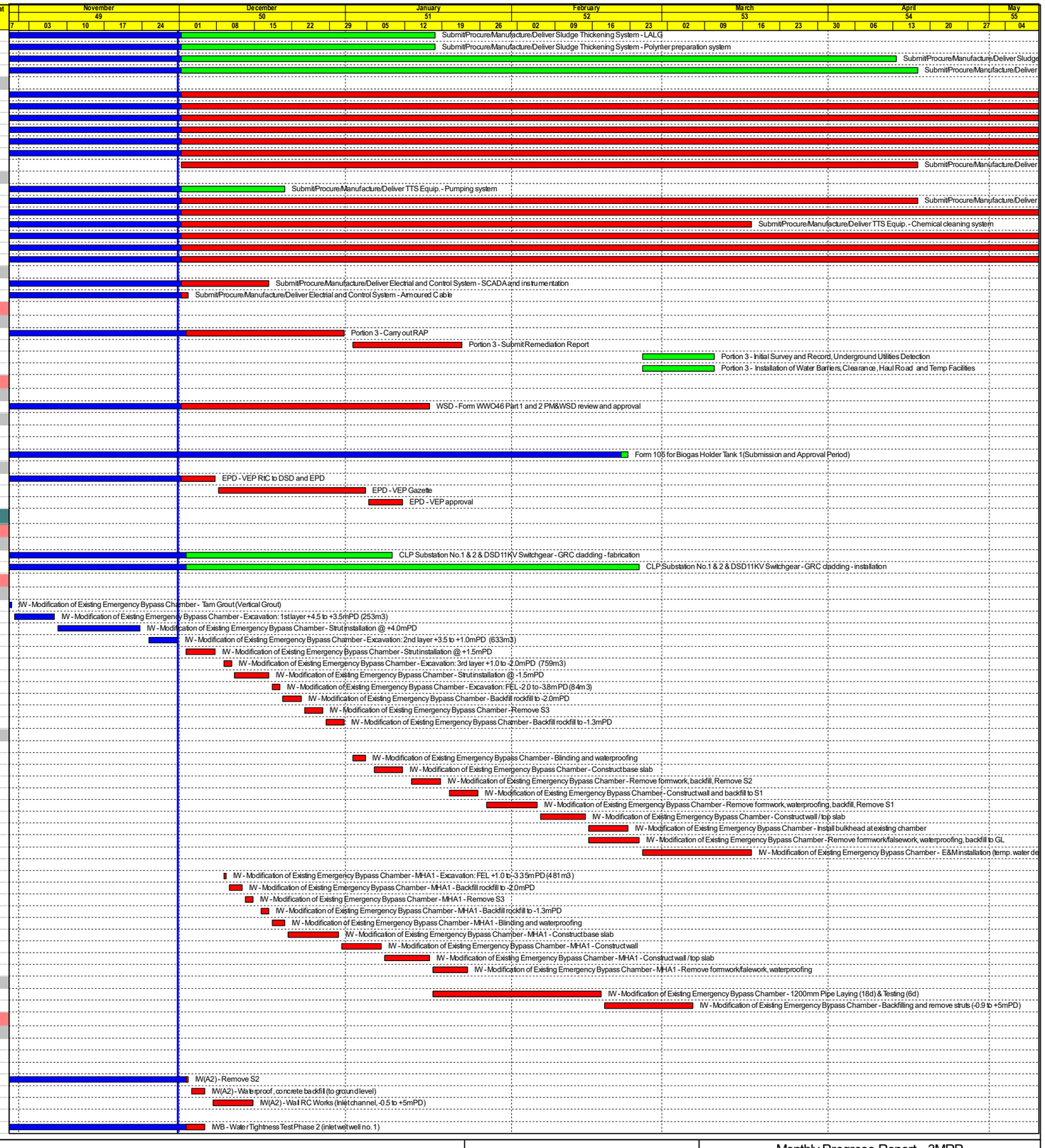
Monthly Progress Report - 3MRP

Date	Revision	Checked	Approved
30-Nov-24	Rev. 0		

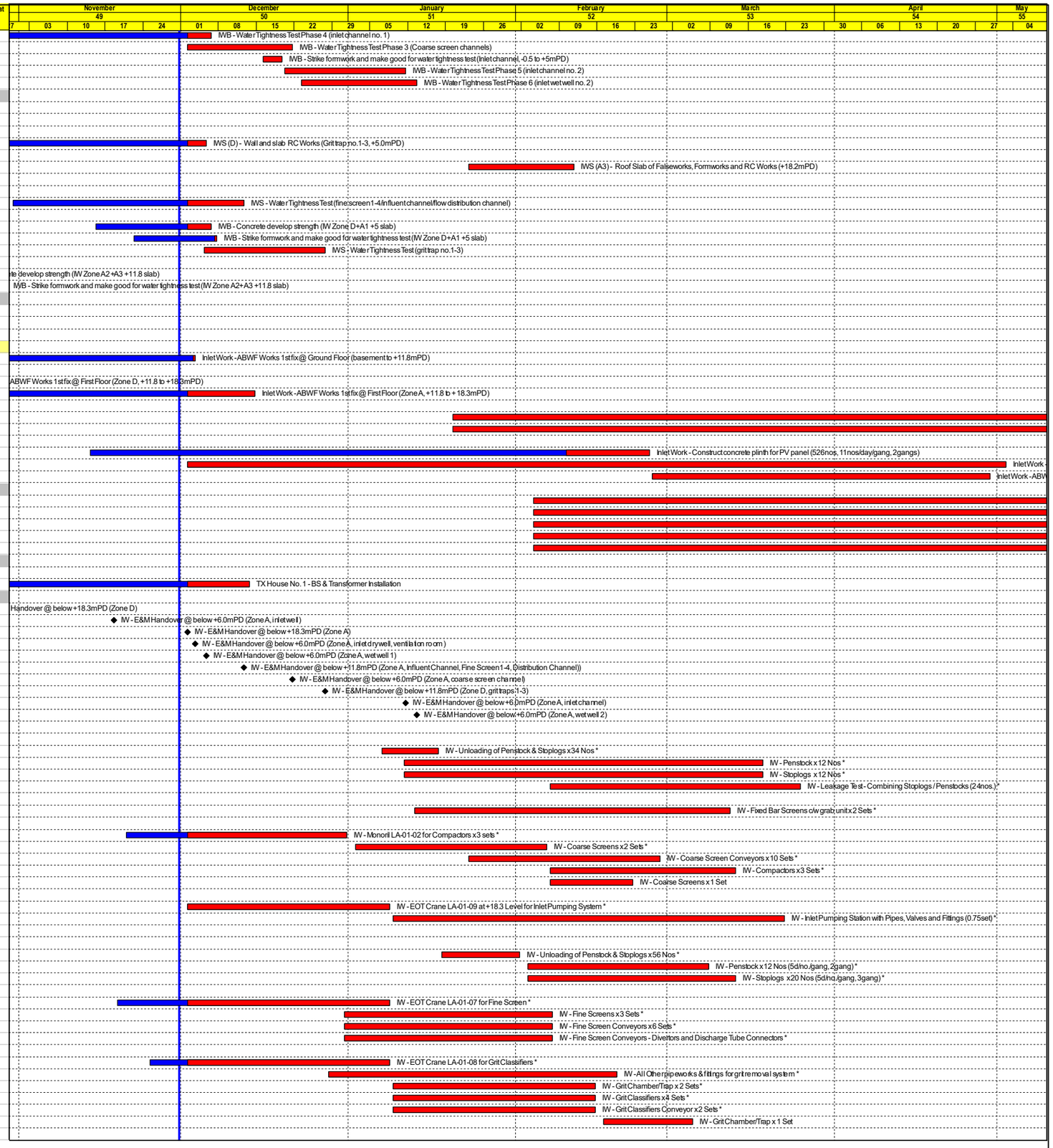
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
DDA-1280	Data Collection, Management, Analysis & Model System - Prep(28d),Sub.&Review(28d),Comment&Resub (14d) &A	273	01-Dec-24	30-Aug-25	-178
Package 12 - Chemical System for STB					
DDA-650	Chemical System for Sludge Thickening Building (STB) - Prep(60d),Sub.&Review(45d), Comment&Resub (14d)&Ap	150	08-Aug-24 A	28-Feb-25	107
Package 13 - Pipework System					
DDA-660	Pipeworks System for Sludge Thickening Building (STB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) &A	126	15-Oct-24 A	05-Apr-25	16
DDA-1030	Pipeworks System for Sludge Digesters - Prep(60d),Sub.&Review(45d),Comment&Resub (14d) &Approval (7d)	126	01-Dec-24	05-Apr-25	16
Package 14 - Sludge Anaerobic Digestion System (SDT)					
DDA-1320	Electrical & Control for SDT & UC/PP - Prepare (55d), Sub. & Review(45d) ,Comment & Resub.(14d) & Approval (7d)	460	02-Jul-21 A	28-Feb-25	157
DDA-1330	Building Services for SDT & UC/PP - Prepare (56d), Sub. & Review.(45d) ,Comment & Resub.(14d) & Approval (7d)	181	02-May-23 A	28-Feb-25	-51
Package 15 - Biogas H2S Removal, Storage and Delivery System					
DDA-1390	Building Services for Biogas H2S Removal System - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Appr	137	31-May-23 A	01-Mar-25	316
DDA-1380	Electrical & Control for Biogas H2S Removal System - Prepare(28d),Sub.& Review(28d),Comment&Resub(14d)&App	105	25-Sep-23 A	01-Mar-25	316
Package 16 - Deodorization Unit System					
DDA-1420	Mechanical for DOU No. 1 - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	78	04-Mar-22 A	19-Dec-24	-333
DDA-1440	Mechanical for DOU No. 3 - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	300	17-Jul-22 A	01-Feb-25	32
DDA-1430	Mechanical for DOU No. 2A and 2B - Prepare(28d),Sub& Review(28d),Comment&Resub(14d)&Approval (7d)	122	13-Oct-23 A	27-Mar-25	-22
Package 17 - Sludge Dewatering Building (SDB)					
DDA-910	Roof Rainwater Collection Systemfor (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (21d) & Approval (7d)	242	06-Mar-24 A	30-Jun-25	83
DDA-920	Fire Services System for SDB - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	242	19-Dec-24	17-Aug-25	7
DDA-930	Mechanical for Sludge Dewatering Building (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) &Approv	242	19-Dec-24	17-Aug-25	35
DDA-940	Plumbing System for Sludge Dewatering Bldg (SDB) - Prep(60d), Sub.&Review(45d), Comment&Resub(14d) & Appr	242	19-Dec-24	17-Aug-25	7
DDA-950	BS for Sludge Dewatering Building (SDB) - Prep(118d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	242	19-Dec-24	17-Aug-25	7
Package 18 - Miscellaneous					
DDA-540	Civil & Structural for Misc, Manholes,DrawPits,FenceWall - Prep (60d),Sub &Review(45d),Comment& Resub(14d) & Ap	235	27-Feb-25	19-Oct-25	228
Package 19 - Elevated Walkways					
DDA-710	Civil & Structural for Elevated Walkways - Prep(60d), Sub.&Review(45d) Comment&Resub (14d)& Approval(7d),GEO(	101	15-Apr-23A	19-Feb-25	406
Package 20 - Trellis					
DDA-720	Civil & Structural for Trellis - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	207	01-Dec-24	25-Jun-25	376
Package 21 - Steel Working Platform					
DDA-730	Civil & Structural for Steel Working Platform - Prep(60d), Sub.&Review(45d), Comment&Resub (14d)&Approval(7d)	102	02-Sep-22 A	26-May-25	406
Package 22 - Sampling System of YLEPP					
DDA-740	Sampling System for IW&PST - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	62	07-Jul-23A	01-Jan-25	-412
DDA-1610	Sampling System for AGS&TTB - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	127	07-Jul-23A	29-May-25	-240
DDA-1620	Sampling System for SDT - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	127	07-Jul-23A	29-May-25	-141
DDA-1630	Sampling System for STB - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	128	07-Jul-23A	29-May-25	-240
Package 23 - Security, Public Address and Communication System					
DDA-750	SPC sitewide ACS - Prep(60d),Sub.&Review(45d), Comment&Resub (14d) &Approval(7d)	98	21-Jun-23A	28-Jun-25	-270
Package 24 - Administration Building (ADB)					
DDA-0960	Architectural for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7	126	01-Dec-24	05-Apr-25	181
DDA-0990	General Arrangement & Civil Req. Drawings for ADB - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) &Appr	126	01-Dec-24	05-Apr-25	181
DDA-1000	Mechanical for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d	126	01-Dec-24	05-Apr-25	181
DDA-1010	Electrical & Control for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approc	126	01-Dec-24	05-Apr-25	181
DDA-1020	BS for Administration Building (ADB) - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	01-Dec-24	05-Apr-25	181
Design out of ATAL's Scope					
DDA-1540	Drainage systems at base slab / foundation levels - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approva	126	24-Aug-22 A	28-Jan-25	436
DDA-1560	Street fire hydrant system - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval (7d)	126	22-Dec-23 A	05-Mar-25	-15
DDA-1550	Rainwater drainage systems - Prep(60d), Sub.&Review(45d), Comment&Resub (14d) & Approval(7d)	126	29-Jan-25	03-Jun-25	436
Technical Submission					
Operation and Maintenance (O&M) Manuals and Installation Manuals (PS 34.20(11)(12)(13))					
Inlet Works and Primary Sedimentation Tank					
SUBM-1070	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	05-Jan-23 A	17-Dec-24	-407
SUBM-1200	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - revised draft	60	18-Dec-24	15-Feb-25	-339
AGS and TTS system					
SUBM-1220	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	18-Dec-24	15-Feb-25	-137
SUBM-1230	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - revised draft	60	16-Feb-25	16-Apr-25	324
Sludge Thickening System					
SUBM-1250	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	18-Dec-24	15-Feb-25	294
SUBM-1260	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - revised draft	60	16-Feb-25	16-Apr-25	294
Sludge Disgestion System					
SUBM-1310	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	18-Dec-24	15-Feb-25	-369
SUBM-1320	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - revised draft	60	16-Feb-25	16-Apr-25	300
Biogas H2S Removal System					
SUBM-1280	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	18-Dec-24	15-Feb-25	-369
SUBM-1290	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - revised draft	60	16-Feb-25	16-Apr-25	548
Deodourization System					
SUBM-1340	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	16-Feb-25	16-Apr-25	-369
Plant Service Water System					
SUBM-1370	Submit/review/approval Operation and Maintenance (O&M) Manuals and Installation Manuals - 1st draft	60	16-Feb-25	16-Apr-25	490
Commissioning Plan and Procedures (PS34.20(10))					
SUBM-1000	Submit/review/approval Commissioning Plan and Procedures - Early commissioning of IW&PST (KD3)	120	21-Feb-24 A	23-Mar-25	-315
Material Submission, Procurement, Manufacturing and Delivery					
Inlet Works					
PRE-290	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - GritTrap and classifier	270	18-Feb-22 A	02-Dec-24	-340
PRE-280	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - Converyeor and compactor	270	12-Apr-22 A	02-Dec-24	-367
PRE-310	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - Penstocks and stoplogs	270	13-Sep-22 A	02-Dec-24	-383
PRE-320	Submit/Procure/Manufacture/Deliver New Inlet Works Equip. - MVAC-Ventilation Fan	211	10-Jan-23 A	13-Dec-24	-329
Biogas Holder					
PRE-410	Submit/Procure/Manufacture/Deliver Waster Gas Burner	300	19-Aug-21 A	30-Jun-26	101
PRE-420	Submit/Procure/Manufacture/Deliver H2S Removal System	510	25-Feb-22 A	13-Mar-26	-61
PRE-430	Submit/Procure/Manufacture/Deliver Biogas booster and transfer pumps	513	01-Dec-24	27-Apr-26	102
Sludge Digestor Tank					
PRE-750	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Flame Arresters	100	31-Oct-22 A	11-Mar-25	-62
PRE-780	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Mixing System and Heat Exchanger for Sludge Anaerobic	420	22-Dec-22 A	26-Dec-24	13
PRE-720	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Inspection Windows for Sludge Anaerobic System	365	18-Jan-23 A	11-Mar-25	-62
PRE-730	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Gas Take Off Dome for Sludge Anaerobic Digestion Syste	365	18-Jan-23 A	11-Mar-25	-62
PRE-710	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Pressure and Vacuum Relief Valves	300	01-Mar-23 A	11-Mar-25	-62
PRE-740	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Telesccpic Valve for Sludge Anaerobic Digestion System	179	10-Jul-23 A	11-Mar-25	-62
PRE-760	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Ferric Chloride Dosing Pump	148	29-Aug-23 A	11-Mar-25	-62
PRE-770	Submit/Procure/Manufacture/Deliver Sludge Digester Tank - Ferric Chloride Trasnfer Pump	148	29-Aug-23 A	11-Mar-25	-62
Sludge Thickening Building					
PRE-250	Submit/Procure/Manufacture/Deliver Sludge Thickening System - Thickening Centrifuges	360	12-Nov-21 A	01-Mar-25	51
PRE-500	Submit/Procure/Manufacture/Deliver Sludge Thickening System - Pump and jet mixer	300	07-Jan-22 A	23-Mar-25	-84



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
PRE-510	Submit/Procure/Manufacture/Deliver Sludge Thickening System - LALG	256	28-Mar-23 A	17-Jan-25	8
PRE-480	Submit/Procure/Manufacture/Deliver Sludge Thickening System - Polymer preparation system	388	12-Apr-23 A	17-Jan-25	59
PRE-490	Submit/Procure/Manufacture/Deliver Sludge Thickening System - DOU-03	264	07-Jul-23 A	13-Apr-25	8
PRE-520	Submit/Procure/Manufacture/Deliver Sludge Thickening System - MVAC	212	27-Apr-24 A	17-Apr-25	4
Mainstream Bio-Reactor					
PRE-230	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - AGS system	480	09-Sep-22 A	23-May-25	-128
PRE-530	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - Penstocks and stoplogs	345	31-Oct-22 A	16-Aug-25	-141
PRE-550	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - Sludge pre-thickening system	510	31-Oct-22 A	23-May-25	-147
PRE-540	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - Chemical storage and dosing system	270	18-Nov-22 A	02-Jun-25	-138
PRE-570	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - Instrumentation	481	03-Apr-24 A	17-Jan-26	-307
PRE-560	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - LALG	349	16-Jul-24 A	14-Nov-25	-303
PRE-580	Submit/Procure/Manufacture/Deliver Main Stream Bio-Reactor E&M Equip. - MVAC	138	01-Dec-24	17-Apr-25	-92
Tertiary Treatment System					
PRE-610	Submit/Procure/Manufacture/Deliver TTS Equip. - Pumping system	495	19-Jul-22 A	20-Dec-24	10
PRE-600	Submit/Procure/Manufacture/Deliver TTS Equip. - UV disinfection system	510	08-Sep-22 A	17-Apr-25	-108
PRE-240	Submit/Procure/Manufacture/Deliver TTS Equip. - Disc Filter	600	27-Sep-22 A	17-May-25	-138
PRE-590	Submit/Procure/Manufacture/Deliver TTS Equip. - Chemical cleaning system	480	18-Nov-22 A	17-Mar-25	-77
PRE-630	Submit/Procure/Manufacture/Deliver TTS Equip. - Penstocks and stoplogs	435	30-Nov-22 A	08-Jul-25	-190
PRE-620	Submit/Procure/Manufacture/Deliver TTS Equip. - LALG	151	27-Mar-23 A	07-Sep-25	-251
PRE-690	Submit/Procure/Manufacture/Deliver TTS Equip. - DOU-02	506	07-Sep-23 A	27-Sep-25	-271
Electrical and Control System					
PRE-680	Submit/Procure/Manufacture/Deliver Electrial and Control System - SCADA and instrumentation	420	30-Apr-22 A	17-Dec-24	-266
PRE-670	Submit/Procure/Manufacture/Deliver Electrial and Control System - Armoured Cable	203	21-Dec-22 A	02-Dec-24	-295
Site Establishment Works					
Portion 3 - PST, SDB, Admin. Bldg					
P3-140	Portion 3 - Carry out RAP	24	21-Aug-24 A	31-Dec-24	-76
P3-150	Portion 3 - Submit Remediation Report	18	02-Jan-25	22-Jan-25	-76
P3-100	Portion 3 - Initial Survey and Record, Underground Utilities Detection	12	25-Feb-25	10-Mar-25	572
P3-110	Portion 3 - Installation of Water Barriers, Clearance, Haul Road and Temp Facilities	12	25-Feb-25	10-Mar-25	572
Statutory Submission & Approval					
WSD Submission & Approval					
WSD-1030	WSD - Form WWO46 Part 1 and 2 PM&WSD review and approval	90	26-Jun-24 A	16-Jan-25	-317
EMSD Submission & Approval					
Biogas System (ATAL)					
Phase 1					
ATAL-FS-0020	Form 105 for Biogas Holder Tank 1(Submission and Approval Period)	184	03-Jun-24 A	22-Feb-25	228
EPD Submission & Approval for VEP					
EPD-1030	EPD - VEP RIC to DSD and EPD	7	24-Oct-24 A	07-Dec-24	-144
EPD-1060	EPD - VEP Gazette	28	08-Dec-24	04-Jan-25	-144
EPD-1070	EPD - VEP approval	7	05-Jan-25	11-Jan-25	-144
Zone 1 Construction					
CLP Substations No. 1 & 2					
CLP Substation No. 1 & 2 & DSD 11kV Switchgear - GRC Cladding					
CLP-1590	CLP Substation No.1 & 2 & DSD11KV Switchgear - GRC cladding - fabrication	60	21-Feb-24 A	09-Jan-25	598
CLP-1600	CLP Substation No.1 & 2 & DSD11KV Switchgear - GRC cladding - installation	75	18-Sep-24 A	24-Feb-25	584
Modification of Existing Emergency Bypass Chamber					
Emergency Bypass Chamber - Foundation and ELS					
IW-3650	IW - Modification of Existing Emergency Bypass Chamber - Tam Grout (Vertical Grout)	13	15-Oct-24 A	30-Oct-24 A	
IW-1270	IW - Modification of Existing Emergency Bypass Chamber - Excavation: 1st layer +4.5 to +3.5mPD (253m3)	2	31-Oct-24 A	07-Nov-24 A	
IW-3070	IW - Modification of Existing Emergency Bypass Chamber - Strut installation @ +4.0mPD	6	08-Nov-24 A	23-Nov-24 A	
IW-3080	IW - Modification of Existing Emergency Bypass Chamber - Excavation: 2nd layer +3.5 to +1.0mPD (633m3)	2	25-Nov-24 A	30-Nov-24 A	
IW-3090	IW - Modification of Existing Emergency Bypass Chamber - Strut installation @ +1.5mPD	6	02-Dec-24	07-Dec-24	-327
IW-3340	IW - Modification of Existing Emergency Bypass Chamber - Excavation: 3rd layer +1.0 to -2.0mPD (759m3)	2	09-Dec-24	10-Dec-24	-327
IW-3350	IW - Modification of Existing Emergency Bypass Chamber - Strut installation @ -1.5mPD	6	11-Dec-24	17-Dec-24	-327
IW-3360	IW - Modification of Existing Emergency Bypass Chamber - Excavation: FEL -2.0 to -3.8mPD (84m3)	2	18-Dec-24	19-Dec-24	-327
IW-3370	IW - Modification of Existing Emergency Bypass Chamber - Backfill rockfill to -2.0mPD	3	20-Dec-24	23-Dec-24	-327
IW-3380	IW - Modification of Existing Emergency Bypass Chamber - Remove S3	2	24-Dec-24	27-Dec-24	-327
IW-3390	IW - Modification of Existing Emergency Bypass Chamber - Backfill rockfill to -1.3mPD	3	28-Dec-24	31-Dec-24	-327
Emergency Bypass Chamber - Structural Works					
Emergency Bypass Chamber - Structural modification at Existing EBC					
IW-3530	IW - Modification of Existing Emergency Bypass Chamber - Blinding and waterproofing	3	02-Jan-25	04-Jan-25	-327
IW-3110	IW - Modification of Existing Emergency Bypass Chamber - Construct base slab	6	06-Jan-25	11-Jan-25	-327
IW-3160	IW - Modification of Existing Emergency Bypass Chamber - Remove formwork, backfill, Remove S2	6	13-Jan-25	18-Jan-25	-327
IW-3120	IW - Modification of Existing Emergency Bypass Chamber - Construct wall and backfill to S1	6	20-Jan-25	25-Jan-25	-327
IW-3170	IW - Modification of Existing Emergency Bypass Chamber - Remove formwork, waterproofing, backfill, Remove S1	6	27-Jan-25	05-Feb-25	-327
IW-3180	IW - Modification of Existing Emergency Bypass Chamber - Construct wall / top slab	8	06-Feb-25	14-Feb-25	-327
IW-3140	IW - Modification of Existing Emergency Bypass Chamber - Install bulkhead at existing chamber	7	15-Feb-25	22-Feb-25	-308
IW-3540	IW - Modification of Existing Emergency Bypass Chamber - Remove formwork/falsework, waterproofing, backfill to GL	8	15-Feb-25	24-Feb-25	-327
IW-3130	IW - Modification of Existing Emergency Bypass Chamber - E&M installation (temp. water deflector, coring opening)	18	25-Feb-25	17-Mar-25	-327
Emergency Bypass Chamber - Manhole MHA1					
IW-3100	IW - Modification of Existing Emergency Bypass Chamber - MHA1 - Excavation: FEL +1.0 to -3.35mPD (481m3)	1	09-Dec-24	09-Dec-24	-302
IW-3620	IW - Modification of Existing Emergency Bypass Chamber - MHA1 - Backfill rockfill to -2.0mPD	3	10-Dec-24	12-Dec-24	-302
IW-3630	IW - Modification of Existing Emergency Bypass Chamber - MHA1 - Remove S3	2	13-Dec-24	14-Dec-24	-302
IW-3640	IW - Modification of Existing Emergency Bypass Chamber - MHA1 - Backfill rockfill to -1.3mPD	2	16-Dec-24	17-Dec-24	-302
IW-3550	IW - Modification of Existing Emergency Bypass Chamber - MHA1 - Blinding and waterproofing	3	18-Dec-24	20-Dec-24	-302
IW-3560	IW - Modification of Existing Emergency Bypass Chamber - MHA1 - Construct base slab	6	21-Dec-24	30-Dec-24	-302
IW-3580	IW - Modification of Existing Emergency Bypass Chamber - MHA1 - Construct wall	6	31-Dec-24	07-Jan-25	-302
IW-3600	IW - Modification of Existing Emergency Bypass Chamber - MHA1 - Construct wall / top slab	8	08-Jan-25	16-Jan-25	-302
IW-3590	IW - Modification of Existing Emergency Bypass Chamber - MHA1 - Remove formwork/falework, waterproofing	6	17-Jan-25	23-Jan-25	-269
Emergency Bypass Chamber - Pipe laying					
IW-1280	IW - Modification of Existing Emergency Bypass Chamber - 1200mm Pipe Laying (18d) & Testing (6d)	24	17-Jan-25	17-Feb-25	-302
IW-3610	IW - Modification of Existing Emergency Bypass Chamber - Backfilling and remove struts (-0.9 to +5mPD)	15	18-Feb-25	06-Mar-25	-302
Inlet Works (IW)					
IW Foundation & ELS Works					
IW Basement					
IW Basement RC Works					
IW Zone A,D					
Z1-IW-6900	IW(A2) - Remove S2	4	02-Oct-24 A	02-Dec-24	-314
Z1-IW-6910	IW(A2) - Waterproof, concrete backfill (to ground level)	3	03-Dec-24	05-Dec-24	-314
Z1-IW-6915	IW(A2) - Wall RC Works (Inlet channel, -0.5 to +5mPD)	7	07-Dec-24	14-Dec-24	-314
Water Tightness Test for IW Basement					
Z1-IW-6930	IWB - Water Tightness Test Phase 2 (inlet wet well no. 1)	21	03-Oct-24 A	05-Dec-24	-342



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
Z1-IW-4100	IWB - Water Tightness Test Phase 4 (inlet channel no. 1)	15	21-Oct-24 A	06-Dec-24	-337
Z1-IW-6920	IWB - Water Tightness Test Phase 3 (Coarse screen channels)	18	02-Dec-24	21-Dec-24	-342
Z1-IW-7090	IWB - Strike formwork and make good for water tightness test (Inlet channel, -0.5 to +5mPD)	4	16-Dec-24	19-Dec-24	-314
Z1-IW-4110	IWB - Water Tightness Test Phase 5 (inlet channel no. 2)	17	20-Dec-24	11-Jan-25	-314
Z1-IW-6940	IWB - Water Tightness Test Phase 6 (inlet wet well no. 2)	16	23-Dec-24	13-Jan-25	-338
IW Civil and Structural Works					
IW Superstructure					
RC Works					
Zone D					
Z1-IW-7030	IWS (D) - Wall and slab RC Works (Grit trap no.1-3, +5.0mPD)	29	30-Sep-24 A	05-Dec-24	-308
Zone A3					
Z1-IW-7080	IWS (A3) - Roof Slab of Falseworks, Formworks and RC Works (+18.2mPD)	14	23-Jan-25	11-Feb-25	-262
Water Tightness Test for IW Superstructure					
Zone D+A1 (+7.835)					
Z1-IW-4250	IWS - Water Tightness Test (fine screen1-4/influent channel/flow distribution channel)	18	31-Oct-24 A	12-Dec-24	-285
Zone D+A1 (+5.0)					
Z1-IW-7000	IWB - Concrete develop strength (IW Zone D+A1 +5 slab)	7	15-Nov-24 A	06-Dec-24	-308
Z1-IW-7010	IWB - Strike formwork and make good for water tightness test (IW Zone D+A1 +5 slab)	7	22-Nov-24 A	07-Dec-24	-308
Z1-IW-6970	IWS - Water Tightness Test (grit trap no.1-3)	18	05-Dec-24	27-Dec-24	-308
Zone A2+A3 (+7.835)					
Z1-IW-6980	IWB - Concrete develop strength (IW Zone A2+A3 +11.8 slab)	7	14-Oct-24 A	21-Oct-24 A	
Z1-IW-6990	IWB - Strike formwork and make good for water tightness test (IW Zone A2+A3 +11.8 slab)	7	22-Oct-24 A	29-Oct-24 A	
IW ABWF Works					
IW ABWF Works 1st fix for E&M handover					
IW ABWF Works - Zone A/D					
Below +11.8mPD					
Dry Area					
IW-2780	Inlet Work - ABWF Works 1st fix @ Ground Floor (basement to +11.8mPD)	12	19-Oct-24 A	03-Dec-24	-314
Above +11.8mPD					
IW-3500	Inlet Work - ABWF Works 1st fix @ First Floor (Zone D, +11.8 to +18.3mPD)	10	30-Sep-24 A	22-Oct-24 A	
IW-3010	Inlet Work - ABWF Works 1st fix @ First Floor (Zone A, +11.8 to + 18.3mPD)	12	14-Oct-24 A	14-Dec-24	-348
IW ABWF Works final fix					
IW-3250	Inlet Work - ABWF Works final fix above +11.8mPD	90	20-Jan-25	14-May-25	-306
IW-3260	Inlet Work - ABWF Works final fix below +11.8mPD	90	20-Jan-25	14-May-25	-306
IW ABWF Works - Roof					
IW-2990	Inlet Work - Construct concrete plinth for PV panel (526nos, 11nos/day/gang, 2gangs)	24	14-Nov-24 A	25-Feb-25	-262
IW-3030	Inlet Work - ABWF Works @ External Wall	120	02-Dec-24	02-May-25	-264
IW-3000	Inlet Work - ABWF Works @ Roof Floor (+18.3mPD)	50	26-Feb-25	29-Apr-25	-262
IW BS Works					
ATAL-1520	IW - MVAC Works	80	04-Feb-25	14-May-25	-306
ATAL-1530	IW - ELV Works	80	04-Feb-25	14-May-25	-329
ATAL-1540	IW - P&D Works	80	04-Feb-25	14-May-25	-318
ATAL-1550	IW - EL Works	80	04-Feb-25	14-May-25	-329
ATAL-1560	IW - F.S. Works	80	04-Feb-25	14-May-25	-318
IW Transformer House No. 1					
IW Tx1 E&M Works					
IW-2840	TX House No. 1 - BS & Transformer Installation	32	25-Mar-24 A	13-Dec-24	-263
IW E&M Works					
ATAL-1780	IW - E&M Handover @ below +18.3mPD (Zone D)	0		23-Oct-24 A	
ATAL-1820	IW - E&M Handover @ below +6.0mPD (Zone A, inlet well)	0		18-Nov-24 A	
ATAL-1140	IW - E&M Handover @ below +18.3mPD (Zone A)	0		02-Dec-24	-342
ATAL-1838	IW - E&M Handover @ below +6.0mPD (Zone A, inlet drywell, ventilation room)	0		03-Dec-24	-314
ATAL-1832	IW - E&M Handover @ below +6.0mPD (Zone A, wet well 1)	0		05-Dec-24	-314
ATAL-2050	IW - E&M Handover @ below +11.8mPD (Zone A, Influent Channel, Fine Screen 1-4, Distribution Channel))	0		12-Dec-24	-285
ATAL-1836	IW - E&M Handover @ below +6.0mPD (Zone A, coarse screen channel)	0		21-Dec-24	-342
ATAL-0000	IW - E&M Handover @ below +11.8mPD (Zone D, grit traps 1-3)	0		27-Dec-24	-308
ATAL-1830	IW - E&M Handover @ below +6.0mPD (Zone A, inlet channel)	0		11-Jan-25	-314
ATAL-1834	IW - E&M Handover @ below +6.0mPD (Zone A, wet well 2)	0		13-Jan-25	-338
Pre-treatment Zone (Below 11.8 mPD)					
Penstock & Stoplogs x 34 sets at inlet, Coarse Screen Channels					
ATAL-1150	IW - Unloading of Penstock & Stoplogs x 34 Nos *	10	07-Jan-25	17-Jan-25	-338
ATAL-1152	IW - Penstock x 12 Nos *	54	11-Jan-25	18-Mar-25	-338
ATAL-1154	IW - Stoplogs x 12 Nos *	54	11-Jan-25	18-Mar-25	-338
ATAL-1156	IW - Leakage Test - Combining Stoplogs / Penstocks (24nos.) *	40	07-Feb-25	25-Mar-25	-338
Fixed Bar Screens c/w grab unit x 2 Sets					
ATAL-1180	IW - Fixed Bar Screens c/w grab unit x 2 Sets *	48	13-Jan-25	12-Mar-25	-314
Coarse Screening System					
ATAL-1210	IW - Monorail LA-01-02 for Compactors x 3 sets *	30	21-Nov-24 A	31-Dec-24	-348
ATAL-1190	IW - Coarse Screens x 2 Sets *	28	02-Jan-25	06-Feb-25	-348
ATAL-1192	IW - Coarse Screen Conveyors x 10 Sets *	28	23-Jan-25	27-Feb-25	-333
ATAL-1194	IW - Compactors x 3 Sets *	30	07-Feb-25	13-Mar-25	-348
ATAL-1960	IW - Coarse Screens x 1 Set	14	07-Feb-25	22-Feb-25	-311
Inlet Pumping Station with Pipes, Valves and Fittings					
ATAL-1860	IW - EOT Crane LA-01-09 at +18.3 Level for Inlet Pumping System *	30	02-Dec-24	08-Jan-25	-342
ATAL-1200	IW - Inlet Pumping Station with Pipes, Valves and Fittings (0.75set) *	60	09-Jan-25	22-Mar-25	-342
Pre-treatment Zone (Above 11.8 mPD)					
Penstock & Stoplogs X 56 Sets at Fine Screen, Grit Removal channels					
ATAL-1160	IW - Unloading of Penstock & Stoplogs x 56 Nos *	10	18-Jan-25	01-Feb-25	-330
ATAL-1162	IW - Penstock x 12 Nos (5d/no./gang, 2gang) *	30	03-Feb-25	08-Mar-25	-319
ATAL-1164	IW - Stoplogs x 20 Nos (5d/no./gang, 3gang) *	34	03-Feb-25	13-Mar-25	-330
Fine Screening System					
ATAL-1840	IW - EOT Crane LA-01-07 for Fine Screen *	30	19-Nov-24 A	08-Jan-25	-342
ATAL-1220	IW - Fine Screens x 3 Sets *	30	31-Dec-24	07-Feb-25	-298
ATAL-1222	IW - Fine Screen Conveyors x 6 Sets *	30	31-Dec-24	07-Feb-25	-298
ATAL-1224	IW - Fine Screen Conveyors - Divertors and Discharge Tube Connectors *	30	31-Dec-24	07-Feb-25	-298
Grit Removal System					
ATAL-1850	IW - EOT Crane LA-01-08 for Grit Classifiers *	30	25-Nov-24 A	08-Jan-25	-342
ATAL-1236	IW - All Other pipeworks & fittings for grit removal system *	42	28-Dec-24	19-Feb-25	-308
ATAL-1230	IW - Grit Chamber/Trap x 2 Sets *	30	09-Jan-25	15-Feb-25	-305
ATAL-1232	IW - Grit Classifiers x 4 Sets *	30	09-Jan-25	15-Feb-25	-305
ATAL-1234	IW - Grit Classifiers Conveyor x 2 Sets *	30	09-Jan-25	15-Feb-25	-305
ATAL-1970	IW - Grit Chamber/Trap x 1 Set	15	17-Feb-25	05-Mar-25	-289
DOU-01 System - 01					



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

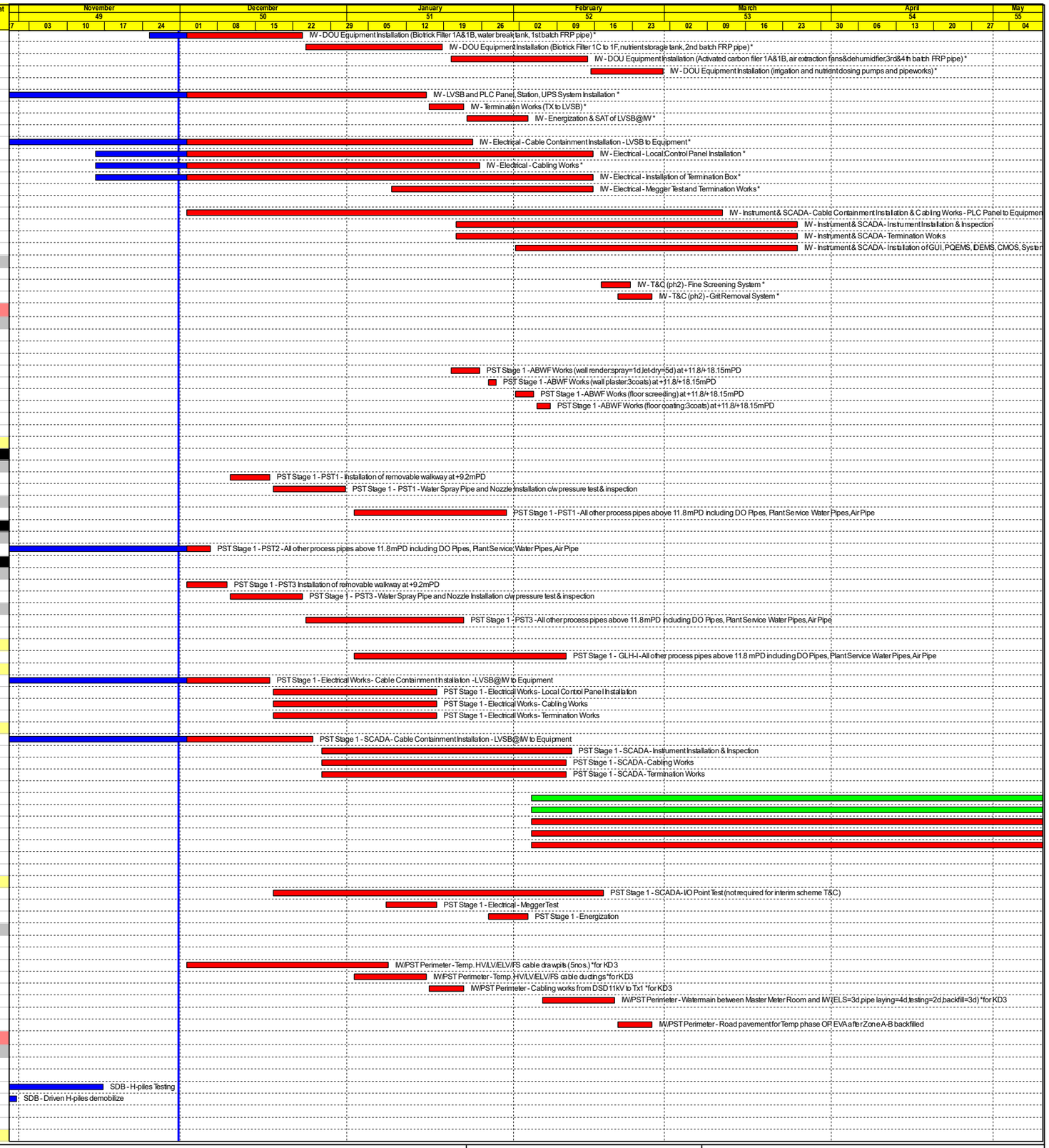
Remaining Level of Ef...
Actual Work
Remaining Work
Critical Remaining Work
Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Monthly Progress Report No. 49- 3MRP (Nov 24)

