Monthly EM&A Report
(January 2021)

Contract No.	**:**	DPW 01/2020
Contract Name	**:**	Environmental Team for Drainage Improvement Works at Ngong Ping (Contract No. DC/2019/06)
Report No.	**:**	0118/20/ED/0279
EP No.	**:**	EP-456/2013/A

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Environmental Team Leader

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EXECUTIVE SUMMARY

i. This is the 1st monthly EM&A Report which summaries the results and findings of the EM&A programme required for the Project from 2 January 2021 to 31 January 2021.

Breaches of Action and Limit Levels

Noise

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

Water Quality

iii. 4 Action Level and 7 Limit Level exceedances were recorded in the reporting period. Based on the finding from the investigation on the recorded cases of exceedances, the cause was found not related to the project.

Complaint log

iv. No Complaint was recorded in the reporting period.

Notifications of Summons and Successful Prosecutions

v. No notifications of Summon and Successful Prosecution was recorded in the reporting period.

Reporting Change

vi. There was no reporting change required in the reporting period.

Future Key Issues

vii. During the next three month reporting period, the principal work activities within the site included:

Portion A

- Install noise barrier
- Excavation
- Sheet piling
- Trial pit
- TBM

Portion B

- Install noise barrier
- Trial pit
- Excavation
- Box culvert
- Sheet piling

Portion C

- Set up site office
- Excavation
- Sheet piling
- Jacking pit
- TBM

viii. The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirements. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.

1. INTRODUCTION

1.1 Background

1.1.1 To enhance the capacity of the trunk drainage system and reduce the flood risk in Ngong Ping, long term drainage improvement works are proposed to be implemented under "PWP Item No. 4163CD – Drainage Improvement Works at Ngong Ping" (hereafter referred to as "the Project").

1.1.2 The Project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap.499). An Environmental Impact Assessment (EIA) Report together with an Environmental Monitoring and Audit (EM&A) Manual (hereafter referred to as the "approved EM&A Manual") (Register No. AEIAR-169/2013 was prepared for the Project and approved by Environmental Protection Department (EPD) on 21 April 2013. An Environmental Permit (EP) was first issued on 7 August 2013. The current version (EP No. EP-456/2013/A) was issued on 29 March 2019. These documents are available through the EIAO Register.

1.1.3 Fugro Technical Services Limited (FTS) has been appointed as the Environmental Team (ET) by Drainage Services Department (DSD) to implement the EM&A programme in accordance with the EP No. EP-456/2013/A and the approved EM&A Manual.

1.1.4 The construction phase and EM&A programme of the Project commenced on 2 January 2021.

1.1.5 This is the 1st monthly EM&A Report which summaries the results and findings of the EM&A programme required for the Project from 2 January 2021 to 31 January 2021.

1.2 Project Organization and Management Structure

1.2.1 The environmental Project Organization and Management Structure is shown in Appendix A. The key personnel contact names and numbers are summarized in Table 1.1.

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone
Drainage Services Department, HKSAR (DSD)	Engineer	Mr. Sunny Wong	2594 7348
Acuity Sustainability Consulting Limited (ASC)	IEC	Mr. F.C. Tsang	2698 8060
Contractor (Ming Hing)	Environmental Officer	Mr. Tom Ting	6770 4667
Fugro Technical Services Limited (FTS)	ET Leader	Mr. Calvin Leung	3565 4441

1.3 Construction Programme and Activities

1.3.1 The construction phase of the Project under the EP commenced on 2 January 2021.

1.3.2 The construction programme of the Project is shown in Appendix B1.

1.4 Works Undertaken During the Month

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

Portion A
- Nil.

Portion B
- Nil.

Portion C
- Set up site office

1.4.2 Illustrations of works undertaken during the reporting period are shown in Appendix B2.

1.5 Waste Management Status

1.5.1 The amount of wastes generated within the Project during the reporting period is shown in Appendix B4.

2. ENVIRONMENTAL STATUS

EP No. EP-456/2013/A Conditions

2.1.1 Status of EP No. EP-456/2013/A Conditions are summarized in Appendix C1.

Mitigation Measures Implementation

2.1.2 Implementation of environmental mitigation measures are summarized in Appendix C2.

Environmental Licences, Notification and Permits

2.1.3 A summary of the relevant permits, licences and/or notifications on environmental protection for this Contract is presented in Table 2.1.

