

Our Ref : 382766/(DC/2018/08)/M45/110/(803041)

Your Ref :

12 May 2022

Distribution List

Dear Sirs,

Contract No. DC/2018/08
Inter-reservoirs Transfer Scheme –
Water Tunnel between Kowloon Byewash Reservoir and Lower Shing Mun Reservoir
Monthly Environmental Monitoring and Audit (EM&A) Report
(April 2022)

I write to inform you that the monthly EM&A Reports for April 2022 have been certified by the ET leader and verified by the IEC in accordance with Condition 4.3 of the EP. The report will be submitted to EPD separately.

Please note that the following measures have been taken to enhance the EM&A programme:

- Proposed changes to EM&A programme
- Enhancement of records of water quality monitoring

Should you have any queries, please contact my Resident Engineer Mr. Irving Sze at 3959 7366.

Yours faithfully,



Wilson Lam
Chief Resident Engineer

Distribution List:

SE/DP2, DSD

E/NTE (Headworks 1), WSD

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- Attn: Mr. Anthony Lau

WL/18/gc

Our ref: 11-05-2022

11-05-2022

By email: cre.wilsonlam@hkirts.com

Binnies Hong Kong Limited

Unit No. 2507-2509, 25/F, The Octagon,

No. 6 Sha Tsui Road,

Tsuen Wan, N.T.

(Attn: Wilson Lam)

Dear Mr. Lam,

Re: Contract No. CM 10/2018

Independent Environmental Checker Services for Inter-Reservoirs Transfer Scheme (IRTS) – Water Tunnel between Kowloon Byewash Reservoir and Lower Shing Mun Reservoir

34th Monthly EM&A Report (Rev. 1)

Reference is made to the submission of the 34th Monthly EM&A Report (Rev. 1) and provided to us via email dated on 11-05-2022 for our review and comment.

The ET Leader and ET are reminded that according to condition 2.2 of the Environmental Permit No. EP-345/2009/A the ET and the ET Leader shall be responsible for the implementation of the EM&A programme in accordance with the relevant EM&A requirements as contained in the EM&A Manual.

A verification process has been carried out to review the submission in connection

with the Environmental Permit and EM&A Manual submitted by the ET. Please be informed that IEC has comments on the captioned submission.

- Some water samples at monitoring location C1b were not collected using approved water sample and at approved sampling location. In Section 2.11 of the monthly EM&A report, a new practice was introduced regarding on the water sampling equipment. The ET and the ET Leader shall be responsible for the implementation of the EM&A programme in accordance with Section 5.3.5 of the EM&A Manual prior to the approval of proposed change of contents of EM&A programme.
- Analysis of SS was not carried out with reference to the testing method and detection limit stated in Section 5.3.9 of EM&A Manual. In Section 3.5 of the monthly EM&A report, a new practice was introduced regarding on the SS testing method and SS detection limit. The ET and the ET Leader shall be responsible for the implementation of the EM&A programme in accordance with Section 5.3.9 of the EM&A Manual prior to the approval of proposed change of contents of EM&A programme.
- This is the third reminder. A temporary drainage measure was introduced to influence the monitoring location C2. Monitoring location C2 is no longer a natural stream directing to Lower Shing Reservoir as described in Section 2.5 of Baseline Monitoring Report. Pursuant to Section 5.7.1 of EM&A Manual, water quality parameters including turbidity and suspended solids rely on the representative samples of the upstream control station of the same day to determine their action and limit levels in addition to the baseline data. Recently, IEC carried out a random site inspection and observed the blockage of drainage pipes at the monitoring location C2 (See enclosed). Two metal plates were installed at the drainage cement pipes to restrict the flow of water to the reservoir

by gravity. Thus, running water is no longer available in the monitoring location C2 since 7 February 2022. Water monitoring results in April 2022 were obtained from stagnant water samples. The samples did not validly reflect to the upstream control station of the same day. The effectiveness of sample collected at the monitoring location C2 is also called into doubt.


IEC would like to clarify that IEC did not endorse the current procedure to determine the action and limit levels of turbidity and suspended solids. While representative samples can be collected at the control location, the action and limit levels are solely determined on the baseline data.

IEC hereby writes to verify the captioned submission in accordance with Condition 2.1 of the Environmental Permit No. EP-345/2009/A.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours faithfully,

For and on behalf of
Ka Shing Management Consultant Limited



Dr. Wong

Independent Environmental Checker

Encl. Photographs taken at monitoring location C2 on 7 May 2022.



Photograph taken on 7 May 2022 at monitoring location C2. Water is accumulated because of the blockage of cement drainage pipe.

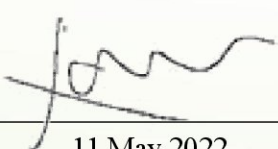
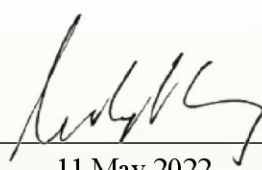
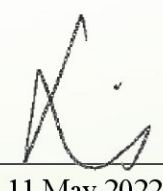


34th Monthly EM&A Report (Rev. 1)

April 2022

for

Inter-Reservoirs Transfer Scheme – Water Tunnel Between Kowloon Byewash Reservoir and Lower Shing Mun Reservoir (Contract No.: DC/2018/08)

| | Prepared by: | Checked by: | Certified by: |
|------------------|---|--|---|
| Name | Kelvin LAU | Tandy TSE | Kevin LI |
| Position | Environmental Team Member | Environmental Team Member | Environmental Team Leader |
| Signature |  |  |  |
| Date | 11 May 2022 | 11 May 2022 | 11 May 2022 |

Revision History

| Rev. | Description | Date |
|-------------|--|-------------|
| 1 | Updated Section E3 and Section 3.13 typo according to the IEC's comments | 11 May 2022 |
| 0 | 1 st Submission for Comments | 10 May 2022 |

EXECUTIVE SUMMARY

- E1. Acuity Sustainability Consulting Limited (ASCL) has been commissioned by Bouygues Travaux Publics to undertake the assignment as the Environmental Team (ET) for the Designated Project of West Kowloon Drainage Improvement – Inter-reservoirs Transfer Scheme (IRTS) (the Project), with Contract No. DC/2018/08.
- E2. This is the 34th Monthly Environmental Monitoring and Audit (EM&A) Report presents EM&A works undertaken in the period from 1 to 30 April 2022. EM&A works were performed in accordance with the approved EM&A Manual and conditions stipulated in the amended Environmental Permit EP-345/2009/A.
- E3. According to the approved EM&A Manual, construction noise and water quality monitoring are required to be performed during the construction phase of the Project. Four (4) sessions of construction noise impact monitoring at NM1 and NM2 for daytime except general holidays and Sundays; four (4) sessions of construction noise impact monitoring at NM1 for all days during evening and four (4) sessions of construction noise impact monitoring at NM1 for daytime during general holidays and Sundays. Thirteen (13) sessions of impact water quality monitoring at all approved monitoring points in the reporting period.
- E4. After the joint water sampling inspection with the ER, the IEC representative, the Contractor and the ET on 15 October 2021, on days when very shallow flow (<11cm of water depth) were observed at the control points, actions will be taken to collect samples at the sampling locations.
- E5. No exceedance was recorded for noise and water quality monitoring in the reporting period.
- E6. Joint weekly site inspections were conducted by representative of ET, Contractor and Engineer on 6, 12, 19 and 26 April 2022. Details of the audit findings and implementation status are presented in Section 5.
- E7. No complaint regarding environmental issue was received in the reporting period.
- E8. No notification of summons nor prosecution have been received since the commencement of the Project.
- E9. The variation of Environmental Permit was issued on 11 November 2020. The amendments incorporated into the Environmental Permit are summarized as follow:
- “Location of Designated Project” changed;
 - Location of cofferdam changed;
 - Content of earth bund added;
 - More plant species of conservation importance added.

E10. Construction works undertaken in the reporting period include the following:

| Works Area | Major Site Activities |
|---------------|---|
| Portion A & D | <ul style="list-style-type: none">• Bulk excavation (Stage 2B ELS) |
| Portion C | <ul style="list-style-type: none">• Slope stabilization – Slope cutting |

E11. Construction works to be undertaken in the next reporting period include the following:

| Works Area | Major Site Activities |
|------------|---|
| Portion A | <ul style="list-style-type: none">• Outfall structure construction |
| Portion C | <ul style="list-style-type: none">• Slope stabilization – Slope cutting and filling |

E12. The Contractor was reminded that all works to be undertaken within the water gathering ground of Lower Shing Mun Reservoir (LSMR) and Kowloon Byewash Reservoir (KBR) must fulfill statutory environmental requirements, especially in watercourse protection.

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1. INTRODUCTION

- 1.1 Acuity Sustainability Consulting Limited (ASCL) has been commissioned by Bouygues Travaux Publics to undertake the assignment as the Environmental Team (ET) for the contract of West Kowloon Drainage Improvement – Inter-reservoirs Transfer Scheme (IRTS) (the Project), with Contract No. DC/2018/08. The Project comprises the following principal works elements:
- Construction of a new water tunnel, with about 2.8 km in length and 3m in diameter, from KBR to LSMR;
 - Construction of an intake structure at KBR and an isolation system;
 - Construction of an outfall structure at LSMR with an energy dissipater; and
 - All associated civil, structural, geotechnical, electrical and mechanical works, including landscaping, permanent and temporary accesses as may be necessary for the completion of the works elements listed above.
- 1.2 The Project site consists of the intake site at KBR and the outfall site at the Lower Shing Mun Reservoir. The layout of the Project site is presented in **Appendix A**.
- 1.3 This project is a Designated Project under Part I of Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO). An Environmental Permit (EP), with Permit No. EP345/2009, was granted to the Water Supplies Department (WSD) for permitting the construction and operation of this Project. Subsequently, the EP was amended and a variation of EP, with Permit No. EP345/2009/A, was granted to the WSD on 11 November 2020.
- 1.4 The commencement date of construction of the Project was 12 July 2019. No major works except site clearance and preparation was performed before the commencement date of construction.
- 1.5 This is the 34th Monthly Environmental Monitoring and Audit (EM&A) Report presenting results and findings of all EM&A work required in the approved EM&A Manual for the period from 1 to 30 April 2022.
- 1.6 All project information since the commencement of work under EP including Monthly EM&A Reports is made available to the public via internet access at the website: <https://www.epd.gov.hk/eia/register/permit/latest/vep5822020.htm>
- 1.7 As part of the EM&A programme, baseline monitoring is required for determining the ambient environmental conditions. Baseline monitoring including background noise and water quality were conducted in periods from 3 May 2019 to 22 June 2019 in accordance to the approved EM&A Manual before commencement of construction works. The

corresponding Baseline Monitoring Report has been compiled by the ET and verified by the Independent Environment Checker (IEC) prior submitting to the Environmental Protection Department.

1.8 Project organization structure is presented in Figure 1.1.

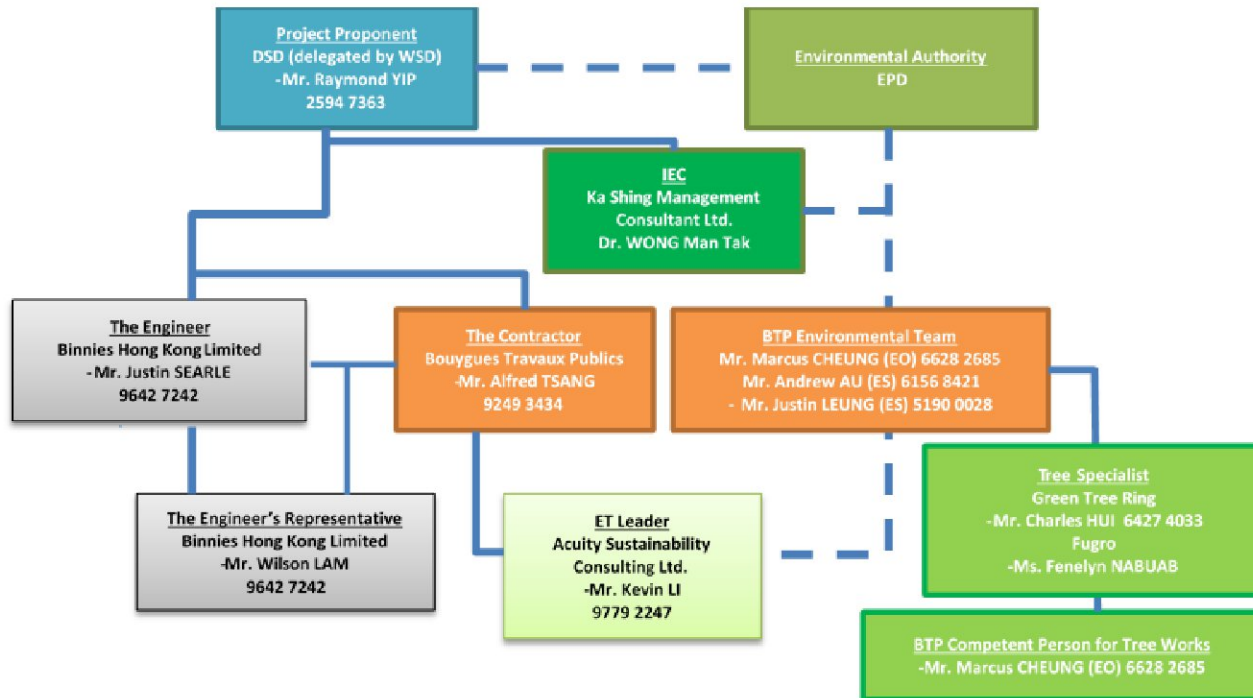


Figure 1.1 Project Organization Chart

1.9 Contact details of key personnel are presented in Table 1.1 below.

Table 1.1 Contact Details of Key Personnel

| Party | Position | Name | Contact No. |
|--|---------------------------------|------------------|-------------|
| Bouygues Travaux Publics | Site Agent | Mr. Alfred Tsang | 3959 7317 |
| Acuity Sustainability Consulting Limited | Environmental Team Leader | Mr. Kevin Li | 2698 6833 |
| Ka Shing Management Consultant Limited | Independent Environment Checker | Dr. Douglas Wong | 2618 2166 |

1.10 Details of major construction activities undertaken in this reporting period are shown in Table 1.2 below. The construction programme is presented in **Appendix B**.

Table 1.2 Summary of Construction Activities Undertaken in the Reporting Period

| Works Area | Major Site Activities |
|---------------|---|
| Portion A & D | <ul style="list-style-type: none"> • Bulk excavation (Stage 2B ELS) |
| Portion C | <ul style="list-style-type: none"> • Slope stabilization – Slope cutting |

1.11 A summary of status of environmental legislations related licences, permits and/or notifications is presented in Table 1.3.

Table 1.3 Summary of Environmental Licences and Permits of the Project

| Type of Permit / License | Date of Application | Reference Number | Status | Duration |
|--|---------------------|----------------------|----------------------------------|-----------------------------------|
| Environmental Permit | N/A | EP-345/2009 | Valid | Along project |
| Chemical Waste Producer | 22-Feb-2019 | WPN5218-733-B2557-01 | Approved. | Along project |
| Notification of The Air Pollution Control (Construction Dust) Regulation | 1-Mar-2019 | 442711 | Completed (No approval required) | Along project |
| Billing Account of Trip Ticket System | 25-Feb-2019 | 703344617 | Approved on 13 March 2019 | Along project |
| Effluent Discharge License for LSMR | 4-Apr-2019 | WT00034164-2019 | Approved | Until 31-Jul-2024 |
| Effluent Discharge License for KBR | 30-Sep-2019 | WT00035821-2020 | Approved | Along project (Until 31-May-2025) |
| Construction Noise Permit for works at Portion A | 17-Dec-2021 | GW-RN1003-21 | Approved | 8-Jan-2022 to 7-Jul-2022 |
| Construction Noise Permit for works at Portion C | 15-Nov-2021 | GW-RN0866-21 | Approved | 14-Dec-2021 to 13-Jun-2022 |
| Construction Noise Permit for works at Tai Po Road | 25-Oct-2021 | GW-RN0804-21 | Approved | 13-Nov-2021 to 12-May-2022 |

Remark: Information for table 1.3 will be updated by the Contractor.

1.12 Contract documents required under conditions stipulated in the amended Environmental Permit are summarized in Table 1.4.

Table 1.4 Documents Submission Required in the amended Environmental Permit

| Document | EP Condition No. | Timeframe | Status | Remarks |
|---|-------------------------|---|--|---|
| Landscape Plan | 2.4 & 2.5 | Submission of document shall be done no later than 6 months after commencement of construction. | The document was submitted to EPD on 9 January 2020. | Submission date to be updated with DSD. |
| Condition Survey Report for Historic Structures | 2.6 | Document shall be deposited to the authority before commencement of construction. | The document was deposited to EPD on 3 June 2019. | N.A. |
| Baseline Monitoring Report | 4.2 | Submission of document shall be done at least two weeks before commencement of construction. | The document was submitted to EPD on 28 June 2019. | 1 st Revision was submitted to EPD on 6 August 2019. |

2. ENVIRONMENTAL MONITORING REQUIREMENTS AND PROGRAMME

2.1 The Environmental Monitoring and Audit requirements are set out in the approved EM&A Manual. Construction noise and water quality were identified as key environmental issues during the construction phase. A summary of the requirements for conducting impact noise and water quality monitoring is presented in the sub-sections below.

Monitoring Parameters, Time and Frequency

2.2 Impact monitoring parameters are summarized in Table 2.1 below.

Table 2.1 – Summary of Impact Monitoring Parameters

| Environmental Aspect | Parameters | Frequency |
|----------------------|--|---|
| Noise | <ul style="list-style-type: none"> • 1 no. of $L_{eq}(30min)$ noise measurements between 0700-1900 hours on any normal weekdays • 3 nos. of consecutive $L_{eq}(5min)$ noise measurement between 0700-1900 hours on general holidays or Sunday (if works are undertaken) • 3 nos. of consecutive $L_{eq}(5min)$ noise measurement between 1900-2300 hours (if evening works are undertaken) • 3 nos. of consecutive $L_{eq}(5min)$ noise measurement between 2300-0700 hours (if nighttime works are undertaken) | <ul style="list-style-type: none"> • Once per week |
| Water Quality | <ul style="list-style-type: none"> • Dissolved Oxygen (mg/L) • Dissolved Oxygen Saturation (%) • pH Value • Turbidity (NTU) • Temperature (°C) • Suspended Solids (mg/L) | <ul style="list-style-type: none"> • 3 times per week • Interval between two sets of monitoring shall not be less than 36 hours |

Monitoring Locations

Noise

- 2.3 According to Section 4.4 of the approved EM&A Manual, the two most representative and affected noise sensitive receivers (NSRs) were designated as monitoring stations. Details regarding the two noise monitoring stations are shown in Table 2.2. Layout plans showing the monitoring locations are presented in **Appendix C**.

Table 2.2 – Designated Noise Monitoring Location

| Location ID (ID in EM&A Manual) | Type of NSR | Location | Description |
|--|--------------------|----------------------------|--|
| NM1 (LG) | Residential | Tower 1, Lakeview Garden | The closest NSR to the Outfall Site (LSMR) |
| NM2 (VH) | Residential | 4 ½ Milestone, Tai Po Road | The closest NSR to the Intake Site (KBR) |

Water Quality

- 2.4 According to Section 5.4 of the approved EM&A Manual, water quality monitoring should be performed at designated monitoring stations. Details regarding the four designated water quality monitoring stations are shown in Table 2.3.

Table 2.3 – Original Water Quality Monitoring Location

| ID | Description | Location |
|-----------|---|---|
| C1 | Control Point near Intake Site | Stepped channel by-passing KBR |
| D1 | Impact Monitoring Point near Intake Site | Junction of stepped channel and overflow channel of KBR |
| C2 | Control Point near Outfall Site | Natural Stream directing to Lower Shing Mun Reservoir |
| D2 | Impact Monitoring Point near Outfall Site | Overflow channel of Lower Shing Mun Reservoir |

- 2.5 As conditions of designated water quality monitoring locations have been changed since the issuing of the approved EM&A Manual, location C1, D1 and D2 are no longer feasible for conducting water quality monitoring. Therefore, the three locations were proposed to relocating to alternative monitoring locations. The proposal of alternative monitoring location was approved by EPD on 20 May 2019. Details regarding the approved water quality monitoring stations are shown in Table 2.4. Layout plans showing the original and approved monitoring locations are attached in **Appendix C**.

Table 2.4 – Approved Water Quality Monitoring Location

| ID | Description | Location |
|-----------|---|---|
| C1b | Control Point near Intake Site | Overflow channel of Kowloon Reception Reservoir (KRR) |
| D1b | Impact Monitoring Point near Intake Site | KBR |
| C2 | Control Point near Outfall Site | Natural Stream directing to LSMR |
| D2a | Impact Monitoring Point near Outfall Site | LSMR |

Monitoring Equipment

Noise

- 2.6 As referenced to the Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO), sound level meters in compliance with the International Electrical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring.
- 2.7 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. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0dB. The acoustic calibrator to be used shall meet IEC 942, 1988 Class 1 specifications. Annual calibration of all sound level meters and acoustic calibrators shall be conducted by a laboratory in Hong Kong or the manufacturer in compliance with national standards as recommended by the manufacturer of the sound level meter and acoustic calibrator.

Water Quality

- 2.8 DO and water temperature should be measured in-situ by a DO/temperature meter. The equipment should be portable and weather proof using a DC power source. It should have a membrane electrode with automatic temperature compensation complete with a cable. The equipment should be capable of measuring:
- A DO level in the range of 0-20 mg/l and 0-200% saturation; and
 - A temperature of between 0 and 45 degree Celsius.
- 2.9 A portable pH meter capable of measuring a range between 0.0 and 14.0 should be provided to measure pH under the specified conditions (e.g. Orion Model 250A or an approved similar instrument) accordingly to the Standard Methods, APHA.
- 2.10 Turbidity should be measured in situ by the nephelometric method. The instrument should be portable and weatherproof using a DC power source complete with cable, sensor and comprehensive operation manuals. The equipment should be capable of measuring turbidity between 0-1000 NTU.

- 2.11 A water sampler, consisting of a transparent PVC or glass cylinder of a capacity of not less than two litres which can be effectively sealed with cups at both ends should be used. If the approved water sampler could not be used in shallow water (<11 cm), a water bucket or a small bottle made of inert material (e.g. plastic) was used instead.
- 2.12 In-situ monitoring instruments should be checked, calibrated and certified by a laboratory accredited under HOKLAS or other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals.

Environmental Quality Performance Limits (Action/Limit Levels)

- 2.13 The baseline results form basis for determining the environmental acceptance criteria for the impact monitoring. Derived Action/Limit Levels for noise and water quality are summarised in Table 2.5 and 2.6 respectively.

Table 2.5 – Action/Limit Levels for Construction Noise Monitoring

| Time Period | Action Level | Limit Level, dB(A) |
|--|---|--------------------|
| Daytime (0700-1900) except general holidays and Sunday <i>*Measurements in $L_{eq}(30min)$</i> | When one documented compliant is received | 75 |
| Daytime (0700-1900) during general holidays and Sundays and all days during Evening (1900-2300 hrs) <i>*Measurements in $L_{eq}(5min)$</i> | | 60 |
| Night-time (2300 – 0700 hrs) <i>*Measurements in $L_{eq}(5min)$</i> | | 45 |

Table 2.6 – Action/Limit Levels for Water Quality Monitoring

| Parameter | Performance Criteria | Monitoring Location | |
|-------------------------|----------------------|--|-----------------------|
| | | D1b | D2a |
| Dissolved Oxygen (mg/L) | Action Level | 6.1 | 6.3 |
| | Limit Level | 5.8 | 6.1 |
| pH Value | Action Level | 8.8 | 9.0 |
| | Limit Level | ≤ 6.5 OR ≥ 8.9 | ≤ 6.5 OR ≥ 9.2 |
| Turbidity (NTU) | Action Level | 19.5 | 13.1 |
| | | OR 120% of upstream control station of the same day | |
| | Limit Level | 23.4 | 18.9 |
| | | OR 130% of upstream control station of the same day | |
| Suspended Solids (mg/L) | Action Level | 9.0 | 22.0 |
| | | OR 120% of upstream control station of the same day | |
| | Limit Level | 13.0 | 25.0 |
| | | OR 130% of upstream control station of the same day | |

Remarks:

1. Non-compliance occurs when monitoring result of Dissolved Oxygen is lower than the limits.
2. Non-compliance occurs when monitoring result of pH value is higher than the Action Levels or when the result does not fall into the pH range of the Limit Levels.
3. Non-compliance occurs when monitoring results of Turbidity and Suspended Solids is higher than the limits.

Event / Action Plan

- 2.14 Should there be any triggering of Action Levels, or exceedance of Limit Levels, the Event / Action Plan established in the approved EM&A Manual should be followed. The Event / Action Plan is attached in **Appendix G**.

3. IMPACT MONITORING METHODOLOGY AND RESULTS

Equipment Used

- 3.1 Equipment used in impact noise and water quality monitoring during the reporting period is summarized in Table 3.1 below. Calibration certificates of equipment used are attached in **Appendix D**.

Table 3.1 – Equipment Used in the Reporting Period

| Environmental Aspect | Equipment | Model |
|----------------------|-----------------------|--|
| Noise | Sound Level Meter | NTi XL2 |
| | Calibrator | Pulsar 105 |
| | Portable Anemometer | RS PRO RS-90 |
| Water Quality | Multifunctional Meter | HORIBA U-53 Multiparameter Water Quality Meter |

Monitoring Procedure

Noise

- 3.2 Field measurement procedures for each set of the noise level measurement are as followed:
- i. Record the field condition including weather conditions and any other potential source of interference;
 - ii. Turn the power of sound level meter on;
 - iii. Check the general condition of the sound level meter and the battery status;
 - iv. Mount the sound level meter onto a tripod of 1.2 m height;
 - v. Check the distance of the probe from closest facade;
 - vi. Adjust the orientation of probe so that it is facing the project site;
 - vii. Calibrate the sound level meter by using acoustic calibrator;
 - viii. Select the period of measurement to be 30 minutes;
 - ix. Select the appropriate displaying unit, dB(A);
 - x. Collect and record the sampled data;
 - xi. Calibrate the sound level meter by using acoustic calibrator. Repeat procedure ii. to xi. if the difference in calibration level is more than 1.0 dB.
- 3.3 All noise measurements were performed in the absence of fog, rain and wind with a speed exceeding 5m/s or wind with gusts exceeding 10m/s. Wind speed was checked with portable wind speed meter.

Water Quality

- 3.4 Field measurement procedures for each set of the water quality measurement are as followed:
- i. The DO probe of the multifunctional meter is checked by wet bulb method; the pH and turbidity probes are checked against standard solutions. Record the checking result;
 - ii. Record the field condition including weather conditions and any other potential source of interference;
 - iii. Lower the sampler into water body and rinse it with water in the target water body;
 - iv. Fill the sampler until adequate sample is collected. Replicate sample at each monitoring location is required;
 - v. Rinse the bottles by the sample before transferring samples into containing bottles;
 - vi. Rinse the probe of multimeter with distilled water;
 - vii. Measure and record temperature, turbidity, pH value and DO of each bottle of sample;
 - viii. Bottles containing sample is stored temporarily in insulation box with ice until reaching the laboratory;
- 3.5 Analysis of SS was carried out in a HOKLAS accredited laboratory. Standard test method, APHA 2540D (23ed), in accordance to American Public Health Association: Standard Methods for the Examination of Water and Wastewater APHA was adopted. According to the standard, 1000 mL of sample should be obtained and the reporting limit should be 2.5 mg/L.