Project ID : DWPr44_241209
Layout : DC201910 MPR49-3MRP

Monthly Progress Report - 3MRP			
Date	Revision	Checked	Approved
30-Nov-24	Rev. 0		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
ATAL-1250	IW - DOU Equipment Installation (Biotrick Filter 1A&1B, water break tank, 1st batch FRP pipe) *	20	25-Nov-24 A	23-Dec-24	-345
ATAL-1980	IW - DOU Equipment Installation (Biotrick Filter 1C to 1F, nutrient storage tank, 2nd batch FRP pipe) *	20	24-Dec-24	18-Jan-25	-345
ATAL-1990	IW - DOU Equipment Installation (Activated carbon filer 1A&1B, air extraction fans&dehumidfier,3rd&4th batch FRP pipe	20	20-Jan-25	14-Feb-25	-345
ATAL-2000	IW - DOU Equipment Installation (irrigation and nutrient dosing pumps and pipeworks) *	12	15-Feb-25	28-Feb-25	-345
LV Switch Room (IW + PST)					
ATAL-1270	IW - LVSB and PLC Panel, Station, UPS System Installation *	36	09-Sep-24 A	15-Jan-25	-294
ATAL-1290	IW - Termination Works (TX to LVSB) *	6	16-Jan-25	22-Jan-25	-294
ATAL-1330	IW - Energization & SAT of LVSB@IW *	7	23-Jan-25	03-Feb-25	-294
Electrical Works					
ATAL-1340	IW - Electrical - Cable Containment Installation - LVSB to Equipment *	60	24-Oct-24 A	24-Jan-25	-326
ATAL-1350	IW - Electrical - Local Control Panel Installation *	60	15-Nov-24 A	15-Feb-25	-305
ATAL-1370	IW - Electrical - Cabling Works *	45	15-Nov-24 A	25-Jan-25	-290
ATAL-1380	IW - Electrical - Installation of Termination Box *	60	15-Nov-24 A	15-Feb-25	-305
ATAL-1390	IW - Electrical - Megger Test and Termination Works *	30	09-Jan-25	15-Feb-25	-305
Instrumentation & SCADAWorks					
ATAL-1420	IW - Instrument & SCADA - Cable Containment Installation & Cabling Works - PLC Panel to Equipment	80	02-Dec-24	11-Mar-25	-326
ATAL-1400	IW - Instrument & SCADA - Instrument Installation & Inspection	52	21-Jan-25	25-Mar-25	-326
ATAL-1440	IW - Instrument & SCADA - Termination Works	52	21-Jan-25	25-Mar-25	-326
ATAL-1450	IW - Instrument & SCADA - Installation of GUI, PQEMS, IDEMS, CMOS, System Integration&Mapping, Network Configu	45	01-Feb-25	25-Mar-25	-326
IW E&M T&C Works					
Phase 2 - IW Sub-System Dry Function Test (Function, Protection, Interlock)					
ATAL-1620	IW - T&C (ph2) - Fine Screening System *	6	17-Feb-25	22-Feb-25	-305
ATAL-1630	IW - T&C (ph2) - Grit Removal System *	6	20-Feb-25	26-Feb-25	-308
Primary Sedimentation Tank (PST)					
PST ABWF, E&M & T&C					
PST Stage 1					
PST Stage 1 - ABWF Works					
GLA-H above +11.8mPD					
PST-3135	PST Stage 1 - ABWF Works (wall render:spray=1d,jet-dry=5d) at +11.8/+18.15mPD	6	20-Jan-25	25-Jan-25	-197
PST-3165	PST Stage 1 - ABWF Works (wall plaster:3coats) at +11.8/+18.15mPD	2	27-Jan-25	28-Jan-25	-197
PST-3175	PST Stage 1 - ABWF Works (floor screeding) at +11.8/+18.15mPD	3	01-Feb-25	04-Feb-25	-197
PST-3185	PST Stage 1 - ABWF Works (floor coating:3coats) at +11.8/+18.15mPD	3	05-Feb-25	07-Feb-25	-197
PST Stage 1 - E&M Installation Works					
Phase 1 (GLA-H, PST 1-3, Outlet Channel)					
PST Stage 1 - E&M Installation Works at Setting Zone (PST 1-3)					
PST 1					
PST 1 - Inclined Plate Settling System					
PST-3325	PST Stage 1 - PST1 - Installation of removable walkway at +9.2mPD	7	10-Dec-24*	17-Dec-24	-271
ATALPST-5410	PST Stage 1 - PST1 - Water Spray Pipe and Nozzle Installation c/w pressure test & inspection	10	18-Dec-24	31-Dec-24	-269
PST 1 - Compressors , Air blowers c/w associated fittings					
ATALPST-5470	PST Stage 1 - PST1 - All other process pipes above 11.8mPD including DO Pipes, Plant Service Water Pipes, Air Pipe	23	02-Jan-25	30-Jan-25	-270
PST 2					
PST 2 - Compressors , Air blowers c/w associated fittings					
ATALPST-6850	PST Stage 1 - PST2 - All other process pipes above 11.8mPD including DO Pipes, Plant Service Water Pipes, Air Pipe	24	02-Aug-24 A	06-Dec-24	-245
PST 3					
PST 3 - Inclined Plate Settling System					
PST-3335	PST Stage 1 - PST3 Installation of removable walkway at +9.2mPD	7	02-Dec-24*	09-Dec-24	-271
ATALPST-6710	PST Stage 1 - PST3 - Water Spray Pipe and Nozzle Installation c/w pressure test & inspection	12	10-Dec-24	23-Dec-24	-264
PST 3 - Compressors , Air blowers c/w associated fittings					
ATALPST-6740	PST Stage 1 - PST3 - All other process pipes above 11.8mPD including DO Pipes, Plant Service Water Pipes, Air Pipe	23	24-Dec-24	22-Jan-25	-264
Phase 2 (GL H-I, (Inlet Channel, Pump Room) Handover for PST early commissioning *					
PST Stage 1 - Compressors , Air blowers c/w associated fittings					
ATALPST-6770	PST Stage 1 - GLH-I - All other process pipes above 11.8 mPD including DO Pipes, Plant Service Water Pipes, Air Pipe	31	02-Jan-25	10-Feb-25	-269
PST Stage 1 - Electrical Works (PST 1-3, Inlet/Outlet Channel&Pump Room)					
ATALPST-5660	PST Stage 1 - Electrical Works - Cable Containment Installation - LVSB@IW to Equipment	27	24-Oct-24 A	17-Dec-24	-253
ATALPST-5670	PST Stage 1 - Electrical Works - Local Control Panel Installation	24	18-Dec-24	17-Jan-25	-252
ATALPST-5680	PST Stage 1 - Electrical Works - Cabling Works	24	18-Dec-24	17-Jan-25	-252
ATALPST-5690	PST Stage 1 - Electrical Works - Termination Works	24	18-Dec-24	17-Jan-25	-252
PST Stage 1 - Instrumentation & SCADAWorks (PST 1-3, Inlet/Outlet Channel & Pump Room)					
ATALPST-5720	PST Stage 1 - SCADA - Cable Containment Installation - LVSB@IW to Equipment	38	24-Oct-24 A	25-Dec-24	-276
ATALPST-5700	PST Stage 1 - SCADA - Instrument Installation & Inspection	36	27-Dec-24	11-Feb-25	-224
ATALPST-5730	PST Stage 1 - SCADA - Cabling Works	35	27-Dec-24	10-Feb-25	-275
ATALPST-5740	PST Stage 1 - SCADA - Termination Works	35	27-Dec-24	10-Feb-25	-275
PST Stage 1 - BS Works (PST 1-3, Inlet/Outlet Channel & Pump Room)					
ATALPST-5750	PST Stage 1 - MVAC Works	80	04-Feb-25	14-May-25	266
ATALPST-5760	PST Stage 1 - ELV Works	80	04-Feb-25	14-May-25	266
ATALPST-5770	PST Stage 1 - P&D Works	80	04-Feb-25	14-May-25	-318
ATALPST-5780	PST Stage 1 - EL Works	80	04-Feb-25	14-May-25	-318
ATALPST-5790	PST Stage 1 - FS. Works	80	04-Feb-25	14-May-25	-318
PST Stage 1 - T&C Works					
PST Stage 1 - T&C Works (PST 1-3, Inlet / Outlet Channel & Pump Room)					
Phase 1 - PST 1-3 Sub-System Physical Dry Check					
ATALPST-5820	PST Stage 1 - SCADA- I/O Point Test (not required for interim scheme T&C)	47	18-Dec-24	17-Feb-25	-275
ATALPST-5810	PST Stage 1 - Electrical - Megger Test	9	08-Jan-25	17-Jan-25	-252
ATALPST-5830	PST Stage 1 - Energization	4	27-Jan-25	03-Feb-25	-263
External Works - Inlet Work and Primary Sedimentation Tank Perimeter					
IW/PST External Works - Zone A (Transformer House No.1)					
Stage 1 (KD3)					
EW-1715	IW/PST Perimeter - Temp. HV/LV/ELV/FS cable drawpits (5nos.) *for KD3	30	02-Dec-24*	08-Jan-25	-294
EW-2280	IW/PST Perimeter - Temp. HV/LV/ELV/FS cable ductings *for KD3	12	02-Jan-25	15-Jan-25	-294
EW-1710	IW/PST Perimeter - Cabling works from DSD11kV to Tx1 *for KD3	6	16-Jan-25	22-Jan-25	-294
EW-2270	IW/PST Perimeter - Watermain between Master Meter Room and IW (ELS=3d,pipe laying=4d,testing=2d,backfill=3d) *f	12	06-Feb-25	19-Feb-25	-252
IW/PST External Works - Roadworks					
EW-1550	IW/PST Perimeter - Road pavement for Temp phase OP EVA after Zone A-B backfilled	6	20-Feb-25	26-Feb-25	-246
Sludge Dewatering Building (SDB)					
SDB Foundation & ELS					
SDB Foundation - PST 1-4 Footprint					
SDB Foundation - Driven H-Pile					
SDB-1180	SDB - H-piles Testing	14	22-Oct-24 A	16-Nov-24 A	
SDB-1910	SDB - Driven H-piles demobilize	5	22-Oct-24 A	31-Oct-24 A	
SDB Foundation - ELS					
SDB Foundation - ELS Stage 1					
SDB Foundation - ELS Stage 1 (S1 to S2)					



PAUL Y.-CREC JOINT VENTURE
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Remaining Level of Ef...
Actual Work
Remaining Work
Critical Remaining Work
Milestone

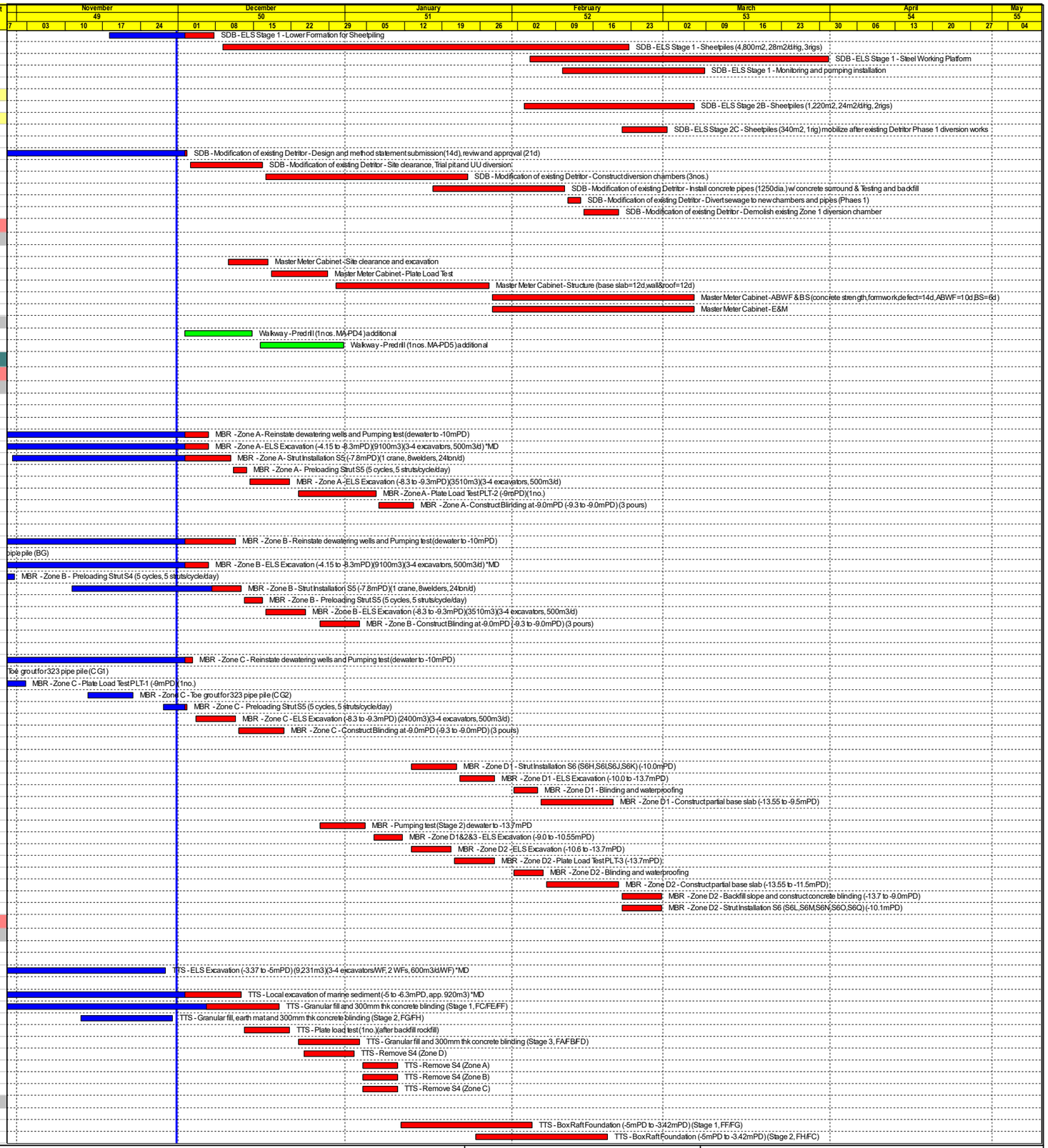
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Monthly Progress Report No. 49- 3MRP (Nov 24)

Project ID : DWPr44_241209
Layout : DC201910 MPR49-3MRP

Monthly Progress Report - 3MRP

Date	Revision	Checked	Approved
30-Nov-24	Rev. 0		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
SDB-1185	SDB - ELS Stage 1 - Lower Formation for Sheetpiling	9	18-Nov-24 A	07-Dec-24	-105
SDB-1190	SDB - ELS Stage 1 - Sheetpiles (4,800m2, 28m2/d/rig, 3rigs)	60	09-Dec-24	22-Feb-25	-105
SDB-1195	SDB - ELS Stage 1 - Steel Working Platform	48	04-Feb-25	31-Mar-25	-105
SDB-1610	SDB - ELS Stage 1 - Monitoring and pumping installation	24	10-Feb-25	08-Mar-25	-105
SDB Foundation - ELS Stage 2					
ELS Stage 2B West (Pump Room)					
SDB-2330	SDB - ELS Stage 2B - Sheetpiles (1,220m2, 24m2/d/rig, 2rigs)	28	03-Feb-25	06-Mar-25	-87
ELS Stage 2C South					
SDB-2200	SDB - ELS Stage 2C - Sheetpiles (340m2, 1rig) mobilize after existing Detritor Phase 1 diversion works	8	21-Feb-25	01-Mar-25	-100
Modification of existing Detritor					
SDB-6450	SDB - Modification of existing Detritor - Design and method statement submission(14d), review and approval (21d)	35	07-Oct-24 A	02-Dec-24	-100
SDB-6360	SDB - Modification of existing Detritor - Site clearance, Trial pit and UU diversion	12	03-Dec-24	16-Dec-24	-100
SDB-6370	SDB - Modification of existing Detritor - Construct diversion chambers (3nos.)	30	17-Dec-24	23-Jan-25	-100
SDB-6380	SDB - Modification of existing Detritor - Install concrete pipes (1250dia.)w/ concrete surround & Testing and backfill	18	17-Jan-25	10-Feb-25	-100
SDB-6390	SDB - Modification of existing Detritor - Divert sewage to new chambers and pipes (Phaes 1)	3	11-Feb-25	13-Feb-25	-100
SDB-6400	SDB - Modification of existing Detritor - Demolish existing Zone 1 diversion chamber	6	14-Feb-25	20-Feb-25	-100
External Works					
Water Meter Cabinet					
Water Meter Catinet - Structure					
CLP-1740	Master Meter Cabinet - Site clearance and excavation	7	10-Dec-24	17-Dec-24	-265
CLP-1750	Master Meter Cabinet - Plate Load Test	8	18-Dec-24	28-Dec-24	-265
CLP-1130	Master Meter Cabinet - Structure (base slab=12d,wall&roof=12d)	24	30-Dec-24	27-Jan-25	-265
CLP-1360	Master Meter Cabinet - ABWF & BS (concrete strength,formwork,defect=14d,ABWF=10d,BS=6d)	30	28-Jan-25	06-Mar-25	-265
CLP-1370	Master Meter Cabinet - E&M	30	28-Jan-25	06-Mar-25	-265
Walkway Across Tai Tseng Wai Nullah					
CLP-1720	Walkway - Predrill (1nos. MA-PD4) additional	12	02-Dec-24	14-Dec-24	437
CLP-1730	Walkway - Predrill (1nos. MA-PD5) additional	12	16-Dec-24	31-Dec-24	437
Zone 2 Construction					
Mainstream Bio-Reactor & Auxillary Facility (MBR and AF)					
MBR and AF Structure					
MBR - ELS Excavation & Demolition stage 2					
MBR - ELS Zone A					
Excavation and Demolition					
MBRAF-3940	MBR - Zone A - Reinstate dewatering wells and Pumping test (dewater to -10mPD)	14	23-Sep-24 A	06-Dec-24	-292
MBRAF-1690	MBR - Zone A - ELS Excavation (-4.15 to -8.3mPD)(9100m3)(3-4 excavators, 500m3/d) *MD	17	02-Oct-24 A	06-Dec-24	-298
MBRAF-1700	MBR - Zone A - Strut Installation S5 (-7.8mPD)(1 crane, 8welders, 24tonid)	12	31-Oct-24 A	10-Dec-24	-298
MBRAF-3510	MBR - Zone A - Preloading Strut S5 (5 cycles, 5 struts/cycle/day)	3	11-Dec-24	13-Dec-24	-298
MBRAF-1710	MBR - Zone A - ELS Excavation (-8.3 to -9.3mPD)(3510m3)(3-4 excavators, 500m3/d)	7	14-Dec-24	21-Dec-24	-298
MBRAF-4070	MBR - Zone A - Plate Load Test PLT-2 (-9mPD)(1no.)	10	23-Dec-24	06-Jan-25	-230
MBRAF-4150	MBR - Zone A - Construct Blinding at -9.0mPD (-9.3 to -9.0mPD) (3 pours)	6	07-Jan-25	13-Jan-25	-230
MBR - ELS Zone B					
Excavation					
MBRAF-3920	MBR - Zone B - Reinstate dewatering wells and Pumping test (dewater to -10mPD)	14	23-Aug-24 A	11-Dec-24	-296
MBRAF-3700	MBR - Zone B - Toe grout for 323 pipe pile (BG)	10	30-Sep-24 A	09-Oct-24 A	
MBRAF-3310	MBR - Zone B - ELS Excavation (-4.15 to -8.3mPD)(9100m3)(3-4 excavators, 500m3/d) *MD	13	28-Oct-24 A	06-Dec-24	-300
MBRAF-3590	MBR - Zone B - Preloading Strut S4 (5 cycles, 5 struts/cycle/day)	3	29-Oct-24 A	31-Oct-24 A	
MBRAF-3320	MBR - Zone B - Strut Installation S5 (-7.8mPD)(1 crane, 8welders, 24tonid)	12	11-Nov-24 A	12-Dec-24	-300
MBRAF-3600	MBR - Zone B - Preloading Strut S5 (5 cycles, 5 struts/cycle/day)	3	13-Dec-24	16-Dec-24	-300
MBRAF-3330	MBR - Zone B - ELS Excavation (-8.3 to -9.3mPD)(3510m3)(3-4 excavators, 500m3/d)	7	17-Dec-24	24-Dec-24	-300
MBRAF-4180	MBR - Zone B - Construct Blinding at -9.0mPD (-9.3 to -9.0mPD) (3 pours)	6	27-Dec-24	03-Jan-25	-213
MBR - ELS Zone C					
Excavation					
MBRAF-3900	MBR - Zone C - Reinstate dewatering wells and Pumping test (dewater to -10mPD)	14	01-Oct-24 A	03-Dec-24	-289
MBRAF-3690	MBR - Zone C - Toe grout for 323 pipe pile (CG1)	16	11-Oct-24 A	19-Oct-24 A	
MBRAF-4030	MBR - Zone C - Plate Load Test PLT-1 (-9mPD)(1no.)	10	28-Oct-24 A	02-Nov-24 A	
MBRAF-4040	MBR - Zone C - Toe grout for 323 pipe pile (CG2)	5	14-Nov-24 A	22-Nov-24 A	
MBRAF-3640	MBR - Zone C - Preloading Strut S5 (5 cycles, 5 struts/cycle/day)	3	28-Nov-24 A	02-Dec-24	-288
MBRAF-3230	MBR - Zone C - ELS Excavation (-8.3 to -9.3mPD) (2400m3)(3-4 excavators, 500m3/d)	7	04-Dec-24	11-Dec-24	-289
MBRAF-4140	MBR - Zone C - Construct Blinding at -9.0mPD (-9.3 to -9.0mPD) (3 pours)	8	12-Dec-24	20-Dec-24	-204
MBR - ELS of Central Corridor (Zone D)					
MBR - ELS of Central Corridor (North)					
MBRAF-1740	MBR - Zone D1 - Strut Installation S6 (S6H,S6I,S6J,S6K) (-10.0mPD)	8	13-Jan-25	21-Jan-25	-269
MBRAF-1750	MBR - Zone D1 - ELS Excavation (-10.0 to -13.7mPD)	6	22-Jan-25	28-Jan-25	-269
MBRAF-4160	MBR - Zone D1 - Blinding and waterproofing	4	01-Feb-25	05-Feb-25	-269
MBRAF-3760	MBR - Zone D1 - Construct partial base slab (-13.55 to -9.5mPD)	12	06-Feb-25	19-Feb-25	-269
MBR - ELS of Central Corridor (Middle)					
MBRAF-2370	MBR - Pumping test (Stage 2) dewater to -13.7mPD	7	27-Dec-24	04-Jan-25	-300
MBRAF-1730	MBR - Zone D1&2&3 - ELS Excavation (-9.0 to -10.55mPD)	6	06-Jan-25	11-Jan-25	-300
MBRAF-3720	MBR - Zone D2 - ELS Excavation (-10.6 to -13.7mPD)	7	13-Jan-25	20-Jan-25	-300
MBRAF-3970	MBR - Zone D2 - Plate Load Test PLT-3 (-13.7mPD)	7	21-Jan-25	28-Jan-25	-300
MBRAF-4100	MBR - Zone D2 - Blinding and waterproofing	5	01-Feb-25	06-Feb-25	-300
MBRAF-3730	MBR - Zone D2 - Construct partial base slab (-13.55 to -11.5mPD)	12	07-Feb-25	20-Feb-25	-300
MBRAF-3740	MBR - Zone D2 - Backfill slope and construct concrete blinding (-13.7 to -9.0mPD)	7	21-Feb-25	28-Feb-25	-300
MBRAF-3750	MBR - Zone D2 - Strut Installation S6 (S6L,S6M,S6N,S6O,S6Q) (-10.1mPD)	7	21-Feb-25	28-Feb-25	-300
Tertriary Treatment System (TTS)					
TTS Foundation and ELS					
TTS Foundation and ELS Stage 2					
TTS ELS					
TTS-1300	TTS - ELS Excavation (-3.37 to -5mPD) (9,231m3)(3-4 excavators/WF, 2 WFs, 600m3/d/WF) *MD	8	08-Oct-24 A	28-Nov-24 A	
TTS Formation Level					
TTS-1810	TTS - Local excavation of marine sediment (-5 to -6.3mPD, app. 920m3) *MD	6	16-Oct-24 A	12-Dec-24	-298
TTS-2210	TTS - Granular fill and 300mm thk concrete blinding (Stage 1, FC/FE/FF)	8	22-Oct-24 A	19-Dec-24	-296
TTS-2220	TTS - Granular fill, earth mat and 300mm thk concrete blinding (Stage 2, FG/FH)	12	13-Nov-24 A	30-Nov-24 A	
TTS-2090	TTS - Plate load test (1no.)(after backfill rockfill)	8	13-Dec-24	21-Dec-24	-298
TTS-2230	TTS - Granular fill and 300mm thk concrete blinding (Stage 3, FA/FB/FD)	8	23-Dec-24	03-Jan-25	-298
TTS-2280	TTS - Remove S4 (Zone D)	6	24-Dec-24	02-Jan-25	-291
TTS-1440	TTS - Remove S4 (Zone A)	6	04-Jan-25	10-Jan-25	-274
TTS-2260	TTS - Remove S4 (Zone B)	6	04-Jan-25	10-Jan-25	-298
TTS-2270	TTS - Remove S4 (Zone C)	6	04-Jan-25	10-Jan-25	-298
TTS Structure					
TTS Substructure					
TTS-1380	TTS - Box Raft Foundation (-5mPD to -3.42mPD) (Stage 1, FF/FG)	18	11-Jan-25	04-Feb-25	-298
TTS-2240	TTS - Box Raft Foundation (-5mPD to -3.42mPD) (Stage 2, FH/FC)	18	25-Jan-25	18-Feb-25	-298



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Remaining Level of Ef...
Actual Work
Remaining Work
Critical Remaining Work
Milestone

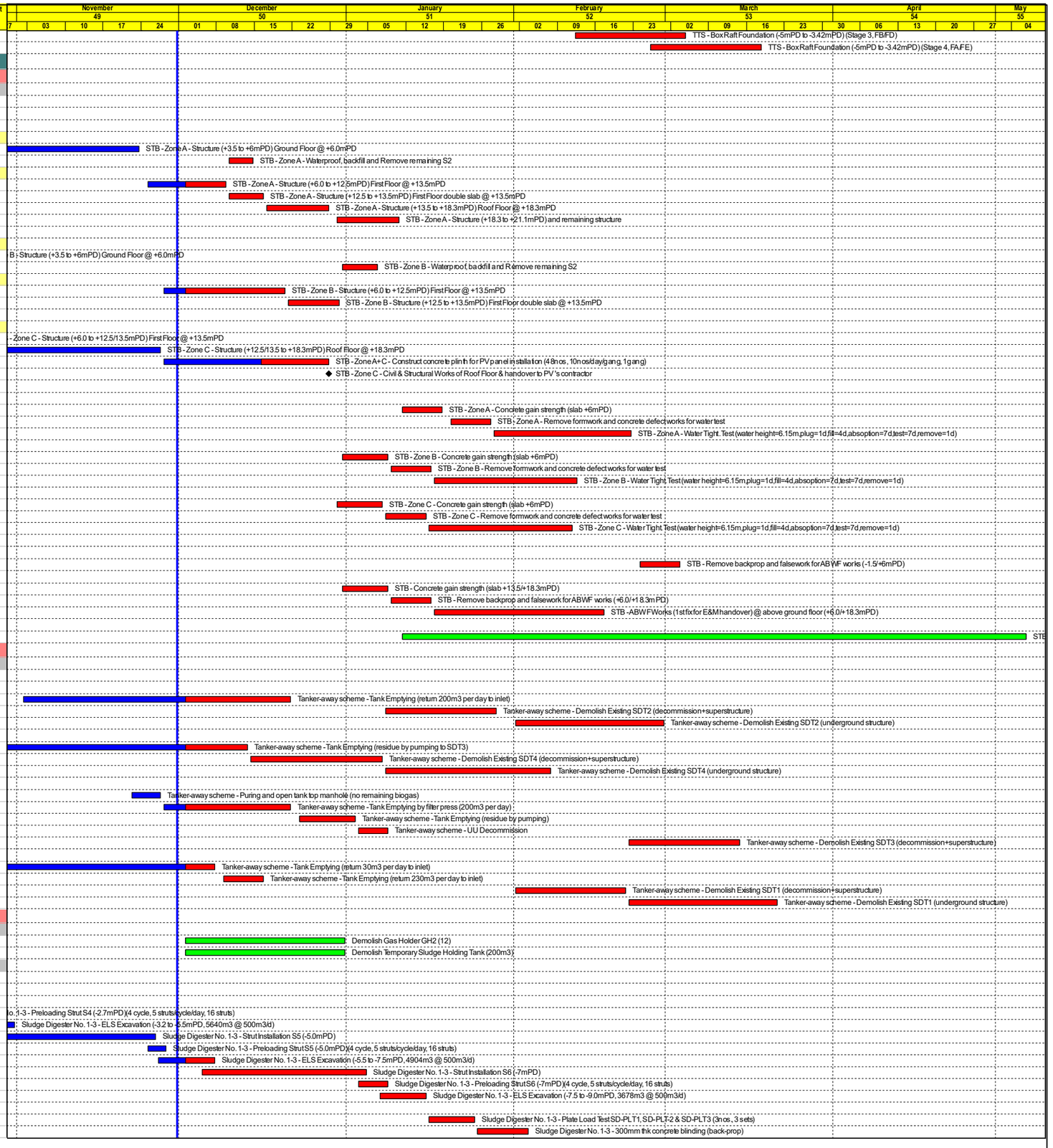
Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Monthly Progress Report No. 49- 3MRP (Nov 24)

Project ID : DWPr44_241209
Layout : DC201910 MPR49-3MRP

Monthly Progress Report - 3MRP

Date	Revision	Checked	Approved
30-Nov-24	Rev. 0		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
TTS-2250	TTS - Box Raft Foundation (-5mPD to -3.42mPD) (Stage 3, FB/FD)	18	12-Feb-25	04-Mar-25	-298
TTS-2255	TTS - Box Raft Foundation (-5mPD to -3.42mPD) (Stage 4, FA/FE)	18	26-Feb-25	18-Mar-25	-298
Zone 3 Construction					
Zone 3 North Portion (Z3N)					
New Sudge Thickening Building (STB)					
STB : Civil and Structural Works					
STB : Structure					
STB : Structure Zone A					
STB : Subrstructure Zone A					
Z3S3-6060	STB - Zone A - Structure (+3.5 to +6mPD) Ground Floor @ +6.0mPD	12	08-Oct-24 A	23-Nov-24 A	
Z3S3-6150	STB - Zone A - Waterproof, backfill and Remove remaining S2	5	10-Dec-24	14-Dec-24	-32
STB : Superstructure Zone A					
Z3S3-6090	STB - Zone A - Structure (+6.0 to +12.5mPD) First Floor @ +13.5mPD	10	25-Nov-24 A	09-Dec-24	-203
Z3S3-6190	STB - Zone A - Structure (+12.5 to +13.5mPD) First Floor double slab @ +13.5mPD	6	10-Dec-24	16-Dec-24	-203
Z3S3-6180	STB - Zone A - Structure (+13.5 to +18.3mPD) Roof Floor @ +18.3mPD	9	17-Dec-24	28-Dec-24	-203
Z3S3-3000	STB - Zone A - Structure (+18.3 to +21.1mPD) and remaining structure	10	30-Dec-24	10-Jan-25	-116
STB : Structure Zone B					
STB : Subrstructure Zone B					
Z3S3-6290	STB - Zone B - Structure (+3.5 to +6mPD) Ground Floor @ +6.0mPD	12	04-Oct-24 A	22-Oct-24 A	
Z3S3-6300	STB - Zone B - Waterproof, backfill and Remove remaining S2	5	31-Dec-24	06-Jan-25	-48
STB : Superstructure Zone B					
Z3S3-6250	STB - Zone B - Structure (+6.0 to +12.5mPD) First Floor @ +13.5mPD	18	28-Nov-24 A	20-Dec-24	-107
Z3S3-6260	STB - Zone B - Structure (+12.5 to +13.5mPD) First Floor double slab @ +13.5mPD	6	21-Dec-24	30-Dec-24	-107
STB : Structure Zone C					
STB : Superstructure Zone C					
Z3S3-2710	STB - Zone C - Structure (+6.0 to +12.5/13.5mPD) First Floor @ +13.5mPD	10	09-Oct-24 A	26-Oct-24 A	
Z3S3-2740	STB - Zone C - Structure (+12.5/13.5 to +18.3mPD) Roof Floor @ +18.3mPD	10	28-Oct-24 A	27-Nov-24 A	
Z3S3-2720	STB - Zone A+C - Construct concrete plinth for PV panel installation (48nos, 10nos/day/gang, 1gang)	12	28-Nov-24 A	28-Dec-24	-203
Z3S3-2780	STB - Zone C - Civil & Structural Works of Roof Floor & handover to PV 's contractor	0		28-Dec-24	-203
STB : Water Tightness Test					
STB : Water Tightness Test Zone A					
Z3S3-6310	STB - Zone A - Concrete gain strength (slab +6mPD)	7	11-Jan-25	18-Jan-25	-116
Z3S3-6320	STB - Zone A - Remove formwork and concrete defect works for water test	7	20-Jan-25	27-Jan-25	-116
Z3S3-6330	STB - Zone A - Water Tight. Test (water height=6.15m,plug=1d,fill=4d,absoption=7d,test=7d,remove=1d)	20	28-Jan-25	22-Feb-25	-116
STB : Water Tightness Test Zone B					
Z3S3-6340	STB - Zone B - Concrete gain strength (slab +6mPD)	7	31-Dec-24	08-Jan-25	-107
Z3S3-6350	STB - Zone B - Remove formwork and concrete defect works for water test	7	09-Jan-25	16-Jan-25	-107
Z3S3-6360	STB - Zone B - Water Tight.Test (water height=6.15m,plug=1d,fill=4d,absoption=7d,test=7d,remove=1d)	20	17-Jan-25	12-Feb-25	-107
STB : Water Tightness Test Zone C					
Z3S3-5990	STB - Zone C - Concrete gain strength (slab +6mPD)	7	30-Dec-24	07-Jan-25	-106
Z3S3-6000	STB - Zone C - Remove formwork and concrete defect works for water test	7	08-Jan-25	15-Jan-25	-106
Z3S3-5200	STB - Zone C - Water Tight.Test (water height=6.15m,plug=1d,fill=4d,absoption=7d,test=7d,remove=1d)	20	16-Jan-25	11-Feb-25	-106
STB : ABWF					
STB : ABWF (-1.5 to +6.0 mPD)					
Z3S3-5980	STB - Remove backprop and falsework for ABWF works (-1.5/+6mPD)	7	24-Feb-25	03-Mar-25	-116
STB : ABWF (+6.0 to +18.3 mPD)					
Z3S3-6020	STB - Concrete gain strength (slab +13.5/+18.3mPD)	7	31-Dec-24	08-Jan-25	-81
Z3S3-6010	STB - Remove backprop and falsework for ABWF works (+6.0/+18.3mPD)	7	09-Jan-25	16-Jan-25	-81
Z3S3-4540	STB - ABWF Works (1st fix for E&M handover) @ above ground floor (+6.0/+18.3mPD)	24	17-Jan-25	17-Feb-25	-81
STB : ABWF (above +18.3mPD roof)					
Z3S3-4560	STB - ABWF Works @ roof (+18.0/+21.1mPD)	90	11-Jan-25	06-May-25	267
Zone 3 Middle Portion (Z3M)					
Demolition					
Existing SDT 1-4					
SDT No.2 (Water)					
Z3S7-2130	Tanker-away scheme - Tank Emptying (return 200m3 per day to inlet)	24	02-Nov-24 A	21-Dec-24	-184
Z3S7-2135	Tanker-away scheme - Demolish Existing SDT2 (decommission+superstructure)	18	08-Jan-25	28-Jan-25	-195
Z3S7-2030	Tanker-away scheme - Demolish Existing SDT2 (underground structure)	24	01-Feb-25	28-Feb-25	-195
SDT No.4 (Sludge)					
Z3S7-2170	Tanker-away scheme - Tank Emptying (residue by pumping to SDT3)	60	12-Sep-24 A	13-Dec-24	-195
Z3S7-2175	Tanker-away scheme - Demolish Existing SDT4 (decommission+superstructure)	18	14-Dec-24	07-Jan-25	-195
Z3S7-2180	Tanker-away scheme - Demolish Existing SDT4 (underground structure)	24	08-Jan-25	07-Feb-25	-195
SDT No.3 (Sludge) + Compressor House					
Z3S7-2190	Tanker-away scheme - Puring and open tank top manhole (no remaining biogas)	5	22-Nov-24 A	27-Nov-24 A	
Z3S7-2200	Tanker-away scheme - Tank Emptying by filter press (200m3 per day)	18	28-Nov-24 A	21-Dec-24	-159
Z3S7-2210	Tanker-away scheme - Tank Emptying (residue by pumping)	7	23-Dec-24	02-Jan-25	-159
Z3S7-2220	Tanker-away scheme - UU Decommission	5	03-Jan-25	08-Jan-25	-159
Z3S7-2225	Tanker-away scheme - Demolish Existing SDT3 (decommission+superstructure)	18	22-Feb-25	14-Mar-25	-195
SDT No.1 (Water)					
Z3S7-2240	Tanker-away scheme - Tank Emptying (return 30m3 per day to inlet)	60	12-Sep-24 A	07-Dec-24	-161
Z3S7-2250	Tanker-away scheme - Tank Emptying (return 230m3 per day to inlet)	7	09-Dec-24	16-Dec-24	-161
Z3S7-2255	Tanker-away scheme - Demolish Existing SDT1 (decommission+superstructure)	18	01-Feb-25	21-Feb-25	-195
Z3S7-2260	Tanker-away scheme - Demolish Existing SDT1 (underground structure)	24	22-Feb-25	21-Mar-25	-195
Zone 3 South Portion (Z3S)					
Demolition					
Z3S4-2000	Demolish Gas Holder GH2 (12)	24	02-Dec-24*	31-Dec-24	268
Z3S4-2010	Demolish Temporary Sludge Holding Tank (200m3)	24	02-Dec-24	31-Dec-24	268
Sludge Digestor No. 1-3 (SD1-3)					
SD1-3 : Foundation and ELS					
SD1-3 : Excavation and Strut Installation					
SD1-3 : ELS					
Z3S3-5750	Sludge Digester No. 1-3 - Preloading Strut S4 (-2.7mPD)(4 cycle, 5 struts/cycle/day, 16 struts)	5	14-Oct-24 A	18-Oct-24 A	
Z3S3-2240	Sludge Digester No. 1-3 - ELS Excavation (-3.2 to -5.5mPD, 5640m3 @ 500m3/d)	12	17-Oct-24 A	31-Oct-24 A	
Z3S3-3600	Sludge Digester No. 1-3 - Strut Installation S5 (-5.0mPD)	18	25-Oct-24 A	26-Nov-24 A	
Z3S3-5760	Sludge Digester No. 1-3 - Preloading Strut S5 (-5.0mPD)(4 cycle, 5 struts/cycle/day, 16 struts)	5	25-Nov-24 A	28-Nov-24 A	
Z3S3-3610	Sludge Digester No. 1-3 - ELS Excavation (-5.5 to -7.5mPD, 4904m3 @ 500m3/d)	10	27-Nov-24 A	07-Dec-24	-154
Z3S3-3620	Sludge Digester No. 1-3 - Strut Installation S6 (-7mPD)	24	05-Dec-24	04-Jan-25	-154
Z3S3-5770	Sludge Digester No. 1-3 - Preloading Strut S6 (-7mPD)(4 cycle, 5 struts/cycle/day, 16 struts)	5	03-Jan-25	08-Jan-25	-154
Z3S3-3630	Sludge Digester No. 1-3 - ELS Excavation (-7.5 to -9.0mPD, 3678m3 @ 500m3/d)	8	07-Jan-25	15-Jan-25	-154
SD1-3 : Formation Level					
Z3S3-5070	Sludge Digester No. 1-3 - Plate Load Test SD-PLT1, SD-PLT-2 & SD-PLT3 (3nos., 3 sets)	8	16-Jan-25	24-Jan-25	-154
Z3S3-5570	Sludge Digester No. 1-3 - 300mm thk concrete blinding (back-prop)	5	25-Jan-25	03-Feb-25	-154



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

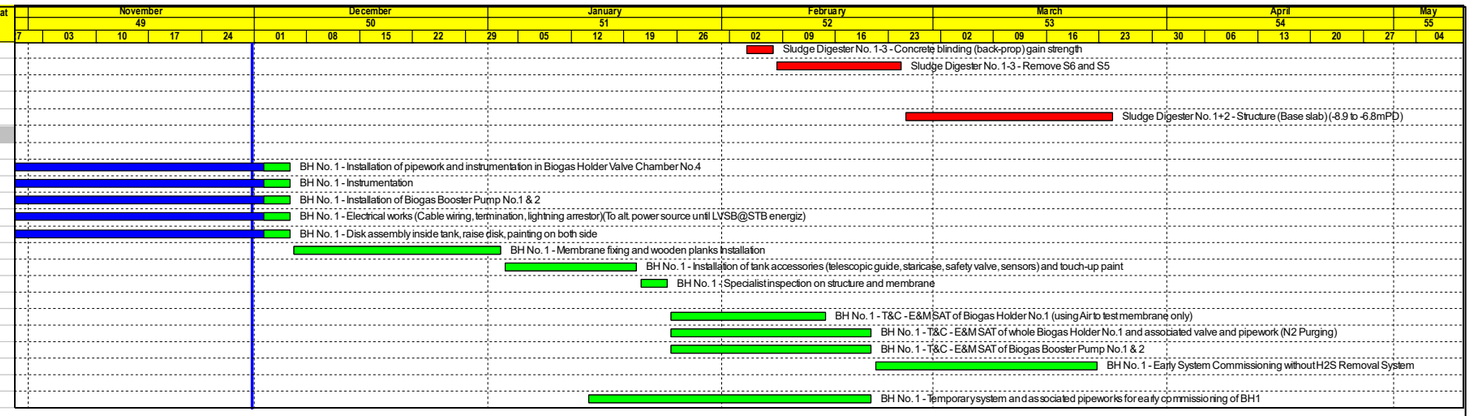
Remaining Level of Ef...
Actual Work
Remaining Work
Critical Remaining Work
◆ Milestone