Table 2.1 Environmental Licences, Notification and Permits Summary

Permit / Notification / License	Ref No	Valid From	Valid Till
Environmental Permit	EP-456/2013/A	29/03/2019	N/A
Notification pursuant to Air Pollution (Construction Dust) Regulation	462432	01/12/2020	N/A
Registration as a Chemical Waste Producer	5112-320-M2841-01	N/A	N/A
Billing Account	7038098	26/08/2020	N/A

Project Area, Environmental Sensitive Receivers and Locations of Monitoring and Control Stations

2.1.4 Project location, Environmental sensitive receivers and locations of the monitoring and control stations are shown in Figure 1, 2a-2c.

3. SUMMARY OF EM&A REQUIREMENTS

3.1 Monitoring Parameters

3.1.1 Detailed of monitoring parameters are shown in Section 5.3.

3.2 Environmental Quality Performance Limits (Action and Limit Levels)

3.2.1 The monitoring parameters action and limit levels are shown in Appendix D.

3.3 Event and Action Plans

3.3.1 The Event and Action Plans are shown in Appendix E.

3.4 Environmental Mitigation Measures as Recommended in the EIA Report

3.4.1 Implementation of environmental mitigation measures are summarized in Appendix C2.

3.5 Environmental Requirements in Contract Documents

3.5.1 In order to ensure the works are in compliance with the contractual requirements, all method statements of major works should be submitted by the Contractor to the Engineer and the ET for vetting so as to ensure whether sufficient environmental protection and pollution control measures have been incorporated. Detailed ET's vetting contract documents in reporting period are summarized in Table 3.1:

Table 3.1 ET's vetting Contract Documents Summary

ET's vetting Contract Documents	**Status**
Environmental Management Plan (Ver.04) (Received on 11 Jan 2021)	ET no further comment on 29 Jan 2021
Monthly Environmental Report No.04 (Received on 11 Jan 2021)	ET no further comment on 29 Jan 2021
Site Management Plan (SMP) for Trip Ticket System (Ver.03) (Received on 11 Jan 2021)	ET no comment on 12 Jan 2021
Spill Response Plan (Ver.03) (Received on 11 Jan 2021)	ET no comment on 12 Jan 2021
Waste Management Plan (Ver.03) (Received on 11 Jan 2021)	ET no comment on 12 Jan 2021

3.6 Site Inspection

3.6.1 Site inspections should be conducted regularly to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented for the construction works activities associated with the drainage improvement works at Ngong Ping.

3.6.2 A summary of the ET's site inspection in the reporting period is presented in Table 3.2.

Table 3.2 Site Inspection Date Summary

Inspection Date
Weekly Site Inspection
05/01/2021
12/01/2021
19/01/2021
26/01/2021
Landscape and Visual
12/01/2021
26/01/2021
Cultural Heritage
19/01/2021
Post-transplantation Works
26/01/2021
Floral Protection Measures
26/01/2021

3.6.3 Detailed site inspections summary is presented in Appendix C3.

3.7 Ecology

3.7.1 The EIA has recommended that an EM&A for ecology is undertaken during the construction and operational / post-construction phases of the project. Certain construction phase mitigation measures and EM&A, such as surveys and subsequent transplantation of floral species.

3.7.2 The construction phase ecological audit is concerned with checking the effectiveness of the implementation of the ecology transplantation/translocation and protection measures, together with auditing the effectiveness of the overall ecological site mitigation.

3.7.3 Refer to the EM&A Manual table 5.2, the EM&A requirement in construction phase are summarized as below:

~ Weekly audit of Enhancement planting and construction run-off.
~ Monthly audit of the implementation of Floral Protection Plan.
~ Monthly audit of the transplanted species for the first 12 months after the transplantation.
~ Quarterly audit the transplanted species between months 12 to 24 after the transplantation.

3.7.4 A summary of the ET's site inspection in the reporting period is presented in Table 3.2 and the detailed site inspections is presented in Appendix C3.