Data Management and QA/QC

- 3.6 The monitoring data were handled by the ET's in-house data recording and management system. Laboratory responsible for laboratory analysis would follow QA/QC requirements as set out under HOKLAS scheme.
- 3.7 The in-situ monitoring data measured in the equipment were recorded by both field operators and by the equipment itself. Laboratory analysis results were directly issued by the designated laboratory. All data were then input into a computerized database which is properly maintained by the ET. Cross checking between results was performed by other personnel.

Noise Monitoring Result

- 3.8 Construction noise monitoring was performed at during the reporting period. No work was conducted during restricted hours at KBR as confirmed by the Contractor, therefore no noise monitoring was performed during restricted hours at NM2 in the reporting period.
- 3.9 Evening time construction work has been conducted since 25 March 2020. Evening time monitoring was conducted on 6, 13, 21 and 27 April 2022 at NM1. The evening time construction noise monitoring data is presented in Table 3.2

Table 3.2 – Summary of Evening Time Noise Monitoring Result

| Monitoring Location | Time Period | Leq(5min), dB(A) | | | Limit Level, dB(A) |
|---------------------|-------------------------------------|------------------|------|------|--------------------|
| | | Mean | Max | Min | |
| NM1 | All days during Evening (1900-2300) | 43.7 | 45.7 | 42.1 | 60 |

No night time work was conducted in the reporting period as confirmed by the Contractor.

- 3.10 Daytime during general holidays and Sundays construction work was conducted on 3, 10, 15 and 24 April 2022. Construction noise monitoring was also conducted in the same days. The daytime during general holidays and Sundays construction noise monitoring data is presented in Table 3.3.

Table 3.3 – Summary of Daytime during General Holidays and Sundays Noise Monitoring Result

| Monitoring Location | Time Period | Leq(5min), dB(A) | | | Limit Level, dB(A) |
|---------------------|---|------------------|------|------|--------------------|
| | | Mean | Max | Min | |
| NM1 | Daytime (0700-1900) during general holidays and Sundays | 43.8 | 45.1 | 42.1 | 60 |

- 3.11 Four (4) sessions of construction noise impact monitoring at NM1 and NM2 for daytime except general holidays and Sundays. The noise monitoring data is presented in **Appendix E** and results are summarized in Table 3.4.

Table 3.4 – Summary of Construction Noise Monitoring Results

| Monitoring Location | Time Period | Leq(30min), dB(A) | | | Limit Level, dB(A) |
|---------------------|--|-------------------|------|------|--------------------|
| | | Mean | Max | Min | |
| NM1 | Daytime (0700 – 1900) except general holidays and Sunday | 52.8 | 53.5 | 51.8 | 75 |
| NM2 | | 55.1 | 56.3 | 54.3 | |

- 3.12 No construction noise related complaint was received in the reporting period. There was no Action / Limit Levels exceedance of construction noise recorded in the reporting period.

3.13 Weather conditions were mainly a clear sky with occasional cloud coverage. Summary of meteorological data is presented in **Appendix E**.

Water Quality Monitoring Result

3.14 Water quality monitoring was performed at approved monitoring locations, i.e. C1b, D1b, C2 and D2a, during the reporting period.

3.15 Thirteen (13) sessions of water quality monitoring were performed at each of the approved monitoring locations. The water quality monitoring data is presented in **Appendix F** and results are summarized in Table 3.5.

Table 3.5 – Summary of Water Quality Monitoring Results

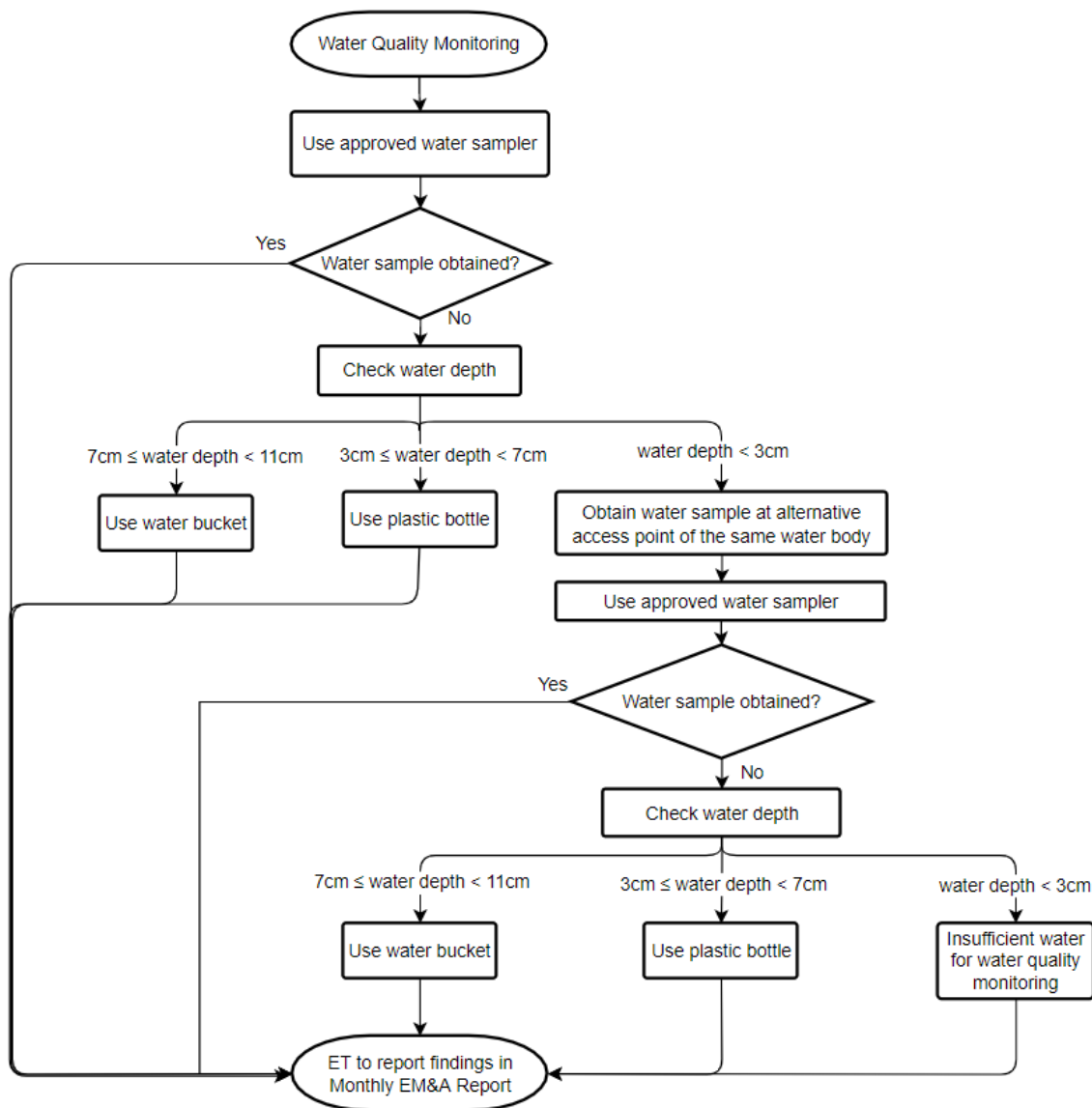
| Parameters | | C1b | D1b | C2 | D2a |
|--------------------------------------|------|-------|-------|-------|------|
| pH Value | Mean | 7.6 | 7.6 | 7.9 | 7.7 |
| | Max | 7.9 | 8.0 | 8.4 | 7.9 |
| | Min | 7.1 | 7.2 | 7.3 | 7.0 |
| Dissolved Oxygen (mg/L) | Mean | 7.5 | 7.8 | 7.8 | 7.6 |
| | Max | 9.0 | 10.0 | 13.4 | 8.0 |
| | Min | 5.7 | 7.0 | 2.7 | 7.1 |
| Dissolved Oxygen Saturation (%) | Mean | 83.8 | 87.7 | 85.5 | 86.3 |
| | Max | 100.0 | 105.6 | 149.1 | 98.6 |
| | Min | 66.1 | 74.6 | 30.0 | 77.8 |
| Turbidity (NTU) | Mean | 2.6 | 3.6 | 10.4 | 3.6 |
| | Max | 7.8 | 8.9 | 27.3 | 10.8 |
| | Min | 0.0 | 0.8 | 4.3 | 0.0 |
| Suspended Solids ¹ (mg/L) | Mean | 3.4 | 3.3 | 16.4 | 4.0 |
| | Max | 9.0 | 6.0 | 320. | 8.0 |
| | Min | 2.5 | 2.5 | 5.0 | 2.5 |

Remarks:

1. Lower detection limit of Suspended Solids is 2.5. Data lower than such limit is regarded as 2.5 in result presentation.

3.16 The water level at Lower Shing Mun Reservoir (i.e., monitoring location D2a) changes in time. Due to the access constraint, water sampling could only be done at the boundary of the water body. Hence, the actual sampling location of D2a is subject to the actual water level of the reservoir and was determined on-site at locations close to the site.

- 3.17 A temporary standby pump and associated drainage pipe were installed on 7 February 2022 behind the sampling location C2 as a precautionary measure against site flooding during the excavation of the outfall structure. The stand pump would only operate when there is heavy rainstorm. The pump was not in operation in the reporting month of April 2022.
- 3.18 After the joint water sampling inspection with the ER, the IEC representative, the Contractor and the ET on 15 October 2021, on days when very shallow flow (<11cm of water depth) were observed at the control points, actions will be taken to collect samples at the sampling locations. At the control point C1b, a small plastic bottle was used to collect samples according to the flow chart below. At the control point C2, samples were collected from another access to the water body.





3.19 Weather conditions during monitoring were mainly cloudy with sunny intervals.

4. WASTE MANAGEMENT

4.1 An on-site environmental coordinator, i.e. Environmental Officer, has been employed by the Contractor to coordinate and supervise the project waste management works.

4.2 Waste arisen from the construction works are classified into the followings:

- Construction and demolition (C&D) material;
- Chemical waste; and
- General refuse.

4.3 Waste disposal record provided by the Contractor is summarized in Table 4.1.

Table 4.1 – Summary of Waste Disposal

| Reporting period | Quantity | | | | | |
|------------------|--|-----------------------------|---|--------------------------------|------------------------|----------------------|
| | Inert C&D Materials (in'000m ³) | Chemical Waste (in'000L) | Non-inert C&D Materials | | | |
| | | | Others, e.g. General Refuse disposed at Landfill (in'000m ³) | Recycled materials | | |
| | | | | Paper/card board (in'000kg) | Plastics (in'000kg) | Metals (in'000kg) |
| April 2022 | 3.230 | 0 | 0.02382 | 0 | 0 | 0 |

4.4 The Monthly Summary Waste Flow Table is presented in **Appendix H**.

5. SITE INSPECTION

- 5.1 Joint weekly site inspections were conducted by representative of ET, Contractor and Engineer so as to monitoring the implementation of proper environmental pollution control and mitigation measures. Four (4) site inspections were performed in the reporting period.
- 5.2 One joint site inspection with IEC representative was also undertaken on 6 April 2022. Minor deficiencies were observed during weekly site inspection. Inspection findings are summarized in Table 5.1.

Table 5.1 – Weekly Inspection Findings

| Date | Location | Observation(s) | Follow-up Status |
|---------------|-----------------|---|-------------------------|
| 6 April 2022 | LSMR | No environmental deficiency was observed. | N.A. |
| | KBR | No environmental deficiency was observed. | N.A. |
| 12 April 2022 | LSMR | No environmental deficiency was observed. | N.A. |
| | KBR | No environmental deficiency was observed. | N.A. |
| 19 April 2022 | LSMR | No environmental deficiency was observed. | N.A. |
| | KBR | No environmental deficiency was observed. | N.A. |
| 26 April 2022 | LSMR | No environmental deficiency was observed. | N.A. |

| Date | Location | Observation(s) | Follow-up Status |
|-------------|-----------------|---|-------------------------|
| | KBR | No environmental deficiency was observed. | N.A. |

6. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

- 6.1 No exceedance was recorded for noise and water quality monitoring in the reporting period.
- 6.2 There was no environmental related complaint received in the reporting period.
- 6.3 There was no notification of summon and successful prosecution for breaches of current environmental protection/pollution control legislation in the reporting period.
- 6.4 The Cumulative statistics on complaints, notifications of summons and successful prosecutions is presented in **Appendix K**.

7. IMPLEMENTATION STATUS OF MITIGATION MEASURES

7.1 The Contractor has been implementing environmental mitigation measures set out in the approved EM&A Manual subject to the actual site condition. The implementation schedule is presented in **Appendix I**. Mitigation measures generally implemented by the Contractor in the reporting period are summarized in Table 7.1.

Table 7.1 – Implemented Environmental Mitigation Measures in the Reporting Period

| Environmental Aspect | Mitigation Measures Implemented |
|-----------------------------|--|
| Air Quality | <ul style="list-style-type: none"> • Water spraying at works area before, during and after operation • Restricting heights from which materials were to be dropped • All vehicles were washed to remove dusty materials immediately before leaving the site • Erection of hoarding of not less than 2.4m in height • Covering dusty materials stockpile entirely with impervious tarpaulin • Spraying dusty materials with water immediately prior to any loading, unloading or transfer operation |
| Construction Noise | <ul style="list-style-type: none"> • The Contractor had been submitting method statement to the Engineer Representative for the approval of working method, equipment and noise mitigation measures to be used before commencing any work • Unused equipment was switched off • Regular maintenance of plants and equipment |
| Water Quality | <ul style="list-style-type: none"> • Provision of desilting facilities within works area capable of controlling discharge of SS to comply with WPCO/TM-DSS • Preparing of Contingency Plan which detailing the response and procedures when there was accidental spillage • Provision of channels, earth bunds and sand bags barriers for directing surface runoff to desilting facilities • Existing manholes were covered • Portable chemical toilets were provided on-site and licensed contractor was employed for the collection and disposal process • Two layers of silt curtain were deployed to separate the works area from water gathering ground • Oil and grease removal materials were provided • Exposed slopes were either shotcreted or covered by impervious tarpaulin |

| | |
|----------------------|--|
| Waste Management | <ul style="list-style-type: none"> • Provision of on-site coordinator for waste management • Excavated material was reused on site as far as practicable to minimize off-site disposal • Sorting of waste materials into inert/non-inert type on-site • Trip Ticket System was implemented for control of C&D waste disposal • Covered bins were provided for the containment of general refuse • Toolbox talks were provided to workers for enhancing their awareness |
| Ecology | <ul style="list-style-type: none"> • Clear definition of site boundary was provided • <i>Pavetta hongkongensis</i> had been transplanted on-site • Eating, leaving food and feeding wildlife are forbidden in works area • Fishing was forbidden in works area • Litter was removed off-site regularly • Unused equipment was switched off |
| Landscape and Visual | <ul style="list-style-type: none"> • Retained trees were protected • Hoarding erected was compatible with surrounding setting |
| Cultural Heritage | <ul style="list-style-type: none"> • Condition survey was conducted prior to the commencement of construction • Vibration monitoring had been implemented in accordance with recommendations in the condition survey report |

8. ENVIRONMENTAL FORECASTING

8.1 As advised by the Contractor, major construction works to be performed in the next reporting month, i.e., May 2022, include the followings:

| Works Area | Major Site Activities |
|------------|---|
| Portion A | <ul style="list-style-type: none">• Outfall structure construction |
| Portion C | <ul style="list-style-type: none">• Slope stabilization – Slope cutting and filling |

8.2 The Contractor is reminded to properly implement mitigation measures for each specified works. The Contractor should also carefully program the drainage diversion and TBM launching platform works so as to critically protect the water gathering ground of LSMR during construction.

8.3 Tentative schedule of impact construction noise and water quality monitoring for the next reporting month, i.e., May 2022, is presented in **Appendix J**. Monitoring will be performed at same locations presented in above sections.

9. CONCLUSION AND RECOMMENDATIONS

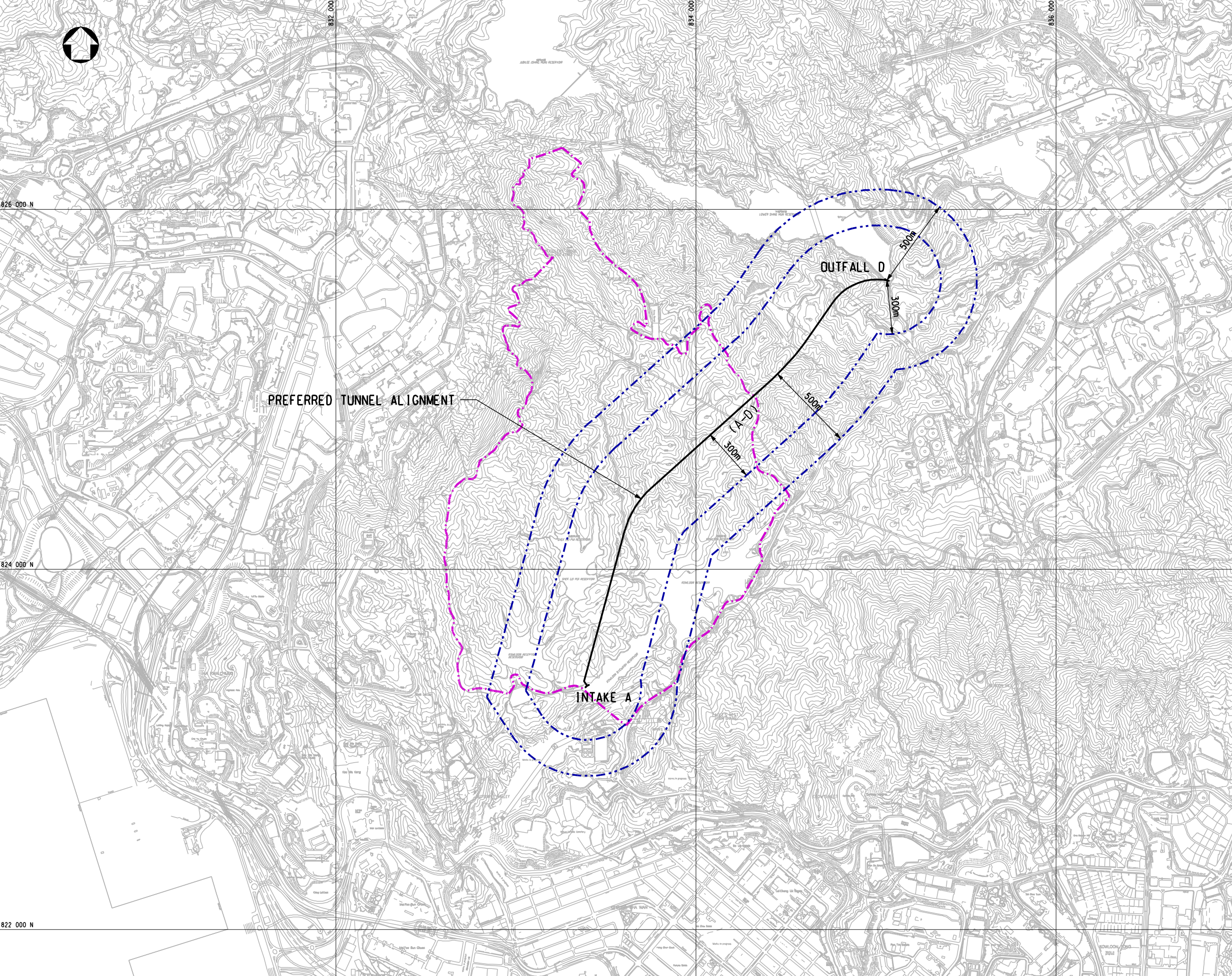
- 9.1 This is the 34th Monthly Environmental Monitoring and Audit (EM&A) Report presents EM&A works undertaken in the period of 1 to 30 April 2022. EM&A works were performed in accordance with the approved EM&A Manual and conditions stipulated in the amended Environmental Permit EP-345/2009/A.
- 9.2 Impact monitoring for construction noise and water quality were performed in the reporting period.
- 9.3 After the joint water sampling inspection with the ER, the IEC representative, the Contractor and the ET on 15 October 2021, on days when very shallow flow (<11cm of water depth) were observed at the control points, actions will be taken to collect samples at the sampling locations.
- 9.4 Similar to predictions from the EIA report, no project-related exceedance was identified from the EM&A programme of the reporting month.
- 9.5 As per Section 10.3.3 of the EM&A Manual, the number and location of monitoring stations and parameters were reviewed. No significant change was observed on the surrounding environment (i.e., no new stream or water way, no new sensitive receiver and no better alternative monitoring locations which suit the descriptions in Section 5.4.2 of the EM&A Manual) or the nature of works in progress. The current monitoring locations remain to be representative; the current water quality control monitoring locations are the nearest upstream accessible stream before passing through the construction site and merging with the water body; and the current monitoring parameters have covered the possible environmental impact arising from the nature of works in progress. No change is suggested to be made to the current EM&A programme. No change in surrounding environment and nature of works in progress was noted from the Contractor and Supervisor.
- 9.6 Weekly site inspections were performed during the reporting period.
- 9.7 No complaint regarding environmental issue was received in the reporting period.
- 9.8 No notification of summons nor prosecution have been received since the commencement of the Project.
- 9.9 The Contractor is reminded that all works to be undertaken within the water gathering ground of LSMR and KBR must fulfill statutory environmental requirements, especially in watercourse protection.

- 9.10 The Contractor is reminded to review the visual impact due to the appearance of permanent intake and outfall structure and include in the latest Landscape Plan for authorities' approval.


Appendix A
Project Site Layout Plan



LEGEND:
 - - - - - KAM SHAN COUNTRY PARK BOUNDARY
 - - - - - STUDY AREA



| Rev | Date | Drawn/Description | Ch'kd/App'd |
|-----|------|-------------------|-------------|
| | | | |

Client
 THE GOVERNMENT OF THE HONG KONG
 SPECIAL ADMINISTRATIVE REGION
 WATER SUPPLIES DEPARTMENT

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 Mott MacDonald Hong Kong Ltd
 7th Floor
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 20 Salisbury Road
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Project
 Agreement No. CE55/2006(EP)
 Inter-reservoirs Transfer Scheme (IRTS)
 Water Tunnel between Kowloon Byewash
 Reservoir and Lower Shing Mun Reservoir
 Environmental Impact Assessment
 Investigation

Title
 THE PREFERRED SCHEME

| | | | |
|----------|-------|--------------|-----|
| Designed | HN/PW | Eng.Chk. | PW |
| Drawn | VN | Coordination | PW |
| Dwg.Chk. | HN | Approved | AFK |

| | | | | | |
|-------------|------------|---------|---|--------|-----|
| Scale | 1:10000@A1 | Project | 240564 | Status | INF |
| Drawing No. | CAD File | | J:\240564\REPORT\ENV\EMBA-08\2\Figure-1-L01.dwg | | Rev |

Appendix B

Latest Construction Programme

IRTS: 3 Month Rolling Programme (Apr 22 ~ Jun 22)

| Activity ID | Activity Name | Dur | Start | Finish | 2022 | | | | |
|--|---|-----|-------------|------------|-----------|-----------|-----------|-----------|---|
| | | | | | Mar 37 | Apr 38 | May 39 | Jun 40 | Jul 41 |
| IRTS - Updated Programme (Y22M04D25a) | | | | | | | | | |
| Contract Dates | | | | | | | | | |
| Project Completion | | | | | | | | | |
| Contract Completion | | | | | | | | | |
| ComS1_1010 | Section 1 - Completion of whole of the works excluding the works in Setion 2 and 3 | 0 | | 22-Jun-22* | | | | | ◆ Section 1 - Completion of whole of the works excluding the |
| ComS3_1010 | Section 3 - Completion of all landscape works | 0 | | 22-Jun-22* | | | | | ◆ Section 3 - Completion of all landscape works, |
| Preliminaries and General Requirements | | | | | | | | | |
| BIM Submission | | | | | | | | | |
| PGR_1960 | Preparation and Submission of COBie Data Deliverables *(P3) | 33 | 13-Jun-22 | 21-Jul-22 | | | | | Preparation a |
| Tai Po Road Site (TGLA No. TST453) | | | | | | | | | |
| TPR_GW-1040 | General Site Storage | 891 | 02-Jul-19A | 14-Jul-22 | | | | | General Site Storage |
| TPR_GW-1050 | Reinstatement & Land Return | 47 | 15-Jul-22 | 07-Sep-22 | | | | | |
| CSD Submission | | | | | | | | | |
| CSD 1 - Outfall Structure | | | | | | | | | |
| Alternative Works (Subject to approval of Structure Design) | | | | | | | | | |
| CSD1_OF_6000 | Excavation ,water and strut installation (3rd layer at ~+83.5mPD) | 17 | 07-Apr-22A | 29-Apr-22 | | | | | Excavation ,water and strut installation (3rd layer at ~+83.5mPD) |
| CSD1_OF_7000 | Prepare formation and blinding concrete | 5 | 28-Apr-22 | 04-May-22 | | | | | Prepare formation and blinding concrete |
| CSD1_OF_8000 | Wing wall base slab construction | 14 | 04-May-22 | 20-May-22 | | | | | Wing wall base slab construction |
| CSD1_OF_9000 | Wing wall construction | 40 | 20-May-22 | 07-Jul-22 | | | | | Wing wall construction |
| CSD1_OF_9100 | Base slab construction | 26 | 29-Apr-22 | 31-May-22 | | | | | Base slab construction |
| CSD1_OF_9105 | Installation of Gabion structure | 7 | 31-May-22 | 08-Jun-22 | | | | | Installation of Gabion structure |
| CSD1_OF_9110 | Permanent Drainage & Connection | 20 | 08-Jul-22 | 30-Jul-22 | | | | | |
| CSD1_OF_9200 | Wall construction | 64 | 31-May-22 | 15-Aug-22 | | | | | |
| CSD1_OF_9300 | Complete remaining section of C&C tunnel | 39 | 02-Jul-22 | 16-Aug-22 | | | | | |
| CSD1_OF_9600 | Reinstatement of road | 14 | 22-Jul-22 | 06-Aug-22 | | | | | |
| CSD 2 - Alternative Alignment & Intake Structure | | | | | | | | | |
| Alternative Works (Subject to approval of alternative tunnel alignment) | | | | | | | | | |
| CSD_PF_2210-30 | Mined Tunnel Construction - Lining | 33 | 22-Jan-22A | 30-Apr-22 | | | | | Mined Tunnel Construction - Lining |
| CSD_PF_2220 | Out and Cover Construction | 22 | 03-May-22 | 28-May-22 | | | | | Out and Cover Construction |
| CSD_PF_2225 | Internal Staircase Construction | 22 | 03-May-22 | 28-May-22 | | | | | Internal Staircase Construction |
| CSD_PF_2230 | E&M Installation | 22 | 03-May-22 | 28-May-22 | | | | | E&M Installation |
| CSD_PF_2232 | Remove & Re-install Cofferdam (Stage 1) | 25 | 11-Apr-22 A | 14-May-22 | | | | | Remove & Re-install Cofferdam (Stage 1) |
| CSD_PF_2233-1 | Installation of Granite Stone Finish at KBR Intake Structure (Stage 1) | 20 | 20-Apr-22 | 14-May-22 | | | | | Installation of Granite Stone Finish at KBR Intake Structure (Stage 1) |
| CSD_PF_2233-2 | Installation of Granite Stone Finish at KBR Intake Structure (Stage 2) | 11 | 18-Jun-22 | 30-Jun-22 | | | | | Installation of Granite Stone Finish at KBR Inta |
| CSD_PF_2233-3 | Installation of Granite Stone Finish at KBR Intake Structure (Slope, Spillage Channel & Other Area) | 18 | 22-Apr-22 | 14-May-22 | | | | | Installation of Granite Stone Finish at KBR Intake Structure (Slope, Spillage Channel & Other Area) |
| CSD_PF_2240 | Backfill & Remove Cofferdam (Stage 2) (incl. LHS Slope Rockfill Backfilling & Silt Curtain Removal) | 17 | 30-May-22 | 18-Jun-22 | | | | | Backfill & Remove Cofferdam (Stage 2) (incl. LHS Slope Rockf |
| CSD_PF_2250 | Reinstatement | 28 | 14-Jul-22 | 15-Aug-22 | | | | | |
| CSD 3 - Alternation of Power Supply Point & Cable Route for Connection to Kiosk at Intake Structure | | | | | | | | | |
| Alternative Works (Subject to Approval of Road Excavation with STLA Application for Cable Laying) | | | | | | | | | |
| CSD_PF_3210 | Preparation & Approval Method Statement & Temp. Works Design | 168 | 03-Sep-21 A | 06-May-22 | | | | | Preparation & Approval Method Statement & Temp. Works Design |
| CSD_PF_3230 | Draw Pits & Cross Road Duct Trench Excavation (with granting of STLA application for Cable Laying) | 36 | 07-May-22 | 20-Jun-22 | | | | | Draw Pits & Cross Road Duct Trench Excavation (with gran |
| CSD_PF_3250 | Conduit Installation along Dam | 12 | 07-Jun-22 | 20-Jun-22 | | | | | Conduit Installation along Dam |
| CSD_PF_3260 | Cable Laying | 26 | 21-Jun-22 | 21-Jul-22 | | | | | Cable Laying |
| CSD 4 - Alternative Slope Upgrading Works for Feature No.7SW-D/F16 at Lower Shing Mun Reservoir (LSM) | | | | | | | | | |
| Design Submission | | | | | | | | | |
| CSD_PF_4060 | DDA- Review & Acceptance | 21 | 06-Apr-22 | 04-May-22 | | | | | DDA- Review & Acceptance |
| CSD_PF_4070 | Approval for Site Construction | 0 | | 04-May-22 | | | | | ◆ Approval for Site Construction, |
| Alternative Works (Subject to Approval of Slope Upgrading Works Design) | | | | | | | | | |
| CSD_PF_4205 | Reinstatement of Road | 14 | 22-Jul-22 | 06-Aug-22 | | | | | |
| Compensation Event | | | | | | | | | |