Contract DC/2019/10 - YLEPP - Main Works for Stage 1
Monthly Progress Report No. 49- 3MRP (Nov 24)

Project ID : DWPr44_241209
Layout : DC201910 MPR49-3MRP

Monthly Progress Report - 3MRP			
Date	Revision	Checked	Approved
30-Nov-24	Rev. 0		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Total Float
Z3S3-5580	Sludge Digester No. 1-3 - Concrete blinding (back-prop) gain strength	4	04-Feb-25	07-Feb-25	-154
Z3S3-5590	Sludge Digester No. 1-3 - Remove S6 and S5	14	08-Feb-25	24-Feb-25	-154
SD1-3 : Civil and Structural Works					
SD1+2 : Structure					
Z3S3-2270	Sludge Digester No. 1+2 - Structure (Base slab) (-8.9 to -6.8mPD)	24	25-Feb-25	24-Mar-25	-154
Biogas Holder No. 1 (BH1)					
BH1 : E&M Installation					
ATALZ3BH-1010	BH No. 1 - Installation of pipework and instrumentation in Biogas Holder Valve Chamber No.4	52	26-Jun-24 A	05-Dec-24	226
ATALZ3BH-1020	BH No. 1 - Instrumentation	30	08-Jul-24 A	05-Dec-24	226
ATALZ3BH-1030	BH No. 1 - Installation of Biogas Booster Pump No.1 & 2	30	08-Jul-24 A	05-Dec-24	226
ATALZ3BH-1040	BH No. 1 - Electrical works (Cable wiring, termination, lightning arrestor)(To alt. power source until LVSB@STB energiz)	18	08-Jul-24 A	05-Dec-24	226
ATALZ3BH-2485	BH No. 1 - Disk assembly inside tank, raise disk, painting on both side	18	15-Jul-24 A	05-Dec-24	186
ATALZ3BH-2495	BH No. 1 - Membrane fixing and wooden planks Installation	21	06-Dec-24	02-Jan-25	186
ATALZ3BH-2505	BH No. 1 - Installation of tank accessories (telescopic guide, staricase, safety valve, sensors) and touch-up paint	15	03-Jan-25	20-Jan-25	186
ATALZ3BH-2515	BH No. 1 - Specialist inspection on structure and membrane	4	21-Jan-25	24-Jan-25	186
BH1 : Testing & Commissioning					
ATALZ3BH-2070	BH No. 1 - T&C - E&M SAT of Biogas Holder No.1 (using Air to test membrane only)	15	25-Jan-25	14-Feb-25	186
ATALZ3BH-2090	BH No. 1 - T&C - E&M SAT of whole Biogas Holder No.1 and associated valve and pipework (N2 Purging)	20	25-Jan-25	20-Feb-25	186
ATALZ3BH-2100	BH No. 1 - T&C - E&M SAT of Biogas Booster Pump No.1 & 2	20	25-Jan-25	20-Feb-25	186
ATALZ3BH-1050	BH No. 1 - Early System Commissioning without H2S Removal System	30	21-Feb-25	22-Mar-25	228
BH1 : Diversion Works					
Z3S7-2070	BH No. 1 - Temporary system and associated pipeworks for early commissioning of BH1	30	14-Jan-25	20-Feb-25	186



保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

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. 49- 3MRP (Nov 24)

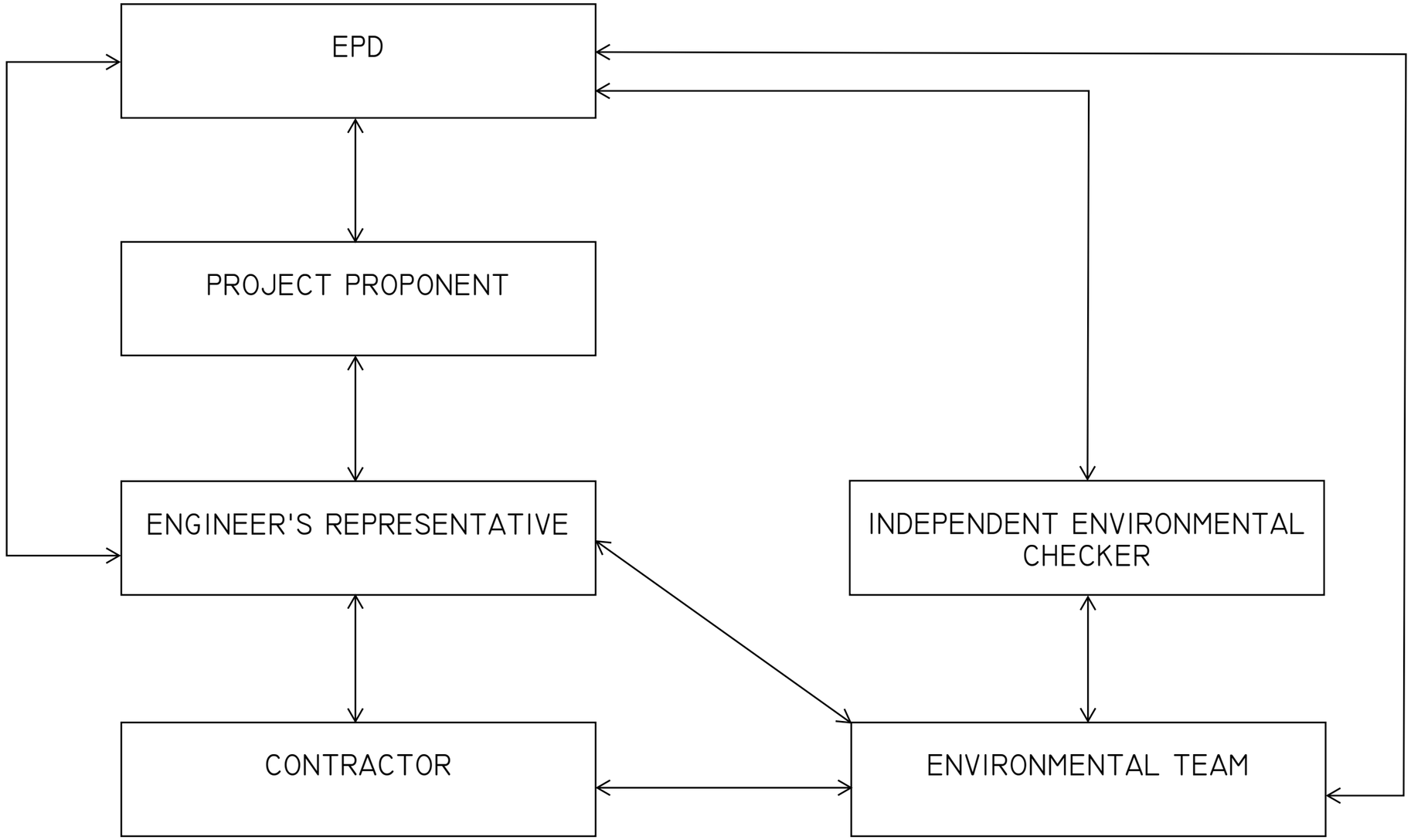
Project ID : DWPr44_241209
Layout : DC201910 MPR49-3MRP

Monthly Progress Report - 3MRP			
Date	Revision	Checked	Approved
30-Nov-24	Rev. 0		

Appendix B
Project Organization Chart

LEGEND:

LINE OF COMMUNICATION



Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

Plot File by: Chanwa 5/28/2018
PATH: p:\projects\60505476\drawing\report\EM&A\EM&A_702.dgn

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.
www.aecom.com

SUB-CONSULTANTS
分判工程顧問公司

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
狀況

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

Appendix C
Action and Limit Levels

Action and Limit Levels for Air Quality

Parameters	Action Level	Limit Level
1-hour TSP Level in µg/m^3	[1]For baseline level $\leqslant$ 384 µg/m^3, Action level = (baseline level * 1.3 + Limit level)/2; For baseline level > 384 µg/m^3, Action level = Limit level	500 µg/m^3

Notes:
1. The Action Level for 1-hour TSP Level:
a) AM1 = (63*1.3 + 500) / 2 = 291 µg/m^3;
b) AM2 = (70*1.3 + 500) / 2 = 296 µg/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:
1. 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.
2. 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
Construction Phase Water Quality Monitoring		
DO in mg/L (Surface, Middle & Bottom) [2]	Surface & Middle 5%-ile of baseline data for surface and middle layer. Bottom 5%-ile of baseline data for bottom layer.	Surface & Middle 4 mg/L or 1%-ile of baseline data for surface and middle layer. Bottom 2 mg/L or 1%-ile of baseline data for bottom layer.
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:
1. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths;
2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits;
3. 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 Equipment

Air Quality Monitoring Equipment

Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Information of Calibrated Equipement

Verification Test Date:	**19-Mar-24**	to	**24-Mar-24**	Next Verification Test Date:	**19-Mar-25**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	882106				
Our Report Refrence No.:	RPT-24-HVS-0067				
Calibration Location:	Emax				

Standard Equipment Information

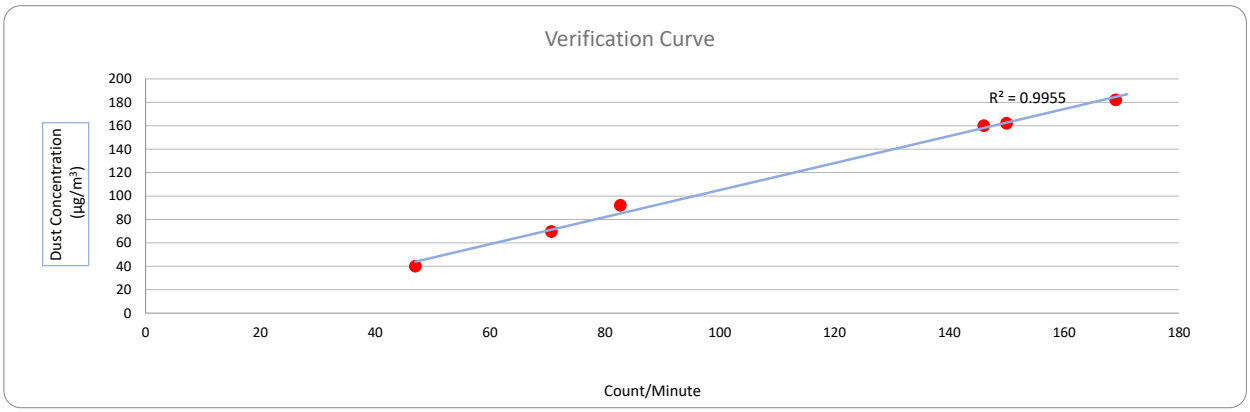
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1049	3465
Last Calibration Date:	19-Mar-24	15-Jan-24
Next Calibration Date:	2-Apr-24	15-Jan-25

Equipement Vertification Result

Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	19/03/2024	7953.66	7956.66	180.00	27000	150	162
2	19/03/2024	7956.66	7959.66	180.00	26280	146	160
3	19/03/2024	7959.66	7962.66	180.00	30420	169	182
4	24/03/2024	7985.12	7988.12	180.00	8460	47	40
5	24/03/2024	7988.12	7991.12	180.00	14886	83	92
6	24/03/2024	7991.12	7994.12	180.00	12726	71	70

Linear Regression of y on x

Slope, K factor:	**1.1537**	Intercept:	**-10.3266**	*Correlation Coefficient,R:	**0.9977**
Verification Test Result:	Strong Correlation, Results were accepted.			* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.	



Operated By: Andy Li — Project Technician, Environmental — Date: 29-03-2024

Checked By: Tandy Tse — Senior Consultant, Environmental — Date: 29-03-2024

Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Information of Calibrated Equipement

Verification Test Date:	**19-Mar-24**	to	**24-Mar-24**	Next Verification Test Date:	**19-Mar-25**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	882107				
Our Report Refrence No.:	RPT-24-HVS-0072				
Calibration Location:	Emax				

Standard Equipment Information

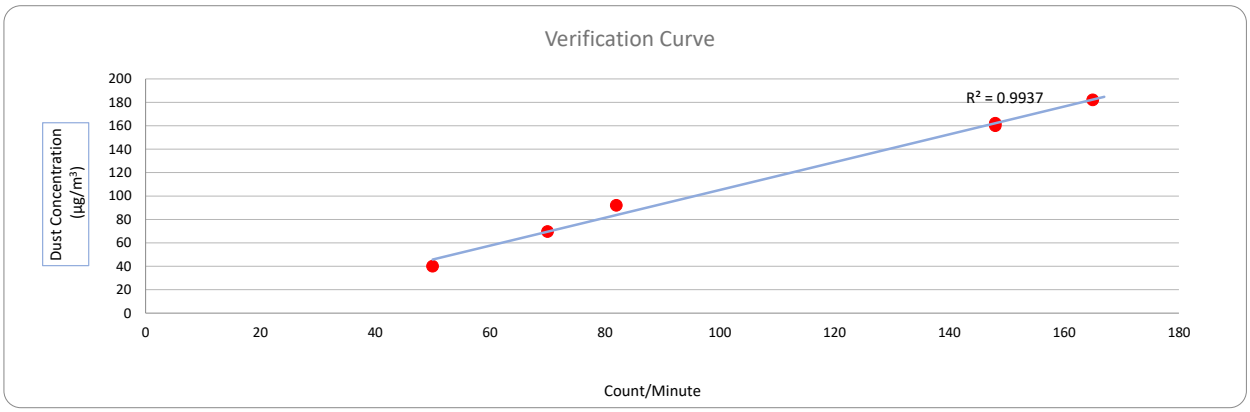
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1049	3465
Last Calibration Date:	19-Mar-24	15-Jan-24
Next Calibration Date:	2-Apr-24	15-Jan-25

Equipement Vertification Result

Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	19/03/2024	7953.66	7956.66	180.00	26640	148	162
2	19/03/2024	7956.66	7959.66	180.00	26640	148	160
3	19/03/2024	7959.66	7962.66	180.00	29700	165	182
4	24/03/2024	7985.12	7988.12	180.00	9000	50	40
5	24/03/2024	7988.12	7991.12	180.00	14760	82	92
6	24/03/2024	7991.12	7994.12	180.00	12600	70	70

Linear Regression of y on x

Slope, K factor:	**1.1878**	Intercept:	**-13.6322**	*Correlation Coefficient,R:	**0.9969**
Verification Test Result:	Strong Correlation, Results were accepted.			* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.	



Operated By: Andy Li — Project Technician, Environmental — Date: 29-03-2024

Checked By: Tandy Tse — Senior Consultant, Environmental — Date: 29-03-2024

Noise Quality Monitoring Equipment

Certificate of Calibration

for

Description:	***Sound Level Calibrator***
Manufacturer:	***RION***
Type No.:	***NC-75***
Serial No.:	***34724244***

Submitted by:

Customer:	*Aurecon Hong Kong Limited*
Address:	*Unit 1608, 16/F, Tower B, Manulife Financial Centre,*
	223-231 Wai Yip Street, Kwun Tong,
	Kowloon, Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within**
☐ **Outside**

the allowable tolerance.

The test equipments used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 22 July 2024

Date of calibration: 24 July 2024

Date of NEXT calibration: 23 July 2025

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **24 July 2024**

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precautions:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Specifications:*

Calibration check

3. *Calibration Conditions:*

Air Temperature:	23.4 °C
Air Pressure:	1005 hPa
Relative Humidity:	56.7 %

4. *Calibration Equipment:*

Test Equipment	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS
Sound Level Meter	RION NA-28	30721812	AV230128	HOKLAS

5. *Calibration Results*

5.1 Sound Pressure Level

Nominal value dB	Accept lower level dB	Accept upper level dB	Measured value dB
94.0	93.6	94.4	93.9

Note:
The values given in this certification only related to the values measured at the time of the calibration.

ACOUSTICS AND AIR TESTING LABORATORY (A+A)*L CO LTD.

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Certificate of Calibration

for

Description:	***Sound Level Calibrator***
Manufacturer:	***RION***
Type No.:	***NC-75***
Serial No.:	***34724245***

Submitted by:

Customer:	*Aurecon Hong Kong Limited*
Address:	*Unit 1608, 16/F, Tower B, Manulife Financial Centre,*
	223-231 Wai Yip Street, Kwun Tong,
	Kowloon, Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within**
☐ **Outside**

the allowable tolerance.

The test equipments used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 22 July 2024

Date of calibration: 24 July 2024

Date of NEXT calibration: 23 July 2025

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **24 July 2024**

Certificate No.: APJ23-154-CC003

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precautions:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

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Calibration check

3. *Calibration Conditions:*

Air Temperature:	23.4 °C
Air Pressure:	1005 hPa
Relative Humidity:	56.7 %

4. *Calibration Equipment:*

Test Equipment	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS
Sound Level Meter	RION NA-28	30721812	AV230128	HOKLAS

5. *Calibration Results*

5.1 Sound Pressure Level

Nominal value dB	Accept lower level dB	Accept upper level dB	Measured value dB
94.0	93.6	94.4	94.0

Note:
The values given in this certification only related to the values measured at the time of the calibration.

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A)*L

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Certificate of Calibration

for

Description:	***Sound Level Calibrator***
Manufacturer:	***RION***
Type No.:	***NC-75***
Serial No.:	***34524163***

Submitted by:

Customer:	*Aurecon Hong Kong Limited*
Address:	*Unit 1608, 16/F, Tower B, Manulife Financial Centre,*
	223-231 Wai Yip Street, Kwun Tong,
	Kowloon, Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within**
☐ **Outside**

the allowable tolerance.

The test equipments used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 22 July 2024

Date of calibration: 24 July 2024

Date of NEXT calibration: 23 July 2025

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **24 July 2024**

Certificate No.: APJ24-010-CC001

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precautions:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Specifications:*

Calibration check

3. *Calibration Conditions:*

Air Temperature:	23.4 **°C**
Air Pressure:	1005 **hPa**
Relative Humidity:	56.7 **%**

4. *Calibration Equipment:*

Test Equipment	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS
Sound Level Meter	RION NA-28	30721812	AV230128	HOKLAS

5. *Calibration Results*

5.1 Sound Pressure Level

Nominal value dB	Accept lower level dB	Accept upper level dB	Measured value dB
94.0	93.6	94.4	93.9

Note:
The values given in this certification only related to the values measured at the time of the calibration.

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A)*L

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***NTi Audio***
Type No.:	***XL2 (Serial No.: A2A-09696-E0)***
Microphone:	***ACO 7052 (Serial No.:73780)***
Preamplifier:	***NTi Audio MA220 (Serial No.:6282)***

Submitted by:

Customer:	*Aurecon Hong Kong Limited*
Address:	*Unit 1608, 16/F, Tower B,*
	Manulife Financial Centre,
	223-231 Wai Yip Street, Kwun Tong,
	Kowloon, Hong Kong.

Upon receipt for calibration, the instrument was found to be:

☑ **Within (31.5Hz – 8kHz)**
☐ **Outside**
the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 28 February 2024

Date of calibration: 02 March 2024

Date of NEXT calibration: 01 March 2025

Calibrated by: _____ ***Certified by:*** _____
Calibration Technician ***Mr. Ng Yan Wa***
Laboratory Manager

Date of issue: **02 March 2024**

Certificate No.: APJ23-146-CC003

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precaution:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Conditions:*

Air Temperature:	22.9 **°C**
Air Pressure:	1005 **hPa**
Relative Humidity:	61.2 **%**

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV220061	HOKLAS

4. *Calibration Results*

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	1000	94.1	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	1000	94.1	Ref
			104		104.1	±0.3
			114		114.1	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	1000	94.1	Ref
		Slow			94.1	±0.3

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dB SPL	Fast	94	31.5	94.0	±2.0
				63	94.1	±1.5
				125	94.1	±1.5
				250	94.1	±1.4
				500	94.1	±1.4
				1000	94.1	Ref
				2000	94.4	±1.6
				4000	95.2	±1.6
				8000	94.5	+2.1; -3.1

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	31.5	54.6	-39.4 ±2.0
				63	67.9	-26.2 ±1.5
				125	78.0	-16.1 ±1.5
				250	85.4	-8.6 ±1.4
				500	90.9	-3.2 ±1.4
				1000	94.1	Ref
				2000	95.6	+1.2 ±1.6
				4000	96.2	+1.0 ±1.6
				8000	93.4	-1.1+2.1; -3.1

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBC SPL	Fast	94	31.5	91.0	-3.0 ±2.0
				63	93.3	-0.8 ±1.5
				125	93.9	-0.2 ±1.5
				250	94.1	-0.0 ±1.4
				500	94.2	-0.0 ±1.4
				1000	94.1	Ref
				2000	94.2	-0.2 ±1.6
				4000	94.4	-0.8 ±1.6
				8000	91.5	–3.0 +2.1: –3.1

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

5. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.10
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:
The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***NTi Audio***
Type No.:	***XL2 (Serial No.: A2A-13548-E0)***
Microphone:	***ACO 7052 (Serial No.:84474)***
Preamplifier:	***NTi Audio MA220 (Serial No.:7989)***

Submitted by:

Customer:	*Aurecon Hong Kong Limited*
Address:	*Unit 1608, 16/F, Tower B,*
	Manulife Financial Centre,
	223-231 Wai Yip Street, Kwun Tong,
	Kowloon, Hong Kong.

Upon receipt for calibration, the instrument was found to be:

☑ **Within (31.5Hz – 8kHz)**
☐ **Outside**
the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 28 February 2024

Date of calibration: 02 March 2024

Date of NEXT calibration: 01 March 2025

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **02 March 2024**

Certificate No.: APJ23-146-CC004

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precaution:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Conditions:*

Air Temperature: 22.4 °C
Air Pressure: 1005 hPa
Relative Humidity: 59.6 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV220061	HOKLAS

4. *Calibration Results*

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	Ref
			104		104.2	±0.3
			114		114.2	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	Ref
		Slow			94.2	±0.3

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dB SPL	Fast	94	31.5	94.1	±2.0
				63	94.2	±1.5
				125	94.2	±1.5
				250	94.1	±1.4
				500	94.2	±1.4
				1000	94.1	Ref
				2000	94.3	±1.6
				4000	94.8	±1.6
				8000	93.8	+2.1; -3.1

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	31.5	54.7	-39.4 ±2.0
				63	68.0	-26.2 ±1.5
				125	78.1	-16.1 ±1.5
				250	85.5	-8.6 ±1.4
				500	91.0	-3.2 ±1.4
				1000	94.1	Ref
				2000	95.5	+1.2 ±1.6
				4000	95.8	+1.0 ±1.6
				8000	92.7	-1.1+2.1; -3.1

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBC SPL	Fast	94	31.5	91.1	-3.0 ±2.0
				63	93.3	-0.8 ±1.5
				125	94.0	-0.2 ±1.5
				250	94.1	-0.0 ±1.4
				500	94.2	-0.0 ±1.4
				1000	94.1	Ref
				2000	94.2	-0.2 ±1.6
				4000	94.0	-0.8 ±1.6
				8000	90.8	–3.0 +2.1: –3.1

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

5. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.05
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:
The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

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Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***NTi Audio***
Type No.:	***XL2 (Serial No.: A2A-13663-F0)***
Microphone:	***ACO 7052 (Serial No.: 84413)***
Preamplifier:	***NTi Audio M2211 MA220 (Serial No.: 7014)***

Submitted by:

Customer:	*Acuity Sustainability Consulting Limited*
Address:	*Unit E, 12/F, Ford Glory Plaza,*
	Nos. 37-39 Wing Hong Street,
	Cheung Sha Wan, Kowloon, Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within (31.5Hz – 4kHz)**
☐ **Outside**

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 25 January 2024

Date of calibration: 29 January 2024

Date of NEXT calibration: 28 January 2025

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **29 January 2024**

Certificate No.: APJ23-132-CC001

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precaution:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Conditions:*

Air Temperature:	20.6 °C
Air Pressure:	1006 hPa
Relative Humidity:	48.5 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV220061	HOKLAS

4. *Calibration Results*

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	Ref
			104		104.1	±0.3
			114		114.1	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	Ref
		Slow			94.1	±0.3

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dB SPL	Fast	94	31.5	94.1	±2.0
				63	94.1	±1.5
				125	94.1	±1.5
				250	94.1	±1.4
				500	94.1	±1.4
				1000	94.1	Ref
				2000	94.5	±1.6
				4000	95.1	±1.6

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	31.5	54.8	-39.4 ±2.0
				63	67.9	-26.2 ±1.5
				125	78.0	-16.1 ±1.5
				250	85.4	-8.6 ±1.4
				500	90.9	-3.2 ±1.4
				1000	94.1	Ref
				2000	95.7	+1.2 ±1.6
				4000	96.2	+1.0 ±1.6

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBC SPL	Fast	94	31.5	91.1	-3.0 ±2.0
				63	93.3	-0.8 ±1.5
				125	93.9	-0.2 ±1.5
				250	94.1	-0.0 ±1.4
				500	94.2	-0.0 ±1.4
				1000	94.1	Ref
				2000	94.3	-0.2 ±1.6
				4000	94.4	-0.8 ±1.6

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Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

5. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.05
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.10
	4000 Hz	± 0.15
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:
The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

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Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Water Quality Monitoring Equipment

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BD100073
Date of Issue : 21 October 2024

PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment :	YSI ProDSS Multi Parameters
Manufacturer :	YSI
Serial Number :	15M101091
Date of Received :	16 October 2024
Date of Calibration :	21 October 2024
Date of Next Calibration :	20 January 2025
Request No. :	D-BD100073

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
pH value	APHA 21e 4500-H^+ B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure
Salinity	APHA 21e 2520 B
Dissolved oxygen	APHA 23e 4500-O G (Membrane Electrode Method)
Turbidity	APHA 21e 2130 B (Nephelometric Method)

PART D - CALIBRATION RESULT

(1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.01	0.01	Satisfactory
7.42	7.43	0.01	Satisfactory
10.01	10.14	0.13	Satisfactory

Tolerance of pH value should be less than ± 0.2 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
16.0	16.1	0.1	Satisfactory
25.5	25.2	-0.3	Satisfactory
40.0	39.6	-0.4	Satisfactory

Tolerance of Temperature should be less than ± 2.0 (°C)

(3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.71	-2.9	Satisfactory
20	19.84	-0.8	Satisfactory
30	30.42	1.4	Satisfactory

Tolerance of Salinity should be less than ± 10.0 (%)

--- CONTINUED ON NEXT PAGE ---

AUTHORIZED SIGNATORY:

LEE Chun-ning
Assistant Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BD100073
Date of Issue : 21 October 2024

(4) Dissolved oxygen

Expected Reading (mg/L)	Display Reading (mg/L)	Tolerance	Result
7.41	7.77	0.36	Satisfactory
5.61	5.22	-0.39	Satisfactory
3.49	3.56	0.07	Satisfactory
0.56	0.29	-0.27	Satisfactory

Tolerance of Dissolved oxygen should be less than ± 0.5 (mg/L)

(5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance [a] (%)	Result
0	0.02	--	Satisfactory
10	10.11	1.1	Satisfactory
20	19.85	-0.7	Satisfactory
100	103.25	3.3	Satisfactory
800	822.19	2.8	Satisfactory

Tolerance of Turbidity should be less than ± 10.0 (%)

[a] For 0 NTU, Display Reading should be less than 1 NTU

Remark(s)

·The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.

·The results relate only to the calibrated equipment as received

·The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

·"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.

·The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.

--- END OF REPORT ---

Appendix E
Environmental Monitoring Schedule

Project: Contract No. SPW 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Environmental Monitoring Schedule (December 2024)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
1	2 **AQM, NM**	3 **WQM** Mid Flood (16:52) Mid Ebb (12:22)	4 **EMB** (Day)	5 **WQM** Mid Flood (09:09) Mid Ebb (13:25)	6	7 **AQM, WQM** Mid Flood (10:25) Mid Ebb (16:20)
8	9	10 **WQM** Mid Flood (10:17) Mid Ebb (15:53)	11	12 **WQM** Mid Flood (16:47) Mid Ebb (08:40)	13 **AQM, NM**	14 **WQM** Mid Flood (18:30) Mid Ebb (12:09)
15	16	17 **WQM** Mid Flood (18:20) Mid Ebb (11:06)	18 **ANRM, EMB** (Night)	19 **AQM, NM, WQM** Mid Flood (16:42) Mid Ebb (12:31)	20	21 **WQM** Mid Flood (10:06) Mid Ebb (13:53)
22	23	24 **AQM, NM, WQM** Mid Flood (10:56) Mid Ebb (16:14)	25	26 **WQM** Mid Flood (17:10) Mid Ebb (09:24)	27	28 **WQM** Mid Flood (18:30) Mid Ebb (09:02)
29	30 **AQM, NM**	31 **WQM** Mid Flood (17:32) Mid Ebb (10:50)				

Remarks:

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

Project: Contract No. SPW 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Environmental Monitoring Schedule (January 2025)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
			1	2 **WQM** Mid Flood (09:09) Mid Ebb (13:29)	3	4 **WQM, AQM** Mid Flood (08:33) Mid Ebb (14:27)
5	6	7 **WQM, EMB** (Day) Mid Flood (11:07) Mid Ebb (16:21)	8	9 **WQM** Mid Flood (16:40) Mid Ebb (08:54)	10 **AQM, NM**	11 **WQM** Mid Flood (16:27) Mid Ebb (11:25)
12	13	14 **WQM** Mid Flood (18:04) Mid Ebb (11:24)	15 **ANRM**	16 **WQM, AQM, NM** Mid Flood (08:34) Mid Ebb (12:53)	17	18 **WQM** Mid Flood (08:29) Mid Ebb (14:14)
19	20	21 **WQM** Mid Flood (11:29) Mid Ebb (16:17)	22 **AQM, NM**	23 **WQM** Mid Flood (17:01) Mid Ebb (09:30)	24	25 **WQM** Mid Flood (08:29) Mid Ebb (14:14)
26	27	28 **WQM, AQM, NM** Mid Flood (17:40) Mid Ebb (11:17)	29	30 **WQM** Mid Flood (08:27) Mid Ebb (12:29)	31	

Remarks:

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

Project: Contract No. SPW 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Environmental Monitoring Schedule (February 2025)

Sun	Mon	Tue	Wed	Thur	Fri	Sat
						1 **WQM** Mid Flood (08:01) Mid Ebb (13:41)
2	3 **AQM, NM**	4 **WQM, EMB (Day)** Mid Flood (10:30) Mid Ebb (15:31)	5	6 **WQM** Mid Flood (12:55) Mid Ebb (16:59)	7	8 **WQM, AQM** Mid Flood (17:22) Mid Ebb (09:56)
9	10	11 **WQM** Mid Flood (17:10) Mid Ebb (09:55)	12	13 **WQM** Mid Flood (17:39) Mid Ebb (11:40)	14 **AQM, NM**	15 **WQM** Mid Flood (09:48) Mid Ebb (13:16)
16	17	18 **WQM** Mid Flood (10:32) Mid Ebb (15:12)	19	20 **WQM AQM, NM** Mid Flood (12:19) Mid Ebb (16:57)	21	22 **WQM** Mid Flood (14:36) Mid Ebb (09:52)
23	24	25 **WQM** Mid Flood (16:15) Mid Ebb (09:45)	26 **AQM, NM**	27 **WQM** Mid Flood (17:25) Mid Ebb (11:56)	28	

Remarks:

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

Appendix F
Environmental Monitoring Results

Air Quality Monitoring Results

1-hour TSP Monitoring Result for

Contract No. SPW 02/2023

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

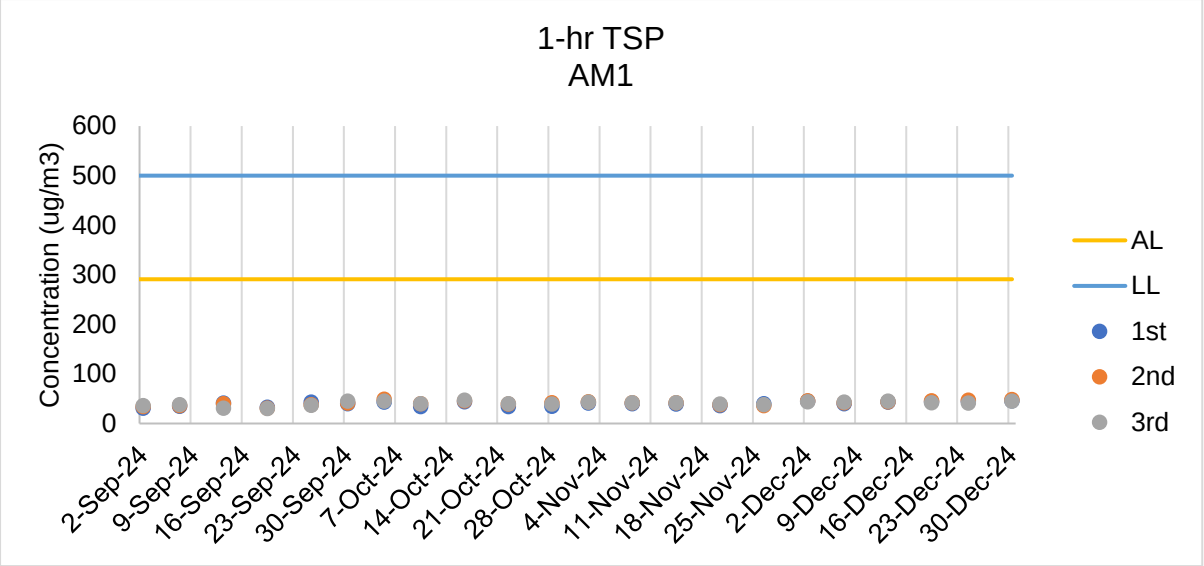
AM1 - Topfine Machinery (China) Co. Ltd.

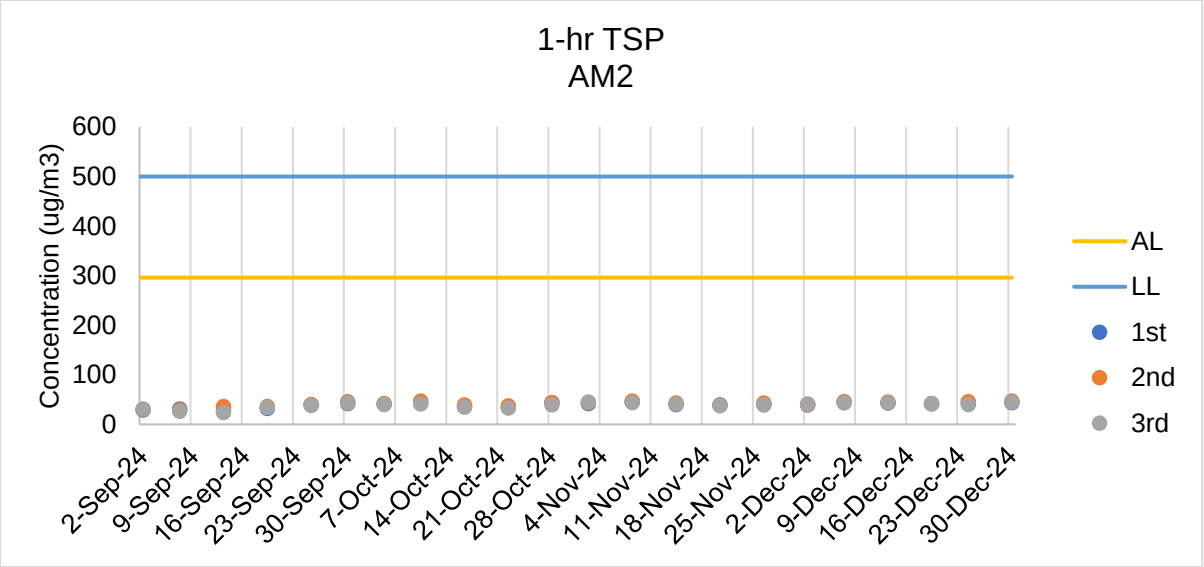
Date	Weather Condition	Start Time	1-hour TSP (µg/m³) 1st Measurement	2nd Measurement	3rd Measurement	Action Level (ug/m^3)	Limit Level (ug/m^3)
2/12/2024	sunny	8:34	45	46	44	291	500
7/12/2024	sunny	8:44	40	42	43		
13/12/2024	sunny	8:50	43	44	45		
19/12/2024	sunny	8:12	44	46	42		
24/12/2024	sunny	8:22	45	47	41		
30/12/2024	sunny	8:09	46	48	45		
		Min	40				
		Max	48				
		Average	44				

AM2 - Squatter house at the west of Yuen Long STW

Date	Weather Condition	Start Time	1-hour TSP (µg/m³) 1st Measurement	2nd Measurement	3rd Measurement	Action Level (ug/m^3)	Limit Level (ug/m^3)
2/12/2024	sunny	13:32	39	40	41	296	500
7/12/2024	sunny	13:11	45	46	43		
13/12/2024	sunny	13:28	43	45	43		
19/12/2024	sunny	13:33	42	42	41		
24/12/2024	sunny	13:00	43	46	40		
30/12/2024	sunny	13:21	44	47	45		
		Min	39				
		Max	47				
		Average	43				

Note:
Underline: Exceedance of Action Level
Underline and Bold: Exceedance of Limit Level





Air Quality Monitoring Results

Noise Monitoring Results

Noise Impact Monitoring Result for
Contract No. SPW 02/2023
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)
2/12/2024	10:21	59.4	61.3	57.4	1.1	sunny	75
13/12/2024	10:41	61.2	62.5	59.4	0.5	sunny	75
19/12/2024	9:57	60.2	61.9	59.4	1.6	sunny	75
24/12/2024	10:01	60.6	61.1	58.5	1.4	sunny	75
30/12/2024	9:49	61.1	62.8	57.9	0.8	sunny	75
	Max	61.2					
	Min	59.4					

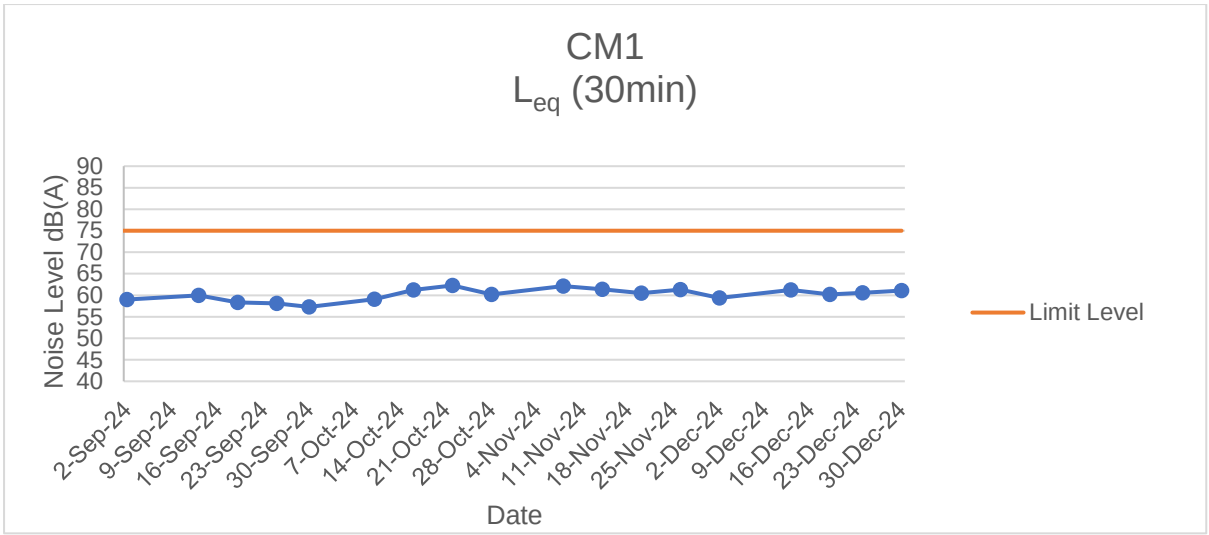
CM2 - Squatter house to the west of YLSTW

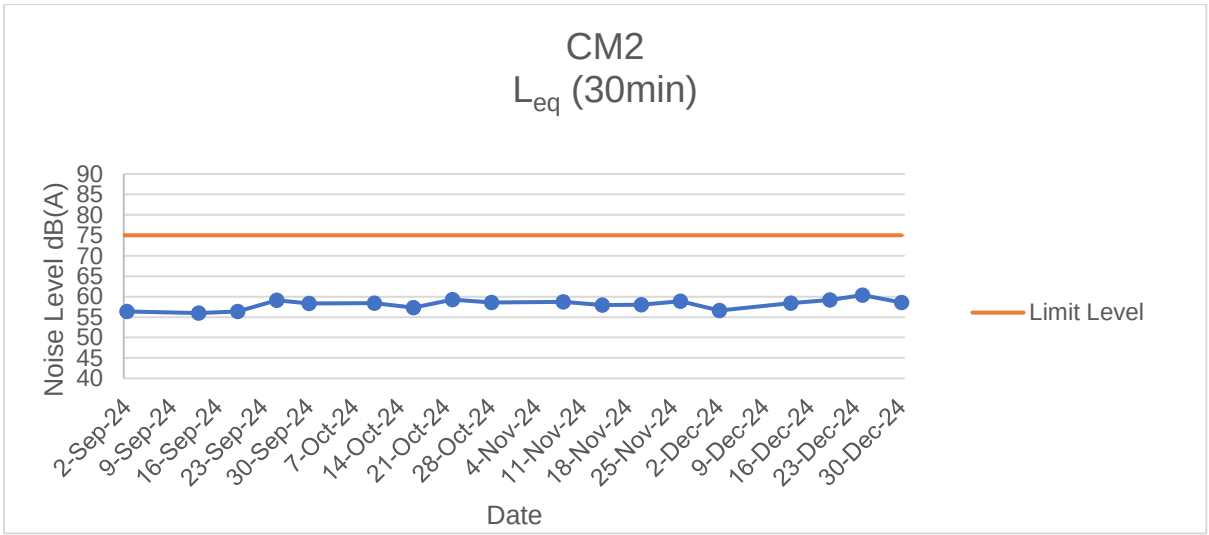
Date	Start Time	L_{eq} 30min dB(A)	L_{10} dB(A)	L_{90} dB(A)	Wind Speed (m/s)	Weather	Limit Level dB(A)
2/12/2024	13:32	56.6	57.6	54.3	0.7	sunny	75
13/12/2024	13:28	58.4	60.4	56.4	0.6	sunny	75
19/12/2024	13:33	59.2	61.6	57.6	0.2	sunny	75
24/12/2024	13:00	60.4	61.9	58.5	0.7	sunny	75
30/12/2024	13:21	58.6	60.5	56.7	1.5	sunny	75
	Max	60.4					
	Min	56.6					