3.7.5 Implementation of environmental mitigation measures are summarized in Appendix C2.

3.8 Landscape and Visual Impact

3.8.1 The EIA has recommended that EM&A for landscape and visual resources is undertaken during the construction and operational phases of the project. The design, implementation and maintenance of landscape mitigation measures is a key aspect of this and should be checked to ensure that they are fully realised and that potential conflicts between the proposed landscape measures and any other project works and operational requirements are resolved at the earliest possible date and without compromise to the intention of the mitigation measures. In addition, the implementation of the mitigation measures recommended by the EIA will be monitored through the site audit programme.

3.8.2 Site inspections should be undertaken at least once every two weeks throughout the construction period and once every two months during the operational phase.

3.8.3 A summary of the ET's site inspection in the reporting period is presented in Table 3.2 and the detailed site inspections is presented in Appendix C3.

3.8.4 Implementation of environmental mitigation measures are summarized in Appendix C2.

3.9 Cultural Heritage

3.9.1 The EIA has recommended that the EM&A for cultural heritage resources is undertaken during the construction phase of the project. Implementation of the mitigation measures recommended by the EIA will be monitored through the site audit programme.

3.9.2 All measures undertaken by the Contractor during the construction phase in the vicinity of the six heritage resources shall be audited by a qualified building surveyor, as a member of the Environmental Team (ET), on a monthly basis to ensure compliance with the intended aims of the recommended mitigation measures.

3.9.3 A summary of the ET's site inspection in the reporting period is presented in Table 3.2 and the detailed site inspections is presented in Appendix C3.

3.9.4 Implementation of environmental mitigation measures are summarized in Appendix C2.

3.10 Waste Management

3.10.1 With the proper handling, storage and disposal of wastes arising from the construction works as recommended in the Environmental Mitigation Implementation Schedule in Appendix A of this EM&A Manual, the potential for adverse environmental impacts would be minimised. During site inspections, the Engineer and ET should pay special attention to the issues relating to the waste management and check whether the Contractor has implemented the recommended good site practices and other mitigation measures.

3.10.2 The amount of wastes generated within the Project during the reporting period is shown in Appendix B4.

3.10.3 A summary of the ET's site inspection in the reporting period is presented in Table 3.2 and the detailed site inspections is presented in Appendix C3.

3.10.4 Implementation of environmental mitigation measures are summarized in Appendix C2.

4. IMPLEMENTATION STATUS

4.1.1 The implementation status of environmental protection and pollution control/ mitigation measures as recommended in the EIA report/ EM&A Manual in the reporting period were updated and shown in Appendix C2.

5. MONITORING RESULTS

5.1 Monitoring Methodology

Noise

5.1.1 The monitoring methodology and the QA/QC procedures are as follows:

- The monitoring station will set at a point 1m from the exterior of the sensitive receivers building façade and set at a position 1.2m above the ground.
- The battery condition will check to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time will set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - measurement time : continue 5 minutes interval
- Prior to and after noise measurement, the meter will be calibrated using the calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement will be considered invalid and repeat of noise measurement is required after re-calibration or repair of the equipment.
- The wind speed at the monitoring station will check with the portable wind meter. Noise monitoring shall be cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.
- Noise measurement shall be paused during periods of high intrusive noise if possible and observation shall be recorded when intrusive noise is not avoided.
- The supplementary information for data auditing and statistical results (e.g. L10 and L90), shall be obtained for reference.

Maintenance / Calibration

- The microphone head of the sound level meter and calibrator should be cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator should be calibrated annually by a HOKLAS laboratory or the manufacturer.

Water Quality

5.1.2 In accordance with the recommendations of the EIA, construction phase water quality EM&A is required. Water quality parameters comprising: (i) suspended solids (SS); (ii) turbidity in Nephelometric Turbidity Units (NTU); (iii) dissolved oxygen (DO) in mg/L; and (iv) pH, shall be measured by the Environmental Team (ET) at locations which are within the potential influence of construction works at least three times per week to ensure that any deteriorating water quality could be readily detected and timely action be taken to rectify the situation. The first parameter, SS, shall be determined in the laboratory, with the other parameters measured in-situ using direct reading instrumentation.

5.1.3 In association with the water quality parameter measurements, relevant data shall also be measured, including the monitoring location/position, time, water depth, water temperature, salinity, DO saturation, weather conditions if appropriate, and any special phenomena and work underway at the construction site.