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

Contract No. DC/2018/08 : Inter-Reservoirs Transfer Scheme
 Water Tunnel Between Kowloon Byewash Reservoir and Lower Shing Mun Reservoir

| | | | | |
|-----------|--------------------|----------|----------|--------|
| Date | Revision | Checked | Approved | 1 of 2 |
| 25-Apr-22 | Rolling Y22M04D25a | A. Tsang | | |

IRTS: 3 Month Rolling Programme (Apr 22 ~ Jun 22)

| Activity ID | Activity Name | Dur | Start | Finish | 2022 | | | | | |
|---|---|-----|-------------|------------|-----------|-----------|-----------|-----------|-----------|--|
| | | | | | Mar 37 | Apr 38 | May 39 | Jun 40 | Jul 41 | |
| CE-054 & CE-056: Feasibility Study & DDA for Maintenance Walkway at KBR | | | | | | | | | | |
| CE-056 Construction Works at KBR | | | | | | | | | | |
| KBR Maintenance Access | | | | | | | | | | |
| CE056-2050 | Tree Felling/ Entrance/ GFRPHandral | 67 | 09-Oct-21A | 30-Apr-22 | | | | | | |
| Slope Upgrading Work | | | | | | | | | | |
| CE056-4010 | No Fined Concrete & Tiling | 43 | 22-Jan-22A | 16-May-22 | | | | | | |
| CE-084: Widening of the Maintenance Walkway Entrance at KBR | | | | | | | | | | |
| CE084-1010 | Tree Removal (subject to approval) | 3 | 27-Jun-22 | 29-Jun-22 | | | | | | |
| CE084-1020 | Excavation & Temporary Works Installation | 12 | 30-Jun-22 | 14-Jul-22 | | | | | | |
| CE084-1030 | Blinding Layer, Rebar Fixing, Formwork & Casting of Retaining Structure | 18 | 15-Jul-22 | 04-Aug-22 | | | | | | |
| Tunneling Works | | | | | | | | | | |
| Site Works | | | | | | | | | | |
| LSMR (North Portal) & TBM | | | | | | | | | | |
| LSMR : TBM Tunnel Excavation | | | | | | | | | | |
| LSMR : TBM Power and Water Supply | | | | | | | | | | |
| TBM_WtrS_2300 | Notification to CLP for Removal of the transformer and Other Electrical Equipment *(P5) | 120 | 04-Mar-22A | 30-Jul-22 | | | | | | |
| TBM Dismantling | | | | | | | | | | |
| TB_Ds_1700 | Tunnel Services Removal and Tunnel Cleaning | 20 | 26-Nov-21A | 30-Jul-22 | | | | | | |
| Intake Structure at Kowloon Byewash Reservoir | | | | | | | | | | |
| KBR Intake : E&M for Electric Actuated Penstocks and Automatic Flow Control System | | | | | | | | | | |
| KBR Intake : E&M Installation of Automatic Flow Control System & Others | | | | | | | | | | |
| KB_ISW_3600 | Supply and Delivery of E&M Materials / Equipments *(P1a) | 120 | 11-Aug-21 A | 30-Apr-22 | | | | | | |
| KB_ISW_3700 | E&M Installation *(P1a) | 56 | 14-Mar-22A | 24-May-22 | | | | | | |
| KB_ISW_3800 | Testing and Commissioning of E&M *(P1a) | 26 | 25-May-22 | 24-Jun-22 | | | | | | |
| KBR Intake : E&M Installation of Electrical Actuated Penstocks | | | | | | | | | | |
| KB_ISW_3880 | Testing and Commissioning of Penstock (Stage 2) | 60 | 08-Apr-22 | 23-Jun-22 | | | | | | |
| KBR Intake : E&M Installation of Lifting Crane | | | | | | | | | | |
| KB_ISW_3870 | Testing and Commissioning of Lifting Crane *(P1a) | 26 | 31-Mar-22A | 05-May-22 | | | | | | |
| KBR : Site Setup and Access | | | | | | | | | | |
| XKB_ISW_3500 | Removal of Silt Curtain | 6 | 14-Jul-22 | 20-Jul-22 | | | | | | |
| Slope Upgrading Works | | | | | | | | | | |
| KBR Slope Stabilization Works. | | | | | | | | | | |
| KBR_Slp_Slp_1000 | Cut Slope for Intake | 18 | 06-Apr-22* | 29-Apr-22 | | | | | | |
| KBR_Slp_Slp_1100 | Fill Slope for Intake Structure | 12 | 30-Apr-22 | 16-May-22 | | | | | | |
| KBR_Slp_Slp_1200 | Fill Slope in front of Structure | 12 | 17-May-22 | 30-May-22 | | | | | | |
| KBR_Slp_Slp_1300 | Cut Slope LHS of Structure | 9 | 31-May-22 | 10-Jun-22 | | | | | | |
| KBR_Slp_Slp_1400 | Fill Slope LHS of Structure | 17 | 11-Jun-22 | 30-Jun-22 | | | | | | |
| Landscaping Works | | | | | | | | | | |
| Enhancement Works of Kam Shan Country Park-Design | | | | | | | | | | |
| KBR_EHW_1300 | 1st Submission-Enhancement works at Kam Shan Country Park-Design Preparation & Submission *(P1c) | 28 | 22-Apr-22 | 26-May-22* | | | | | | |
| KBR_EHW_1400 | Review and Comments *(P1c) | 18 | 27-May-22 | 17-Jun-22 | | | | | | |
| KBR_EHW_1500 | 2nd Submission-Enhancement works at Kam Shan Country Park-Design Preparation & Submission with ICE *(P1c) | 21 | 18-Jun-22 | 13-Jul-22 | | | | | | |
| KBR_EHW_1600 | Review and Acceptance *(P1c) | 20 | 14-Jul-22 | 05-Aug-22 | | | | | | |

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

Contract No. DC/2018/08 : Inter-Reservoirs Transfer Scheme
 Water Tunnel Between Kowloon Byewash Reservoir and Lower Shing Mun Reservoir


| | | | | |
|-----------|--------------------|---------|----------|--------|
| Date | Revision | Checked | Approved | 2 of 2 |
| 25-Apr-22 | Rolling Y22M04D25a | A.Tsang | | |

Appendix C
Monitoring Locations



- LEGEND:**
- STUDY AREA BOUNDARY
 - PREFERRED TUNNEL ALIGNMENT
 - + NOISE SENSITIVE RECEIVER
 - C COMMERCIAL
 - CDA COMPREHENSIVE DEVELOPMENT AREA
 - G/IC GOVERNMENT/INSTITUTION/COMMUNITY
 - GB GREEN BELT
 - I INDUSTRIAL
 - O OPEN SPACE
 - OU OTHER SPECIFIED USES
 - RIA1 RESIDENTIAL (GROUP A)
 - RIA2 RESIDENTIAL (GROUP B)
 - RIA3 RESIDENTIAL (GROUP C)
 - RIA4 RESIDENTIAL (GROUP E)
 - V VILLAGE TYPE DEVELOPMENT

| Rev | Date | Drawn/Description | Ch'kd/App'd |
|-----|------|-------------------|-------------|
| | | | |

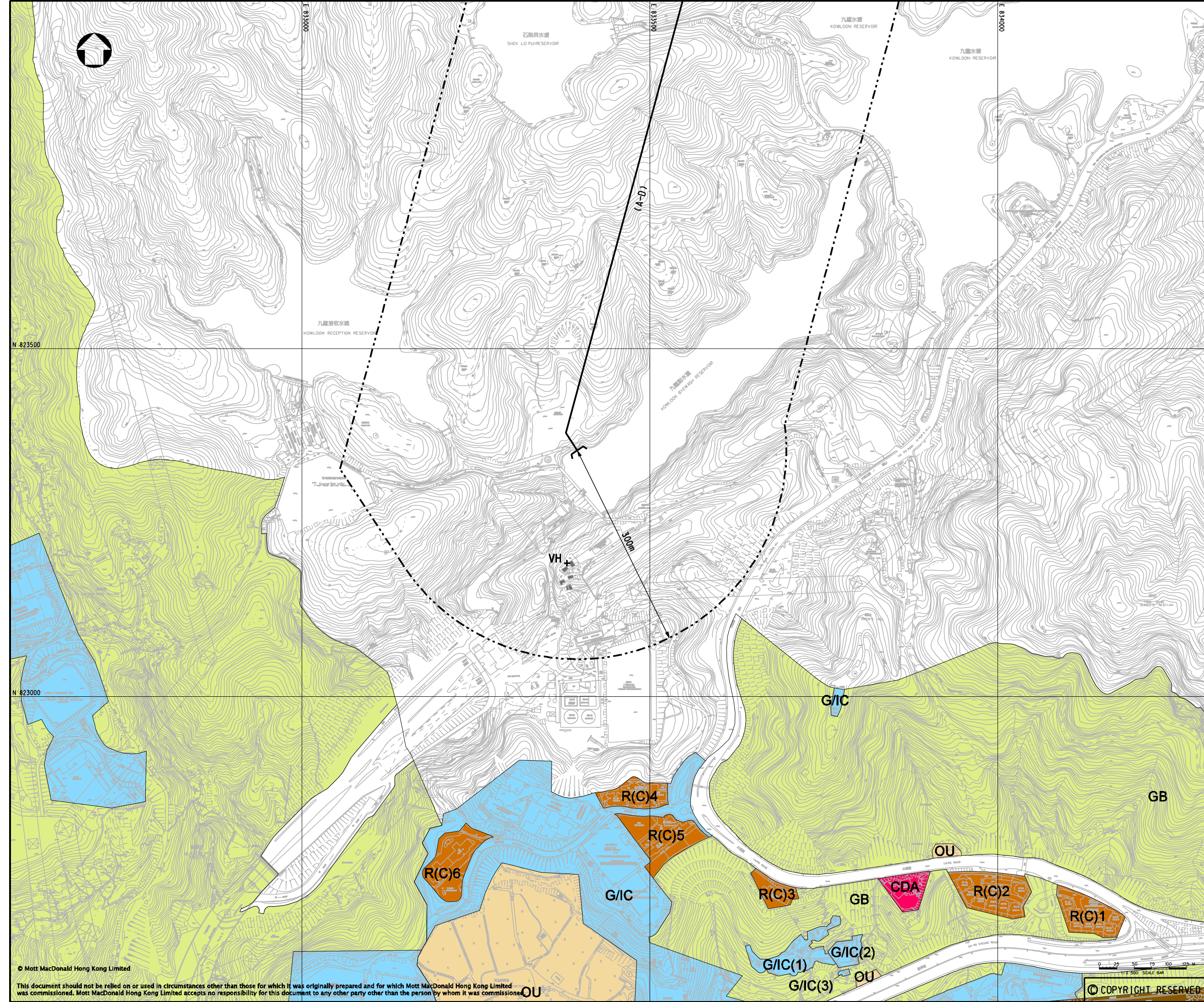
Client
 THE GOVERNMENT OF THE HONG KONG
 SPECIAL ADMINISTRATIVE REGION
 WATER SUPPLIES DEPARTMENT

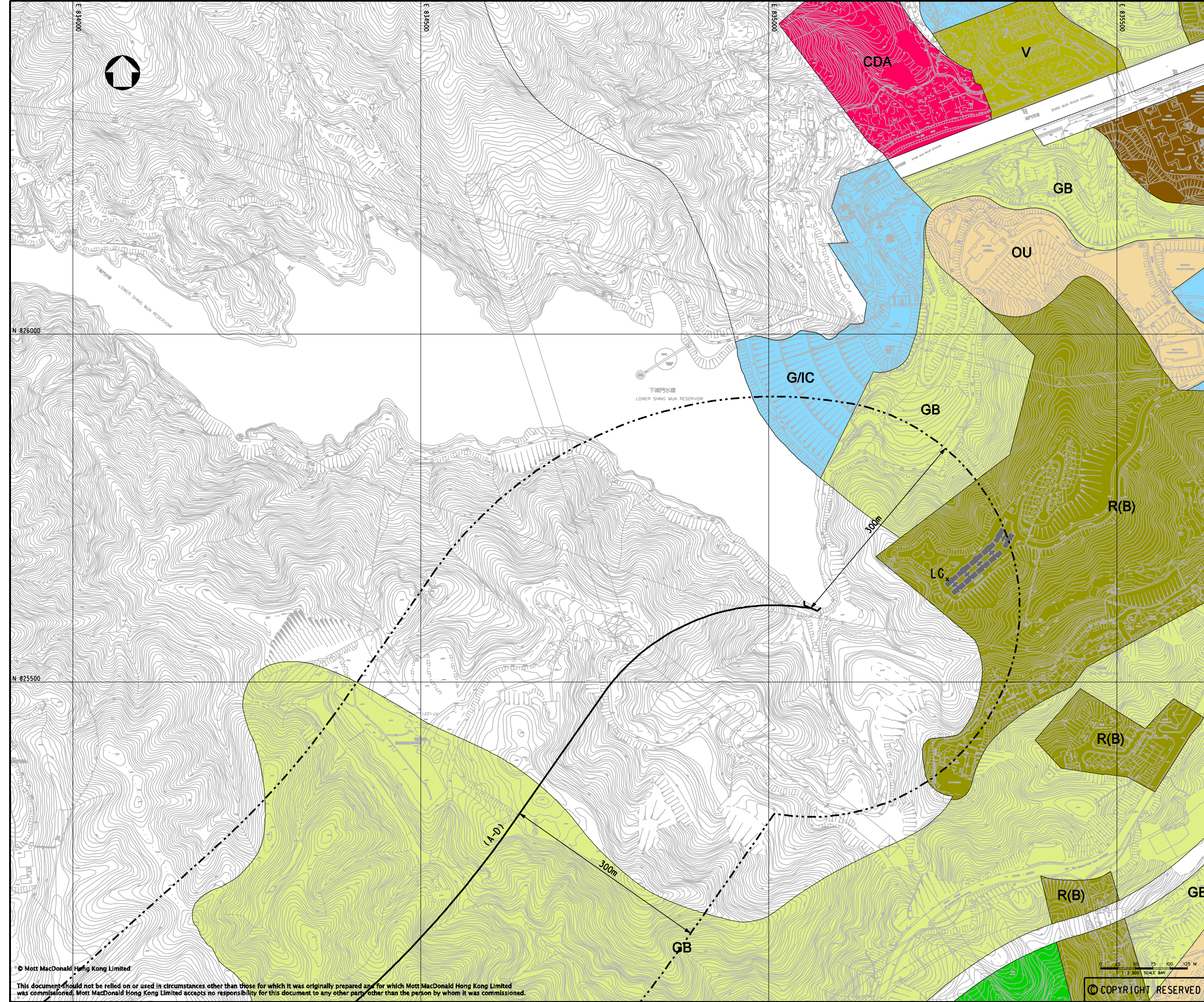
Mott MacDonald
 Mott MacDonald Hong Kong Ltd
 7th Floor
 West Wing Office Building
 New World Centre
 20 Salisbury Road
 Tsim Sha Tsui, Kowloon
 Hong Kong
 Tel: 2828 5757
 Fax: 2827 1823
 Web: www.mottmac.com.hk

Project
 Agreement No. CE55/2006(EP)
 Inter-reservoirs Transfer Scheme (IRTS)
 Water Tunnel between Kowloon Byewash
 Reservoir and Lower Shing Mun Reservoir
 Environmental Impact Assessment
 Investigation

Title
 THE STUDY AREA AND
 REPRESENTATIVE NSRs (INTAKE END)

| | | | |
|-------------|--|--------------|-----|
| Designed | HN/PW | Eng.Chk. | PW |
| Drawn | VN | Coordination | PW |
| Dwg.Chk. | HN | Approved | AFK |
| Scale | Project | Status | |
| 1:2500@A1 | 240564 | INF | |
| Drawing No. | CAD File | Rev | |
| | \\1240564\REPORT\ENV\EMBA-082\FIGURE-4-1.dgn | | |






- LEGEND:**
- STUDY AREA BOUNDARY
 - PREFERRED TUNNEL ALIGNMENT
 - + NOISE SENSITIVE RECEIVER
 - C COMMERCIAL
 - CDA COMPREHENSIVE DEVELOPMENT AREA
 - G/IC GOVERNMENT/INSTITUTION/COMMUNITY
 - GB GREEN BELT
 - I INDUSTRIAL
 - O OPEN SPACE
 - OU OTHER SPECIFIED USES
 - R(A) RESIDENTIAL (GROUP A)
 - R(B) RESIDENTIAL (GROUP B)
 - R(C) RESIDENTIAL (GROUP C)
 - R(E) RESIDENTIAL (GROUP E)
 - V VILLAGE TYPE DEVELOPMENT

| Rev | Date | Drawn/Description | Ch'kd/App'd |
|-----|------|-------------------|-------------|
| | | | |

Client

 THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION
WATER SUPPLIES DEPARTMENT

 **Mott
MacDonald**

Mott MacDonald Hong Kong Ltd
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Project

Agreement No. CE55/2006(EP)
Inter-reservoirs Transfer Scheme (IRTS)
Water Tunnel between Kowloon Byewash
Reservoir and Lower Shing Mun Reservoir
Environmental Impact Assessment
Investigation

Title

PROPOSED LOCATION OF NOISE
MONITORING STATION AT OUTFALL END

| | | | |
|----------|-------|--------------|-----|
| Designed | HN/PW | Eng.Chk. | PW |
| Drawn | VN | Coordination | PW |
| Dwg.Chk. | HN | Approved | AFK |

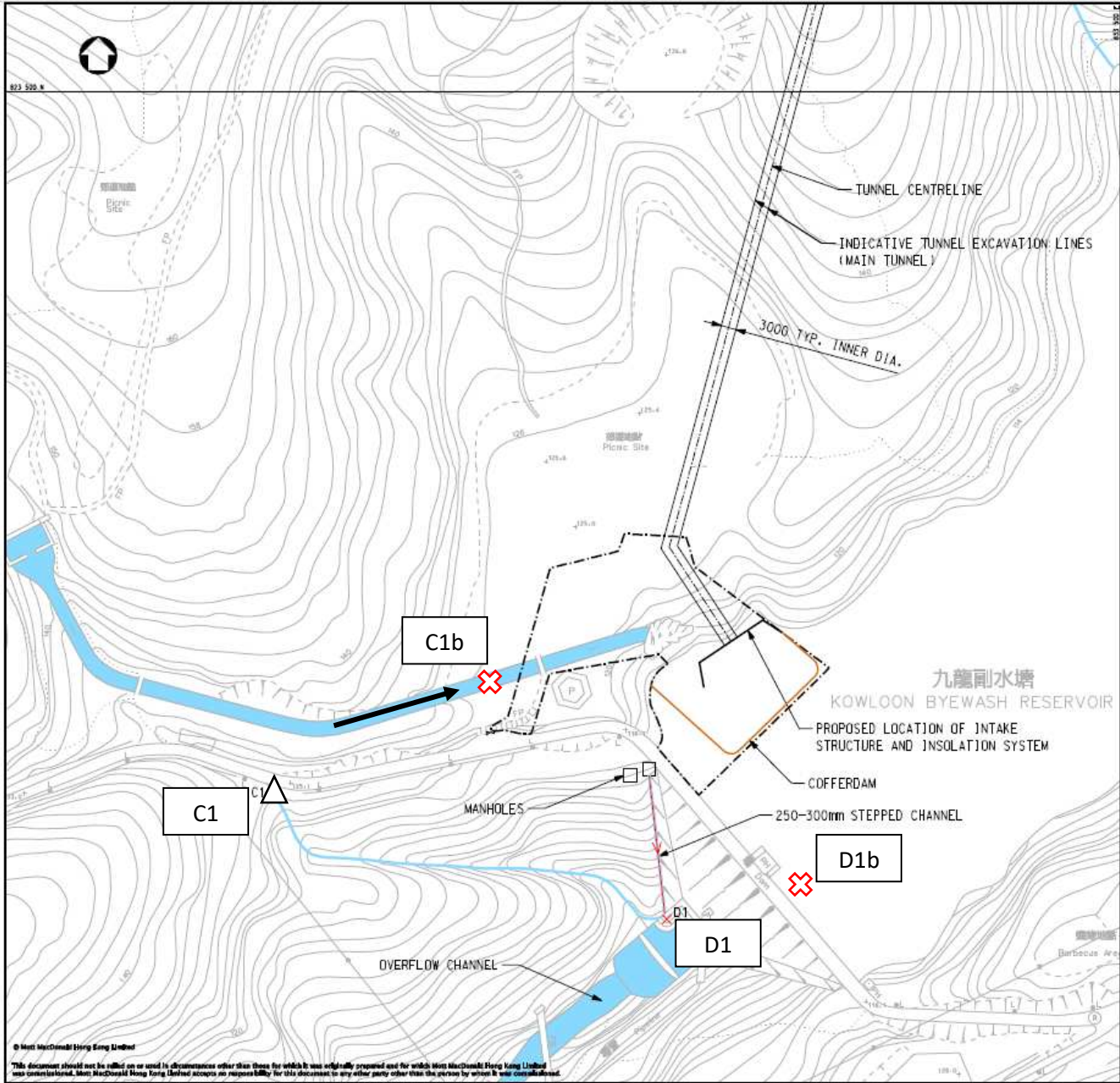
Scale

1:2500@A1

Project 240564

Status INF

Drawing No. FIGURE 4-2



- NOTE:
DESIGN DETAILS OF THE COFFERDAM WILL BE DETERMINED BY THE CONTRACTOR.
- LEGEND:
- WORKSITE AREA
 - WATERCOURSE
 - INDICATIVE LOCATION OF COFFERDAM
 - FLOW PATH OF TREATED EFFLUENT
 - ✕ POINT OF EFFLUENT DISCHARGE / MONITORING STATION D1
 - △ CONTROL STATION AT INTAKE SITE
 - ✕ Proposed Alternative Water Monitoring Station

| | | | |
|------|--------|---------------------|------------|
| REV | NO. | DESCRIPTION | DATE |
| F1 | REV 01 | WDG: WORK AMENDMENT | F1: APR 07 |
| F2 | REV 02 | WDG: WORK AMENDMENT | F1: APR 07 |
| F1 | REV 03 | WDG: FIRST ISSUE | FL: APR 07 |
| Prep | Drawn | Checked | Checked |

THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION
WATER SUPPLIES DEPARTMENT

Mott MacDonald
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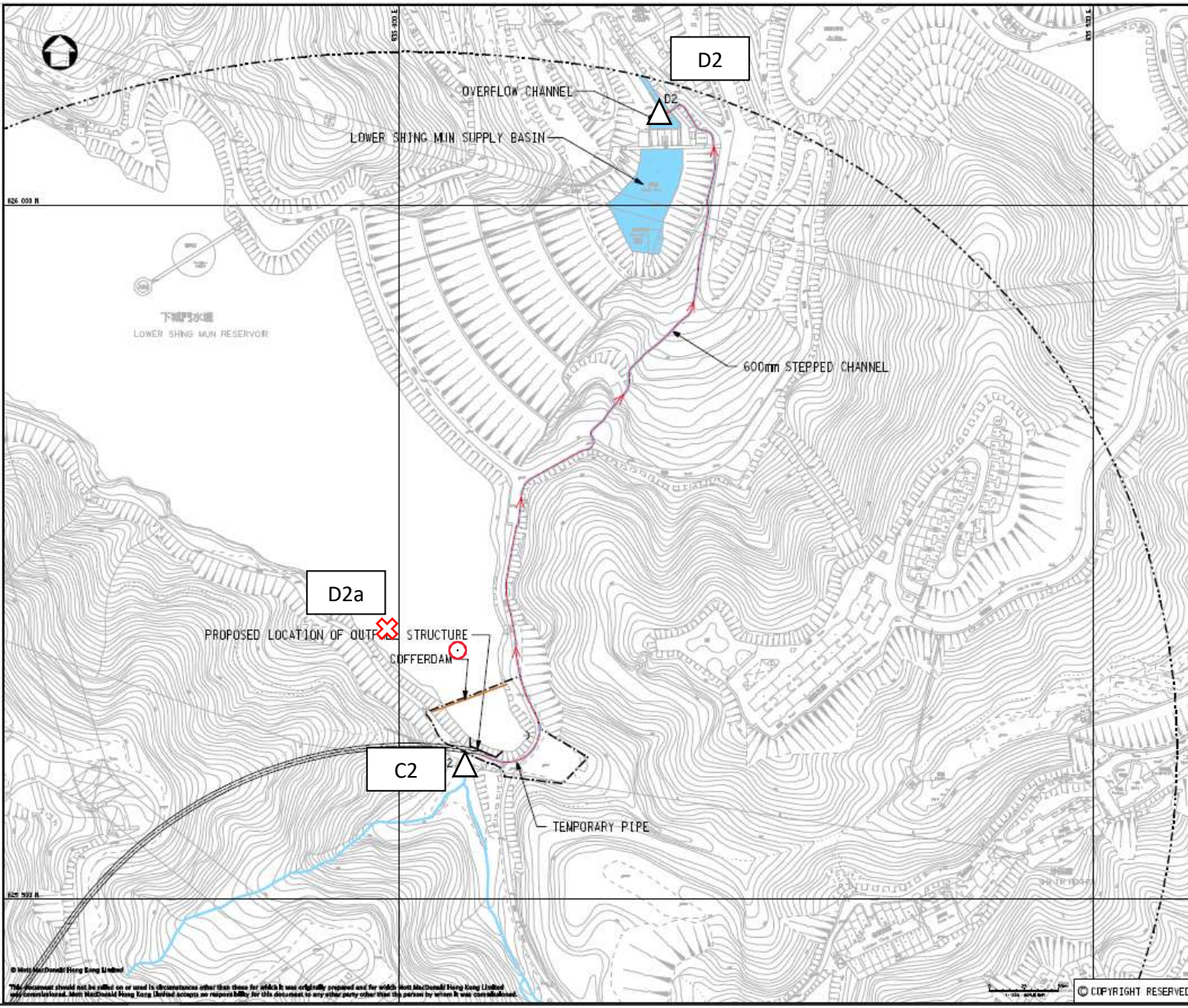
Project:
Agreement No. GESS/2006/EP1
Inter-reservoirs Transfer Scheme (IRTS)
Water Tunnel between Kowloon Byewash Reservoir and Lower Shing Mun Reservoir
Environmental Impact Assessment
Investigation