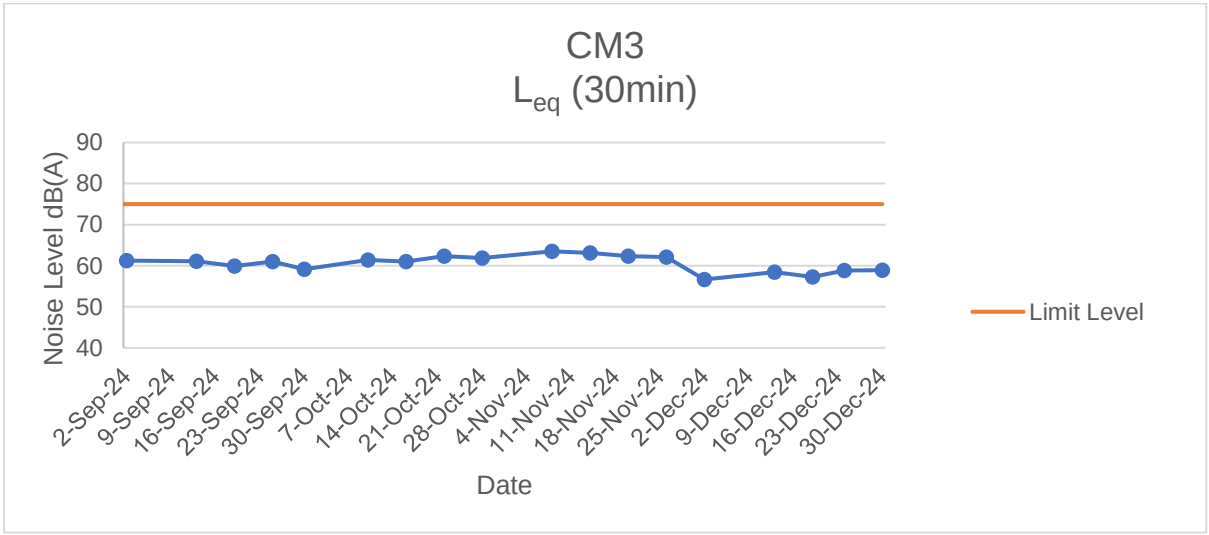
CM3 - Squatter house to the east of YLSTW

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)
2/12/2024	8:55	56.6	58.4	54.5	0.8	sunny	75
13/12/2024	9:18	58.4	60.4	55.3	0.6	sunny	75
19/12/2024	8:36	57.3	59.6	56.5	0.4	sunny	75
24/12/2024	8:44	58.8	60.5	56.3	1.2	sunny	75
30/12/2024	8:32	58.9	60.9	57.3	1.7	sunny	75
	Max	58.9					
	Min	56.6					

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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	3/12/2024	Mid-Flood	Sunny	Low	14:35	2.6	M	1.30	1	0.074	183.065	7.19	7.20	2.82	2.81	20.9	20.95	36.8	36.75	2.77	2.77	21.07	21.19	28	28
M1	3/12/2024	Mid-Flood	Sunny	Low	14:35	2.6	M	1.30	2			7.21		2.8		21		36.7		2.76		21.31		27	
M2	3/12/2024	Mid-Flood	Sunny	Low	14:55	2.4	M	1.20	1	0.073	171.814	7.14	7.15	2.75	2.75	20.9	20.90	37.0	37.45	2.78	2.82	21.84	21.665	25	25
M2	3/12/2024	Mid-Flood	Sunny	Low	14:55	2.4	M	1.20	2			7.15		2.74		20.9		37.9		2.85		21.49		24	
M3	3/12/2024	Mid-Flood	Sunny	Low	15:10	2.1	M	1.05	1	0.095	175.12	7.11	7.12	3.32	3.34	20.9	20.90	48.4	49.00	3.64	3.69	30.59	30.71	25	25
M3	3/12/2024	Mid-Flood	Sunny	Low	15:10	2.1	M	1.05	2			7.13		3.36		20.9		49.6		3.73		30.83		24	
M1	3/12/2024	Mid-Ebb	Sunny	Low	10:22	2.5	M	1.25	1	0.075	331.825	7.14	7.15	2.71	2.73	21.1	21.10	37.6	36.75	2.83	2.77	19.91	19.825	23	25
M1	3/12/2024	Mid-Ebb	Sunny	Low	10:22	2.5	M	1.25	2			7.16		2.74		21.1		35.9		2.7		19.74		26	
M2	3/12/2024	Mid-Ebb	Sunny	Low	9:51	2.3	M	1.15	1	0.059	323.843	7.18	7.17	2.74	2.73	21.1	21.15	33.6	33.70	2.53	2.54	19.06	19.065	24	28
M2	3/12/2024	Mid-Ebb	Sunny	Low	9:51	2.3	M	1.15	2			7.16		2.72		21.2		33.8		2.54		19.07		32	
M3	3/12/2024	Mid-Ebb	Sunny	Low	10:38	2	M	1.00	1	0.066	331.739	7.11	7.10	3.30	3.32	21.1	21.15	48.1	48.70	3.62	3.67	29.69	29.8	35	34
M3	3/12/2024	Mid-Ebb	Sunny	Low	10:38	2	M	1.00	2			7.09		3.34		21.2		49.3		3.71		29.91		33	

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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	5/12/2024	Mid-Flood	Sunny	Low	15:55	2.5	M	1.25	1	0.075	174.713	7.2	7.20	2.74	2.73	22.9	22.90	33.9	33.40	2.55	2.51	24.82	24.875	33	30
M1	5/12/2024	Mid-Flood	Sunny	Low	15:56	2.5	M	1.25	2			7.2		2.72		22.9		32.9		2.47		24.93		27	
M2	5/12/2024	Mid-Flood	Sunny	Low	16:22	2.3	M	1.15	1	0.078	166.339	7.13	7.13	2.91	2.93	22.9	22.90	36.4	36.40	2.74	2.74	25.97	25.81	19	20
M2	5/12/2024	Mid-Flood	Sunny	Low	16:22	2.3	M	1.15	2			7.12		2.94		22.9		36.4		2.74		25.65		20	
M3	5/12/2024	Mid-Flood	Sunny	Low	16:35	2	M	1.00	1	0.095	182.632	7.13	7.14	3.23	3.24	22.9	22.95	49.6	49.45	3.73	3.72	31.75	31.55	13	18
M3	5/12/2024	Mid-Flood	Sunny	Low	16:35	2	M	1.00	2			7.15		3.25		23		49.3		3.71		31.35		23	
M1	5/12/2024	Mid-Ebb	Sunny	Low	10:15	2.4	M	1.20	1	0.076	315.073	7.16	7.16	2.73	2.73	22.8	22.85	35.8	35.60	2.69	2.68	19.92	20.075	18	25
M1	5/12/2024	Mid-Ebb	Sunny	Low	10:15	2.4	M	1.20	2			7.16		2.73		22.9		35.4		2.66		20.23		31	
M2	5/12/2024	Mid-Ebb	Sunny	Low	9:48	2	M	1.00	1	0.074	335.378	7.15	7.16	2.55	2.54	22.8	22.80	34.7	34.25	2.61	2.58	19.25	19.24	34	33
M2	5/12/2024	Mid-Ebb	Sunny	Low	9:48	2	M	1.00	2			7.17		2.53		22.8		33.8		2.54		19.23		31	
M3	5/12/2024	Mid-Ebb	Sunny	Low	10:33	1.9	M	0.95	1	0.065	324.21	7.15	7.16	3.46	3.44	22.8	22.80	50.4	50.75	3.79	3.82	33.25	33.28	42	39
M3	5/12/2024	Mid-Ebb	Sunny	Low	10:33	1.9	M	0.95	2			7.16		3.41		22.8		51.1		3.84		33.31		36	

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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	7/12/2024	Mid-Flood	Sunny	Low	8:31	2.6	M	1.30	1	0.079	171.512	7.2	7.20	3.13	3.17	21.1	21.15	35.9	35.70	2.7	2.69	20.69	20.635	14	17
M1	7/12/2024	Mid-Flood	Sunny	Low	8:31	2.6	M	1.30	2			7.19		3.2		21.2		35.5		2.67		20.58		19	
M2	7/12/2024	Mid-Flood	Sunny	Low	8:59	2.3	M	1.15	1	0.087	163.986	7.22	7.21	3.07	3.04	21.1	21.15	37.6	38.35	2.83	2.89	21.89	21.985	22	20
M2	7/12/2024	Mid-Flood	Sunny	Low	8:59	2.3	M	1.15	2			7.2		3		21.2		39.1		2.94		22.08		17	
M3	7/12/2024	Mid-Flood	Sunny	Low	9:11	2.1	M	1.05	1	0.092	181.712	7.22	7.21	3.69	3.67	21.1	21.10	49.9	49.75	3.75	3.74	31.79	32.365	14	18
M3	7/12/2024	Mid-Flood	Sunny	Low	9:12	2.1	M	1.05	2			7.2		3.65		21.1		49.6		3.73		32.94		21	
M1	7/12/2024	Mid-Ebb	Sunny	Low	13:29	2.4	M	1.20	1	0.073	344.765	7.18	7.19	2.99	2.95	20.9	20.95	36.7	37.35	2.76	2.81	19.88	19.66	10	10
M1	7/12/2024	Mid-Ebb	Sunny	Low	13:29	2.4	M	1.20	2			7.19		2.91		21.0		38.0		2.86		19.44		9	
M2	7/12/2024	Mid-Ebb	Sunny	Low	13:01	2.2	M	1.10	1	0.075	326.584	7.17	7.16	3.08	3.08	20.9	20.90	37.0	37.65	2.78	2.83	19.59	19.7	21	21
M2	7/12/2024	Mid-Ebb	Sunny	Low	13:01	2.2	M	1.10	2			7.15		3.08		20.9		38.3		2.88		19.81		21	
M3	7/12/2024	Mid-Ebb	Sunny	Low	13:48	2	M	1.00	1	0.068	302.896	7.16	7.17	3.77	3.79	20.9	20.90	49.2	48.70	3.7	3.67	33.07	32.61	29	26
M3	7/12/2024	Mid-Ebb	Sunny	Low	13:48	2	M	1.00	2			7.18		3.81		20.9		48.2		3.63		32.15		23	

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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	10/12/2024	Mid-Flood	Sunny	Low	8:00	2.5	M	1.25	1	0.073	175.596	7.11	7.12	2.81	2.84	22.0	22.05	33.5	33.50	2.52	2.52	22.67	22.63	16	16
M1	10/12/2024	Mid-Flood	Sunny	Low	8:00	2.5	M	1.25	2			7.12		2.87		22.1		33.5		2.52		22.59		15	
M2	10/12/2024	Mid-Flood	Sunny	Low	8:31	2.4	M	1.20	1	0.087	183.066	7.17	7.18	2.77	2.80	22.0	22.00	35.6	35.30	2.68	2.66	23.58	23.54	15	16
M2	10/12/2024	Mid-Flood	Sunny	Low	8:31	2.4	M	1.20	2			7.19		2.82		22		35.0		2.63		23.5		16	
M3	10/12/2024	Mid-Flood	Sunny	Low	8:50	2.1	M	1.05	1	0.095	187.583	7.13	7.13	3.29	3.26	22.0	22.00	49.1	49.40	3.69	3.72	31.88	31.705	18	18
M3	10/12/2024	Mid-Flood	Sunny	Low	8:50	2.1	M	1.05	2			7.12		3.22		22		49.7		3.74		31.53		18	
M1	10/12/2024	Mid-Ebb	Sunny	Low	15:33	2.5	M	1.25	1	0.081	316.812	7.15	7.14	2.72	2.72	21.9	21.95	35.0	34.00	2.63	2.56	24.87	24.945	18	18
M1	10/12/2024	Mid-Ebb	Sunny	Low	15:33	2.5	M	1.25	2			7.13		2.72		22.0		33.0		2.48		25.02		17	
M2	10/12/2024	Mid-Ebb	Sunny	Low	15:12	2.1	M	1.05	1	0.079	329.54	7.2	7.21	2.57	2.57	21.9	21.90	37.5	38.25	2.82	2.88	25.90	25.885	16	17
M2	10/12/2024	Mid-Ebb	Sunny	Low	15:12	2.1	M	1.05	2			7.22		2.57		21.9		39.0		2.93		25.87		18	
M3	10/12/2024	Mid-Ebb	Sunny	Low	15:49	2	M	1.00	1	0.067	313.992	7.14	7.14	3.54	3.56	21.9	21.90	48.9	49.60	3.68	3.73	32.28	32.415	17	16
M3	10/12/2024	Mid-Ebb	Sunny	Low	15:49	2	M	1.00	2			7.14		3.58		21.9		50.3		3.78		32.55		15	

Remark

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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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	12/12/2024	Mid-Flood	Sunny	Low	10:28	2.6	M	1.30	1	0.089	178.133	7.12	7.11	2.84	2.81	22.1	22.15	33.9	34.50	2.55	2.60	21.76	21.62	33	28
M1	12/12/2024	Mid-Flood	Sunny	Low	10:28	2.6	M	1.30	2			7.1		2.78		22.2		35.1		2.64		21.48		22	
M2	12/12/2024	Mid-Flood	Sunny	Low	10:53	2.4	M	1.20	1	0.078	190.404	7.18	7.18	2.80	2.76	22.1	22.15	36.0	36.75	2.71	2.77	21.99	21.81	19	20
M2	12/12/2024	Mid-Flood	Sunny	Low	10:53	2.4	M	1.20	2			7.18		2.72		22.2		37.5		2.82		21.63		20	
M3	12/12/2024	Mid-Flood	Sunny	Low	11:02	2.1	M	1.05	1	0.073	178.788	7.11	7.12	3.24	3.20	22.1	22.15	50.1	49.85	3.77	3.75	30.76	30.805	17	21
M3	12/12/2024	Mid-Flood	Sunny	Low	11:02	2.1	M	1.05	2			7.12		3.16		22.2		49.6		3.73		30.85		24	
M1	12/12/2024	Mid-Ebb	Sunny	Low	16:34	2.5	M	1.25	1	0.079	304.135	7.17	7.18	2.68	2.71	22.2	22.20	37.0	36.65	2.78	2.76	19.94	20.075	19	20
M1	12/12/2024	Mid-Ebb	Sunny	Low	16:35	2.5	M	1.25	2			7.19		2.74		22.2		36.3		2.73		20.21		21	
M2	12/12/2024	Mid-Ebb	Sunny	Low	16:13	2.2	M	1.10	1	0.079	302.394	7.18	7.18	2.59	2.64	22.2	22.25	37.6	37.60	2.83	2.83	19.44	19.58	25	27
M2	12/12/2024	Mid-Ebb	Sunny	Low	16:13	2.2	M	1.10	2			7.17		2.68		22.3		37.6		2.83		19.72		29	
M3	12/12/2024	Mid-Ebb	Sunny	Low	16:49	2	M	1.00	1	0.066	304.423	7.18	7.18	3.39	3.38	22.2	22.25	50.4	50.00	3.79	3.76	29.14	29.295	28	30
M3	12/12/2024	Mid-Ebb	Sunny	Low	16:49	2	M	1.00	2			7.17		3.37		22.3		49.6		3.73		29.45		32	

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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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	14/12/2024	Mid-Flood	Sunny	Low	12:19	2.6	M	1.30	1	0.095	182.813	7.19	7.20	2.74	2.73	21.6	21.65	36.6	36.00	2.75	2.71	22.56	22.655	2.5	3
M1	14/12/2024	Mid-Flood	Sunny	Low	12:19	2.6	M	1.30	2			7.2		2.71		21.7		35.4		2.66		22.75		2.5	
M2	14/12/2024	Mid-Flood	Sunny	Low	12:48	2.4	M	1.20	1	0.094	180.449	7.16	7.17	2.87	2.83	21.6	21.60	35.1	35.65	2.64	2.68	23.17	23.155	2.5	3
M2	14/12/2024	Mid-Flood	Sunny	Low	12:48	2.4	M	1.20	2			7.18		2.78		21.6		36.2		2.72		23.14		2.5	
M3	14/12/2024	Mid-Flood	Sunny	Low	12:58	2.1	M	1.05	1	0.09	164.123	7.14	7.14	3.27	3.24	21.6	21.60	51.6	51.80	3.88	3.90	31.83	31.92	2.5	3
M3	14/12/2024	Mid-Flood	Sunny	Low	12:58	2.1	M	1.05	2			7.14		3.21		21.6		52.0		3.91		32.01		2.5	
M1	14/12/2024	Mid-Ebb	Sunny	Low	9:48	2.5	M	1.25	1	0.076	327.4	7.2	7.21	2.69	2.69	21.4	21.40	37.4	37.05	2.81	2.79	22.92	23.005	2.5	3
M1	14/12/2024	Mid-Ebb	Sunny	Low	9:48	2.5	M	1.25	2			7.21		2.69		21.4		36.7		2.76		23.09		2.5	
M2	14/12/2024	Mid-Ebb	Sunny	Low	9:22	2.2	M	1.10	1	0.07	328.441	7.19	7.19	2.62	2.64	21.4	21.45	36.6	36.00	2.75	2.71	24.30	24.185	2.5	3
M2	14/12/2024	Mid-Ebb	Sunny	Low	9:22	2.2	M	1.10	2			7.19		2.66		21.5		35.4		2.66		24.07		2.5	
M3	14/12/2024	Mid-Ebb	Sunny	Low	9:59	2	M	1.00	1	0.073	318.604	7.19	7.19	3.36	3.40	21.4	21.45	49.6	49.75	3.73	3.74	34.28	34.335	2.5	3
M3	14/12/2024	Mid-Ebb	Sunny	Low	9:59	2	M	1.00	2			7.19		3.44		21.5		49.9		3.75		34.39		2.5	

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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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	17/12/2024	Mid-Flood	Sunny	Low	14:13	2.6	M	1.30	1	0.095	184.925	7.17	7.17	2.71	2.74	21.0	21.05	36.2	35.60	2.72	2.68	24.34	24.165	26	26
M1	17/12/2024	Mid-Flood	Sunny	Low	14:13	2.6	M	1.30	2			7.16		2.77		21.1		35.0		2.63		23.99		25	
M2	17/12/2024	Mid-Flood	Sunny	Low	14:42	2.4	M	1.20	1	0.088	180.078	7.18	7.18	2.76	2.73	21.0	21.00	37.8	36.90	2.84	2.78	25.95	26	31	33
M2	17/12/2024	Mid-Flood	Sunny	Low	14:42	2.4	M	1.20	2			7.18		2.7		21		36.0		2.71		26.05		35	
M3	17/12/2024	Mid-Flood	Sunny	Low	14:55	2.1	M	1.05	1	0.09	186.11	7.18	7.17	3.44	3.40	21.0	21.00	49.7	49.20	3.74	3.70	35.91	36.045	35	33
M3	17/12/2024	Mid-Flood	Sunny	Low	14:55	2.1	M	1.05	2			7.16		3.35		21		48.7		3.66		36.18		31	
M1	17/12/2024	Mid-Ebb	Sunny	Low	10:10	2.5	M	1.25	1	0.062	344.17	7.14	7.13	2.66	2.70	20.9	20.95	39.5	38.75	2.97	2.92	24.89	24.995	28	30
M1	17/12/2024	Mid-Ebb	Sunny	Low	10:10	2.5	M	1.25	2			7.12		2.73		21.0		38.0		2.87		25.1		31	
M2	17/12/2024	Mid-Ebb	Sunny	Low	9:44	2.3	M	1.15	1	0.067	344.269	7.15	7.16	2.75	2.71	20.9	20.90	40.4	39.90	3.04	3.00	23.54	23.63	33	30
M2	17/12/2024	Mid-Ebb	Sunny	Low	9:44	2.3	M	1.15	2			7.17		2.66		20.9		39.4		2.96		23.72		26	
M3	17/12/2024	Mid-Ebb	Sunny	Low	10:31	2	M	1.00	1	0.065	301.654	7.17	7.18	3.58	3.60	20.9	20.95	52.1	51.25	3.92	3.86	33.55	33.33	26	27
M3	17/12/2024	Mid-Ebb	Sunny	Low	10:31	2	M	1.00	2			7.18		3.62		21.0		50.4		3.79		33.11		27	

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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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	19/12/2024	Mid-Flood	Sunny	Low	15:38	2.5	M	1.25	1	0.082	174.836	7.2	7.20	2.99	3.03	21.6	21.60	37.2	37.00	2.8	2.79	20.59	20.585	35	40
M1	19/12/2024	Mid-Flood	Sunny	Low	15:38	2.5	M	1.25	2			7.19		3.07		21.6		36.8		2.77		20.58		45	
M2	19/12/2024	Mid-Flood	Sunny	Low	15:55	2.2	M	1.10	1	0.095	166.143	7.11	7.12	3.16	3.13	21.6	21.60	37.1	36.35	2.79	2.74	21.92	21.725	42	43
M2	19/12/2024	Mid-Flood	Sunny	Low	15:55	2.2	M	1.10	2			7.13		3.1		21.6		35.6		2.68		21.53		44	
M3	19/12/2024	Mid-Flood	Sunny	Low	16:11	2	M	1.00	1	0.088	189.453	7.13	7.13	3.89	3.92	21.6	21.65	48.9	48.30	3.68	3.64	31.78	31.65	43	45
M3	19/12/2024	Mid-Flood	Sunny	Low	16:11	2	M	1.00	2			7.13		3.94		21.7		47.7		3.59		31.52		47	
M1	19/12/2024	Mid-Ebb	Sunny	Low	11:34	2.4	M	1.20	1	0.059	307.112	7.19	7.19	2.82	2.78	21.4	21.45	34.8	35.35	2.62	2.66	19.91	19.805	43	40
M1	19/12/2024	Mid-Ebb	Sunny	Low	11:34	2.4	M	1.20	2			7.18		2.74		21.5		35.9		2.7		19.7		37	
M2	19/12/2024	Mid-Ebb	Sunny	Low	11:03	2.1	M	1.05	1	0.075	320.868	7.18	7.18	2.97	2.95	21.4	21.40	34.0	34.50	2.56	2.60	19.23	19.03	39	39
M2	19/12/2024	Mid-Ebb	Sunny	Low	11:03	2.1	M	1.05	2			7.17		2.92		21.4		35.0		2.63		18.83		38	
M3	19/12/2024	Mid-Ebb	Sunny	Low	11:49	1.9	M	0.95	1	0.067	333.705	7.16	7.17	3.85	3.85	21.4	21.45	49.9	49.00	3.75	3.69	32.29	32.25	41	40
M3	19/12/2024	Mid-Ebb	Sunny	Low	11:49	1.9	M	0.95	2			7.18		3.85		21.5		48.1		3.62		32.21		39	

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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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	21/12/2024	Mid-Flood	Sunny	Low	17:31	2.5	M	1.25	1	0.087	173.345	7.18	7.18	2.83	2.83	21.2	21.20	35.0	34.00	2.63	2.56	23.09	23.135	19	20
M1	21/12/2024	Mid-Flood	Sunny	Low	17:32	2.5	M	1.25	2			7.17		2.83		21.2		33.0		2.48		23.18		20	
M2	21/12/2024	Mid-Flood	Sunny	Low	17:55	2.4	M	1.20	1	0.084	187.294	7.19	7.20	2.82	2.86	21.2	21.20	37.4	37.20	2.81	2.80	23.55	23.72	22	27
M2	21/12/2024	Mid-Flood	Sunny	Low	17:55	2.4	M	1.20	2			7.21		2.9		21.2		37.0		2.78		23.89		31	
M3	21/12/2024	Mid-Flood	Sunny	Low	18:13	2.1	M	1.05	1	0.079	165.303	7.14	7.15	3.33	3.31	21.2	21.20	48.9	49.65	3.68	3.74	28.65	28.74	19	20
M3	21/12/2024	Mid-Flood	Sunny	Low	18:13	2.1	M	1.05	2			7.16		3.29		21.2		50.4		3.79		28.83		20	
M1	21/12/2024	Mid-Ebb	Sunny	Low	12:49	2.5	M	1.25	1	0.064	318.45	7.11	7.12	2.69	2.71	21.1	21.15	35.4	35.82	2.66	2.69	19.84	19.98	43	42
M1	21/12/2024	Mid-Ebb	Sunny	Low	12:49	2.5	M	1.25	2			7.13		2.72		21.2		36.2		2.72		20.12		40	
M2	21/12/2024	Mid-Ebb	Sunny	Low	12:27	2.1	M	1.05	1	0.068	308.723	7.16	7.17	2.61	2.62	21.1	21.10	35.1	35.70	2.64	2.69	18.03	17.885	43	42
M2	21/12/2024	Mid-Ebb	Sunny	Low	12:27	2.1	M	1.05	2			7.18		2.63		21.1		36.3		2.73		17.74		41	
M3	21/12/2024	Mid-Ebb	Sunny	Low	12:58	2	M	1.00	1	0.069	304.411	7.16	7.16	3.55	3.56	21.1	21.10	50.9	50.30	3.83	3.79	29.65	29.775	38	42
M3	21/12/2024	Mid-Ebb	Sunny	Low	12:58	2	M	1.00	2			7.16		3.57		21.1		49.7		3.74		29.9		45	

Remark

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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.
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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	24/12/2024	Mid-Flood	Sunny	Low	10:03	2.6	M	1.30	1	0.08	177.879	7.09	7.10	3.21	3.18	21.8	21.80	36.8	36.15	2.77	2.72	18.55	18.525	20	19
M1	24/12/2024	Mid-Flood	Sunny	Low	10:03	2.6	M	1.30	2			7.11		3.15		21.8		35.5		2.67		18.5		18	
M2	24/12/2024	Mid-Flood	Sunny	Low	10:35	2.4	M	1.20	1	0.073	189.017	7.11	7.11	3.17	3.17	21.8	21.85	35.5	34.55	2.67	2.60	17.66	17.825	22	23
M2	24/12/2024	Mid-Flood	Sunny	Low	10:35	2.4	M	1.20	2			7.1		3.17		21.9		33.6		2.53		17.99		23	
M3	24/12/2024	Mid-Flood	Sunny	Low	10:48	2.1	M	1.05	1	0.093	171.252	7.08	7.08	3.88	3.85	21.8	21.80	51.6	50.75	3.88	3.82	29.55	29.47	25	27
M3	24/12/2024	Mid-Flood	Sunny	Low	10:49	2.1	M	1.05	2			7.07		3.82		21.8		49.9		3.75		29.39		28	
M1	24/12/2024	Mid-Ebb	Sunny	Low	14:44	2.5	M	1.25	1	0.071	325.855	7.12	7.12	3.08	3.07	21.6	21.60	36.4	36.35	2.74	2.74	19.85	19.965	24	31
M1	24/12/2024	Mid-Ebb	Sunny	Low	14:44	2.5	M	1.25	2			7.12		3.06		21.6		36.3		2.73		20.08		37	
M2	24/12/2024	Mid-Ebb	Sunny	Low	14:20	2.3	M	1.15	1	0.066	306.11	7.12	7.12	2.99	2.95	21.6	21.60	36.7	36.70	2.76	2.76	17.33	17.12	30	30
M2	24/12/2024	Mid-Ebb	Sunny	Low	14:21	2.3	M	1.15	2			7.12		2.9		21.6		36.7		2.76		16.91		30	
M3	24/12/2024	Mid-Ebb	Sunny	Low	14:59	2	M	1.00	1	0.07	326.448	7.11	7.12	3.77	3.74	21.6	21.60	50.5	50.40	3.8	3.79	28.31	28.205	32	32
M3	24/12/2024	Mid-Ebb	Sunny	Low	14:59	2	M	1.00	2			7.12		3.71		21.6		50.3		3.78		28.1		31	

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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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	26/12/2024	Mid-Flood	Sunny	Low	10:07	2.5	M	1.25	1	0.086	181.359	7.2	7.19	2.70	2.67	20.9	20.95	36.3	36.25	2.72	2.72	18.14	17.99	2.5	3
M1	26/12/2024	Mid-Flood	Sunny	Low	10:07	2.5	M	1.25	2			7.18		2.64		21		36.2		2.72		17.84		2.5	
M2	26/12/2024	Mid-Flood	Sunny	Low	10:28	2.3	M	1.15	1	0.075	185.362	7.16	7.15	2.81	2.81	20.9	20.95	35.6	36.00	2.68	2.71	17.90	17.94	2.5	3
M2	26/12/2024	Mid-Flood	Sunny	Low	10:29	2.3	M	1.15	2			7.14		2.8		21		36.4		2.74		17.98		4	
M3	26/12/2024	Mid-Flood	Sunny	Low	10:44	2	M	1.00	1	0.084	185.938	7.17	7.17	3.77	3.68	20.9	20.90	48.8	48.15	3.67	3.62	29.70	29.515	2.5	3
M3	26/12/2024	Mid-Flood	Sunny	Low	10:44	2	M	1.00	2			7.16		3.58		20.9		47.5		3.57		29.33		2.5	
M1	26/12/2024	Mid-Ebb	Sunny	Low	15:49	2.4	M	1.20	1	0.078	332.363	7.2	7.21	2.64	2.63	20.8	20.85	36.4	35.50	2.74	2.67	17.85	17.86	3	5
M1	26/12/2024	Mid-Ebb	Sunny	Low	15:49	2.4	M	1.20	2			7.21		2.61		20.9		34.6		2.6		17.87		6	
M2	26/12/2024	Mid-Ebb	Sunny	Low	15:22	2	M	1.00	1	0.076	333.764	7.12	7.13	2.70	2.74	20.8	20.85	34.6	33.65	2.6	2.53	16.99	17	5	5
M2	26/12/2024	Mid-Ebb	Sunny	Low	15:22	2	M	1.00	2			7.13		2.77		20.9		32.7		2.46		17.01		4	
M3	26/12/2024	Mid-Ebb	Sunny	Low	16:03	1.9	M	0.95	1	0.061	340.144	7.14	7.15	3.26	3.29	20.8	20.85	48.5	48.85	3.65	3.68	28.51	28.295	2.5	3
M3	26/12/2024	Mid-Ebb	Sunny	Low	16:03	1.9	M	0.95	2			7.15		3.32		20.9		49.2		3.7		28.08		2.5	

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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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	28/12/2024	Mid-Flood	Sunny	Low	11:53	2.5	M	1.25	1	0.085	189.38	7.08	7.09	3.33	3.31	20.5	20.50	33.8	33.15	2.54	2.49	20.55	20.515	2.5	3
M1	28/12/2024	Mid-Flood	Sunny	Low	11:53	2.5	M	1.25	2			7.1		3.28		20.5		32.5		2.44		20.48		2.5	
M2	28/12/2024	Mid-Flood	Sunny	Low	12:19	2.3	M	1.15	1	0.083	184.37	7.05	7.04	3.44	3.43	20.5	20.50	35.9	36.65	2.7	2.76	22.28	22.345	2.5	3
M2	28/12/2024	Mid-Flood	Sunny	Low	12:19	2.3	M	1.15	2			7.03		3.42		20.5		37.4		2.81		22.41		2.5	
M3	28/12/2024	Mid-Flood	Sunny	Low	12:33	2	M	1.00	1	0.085	165.937	7.11	7.12	4.12	4.14	20.5	20.50	48.0	47.65	3.61	3.59	35.41	35.27	2.5	3
M3	28/12/2024	Mid-Flood	Sunny	Low	12:33	2	M	1.00	2			7.12		4.15		20.5		47.3		3.56		35.13		2.5	
M1	28/12/2024	Mid-Ebb	Sunny	Low	9:36	2.4	M	1.20	1	0.079	318.046	7.18	7.19	3.26	3.24	20.3	20.35	35.6	34.95	2.68	2.63	21.83	21.885	2.5	3
M1	28/12/2024	Mid-Ebb	Sunny	Low	9:36	2.4	M	1.20	2			7.2		3.22		20.4		34.3		2.58		21.94		2.5	
M2	28/12/2024	Mid-Ebb	Sunny	Low	9:12	2	M	1.00	1	0.071	326.961	7.15	7.15	3.44	3.41	20.3	20.30	34.2	34.30	2.57	2.58	22.15	22.245	2.5	3
M2	28/12/2024	Mid-Ebb	Sunny	Low	9:12	2	M	1.00	2			7.15		3.37		20.3		34.4		2.59		22.34		2.5	
M3	28/12/2024	Mid-Ebb	Sunny	Low	9:48	1.9	M	0.95	1	0.079	325.271	7.12	7.12	4.38	4.35	20.3	20.30	50.9	51.25	3.83	3.86	36.70	36.88	2.5	3
M3	28/12/2024	Mid-Ebb	Sunny	Low	9:49	1.9	M	0.95	2			7.12		4.32		20.3		51.6		3.88		37.06		2.5	

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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	78	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 02/2023 Environmental Team for Construction of Yuen Long Effluent Polishing
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	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.
M1	31/12/2024	Mid-Flood	Sunny	Low	13:43	2.4	M	1.20	1	0.093	178.359	7.2	7.20	2.70	2.67	21.5	21.55	38.3	38.75	2.88	2.92	12.55	12.64	31	32
M1	31/12/2024	Mid-Flood	Sunny	Low	13:43	2.4	M	1.20	2			7.19		2.63		21.6		39.2		2.95		12.73		33	
M2	31/12/2024	Mid-Flood	Sunny	Low	14:10	2.2	M	1.10	1	0.073	175.52	7.15	7.16	2.75	2.71	21.5	21.50	41.1	41.30	3.09	3.11	13.44	13.4	45	47
M2	31/12/2024	Mid-Flood	Sunny	Low	14:10	2.2	M	1.10	2			7.16		2.66		21.5		41.5		3.12		13.36		48	
M3	31/12/2024	Mid-Flood	Sunny	Low	14:28	2	M	1.00	1	0.078	187.844	7.13	7.14	3.26	3.25	21.5	21.50	51.6	52.15	3.88	3.92	24.69	24.475	41	40
M3	31/12/2024	Mid-Flood	Sunny	Low	14:28	2	M	1.00	2			7.15		3.24		21.5		52.7		3.96		24.26		38	
M1	31/12/2024	Mid-Ebb	Sunny	Low	9:36	2.4	M	1.20	1	0.068	344.343	7.17	7.18	2.65	2.65	21.6	21.60	38.7	39.25	2.91	2.95	11.87	12	30	34
M1	31/12/2024	Mid-Ebb	Sunny	Low	9:36	2.4	M	1.20	2			7.19		2.65		21.6		39.8		2.99		12.13		38	
M2	31/12/2024	Mid-Ebb	Sunny	Low	9:03	2.1	M	1.05	1	0.064	344.736	7.14	7.15	2.61	2.58	21.6	21.60	40.6	39.60	3.05	2.98	12.58	12.715	41	39
M2	31/12/2024	Mid-Ebb	Sunny	Low	9:03	2.1	M	1.05	2			7.15		2.54		21.6		38.6		2.9		12.85		36	
M3	31/12/2024	Mid-Ebb	Sunny	Low	9:48	1.9	M	0.95	1	0.076	300.88	7.17	7.18	3.36	3.39	21.6	21.65	54.8	55.20	4.12	4.15	23.14	22.995	51	55
M3	31/12/2024	Mid-Ebb	Sunny	Low	9:48	1.9	M	0.95	2			7.18		3.41		21.7		55.6		4.18		22.85		58	

Remark

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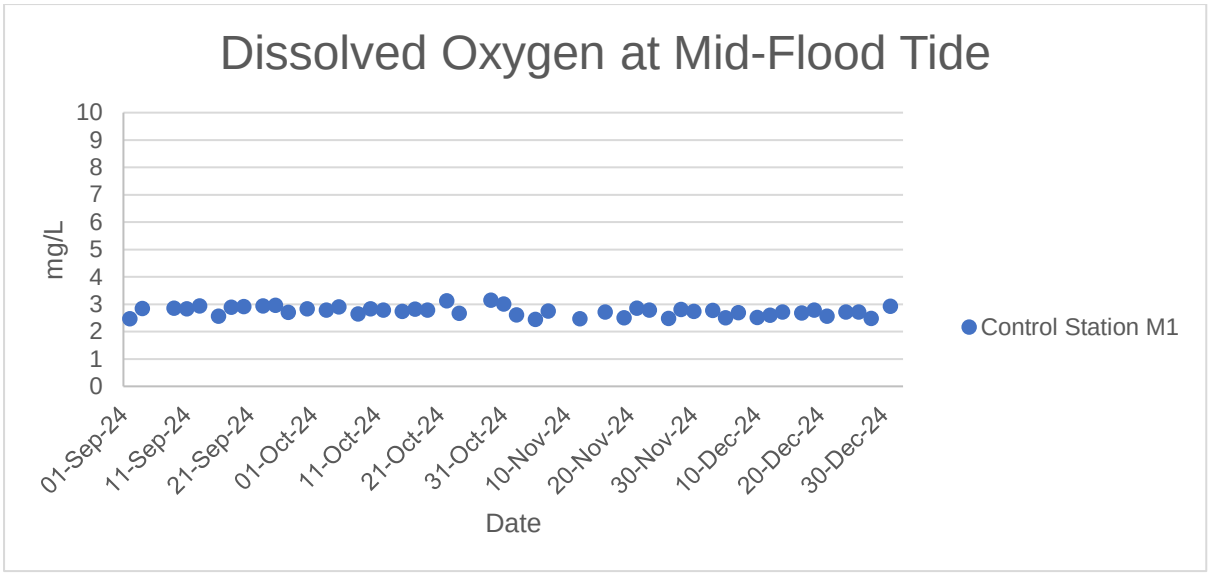
For Flood Tide