5.1.4 Only one sampling depth will be required for the streams, which shall be collected at mid depth. Replicates (2 samples) in-situ from each independent sampling event are required for all parameters to ensure a robust statistically interpretable data set.

5.1.5 In addition, duplicated water samples for suspended solid analysis shall be collected at all the above stations and delivered to the HOKLAS accredited laboratory for analysis. Results for suspended solids shall be received back from the laboratory within 24hour of the receipt of the samples.

5.1.6 The Impact Monitoring shall be taken at the designated monitoring stations when construction works in the relevant Works Sections, designated working area (WA) and stockpiling area (SA) is ongoing. The monitoring shall be conducted at least 3 times a week and the interval between two sets of monitoring shall not be less than 36 hours. The parameters to be monitored, the monitoring procedures and equipment shall be the same as the Baseline Monitoring. The Impact Monitoring at a particular Works Section shall not be ceased with the ER, IEC and EPD agreement.

5.2 Laboratory and Equipment Used and Calibration

Noise

5.2.1 Table 5.1a summarizes the noise monitoring equipment model used for this project.

Table 5.1a Noise Monitoring Equipment

Manufacturer/ Brand	Model	Equipment	Quantity
Casella	CEL-63X Series	Sound Level Meter	1
	CEL-120/1	Sound Calibrator	2

5.2.2 Relevant calibration certificates are provided in Appendix F1.

Water Quality

5.2.3 Analysis of suspended solids was carried out in HOKLAS environmental testing laboratory (Registration No.: HOKLAS 015) to this parameter.

5.2.4 Table 5.1b summarizes the water quality monitoring equipment model used for this project.

Table 5.1b Water Quality Monitoring Equipment

Manufacturer/ Brand	Model	Equipment	Quantity
In-Situ	Aqua TROLL 600	Multi-parameter Water Quality Meter	6

5.2.5 Relevant calibration certificates are provided in Appendix F2.

5.3 Parameters, Monitoring Date, Time, Frequency and Duration

Noise

5.3.1 Table 5.2 presents the noise monitoring parameters, frequencies and period.

Table 5.2 Monitoring Parameters and Frequencies of Noise Monitoring

Parameter	Frequency and Period
LAeq $_{(30\ min)}$ in normal weekdays and (L_{10} and L_{90} will be recorded for reference)	0700-1900 on normal weekdays at a frequency of once a week

5.3.2 The schedule of noise monitoring in reporting period is provided in Appendix G.

Water Quality

5.3.3 In accordance with the recommendations of the EIA, water quality parameters comprising: (i) suspended solids (SS); (ii) turbidity in Nephelometric Turbidity Units (NTU); (iii) dissolved oxygen (DO) in mg/L; and (iv) pH, shall be measured by the Environmental Team (ET).

5.3.4 In association with the water quality parameter measurements, relevant data shall also be measured, including the monitoring location/position, time, water depth, water temperature, salinity, DO saturation, weather conditions if appropriate, and any special phenomena and work underway at the construction site.

5.3.5 The Impact Monitoring shall be taken at the designated monitoring stations when construction works in the relevant Works Sections, designated working area (WA) and stockpiling area (SA) is ongoing. The monitoring shall be conducted at least 3 times a week and the interval between two sets of monitoring shall not be less than 36 hours. The parameters to be monitored, the monitoring procedures and equipment shall be the same as the Baseline Monitoring. The Impact Monitoring at a particular Works Section shall not be ceased with the ER, IEC and EPD agreement.

5.3.6 The schedule of water quality monitoring in reporting period is provided in Appendix G.

5.4 Monitoring Locations

Noise

5.4.1 The noise monitoring locations are summarised in Table 5.3 and shown in Figure 2a-2b.

Table 5.3 Noise Monitoring Locations and Type of Measurement

NSRs*	Monitoring Location	Type of Measurement#
NSR1	Columbarium of Po Lin Monastery	Free-field
NSR5	Village House No. 49A	Free-field
NSR8	Village House No. 34	Façade