THE
PROPOSED WATER QUALITY MONITORING STATION AT INTAKE END

| | | | |
|----------|-----|----------|-----|
| Designed | FY | Checked | FY |
| Drawn | MDG | Approved | FY |
| Sup/Chk | FY | Approved | APR |

Scale: 1:5000A1
 Date: 24/05/04
 Drawing No. FIGURE 5-1
 Page P3

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- NOTE:
DESIGN DETAILS OF THE COFFERDAM WILL BE DETERMINED BY THE CONTRACTOR.
- LEGEND:
- STUDY AREA BOUNDARY
 - WORKSITE AREA
 - WATERCOURSE
 - TEMPORARY PIPE
 - INDICATIVE LOCATION OF COFFERDAM
 - FLOW PATH OF TREATED EFFLUENT
 - ✕ POINT OF EFFLUENT DISCHARGE / MONITORING STATION C2
 - △ CONTROL STATION AT OUTFALL SITE
 - ✕ Proposed Alternative Water Monitoring Station
 - Approximate sampling location on 1-30 Apr 2022

| | | | | | | | | | | |
|-----|-------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| PT | REV | OR | NO | NO | NO | NO | NO | NO | NO | NO |
| FE | REV | OR | NO | NO | NO | NO | NO | NO | NO | NO |
| FI | REV | OR | NO | NO | NO | NO | NO | NO | NO | NO |
| Rev | Drawn | Checked | Described | Discussed | Discussed | Discussed | Discussed | Discussed | Discussed | Discussed |

THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION
WATER SUPPLIES DEPARTMENT

Mott MacDonald
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181 Wing Lok Street
Kowloon, Hong Kong
Tel: +852 2412 3889
Fax: +852 2412 3888
www.mottmac.com

Project:
Agreement No. CES5/2016 (EP)
Inter-reservoirs Transfer Scheme (IRTS)
Water Tunnel between Kowloon Bywash
Reservoir and Lower Shing Mun Reservoir
Environmental Impact Assessment
Investigation

PROPOSED WATER QUALITY MONITORING
STATION AT OUTFALL END

| | | | |
|-------------|------------|-------------|--------|
| Checked | PT | Discussed | PT |
| Drawn | NO | Discussed | PT |
| Eng. OK | PT | Approved | PT |
| Date: | 11/25/2024 | Project: | 2405/4 |
| Scale: | 1:12500 | Drawn By: | [NF] |
| Checked By: | [NF] | Checked By: | [NF] |

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Appendix D

Calibration Certificates of Equipment Used

Certificate of Calibration

for

Description: Sound Level Meter
Manufacturer: NTi Audio
Type No.: XL2 (Serial No.: A2A-13663-E0)
Microphone: ACO 7052 (Serial No.: 73780)
Preamplifier: NTi Audio MA220 (Serial No.:10390)

Submitted by:

Customer: Acuity Sustainability Consulting Limited
Address: Unit C, 11/F, Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon

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

- Within (31.5 Hz – 4k Hz)
- 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: 21 February 2022

Date of calibration: 24 February 2022

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Tang Cheuk Hang
Quality Manager

Date of issue: 24 February 2022

Certificate No.: APJ21-157-CC001



Page 1 of 4

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: 18.4 °C
 Air Pressure: 1018 hPa
 Relative Humidity: 47.2 %

3. Calibration Equipment:

| | Type | Serial No. | Calibration Report Number | Traceable to |
|--------------------------|----------|------------|---------------------------|--------------|
| Multifunction Calibrator | B&K 4226 | 2288467 | AV200041 | 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 | 94.0 | ±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 | 94.0 | Ref | |
| | | | 104 | | 104.0 | ±0.3 | |
| | | | 114 | | 114.0 | ±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 | 94.0 | Ref | |
| | | Slow | | | 94.0 | ±0.3 | |

Frequency Response

Linear Response

| 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 | dB | SPL | 94 | Fast | 31.5 | 94.1 | ±2.0 |
| | | | | | 63 | 94.1 | ±1.5 |
| | | | | | 125 | 94.1 | ±1.5 |
| | | | | | 250 | 94.0 | ±1.4 |
| | | | | | 500 | 94.0 | ±1.4 |
| | | | | | 1000 | 94.0 | Ref |
| | | | | | 2000 | 93.8 | ±1.6 |
| | | | | | 4000 | 93.3 | ±1.6 |

A-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 | 94 | Fast | 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 | 90.8 | -3.2±1.4 |
| | | | | | 1000 | 94.0 | Ref |
| | | | | | 2000 | 95.0 | +1.2±1.6 |
| | | | | | 4000 | 94.3 | +1.0±1.6 |

C-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 | dBC | SPL | 94 | Fast | 31.5 | 91.1 | -3.0±2.0 |
| | | | | | 63 | 93.3 | -0.8±1.5 |
| | | | | | 125 | 93.9 | -0.2±1.5 |
| | | | | | 250 | 94.0 | -0.0±1.4 |
| | | | | | 500 | 94.1 | -0.0±1.4 |
| | | | | | 1000 | 94.0 | Ref |
| | | | | | 2000 | 93.6 | -0.2±1.6 |
| | | | | | 4000 | 92.5 | -0.8±1.6 |

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 | ± 0.10 |
| | 125 Hz | ± 0.05 |
| | 250 Hz | ± 0.05 |
| | 500 Hz | ± 0.05 |
| | 1000 Hz | ± 0.05 |
| | 2000 Hz | ± 0.05 |
| | 4000 Hz | ± 0.05 |
| 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.



MAXLAB

CALIBRATION CERTIFICATE

| <i>Certificate Information</i> | | | | | | | | | | | | | | | | |
|--|--|------------------|-------------|--------------|--|-------------------|-----------|-----|------------------|--------------|--|--------------|----------------|--|--------------|------------------|
| Date of Issue | 7-Aug-2021 | | | | | | | | | | | | | | | |
| Certificate Number | MLCN212053S | | | | | | | | | | | | | | | |
| <i>Customer Information</i> | | | | | | | | | | | | | | | | |
| Company Name | Acuity Sustainability Consulting Limited | | | | | | | | | | | | | | | |
| Address | Unit C, 11/F., Ford Glory Plaza, Nos. 37-39 Wing Hing Street, Cheung Sha Wan, Kowloon, HK | | | | | | | | | | | | | | | |
| <i>Equipment-under-Test (EUT)</i> | | | | | | | | | | | | | | | | |
| Description | Acoustic Calibrator | | | | | | | | | | | | | | | |
| Manufacturer | Pulsar | | | | | | | | | | | | | | | |
| Model Number | 105 | | | | | | | | | | | | | | | |
| Serial Number | 63705 | | | | | | | | | | | | | | | |
| Equipment Number | -- | | | | | | | | | | | | | | | |
| <i>Calibration Particular</i> | | | | | | | | | | | | | | | | |
| Date of Calibration | 7-Aug-2021 | | | | | | | | | | | | | | | |
| Calibration Equipment | 4231(MLTE008) / AV200063 / 23-Jun-23 1357(MLTE190) / MLEC21/05/02 / 26-May-22 | | | | | | | | | | | | | | | |
| Calibration Procedure | MLCG00, MLCG15 | | | | | | | | | | | | | | | |
| Calibration Conditions | <table border="1"> <tr> <td>Laboratory</td> <td>Temperature</td> <td>23 °C ± 5 °C</td> </tr> <tr> <td></td> <td>Relative Humidity</td> <td>55% ± 25%</td> </tr> <tr> <td>EUT</td> <td>Stabilizing Time</td> <td>Over 3 hours</td> </tr> <tr> <td></td> <td>Warm-up Time</td> <td>Not applicable</td> </tr> <tr> <td></td> <td>Power Supply</td> <td>Internal battery</td> </tr> </table> | Laboratory | Temperature | 23 °C ± 5 °C | | Relative Humidity | 55% ± 25% | EUT | Stabilizing Time | Over 3 hours | | Warm-up Time | Not applicable | | Power Supply | Internal battery |
| Laboratory | Temperature | 23 °C ± 5 °C | | | | | | | | | | | | | | |
| | Relative Humidity | 55% ± 25% | | | | | | | | | | | | | | |
| EUT | Stabilizing Time | Over 3 hours | | | | | | | | | | | | | | |
| | Warm-up Time | Not applicable | | | | | | | | | | | | | | |
| | Power Supply | Internal battery | | | | | | | | | | | | | | |
| Calibration Results | Calibration data were detailed in the continuation pages. All calibration results were within EUT specification. | | | | | | | | | | | | | | | |
| <i>Approved By & Date</i> | | | | | | | | | | | | | | | | |
| |  K.O. Lo 7-Aug-2021 | | | | | | | | | | | | | | | |
| <i>Statements</i> | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> * Calibration equipment used for this calibration are traceable to national / international standards. * The results on this Calibration Certificate only relate to the values measured at the time of the calibration and the uncertainties quoted will not include allowance for the EUT long term drift, variation with environmental changes, vibration and shock during transportation, overloading, mishandling, misuse, and the capacity of any other laboratory to repeat the measurement. * MaxLab Calibration Centre Limited shall not be liable for any loss or damage resulting from the use of the EUT. * The copy of this Certificate is owned by MaxLab Calibration Centre Limited. No part of this Certificate may be reproduced without the prior written approval of MaxLab Calibration Centre Limited. | | | | | | | | | | | | | | | | |



MAXLAB

Certificate No.

MLCN212053S

| <i>Calibration Data</i> | | | | |
|-------------------------|------------------|------------------------|-------------------------|-------------------|
| EUT Setting | Standard Reading | EUT Error from Setting | Calibration Uncertainty | EUT Specification |
| 94 dB | 93.9 dB | -0.1 dB | 0.20 dB | ± 0.2 dB |

- END -

Calibrated By : Keneth
Date : 7-Aug-21

Checked By : K.O. Lo
Date : 7-Aug-21

Page 2 of 2



專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/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-BB020057
 Date of Issue : 18 February 2022
 Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

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

PART B - SAMPLE INFORMATION

Name of Equipment : HORIBA U-53
 Manufacturer : HORIBA
 Serial Number : PPHNOMXY
 Date of Received : 14 February 2022
 Date of Calibration : 14 February 2022
 Date of Next Calibration : 13 May 2022

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

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

PART D - CALIBRATION RESULT

(1) Turbidity

| EXPECTED READING (NTU) | DISPLAY READING (NTU) | TOLERANCE (%) | RESULT |
|--------------------------|-------------------------|-----------------|--------------|
| 0 | 0 | -- | Satisfactory |
| 10 | 10.3 | 3.0 | Satisfactory |
| 20 | 20.9 | 4.5 | Satisfactory |
| 100 | 98.9 | -1.1 | Satisfactory |
| 800 | 805 | 0.63 | Satisfactory |

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

(2) Dissolved oxygen


| EXPECTED READING (MG/L) | DISPLAY READING (MG/L) | TOLERANCE (MG/L) | RESULT |
|---------------------------|--------------------------|--------------------|--------------|
| 9.10 | 8.93 | -0.17 | Satisfactory |
| 6.79 | 7.10 | 0.31 | Satisfactory |
| 4.32 | 4.49 | 0.17 | Satisfactory |
| 3.44 | 3.61 | 0.17 | Satisfactory |

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

(3) pH value

--- CONTINUED ON NEXT PAGE ---

AUTHORIZED
SIGNATORY:


 LEE Chun-ning
 Assistant Manager (Chemical Testing)



專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong

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Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BB020057
Date of Issue : 18 February 2022
Page No. : 2 of 2

| TARGET (PH UNIT) | DISPLAY READING (PH UNIT) | TOLERANCE | RESULT |
|--------------------|-----------------------------|-----------|--------------|
| 4.00 | 3.99 | -0.01 | Satisfactory |
| 7.42 | 7.30 | -0.12 | Satisfactory |
| 10.01 | 10.03 | 0.02 | Satisfactory |

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

(4) Salinity

| EXPECTED READING (G/L) | DISPLAY READING (G/L) | TOLERANCE (%) | RESULT |
|--------------------------|-------------------------|-----------------|--------------|
| 10 | 10.15 | 1.50 | Satisfactory |
| 20 | 21.04 | 5.20 | Satisfactory |
| 30 | 32.17 | 7.23 | Satisfactory |

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

(5) Temperature

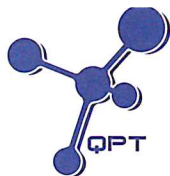
| READING OF REF. THERMOMETER (°C) | DISPLAY READING (°C) | TOLERANCE (°C) | RESULT |
|------------------------------------|------------------------|------------------|--------------|
| 19 | 18.90 | -0.10 | Satisfactory |
| 25 | 25.37 | 0.37 | Satisfactory |
| 34 | 33.76 | -0.24 | Satisfactory |

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

Remark(s)

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

--- END OF REPORT ---



專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED

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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-BB040025
Date of Issue : 12 April 2022
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

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

PART B - SAMPLE INFORMATION

Name of Equipment : HORIBA U-53
Manufacturer : HORIBA
Serial Number : S2A98W8H
Date of Received : 08 April 2022
Date of Calibration : 11 April 2022
Date of Next Calibration : 10 July 2022

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

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

PART D - CALIBRATION RESULT

(1) Turbidity

| EXPECTED READING (NTU) | DISPLAY READING (NTU) | TOLERANCE (%) | RESULT |
|--------------------------|-------------------------|-----------------|--------------|
| 0 | 0.00 | -- | Satisfactory |
| 10 | 11.0 | 10.0 | Satisfactory |
| 20 | 19.5 | -2.5 | Satisfactory |
| 100 | 108 | 8.0 | Satisfactory |
| 800 | 795 | -0.6 | Satisfactory |

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

(2) Dissolved oxygen

| EXPECTED READING (MG/L) | DISPLAY READING (MG/L) | TOLERANCE (MG/L) | RESULT |
|---------------------------|--------------------------|--------------------|--------------|
| 8.23 | 8.39 | 0.16 | Satisfactory |
| 5.61 | 5.79 | 0.18 | Satisfactory |
| 4.20 | 4.36 | 0.16 | Satisfactory |
| 0.15 | 0.40 | 0.25 | Satisfactory |

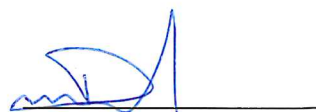
Tolerance of Dissolved oxygen should be less than ± 0.5 (mg/L)

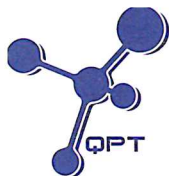
(3) pH value

| TARGET (PH UNIT) | DISPLAY READING (PH UNIT) | TOLERANCE | RESULT |
|--------------------|-----------------------------|-----------|--------|
|--------------------|-----------------------------|-----------|--------|

--- CONTINUED ON NEXT PAGE ---

AUTHORIZED
SIGNATORY:


LEE Chun-ning
Assistant Manager (Chemical Testing)



專業化驗有限公司
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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BB040025
Date of Issue : 12 April 2022
Page No. : 2 of 2

| TARGET (PH UNIT) | DISPLAY READING (PH UNIT) | TOLERANCE | RESULT |
|--------------------|-----------------------------|-----------|--------------|
| 4.00 | 3.99 | -0.01 | Satisfactory |
| 7.42 | 7.38 | -0.04 | Satisfactory |
| 10.01 | 10.03 | 0.02 | Satisfactory |

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

(4) Salinity

| EXPECTED READING (G/L) | DISPLAY READING (G/L) | TOLERANCE (%) | RESULT |
|--------------------------|-------------------------|-----------------|--------------|
| 10 | 10.19 | 1.90 | Satisfactory |
| 20 | 19.96 | -0.20 | Satisfactory |
| 30 | 28.49 | -5.03 | Satisfactory |

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

(5) Temperature

| READING OF REF. THERMOMETER (°C) | DISPLAY READING (°C) | TOLERANCE (°C) | RESULT |
|------------------------------------|------------------------|------------------|--------------|
| 10 | 10.0 | 0.0 | Satisfactory |
| 20 | 19.9 | -0.1 | Satisfactory |
| 48 | 48.0 | 0.0 | Satisfactory |

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

Remark(s)

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

--- END OF REPORT ---

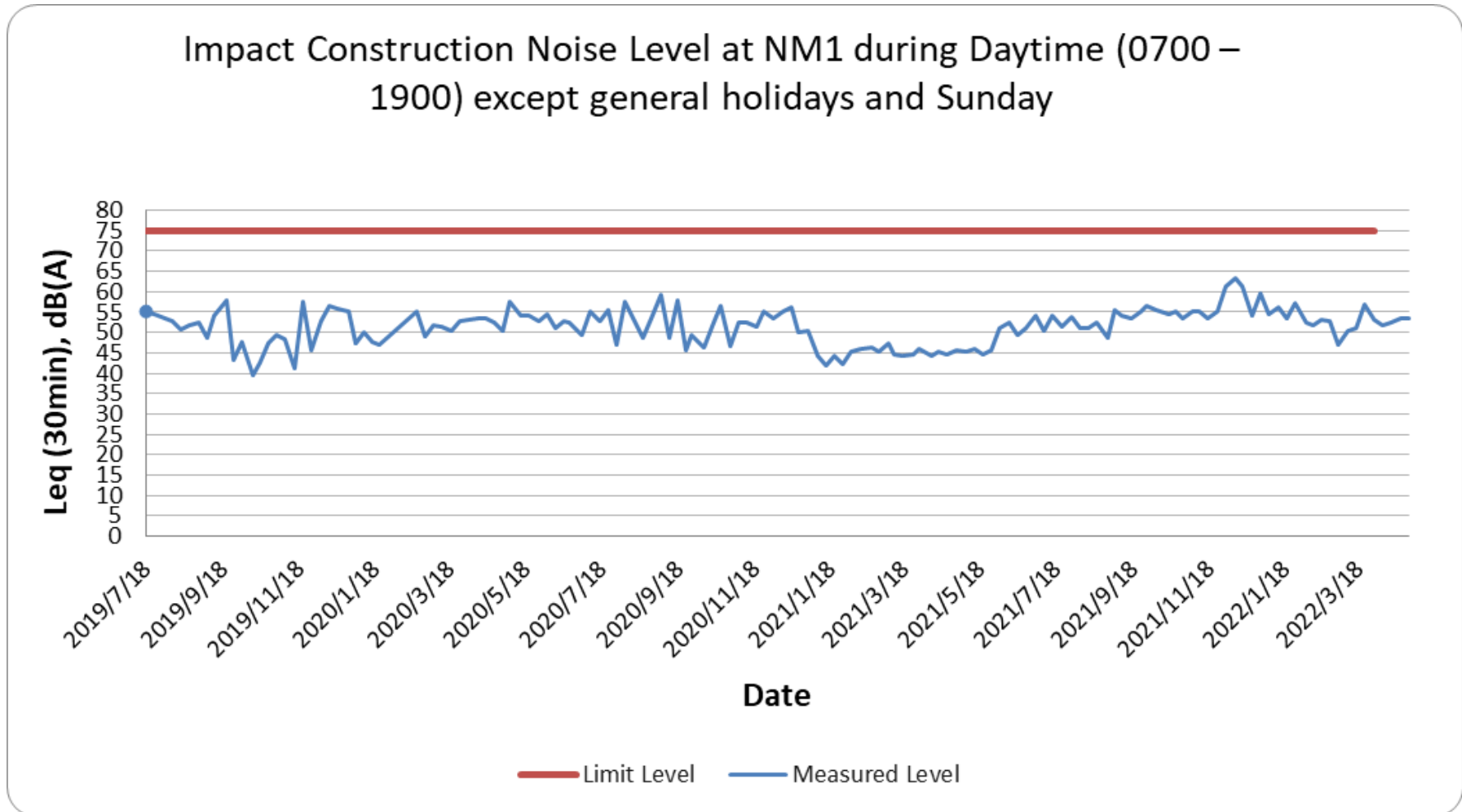
Appendix E
Impact Noise Monitoring Data

Impact Noise Monitoring Data

NM1 – Lakeview Garden

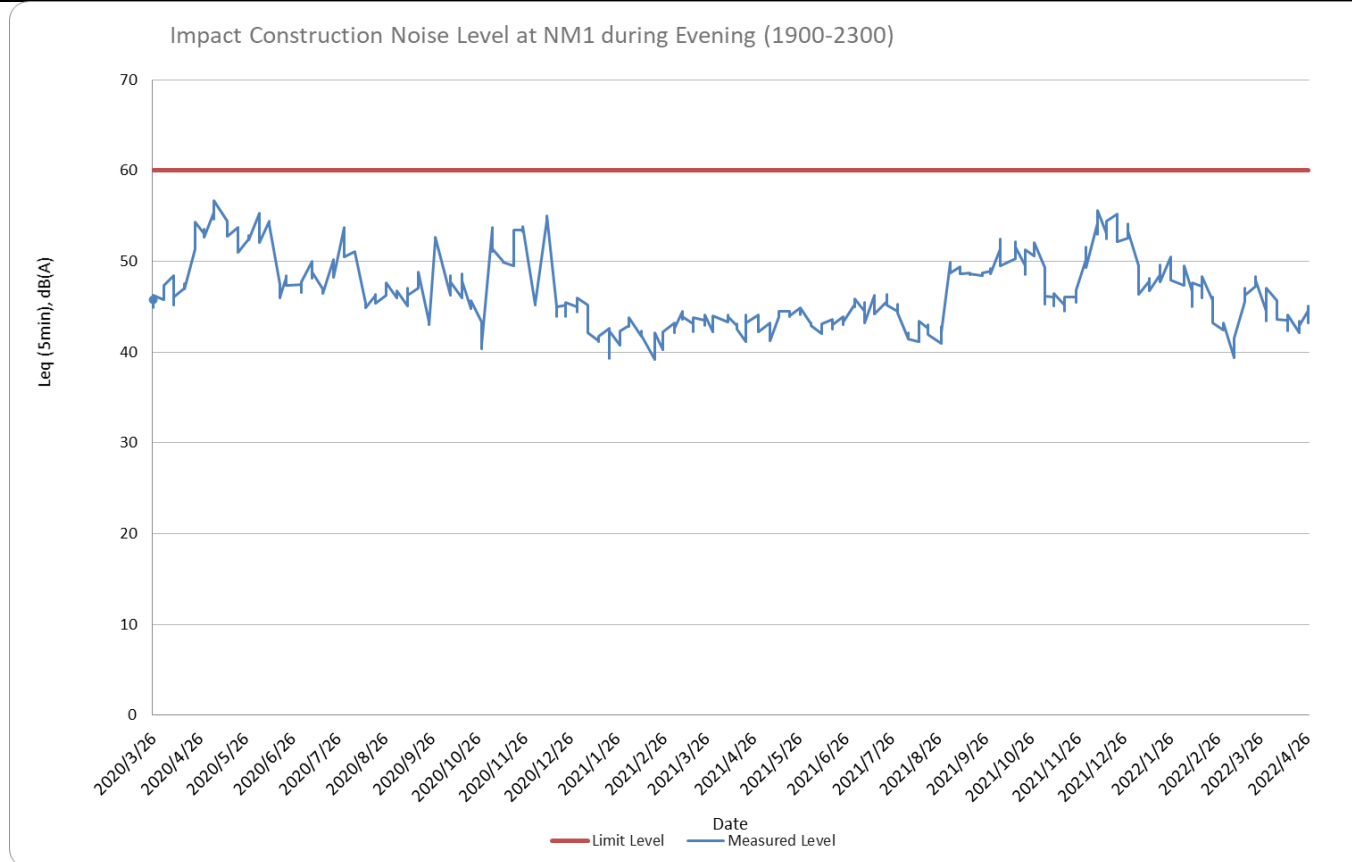
Daytime (0700 – 1900) except general holidays and Sunday

| Date | Location | Time | | | Weather | L _{eq} (30min) | L ₁₀ | L ₉₀ | Wind Speed (m/s) | Temperature (°C) |
|-----------|----------|-------|---|-------|---------|-------------------------|-----------------|-----------------|------------------|------------------|
| 6/4/2022 | NM1 | 8:00 | - | 8:30 | Fine | 51.8 | 55.4 | 49.0 | 1 | 25.7 |
| 13/4/2022 | NM1 | 18:26 | - | 18:56 | Fine | 52.4 | 56.4 | 48.5 | 1.9 | 26.3 |
| 21/4/2022 | NM1 | 13:26 | - | 13:56 | Fine | 53.3 | 57.6 | 50.3 | 3.4 | 24 |
| 27/4/2022 | NM1 | 18:30 | - | 19:00 | Fine | 53.5 | 58.3 | 49.4 | 1.7 | 25.6 |