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	78	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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mg/L
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8
7
6
5
4
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21-Sep-24
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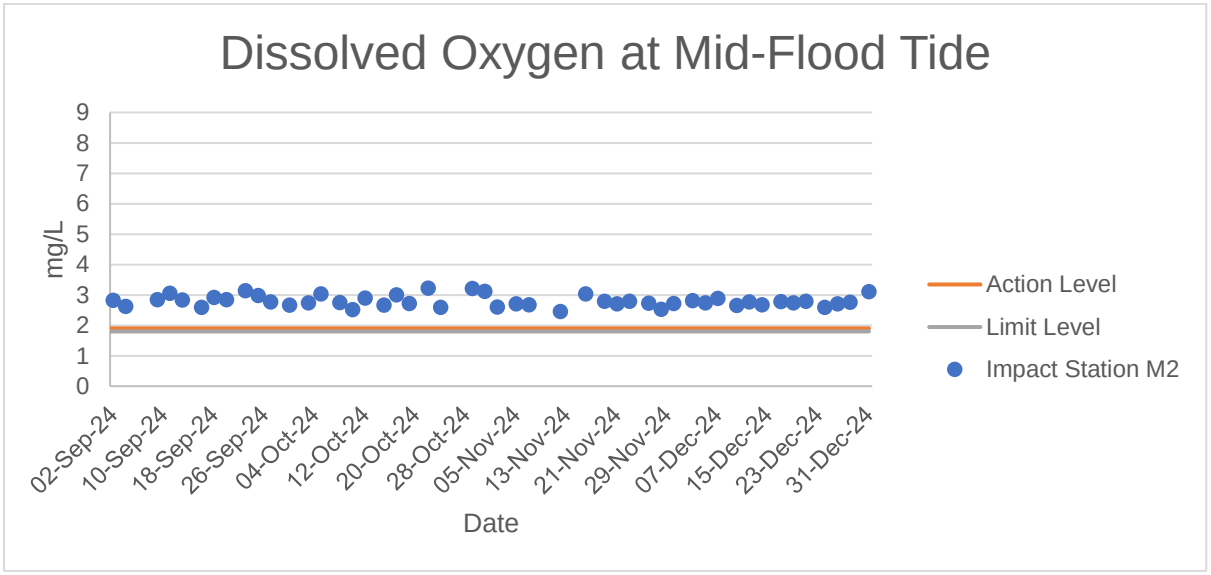
Date
Control Station M1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mg/L
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18-Sep-24
26-Sep-24
04-Oct-24
12-Oct-24
20-Oct-24
28-Oct-24
05-Nov-24
13-Nov-24
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07-Dec-24
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23-Dec-24
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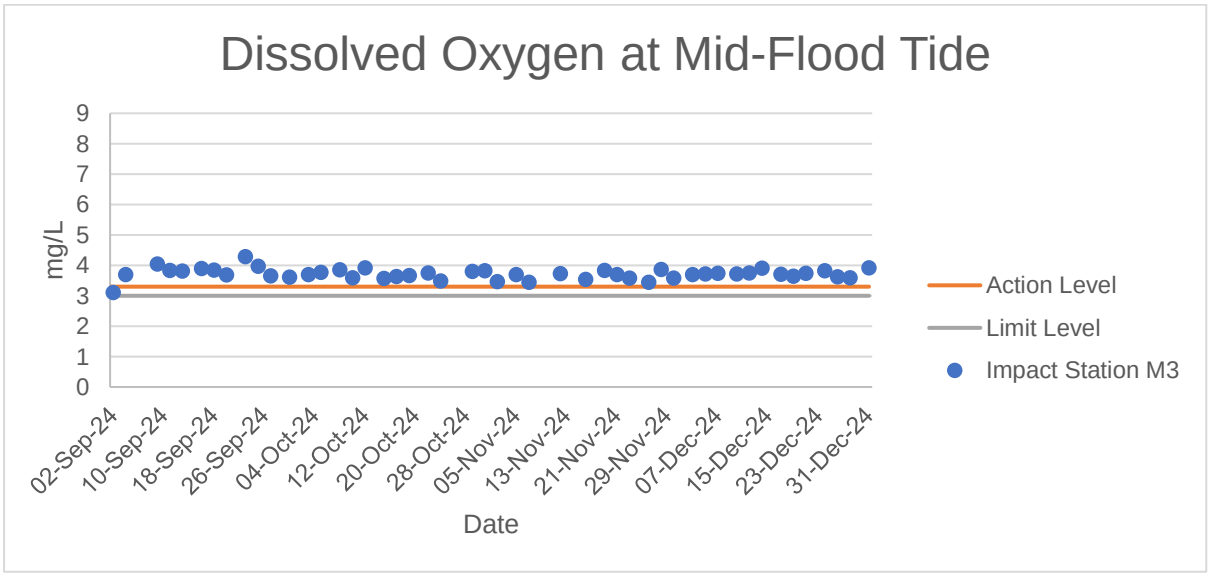
Date
Action Level
Limit Level
Impact Station M2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mg/L
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02-Sep-24
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18-Sep-24
26-Sep-24
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28-Oct-24
05-Nov-24
13-Nov-24
21-Nov-24
29-Nov-24
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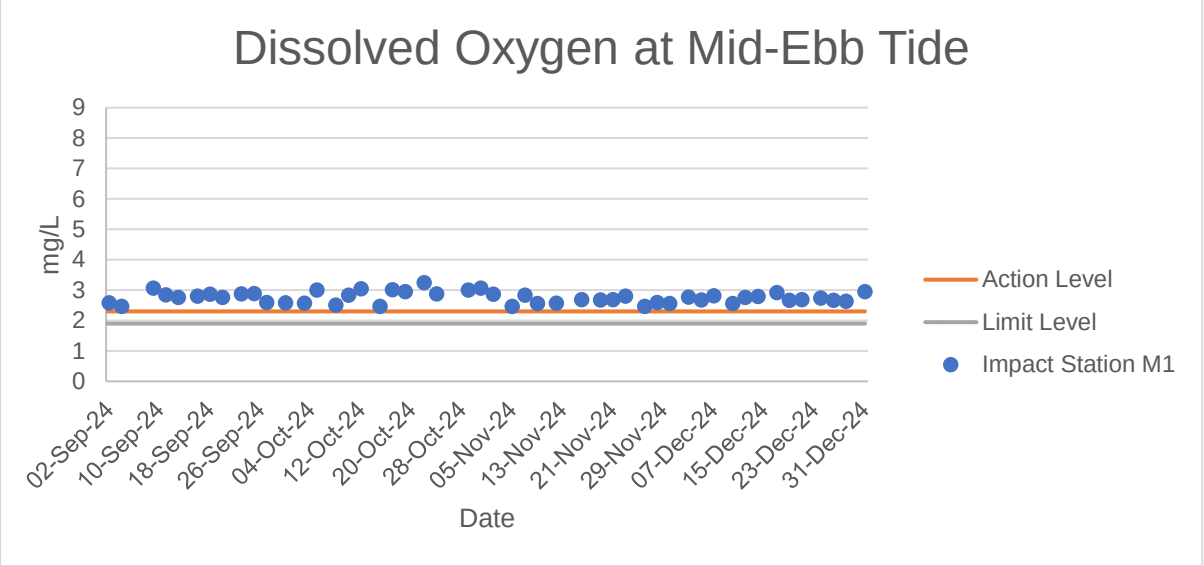
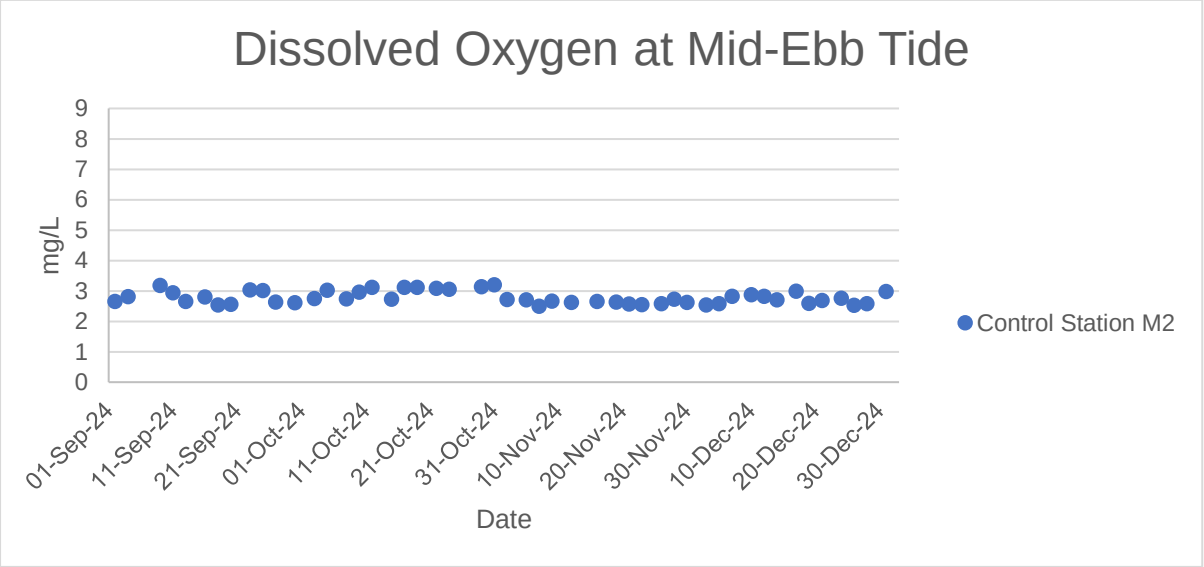
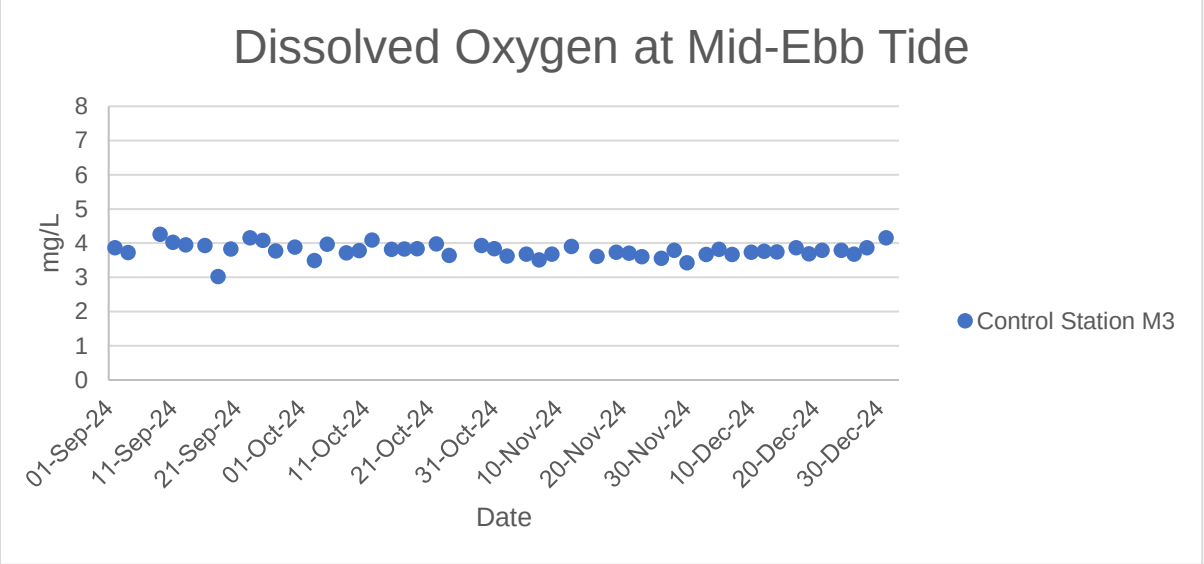
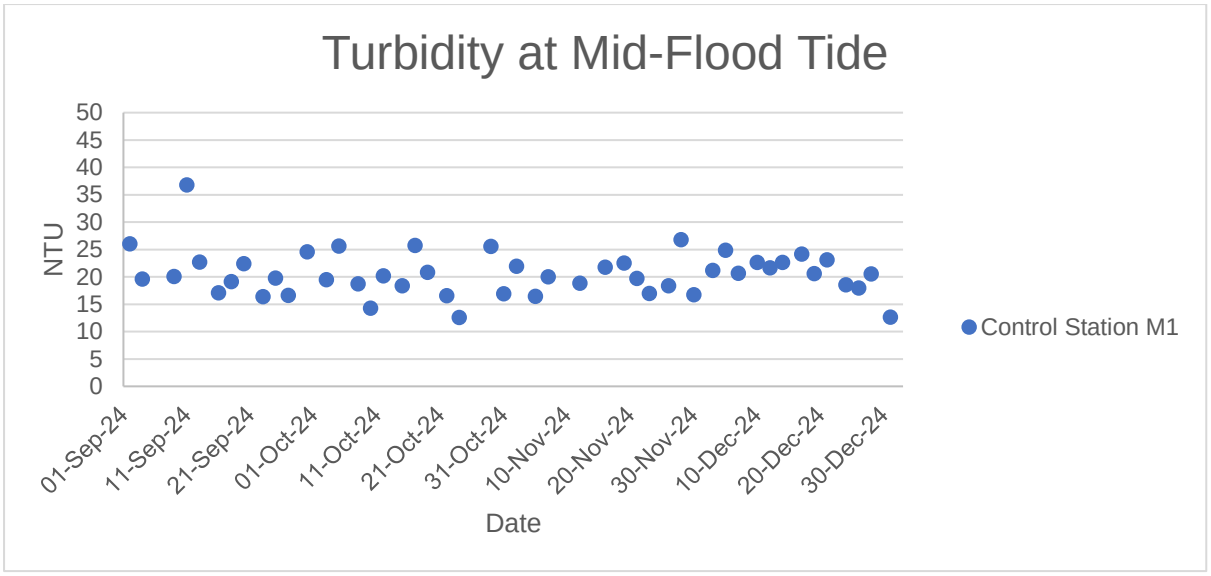
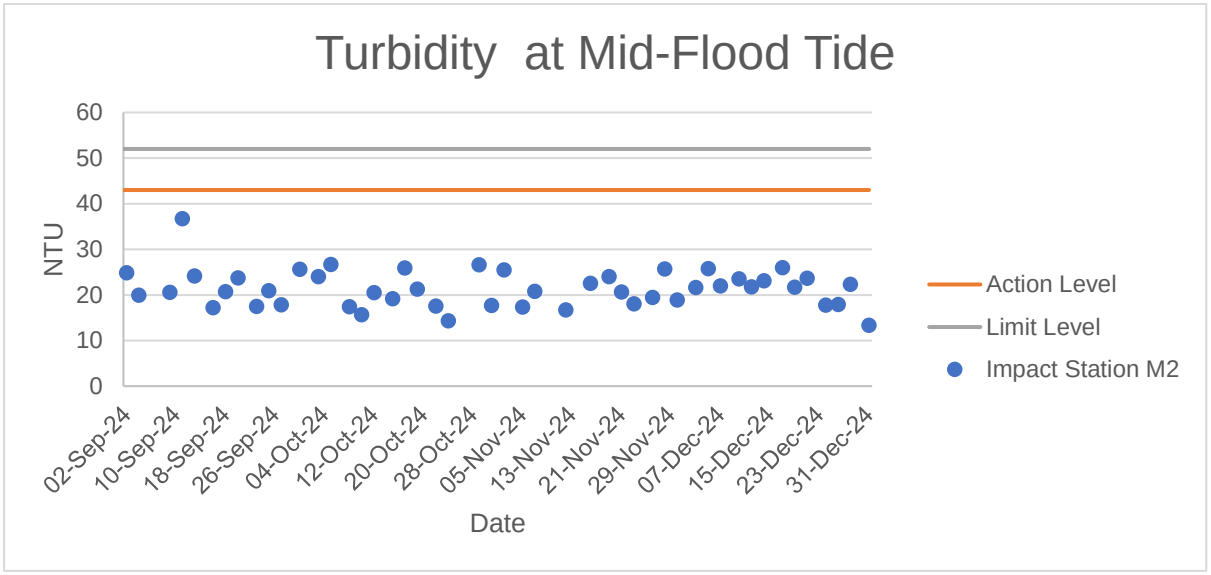
31-Dec-24
Date
Action Level
Limit Level
Impact Station M3

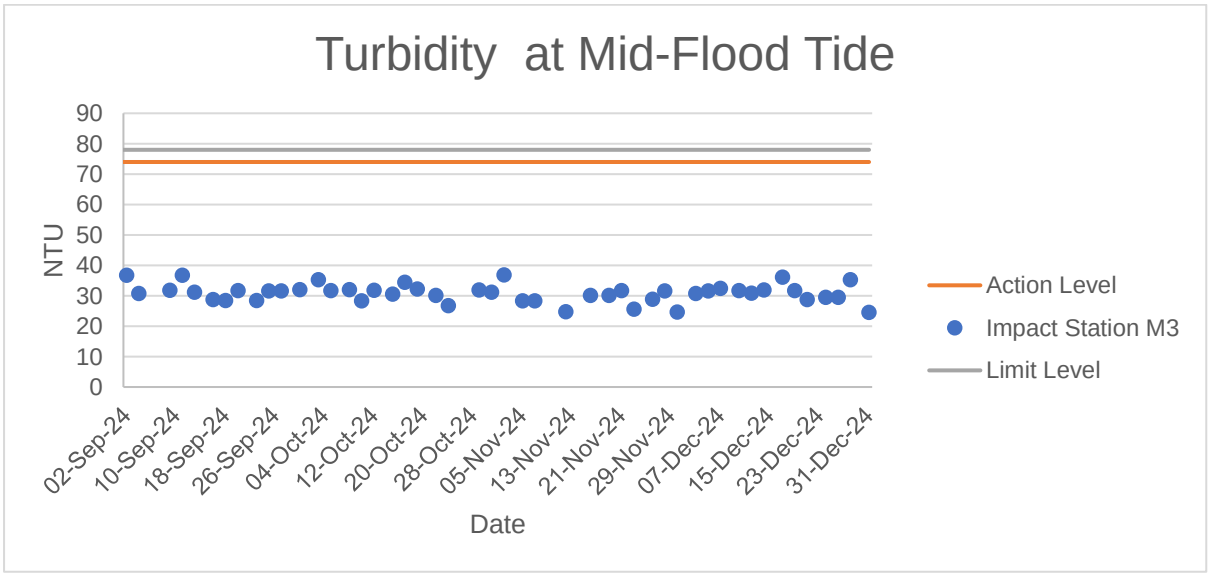

Dissolved Oxygen at Mid-Ebb Tide
mg/L
9
8
7
6
5
4
3
2
1
0
02-Sep-24
10-Sep-24
18-Sep-24
26-Sep-24
04-Oct-24
12-Oct-24
20-Oct-24
28-Oct-24
05-Nov-24
13-Nov-24
21-Nov-24
29-Nov-24
07-Dec-24
15-Dec-24
23-Dec-24
31-Dec-24
Date
Action Level
Limit Level
Impact Station M1

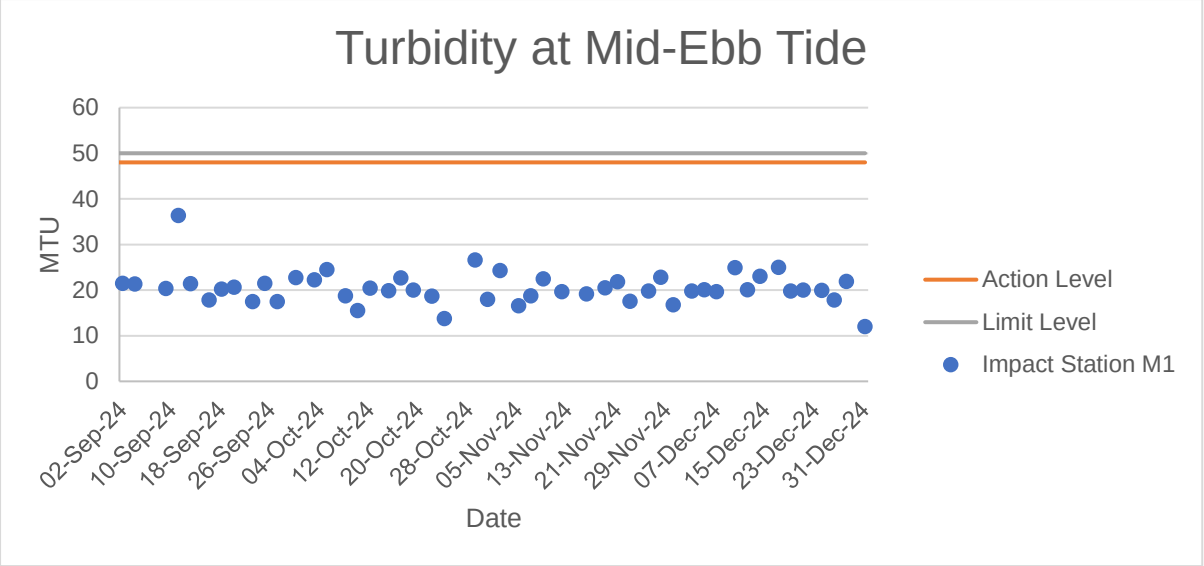

Dissolved Oxygen at Mid-Ebb Tide
mg/L
9
8
7
6
5
4
3
2
1
0
01-Sep-24
11-Sep-24
21-Sep-24
01-Oct-24
11-Oct-24
21-Oct-24
31-Oct-24
10-Nov-24
20-Nov-24
30-Nov-24
10-Dec-24
20-Dec-24
30-Dec-24
Date
Control Station M2

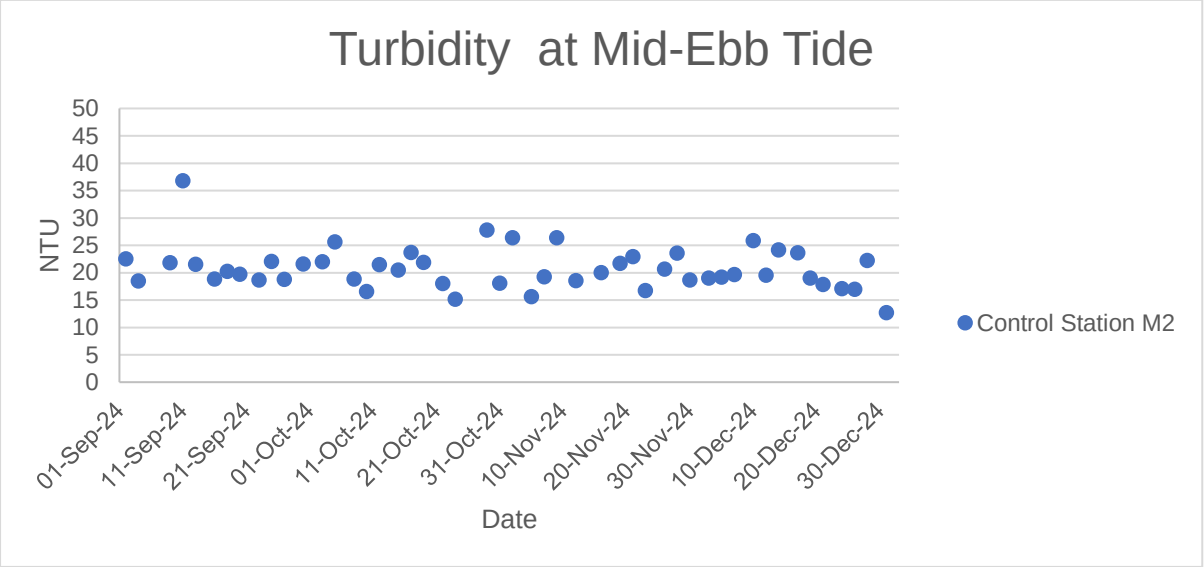

Dissolved Oxygen at Mid-Ebb Tide
mg/L
8
7
6
5
4
3
2
1
0
01-Sep-24
11-Sep-24
21-Sep-24
01-Oct-24
11-Oct-24
21-Oct-24
31-Oct-24
10-Nov-24
20-Nov-24
30-Nov-24
10-Dec-24
20-Dec-24
30-Dec-24
Date
Control Station M3


Turbidity at Mid-Flood Tide
NTU
50
45
40
35
30
25
20
15
10
5
0
01-Sep-24
11-Sep-24
21-Sep-24
01-Oct-24
11-Oct-24
21-Oct-24
31-Oct-24
10-Nov-24
20-Nov-24
30-Nov-24
10-Dec-24
20-Dec-24
30-Dec-24
Date
Control Station M1


Turbidity at Mid-Flood Tide
NTU
60
50
40
30
20
10
0
02-Sep-24
10-Sep-24
18-Sep-24
26-Sep-24
04-Oct-24
12-Oct-24
20-Oct-24
28-Oct-24
05-Nov-24
13-Nov-24
21-Nov-24
29-Nov-24
07-Dec-24
15-Dec-24
23-Dec-24
31-Dec-24
Date
Action Level
Limit Level
Impact Station M2


Turbidity at Mid-Flood Tide
NTU
90
80
70
60
50
40
30
20
10
0
02-Sep-24
10-Sep-24
18-Sep-24
26-Sep-24
04-Oct-24
12-Oct-24
20-Oct-24
28-Oct-24
05-Nov-24
13-Nov-24
21-Nov-24
29-Nov-24
07-Dec-24
15-Dec-24
23-Dec-24
31-Dec-24
Date
Action Level
Impact Station M3
Limit Level


Turbidity at Mid-Ebb Tide
MTU
60
50
40
30
20
10
0
02-Sep-24
10-Sep-24
18-Sep-24
26-Sep-24
04-Oct-24
12-Oct-24
20-Oct-24
28-Oct-24
05-Nov-24
13-Nov-24
21-Nov-24
29-Nov-24
07-Dec-24
15-Dec-24
23-Dec-24
31-Dec-24
Date
Action Level
Limit Level
Impact Station M1


Turbidity at Mid-Ebb Tide
NTU
50
45
40
35
30
25
20
15
10
5
0
01-Sep-24
11-Sep-24
21-Sep-24
01-Oct-24
11-Oct-24
21-Oct-24
31-Oct-24
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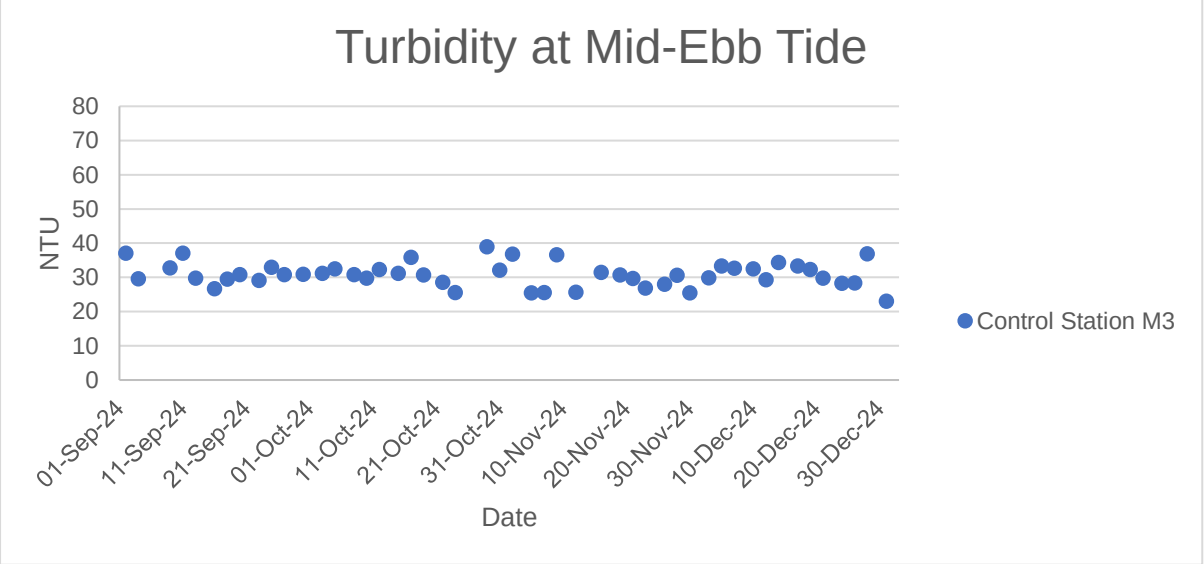
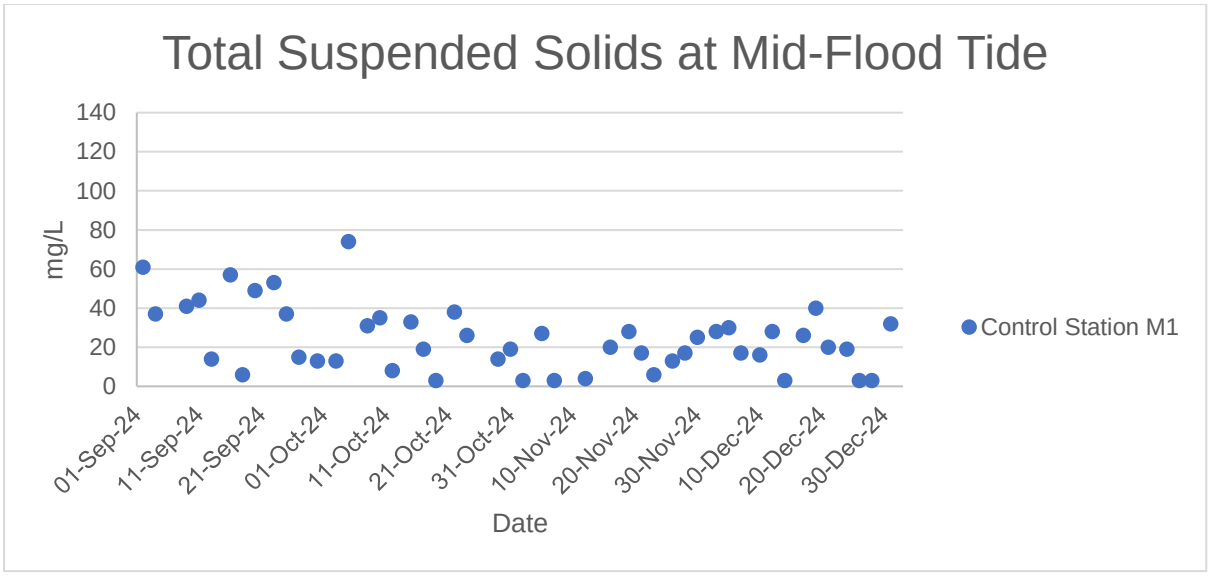
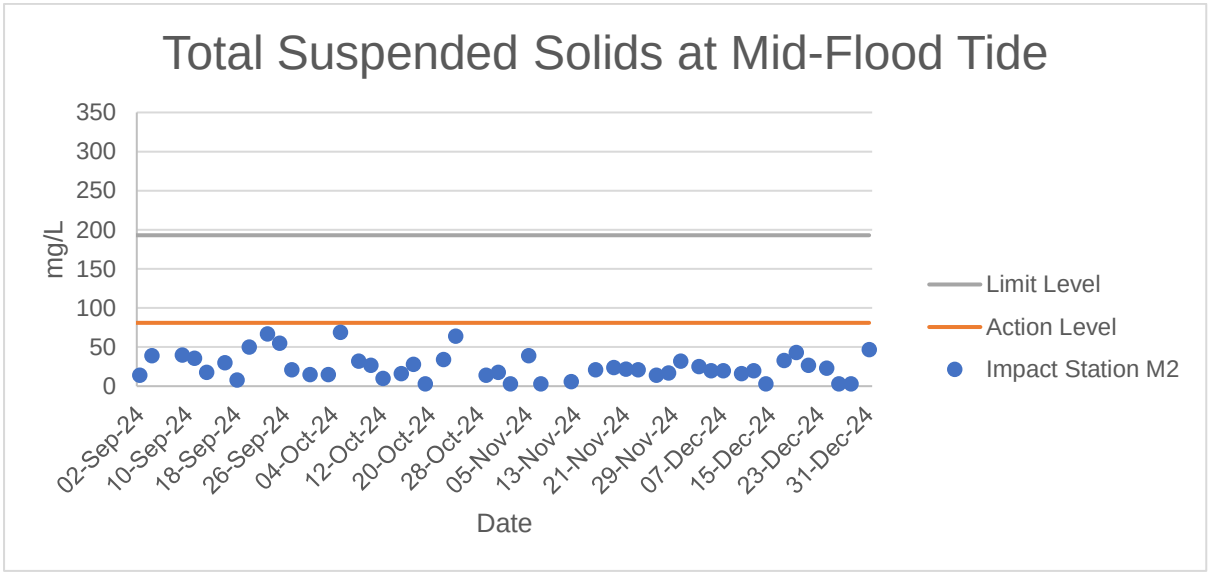
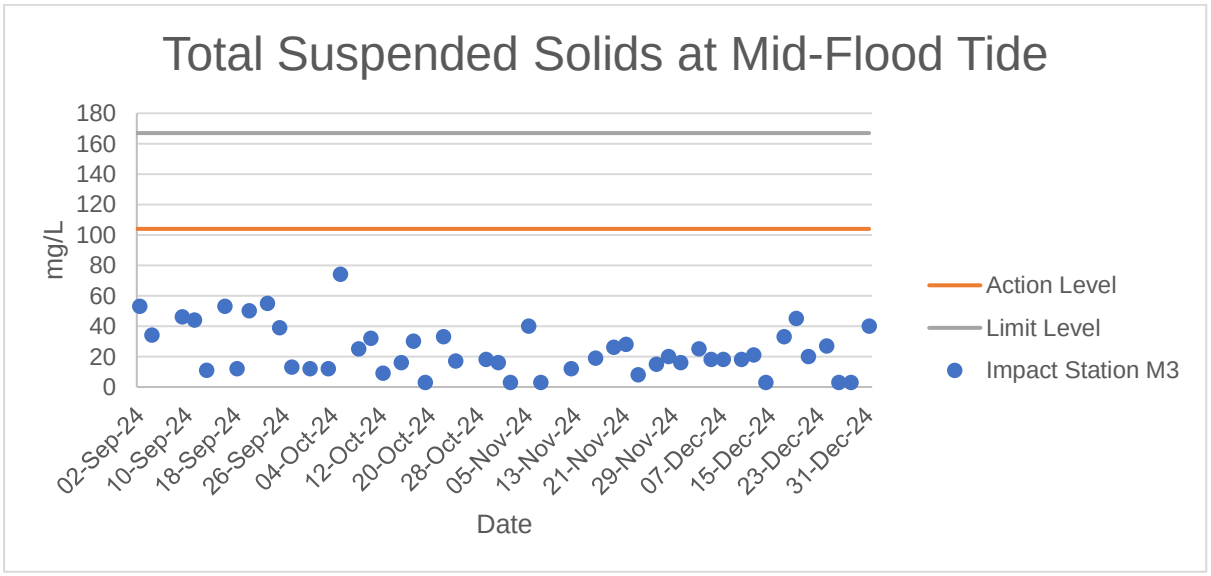
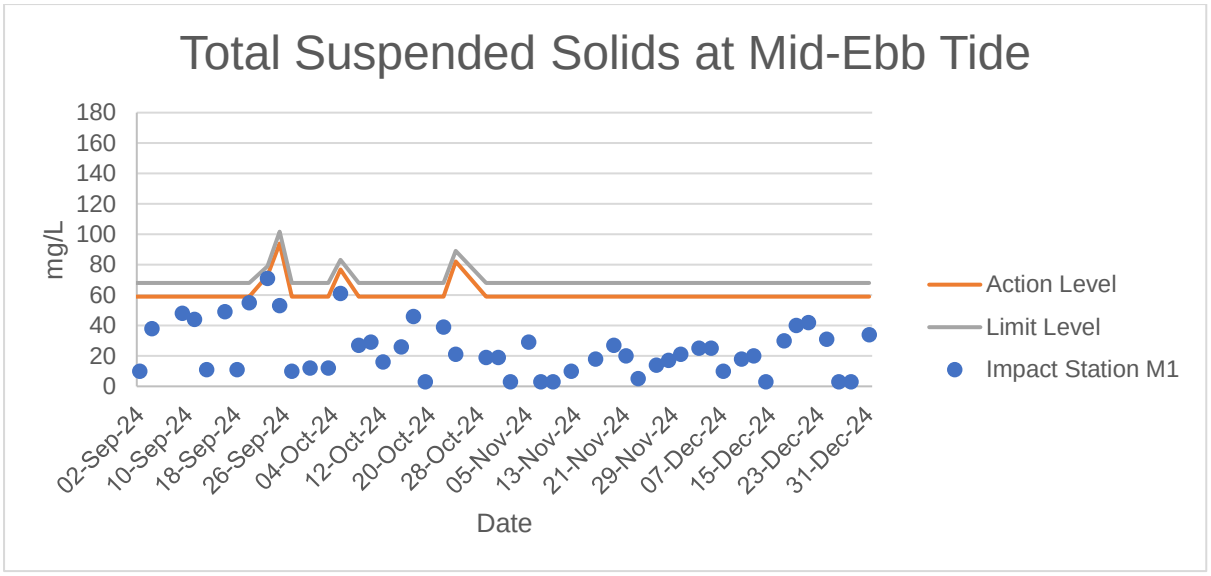
20-Nov-24
30-Nov-24
10-Dec-24
20-Dec-24
30-Dec-24
Date
Control Station M2

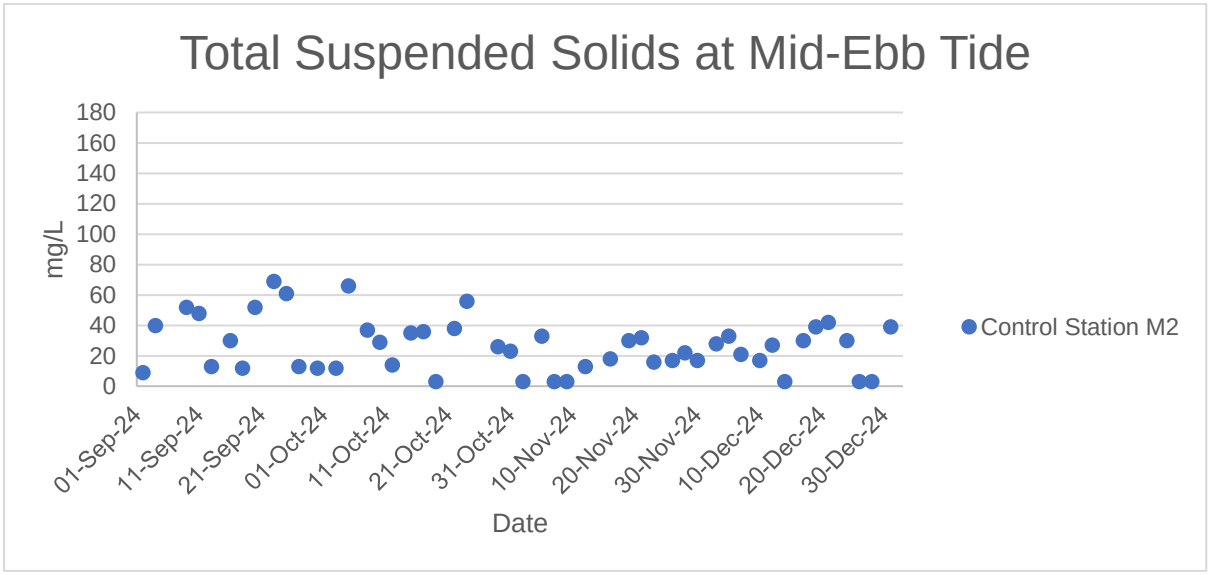

Turbidity at Mid-Ebb Tide
NTU
80
70
60
50
40
30
20
10
0
01-Sep-24
11-Sep-24
21-Sep-24
01-Oct-24
11-Oct-24
21-Oct-24
31-Oct-24
10-Nov-24
20-Nov-24
30-Nov-24
10-Dec-24
20-Dec-24
30-Dec-24
Date
Control Station M3


Total Suspended Solids at Mid-Flood Tide
140
120
100
80
60
40
20
0
mg/L
01-Sep-24
11-Sep-24
21-Sep-24
01-Oct-24
11-Oct-24
21-Oct-24
31-Oct-24
10-Nov-24
20-Nov-24
30-Nov-24
10-Dec-24
20-Dec-24
30-Dec-24
Date
Control Station M1


Total Suspended Solids at Mid-Flood Tide
350
300
250
200
150
100
50
0
mg/L
02-Sep-24
10-Sep-24
18-Sep-24
26-Sep-24
04-Oct-24
12-Oct-24
20-Oct-24
28-Oct-24
05-Nov-24
13-Nov-24
21-Nov-24
29-Nov-24
07-Dec-24
15-Dec-24
23-Dec-24
31-Dec-24
Date
Limit Level
Action Level
Impact Station M2


Total Suspended Solids at Mid-Flood Tide
180
160
140
120
100
80
60
40
20
0
mg/L
02-Sep-24
10-Sep-24
18-Sep-24
26-Sep-24
04-Oct-24
12-Oct-24
20-Oct-24
28-Oct-24
05-Nov-24
13-Nov-24
21-Nov-24
29-Nov-24
07-Dec-24
15-Dec-24
23-Dec-24
31-Dec-24
Date
Action Level
Limit Level
Impact Station M3


Total Suspended Solids at Mid-Ebb Tide
mg/L
180
160
140
120
100
80
60
40
20
0
02-Sep-24
10-Sep-24
18-Sep-24
26-Sep-24
04-Oct-24
12-Oct-24
20-Oct-24
28-Oct-24
05-Nov-24
13-Nov-24
21-Nov-24
29-Nov-24
07-Dec-24
15-Dec-24
23-Dec-24
31-Dec-24
Date
Action Level
Limit Level
Impact Station M1


Total Suspended Solids at Mid-Ebb Tide
mg/L
180
160
140
120
100
80
60
40
20
0
01-Sep-24
11-Sep-24
21-Sep-24
01-Oct-24
11-Oct-24
21-Oct-24
31-Oct-24
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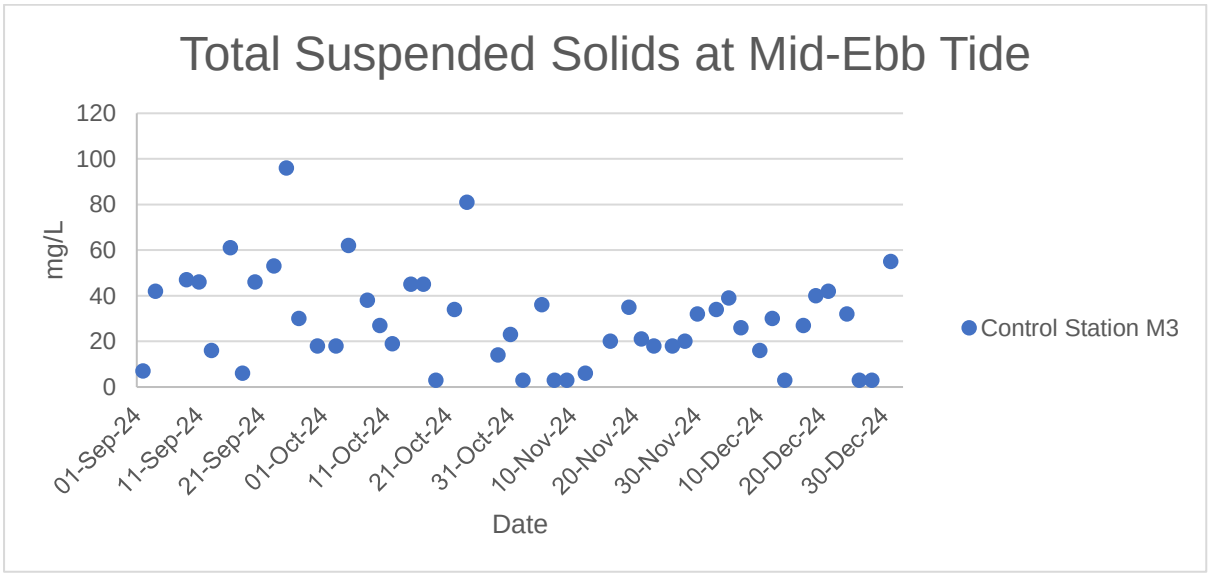
20-Nov-24
30-Nov-24
10-Dec-24
20-Dec-24
30-Dec-24
Date
Control Station M2


Total Suspended Solids at Mid-Ebb Tide
mg/L
120
100
80
60
40
20
0
01-Sep-24
11-Sep-24
21-Sep-24
01-Oct-24
11-Oct-24
21-Oct-24
31-Oct-24
10-Nov-24
20-Nov-24
30-Nov-24
10-Dec-24
20-Dec-24
30-Dec-24
Date
Control Station M3

Ecology Monitoring Results for
Contract No. SPW 02/2023
Environmental Team for Construction of Yuen long Effluent Polishing Plant Stage 1

Appendix F.1 Ecological Bird Monitoring Result (4 and 18 December 2024)