* NSRs = Noise Sensitive Receivers

#For Free-field measurement, +3dB(A) should be added to the measured results

Water Quality

5.4.2 The water quality monitoring locations are shown in Table 5.4 and Figure 2c.

Table 5.4 Water Quality Monitoring Locations

Station	Type	Easting	Northing	Relevant Works Section*	Remark
WS1-R1	Upstream reference	808664	813130	WS1/SA1	R2 in EIA
WS1-I1	Downstream impact	808535	813094	WS1/SA1	
WS1-R2	Upstream reference	808524	813134	WS1	W2 in EIA
WS1-I2	Downstream impact	808528	813101	WS1	
WS4-R3	Upstream reference	808214	813003	WS4/SA2	
WS4-I3	Downstream impact	808196	813042	WS4/SA2	
WS5-R4	Upstream reference	808096	813076	WS5/SA3	
WS5-I4	Downstream impact	808055	813115	WS5/SA3	
WS6-R5	Upstream reference	807983	813158	WS6/WA3	
WS6-I5	Downstream impact	807919	813155	WS6/WA3	
WS6-C1	Intermediate Control	807813	813214	WS6/SA4	W8 in EIA
WS6-R6	Upstream reference	807727	813249	WS6/WA4	
WS6-I6	Downstream impact	807762	813285	WS6/WA4	W9 in EIA

* Please refer to Figures 2.9a-2.9g of the EIA Report for the relevant Works Section (WS), and/or designated works area (WA) and stockpiling area (SA).

5.5 Results and Observations

Noise

5.5.1 The monitoring data are summarized in Table 5.5. Detailed monitoring data and graphical presentations are shown in Appendix H1.

Table 5.5 Summary of Noise Monitoring Results

NSR	Monitoring Results (Range)[2]	Action Level	Limit Level[1]
NSR1 Columbarium of Po Lin Monastery	43.1 - 48.8 dB(A)	When one documented complaint is received.	70 dB(A)
NSR5 Village House No. 49A	49.8 - 53.5 dB(A)		75 dB(A)
NSR8 Village House No. 34	48.6 - 55.1 dB(A)		75 dB(A)

Note:
(1) 75 dB(A) for residential premises and 70 dB(A) for educational institutions, kindergartens, nurseries and all others where voice communication.
(2) $Leq_{(30min)}$ in dB(A), 0700-1900 hrs in normal weekdays.

Water Quality

5.5.2 The monitoring data are summarized in Table 5.6. Detailed monitoring data and graphical presentations are shown in Appendix H2.

Table 5.6 Summary of Water Quality Monitoring Results

Parameter(s) / Station(s)	DO in mg/L	Turbidity in NTU	pH	Suspended Solids in mg/L
	Min - Max (Mean)	Min - Max (Mean)	Min - Max (Mean)	Min - Max (Mean)
WS1-R1	5.34 - 8.89 (7.21)	4.4 - 14.8 (9.4)	6.85 - 7.85 (7.33)	4 - 8 (6)
WS1-I1	5.75 - 9.76 (7.99)	2.7 - 67.5 (11.5)	6.70 - 7.80 (7.22)	3 - 10 (6)
WS1-R2	7.83 - 9.99 (9.02)	1.9 - 11.8 (4.4)	6.80 - 7.95 (7.29)	4 - 9.5 (5)
WS1-I2	7.39 - 9.81 (8.43)	3.2 - 12.7 (4.8)	6.70 - 7.90 (7.10)	3 - 10 (6)
WS4-R3	8.37 - 10.30 (9.50)	2.1 - 12.5 (5.2)	7.20 - 8.40 (7.77)	3 - 8 (5)
WS4-I3	8.72 - 10.87 (9.73)	2.7 - 11.7 (5.2)	7.30 - 8.40 (7.89)	3 - 6.5 (5)
WS5-R4	4.77 - 9.16 (7.14)	2.7 - 6.8 (4.3)	6.85 - 7.95 (7.34)	3 - 13 (6)
WS5-I4	5.96 - 9.90 (7.78)	1.9 - 6.9 (4.2)	6.85 - 7.90 (7.43)	3 - 6 (5)
WS6-R5[1]				
WS6-I5[1]				
WS6-C1	5.16 - 7.99 (6.95)	1.9 - 18.1 (4.4)	6.60 - 7.50 (6.99)	4 - 8 (5)
WS6-R6	4.04 - 8.56 (6.93)	2.5 - 5.0 (3.9)	6.70 - 7.60 (7.11)	3 - 8.5 (5)
WS6-I6	3.59 - 9.05 (6.88)	1.0 - 5.2 (3.4)	6.65 - 7.60 (7.10)	4 - 10 (5)

Remark:
1) Monitoring location dried up and detailed refer to Appendix H2.