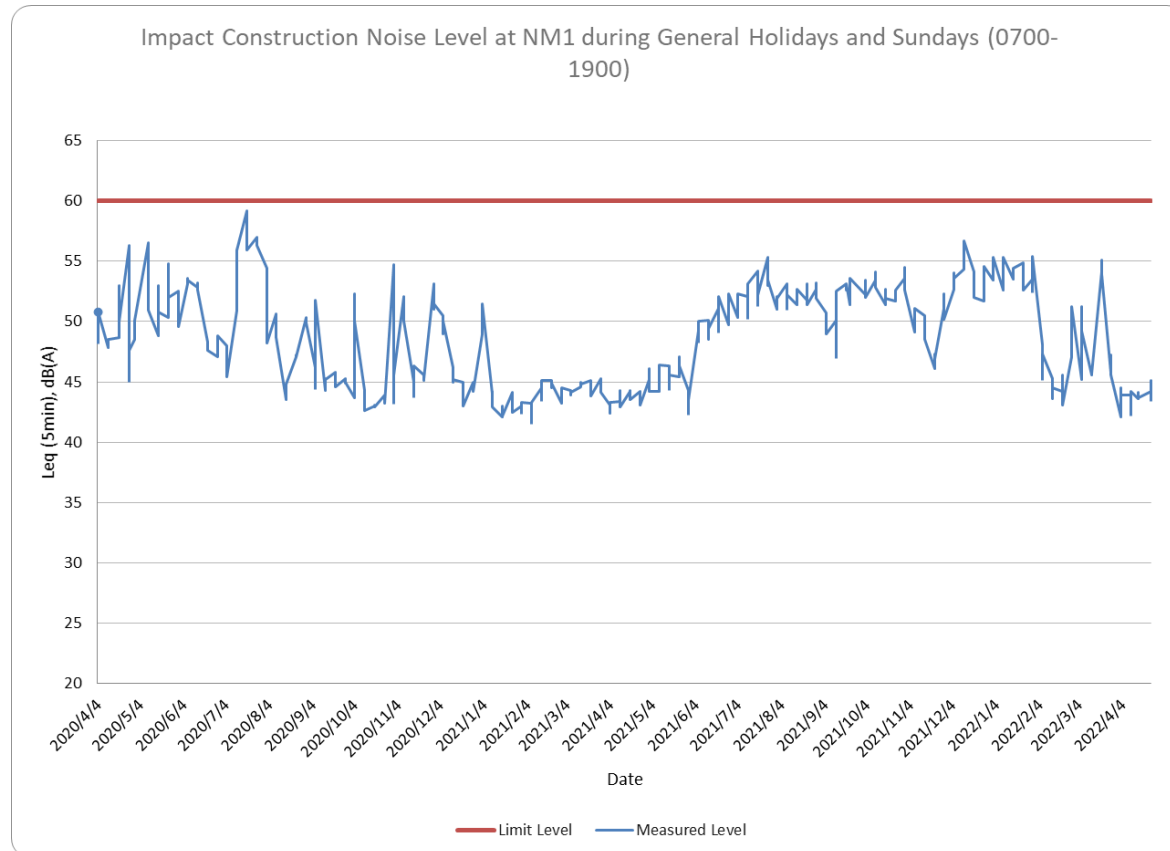
All days during Evening (1900-2300)

| Date | Location | Time | | | Weather | L _{eq} (5min) | L ₁₀ | L ₉₀ | Wind Speed (m/s) | Temperature (°C) |
|-----------|----------|-------|---|-------|---------|------------------------|-----------------|-----------------|------------------|------------------|
| 6/4/2022 | NM1 | 19:00 | - | 19:05 | Fine | 45.7 | 48.4 | 38.2 | 1.2 | 21.6 |
| 6/4/2022 | NM1 | 19:05 | - | 19:10 | Fine | 44.2 | 47.4 | 37.2 | | |
| 6/4/2022 | NM1 | 19:10 | - | 19:15 | Fine | 43.6 | 46.7 | 37.1 | | |
| 13/4/2022 | NM1 | 19:04 | - | 19:09 | Fine | 43.5 | 45.0 | 39.5 | 2.4 | 23.8 |
| 13/4/2022 | NM1 | 19:09 | - | 19:14 | Fine | 42.4 | 44.6 | 38.2 | | |
| 13/4/2022 | NM1 | 19:14 | - | 19:19 | Fine | 44.1 | 46.8 | 40.3 | | |
| 21/4/2022 | NM1 | 21:57 | - | 22:02 | Fine | 42.1 | 44.2 | 39.4 | 1.1 | 23.9 |
| 21/4/2022 | NM1 | 22:02 | - | 22:07 | Fine | 43.4 | 43.5 | 38.5 | | |
| 21/4/2022 | NM1 | 22:07 | - | 22:12 | Fine | 42.9 | 44.1 | 39.1 | | |
| 27/4/2022 | NM1 | 19:08 | - | 19:13 | Fine | 44.6 | 47.3 | 37.5 | 1.3 | 26.9 |
| 27/4/2022 | NM1 | 19:13 | - | 19:18 | Fine | 45.1 | 49.2 | 38.4 | | |
| 27/4/2022 | NM1 | 19:18 | - | 19:23 | Fine | 43.2 | 45.1 | 37.4 | | |



Daytime (0700-1900) during general holidays and Sundays

| Date | Location | Time | | | Weather | L _{eq} (5min) | L ₁₀ | L ₉₀ | Wind Speed (m/s) | Temperature (°C) |
|-----------|----------|-------|---|-------|---------|------------------------|-----------------|-----------------|------------------|------------------|
| 3/4/2022 | NM1 | 16:30 | - | 16:35 | Fine | 42.1 | 48.3 | 40.3 | 1.6 | 24.0 |
| 3/4/2022 | NM1 | 16:35 | - | 16:40 | Fine | 44.5 | 49.1 | 41.1 | | |
| 3/4/2022 | NM1 | 16:40 | - | 16:45 | Fine | 43.9 | 48.3 | 41.4 | | |
| 10/4/2022 | NM1 | 18:30 | - | 18:35 | Fine | 43.9 | 46.5 | 37.9 | 1.9 | 26.7 |
| 10/4/2022 | NM1 | 18:35 | - | 18:40 | Fine | 42.3 | 45.6 | 37.1 | | |
| 10/4/2022 | NM1 | 18:40 | - | 18:45 | Fine | 44.2 | 48.5 | 42.4 | | |
| 15/4/2022 | NM1 | 18:30 | - | 18:35 | Fine | 43.6 | 46.2 | 39.7 | 1 | 26.7 |
| 15/4/2022 | NM1 | 18:35 | - | 18:40 | Fine | 44.1 | 48.2 | 42.4 | | |
| 15/4/2022 | NM1 | 18:40 | - | 18:45 | Fine | 43.7 | 45.4 | 38.9 | | |
| 24/4/2022 | NM1 | 18:00 | - | 18:05 | Fine | 44.2 | 49.2 | 39.3 | 2.9 | 26.7 |
| 24/4/2022 | NM1 | 18:05 | - | 18:10 | Fine | 43.5 | 48.1 | 38.7 | | |
| 24/4/2022 | NM1 | 18:10 | - | 18:15 | Fine | 45.1 | 50.1 | 42.1 | | |

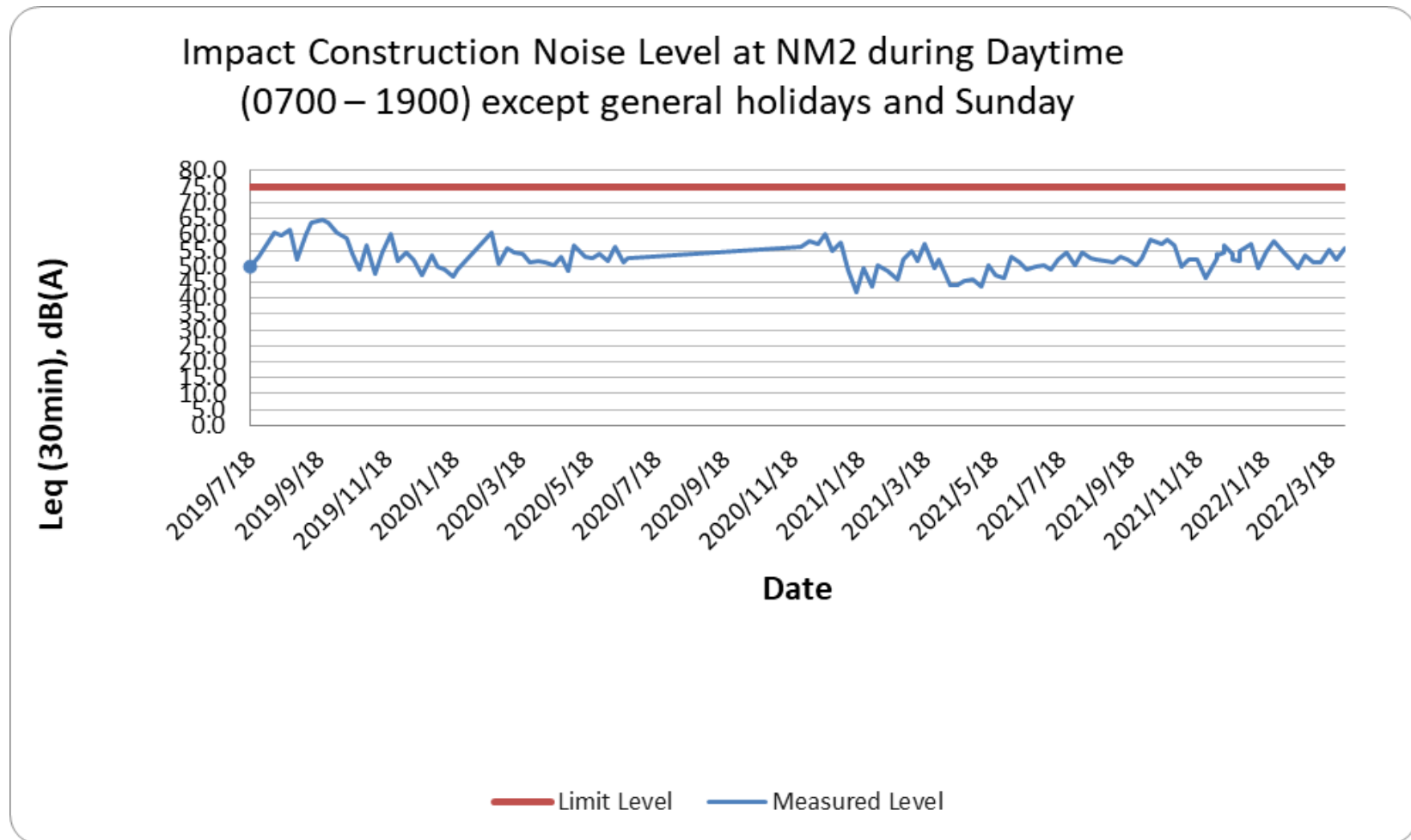


Impact Noise Monitoring Data

NM2 – 4 ½ Milestone, Tai Po Road

Daytime (0700 – 1900) except general holidays and Sunday

| Date | Location | Time | | | Weather | L _{eq} (30min) | L ₁₀ | L ₉₀ | Wind Speed (m/s) | Temperature (°C) |
|-----------|----------|-------|---|-------|---------|-------------------------|-----------------|-----------------|------------------|------------------|
| 6/4/2022 | NM2 | 10:23 | - | 10:53 | Fine | 55.2 | 59.3 | 50.2 | 1 | 26 |
| 13/4/2022 | NM2 | 11:12 | - | 11:42 | Fine | 56.3 | 58.2 | 53.2 | 1.2 | 25.2 |
| 21/4/2022 | NM2 | 16:00 | - | 16:30 | Fine | 54.6 | 55.9 | 49.2 | 1.7 | 24.2 |
| 27/4/2022 | NM2 | 13:00 | - | 13:30 | Fine | 54.3 | 59.4 | 57.4 | 1.5 | 25.1 |



Appendix F

Impact Water Quality Monitoring Data

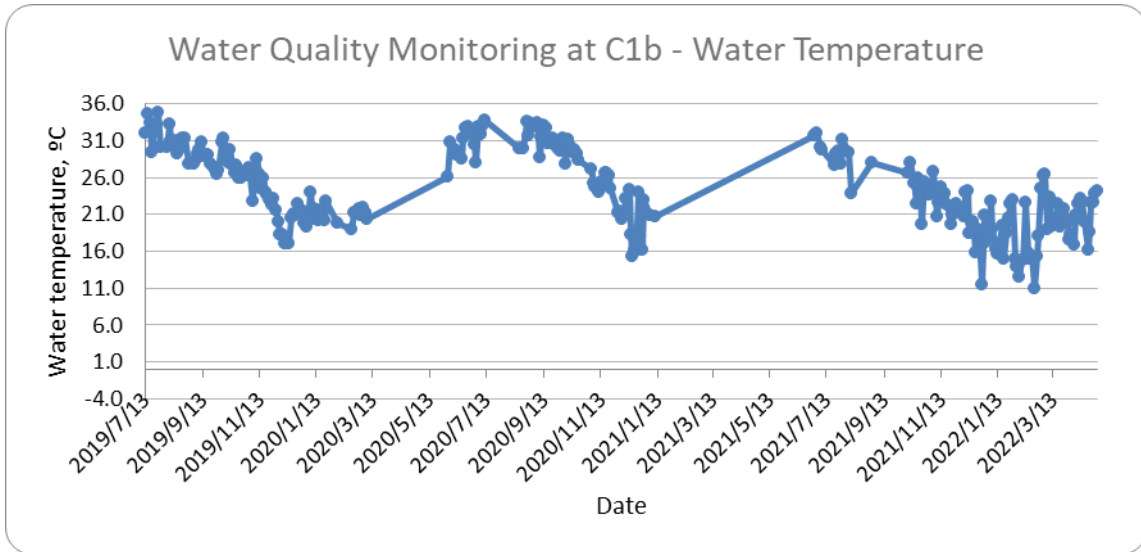
| Date | Sample ID | Time | Temp (°C) | pH | DO (mg/L) | DO% | Turbidity (NTU) | SS (mg/L) | Sampling Equipment | Sampling Location |
|-----------|-----------|-------|-----------|-----|-----------|-------|-----------------|-----------|--------------------|--------------------|
| 2022/4/1 | C1b | 9:39 | 18.2 | 7.8 | 7.9 | 84.1 | 4.8 | 2.5 | Water Sampler | Alternative Access |
| 2022/4/1 | C1b# | 9:41 | 18.2 | 7.8 | 7.9 | 84.3 | 5.0 | 2.5 | | |
| 2022/4/4 | C1b | 10:08 | 17.2 | 7.6 | 7.1 | 73.6 | 7.8 | 9.0 | | |
| 2022/4/4 | C1b# | 10:10 | 16.3 | 7.4 | 7.6 | 77.4 | 5.3 | 9.0 | | |
| 2022/4/6 | C1b | 10:41 | 20.8 | 7.7 | 9.0 | 100.0 | 3.2 | 4.0 | | |
| 2022/4/6 | C1b# | 10:44 | 20.8 | 7.7 | 8.9 | 99.7 | 3.3 | 4.0 | | |
| 2022/4/8 | C1b | 10:33 | 22.3 | 7.1 | 7.3 | 83.8 | 4.7 | 3.0 | | |
| 2022/4/8 | C1b# | 10:36 | 22.4 | 7.2 | 7.1 | 81.4 | 4.6 | 3.0 | | |
| 2022/4/11 | C1b | 10:12 | 23.2 | 7.7 | 7.8 | 90.6 | 4.7 | 2.5 | | |
| 2022/4/11 | C1b# | 11:10 | 23.2 | 7.7 | 7.8 | 90.8 | 4.8 | 2.5 | | |
| 2022/4/13 | C1b | 11:06 | 22.6 | 7.9 | 8.0 | 92.6 | 4.3 | 5.0 | | |
| 2022/4/13 | C1b# | 11:08 | 22.7 | 7.9 | 7.7 | 89.0 | 4.6 | 4.0 | | |
| 2022/4/15 | C1b | 10:51 | 20.0 | 7.7 | 7.5 | 82.7 | 1.3 | 2.5 | | |
| 2022/4/15 | C1b# | 10:54 | 20.0 | 7.7 | 7.5 | 82.3 | 1.4 | 2.5 | | |
| 2022/4/19 | C1b | 10:07 | 16.1 | 7.7 | 7.8 | 78.7 | 0.8 | 3.0 | | |
| 2022/4/19 | C1b# | 10:10 | 16.1 | 7.7 | 7.6 | 76.6 | 0.9 | 3.0 | | |
| 2022/4/21 | C1b | 8:58 | 18.7 | 7.8 | 7.5 | 80.9 | 0.0 | 2.5 | | |
| 2022/4/21 | C1b# | 9:00 | 18.7 | 7.8 | 7.5 | 80.6 | 0.0 | 2.5 | | |
| 2022/4/23 | C1b | 10:55 | 22.6 | 7.8 | 5.9 | 68.0 | 1.8 | 2.5 | | |
| 2022/4/23 | C1b# | 10:57 | 22.6 | 7.8 | 5.7 | 66.1 | 1.7 | 2.5 | | |
| 2022/4/25 | C1b | 10:30 | 22.6 | 7.2 | 7.0 | 80.9 | 0.5 | 2.5 | | |
| 2022/4/25 | C1b# | 10:32 | 22.5 | 7.2 | 7.1 | 82.5 | 0.6 | 2.5 | | |
| 2022/4/27 | C1b | 10:01 | 23.8 | 7.6 | 7.1 | 84.2 | 0.6 | 3.0 | | |
| 2022/4/27 | C1b# | 10:03 | 24.0 | 7.6 | 7.2 | 85.4 | 0.5 | 3.0 | | |
| 2022/4/29 | C1b | 10:32 | 24.2 | 7.7 | 7.7 | 91.2 | 0.5 | 2.5 | | |
| 2022/4/29 | C1b# | 10:34 | 24.2 | 7.7 | 7.6 | 90.4 | 0.4 | 2.5 | | |

C1b on Days with Insufficient Water Available for Water Sampler

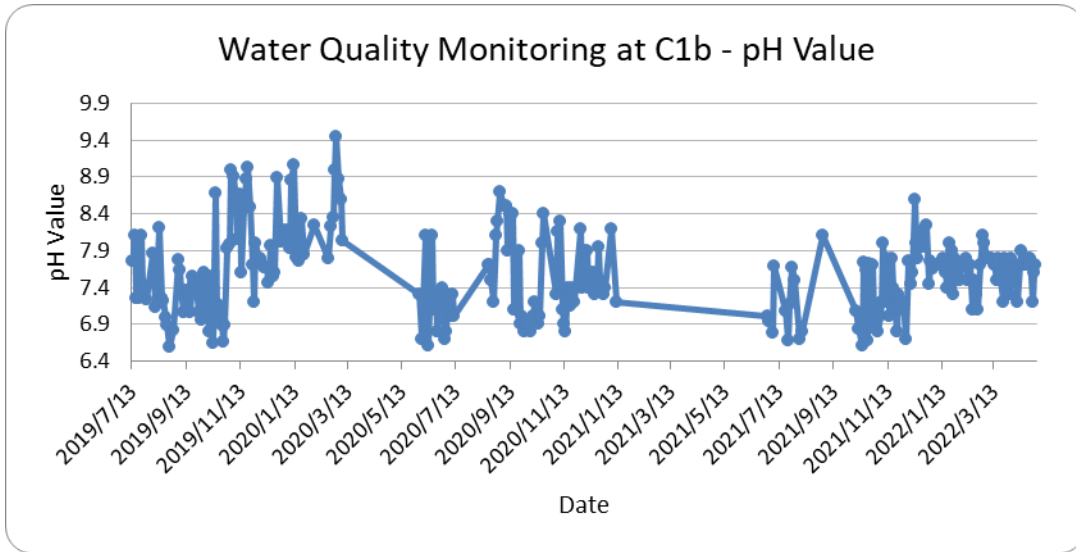
| | | |
|---|--|---|
| 01/04/2022 | 04/04/2022 | 06/04/2022 |
|  |  |  |
| 08/04/2022 | 11/04/2022 | 13/04/2022 |
|  |  |  |
| 15/04/2022 | 19/04/2022 | 21/04/2022 |
|  |  |  |
| 23/04/2022 | 25/04/2022 | 27/04/2022 |
|  |  |  |
| 29/04/2022 | | |
|  | | |

| Date | Sample ID | Time | Temp (°C) | pH | DO (mg/L) | DO% | Turbidity (NTU) | SS (mg/L) | Sampling Equipment |
|-----------|-----------|-------|-----------|-----|-----------|-------|-----------------|-----------|--------------------|
| 2022/4/1 | D1b | 9:49 | 17.8 | 8.0 | 7.8 | 82.4 | 1.2 | 4.0 | Water Sampler |
| 2022/4/1 | D1b# | 9:52 | 17.8 | 8.0 | 7.8 | 82.2 | 1.4 | 5.0 | |
| 2022/4/4 | D1b | 10:25 | 18.0 | 7.4 | 10.0 | 105.3 | 4.3 | 3.0 | |
| 2022/4/4 | D1b# | 10:28 | 18.0 | 7.4 | 10.0 | 105.6 | 4.7 | 3.0 | |
| 2022/4/6 | D1b | 11:00 | 19.0 | 7.7 | 7.6 | 81.4 | 1.1 | 2.5 | |
| 2022/4/6 | D1b# | 11:03 | 19.2 | 7.8 | 7.3 | 79.0 | 1.1 | 2.5 | |
| 2022/4/8 | D1b | 10:50 | 23.2 | 7.3 | 7.0 | 81.7 | 3.8 | 2.5 | |
| 2022/4/8 | D1b# | 10:52 | 23.3 | 7.3 | 7.0 | 82.5 | 3.6 | 2.5 | |
| 2022/4/11 | D1b | 11:20 | 21.9 | 7.9 | 8.4 | 95.2 | 1.2 | 4.0 | |
| 2022/4/11 | D1b# | 11:22 | 21.6 | 7.9 | 8.4 | 95.3 | 1.2 | 3.0 | |
| 2022/4/13 | D1b | 11:23 | 22.9 | 7.9 | 7.8 | 90.5 | 3.4 | 2.5 | |
| 2022/4/13 | D1b# | 11:25 | 22.9 | 7.9 | 7.9 | 92.2 | 3.4 | 2.5 | |
| 2022/4/15 | D1b | 11:13 | 20.1 | 7.9 | 7.9 | 87.1 | 1.1 | 2.5 | |
| 2022/4/15 | D1b# | 11:10 | 20.1 | 7.9 | 7.9 | 87.0 | 1.1 | 2.5 | |
| 2022/4/19 | D1b | 10:08 | 16.6 | 7.7 | 7.3 | 74.9 | 0.9 | 2.5 | |
| 2022/4/19 | D1b# | 10:10 | 16.5 | 7.6 | 7.3 | 74.6 | 0.8 | 2.5 | |
| 2022/4/21 | D1b | 9:37 | 20.8 | 7.4 | 7.4 | 82.2 | 6.9 | 3.0 | |
| 2022/4/21 | D1b# | 9:40 | 20.8 | 7.4 | 7.3 | 81.1 | 7.0 | 3.0 | |
| 2022/4/23 | D1b | 11:10 | 23.5 | 7.4 | 7.2 | 84.6 | 6.3 | 3.0 | |
| 2022/4/23 | D1b# | 11:13 | 23.5 | 7.4 | 7.3 | 85.2 | 6.5 | 4.0 | |
| 2022/4/25 | D1b | 10:33 | 22.6 | 7.2 | 7.8 | 89.9 | 0.9 | 2.5 | |
| 2022/4/25 | D1b# | 10:35 | 23.8 | 7.6 | 7.3 | 86.7 | 1.4 | 2.5 | |
| 2022/4/27 | D1b | 10:23 | 26.0 | 7.6 | 7.2 | 88.7 | 8.9 | 5.0 | |
| 2022/4/27 | D1b# | 10:25 | 26.0 | 7.6 | 7.2 | 88.5 | 8.8 | 5.0 | |
| 2022/4/29 | D1b | 10:37 | 25.9 | 7.8 | 8.0 | 98.3 | 6.1 | 5.0 | |
| 2022/4/29 | D1b# | 10:39 | 25.9 | 7.8 | 7.9 | 97.6 | 6.2 | 6.0 | |

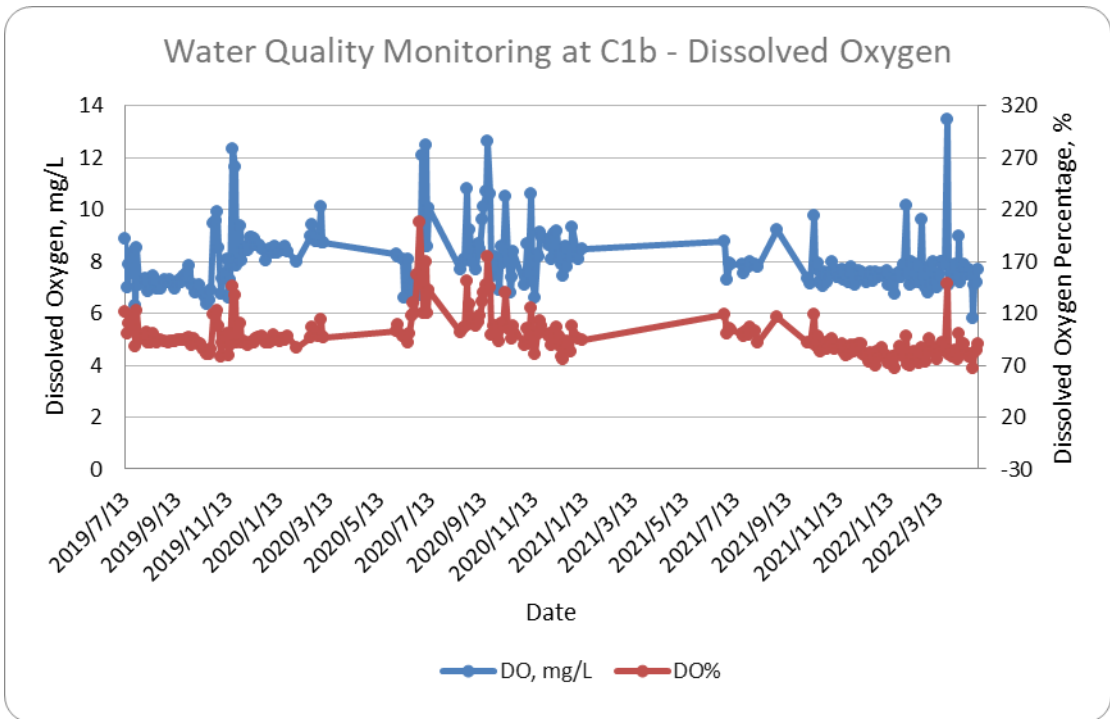
C1b



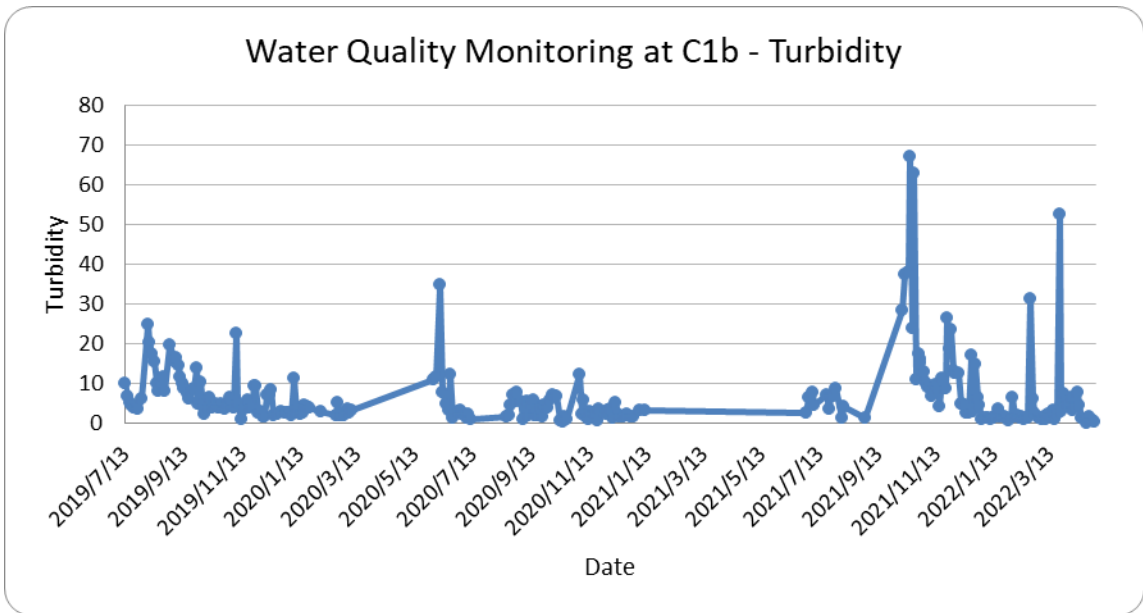
Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection



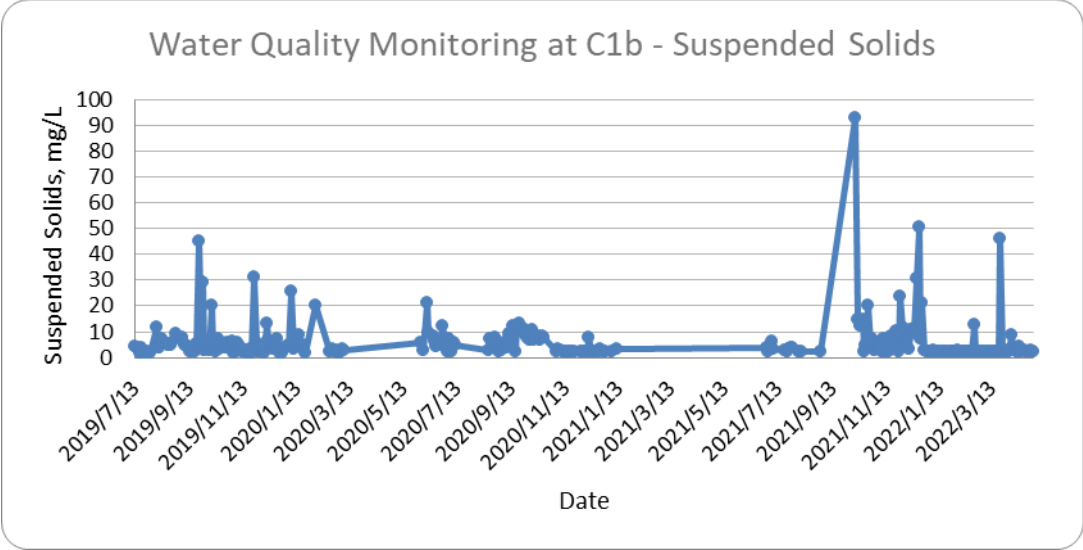
Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection



Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection

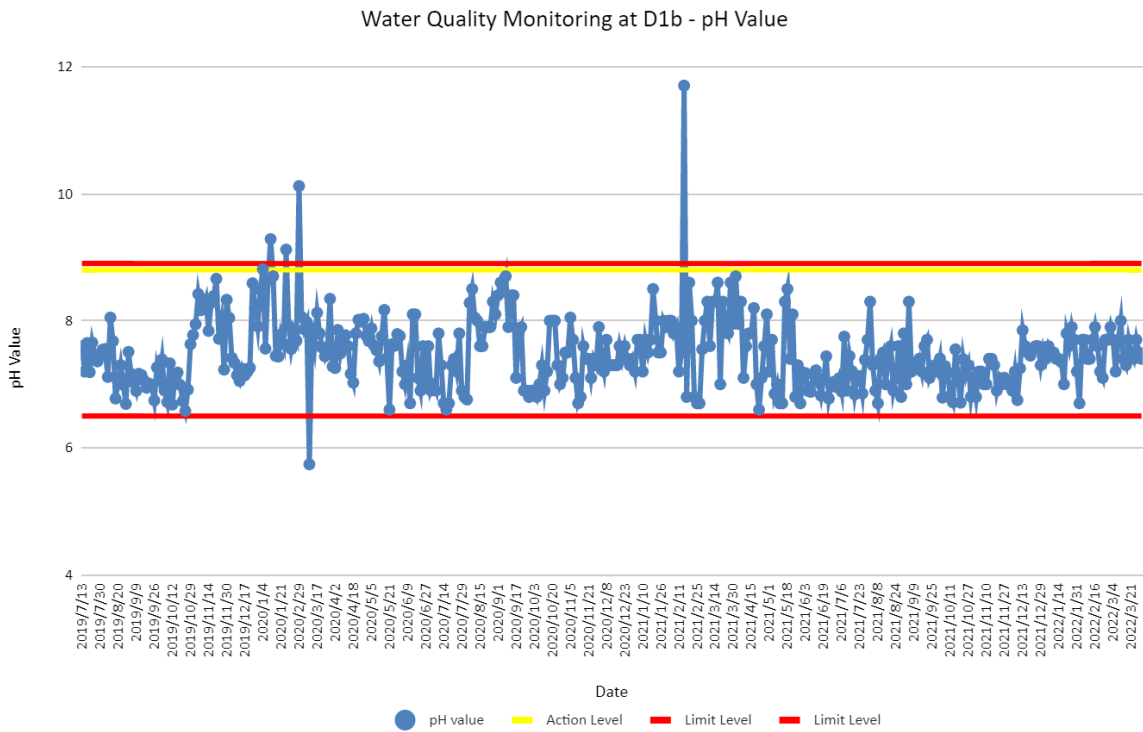
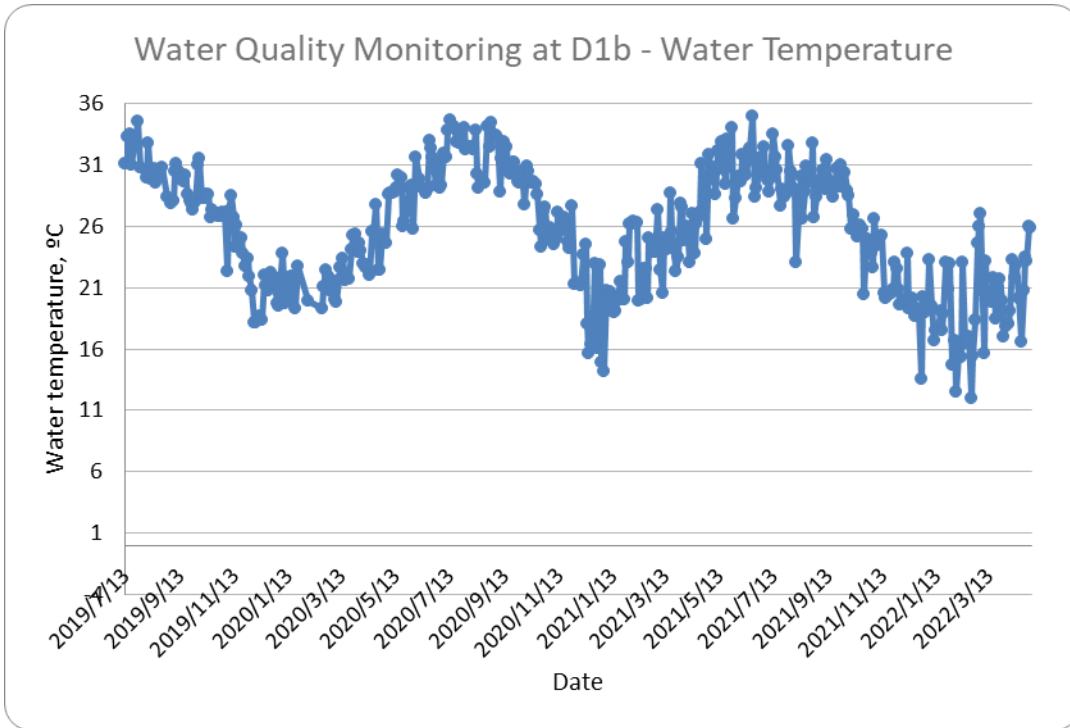


Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection

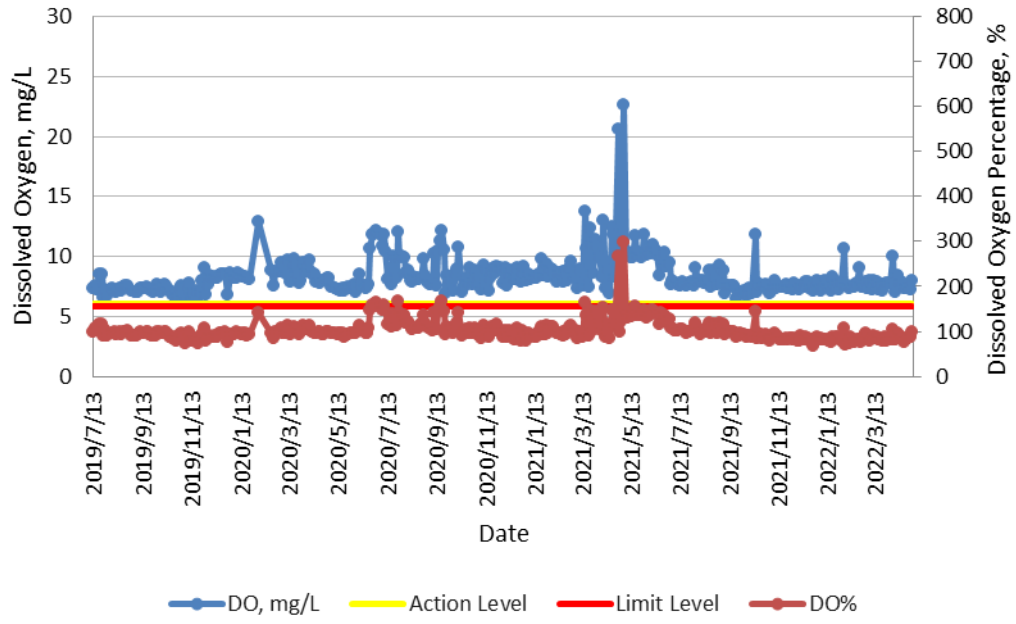


Note 1: Period without data implied that water in location C1b was dried up, insufficient water was available for sample collection

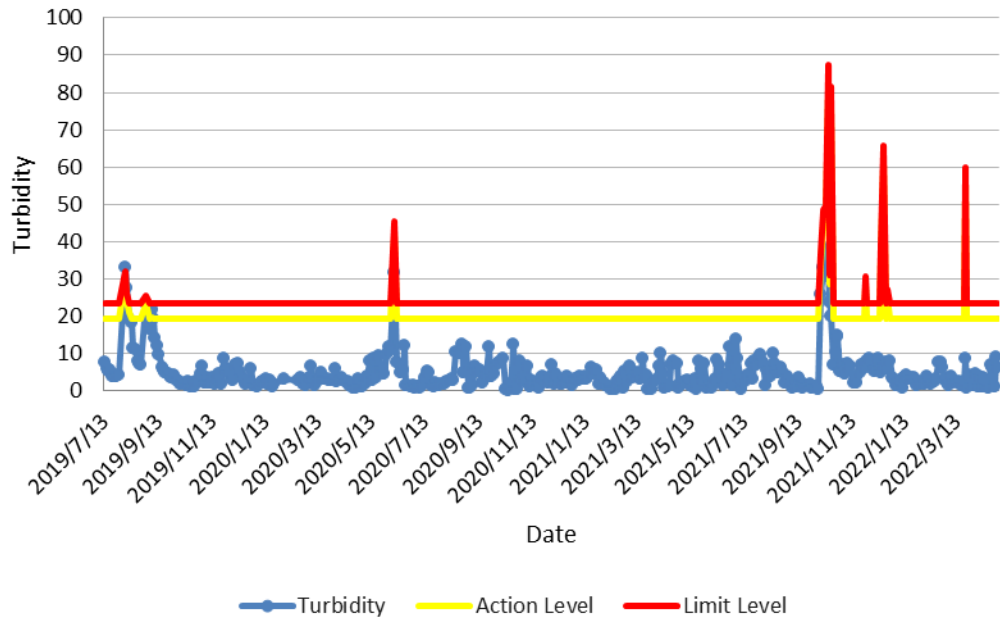
D1b



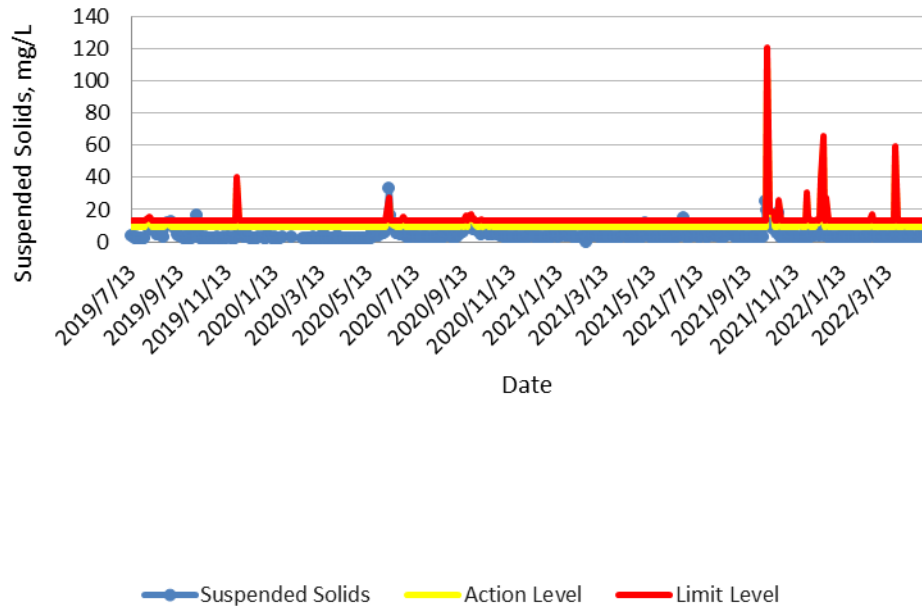
Water Quality Monitoring at D1b - Dissolved Oxygen



Water Quality Monitoring at D1b - Turbidity



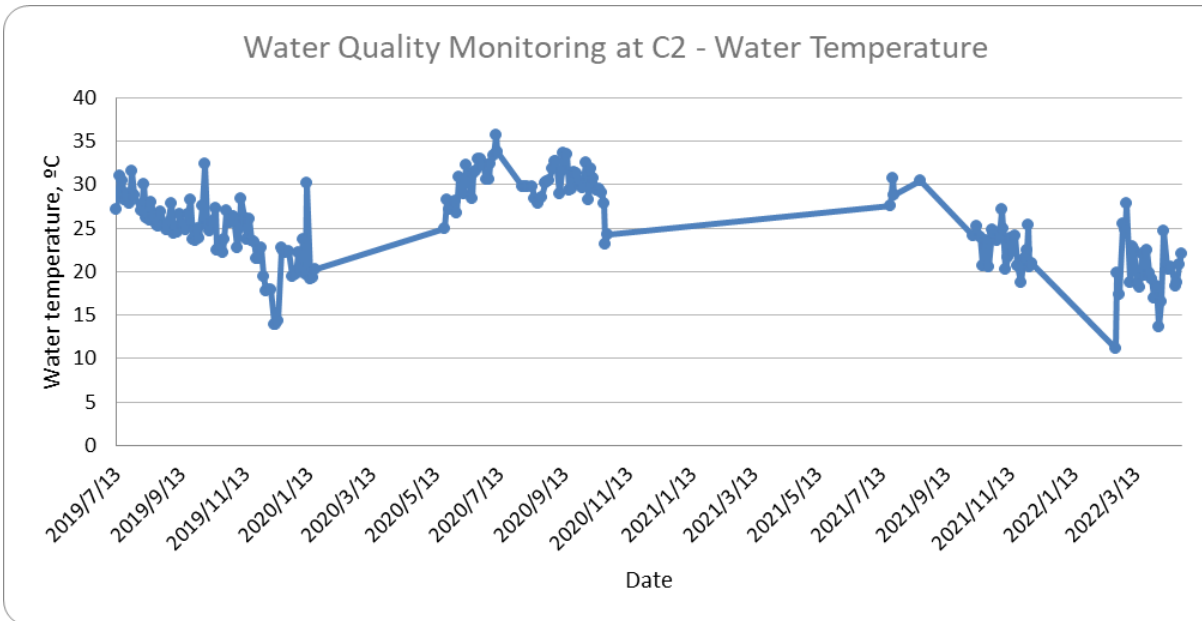
Water Quality Monitoring at D1b - Suspended Solids



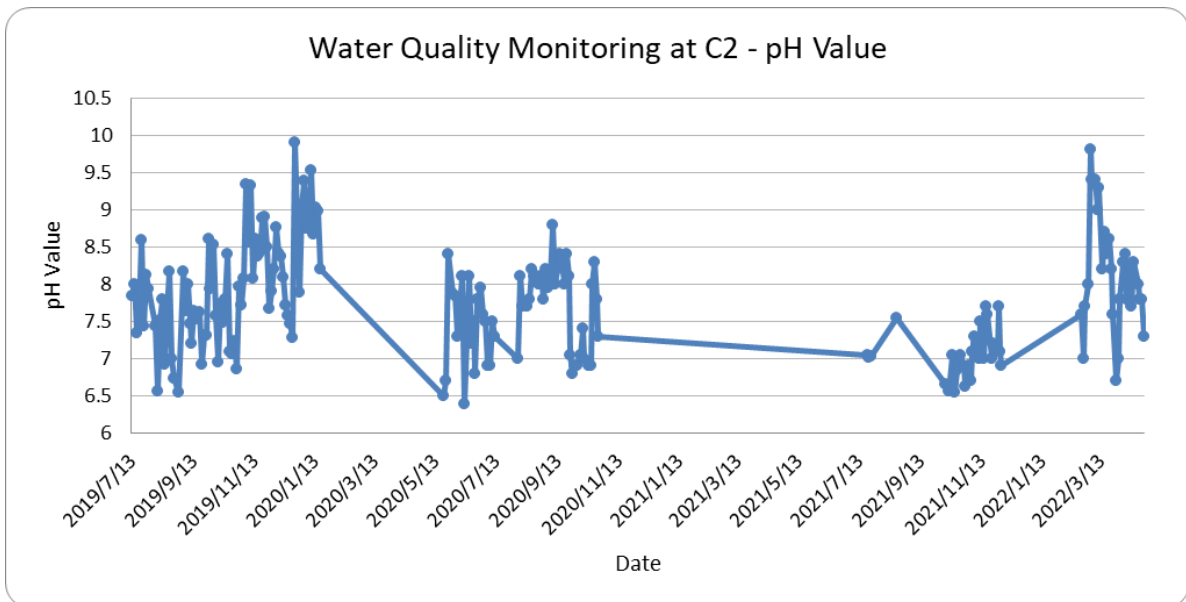
| Date | Sample ID | Time | Temp (°C) | pH | DO (mg/L) | DO% | Turbidity (NTU) | SS (mg/L) | Sampling Equipment |
|-----------|-----------|-------|-----------|-----|-----------|-------|-----------------|-----------|--------------------|
| 2022/4/1 | C2 | 8:27 | 18.3 | 7.8 | 8.5 | 89.7 | 26.6 | 27.0 | Water Sampler |
| 2022/4/1 | C2# | 8:29 | 18.3 | 7.7 | 8.1 | 86.5 | 27.3 | 29.0 | |
| 2022/4/4 | C2 | 8:54 | 13.6 | 8.3 | 8.0 | 76.8 | 22.6 | 30.0 | |
| 2022/4/4 | C2# | 8:57 | 13.6 | 8.2 | 7.0 | 67.3 | 18.1 | 32.0 | |
| 2022/4/6 | C2 | 9:45 | 16.5 | 8.4 | 6.6 | 67.5 | 6.7 | 29.0 | |
| 2022/4/6 | C2# | 9:48 | 16.5 | 8.4 | 7.4 | 75.6 | 7.8 | 27.0 | |
| 2022/4/8 | C2 | 8:33 | 24.6 | 7.8 | 9.4 | 112.8 | 13.7 | 16.0 | |
| 2022/4/8 | C2# | 8:36 | 24.6 | 7.7 | 8.1 | 97.3 | 13.9 | 18.0 | |
| 2022/4/11 | C2 | 10:00 | 20.4 | 8.2 | 12.2 | 135.3 | 8.4 | 19.0 | |
| 2022/4/11 | C2# | 10:02 | 20.4 | 8.2 | 12.1 | 134.1 | 8.3 | 23.0 | |
| 2022/4/13 | C2 | 9:54 | 20.3 | 7.7 | 10.6 | 117.3 | 7.0 | 6.0 | |
| 2022/4/13 | C2# | 9:52 | 20.3 | 7.7 | 10.4 | 115.5 | 7.0 | 5.0 | |
| 2022/4/15 | C2 | 9:05 | 20.4 | 8.3 | 13.4 | 149.1 | 8.4 | 10.0 | |
| 2022/4/15 | C2# | 9:03 | 20.5 | 8.3 | 12.0 | 133.0 | 8.4 | 12.0 | |
| 2022/4/19 | C2 | 7:44 | 18.3 | 7.9 | 5.1 | 54.5 | 4.4 | 6.0 | |
| 2022/4/19 | C2# | 7:47 | 18.3 | 8.0 | 5.2 | 54.9 | 4.3 | 6.0 | |
| 2022/4/21 | C2 | 7:20 | 18.8 | 7.8 | 3.4 | 36.5 | 4.6 | 8.0 | |
| 2022/4/21 | C2# | 7:22 | 18.8 | 7.8 | 3.3 | 35.4 | 4.5 | 7.0 | |
| 2022/4/23 | C2 | 9:18 | 20.7 | 7.8 | 2.8 | 30.9 | 6.3 | 15.0 | |
| 2022/4/23 | C2# | 9:20 | 20.8 | 7.8 | 2.7 | 30.0 | 6.3 | 21.0 | |
| 2022/4/25 | C2 | 8:50 | 22.0 | 7.3 | 7.9 | 90.3 | 7.1 | 8.0 | |
| 2022/4/25 | C2# | 8:52 | 22.0 | 7.3 | 7.9 | 90.0 | 7.1 | 7.0 | |
| 2022/4/27 | C2 | / | / | / | / | / | / | / | |
| 2022/4/27 | C2# | / | / | / | / | / | / | / | |
| 2022/4/29 | C2 | / | / | / | / | / | / | / | |
| 2022/4/29 | C2# | / | / | / | / | / | / | / | |

| Date | Sample ID | Time | Temp (°C) | pH | DO (mg/L) | DO% | Turbidity (NTU) | SS (mg/L) | Sampling Equipment | |
|-----------|---|-------|-----------|-----|-----------|------|-----------------|-----------|--------------------|--|
| 2022/4/1 | D2a | 8:45 | 18.3 | 7.8 | 7.7 | 82.1 | 5.1 | 5.0 | Water Sampler | |
| 2022/4/1 | D2a# | 8:47 | 18.3 | 7.8 | 7.7 | 81.9 | 5.2 | 4.0 | | |
| 2022/4/4 | D2a | 9:03 | 17.1 | 7.7 | 7.7 | 80.0 | 0.0 | 2.5 | | |
| 2022/4/4 | D2a# | 9:06 | 17.1 | 7.8 | 7.7 | 79.5 | 0.0 | 2.5 | | |
| 2022/4/6 | D2a | 10:05 | 22.4 | 7.9 | 7.6 | 88.2 | 2.1 | 6.0 | | |
| 2022/4/6 | D2a# | 10:08 | 22.5 | 7.9 | 7.5 | 86.5 | 2.1 | 6.0 | | |
| 2022/4/8 | D2a | 9:22 | 20.7 | 7.0 | 7.9 | 88.3 | 7.6 | 5.0 | | |
| 2022/4/8 | D2a# | 9:24 | 20.8 | 7.0 | 7.9 | 88.5 | 7.9 | 5.0 | | |
| 2022/4/11 | D2a | 10:37 | 24.9 | 7.8 | 7.5 | 90.5 | 0.0 | 3.0 | | |
| 2022/4/11 | D2a# | 10:40 | 24.9 | 7.8 | 7.5 | 90.3 | 0.0 | 3.0 | | |
| 2022/4/13 | D2a | 10:01 | 21.1 | 7.9 | 7.5 | 84.0 | 0.0 | 2.5 | | |
| 2022/4/13 | D2a# | 10:03 | 21.1 | 7.9 | 7.5 | 84.0 | 0.0 | 2.5 | | |
| 2022/4/15 | D2a | 9:49 | 22.5 | 7.8 | 7.6 | 88.2 | 2.9 | 2.5 | | |
| 2022/4/15 | D2a# | 9:51 | 22.5 | 7.8 | 7.5 | 86.6 | 2.7 | 2.5 | | |
| 2022/4/19 | D2a | 8:10 | 17.9 | 7.9 | 7.4 | 77.8 | 2.4 | 4.0 | | |
| 2022/4/19 | D2a# | 8:12 | 17.9 | 7.8 | 7.5 | 78.8 | 2.4 | 4.0 | | |
| 2022/4/21 | D2a | 7:41 | 19.9 | 7.7 | 7.5 | 82.8 | 4.5 | 5.0 | | |
| 2022/4/21 | D2a# | 7:43 | 19.9 | 7.7 | 7.5 | 82.1 | 4.5 | 5.0 | | |
| 2022/4/23 | D2a | 9:41 | 22.7 | 7.8 | 7.1 | 82.9 | 4.5 | 2.5 | | |
| 2022/4/23 | D2a# | 9:43 | 22.7 | 7.8 | 7.1 | 82.4 | 4.6 | 3.0 | | |
| 2022/4/25 | D2a | 9:21 | 22.2 | 7.3 | 7.8 | 90.0 | 2.7 | 7.0 | | |
| 2022/4/25 | D2a# | 9:23 | 22.2 | 7.3 | 7.9 | 90.2 | 2.6 | 8.0 | | |
| 2022/4/27 | D2a | 9:28 | 24.2 | 7.6 | 7.7 | 91.2 | 4.0 | 3.0 | | |
| 2022/4/27 | D2a# | 9:31 | 24.2 | 7.6 | 7.7 | 91.2 | 4.0 | 4.0 | | |
| 2022/4/29 | D2a | 9:18 | 26.3 | 7.7 | 8.0 | 98.6 | 10.4 | 3.0 | | |
| 2022/4/29 | D2a# | 9:20 | 26.3 | 7.7 | 7.9 | 98.0 | 10.8 | 3.0 | | |
| Date | Approximate Sampling Location Coordinates | | | | | | | | | |
| 2022/4/1 | E 835045.280 N 825676.482 | | | | | | | | | |
| 2022/4/4 | | | | | | | | | | |
| 2022/4/6 | | | | | | | | | | |
| 2022/4/8 | | | | | | | | | | |
| 2022/4/11 | | | | | | | | | | |
| 2022/4/13 | | | | | | | | | | |
| 2022/4/15 | | | | | | | | | | |
| 2022/4/19 | | | | | | | | | | |
| 2022/4/21 | | | | | | | | | | |
| 2022/4/23 | | | | | | | | | | |
| 2022/4/25 | | | | | | | | | | |
| 2022/4/27 | | | | | | | | | | |
| 2022/4/29 | | | | | | | | | | |