Date (dd/mm/yyyy)	Daytime/ Night time	Season	Area	Transect / Point Count	Point Count (Location) / Transect	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[9]	IUCN Red List[7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent[8]
4/12/2024	Daytime	Dry	FLW	Point Count	FLW1	Little Grebe	*Tachybaptus ruficollis*	4	Common	R	LC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW1	Great Cormorant	*Phalacrocorax carbo*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW1	Spotted Dove	*Spilopelia chinensis*	1	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW1	Dusky Warbler	*Phylloscopus fuscatus*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW1	Black-collared Starling	*Gracupica nigricollis*	4	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW1	White Wagtail	*Motacilla alba*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW2	Little Grebe	*Tachybaptus ruficollis*	2	Common	R	LC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW2	Little Egret	*Egretta garzetta*	1	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW2	Common Sandpiper	*Actitis hypoleucos*	1	Common	PM,WV	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW2	Black-collared Starling	*Gracupica nigricollis*	10	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW2	White Wagtail	*Motacilla alba*	4	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW3	Chinese Bulbul	*Pycnonotus sinensis*	2	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW3	Crested Myna	*Acridotheres cristatellus*	2	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Little Grebe	*Tachybaptus ruficollis*	4	Common	R	LC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Great Cormorant	*Phalacrocorax carbo*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Black Kite	*Milvus migrans*	1	Common	R,WV	(RC)	Class II	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Common Moorhen	*Gallinula chloropus*	2	Common	R	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Pied Kingfisher	*Ceryle rudis*	1	Uncommon	R	-	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Long-tailed Shrike	*Lanius schach*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Chinese Bulbul	*Pycnonotus sinensis*	4	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Yellow-browed Warbler	*Phylloscopus inornatus*	1	Common	WV,Sp	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Dusky Warbler	*Phylloscopus fuscatus*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Plain Prinia	*Prinia inornata*	3	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Swinhoe's White-eye	*Zosterops simplex*	3	Abundant	R	-	-	-	LC	LC	N	N

Appendix F.1 Ecological Bird Monitoring Result (4 and 18 December 2024)

Date (dd/mm/yyyy)	Daytime/ Night time	Season	Area	Transect / Point Count	Point Count (Location) / Transect	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[9]	IUCN Red List[7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent[8]
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Black-collared Starling	*Gracupica nigricollis*	8	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Stejneger's Stonechat	*Saxicola stejnegeri*	2	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Scaly-breasted Munia	*Lonchura punctulata*	4	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	White Wagtail	*Motacilla alba*	2	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW4	Black-faced Bunting	*Emberiza spodocephala*	2	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Chinese Pond Heron	*Ardeola bacchus*	1	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Eastern Cattle Egret	*Bubulcus coromandus*	3	Common	R.PM	(LC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Grey Heron	*Ardea cinerea*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Great Egret	*Ardea alba*	1	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Great Cormorant	*Phalacrocorax carbo*	13	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	White-breasted Waterhen	*Amaurornis phoenicurus*	2	Common	R	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Common Sandpiper	*Actitis hypoleucos*	2	Common	PM,WV	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Spotted Dove	*Spilopelia chinensis*	2	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Asian Koel	*Eudynamys scolopaceus*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Long-tailed Shrike	*Lanius schach*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Collared Crow	*Corvus torquatus*	2	Uncommon	R	LC	-	-	NT	VU	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Red-whiskered Bulbul	*Pycnonotus jocosus*	3	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Yellow-browed Warbler	*Phylloscopus inornatus*	1	Common	WV,Sp	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Dusky Warbler	*Phylloscopus fuscatus*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Black-collared Starling	*Gracupica nigricollis*	25	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Oriental Magpie Robin	*Copsychus saularis*	1	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Daurian Redstart	*Phoenicurus auroreus*	1	Common	WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Eurasian Tree Sparrow	*Passer montanus*	5	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	White Wagtail	*Motacilla alba*	2	Common	PM,WV	-	-	-	LC	LC	N	N

Appendix F.1 Ecological Bird Monitoring Result (4 and 18 December 2024)

Date (dd/mm/yyyy)	Daytime/ Night time	Season	Area	Transect / Point Count	Point Count (Location) / Transect	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[9]	IUCN Red List[7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent[8]
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Richard's Pipit	*Anthus richardi*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW5	Eurasian Spoonbill	*Platalea leucorodia*	1	W	W	LC	Class II	VU	NT	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW6	Tufted Duck	*Aythya fuligula*	4	Uncommon	WV	LC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW6	Little Grebe	*Tachybaptus ruficollis*	3	Common	R	LC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW6	Great Cormorant	*Phalacrocorax carbo*	6	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW6	Red-whiskered Bulbul	*Pycnonotus jocosus*	4	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW6	Yellow-bellied Prinia	*Prinia flaviventris*	3	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW6	Stejneger's Stonechat	*Saxicola stejnegeri*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW7	Spotted Dove	*Spilopelia chinensis*	5	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW7	Greater Coucal	*Centropus sinensis*	1	Common	R	-	Class II	VU	LC	LC	Y	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW7	White-throated Kingfisher	*Halcyon smyrnensis*	1	Common	R	(LC)	Class II	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Point Count	FLW7	Azure-winged Magpie	*Cyanopica cyanus*	19	Introduced	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW7	Dusky Warbler	*Phylloscopus fuscatus*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW7	Black-collared Starling	*Gracupica nigricollis*	30	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW7	Oriental Magpie Robin	*Copsychus saularis*	1	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Point Count	FLW7	White Wagtail	*Motacilla alba*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Tufted Duck	*Aythya fuligula*	6	Uncommon	WV	LC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Chinese Pond Heron	*Ardeola bacchus*	1	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Great Cormorant	*Phalacrocorax carbo*	2	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	FLW	Transect	FLW	White-breasted Waterhen	*Amaurornis phoenicurus*	1	Common	R	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Common Moorhen	*Gallinula chloropus*	1	Common	R	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Spotted Dove	*Spilopelia chinensis*	6	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Azure-winged Magpie	*Cyanopica cyanus*	2	Introduced	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Red-whiskered Bulbul	*Pycnonotus jocosus*	8	Abundant	R	-	-	-	LC	LC	N	N

Appendix F.1 Ecological Bird Monitoring Result (4 and 18 December 2024)

Date (dd/mm/yyyy)	Daytime/ Night time	Season	Area	Transect / Point Count	Point Count (Location) / Transect	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[9]	IUCN Red List[7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent[8]
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Yellow-browed Warbler	*Phylloscopus inornatus*	1	Common	WV,Sp	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Dusky Warbler	*Phylloscopus fuscatus*	3	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Yellow-bellied Prinia	*Prinia flaviventris*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Common Tailorbird	*Orthotomus sutorius*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Masked Laughingthrush	*Pterorhinus perspicillatus*	4	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Swinhoe's White-eye	*Zosterops simplex*	3	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Black-collared Starling	*Gracupica nigricollis*	10	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Stejneger's Stonechat	*Saxicola stejnegeri*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	Scaly-breasted Munia	*Lonchura punctulata*	2	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	FLW	Transect	FLW	White Wagtail	*Motacilla alba*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Chinese Pond Heron	*Ardeola bacchus*	2	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Grey Heron	*Ardea cinerea*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Little Egret	*Egretta garzetta*	1	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Great Cormorant	*Phalacrocorax carbo*	85	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Black Kite	*Milvus migrans*	1	Common	R,WV	(RC)	Class II	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Common Sandpiper	*Actitis hypoleucos*	1	Common	PM,WV	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Eurasian Collared Dove	*Streptopelia decaocto*	2	Common	-	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Spotted Dove	*Spilopelia chinensis*	2	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Asian Koel	*Eudynamys scolopaceus*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Common Kingfisher	*Alcedo atthis*	1	Common	PM,WV	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Azure-winged Magpie	*Cyanopica cyanus*	6	Introduced	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Large-billed Crow	*Corvus macrorhynchos*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Red-whiskered Bulbul	*Pycnonotus jocosus*	8	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Yellow-browed Warbler	*Phylloscopus inornatus*	1	Common	WV,Sp	-	-	-	LC	LC	N	N

Appendix F.1 Ecological Bird Monitoring Result (4 and 18 December 2024)

Date (dd/mm/yyyy)	Daytime/ Night time	Season	Area	Transect / Point Count	Point Count (Location) / Transect	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[9]	IUCN Red List[7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent[8]
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Dusky Warbler	*Phylloscopus fuscatus*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Yellow-bellied Prinia	*Prinia flaviventris*	2	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Plain Prinia	*Prinia inornata*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Common Tailorbird	*Orthotomus sutorius*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Masked Laughingthrush	*Pterorhinus perspicillatus*	5	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Crested Myna	*Acridotheres cristatellus*	14	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	White-cheeked Starling	*Spodiopsar cineraceus*	1	Common	WV	PRC	-	-	-	-	Y	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Black-collared Starling	*Gracupica nigricollis*	4	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Daurian Redstart	*Phoenicurus auroreus*	1	Common	WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	Eurasian Tree Sparrow	*Passer montanus*	15	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	NSW1	White Wagtail	*Motacilla alba*	5	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Northern Shoveler	*Spatula clypeata*	8	Abundant	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Eurasian Teal	*Anas crecca*	3	Common	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Chinese Pond Heron	*Ardeola bacchus*	2	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Grey Heron	*Ardea cinerea*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Great Cormorant	*Phalacrocorax carbo*	2	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Black-winged stilt	*Himantopus himantopus*	7	Common	PM	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Pied Avocet	*Recurvirostra avosetta*	2	Abundant	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Little Ringed Plover	*Charadrius dubius*	2	Common	WV,PM	(LC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Marsh Sandpiper	*Tringa stagnatilis*	1	Common	PM,WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Common Greenshank	*Tringa nebularia*	2	Abundant	PM,WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Spotted Dove	*Spilopelia chinensis*	2	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Azure-winged Magpie	*Cyanopica cyanus*	4	Introduced	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Red-whiskered Bulbul	*Pycnonotus jocosus*	4	Abundant	R	-	-	-	LC	LC	N	N

Appendix F.1 Ecological Bird Monitoring Result (4 and 18 December 2024)

Date (dd/mm/yyyy)	Daytime/ Night time	Season	Area	Transect / Point Count	Point Count (Location) / Transect	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[9]	IUCN Red List[7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent[8]
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Chinese Bulbul	*Pycnonotus sinensis*	3	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Dusky Warbler	*Phylloscopus fuscatus*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Plain Prinia	*Prinia inornata*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Swinhoe's White-eye	*Zosterops simplex*	6	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Crested Myna	*Acridotheres cristatellus*	20	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Black-collared Starling	*Gracupica nigricollis*	6	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Oriental Magpie Robin	*Copsychus saularis*	1	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW1	Glossy Ibis	*Plegadis falcinellus*	1	Vagrant	-	-	Class I	-	NT	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Northern Shoveler	*Spatula clypeata*	5	Abundant	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Eurasian Teal	*Anas crecca*	4	Common	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Black-faced Spoonbill	*Platalea minor*	4	Common	WV	PGC	Class II	EN	EN	EN	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Chinese Pond Heron	*Ardeola bacchus*	7	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Grey Heron	*Ardea cinerea*	2	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Little Egret	*Egretta garzetta*	1	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Great Cormorant	*Phalacrocorax carbo*	7	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Black-winged stilt	*Himantopus himantopus*	4	Common	PM	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Common Sandpiper	*Actitis hypoleucos*	2	Common	PM,WV	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Common Redshank	*Tringa totanus*	1	Common	PM	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Common Greenshank	*Tringa nebularia*	2	Abundant	PM,WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Azure-winged Magpie	*Cyanopica cyanus*	2	Introduced	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Japanese Tit	*Parus minor*	2	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Dusky Warbler	*Phylloscopus fuscatus*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Swinhoe's White-eye	*Zosterops simplex*	4	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Red-billed Starling	*Spodiopsar sericeus*	14	Common	WV	GC	-	-	LC	LC	Y	Y

Appendix F.1 Ecological Bird Monitoring Result (4 and 18 December 2024)

Date (dd/mm/yyyy)	Daytime/ Night time	Season	Area	Transect / Point Count	Point Count (Location) / Transect	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[9]	IUCN Red List[7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent[8]
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW2	Oriental Magpie Robin	*Copsychus saularis*	1	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Garganey	*Spatula querquedula*	9	Common	M,W	-	-	-	-	LC	N	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Northern Shoveler	*Spatula clypeata*	46	Abundant	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Eurasian Wigeon	*Mareca penelope*	30	Common	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Eurasian Teal	*Anas crecca*	32	Common	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Tufted Duck	*Aythya fuligula*	125	Uncommon	WV	LC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Chinese Pond Heron	*Ardeola bacchus*	14	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Black Kite	*Milvus migrans*	1	Common	R,WV	(RC)	Class II	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Common Moorhen	*Gallinula chloropus*	13	Common	R	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Black-winged stilt	*Himantopus himantopus*	30	Common	PM	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Pied Avocet	*Recurvirostra avosetta*	6	Abundant	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Common Snipe	*Gallinago gallinago*	1	Common	PM,WV	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Common Redshank	*Tringa totanus*	3	Common	PM	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Marsh Sandpiper	*Tringa stagnatilis*	2	Common	PM,WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Common Greenshank	*Tringa nebularia*	2	Abundant	PM,WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Azure-winged Magpie	*Cyanopica cyanus*	14	Introduced	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Yellow-browed Warbler	*Phylloscopus inornatus*	2	Common	WV,Sp	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Point Count	SP/NSW3	Northern Pintail	*Anas acuta*	3	Abundant	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Transect	NSW	Northern Shoveler	*Spatula clypeata*	2	Abundant	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Transect	NSW	Chinese Pond Heron	*Ardeola bacchus*	2	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Transect	NSW	Great Cormorant	*Phalacrocorax carbo*	1	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	NSW	Transect	NSW	Red-whiskered Bulbul	*Pycnonotus jocosus*	4	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Transect	NSW	Chinese Bulbul	*Pycnonotus sinensis*	3	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Transect	NSW	Dusky Warbler	*Phylloscopus fuscatus*	2	Common	PM,WV	-	-	-	LC	LC	N	N

Appendix F.1 Ecological Bird Monitoring Result (4 and 18 December 2024)

Date (dd/mm/yyyy)	Daytime/ Night time	Season	Area	Transect / Point Count	Point Count (Location) / Transect	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[9]	IUCN Red List[7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent[8]
4/12/2024	Daytime	Dry	NSW	Transect	NSW	Yellow-bellied Prinia	*Prinia flaviventris*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Transect	NSW	Plain Prinia	*Prinia inornata*	2	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Transect	NSW	Common Tailorbird	*Orthotomus sutorius*	1	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Transect	NSW	Daurian Redstart	*Phoenicurus auroreus*	1	Common	WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	NSW	Transect	NSW	White Wagtail	*Motacilla alba*	1	Common	PM,WV	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Northern Shoveler	*Spatula clypeata*	19	Abundant	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Eurasian Teal	*Anas crecca*	34	Common	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Black-faced Spoonbill	*Platalea minor*	2	Common	WV	PGC	Class II	EN	EN	EN	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Chinese Pond Heron	*Ardeola bacchus*	10	Common	R	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Grey Heron	*Ardea cinerea*	2	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Great Egret	*Ardea alba*	2	Common	R,WV	PRC (RC)	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Great Cormorant	*Phalacrocorax carbo*	2	Common	WV	PRC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	White-breasted Waterhen	*Amaurornis phoenicurus*	1	Common	R	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Black-winged stilt	*Himantopus himantopus*	33	Common	PM	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Pied Avocet	*Recurvirostra avosetta*	3	Abundant	WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Common Sandpiper	*Actitis hypoleucos*	2	Common	PM,WV	-	-	-	LC	LC	N	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Common Redshank	*Tringa totanus*	5	Common	PM	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Common Greenshank	*Tringa nebularia*	2	Abundant	PM,WV	RC	-	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Spotted Dove	*Spilopelia chinensis*	2	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	White-throated Kingfisher	*Halcyon smyrnensis*	1	Common	R	(LC)	Class II	-	LC	LC	Y	Y
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Azure-winged Magpie	*Cyanopica cyanus*	3	Introduced	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Red-whiskered Bulbul	*Pycnonotus jocosus*	4	Abundant	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Yellow-browed Warbler	*Phylloscopus inornatus*	2	Common	WV,Sp	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Plain Prinia	*Prinia inornata*	1	Common	R	-	-	-	LC	LC	N	N

Appendix F.1 Ecological Bird Monitoring Result (4 and 18 December 2024)

Date (dd/mm/yyyy)	Daytime/ Night time	Season	Area	Transect / Point Count	Point Count (Location) / Transect	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[9]	IUCN Red List[7] (v.2020-3)	Species of Conservation Importance	Wetland Dependent[8]
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Crested Myna	*Acridotheres cristatellus*	5	Common	R	-	-	-	LC	LC	N	N
4/12/2024	Daytime	Dry	YLIE-CW	Transect	YLIE-CW	Oriental Magpie Robin	*Copsychus saularis*	1	Abundant	R	-	-	-	LC	LC	N	N
18/12/2024	Night-time	Dry	FLW	Point Count	FLW2	Black-crowned Night Heron	*Nycticorax nycticorax*	5	Common	R,WV	(LC)	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	FLW	Point Count	FLW4	Little Grebe	*Tachybaptus ruficollis*	1	Common	R	LC	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	FLW	Point Count	FLW4	Savanna Nightjar	*Caprimulgus affinis*	3	Uncommon	R.PM	-	-	-	DD	-	N	N
18/12/2024	Night-time	Dry	FLW	Point Count	FLW5	Black-crowned Night Heron	*Nycticorax nycticorax*	3	Common	R,WV	(LC)	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	FLW	Point Count	FLW5	Grey Heron	*Ardea cinerea*	2	Common	WV	PRC	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	FLW	Point Count	FLW6	Black-crowned Night Heron	*Nycticorax nycticorax*	1	Common	R,WV	(LC)	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	FLW	Transect	FLW	Northern Shoveler	*Spatula clypeata*	2	Abundant	WV	RC	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	FLW	Transect	FLW	Little Grebe	*Tachybaptus ruficollis*	2	Common	R	LC	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	FLW	Transect	FLW	Black-crowned Night Heron	*Nycticorax nycticorax*	1	Common	R,WV	(LC)	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	NSW	Point Count	NSW1	Black-crowned Night Heron	*Nycticorax nycticorax*	2	Common	R,WV	(LC)	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	NSW	Point Count	SP/NSW1	Eurasian Teal	*Anas crecca*	10	Common	WV	RC	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	NSW	Point Count	SP/NSW1	Black-winged stilt	*Himantopus himantopus*	5	Common	PM	RC	-	-	LC	LC	Y	Y
18/12/2024	Night-time	Dry	NSW	Point Count	SP/NSW2	Black-winged stilt	*Himantopus himantopus*	20	Common	PM	RC	-	-	LC	LC	Y	Y

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): 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.
8. Wetland-dependent species (including wetland-dependent species and waterbirds).
9. 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 (4 and 18 December 2024)

Scientific Name	Count	P	Ln(P)	P*Ln(P)	$P*Ln(P)^2$
Spatula querquedula	9	0.0098	-4.6206	-0.0455	0.2102
Spatula clypeata	59	0.0646	-2.7403	-0.1769	0.4847
Mareca penelope	30	0.0328	-3.4166	-0.1121	0.3832
Anas acuta	3	0.0033	-5.7192	-0.0188	0.1074
Anas crecca	49	0.0536	-2.9260	-0.1569	0.4590
Aythya fuligula	129	0.1411	-1.9580	-0.2764	0.5411
Tachybaptus ruficollis	14	0.0153	-4.1788	-0.0640	0.2675
Plegadis falcinellus	1	0.0011	-6.8178	-0.0075	0.0509
Platalea leucorodia	1	0.0011	-6.8178	-0.0075	0.0509
Platalea minor	4	0.0044	-5.4315	-0.0238	0.1291
Nycticorax nycticorax	11	0.0120	-4.4199	-0.0532	0.2351
Ardeola bacchus	26	0.0284	-3.5597	-0.1013	0.3605
Bubulcus coromandus	3	0.0033	-5.7192	-0.0188	0.1074
Ardea cinerea	7	0.0077	-4.8719	-0.0373	0.1818
Ardea alba	1	0.0011	-6.8178	-0.0075	0.0509
Egretta garzetta	3	0.0033	-5.7192	-0.0188	0.1074
Phalacrocorax carbo	115	0.1258	-2.0729	-0.2608	0.5406
Milvus migrans	3	0.0033	-5.7192	-0.0188	0.1074
Amaurornis phoenicurus	2	0.0022	-6.1247	-0.0134	0.0821
Gallinula chloropus	15	0.0164	-4.1098	-0.0674	0.2772
Himantopus himantopus	66	0.0722	-2.6282	-0.1898	0.4988
Recurvirostra avosetta	8	0.0088	-4.7384	-0.0415	0.1965
Charadrius dubius	2	0.0022	-6.1247	-0.0134	0.0821
Gallinago gallinago	1	0.0011	-6.8178	-0.0075	0.0509
Actitis hypoleucos	6	0.0066	-5.0261	-0.0330	0.1658
Tringa totanus	4	0.0044	-5.4315	-0.0238	0.1291
Tringa stagnatilis	3	0.0033	-5.7192	-0.0188	0.1074
Tringa nebularia	6	0.0066	-5.0261	-0.0330	0.1658
Streptopelia decaocto	2	0.0022	-6.1247	-0.0134	0.0821
Spilopelia chinensis	12	0.0131	-4.3329	-0.0569	0.2465
Centropus sinensis	1	0.0011	-6.8178	-0.0075	0.0509
Eudynamys scolopaceus	2	0.0022	-6.1247	-0.0134	0.0821
Caprimulgus affinis	3	0.0033	-5.7192	-0.0188	0.1074
Halcyon smyrnensis	1	0.0011	-6.8178	-0.0075	0.0509
Alcedo atthis	1	0.0011	-6.8178	-0.0075	0.0509
Ceryle rudis	1	0.0011	-6.8178	-0.0075	0.0509
Lanius schach	2	0.0022	-6.1247	-0.0134	0.0821
Cyanopica cyanus	45	0.0492	-3.0112	-0.1483	0.4464
Corvus torquatus	2	0.0022	-6.1247	-0.0134	0.0821
Corvus macrorhynchos	1	0.0011	-6.8178	-0.0075	0.0509
Parus minor	2	0.0022	-6.1247	-0.0134	0.0821
Pycnonotus jocosus	19	0.0208	-3.8734	-0.0805	0.3119
Pycnonotus sinensis	9	0.0098	-4.6206	-0.0455	0.2102
Phylloscopus inornatus	5	0.0055	-5.2084	-0.0285	0.1484
Phylloscopus fuscatus	7	0.0077	-4.8719	-0.0373	0.1818
Prinia flaviventris	5	0.0055	-5.2084	-0.0285	0.1484
Prinia inornata	5	0.0055	-5.2084	-0.0285	0.1484
Orthotomus sutorius	1	0.0011	-6.8178	-0.0075	0.0509
Pterorhinus perspicillatus	5	0.0055	-5.2084	-0.0285	0.1484

Scientific Name	Count	P	Ln(P)	P*Ln(P)	P*Ln(P)^2
Zosterops simplex	13	0.0142	-4.2529	-0.0605	0.2573
Acridotheres cristatellus	36	0.0394	-3.2343	-0.1274	0.4120
Spodiopsar sericeus	14	0.0153	-4.1788	-0.0640	0.2675
Spodiopsar cineraceus	1	0.0011	-6.8178	-0.0075	0.0509
Gracupica nigricollis	87	0.0952	-2.3519	-0.2239	0.5265
Copsychus saularis	4	0.0044	-5.4315	-0.0238	0.1291
Phoenicurus auroreus	2	0.0022	-6.1247	-0.0134	0.0821
Saxicola stejnegeri	3	0.0033	-5.7192	-0.0188	0.1074
Passer montanus	20	0.0219	-3.8221	-0.0836	0.3197
Lonchura punctulata	4	0.0044	-5.4315	-0.0238	0.1291
Motacilla alba	15	0.0164	-4.1098	-0.0674	0.2772
Anthus richardi	1	0.0011	-6.8178	-0.0075	0.0509
Emberiza spodocephala	2	0.0022	-6.1247	-0.0134	0.0821
Total	914	1	-318.4834	-3.1949	11.6353
Richness	62				
SS	11.6353				
SQ	10.2075				
H	3.1949				
S^2H	0.0016				

Appendix F.2.2 Ecological Bird Monitoring Diversity (Avifauna species of conservation importance in Point Count Method) in All Habitats (4 and 18 December 2024)

Scientific Name	Count	P	Ln(P)	P*Ln(P)	P*Ln(P)^2
Spatula clypeata	59	0.1039	-2.2646	-0.2352	0.5327
Mareca penelope	30	0.0528	-2.9409	-0.1553	0.4568
Anas acuta	3	0.0053	-5.2435	-0.0277	0.1452
Anas crecca	49	0.0863	-2.4503	-0.2114	0.5179
Aythya fuligula	129	0.2271	-1.4823	-0.3367	0.4990
Tachybaptus ruficollis	14	0.0246	-3.7031	-0.0913	0.3380
Plegadis falcinellus	1	0.0018	-6.3421	-0.0112	0.0708
Platalea leucorodia	1	0.0018	-6.3421	-0.0112	0.0708
Platalea minor	4	0.0070	-4.9558	-0.0349	0.1730
Nycticorax nycticorax	11	0.0194	-3.9442	-0.0764	0.3013
Ardeola bacchus	26	0.0458	-3.0840	-0.1412	0.4354
Bubulcus coromandus	3	0.0053	-5.2435	-0.0277	0.1452
Ardea cinerea	7	0.0123	-4.3962	-0.0542	0.2382
Ardea alba	1	0.0018	-6.3421	-0.0112	0.0708
Egretta garzetta	3	0.0053	-5.2435	-0.0277	0.1452
Phalacrocorax carbo	115	0.2025	-1.5972	-0.3234	0.5165
Milvus migrans	3	0.0053	-5.2435	-0.0277	0.1452
Himantopus himantopus	66	0.1162	-2.1525	-0.2501	0.5384
Recurvirostra avosetta	8	0.0141	-4.2627	-0.0600	0.2559
Charadrius dubius	2	0.0035	-5.6490	-0.0199	0.1124
Tringa totanus	4	0.0070	-4.9558	-0.0349	0.1730
Tringa stagnatilis	3	0.0053	-5.2435	-0.0277	0.1452
Tringa nebularia	6	0.0106	-4.5504	-0.0481	0.2187
Centropus sinensis	1	0.0018	-6.3421	-0.0112	0.0708
Halcyon smyrnensis	1	0.0018	-6.3421	-0.0112	0.0708
Ceryle rudis	1	0.0018	-6.3421	-0.0112	0.0708
Corvus torquatus	2	0.0035	-5.6490	-0.0199	0.1124
Spodiopsar sericeus	14	0.0246	-3.7031	-0.0913	0.3380
Spodiopsar cineraceus	1	0.0018	-6.3421	-0.0112	0.0708
Total	568	1	-132.3534	-2.4007	6.9792
Richness	29				
SS	6.9792				
SQ	5.7632				
H	2.4007				
S^2H	0.0022				

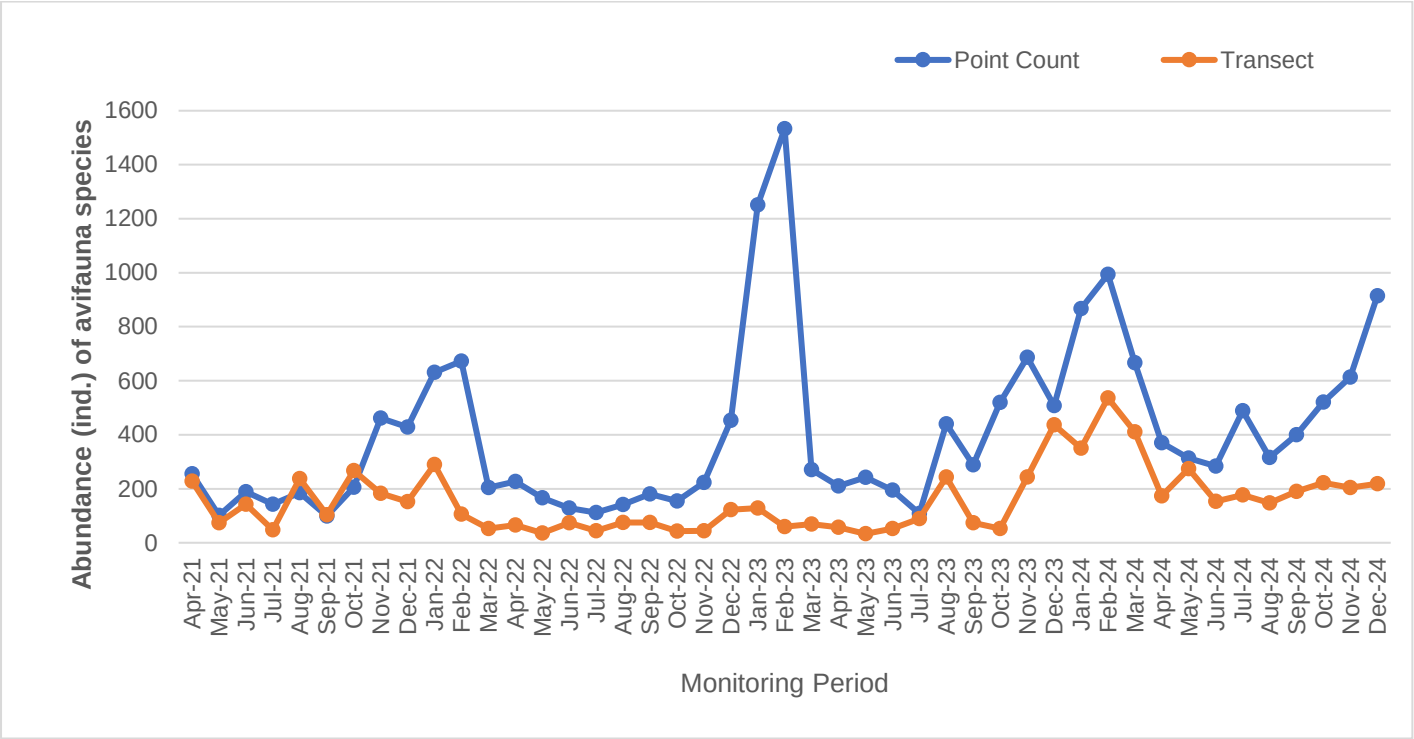
Appendix F.2.3 Ecological Bird Monitoring Diversity (All avifauna species in Transect Walk Method) in All Habitats (4 and 18 December 2024)

Scientific Name	Count	P	Ln(P)	P*Ln(P)	P*Ln(P)^2
Spatula clypeata	23	0.1055	-2.2490	-0.2373	0.5336
Anas crecca	34	0.1560	-1.8581	-0.2898	0.5385
Aythya fuligula	6	0.0275	-3.5927	-0.0989	0.3553
Tachybaptus ruficollis	2	0.0092	-4.6913	-0.0430	0.2019
Platalea minor	2	0.0092	-4.6913	-0.0430	0.2019
Nycticorax nycticorax	1	0.0046	-5.3845	-0.0247	0.1330
Ardeola bacchus	13	0.0596	-2.8195	-0.1681	0.4741
Ardea cinerea	2	0.0092	-4.6913	-0.0430	0.2019
Ardea alba	2	0.0092	-4.6913	-0.0430	0.2019
Phalacrocorax carbo	7	0.0321	-3.4386	-0.1104	0.3797
Amaurornis phoenicurus	2	0.0092	-4.6913	-0.0430	0.2019
Gallinula chloropus	1	0.0046	-5.3845	-0.0247	0.1330
Himantopus himantopus	33	0.1514	-1.8880	-0.2858	0.5396
Recurvirostra avosetta	3	0.0138	-4.2859	-0.0590	0.2528
Actitis hypoleucos	2	0.0092	-4.6913	-0.0430	0.2019
Tringa totanus	5	0.0229	-3.7751	-0.0866	0.3269
Tringa nebularia	2	0.0092	-4.6913	-0.0430	0.2019
Spilopelia chinensis	8	0.0367	-3.3051	-0.1213	0.4009
Halcyon smyrnensis	1	0.0046	-5.3845	-0.0247	0.1330
Cyanopica cyanus	5	0.0229	-3.7751	-0.0866	0.3269
Pycnonotus jocosus	16	0.0734	-2.6119	-0.1917	0.5007
Pycnonotus sinensis	3	0.0138	-4.2859	-0.0590	0.2528
Phylloscopus inornatus	3	0.0138	-4.2859	-0.0590	0.2528
Phylloscopus fuscatus	5	0.0229	-3.7751	-0.0866	0.3269
Prinia flaviventris	2	0.0092	-4.6913	-0.0430	0.2019
Prinia inornata	3	0.0138	-4.2859	-0.0590	0.2528
Orthotomus sutorius	3	0.0138	-4.2859	-0.0590	0.2528
Pterorhinus perspicillatus	4	0.0183	-3.9982	-0.0734	0.2933
Zosterops simplex	3	0.0138	-4.2859	-0.0590	0.2528
Acridotheres cristatellus	5	0.0229	-3.7751	-0.0866	0.3269
Gracupica nigricollis	10	0.0459	-3.0819	-0.1414	0.4357
Copsychus saularis	1	0.0046	-5.3845	-0.0247	0.1330
Phoenicurus auroreus	1	0.0046	-5.3845	-0.0247	0.1330
Saxicola stejnegeri	1	0.0046	-5.3845	-0.0247	0.1330
Lonchura punctulata	2	0.0092	-4.6913	-0.0430	0.2019
Motacilla alba	2	0.0092	-4.6913	-0.0430	0.2019
Total	218	1	-148.8790	-2.9968	10.0925
Richness	36				
SS	10.0925				
SQ	8.9811				
H	2.9968				
S^2H	0.0055				

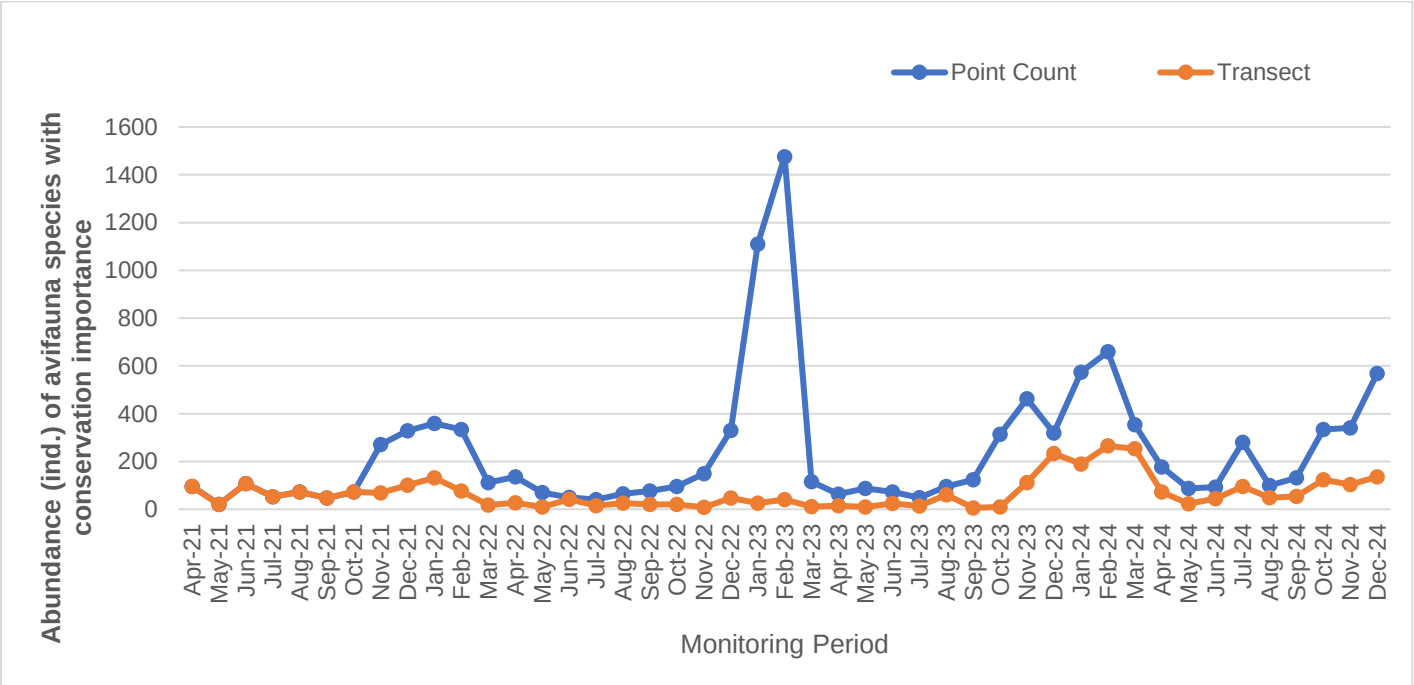
Appendix F.2.4 Ecological Bird Monitoring Diversity (Avifauna species of conservation importance in Transect Walk Method) in All Habitats (4 and 18 December 2024)

Scientific Name	Count	P	Ln(P)	P*Ln(P)	$P*Ln(P)^2$
Spatula clypeata	23	0.1691	-1.7772	-0.3005	0.5341
Anas crecca	34	0.2500	-1.3863	-0.3466	0.4805
Aythya fuligula	6	0.0441	-3.1209	-0.1377	0.4297
Tachybaptus ruficollis	2	0.0147	-4.2195	-0.0621	0.2618
Platalea minor	2	0.0147	-4.2195	-0.0621	0.2618
Nycticorax nycticorax	1	0.0074	-4.9127	-0.0361	0.1775
Ardeola bacchus	13	0.0956	-2.3477	-0.2244	0.5269
Ardea cinerea	2	0.0147	-4.2195	-0.0621	0.2618
Ardea alba	2	0.0147	-4.2195	-0.0621	0.2618
Phalacrocorax carbo	7	0.0515	-2.9667	-0.1527	0.4530
Himantopus himantopus	33	0.2426	-1.4161	-0.3436	0.4866
Recurvirostra avosetta	3	0.0221	-3.8140	-0.0841	0.3209
Tringa totanus	5	0.0368	-3.3032	-0.1214	0.4011
Tringa nebularia	2	0.0147	-4.2195	-0.0621	0.2618
Halcyon smyrnensis	1	0.0074	-4.9127	-0.0361	0.1775
Total	136	1	-51.0551	-2.0936	5.2969
Richness	15				
SS	5.2969				
SQ	4.3833				
H	2.0936				
S^2H	0.0071				

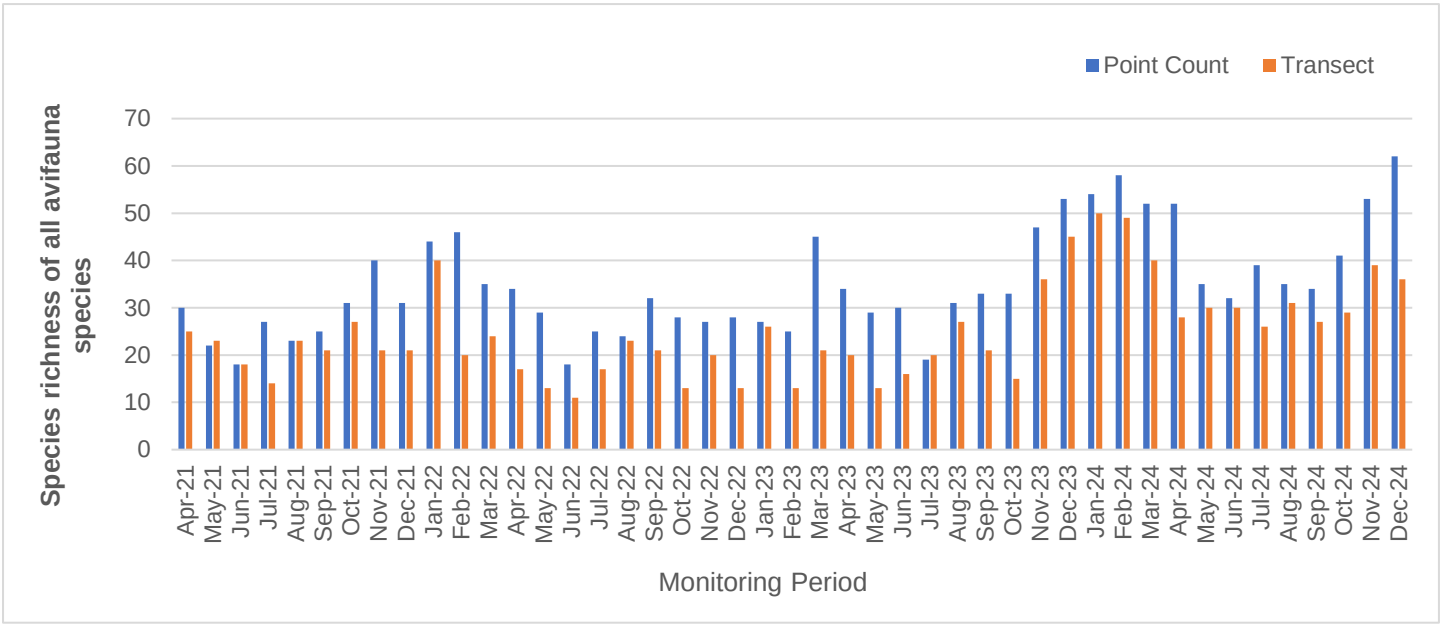
Appendix F.3.1 Abundance of all avifauna species throughout the monitoring period