Other factor influencing the monitoring results

Noise

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

Water Quality

5.5.4 A number of exceedances were recorded in the reporting month. However, based on the finding from the investigation on the recorded cases of exceedances, the cause was found not related to the project. The exceedances may be caused by influences in the vicinity of the station or changes of the ambient conditions.

5.6 Comparisons of Monthly EM&A Data with the EIA Predictions

Noise

5.6.1 The EM&A data was compared with the EIA predictions as summarized in Tables 5.7.

Table 5.7 Comparison of Noise Monitoring Data with EIA Predictions

NSR	Predicted Mitigated Construction Noise Levels (1)		Monitoring Results (Range)			
NSR1 Columbarium of Po Lin Monastery	55 - 70	dB(A)	43.1	-	48.8	dB(A)
NSR5 Village House No. 49A	48 - 86	dB(A)	49.8	-	53.5	dB(A)
NSR8 Village House No. 34	51 - 73	dB(A)	48.6	-	55.1	dB(A)

Note
(1) Predicted Mitigated Construction Noise Levels refer to EMA Report Table 4.11.

5.6.2 The monitoring results in the reporting period in NSR1, NSR5 and NSR8 were within or below the ranges of the predicted mitigated constriction noise levels in the EIA Report.

Water Quality

5.6.3 As no water quality prediction in EIA report, the ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirements. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.

6. NON-COMPLIANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION

6.1 Non-compliance (Exceedances)

Noise

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

Water Quality

6.1.2 4 Action Level and 7 Limit Level exceedances were recorded in the reporting period.

6.1.3 As confirmed by Contractor, no construction work was carried out in the vicinity of the monitoring station. Moreover, according to our field observations, no construction site run-off or sewage direct discharge from construction site. Based on the finding from the investigation on the recorded cases of exceedances, the cause was found not related to the project. Detailed of monitoring exceedance are shown in Appendix H2.

6.2 Complaints Received

6.2.1 No complaints, were received in the reporting period.

6.3 Notification of Summons and Successful Prosecution

6.3.1 No notification of summons or successful prosecutions were received in the reporting period.

6.3.2 The Cumulative exceedances, complaint log, notification of summons and successful prosecutions are presented in Appendix I.

7. FUTURE KEY ISSUES

7.1 Construction Works for Next Three Month

7.1.1 During the next three month reporting period, the principal work activities within the site included:

Portion A

- Install noise barrier
- Excavation
- Sheet piling
- Trial pit
- TBM

Portion B

- Install noise barrier
- Trial pit
- Excavation
- Box culvert
- Sheet piling

Portion C

- Set up site office
- Excavation
- Sheet piling
- Jacking pit
- TBM

7.1.2 The anticipated impact of principal work activities within the site and the recommended mitigation measures are shown in Appendix B3.

7.2 Monitoring Schedules for Next Three Month

7.2.1 The tentative schedules for environmental monitoring for next three month are provided in Appendix G.

8. COMMENTS, RECOMMENDATIONS AND CONCLUSIONS

Effectiveness and Efficiency of Mitigation Measures

8.1.1 The regularly site inspections and environmental impact monitoring ensured that all the environmental mitigation measures recommended in EM&A Manual were effectively implemented. Despite the deficiencies found during site audits, the Contractor had taken appropriate actions to rectify deficiencies within a reasonable timeframe. Therefore, the effectiveness and efficiency of the mitigation measures were considered satisfactory for most of the time.

Improvement in the EM&A Programme

8.1.2 The EM&A programme was considered successfully and adequately conducted in the reporting period.

Conclusions

8.1.3 This is the 1st monthly EM&A Report which summaries the results and findings of the EM&A programme required for the Project from 2 January 2021 to 31 January 2021.

Noise

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

Water Quality

8.1.5 4 Action Level and 7 Limit Level exceedances were recorded in the reporting period.

8.1.6 As confirmed by Contractor, no construction work was carried out in the vicinity of the monitoring station. Moreover, according to our field observations, no construction site run-off or sewage direct discharge from construction site. Based on the finding from the investigation on the recorded cases of exceedances, the cause was found not related to the project. No complaints, were received in the reporting period.