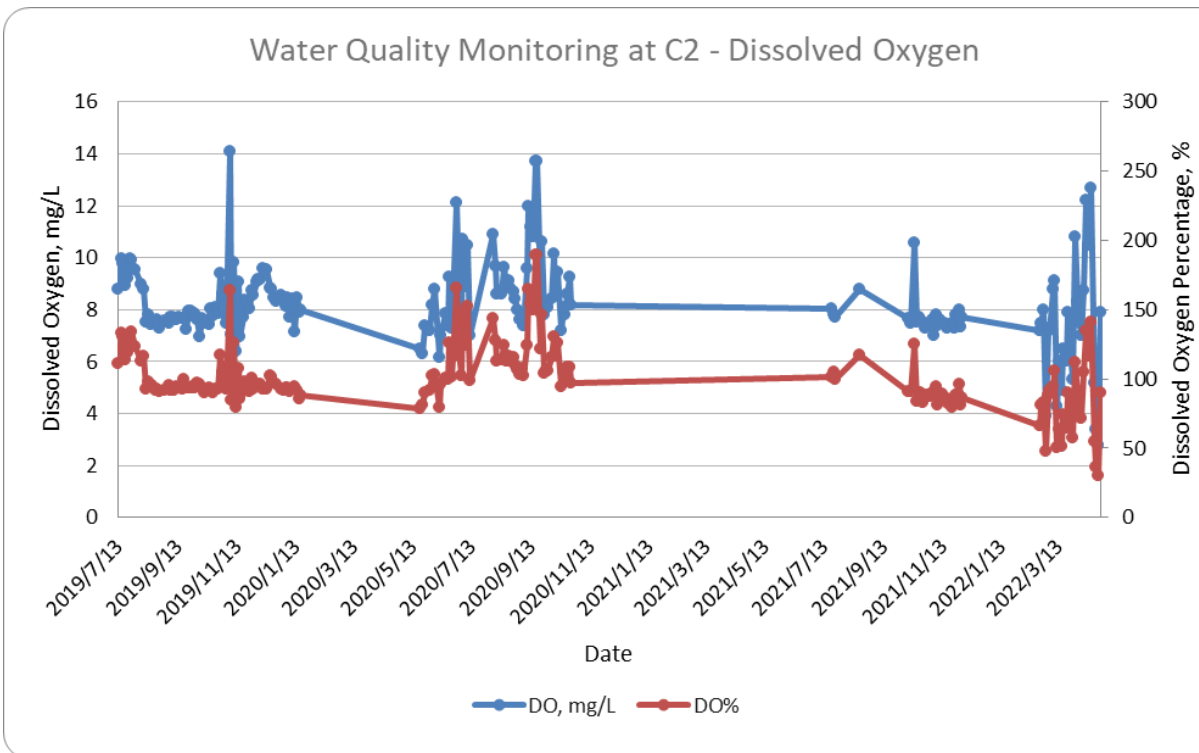
C2



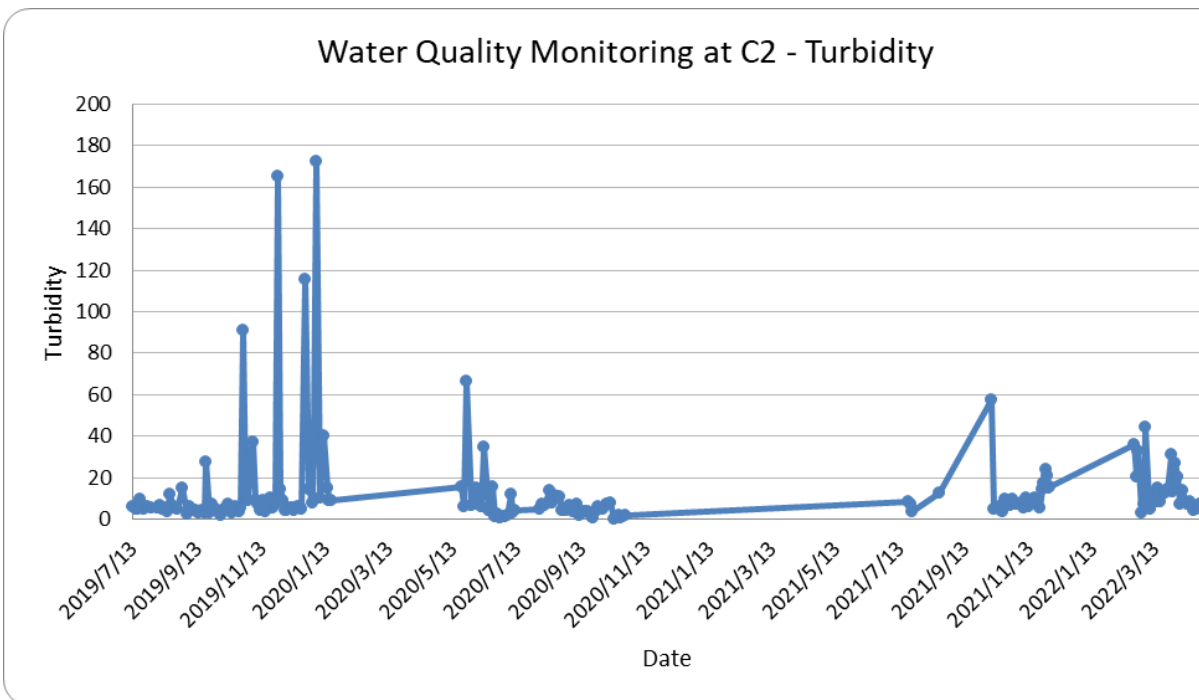
Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection



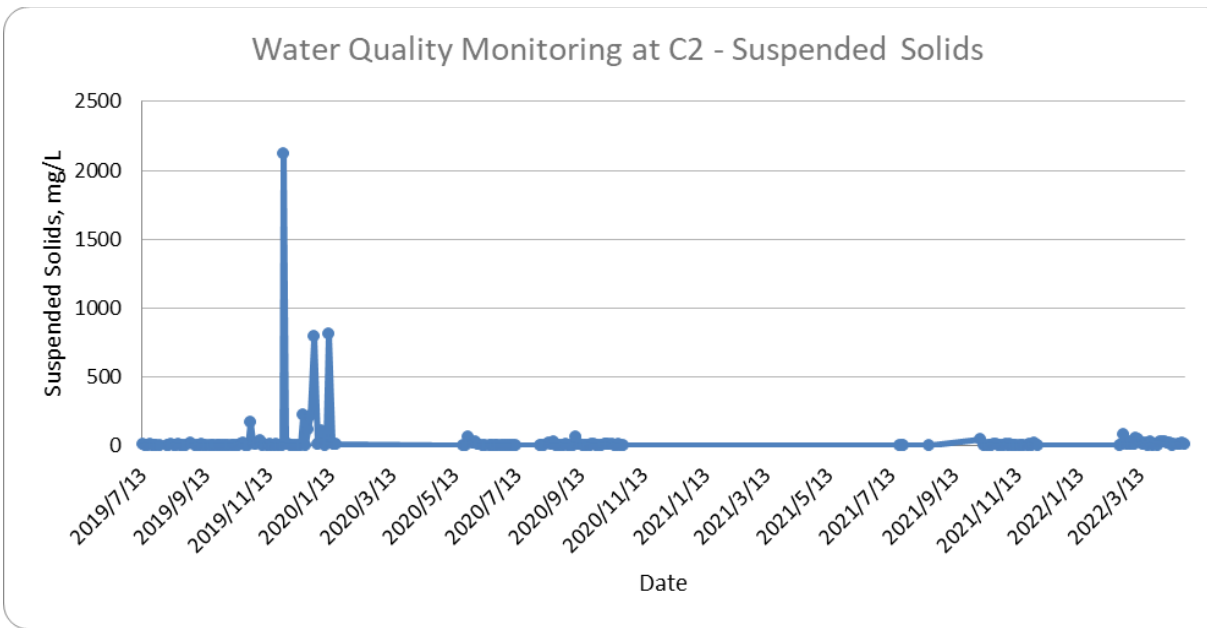
Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection



Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection

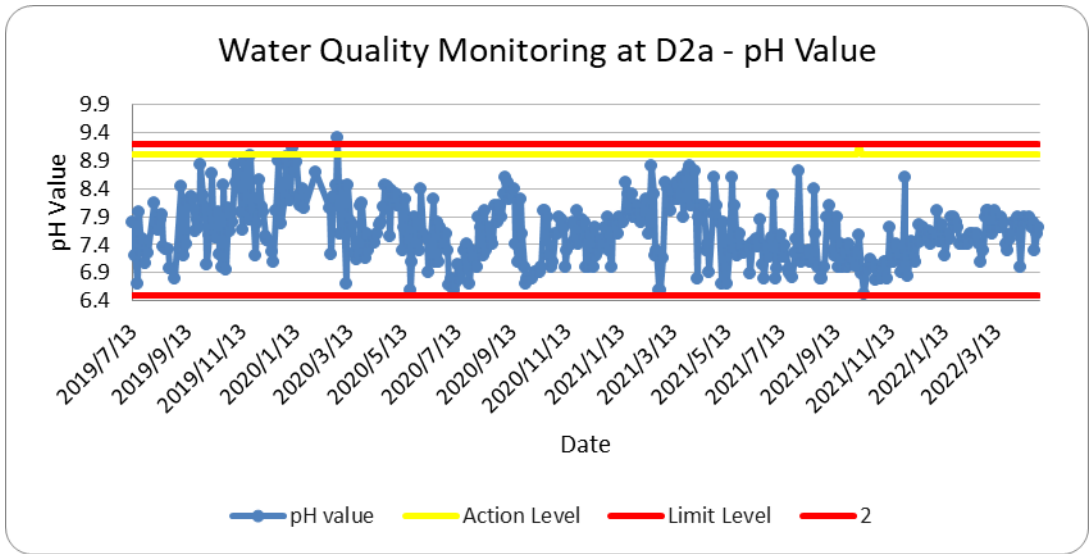
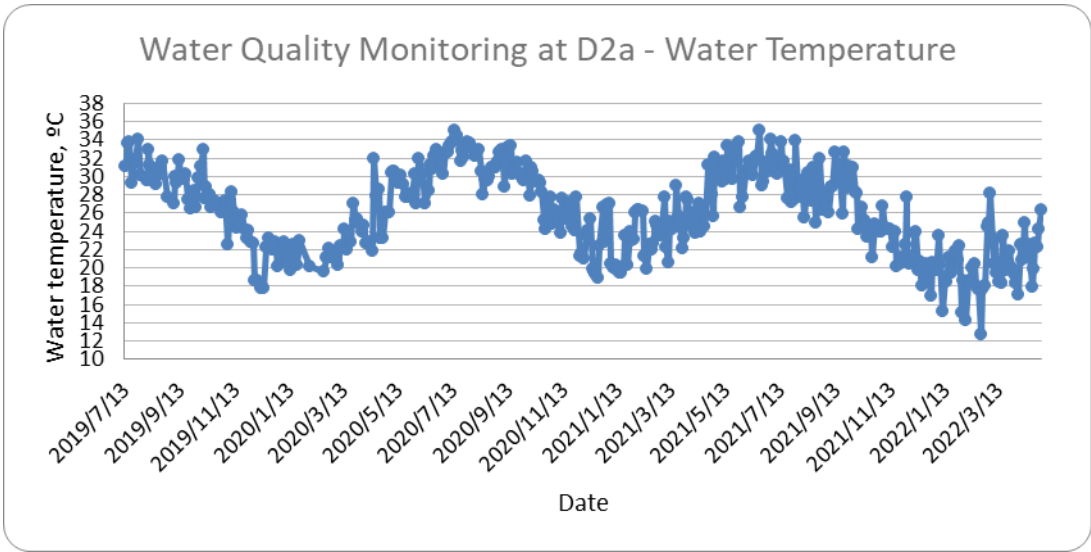


Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection

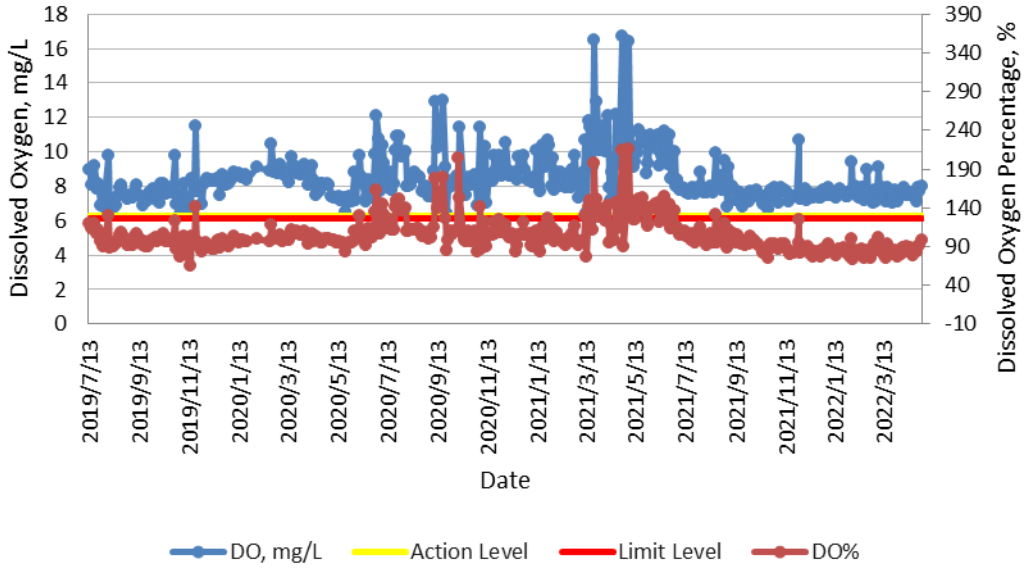


Note 1: Period without data implied that water in location C2 was dried up, insufficient water was available for sample collection

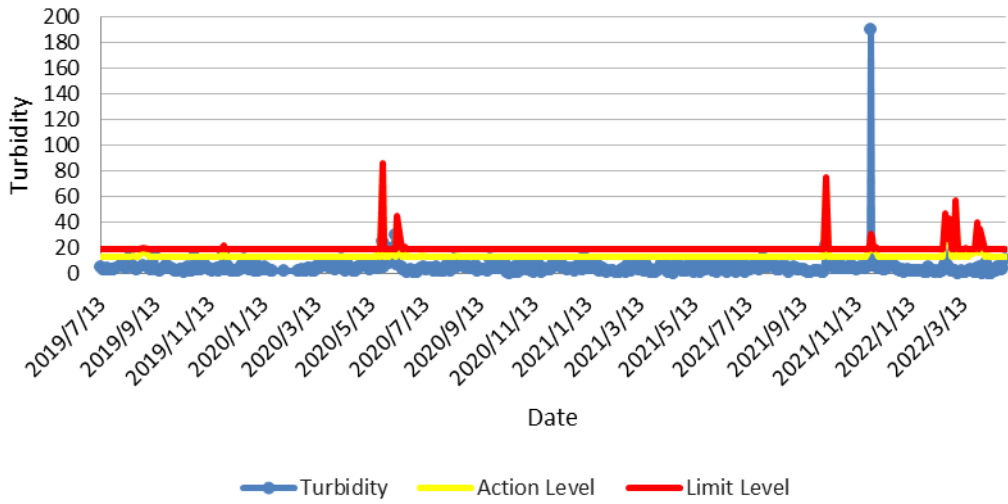
D2a



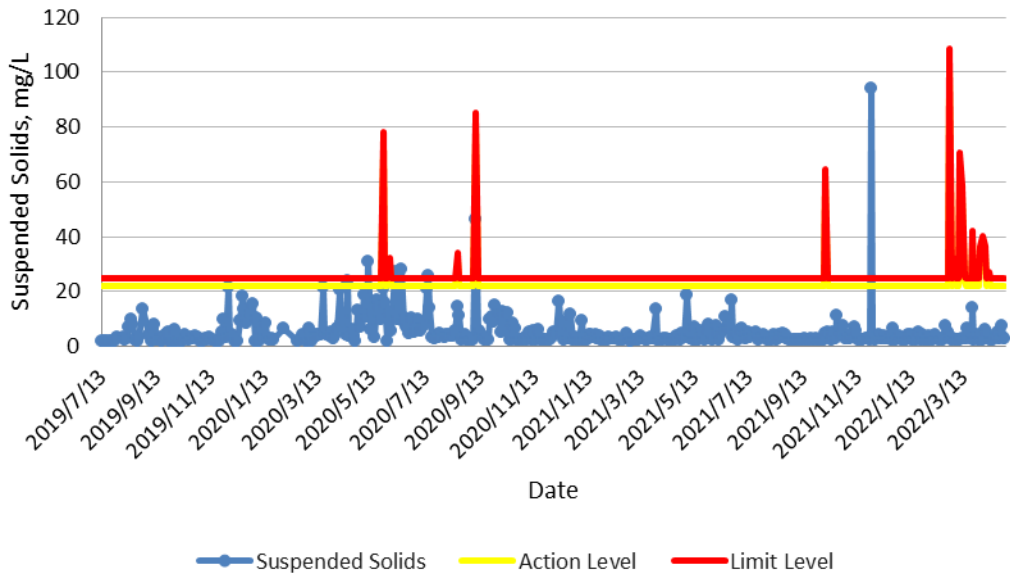
Water Quality Monitoring at D2a - Dissolved Oxygen



Water Quality Monitoring at D2a - Turbidity



Water Quality Monitoring at D2a - Suspended Solids



Appendix G

Event / Action Plans

Table B-1 Event/ Action Plan for Noise Impact

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

Table B-2 Event/ Action Plan for Water Quality Impact

| EVENT | ACTION | | | |
|---|---|--|---|---|
| | ET | IEC | ER | CONTRACTOR |
| Action level being exceeded by one sampling day | <ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings and repeat measurement on next day of exceedance being recorded; 2. Identify source(s) of impact; 3. Inform IEC, contractor, ER and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor's working methods. 2. Discuss with ET and Contractor on possible mitigation measures; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; | <ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Discuss with IEC, ET and Contractor on the proposed mitigation. 3. Request Contractor to view the working methods. 4. Ensure mitigation measures are properly implemented. | <ol style="list-style-type: none"> 1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3 Check all plant and equipment and consider changes of working methods; 4. Discuss with ET, IEC and ER and propose mitigation measures to ER and IEC within 3 working days; 5. Implement the agreed mitigation measures. |
| Limit level being exceeded by more than one consecutive sampling days | <ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings and repeat measurement on next day of exceedance being recorded; 2. Identify source(s) of impact; 3. Inform IEC, Contractor, ER and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IEC, ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET and Contractor's working methods. 2. Discuss with ET and Contractor on possible mitigation measures; 3. Review the proposed mitigation measures submitted by Contractor and advise the ER accordingly; 4. Supervise the implementation of mitigation measures. | <ol style="list-style-type: none"> 1. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Ensure mitigation measures are properly implemented; 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level. | <ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance 2. Discuss with ET, IEC and ER and propose mitigation measures to ER and IEC; 3. Implement the agreed mitigation measures; 4. Resubmit proposals of mitigation measures if problem still not under control; 5. As directed by the Engineer, to slow down or to stop all or part of the construction activities until no exceedance of Limit level. |

| | | | | |
|--|---|--|--|--|
| | to daily until no exceedance of Limit level for two consecutive days. | | | |
|--|---|--|--|--|

Appendix H

Monthly Waste Flow Table



Name of Department: ArchSD/CEDD/DSD/EMSD/HyD/WSD

Contract No.: DC/2018/08

Monthly Summary Waste Flow Table for 2022 (year)

| Month | Actual Quantities of Inert C&D Materials Generated Monthly | | | | | | Actual Quantities of C&D Wastes Generated Monthly | | | | |
|------------------|--|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|----------------------------|-----------------------|----------------|-----------------------------|
| | Total Quantity Generated | Hard Rock and Large Broken Concrete | Reused in the Contract | Reused in other Projects | Disposed as Public Fill | Imported Fill | Metals | Paper/ cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
| | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000 kg) | (in '000kg) | (in '000kg) | (in '000L) | (in '000m ³) |
| Jan | 1.773 | 0 | 0 | 0.812 | 0.961 | 0 | 0 | 0 | 0 | 4 | 0.01807 |
| Feb | 1.760 | 0 | 0 | 1.712 | 0.047 | 0 | 0 | 0 | 0 | 0 | 0.00519 |
| Mar | 3.394 | 0 | 0 | 3.389 | 0.005 | 0 | 0 | 0 | 0 | 0 | 0.00834 |
| Apr | 3.230 | 0 | 0 | 3.230 | 0 | 0 | 0 | 0 | 0 | 0 | 0.02382 |
| May | | | | | | | | | | | |
| June | | | | | | | | | | | |
| Sub-total | 10.157 | 0 | 0 | 9.143 | 1.013 | 0 | 0 | 0 | 0 | 4 | 0.05542 |
| July | | | | | | | | | | | |
| Aug | | | | | | | | | | | |
| Sept | | | | | | | | | | | |
| Oct | | | | | | | | | | | |
| Nov | | | | | | | | | | | |
| Dec | | | | | | | | | | | |
| Total | 10.157 | 0 | 0 | 9.143 | 1.013 | 0 | 0 | 0 | 0 | 4 | 0.05542 |

Remark: Use of conversion factors: density of inert C&D materials (2 ton/m³) and general refuse (1 ton/m³)



| Forecast of Total Quantities of C&D Materials to be Generated from the Contract* | | | | | | | | | | |
|--|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------|----------------------------|-----------------------|----------------|-----------------------------|
| Total Quantity Generated | Hard Rock and Large Broken Concrete | Reused in the Contract | Reused in other Projects | Disposed as Public Fill | Imported Fill | Metals | Paper/ cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
| (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000m ³) | (in '000 kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000m ³) |
| 37.523 | 37.2 | 0 | 0 | 5.92 | 0 | 0 | 0 | 0 | 4.8 | 0.323 |

- Notes:
- (1) The performance targets are given in PS Clause 1.104(14).
 - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
 - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material

Appendix I

Implementation Schedule of Recommended Mitigation Measures

Table A-1 Air Quality Impact – Implementation Schedule of Recommended Mitigation Measures

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location / Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|---------------------------|-----------|---|---|--------------------------------------|---|---|
| Construction Phase | | | | | | |
| S.3.5.9 | S.3.2.2 | All the dust control measures as recommended in the Air Pollution Control (Construction Dust) Regulation, where applicable, should be implemented. Typical dust control measures include: | Air Quality (fugitive dust) Control during Construction Phase | Contractors | At all construction areas of the site during the entire construction period | EIAO -TM, Air Pollution Control (Construction Dust) Regulation |
| S.3.5.9 | S.3.2.2 | <ul style="list-style-type: none"> The works area for site clearance shall be sprayed with water before, during and after the operation so as to maintain the entire surface wet | Air Quality (fugitive dust) Control during Construction Phase | Contractors | Ditto | EIAO -TM, Air Pollution Control (Construction Dust) Regulation |
| S.3.5.9 | S.3.2.2 | <ul style="list-style-type: none"> Restricting heights from which materials are to be dropped, as far as practicable to minimise the fugitive dust arising from unloading/ loading | Air Quality (fugitive dust) Control during Construction Phase | Contractors | Ditto | EIAO -TM, Air Pollution Control (Construction Dust) Regulation |
| S.3.5.9 | S.3.2.2 | <ul style="list-style-type: none"> Immediately before leaving a construction site, all vehicles shall be washed to remove any dusty materials from the bodies and wheels. However, all spraying of materials and surfaces should avoid excessive water usage | Air Quality (fugitive dust) Control during Construction Phase | Contractors | Ditto | EIAO -TM, Air Pollution Control (Construction Dust) Regulation |
| S.3.5.9 | S.3.2.2 | <ul style="list-style-type: none"> Where a vehicle leaving a construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting to ensure that the dusty materials will not leak from the vehicle | Air Quality (fugitive dust) Control during Construction Phase | Contractors | Ditto | EIAO -TM, Air Pollution Control (Construction Dust) Regulation |
| S.3.5.9 | S.3.2.2 | <ul style="list-style-type: none"> Erection of hoarding of not less than 2.4 m high from ground level along the site boundary, where appropriate | Air Quality (fugitive dust) Control during Construction Phase | Contractors | Ditto | EIAO -TM, Air Pollution Control (Construction Dust) Regulation |
| S.3.5.9 | S.3.2.2 | <ul style="list-style-type: none"> Any stockpile of dusty materials shall be covered entirely by impervious sheeting; and/or placed in an area sheltered on the top and 4 sides | Air Quality (fugitive dust) Control during Construction Phase | Contractors | Ditto | EIAO -TM, Air Pollution Control (Construction Dust) Regulation |
| S.3.5.9 | S.3.2.2 | <ul style="list-style-type: none"> All dusty materials shall be sprayed with water immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet | Air Quality (fugitive dust) Control during Construction Phase | Contractors | Ditto | EIAO -TM, Air Pollution Control (Construction Dust) Regulation |
| Operational Phase | | | | | | |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Table A-2 Noise Impact – Implementation Schedule of Recommended Mitigation Measures

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location / Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|---------------------------|-----------|---|---|--------------------------------------|---|---|
| Construction Phase | | | | | | |
| S.4.8.2 | S.4.8.1 | <ul style="list-style-type: none"> The Contractor shall adopt the Code of Practice on Good Management Practice to Prevent Violation of the Noise Control Ordinance (Chapter 400) (for Construction Industry) published by EPD | Noise control during construction | Contractors | At all construction areas of the site during the entire construction period | Annex 5 of EIAO-TM |
| S.4.8.2 | S.4.8.1 | <ul style="list-style-type: none"> The Contractor shall observe and comply with the statutory and non-statutory requirements and guidelines | Noise control during construction | Contractors | Ditto | Annex 5 of EIAO-TM |
| S.4.8.2 | S.4.8.1 | <ul style="list-style-type: none"> Before commencing any work, the Contractor shall submit to the Engineer Representative for approval the method of working, equipment and noise mitigation measures intended to be used at the site | Noise control during construction | Contractors | Ditto | Annex 5 of EIAO-TM |
| S.4.8.2 | S.4.8.1 | <ul style="list-style-type: none"> The Contractor shall devise and execute working methods to minimise the noise impact on the surrounding sensitive uses, and provide experienced personnel with suitable training to ensure that those methods are implemented | Noise control during construction | Contractors | Ditto | Annex 5 of EIAO-TM |
| S.4.8.2 | S.4.8.1 | <ul style="list-style-type: none"> Noisy equipment and noisy activities should be located as far away from the NSRs as is practical | Noise control during construction | Contractors | Ditto | Annex 5 of EIAO-TM |
| S.4.8.2 | S.4.8.1 | <ul style="list-style-type: none"> Unused equipment should be turned off. PME should be kept to a minimum and the parallel use of noisy equipment / machinery should be avoided | Noise control during construction | Contractors | Ditto | Annex 5 of EIAO-TM |
| S.4.8.2 | S.4.8.1 | <ul style="list-style-type: none"> Regular maintenance of all plant and equipment | Noise control during construction | Contractors | Ditto | Annex 5 of EIAO-TM |
| S.4.8.2 | S.4.8.1 | <ul style="list-style-type: none"> Material stockpiles and other structures should be effectively utilised as noise barriers, where practicable | Noise control during construction | Contractors | Ditto | Annex 5 of EIAO-TM |
| Operational Phase | | | | | | |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Table A-3 Water Quality Impact – Implementation Schedule of Recommended Mitigation Measures