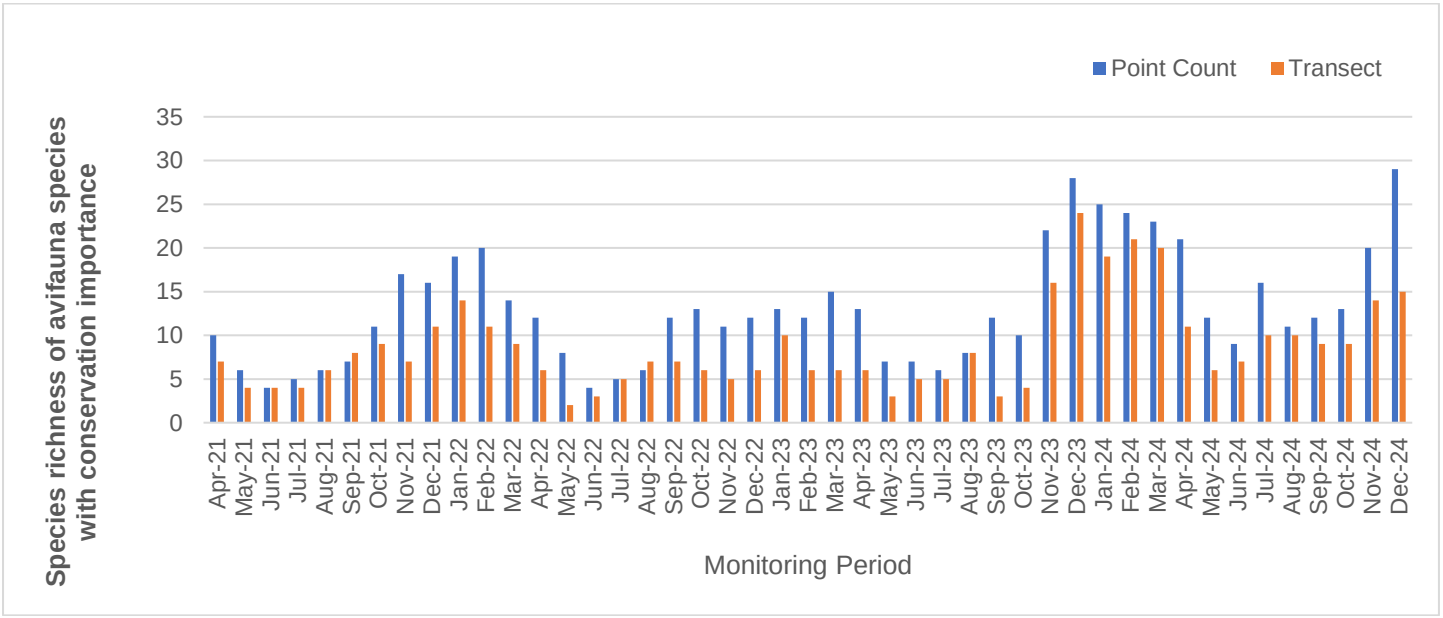
Appendix F.3.2 Abundance of avifauna species with conservation importance throughout the monitoring period



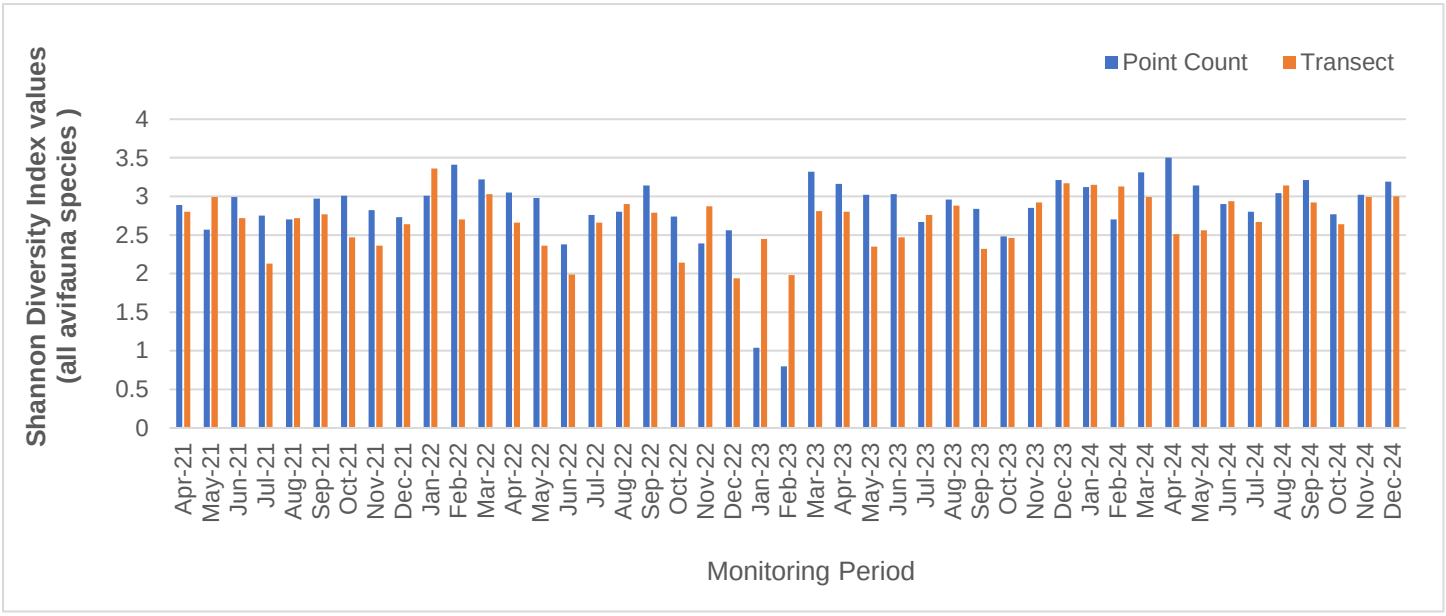
Appendix F.4.1 Species richness of all avifauna species throughout the monitoring period



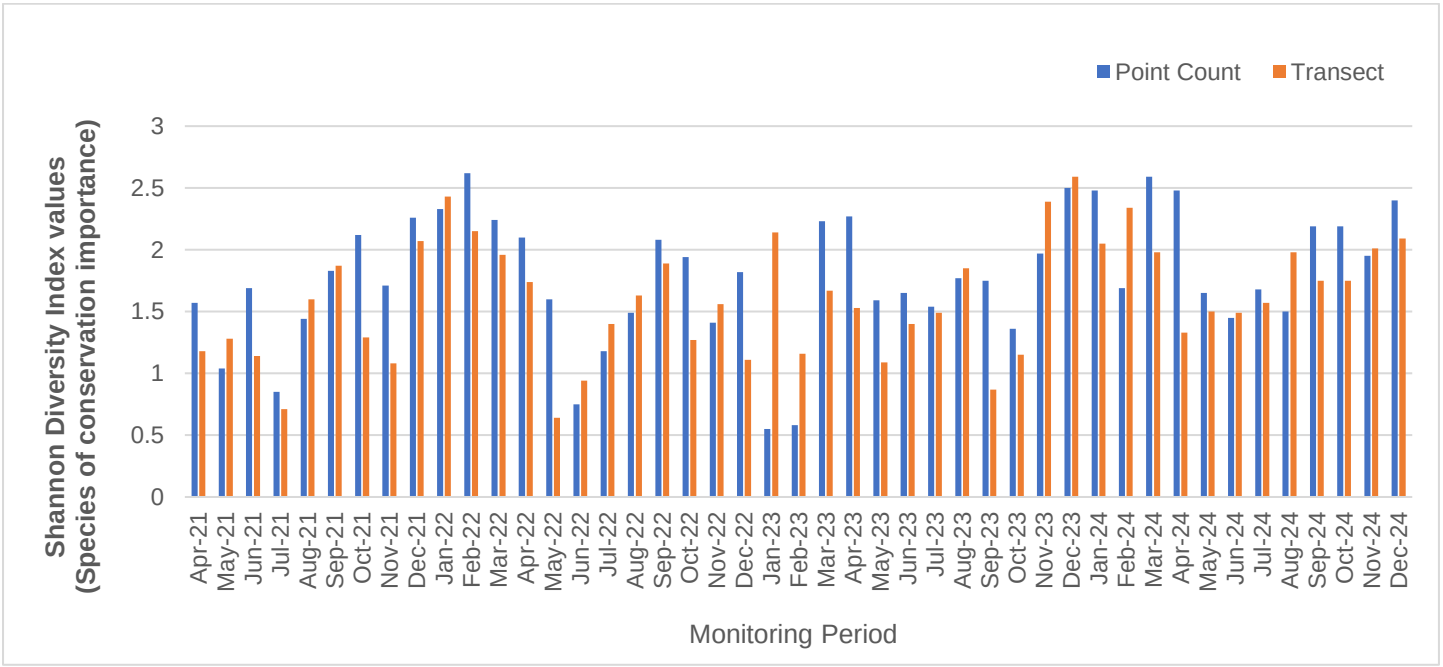
Appendix F.4.2 Species richness of avifauna species with conservation importance throughout the monitoring period



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. Hutcheson t-test testing method and output

Formula:

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

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

Months	December 2016	December 2024
Total	530	914
Richness	35	62
H	2.4583	3.1949
S^2H	0.0034	0.0016
t	10.4193	
df	1015.4116	
Crit	1.9623	
p	3.20E-24	
CI	0.1166	0.80

Appendix F.6.2 Species diversity of all avifauna species – Transect Walk Method

Months	December 2016	December 2024
Total	85	218
Richness	22	36
H	2.6712	2.9968
S^2H	0.0105	0.0055
t	2.5765	
df	177.6773	
Crit	1.9735	
p	1.08E-02	
CI	0.2050	0.1479

Appendix F.6.3 Species diversity of avifauna species with conservation importance – Point Count Method

Months	December 2016	December 2024
Total	462	568
Richness	18	29
H	2.0399	2.4007
S^2H	0.0028	0.0022
t	5.1103	
df	979.2385	
Crit	1.9624	
p	3.87E-07	
CI	0.1058	0.0935

Appendix F.6.4 Species diversity of avifauna species with conservation importance – Transect Walk Method

Months	December 2016	December 2024
Total	16	136
Richness	5	15
H	1.3917	2.0936
S^2H	0.0286	0.0071
t	3.7150	
df	24.7455	
Crit	2.0639	
p	1.08E-03	
CI	0.3382	0.1685

Appendix G
Wind Data

Date	Wind Speed (m/s)	Wind Direction
1/12/2024 0:00	3.0	SE
1/12/2024 1:00	2.9	E
1/12/2024 2:00	3.4	SE
1/12/2024 3:00	2.3	SE
1/12/2024 4:00	2.9	N
1/12/2024 5:00	2.7	N
1/12/2024 6:00	1.7	N
1/12/2024 7:00	2.2	N
1/12/2024 8:00	0.0	NE
1/12/2024 9:00	0.0	NW
1/12/2024 10:00	0.0	N
1/12/2024 11:00	0.0	NE
1/12/2024 12:00	0.0	N
1/12/2024 13:00	0.0	N
1/12/2024 14:00	0.0	N
1/12/2024 15:00	1.3	E
1/12/2024 16:00	1.3	E
1/12/2024 17:00	0.3	NW
1/12/2024 18:00	0.0	E
1/12/2024 19:00	0.9	NW
1/12/2024 20:00	0.0	NE
1/12/2024 21:00	2.1	NE
1/12/2024 22:00	2.1	NE
1/12/2024 23:00	2.6	E
1/12/2024 0:00	1.8	NE
2/12/2024 1:00	1.4	E
2/12/2024 2:00	3.3	NE

Date	Wind Speed (m/s)	Wind Direction
2/12/2024 3:00	1.5	NE
2/12/2024 4:00	1.9	NE
2/12/2024 5:00	2.1	NE
2/12/2024 6:00	1.9	NE
2/12/2024 7:00	2.1	NE
2/12/2024 8:00	1.6	NE
2/12/2024 9:00	0.0	N
2/12/2024 10:00	0.0	NE
2/12/2024 11:00	1.7	NE
2/12/2024 12:00	1.6	NE
2/12/2024 13:00	0.3	E
2/12/2024 14:00	0.0	NE
2/12/2024 15:00	1.9	NE
2/12/2024 16:00	1.3	E
2/12/2024 17:00	1.7	SE
2/12/2024 18:00	1.8	N
2/12/2024 19:00	0.0	E
2/12/2024 20:00	0.0	NE
2/12/2024 21:00	0.2	E
2/12/2024 22:00	5.4	SE
2/12/2024 23:00	2.7	NE
2/12/2024 0:00	3.8	NE
3/12/2024 1:00	3.3	NE
3/12/2024 2:00	4.2	E
3/12/2024 3:00	3.8	E
3/12/2024 4:00	4.0	E
3/12/2024 5:00	2.2	E

Date	Wind Speed (m/s)	Wind Direction
3/12/2024 6:00	1.9	E
3/12/2024 7:00	3.3	NE
3/12/2024 8:00	2.8	E
3/12/2024 9:00	2.8	N
3/12/2024 10:00	3.2	E
3/12/2024 11:00	1.4	N
3/12/2024 12:00	2.9	NE
3/12/2024 13:00	2.4	NE
3/12/2024 14:00	1.5	E
3/12/2024 15:00	2.0	NE
3/12/2024 16:00	2.0	SW
3/12/2024 17:00	2.0	SE
3/12/2024 18:00	2.2	E
3/12/2024 19:00	2.2	SE
3/12/2024 20:00	3.3	E
3/12/2024 21:00	1.7	E
3/12/2024 22:00	2.6	E
3/12/2024 23:00	1.0	NE
3/12/2024 0:00	2.0	E
4/12/2024 1:00	1.7	SE
4/12/2024 2:00	2.1	SE
4/12/2024 3:00	2.2	SE
4/12/2024 4:00	2.9	E
4/12/2024 5:00	2.2	SE
4/12/2024 6:00	1.9	NE
4/12/2024 7:00	1.1	NE
4/12/2024 8:00	1.8	W

Date	Wind Speed (m/s)	Wind Direction
4/12/2024 9:00	2.0	NE
4/12/2024 10:00	1.5	E
4/12/2024 11:00	1.5	NE
4/12/2024 12:00	2.0	N
4/12/2024 13:00	0.7	NW
4/12/2024 14:00	1.6	W
4/12/2024 15:00	2.1	W
4/12/2024 16:00	1.5	W
4/12/2024 17:00	1.7	SW
4/12/2024 18:00	1.6	E
4/12/2024 19:00	1.4	E
4/12/2024 20:00	2.2	E
4/12/2024 21:00	2.2	E
4/12/2024 22:00	2.1	E
4/12/2024 23:00	2.2	E
4/12/2024 0:00	2.8	SE
5/12/2024 1:00	3.5	E
5/12/2024 2:00	3.9	SE
5/12/2024 3:00	3.4	E
5/12/2024 4:00	2.0	E
5/12/2024 5:00	2.0	SE
5/12/2024 6:00	3.3	E
5/12/2024 7:00	1.9	E
5/12/2024 8:00	1.4	E
5/12/2024 9:00	1.2	N
5/12/2024 10:00	1.1	NE
5/12/2024 11:00	0.0	NE

Date	Wind Speed (m/s)	Wind Direction
5/12/2024 12:00	0.0	SW
5/12/2024 13:00	0.9	N
5/12/2024 14:00	2.0	NE
5/12/2024 15:00	0.7	E
5/12/2024 16:00	2.0	NW
5/12/2024 17:00	0.2	N
5/12/2024 18:00	0.0	SW
5/12/2024 19:00	1.3	E
5/12/2024 20:00	0.2	E
5/12/2024 21:00	3.0	E
5/12/2024 22:00	2.1	E
5/12/2024 23:00	1.1	SE
5/12/2024 0:00	1.3	E
6/12/2024 1:00	3.4	E
6/12/2024 2:00	2.1	NE
6/12/2024 3:00	1.8	SW
6/12/2024 4:00	2.1	NE
6/12/2024 5:00	1.4	W
6/12/2024 6:00	2.0	N
6/12/2024 7:00	1.6	E
6/12/2024 8:00	1.5	E
6/12/2024 9:00	2.1	N
6/12/2024 10:00	0.0	NE
6/12/2024 11:00	0.3	NE
6/12/2024 12:00	1.3	NW
6/12/2024 13:00	2.1	N
6/12/2024 14:00	1.5	E

Date	Wind Speed (m/s)	Wind Direction
6/12/2024 15:00	0.8	E
6/12/2024 16:00	1.4	N
6/12/2024 17:00	1.5	NW
6/12/2024 18:00	0.0	SE
6/12/2024 19:00	0.0	E
6/12/2024 20:00	6.5	NE
6/12/2024 21:00	6.5	SE
6/12/2024 22:00	5.5	SE
6/12/2024 23:00	7.6	NE
6/12/2024 0:00	4.4	SE
7/12/2024 1:00	3.7	SE
7/12/2024 2:00	5.8	E
7/12/2024 3:00	3.1	E
7/12/2024 4:00	2.8	NE
7/12/2024 5:00	7.9	SW
7/12/2024 6:00	4.5	E
7/12/2024 7:00	3.8	NW
7/12/2024 8:00	6.8	E
7/12/2024 9:00	3.6	N
7/12/2024 10:00	7.1	NE
7/12/2024 11:00	3.6	E
7/12/2024 12:00	9.0	NE
7/12/2024 13:00	4.1	NW
7/12/2024 14:00	6.5	NW
7/12/2024 15:00	5.9	W
7/12/2024 16:00	3.8	W
7/12/2024 17:00	2.2	E

Date	Wind Speed (m/s)	Wind Direction
7/12/2024 18:00	3.5	E
7/12/2024 19:00	4.0	SE
7/12/2024 20:00	5.7	E
7/12/2024 21:00	4.1	E
7/12/2024 22:00	3.0	E
7/12/2024 23:00	5.4	E
7/12/2024 0:00	7.2	SE
8/12/2024 1:00	4.1	SE
8/12/2024 2:00	2.0	E
8/12/2024 3:00	3.1	E
8/12/2024 4:00	3.9	SE
8/12/2024 5:00	4.7	E
8/12/2024 6:00	2.8	SE
8/12/2024 7:00	3.9	SW
8/12/2024 8:00	2.1	NW
8/12/2024 9:00	2.6	N
8/12/2024 10:00	2.2	N
8/12/2024 11:00	1.3	NE
8/12/2024 12:00	0.2	NW
8/12/2024 13:00	3.1	W
8/12/2024 14:00	4.2	W
8/12/2024 15:00	4.2	W
8/12/2024 16:00	4.2	SW
8/12/2024 17:00	2.1	SW
8/12/2024 18:00	2.9	E
8/12/2024 19:00	2.1	SW
8/12/2024 20:00	0.0	E

Date	Wind Speed (m/s)	Wind Direction
8/12/2024 21:00	3.4	E
8/12/2024 22:00	1.5	SE
8/12/2024 23:00	3.0	E
8/12/2024 0:00	1.5	E
9/12/2024 1:00	1.7	E
9/12/2024 2:00	2.2	E
9/12/2024 3:00	1.1	E
9/12/2024 4:00	3.6	E
9/12/2024 5:00	1.8	NE
9/12/2024 6:00	2.5	NE
9/12/2024 7:00	1.9	NE
9/12/2024 8:00	1.5	NW
9/12/2024 9:00	0.8	E
9/12/2024 10:00	0.1	NE
9/12/2024 11:00	0.0	E
9/12/2024 12:00	2.9	SE
9/12/2024 13:00	2.3	SE
9/12/2024 14:00	2.2	E
9/12/2024 15:00	2.2	E
9/12/2024 16:00	2.2	E
9/12/2024 17:00	2.8	E
9/12/2024 18:00	2.2	E
9/12/2024 19:00	2.0	SE
9/12/2024 20:00	3.0	E
9/12/2024 21:00	2.1	SE
9/12/2024 22:00	3.2	NE
9/12/2024 23:00	4.2	NE

Date	Wind Speed (m/s)	Wind Direction
9/12/2024 0:00	1.9	E
10/12/2024 1:00	0.0	E
10/12/2024 2:00	0.0	E
10/12/2024 3:00	0.0	NE
10/12/2024 4:00	0.8	NE
10/12/2024 5:00	0.0	NE
10/12/2024 6:00	1.5	NE
10/12/2024 7:00	0.1	NE
10/12/2024 8:00	1.4	N
10/12/2024 9:00	2.2	E
10/12/2024 10:00	1.8	SW
10/12/2024 11:00	3.0	NE
10/12/2024 12:00	2.9	SW
10/12/2024 13:00	3.4	SW
10/12/2024 14:00	2.3	SW
10/12/2024 15:00	2.9	NE
10/12/2024 16:00	2.7	NE
10/12/2024 17:00	1.7	SE
10/12/2024 18:00	2.2	N
10/12/2024 19:00	0.0	E
10/12/2024 20:00	0.0	NE
10/12/2024 21:00	0.0	N
10/12/2024 22:00	0.0	SE
10/12/2024 23:00	0.0	E
10/12/2024 0:00	0.0	E
11/12/2024 1:00	0.0	NE
11/12/2024 2:00	1.3	NE

Date	Wind Speed (m/s)	Wind Direction
11/12/2024 3:00	1.3	E
11/12/2024 4:00	0.3	E
11/12/2024 5:00	0.0	SE
11/12/2024 6:00	0.9	E
11/12/2024 7:00	0.0	E
11/12/2024 8:00	2.1	NE
11/12/2024 9:00	2.1	E
11/12/2024 10:00	2.6	N
11/12/2024 11:00	1.8	NW
11/12/2024 12:00	1.4	NE
11/12/2024 13:00	3.3	NE
11/12/2024 14:00	1.5	E
11/12/2024 15:00	1.9	E
11/12/2024 16:00	2.1	E
11/12/2024 17:00	1.9	E
11/12/2024 18:00	2.1	E
11/12/2024 19:00	1.6	E
11/12/2024 20:00	0.0	SE
11/12/2024 21:00	0.0	E
11/12/2024 22:00	1.7	E
11/12/2024 23:00	1.6	SE
11/12/2024 0:00	0.3	E
12/12/2024 1:00	0.0	SE
12/12/2024 2:00	1.9	SE
12/12/2024 3:00	1.3	SE
12/12/2024 4:00	1.7	SE
12/12/2024 5:00	1.8	SW

Date	Wind Speed (m/s)	Wind Direction
12/12/2024 6:00	0.0	NE
12/12/2024 7:00	0.0	NE
12/12/2024 8:00	0.2	E
12/12/2024 9:00	5.4	N
12/12/2024 10:00	2.7	NE
12/12/2024 11:00	3.8	NE
12/12/2024 12:00	3.3	N
12/12/2024 13:00	4.2	SE
12/12/2024 14:00	3.8	E
12/12/2024 15:00	4.0	E
12/12/2024 16:00	2.2	W
12/12/2024 17:00	1.9	NW
12/12/2024 18:00	3.3	E
12/12/2024 19:00	2.8	E
12/12/2024 20:00	2.8	SE
12/12/2024 21:00	3.2	SE
12/12/2024 22:00	1.4	E
12/12/2024 23:00	2.9	NE
12/12/2024 0:00	2.4	NE
13/12/2024 1:00	1.5	E
13/12/2024 2:00	2.0	N
13/12/2024 3:00	2.0	NE
13/12/2024 4:00	2.0	E
13/12/2024 5:00	2.2	SE
13/12/2024 6:00	2.2	NE
13/12/2024 7:00	3.3	NE
13/12/2024 8:00	1.7	NE

Date	Wind Speed (m/s)	Wind Direction
13/12/2024 9:00	2.6	N
13/12/2024 10:00	1.0	N
13/12/2024 11:00	2.0	W
13/12/2024 12:00	1.7	E
13/12/2024 13:00	2.1	E
13/12/2024 14:00	2.2	E
13/12/2024 15:00	2.9	SW
13/12/2024 16:00	2.2	E
13/12/2024 17:00	1.9	SE
13/12/2024 18:00	1.1	E
13/12/2024 19:00	1.8	NE
13/12/2024 20:00	2.0	E
13/12/2024 21:00	1.5	NE
13/12/2024 22:00	1.5	NE
13/12/2024 23:00	2.0	E
13/12/2024 0:00	0.7	NE
14/12/2024 1:00	1.6	NE
14/12/2024 2:00	2.1	E
14/12/2024 3:00	1.5	NE
14/12/2024 4:00	1.7	E
14/12/2024 5:00	1.6	NE
14/12/2024 6:00	1.4	NE
14/12/2024 7:00	2.2	NE
14/12/2024 8:00	2.2	E
14/12/2024 9:00	2.1	E
14/12/2024 10:00	2.2	E
14/12/2024 11:00	2.8	E

Date	Wind Speed (m/s)	Wind Direction
14/12/2024 12:00	3.5	E
14/12/2024 13:00	3.9	NE
14/12/2024 14:00	3.4	E
14/12/2024 15:00	2.0	NE
14/12/2024 16:00	2.0	NE
14/12/2024 17:00	3.3	E
14/12/2024 18:00	1.9	NE
14/12/2024 19:00	1.4	NE
14/12/2024 20:00	1.2	NE
14/12/2024 21:00	1.1	E
14/12/2024 22:00	0.0	E
14/12/2024 23:00	0.0	NW
14/12/2024 0:00	0.9	W
15/12/2024 1:00	2.0	SE
15/12/2024 2:00	0.7	NE
15/12/2024 3:00	2.0	SE
15/12/2024 4:00	0.2	E
15/12/2024 5:00	0.0	E
15/12/2024 6:00	1.3	E
15/12/2024 7:00	0.2	NE
15/12/2024 8:00	3.0	E
15/12/2024 9:00	2.1	E
15/12/2024 10:00	1.1	E
15/12/2024 11:00	1.3	NE
15/12/2024 12:00	3.4	NE
15/12/2024 13:00	2.1	E
15/12/2024 14:00	1.8	NE

Date	Wind Speed (m/s)	Wind Direction
15/12/2024 15:00	2.1	E
15/12/2024 16:00	1.4	E
15/12/2024 17:00	2.0	E
15/12/2024 18:00	1.6	SE
15/12/2024 19:00	1.5	SE
15/12/2024 20:00	2.1	SE
15/12/2024 21:00	0.0	E
15/12/2024 22:00	0.3	E
15/12/2024 23:00	1.3	SE
15/12/2024 0:00	2.1	SE
16/12/2024 1:00	1.5	NE
16/12/2024 2:00	0.8	E
16/12/2024 3:00	1.4	E
16/12/2024 4:00	1.5	NE
16/12/2024 5:00	0.0	E
16/12/2024 6:00	0.0	E
16/12/2024 7:00	6.5	E
16/12/2024 8:00	6.5	SE
16/12/2024 9:00	5.5	E
16/12/2024 10:00	7.6	NE
16/12/2024 11:00	4.4	NE
16/12/2024 12:00	3.7	N
16/12/2024 13:00	5.8	NW
16/12/2024 14:00	3.1	N
16/12/2024 15:00	2.8	NW
16/12/2024 16:00	7.9	SE
16/12/2024 17:00	4.5	SW

Date	Wind Speed (m/s)	Wind Direction
16/12/2024 18:00	3.8	SW
16/12/2024 19:00	6.8	NE
16/12/2024 20:00	3.6	E
16/12/2024 21:00	7.1	NE
16/12/2024 22:00	3.6	NE
16/12/2024 23:00	9.0	SE
16/12/2024 0:00	4.1	E
17/12/2024 1:00	6.5	N
17/12/2024 2:00	5.9	E
17/12/2024 3:00	3.8	NE
17/12/2024 4:00	2.2	NE
17/12/2024 5:00	3.5	NE
17/12/2024 6:00	4.0	E
17/12/2024 7:00	5.7	E
17/12/2024 8:00	4.1	NE
17/12/2024 9:00	3.0	E
17/12/2024 10:00	5.4	NE
17/12/2024 11:00	7.2	E
17/12/2024 12:00	4.1	NE
17/12/2024 13:00	2.0	SW
17/12/2024 14:00	3.1	SE
17/12/2024 15:00	3.9	E
17/12/2024 16:00	4.7	SE
17/12/2024 17:00	2.8	E
17/12/2024 18:00	3.9	E
17/12/2024 19:00	2.1	E
17/12/2024 20:00	2.6	E

Date	Wind Speed (m/s)	Wind Direction
17/12/2024 21:00	2.2	E
17/12/2024 22:00	1.3	E
17/12/2024 23:00	0.2	E
17/12/2024 0:00	3.1	E
18/12/2024 1:00	4.2	E
18/12/2024 2:00	4.2	E
18/12/2024 3:00	4.2	E
18/12/2024 4:00	2.1	E
18/12/2024 5:00	2.9	E
18/12/2024 6:00	2.1	E
18/12/2024 7:00	0.0	E
18/12/2024 8:00	3.4	E
18/12/2024 9:00	1.5	NE
18/12/2024 10:00	3.0	NE
18/12/2024 11:00	1.5	SW
18/12/2024 12:00	1.7	E
18/12/2024 13:00	2.2	E
18/12/2024 14:00	1.1	NE
18/12/2024 15:00	3.6	SW
18/12/2024 16:00	1.8	SW
18/12/2024 17:00	2.5	SW
18/12/2024 18:00	1.9	E
18/12/2024 19:00	1.5	SW
18/12/2024 20:00	0.8	SE
18/12/2024 21:00	0.1	E
18/12/2024 22:00	0.0	SE
18/12/2024 23:00	2.9	E

Date	Wind Speed (m/s)	Wind Direction
18/12/2024 0:00	2.3	E
19/12/2024 1:00	2.2	NE
19/12/2024 2:00	2.2	NE
19/12/2024 3:00	2.2	N
19/12/2024 4:00	2.8	E
19/12/2024 5:00	2.2	E
19/12/2024 6:00	2.0	SE
19/12/2024 7:00	3.0	SE
19/12/2024 8:00	2.1	E
19/12/2024 9:00	3.2	SE
19/12/2024 10:00	4.2	NW
19/12/2024 11:00	2.0	N
19/12/2024 12:00	2.2	E
19/12/2024 13:00	3.7	N
19/12/2024 14:00	2.3	NE
19/12/2024 15:00	4.4	N
19/12/2024 16:00	5.9	E
19/12/2024 17:00	3.5	SW
19/12/2024 18:00	2.1	E
19/12/2024 19:00	1.3	SW
19/12/2024 20:00	1.9	SE
19/12/2024 21:00	3.6	N
19/12/2024 22:00	1.2	NE
19/12/2024 23:00	2.1	E
19/12/2024 0:00	3.1	NE
20/12/2024 1:00	4.0	SE
20/12/2024 2:00	3.7	SE

Date	Wind Speed (m/s)	Wind Direction
20/12/2024 3:00	3.8	E
20/12/2024 4:00	3.5	E
20/12/2024 5:00	7.1	E
20/12/2024 6:00	2.0	E
20/12/2024 7:00	3.1	E
20/12/2024 8:00	3.0	E
20/12/2024 9:00	5.8	NE
20/12/2024 10:00	3.7	E
20/12/2024 11:00	3.7	SE
20/12/2024 12:00	1.9	NE
20/12/2024 13:00	5.1	SE
20/12/2024 14:00	4.0	SW
20/12/2024 15:00	3.2	E
20/12/2024 16:00	2.2	E
20/12/2024 17:00	2.0	NE
20/12/2024 18:00	6.6	N
20/12/2024 19:00	6.1	E
20/12/2024 20:00	3.6	NE
20/12/2024 21:00	2.2	SW
20/12/2024 22:00	6.4	E
20/12/2024 23:00	4.9	SE
20/12/2024 0:00	2.2	E
21/12/2024 1:00	4.2	E
21/12/2024 2:00	5.2	E
21/12/2024 3:00	4.2	E
21/12/2024 4:00	4.3	SE
21/12/2024 5:00	6.9	E

Date	Wind Speed (m/s)	Wind Direction
21/12/2024 6:00	4.5	E
21/12/2024 7:00	4.7	SE
21/12/2024 8:00	3.9	SE
21/12/2024 9:00	4.1	E
21/12/2024 10:00	4.0	NE
21/12/2024 11:00	4.1	E
21/12/2024 12:00	1.9	E
21/12/2024 13:00	4.1	E
21/12/2024 14:00	3.0	N
21/12/2024 15:00	4.2	NE
21/12/2024 16:00	5.3	NE
21/12/2024 17:00	5.0	NE
21/12/2024 18:00	8.5	NE
21/12/2024 19:00	7.4	NE
21/12/2024 20:00	4.2	E
21/12/2024 21:00	6.2	SE
21/12/2024 22:00	4.4	NE
21/12/2024 23:00	4.0	SW
21/12/2024 0:00	4.3	NE
22/12/2024 1:00	4.2	NE
22/12/2024 2:00	4.3	NE
22/12/2024 3:00	3.4	E
22/12/2024 4:00	4.0	E
22/12/2024 5:00	3.4	N
22/12/2024 6:00	2.1	SE
22/12/2024 7:00	5.7	NE
22/12/2024 8:00	5.8	NE

Date	Wind Speed (m/s)	Wind Direction
22/12/2024 9:00	8.5	NE
22/12/2024 10:00	4.0	NE
22/12/2024 11:00	4.4	NE
22/12/2024 12:00	2.1	NW
22/12/2024 13:00	5.4	E
22/12/2024 14:00	1.7	NE
22/12/2024 15:00	4.2	NE
22/12/2024 16:00	3.3	SE
22/12/2024 17:00	2.6	E
22/12/2024 18:00	1.9	N
22/12/2024 19:00	1.7	NE
22/12/2024 20:00	2.4	E
22/12/2024 21:00	0.9	E
22/12/2024 22:00	1.0	E
22/12/2024 23:00	1.2	E
22/12/2024 0:00	1.4	E
23/12/2024 1:00	1.3	NW
23/12/2024 2:00	1.2	NE
23/12/2024 3:00	1.4	NE
23/12/2024 4:00	1.3	N
23/12/2024 5:00	1.2	SW
23/12/2024 6:00	1.3	NE
23/12/2024 7:00	1.2	NE
23/12/2024 8:00	0.6	SE
23/12/2024 9:00	1.4	N
23/12/2024 10:00	4.3	E
23/12/2024 11:00	2.8	NE

Date	Wind Speed (m/s)	Wind Direction
23/12/2024 12:00	3.2	NE
23/12/2024 13:00	3.9	N
23/12/2024 14:00	2.5	E
23/12/2024 15:00	2.2	SE
23/12/2024 16:00	3.9	SE
23/12/2024 17:00	2.1	E
23/12/2024 18:00	2.1	SE
23/12/2024 19:00	3.8	SE
23/12/2024 20:00	4.9	SE
23/12/2024 21:00	4.6	N
23/12/2024 22:00	2.3	E
23/12/2024 23:00	3.3	NE
23/12/2024 0:00	2.1	E
24/12/2024 1:00	2.7	NW
24/12/2024 2:00	7.5	E
24/12/2024 3:00	3.5	NE
24/12/2024 4:00	1.8	SE
24/12/2024 5:00	1.8	NE
24/12/2024 6:00	1.8	E
24/12/2024 7:00	1.7	E
24/12/2024 8:00	3.8	E
24/12/2024 9:00	3.8	E
24/12/2024 10:00	1.7	SE
24/12/2024 11:00	5.2	E
24/12/2024 12:00	3.8	NE
24/12/2024 13:00	4.1	E
24/12/2024 14:00	1.3	NE

Date	Wind Speed (m/s)	Wind Direction
24/12/2024 15:00	4.3	NE
24/12/2024 16:00	2.5	NE
24/12/2024 17:00	2.1	SW
24/12/2024 18:00	2.2	NE
24/12/2024 19:00	1.5	E
24/12/2024 20:00	0.0	NW
24/12/2024 21:00	0.0	E
24/12/2024 22:00	0.9	NE
24/12/2024 23:00	1.7	NE
24/12/2024 0:00	3.8	N
25/12/2024 1:00	2.1	NW
25/12/2024 2:00	3.8	NW
25/12/2024 3:00	3.2	N
25/12/2024 4:00	0.0	SE
25/12/2024 5:00	3.5	NW
25/12/2024 6:00	0.0	NE
25/12/2024 7:00	2.0	NE
25/12/2024 8:00	3.6	SE
25/12/2024 9:00	4.5	SE
25/12/2024 10:00	2.5	NE
25/12/2024 11:00	4.1	NE
25/12/2024 12:00	2.8	NE
25/12/2024 13:00	2.7	NE
25/12/2024 14:00	3.6	E
25/12/2024 15:00	4.0	NE
25/12/2024 16:00	2.1	E
25/12/2024 17:00	0.0	E

Date	Wind Speed (m/s)	Wind Direction
25/12/2024 18:00	0.0	E
25/12/2024 19:00	0.0	E
25/12/2024 20:00	0.0	NE
25/12/2024 21:00	0.2	E
25/12/2024 22:00	0.2	NE
25/12/2024 23:00	0.6	NW
26/12/2024 0:00	0.1	N
26/12/2024 1:00	3.6	NW
26/12/2024 2:00	4.2	NE
26/12/2024 3:00	3.3	NW
26/12/2024 4:00	2.2	E
26/12/2024 5:00	1.5	SE
26/12/2024 6:00	2.6	W
26/12/2024 7:00	0.0	NE
26/12/2024 8:00	1.1	E
26/12/2024 9:00	1.3	E
26/12/2024 10:00	0.0	NE
26/12/2024 11:00	1.0	E
26/12/2024 12:00	0.0	SE
26/12/2024 13:00	0.0	E
26/12/2024 14:00	0.0	E
26/12/2024 15:00	0.0	SE
26/12/2024 16:00	0.8	E
26/12/2024 17:00	0.0	NE
26/12/2024 18:00	0.0	SE
26/12/2024 19:00	0.1	E
26/12/2024 20:00	0.2	NE

Date	Wind Speed (m/s)	Wind Direction
26/12/2024 21:00	3.8	E
26/12/2024 22:00	2.1	NE
26/12/2024 23:00	3.8	E
27/12/2024 0:00	3.2	SW
27/12/2024 1:00	0.0	NE
27/12/2024 2:00	3.5	NE
27/12/2024 3:00	0.0	NE
27/12/2024 4:00	2.0	E
27/12/2024 5:00	4.2	E
27/12/2024 6:00	3.3	E
27/12/2024 7:00	3.6	E
27/12/2024 8:00	4.2	NE
27/12/2024 9:00	3.3	SE
27/12/2024 10:00	2.2	NE
27/12/2024 11:00	1.5	E
27/12/2024 12:00	2.6	NE
27/12/2024 13:00	0.0	N
27/12/2024 14:00	1.1	E
27/12/2024 15:00	3.6	E
27/12/2024 16:00	4.2	N
27/12/2024 17:00	3.3	NE
27/12/2024 18:00	0.0	N
27/12/2024 19:00	0.8	NE
27/12/2024 20:00	0.0	NE
27/12/2024 21:00	0.0	NE
27/12/2024 22:00	0.1	SE
27/12/2024 23:00	0.2	NE

Date	Wind Speed (m/s)	Wind Direction
28/12/2024 0:00	1.0	NE
28/12/2024 1:00	0.0	NE
28/12/2024 2:00	0.0	NE
28/12/2024 3:00	0.0	NE
28/12/2024 4:00	0.0	NE
28/12/2024 5:00	0.8	NE
28/12/2024 6:00	0.0	NE
28/12/2024 7:00	0.0	E
28/12/2024 8:00	0.1	N
28/12/2024 9:00	0.2	E
28/12/2024 10:00	1.0	N
28/12/2024 11:00	0.0	E
28/12/2024 12:00	0.0	N
28/12/2024 13:00	0.0	N
28/12/2024 14:00	0.0	E
28/12/2024 15:00	0.8	N
28/12/2024 16:00	0.0	NE
28/12/2024 17:00	0.0	N
28/12/2024 18:00	0.0	E
28/12/2024 19:00	0.0	NE
28/12/2024 20:00	0.0	N
28/12/2024 21:00	0.0	NE
28/12/2024 22:00	0.8	NE
28/12/2024 23:00	0.0	NE
29/12/2024 0:00	0.0	E
29/12/2024 1:00	0.1	E
29/12/2024 2:00	0.2	NE

Date	Wind Speed (m/s)	Wind Direction
29/12/2024 3:00	0.0	E
29/12/2024 4:00	0.0	E
29/12/2024 5:00	0.0	NE
29/12/2024 6:00	0.2	NE
29/12/2024 7:00	0.2	NE
29/12/2024 8:00	0.6	NE
29/12/2024 9:00	0.1	NE
29/12/2024 10:00	3.6	E
29/12/2024 11:00	4.2	NE
29/12/2024 12:00	3.3	NE
29/12/2024 13:00	2.2	N
29/12/2024 14:00	1.5	N
29/12/2024 15:00	2.6	N
29/12/2024 16:00	0.0	E
29/12/2024 17:00	1.1	NE
29/12/2024 18:00	1.3	NE
29/12/2024 19:00	0.0	NE
29/12/2024 20:00	1.0	NE
29/12/2024 21:00	0.0	NE
29/12/2024 22:00	0.0	E
29/12/2024 23:00	0.0	NW
30/12/2024 0:00	0.0	NE
30/12/2024 1:00	0.8	E
30/12/2024 2:00	0.0	NE
30/12/2024 3:00	0.0	E
30/12/2024 4:00	0.1	E
30/12/2024 5:00	0.2	E

Date	Wind Speed (m/s)	Wind Direction
30/12/2024 6:00	2.6	NW
30/12/2024 7:00	1.0	E
30/12/2024 8:00	2.0	NE
30/12/2024 9:00	1.7	NE
30/12/2024 10:00	2.1	NE
30/12/2024 11:00	2.2	NE
30/12/2024 12:00	2.9	NE
30/12/2024 13:00	2.2	NE
30/12/2024 14:00	1.9	NE
30/12/2024 15:00	1.1	E
30/12/2024 16:00	1.8	SE
30/12/2024 17:00	2.0	W
30/12/2024 18:00	1.5	NE
30/12/2024 19:00	1.5	E
30/12/2024 20:00	2.0	E
30/12/2024 21:00	0.7	E
30/12/2024 22:00	1.6	NE
30/12/2024 23:00	2.1	E
31/12/2024 0:00	1.5	SE
31/12/2024 1:00	1.7	E
31/12/2024 2:00	1.6	NE
31/12/2024 3:00	1.4	E
31/12/2024 4:00	2.2	E
31/12/2024 5:00	2.2	NE
31/12/2024 6:00	2.1	E
31/12/2024 7:00	2.2	E
31/12/2024 8:00	2.8	E

Date	Wind Speed (m/s)	Wind Direction
31/12/2024 9:00	3.5	SE
31/12/2024 10:00	3.9	E
31/12/2024 11:00	3.4	NE
31/12/2024 12:00	2.0	NE
31/12/2024 13:00	2.0	N
31/12/2024 14:00	3.3	NW
31/12/2024 15:00	1.9	N
31/12/2024 16:00	1.4	NW
31/12/2024 17:00	1.2	SE
31/12/2024 18:00	1.1	SW
31/12/2024 19:00	0.0	SW
31/12/2024 20:00	0.0	NE
31/12/2024 21:00	0.9	E
31/12/2024 22:00	2.0	NE
31/12/2024 23:00	0.7	NE
1/1/2025 0:00	2.0	SE

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	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.	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.	1. Notify Contractor.	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	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.	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.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	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	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.	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.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	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	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.	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.	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.	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	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.	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.	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.	1. Submit noise mitigation proposals to IEC; and 2. Implement noise mitigation proposals.
Limit Level	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.	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.	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.	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	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	1. Check monitoring data submitted by ET and Contractor(s)'s working methods; 2. Inform EPD and AFCD.	1. Confirm receipt of notification of exceedance in writing	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	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.	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.	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.	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.
Limit level being exceeded by one sampling	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.	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.	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.	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	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.	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.	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.	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	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.	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.	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.	1. Submit noise mitigation proposals to IEC; and 2. Implement noise mitigation proposals.
Limit Level	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.	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.	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.	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 2024

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)
2024 Jan	11,180.54	Nil	Nil	Nil	11,103.51	Nil	Nil	0.25	Nil	Nil	76.86
2024 Feb	39,622.50	Nil	Nil	Nil	39,511.96	Nil	10.78	0.01	Nil	Nil	99.74
2024 Mar	28,642.82	Nil	Nil	Nil	28,422.00	Nil	94.04	0.10	Nil	Nil	126.76
2024 Apr	36,811.58	Nil	Nil	Nil	36,608.65	Nil	75.49	0.10	Nil	Nil	127.33
2024 May	3,275.68	Nil	Nil	Nil	3,161.67	Nil	Nil	0.15	Nil	Nil	113.86
2024 Jun	2,331.53	Nil	Nil	Nil	2,241.60	Nil	Nil	0.11	Nil	Nil	89.82
2024 Jul	149.30	Nil	Nil	Nil	Nil	Nil	52.39	0.22	0.01	Nil	96.68
2024 Aug	6,992.94	Nil	Nil	Nil	6,861.16	Nil	Nil	0.1	0.01	Nil	131.67
2024 Sep	1,661.21	Nil	Nil	Nil	1,552.32	Nil	85.87	0.14	Nil	Nil	108.75
2024 Oct	11,122.61	Nil	Nil	Nil	10,888.25	Nil	36.52	0.10	0.03	Nil	197.71
2024 Nov	5,680.71	Nil	Nil	Nil	5,498.98	Nil	Nil	0.14	Nil	1.00	190.59
2024 Dec	8,151.40	Nil	Nil	Nil	8,017.09	2,125.45	Nil	0.10	0.10	Nil	134.11
Total	155,622.82	Nil	Nil	Nil	153,867.19	2,125.45	355.09	1.52	0.15	1.00	1,493.88

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.
3) Updated figures are presented during the reporting month.

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

Appendix J
Implementation Status of Environmental Mitigation Measures

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	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:		
	• Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.	Construction Sites	Implemented
	• Use of frequent watering for particularly dusty construction areas and areas close to ASRs.		Implemented
	• 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.		Implemented
	• Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.		Implemented
	• Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		Implemented
	• Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.		Implemented
	• 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.		N/A
	• 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.		Implemented
	• Imposition of speed controls for vehicles on site haul roads.		Implemented
	• Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.		Implemented
	• 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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	Noise Impact (Construction Phase)		
4.8.1	Movable noise barriers are recommended for hydraulic breakers mounted on excavators to be adopted during construction.	Construction Sites	N/A
	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.		Implemented
	• 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.		Implemented
	• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme.		Implemented
	• Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction programme.		Implemented
	• Mobile plant, if any, should be sited as far away from noise sensitive receivers (NSRs) as possible.		N/A
	• 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.		Implemented
	• 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		N/A
	• Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.		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
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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
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 caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary	Construction Sites / Construction Phase	Implemented
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
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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
Waste Management Implication (Construction Phase)			
6.6.1.3	Good Site Practices Recommendations for good site practices during the construction phase include:		
	• 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;	Construction Sites	Implemented
	• Training of site personnel in proper waste management and chemical waste handling procedures;		Implemented
	• Provision of sufficient waste reception/ disposal points, of a suitable vermin-proof design that minimises windblown litter;		N/A
	• Arrangement for regular collection of waste for transport off-site and final disposal;		Implemented
	• Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;		Implemented
	• Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;		Implemented
	• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed; and		Implemented
	• 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
6.6.1.5	Waste Reduction Measures Recommendations to achieve waste reduction include:		
	• 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;	Construction Sites	Implemented
	• 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
	• Any unused chemicals or those with remaining functional capacity shall be recycled;		N/A
	• Maximising the use of reusable steel formwork to reduce the amount of C&D material;		Implemented
	• 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
	• Adopt proper storage and site practices to minimise the potential for damage to, or contamination of, construction materials;		Implemented
	• Plan the delivery and stock of construction materials carefully to minimise the amount of surplus waste generated;		N/A
	• Adopt pre-cast construction method instead of cast-in-situ method for construction of concrete structures as much as possible; and		N/A
	• Minimise over ordering of concrete, mortars and cement grout by doing careful check before ordering.		N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.7	Storage of Waste Recommendations to minimise the impacts include:		
	• Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimising the potential of pollution;	Construction Sites	Implemented
	• Maintain and clean storage areas routinely;		Implemented
	• Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; and		Implemented
	• Different locations should be designated to stockpile each material to enhance reuse.		Implemented
6.6.1.8	Collection of Waste 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:		
	• Remove waste in timely manner;	Construction Sites	Implemented
	• Waste collectors should only collect wastes prescribed by their permits;		Implemented
	• Impacts during transportation, such as dust and odour, should be mitigated by the use of covered trucks or in enclosed containers;		Implemented
	• 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);		Implemented
	• Waste should be disposed of at licensed waste disposal facilities; and		Implemented
	• Maintain records of quantities of waste generated, recycled and disposed.		Implemented
6.6.1.10	Transportation of Waste 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.	Transportation Route of Waste / Construction Phase	Implemented
6.6.1.12	Construction and Demolition Material 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	Construction Sites	N/A
6.6.1.13	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:		
	• A WMP, which becomes part of the EMP, should be prepared in accordance with ETWB TCW No.19/2005;	Construction Sites	Implemented
	• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and		Implemented
	• 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).		Implemented

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
6.6.1.14	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:		
	• Surface of stockpiled soil should be regularly wetted with water especially during dry season;	Construction Sites	Implemented
	• Disturbance of stockpile soil should be minimised;		Implemented
	• Stockpiled soil should be properly covered with tarpaulin especially when heavy storms are predicted; and		Implemented
	• Stockpiling areas should be enclosed where space is available.		Implemented
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	Implemented
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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
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 be 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			
7.8.1.2 - 7.8.1.3;7.8.2.1	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).	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	The mitigation measures will be recommended in the RAP and would typically include the following:		
	• Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety;	Project Site / Construction Phase	Implemented
	• 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;		N/A
	• 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.		Implemented
	• 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;		Implemented
	• Speed control for the trucks carrying contaminated materials shall be enforced;		Implemented
	• Vehicle wheel and body washing facilities at the site's exist points shall be established and used; and		Implemented
	• 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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
Ecological Impact (Terrestrial and Aquatic) (Construction Phase)			
8.10.2.1	Avoidance of Recognised Site of Conservation Importance 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	Avoidance of Demolition Works Using Breakers Mounted on Excavators and Percussive Piling during Dry Season 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	Restriction of Construction Hours 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	Minimising Construction Noise Disturbance Impacts through Consideration of Alternative Construction Methods 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
8.10.3.4 – 8.10.3.5	Minimising Construction Noise Disturbance Impacts Through Careful Phasing of Construction Activities 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. 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.	Project site / Construction Phase	Implemented
8.10.3.6 – 8.10.3.8	Minimising Construction Noise Disturbance Impacts through Use of Noise Barriers 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. 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. The contractor should provide enclosure for construction equipment, especially static plants, as appropriate to minimise the noise disturbance as far as practicable.	Construction sites / Construction Phase	Implemented
8.10.3.9	Use of Quality Powered Mechanical Equipment 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.	Construction sites / Construction Phase	Implemented
Ecology & Fisheries Impact			
8.12.1.4, 9.7	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.	Construction Phase	N/A

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
	Fisheries Impact		
9.7	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.	Construction and Operation Phase	N/A
	Landscape and Visual Impact		
Table 10.11	<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.	Project site / Construction Phase	Implemented
	<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.	Project site / Construction Phase	Implemented
	<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
	<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
	<u>Erection of Decorative Screen Hoarding (CM5)</u> Site hoardings, if any, shall be painted in dull green colour	Project site / Construction Phase	Implemented
	<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	• 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
	• 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
	• 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
	• 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

EIA Ref.	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Status
11.5.8	• 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
	• All work procedures shall be complied with the operating plant procedures or guidelines and regulatory requirements;		Implemented
	• Work permit system, on-site pre-work risk assessment and emergency response procedure shall be in place before commencement of work;		Implemented
	• All construction workers shall equip with appropriate personal protective equipment (PPE) when working at the Project Site;		Implemented
	• Safety training and briefings shall be provided to all construction workers;		Implemented
	• Regular site safety inspections shall be conducted during the construction phase of the Project;		Implemented
11.9.1.2	• Ensure speed limit enforcement is specified in the contractor's method statement to limit the speed of construction vehicles onsite;	Project site / Construction Phase	Implemented
	• Conduct speed checks to ensure enforcement of speed limits and to ensure adequate site access control;		N/A
	• A lifting plan, with detailed risk assessment, should be prepared and endorsed for heavy lifting of large equipment;		Implemented
	• Vehicle crash barriers should be provided between the construction site and the operating biogas facilities;		N/A
	• 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
	• 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
	• Ensure effective communication system / protocol is in place between the contractors and the operation staff;		Implemented
	• 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;		Implemented
	• 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
	• 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

November 2024 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)		
October 2024						
1	1010	32.8	26.9	23.6	59	0
2	1016.7	27.1#	24.1	22.2#	70	0
3	1016.9	29.7	25.2	21.3	77	0
4	1016.7	31.6	25.9	22.7	80	0
5	1017.8	31.1	25.9	23.1	67	0
6	1018.8	30.4	25.1	22.2	62	0
7	1019.3	28.9	23.5	18.6	56	0
8	1016.7	29.7	23.4	17	57	0
9	1014.5	29.8	25.5	23.1	62	0
10	1014.8	27.4	25.1	23.4	79	0
11	1014.2	29.8	25	22.2	80	0
12	1012.1	33.3	25.9	21	78	0
13	1010.4	26.0#	24	22.6#	93	7
14	1009.7	26.1	24.1	23.2	97	20
15	1009.8	25.1#	23.9	23.3#	99	21
16	1011.5	28.8	25.1	23.5	94	1.5
17	1014.2	27.7	24	22.4	94	6.5
18	1016.8	27.4	23.9	21.7	77	0
19	1019	21.7	18.7	17.1	90	22
20	1019	18	17.2	16.4	99	44
21	1018.6	21.6	18.7	16.2	87	7
22	1019.4	23.1	19.3	17.6	75	0.5
23	1020.3	21.9#	19.2	17.7#	75	0
24	1019.7	20.5#	19.4	18.0#	87	1
25	1018.6	22.7	20.6	18.9	91	1
26	1019.6	25.7	19.9	16.6	70	2
27	1021.3	24.2	17.5	13.5	53	0
28	1022.2	24	18.1	14.5	44	0
29	1021	22.9	16.5	12.2	49	0
30	1017.6	24.2	16.9	11.6	65	0

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

December 2024 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)		
November 2024						
1	1015	22.7	19.7	17.6	69	0
2	1015.1	23.8	21	18.8	68	0
3	1015.7	24.9	21.9	19.7	74	0
4	1016.3	23.9	22.2	21.4	73	0
5	1016.4	23.3	21.7	20.7	76	0
6	1016.6	23.3	21.4	20.2	71	0
7	1018.2	23.3	20.7	17.9	66	0
8	1020.9	21.6	18.3	16	65	0
9	1019.6	20.2	18.7	17.1	70	0
10	1016.5	22.4	20.6	19.2	73	0
11	1016.4	25.2	22.3	20	72	0
12	1018.3	22	19.5	17.1	65	0
13	1020.2	20.7	18.5	15.6	59	0
14	1024.7	17.3	15.5	13.8	49	0
15	1025.2	17	14.8	13	40	Trace
16	1022.7	18.7	16.3	14.4	44	0
17	1021	20.4	17.9	15.5	58	0
18	1021	20.9	18.6	16.6	45	0
19	1022.7	18.1	15.6	13.7	40	0
20	1020.6	17.7	14.9	11.9	45	0
21	1020	20.2	16.9	13.9	42	0
22	1021.4	18	15.8	13.5	48	0
23	1020.6	17.5	16.5	15.1	57	0
24	1021.2	19.1	17.4	15.6	55	0
25	1021.1	20.6	18.5	16.6	71	Trace
26	1021.6	22.9	20.1	18	74	0
27	1023.1	20.9	19.2	18.1	75	0
28	1024.9	18.8	16.9	15.1	43	0
29	1023.4	17.4	15.4	13.3	57	0
30	1021.2	20.4	17.7	14.3	63	0
31	1019.1	22.6	19.8	17.6	55	Trace

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

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

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	NA		
Noise	18 December 2024	Reminder 1: The Silentup at west of the Site should be enclosed.	The silentup was enclosed.
Water Quality	NA		
Chemical and Construction Waste Management	NA		
Land Contamination	NA		
Ecological Impact	NA		
Landscape and Visual Impact	NA		
Permit / Licenses	10 December 2024	Observation 1: NRMM label should be provided for the road roller at TTS.	NRMM label was provided
Others	18 December 2024	Reminder 1: The domestic waste should be stored in an enclosed rubbish bin and disposed of timely.	Enclosed rubbish bin was provided.

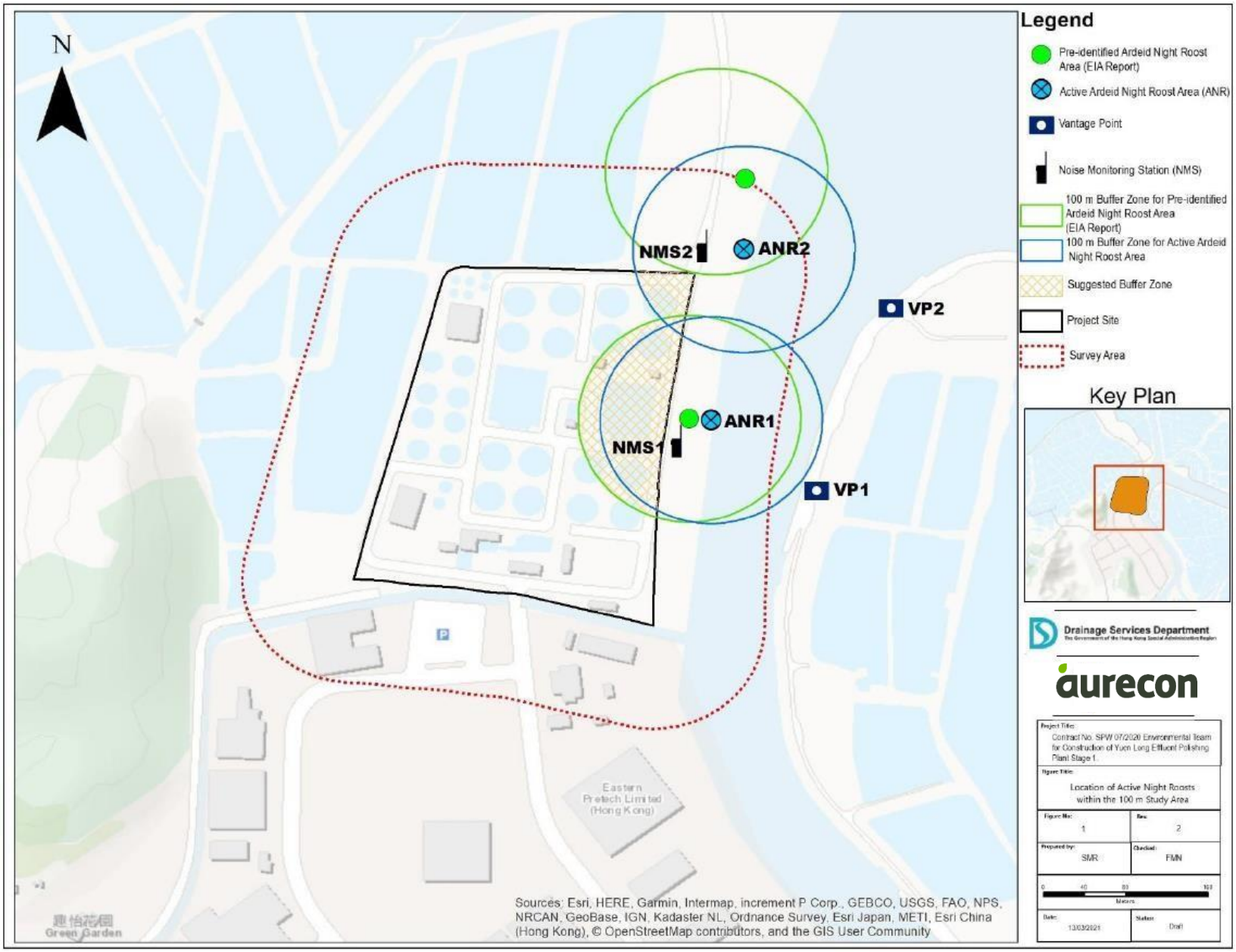
Appendix N
Outstanding Issues and Deficiencies

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



O.2 Survey Photos

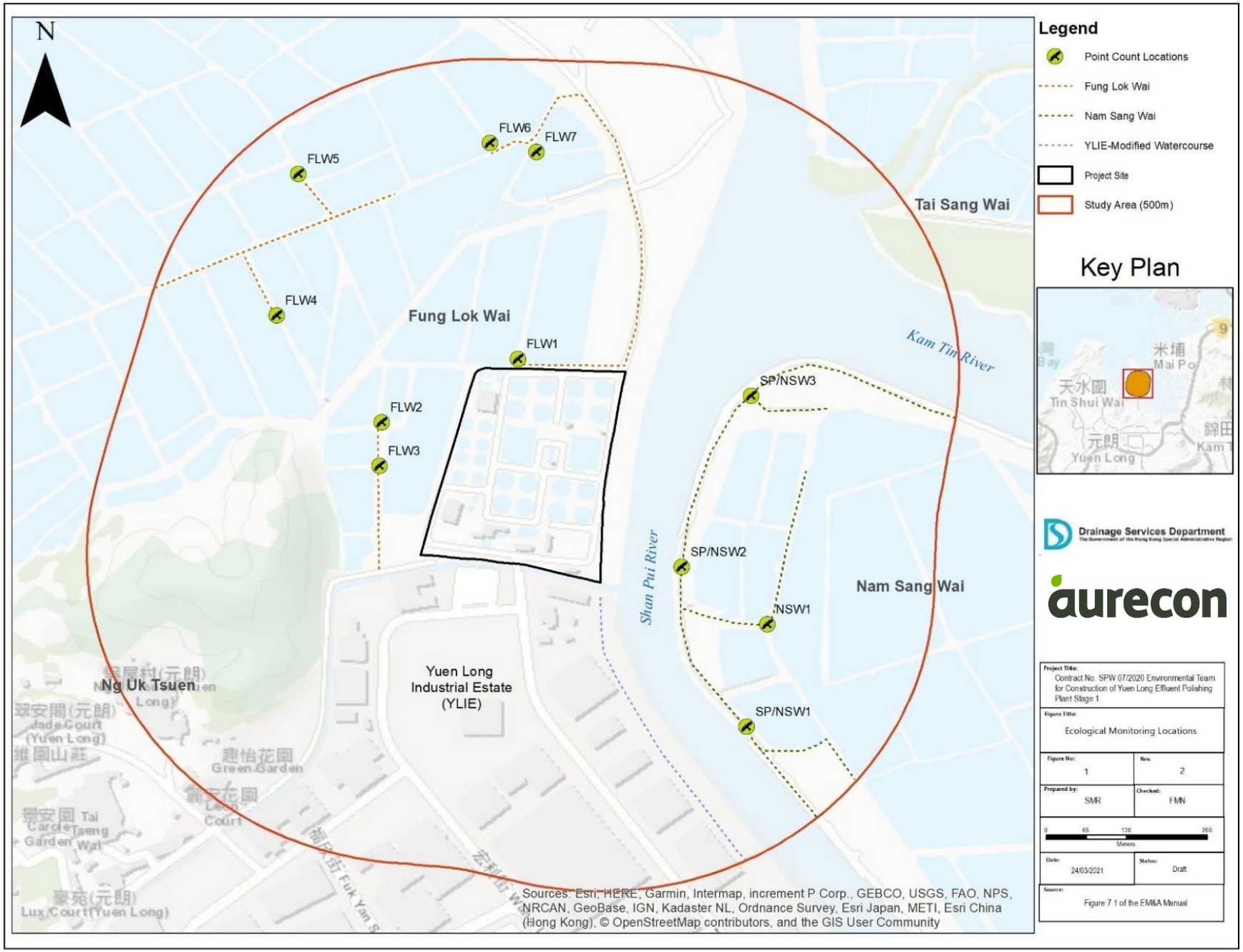
O.2.1 Pre-roosting Aggregate

Appendix O.2.1a: Pre-roost aggregate of ardeids in the mudflat northeast side of the Project boundary (ANR2) observed on 18 December 2024 at around 17:28.

O.2.2 Active Night Roosting Site and Roosting Substrates

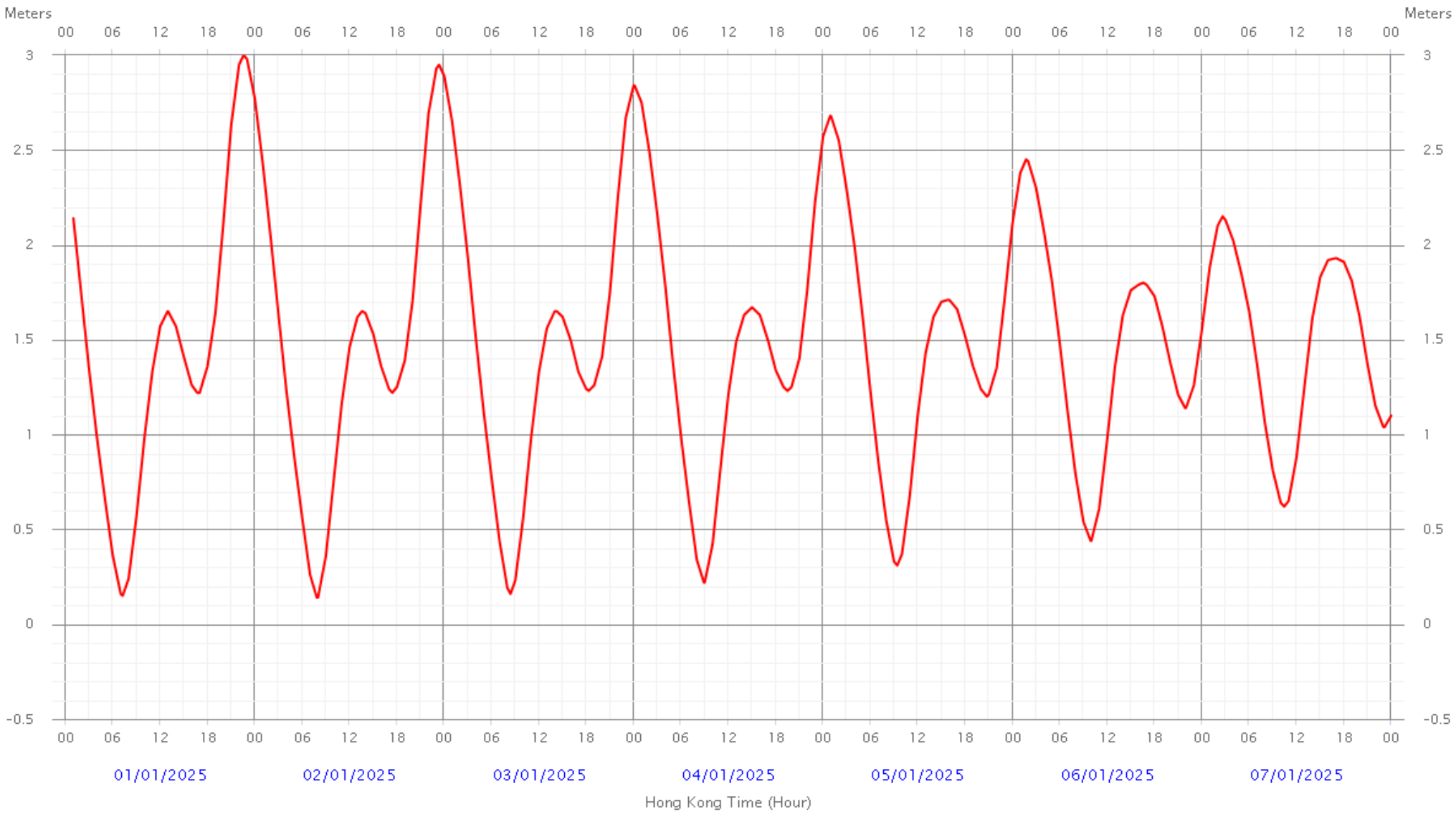
Appendix O.2.2a: Active night roost in the mudflat northeast side of the Project boundary (ANR2) observed on 18 December 2024 at around 17:45.

Appendix P
Ecological Bird Monitoring Area with Locations of Point Count Sites and Transect Route



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

Appendix Q
Tides Predicted by the Hong Kong Observatory for the tidal station at Tsim Bei Tsui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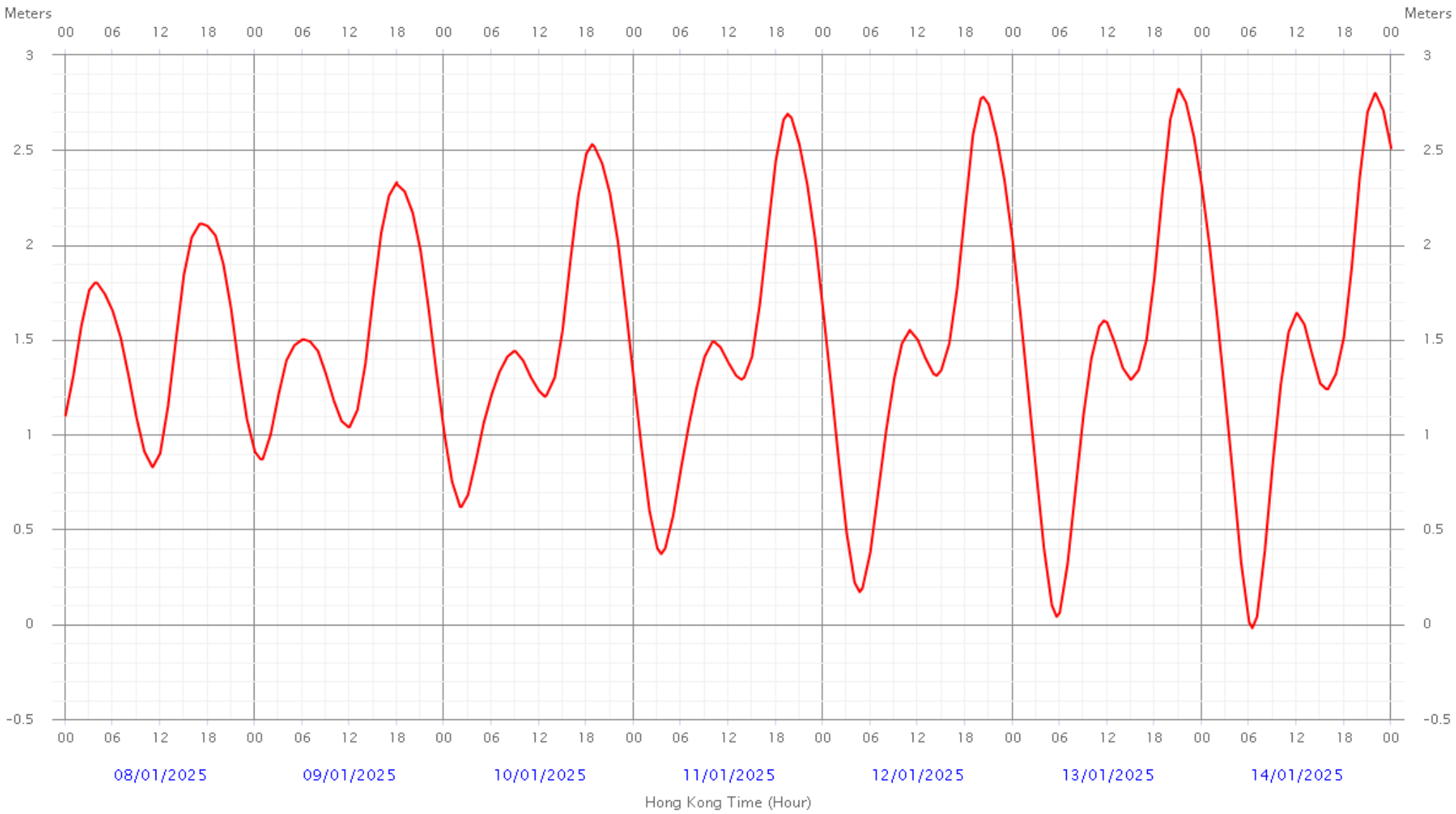
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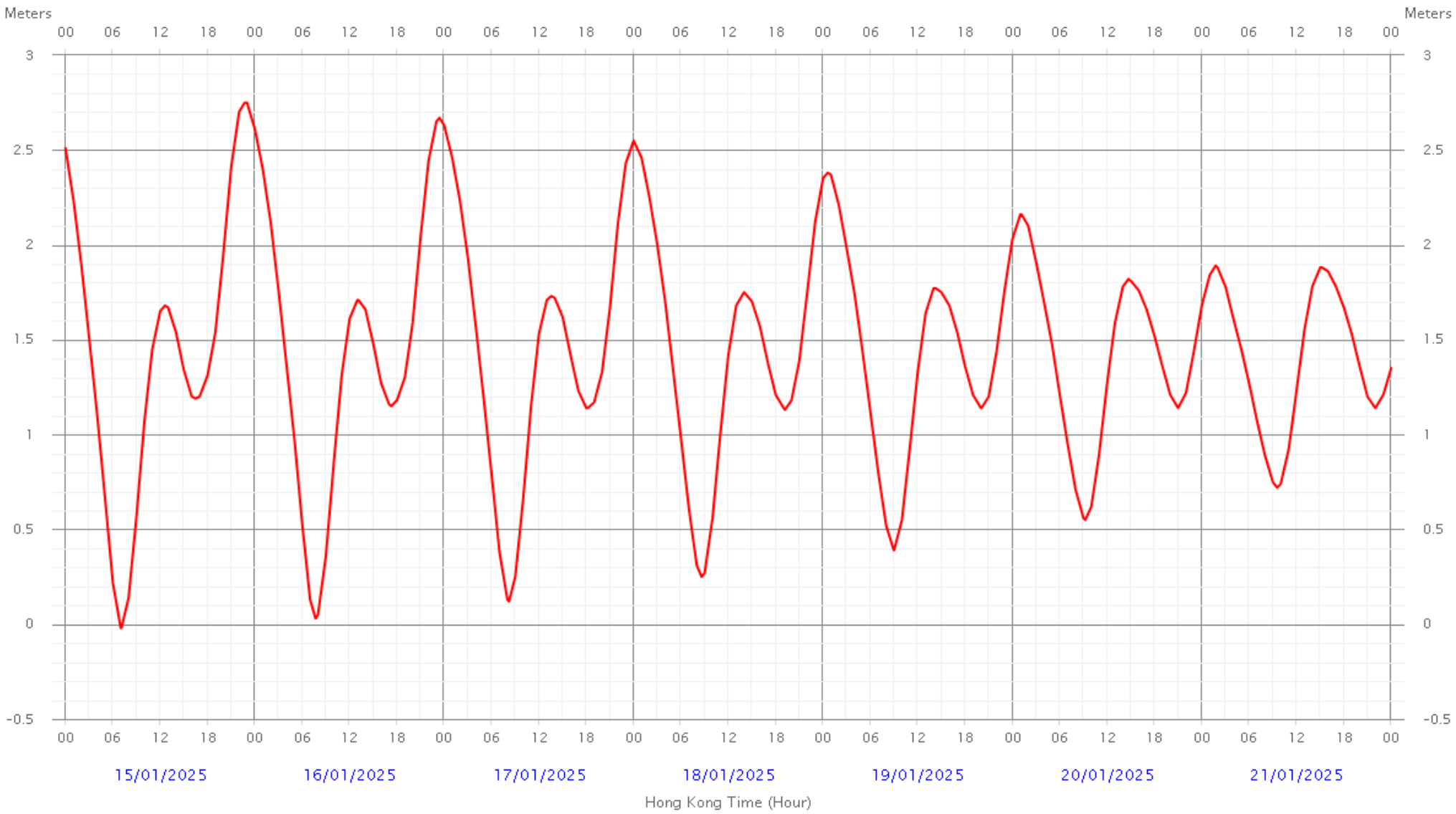
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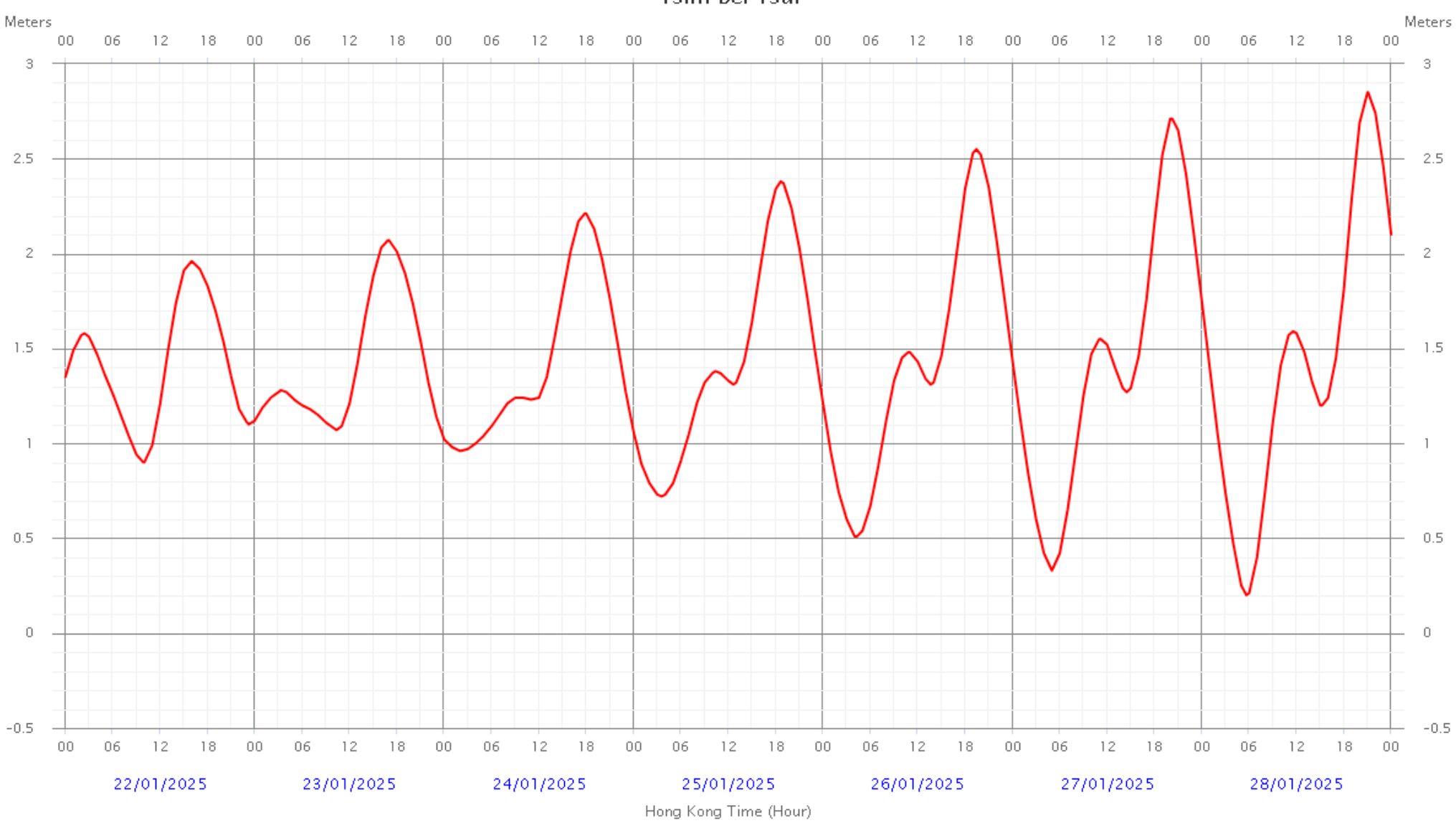
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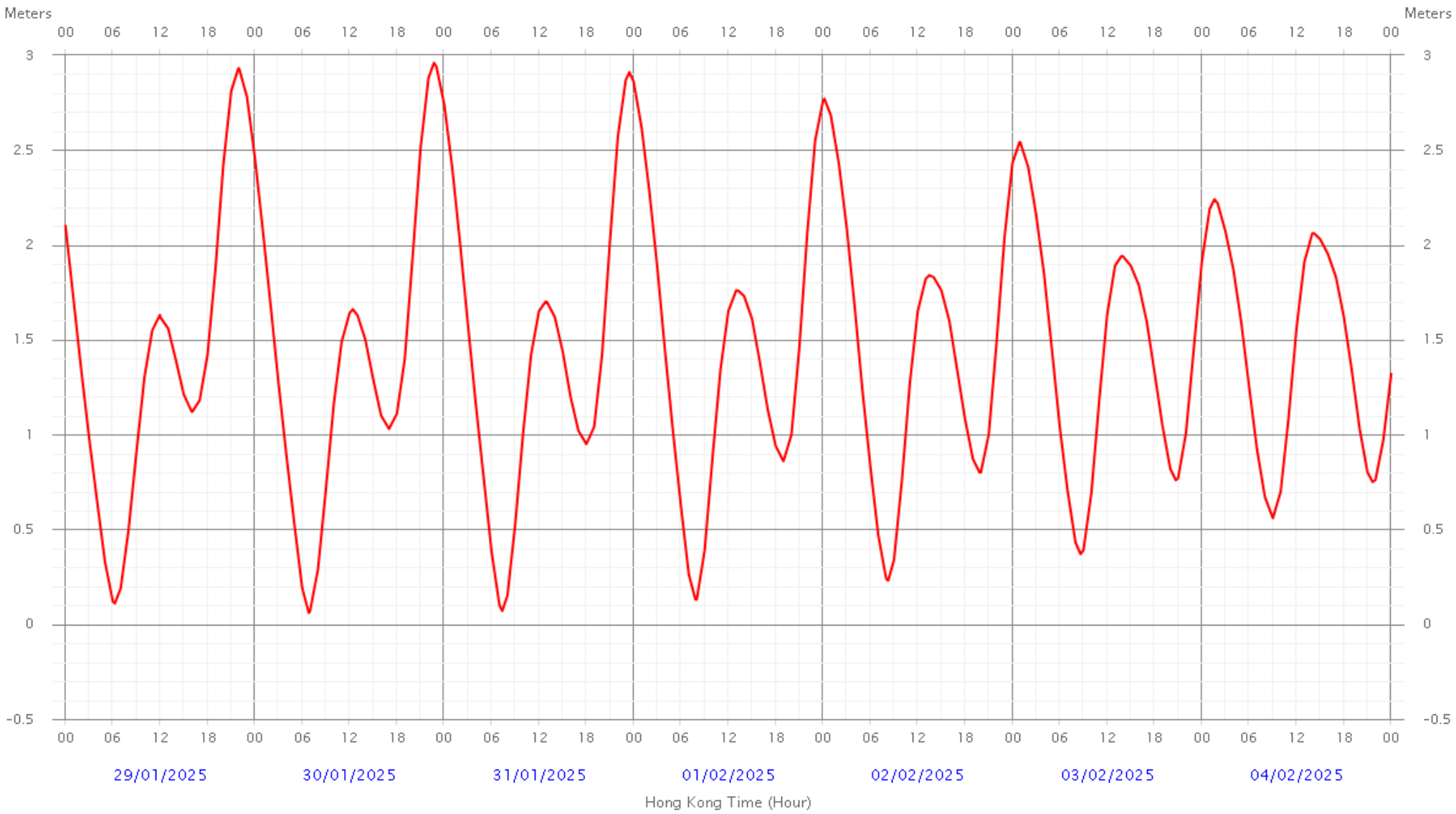
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03/02/2025
04/02/2025
Hong Kong Time (Hour)

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