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location / Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|---------------------------|-------------------|--|---|--------------------------------------|---|--|
| Construction Phase | | | | | | |
| S.5.10.1 -5.10.2 | S.5.8.2 -5.8.3 | Construction for the desilting facilities at intake and outfall portals should be carried out behind a temporary cofferdam which is watertight enclosure built in the reservoirs and pumped dry to expose the bottom. | Point Pollution Control | Contractors | Before construction of intake and outfall portals and remain on site until completion of intake and outfall portals and tunnel construction | Water Pollution Control Ordinance |
| S.5.10.3 | S.5.8.4 | The cofferdams should be regularly inspected and maintained to ensure no spillage of waste or wastewater into the reservoirs. | Point Pollution Control | Contractors | Before construction of intake and outfall portals and remain on site until completion of intake and outfall portals and tunnel construction | Water Pollution Control Ordinance |
| S. 5.10.4 | S. 5.8.5 | Construction of desilting facilities within works areas capable of controlling discharge of SS to comply with WPCO/TM-DSS | Point and Non-point Pollution Control | Contractors | At all construction areas of the site during the entire construction period | Water Pollution Control Ordinance |
| S.5.10.5 | S.5.8.6 | Construction runoff will be managed as per the Practice Note for Professional Persons ProPECC PN1/94 - Construction Site Drainage and the conditions of working within Water Gathering Grounds stipulated by WSD | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance Water Gathering Ground control by WSD |
| S.5.10.6 | S. 5.8.7 | A Drainage Management Plan should be prepared by the Contractor for approval by the Engineer for each of the works areas, detailing the facilities and measures to manage pollution arising from surface runoff from those works areas | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance Water Gathering Ground control by WSD |
| S. 5.10.7 | S. 5.8.8 | An Emergency Contingency Plan should also be prepared by the Contractor, detailing the response and procedures to contain and remove any accidental spillage along the temporary and permanent roads and at the site at short notice to prevent or minimize the quantities of contaminants from reaching the reservoirs and local streams leading to the reservoirs. The Emergency Contingency Plan should be submitted to the Engineer for approval | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance Water Gathering Ground control by WSD |
| S. 5.10.8 | S. 5.8.9 | ▪ Surface run-off and effluent from the construction sites at | Stormwater and Non-point | Contractors | Ditto | Water Pollution Control |

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location / Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|-----------|-----------|--|---|--------------------------------------|---|---|
| | | the intake at Kowloon Byewash Reservoir and outfall at the Lower Shing Mun Reservoir will be directed towards adequately designed sand/silt removal facilities such as sand/silt traps and sediment basins to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO before discharging to discharge points downstream of the Kowloon Byewash Reservoir Dam and Lower Shing Mun Reservoir Dam respectively. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1m ³ /s a sedimentation basin of 30m ³ would be required and for a flow rate of 0.5m ³ /s the basin would be 150m ³ . The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction | Source Pollution Control | | | Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Channels, earth bunds or sand bag barriers will be provided on-site to properly direct stormwater to the above-mentioned facilities | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Existing on-site silt removal facilities, channels and manholes, if any, will be maintained and the deposited silt and grit will be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Other manholes, if any, including any newly constructed ones will be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Open stockpiles of materials on site will be avoided within water gathering grounds as far as practicable. All surplus spoil will be removed from water gathering grounds as soon as possible Measures will be taken to prevent the washing away of construction materials, soil, silt or debris | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Where possible, works entailing soil excavation will be minimized during the rainy season (i.e. April to September). If excavation in soil could not be avoided in these months or | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location / Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|-----------|-----------|--|---|--------------------------------------|---|---|
| | | at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary 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 runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm | | | | |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Where applicable, final earthworks surfaces/ slopes will be well compacted and hydro-seeded following completion to prevent erosion | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Where surface runoff or construction effluent is likely to be contaminated with oil, properly designed and maintained petrol interceptor will be provided to meet the WPCO/TM-DSS requirements. Oil leakage or spillage shall be contained and cleaned up immediately. Detailed design of the petrol interceptor shall be provided by the Contractor before commencement of construction | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Sewage arising from the construction workers on site should be collected by temporary sanitary facilities e.g. portable chemical toilets. Portable toilets should be used coupled with tankering away services provided by a licensed collector | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> All site discharges within Inland Waters Group A must comply with the terms and conditions of a valid discharge licence issued by EPD | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Vehicle wheel washing facilities should be provided, where applicable, at the site exit such that mud, debris, etc. deposited onto the vehicle wheels or body can be washed off before the vehicles are leaving the site area | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Section of the 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 | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location / Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|-----------|-----------|--|---|--------------------------------------|---|---|
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> ▪ Vehicle washing facilities should be drained into desilting facilities before discharge. The water should be recycled on site wherever possible. It is suggested that the wash water from the wheel wash basin is either reused for site watering or pumped to the on-site desilting facilities for treatment | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> • Desilting facilities should be checked and the deposited silt and grit should be removed regularly to ensure they are working properly at all times | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> • To minimize water quality impact, recycled water should be used at the cutter face for cooling purposes. Used water should be collected and discharged to settling tank for settlement | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> • Excess water from the settling tank would be transferred to the desilting facilities for treatment before discharge. The Contractor should ensure that the discharge water from the desilting facilities and treated spent effluent arising from tunnel boring from the desilting facilities comply with the WPCO/TM-DSS requirements before discharge | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> ▪ Existing on-site silt removal facilities, channels and manholes, if any, would be maintained such that the deposited silt and grit will be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times; | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> ▪ Desilting facilities should be checked and the deposited silt and grit should be removed regularly to ensure they are working properly at all times; | Stormwater and Non-point Source Pollution Control | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> ▪ The project may occasionally involve the handling of fuel and generates chemical wastes. It must be ensured that all fuel tanks and chemical storage are sited on sealed and bunded areas, provided with locks and located outside water gathering grounds as far as practicable | Protection Against Accidental Spillage | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> ▪ The storage areas will be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent accidentally spilled oil, fuel or chemicals from reaching the receiving waters | Protection Against Accidental Spillage | Contractors | Ditto | Water Pollution Control Ordinance |

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location / Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|--------------------------|-----------|--|---|--------------------------------------|---|---|
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Oil and grease removal facilities will be provided where appropriate, for example, in area near plant workshop/maintenance areas, if any | Protection Against Accidental Spillage | Contractors | Ditto | Water Pollution Control Ordinance |
| S. 5.10.8 | S. 5.8.9 | <ul style="list-style-type: none"> Chemical waste arising from the site should be properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the Waste Disposal (Chemical Waste) (General) Regulation | Protection Against Accidental Spillage | Contractors | Ditto | Waste Disposal (Chemical Waste) (General) Regulation |
| Operational Phase | | | | | | |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Table A-4 Waste Management Implication – Implementation Schedule of Recommended Mitigation Measures

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location/ Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|---------------------------|-----------|--|---|--------------------------------------|---|---|
| Construction Phase | | | | | | |
| S.6.7.1 | | Given the potential for secondary environmental impacts (dust, noise, water quality and visual impacts), mitigation measures are required to ensure proper handling, storage, transportation and disposal of materials at the outset and throughout the construction phase of the project | Waste management during construction | Contractors | At all construction areas of the site during the entire construction period | Waste Disposal Ordinance |
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> An on-site environmental co-ordinator employed by the Contractor should be identified at the outset of the works. The co-ordinator shall prepare a Waste Management Plan ("WMP") in accordance with the requirements set out in the ETWB TCW No. 19/2005, Waste Management on Construction Sites. The WMP shall include monthly and yearly Waste Flow Tables ("WFT") that indicate the amounts of waste generated, recycled and disposed of (including final disposal site), and which should be regularly updated | Waste management during construction | Contractors | Ditto | ETWB TCW No. 19/2005, Waste Management on Construction Sites |
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> The reuse/ recycling of all materials on site shall be investigated and exhausted prior to treatment/ disposal off-site | Waste management during construction | Contractors | Ditto | Waste Disposal Ordinance |
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> Good site practices shall be adopted from the commencement of works to avoid the generation of waste, reduce cross contamination of waste and to promote waste minimisation | Waste management during construction | Contractors | Ditto | Waste Disposal Ordinance |
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> All waste materials shall be sorted on-site into inert and non-inert C&D materials, and where the materials can be recycled or reused, they shall be further segregated. Inert material, or public fill will comprise stone, rock, concrete and soil which is suitable for land reclamation and site formation whilst non-inert materials include all other wastes generated from the construction process such as plastic packaging and vegetation (from site clearance) | Waste management during construction | Contractors | Ditto | Waste Disposal Ordinance |
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> The Contractor shall be responsible for identifying what materials can be recycled/ reused, whether on-site or off-site. In the event of the latter, the Contractor shall make | Waste management during construction | Contractors | Ditto | Waste Disposal Ordinance |

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location/ Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|----------|-----------|--|---|--------------------------------------|---|--|
| | | arrangements for the collection of the recyclable materials. Any remaining non-inert waste shall be collected and disposed of to the public fill reception facilities whilst any inert C&D materials shall be re-used on site as far as possible. Alternatively, if no use of the inert material can be found on-site, the materials can be delivered to a public fill reception facilities after obtaining the appropriate licence | | | | |
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> In order to monitor the disposal of C&D material and solid wastes at public fill reception facilities and landfills, and control fly-tipping, a trip-ticket system shall be implemented by the Contractor, in accordance with the contract and the requirements of WBTC 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Material" | Waste management during construction | Contractors | Ditto | WBTC 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Material" |
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> Under the Waste Disposal (Chemical Waste) (General) Regulation, the Contractor shall register as a Chemical Waste Producer if chemical wastes such as spent lubricants and paints are generated on site. Only licensed chemical waste collectors shall be employed to collect any chemical waste generated at site. The handling, storage, transportation and disposal of chemical wastes shall be conducted in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme both published by EPD | Waste management during construction | Contractors | Ditto | Waste Disposal (Chemical Waste) (General) Regulation |
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> A sufficient number of covered bins shall be provided on site for the containment of general refuse to prevent visual impacts and nuisance to the sensitive surroundings. These bins shall be cleared daily and the collected waste disposed of to the refuse transfer station. Further to the issue of ETWB TCW No. 6/2002A, Enhanced Specification for Site Cleanliness and Tidiness, the Contractor is required to maintain a clean and hygienic site throughout the project works | Waste management during construction | Contractors | Ditto | Waste Disposal Ordinance |
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> All chemical toilets, if any, shall be regularly cleaned and the night-soil collected and transported by a licensed contractor to a Government Sewage Treatment Works facility for disposal | Waste management during construction | Contractors | Ditto | Waste Disposal Ordinance |

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location/ Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|--------------------------|-----------|--|---|--------------------------------------|--|---|
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> ▪ Toolbox talks should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling | Waste management during construction | Contractors | Ditto | Waste Disposal Ordinance |
| S.6.7.2 | S. 6.2.5 | <ul style="list-style-type: none"> ▪ The Contractor shall comply with all relevant statutory requirements and guidelines and their updated versions that may be issued during the course of project construction | Waste management during construction | Contractors | Ditto | Waste Disposal Ordinance |
| Operational Phase | | | | | | |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Table A-5 Ecological Impact – Implementation Schedule of Recommended Mitigation Measures

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location/ Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|---------------------------|-----------|---|---|--------------------------------------|--|---|
| Construction Phase | | | | | | |
| S 8.8 | N/A | Minimise the habitat loss of secondary woodland / plantation and grassland as far as possible | Reduce habitat and vegetation loss | Contractors | At all construction areas of the site during the entire construction period | Annex 16 of EIAO-TM |
| S 8.8 | N/A | Disturbed secondary woodland / plantation and grassland should be reinstated after the completion of works | Reinstate disturbed habitats | Contractors | Worksite areas at the two portals / after completion of construction works | Annex 16 of EIAO-TM |
| S 8.8 | N/A | Provide clear definition of site boundary | Prevent impact on offsite habitats | Contractors | At all construction areas of the site during the entire construction period | Annex 16 of EIAO-TM |
| S 8.8 | N/A | Protect the protected plant <i>Pavetta hongkongensis</i> on its existing location; Transplant the <i>Pavetta hongkongensis</i> to other suitable location if onsite protection is not feasible. | Preserve the protected plant species | Contractors | On the vegetated slope along the existing vehicle access at worksite area at Lower Shing Mun Reservoir / Construction period | Annex 16 of EIAO-TM |
| S 8.8 | N/A | Carry out compensatory planting if the individual of <i>Artocarpus hypargyreus</i> cannot be retained onsite | Mitigate the tree removal | Contractors | worksite area at Kwoloon Byewash Reservoir / Construction Period | ETWB TCW No. 3/2006 |
| S 8.8 | N/A | Workers should avoid eating and leave food in works area and avoid feeding the wildlife; Fishes observed remaining at the proposed works area during the draining down process should be translocated to the portion of the reservoir outside the cofferdam. | Avoidance of injury to wildlife | Contractors | At all construction areas of the site during the entire construction period | Annex 16 of EIAO-TM |
| S 8.8 | N/A | Implement standard good site practices for dust suppression | Avoid dust deposition on vegetation | Contractors | At all construction areas of the site during the entire construction period | EIAO -TM, Air Pollution Control (Construction Dust) Regulation |
| S 8.8 | N/A | Implement standard good site practices for water quality control | Avoid site runoff to nearby habitats | Contractors | At all construction areas of the site during the entire construction period | Water Pollution Control Ordinance |
| S 8.8 | N/A | Workers shall not disturb birds and other wildlife; Litter shall not be burned on-site but shall be removed off-site; | Avoid disturbance to wildlife | Contractors | At all construction areas of the site during the entire construction period | Annex 16 of EIAO-TM |

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location/ Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|--------------------------|-----------|---|---|--------------------------------------|---|---|
| | | Machinery not in use should be switched off to minimize the noise nuisance; No fishing is allowed in the reservoir without permission. | | | | |
| Operational Phase | | | | | | |
| S 8.8 | N/A | Compensate the habitat loss (grassland and woodland) by restoration of same type of habitats to be lost. The compensatory ratio should not be less than 1:1 in terms of area. | Mitigate the temporary habitat loss | Contractors | Woodland at worksite area at Kowloon Byewash Reservoir and Grassland at worksite area at Lower Shing Mun Reservoir / Operational period | Annex 16 of EIAO-TM |

Table A-6 Landscape and Visual Impact – Implementation Schedule of Recommended Mitigation Measures

| Id No. | Landscape and Visual Mitigation Measures | Location | Funding | Implementation/ Maintenance Agent | Relevant Standard or Requirement | Implementation Stage | | | Timing of Implementation | Objectives of the Recommended Measure and Main Concern to address |
|--------|--|----------|---------|-----------------------------------|--|----------------------|---|---|--|--|
| LMM1 | Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical | Site | WSD | Contractor | TM-EIA Annex 18 | | √ | | Throughout construction phase | To provide a viable growing medium suited to the existing conditions and reduce the need for the importation of top soil |
| LMM2 | Existing Trees to be retained on site should be carefully protected during construction | Site | WSD | Contractor | TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006 | | √ | | Throughout construction phase | To ensure the success of the tree preservation proposal |
| LMM3 | Compensatory tree planting should be provided to compensate for felled trees | Site | WSD | Contractor | TM-EIA Annex 18, ETWB TCW No. 2/2004 & ETWB TCW No. 3/2006 | | √ | | Throughout design and construction phase | The planting proposal seeks to compensate for the predicted tree loss resulting from the construction, visually integrate the proposals within its existing landscape framework and provide an improved visual amenity |
| LMM4 | Erection of decorative screen hoarding compatible with surrounding setting | Site | WSD | Contractor | TM-EIA Annex 18 and BD | | √ | | Throughout construction phase | To integrate the construction site with the existing environment |
| LMM5 | Locations of the site office, storage or workshops should be carefully adjusted to areas out of tree protection zones. | Site | WSD | Contractor | TM-EIA Annex 18 and BD | √ | | | Throughout design phase | To avoid unnecessary felling of trees |
| LMM6 | Selection of intake and outfall portals to areas enclosed by existing topography or vegetation | Site | WSD | Contractor | TM-EIA Annex 18 and BD | √ | | | Throughout design phase | To preserve the existing topography and as many as trees as possible |
| LMM7 | Appearance of the water intake and outfall structures | Site | WSD | Contractor | TM-EIA Annex 18 and BD | √ | | | Throughout design phase | To reduce the apparent visual mass of water intake and outfall structures |
| LMM8 | Reinstatement of disturbed vegetation at both portal | Site | WSD | Contractor | TM-EIA Annex 18 | | | √ | After the completion of construction | To mitigate disturbance to vegetation arising from the proposed construction |

| Id No. | Landscape and Visual Mitigation Measures | Location | Funding | Implementation/ Maintenance Agent | Relevant Standard or Requirement | Implementation Stage | Timing of Implementation | Objectives of the Recommended Measure and Main Concern to address |
|--------|--|----------|---------|-----------------------------------|----------------------------------|----------------------|--------------------------|---|
| | areas | | | | | | works | |

Table A-7 Cultural Heritage – Implementation Schedule of Recommended Mitigation Measures

| EIA Ref. | EM&A Ref. | Recommended Environmental Protection Measures/ Mitigation Measures | Objectives of the recommended measures & main concerns to address | Who to implement the measures? | Location/ Timing of implementation of Measures | What requirements or standards for the measures to achieve? |
|---------------------------|-----------|--|---|--------------------------------|--|---|
| Construction Phase | | | | | | |
| S 10.7 | S8.1.2 | Condition Survey for the identified historic items and monitoring of vibration levels if required. | Prevention of structural damage to the identified historic items | Contractors | Condition survey to be undertaken prior to the construction phase and vibration monitoring to be undertaken during the construction phase if required. | None |
| Operational Phase | | | | | | |
| N/A | N/A | None | None | None | None | None |

Appendix J

Tentative Monitoring Schedule of Next Reporting Period

IRTS – Tentative EM&A Monitoring & Inspection Schedule

May 2022

| Sun | Mon | Tue | Wed | Thur | Fri | Sat |
|--|--|--|--|--|--|--|
| 1 Noise Monitoring at NM1 (09:00-19:00) | 2 | 3 Weekly Site Inspection & Impact Water Quality Monitoring | 4 | 5 Impact Water Quality Monitoring & Noise Monitoring at NM1 & NM2 (09:00-19:00); NM1 (19:00-23:00) | 6 | 7 Impact Water Quality Monitoring |
| 8 Noise Monitoring at NM1 (09:00-19:00) | 9 | 10 Weekly Site Inspection & Impact Water Quality Monitoring | 11 | 12 Impact Water Quality Monitoring & Noise Monitoring at NM1 & NM2 (09:00-19:00); NM1 (19:00-23:00) | 13 | 14 Impact Water Quality Monitoring |
| 15 Noise Monitoring at NM1 (09:00-19:00) | 16 Impact Water Quality Monitoring | 17 Weekly Site Inspection | 18 Impact Water Quality Monitoring & Noise Monitoring at NM1 & NM2 (09:00-19:00); NM1 (19:00-23:00) | 19 | 20 Impact Water Quality Monitoring | 21 |
| 22 Noise Monitoring at NM1 (09:00-19:00) | 23 Impact Water Quality Monitoring | 24 Weekly Site Inspection | 25 Impact Water Quality Monitoring & Noise Monitoring at NM1 & NM2 (09:00-19:00); NM1 (19:00-23:00) | 26 | 27 Impact Water Quality Monitoring | 28 |
| 29 Noise Monitoring at NM1 (09:00-19:00) | 30 Impact Water Quality Monitoring | 31 Weekly Site Inspection | | | | |

Note 1: Impact Water Quality Monitoring will be conducted from 08:00 to 12:00.

 = General Holiday

Appendix K

Cumulative Statistics on Complaints,
Notifications of Summons And
Successful Prosecutions

Statistical Summary of Environmental Complaints

| Reporting Period | Environmental Complaint Statistics | | |
|-----------------------------|------------------------------------|------------|------------------|
| | Frequency | Cumulative | Complaint Nature |
| 1 Apr 2022 - 30 Apr 2022 | 0 | 1 | N/A |

Statistical Summary of Environmental Summons

| Reporting Period | Environmental Summons Statistics | | |
|-----------------------------|----------------------------------|------------|---------|
| | Frequency | Cumulative | Details |
| 1 Apr 2022 - 30 Apr 2022 | 0 | 0 | N/A |

Statistical Summary of Environmental Prosecution

| Reporting Period | Environmental Prosecution Statistics | | |
|-----------------------------|--------------------------------------|------------|---------|
| | Frequency | Cumulative | Details |
| 1 Apr 2022 - 30 Apr 2022 | 0 | 0 | N/A |

Appendix L

HOKLAS Certificate of the
Laboratory



Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

FUGRO TECHNICAL SERVICES LIMITED
輝固技術服務有限公司

Fugro Development Centre, 5 Lok Yi Street, Tai Lam, Tuen Mun, New Territories, Hong Kong
香港新界屯門大欖樂怡街五號輝固發展中心

*is accredited by the Hong Kong Accreditation Service (HKAS) to ISO/IEC 17025:2017
for performing specific laboratory activities as listed in the scope of accreditation within the test category of*
獲香港認可處根據ISO/IEC 17025:2017認可
進行載於認可範圍內下述測試類別中的指定實驗室活動

Environmental Testing
環境測試

*This accreditation to ISO/IEC 17025:2017 demonstrates technical competence for a defined scope and
the implementation of a management system relevant to laboratory operation
(see joint IAF-ILAC-ISO Communiqué).*

此項 ISO/IEC 17025:2017 的認可資格證明此實驗室具備指定範圍內所須的技術能力並
實施一套與實驗室運作相關的管理體系
(見國際認可論壇、國際實驗室認可合作組織及國際標準化組織的聯合公報)。

The common seal of HKAS is affixed hereto by the authority of the HKAS Executive
現經香港認可處執行機關授權在此蓋上香港認可處的印章

SHUM Wai-leung, Executive Administrator
執行幹事 沈偉良
Issue Date : 25 May 2021
簽發日期：二零二一年五月二十五日

Registration Number : HOKLAS 015
註冊號碼：

Date of First Registration : 23 March 1989
首次註冊日期：一九八九年三月二十三日



**CONTRACT NO. DC/2018/08 - INTER-RESERVOIRS TRANSFER SCHEME
- WATER TUNNEL BETWEEN KOWLOON BYEWASH RESERVOIR AND LOWER SHING MUN RESERVOIR
IEC's COMMENTS**

Document Title: IRTS 34th Monthly EM&A Report (April 2022) IEC Verification Letter

Document Ref. No.: IEC's verification letter ref. 11-05-2022

Date of Issue of Comments: 11/05/2022

| ITEM NO. | IEC'S COMMENT | ET'S RESPONSE | CLOSE DATE |
|----------|--|---|------------|
| 1. | Some water samples at monitoring location C1b were not collected using approved water sample and at approved sampling location. In Section 2.11 of the monthly EM&A report, a new practice was introduced regarding on the water sampling equipment. The ET and the ET Leader shall be responsible for the implementation of the EM&A programme in accordance with Section 5.3.5 of the EM&A Manual prior to the approval of proposed change of contents of EM&A programme. | <p>At monitoring location C1b, shallow water level is often observed and the water sample could not be obtained by using the approved water sampler. Since the water monitoring methodology of the Project has no designated water sampling depths (i.e., surface/ middle/ bottom), depending on the water depth, a water bucket or a small plastic bottle are proposed to be used to collect water samples in shallow water at the designated locations to facilitate the water sampling of this location.</p> <p>If the measured water depth is between 7 cm and 11 cm (i.e. $7 \text{ cm} \leq \text{water depth} < 11 \text{ cm}$), a water bucket shall be used to obtain the water sample. If the measured water depth is between 3 cm and 7 cm (i.e. $3 \text{ cm} \leq \text{water depth} < 7 \text{ cm}$), a small plastic bottle shall be used to obtain the water sample.</p> <p>An alternative access point is also proposed to move downstream for water sampling of the same water body to facilitate the water sampling. The additional access location point are E 833344.508, N 823346.935 which is at approximately 25 m distance away from the approved monitoring location.</p> | |
| 2. | Analysis of SS was not carried out with reference to the testing method and detection limit stated in Section 5.3.9 of EM&A Manual. In Section 3.5 of the monthly EM&A report, a new practice was introduced regarding on the SS testing method and SS detection limit. The ET and the ET Leader shall be responsible for the implementation of the EM&A programme in accordance with Section 5.3.9 of the EM&A Manual prior to the approval of proposed change of contents of EM&A programme. | <p>As per Section 5.3.9 of the EM&A Manual, the procedures for testing suspended solids should follow APHA 2540D (21st edition at the time of the EM&A Manual being written) and the detection limit to be less than or equal to 0.1 mg/L.</p> <p>After enquired 6 laboratories in the market, the closest match was 0.5 mg/L for 5 L samples with the APHA 17th, 22nd or 23rd (the latest) edition of APHA. Depending on the actual site situation and the amount of water to be sampled at each sampling location, 5 L samples will be taken as far as possible. When there is not enough water to be sampled at the sampling location (i.e. water depth is less than 11 cm), 1 L samples, which the detection limit being 2.5 mg/L, shall then be taken as far as possible. Given that the action and limit levels of this Project are considerably greater than 2.5 mg/L, it is a reasonable and practical value to be used.</p> | |

**CONTRACT NO. DC/2018/08 - INTER-RESERVOIRS TRANSFER SCHEME
- WATER TUNNEL BETWEEN KOWLOON BYEWASH RESERVOIR AND LOWER SHING MUN RESERVOIR
IEC's COMMENTS**

Document Title: IRTS 34th Monthly EM&A Report (April 2022) IEC Verification Letter

Document Ref. No.: IEC's verification letter ref. 11-05-2022

Date of Issue of Comments: 11/05/2022

| ITEM NO. | IEC'S COMMENT | ET'S RESPONSE | CLOSE DATE |
|----------|---|--|------------|
| 3. | <p>This is the third reminder. A temporary drainage measure was introduced to influence the monitoring location C2. Monitoring location C2 is no longer a natural stream directing to Lower Shing Reservoir as described in Section 2.5 of Baseline Monitoring Report. Pursuant to Section 5.7.1 of EM&A Manual, water quality parameters including turbidity and suspended solids rely on the representative samples of the upstream control station of the same day to determine their action and limit levels in addition to the baseline data. Recently, IEC carried out a random site inspection and observed the blockage of drainage pipes at the monitoring location C2 (See enclosed). Two metal plates were installed at the drainage cement pipes to restrict the flow of water to the reservoir by gravity. Thus, running water is no longer available in the monitoring location C2 since 7 February 2022. Water monitoring results in March 2022 were obtained from stagnant water samples. The samples did not validly reflect to the upstream control station of the same day. The effectiveness of sample collected at the monitoring location C2 is also called into doubt.</p> | <p>C2 is located at the upstream of our construction site (including the standby water pumps) and remains a natural water gathering ground leading to the Lower Shing Mun Reservoir immediately before any disturbance or impact from the construction activities. The standby pump is part of the temporary drainage measure against the potential flooding in the heavy rainstorm.</p> | |