8.1.7 No notification of summons or successful prosecutions were received in the reporting period.

8.1.8 There was no reporting change required in the reporting period.

8.1.9 Potential environmental impacts due to the construction activities will be monitored or reviewed. The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirements. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.

Figure 1 Project Location

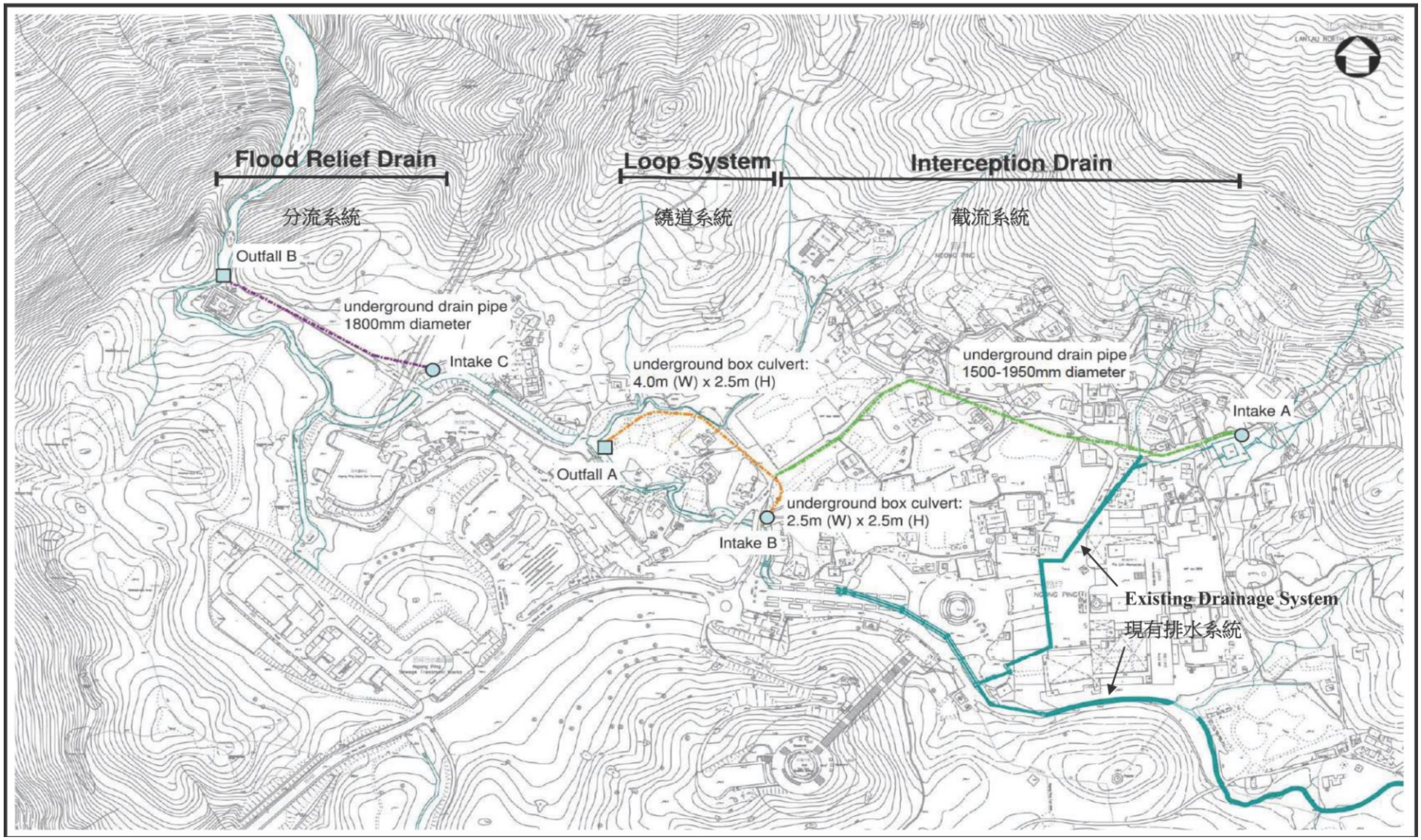


Figure 2a Noise Monitoring Locations (Part 1)

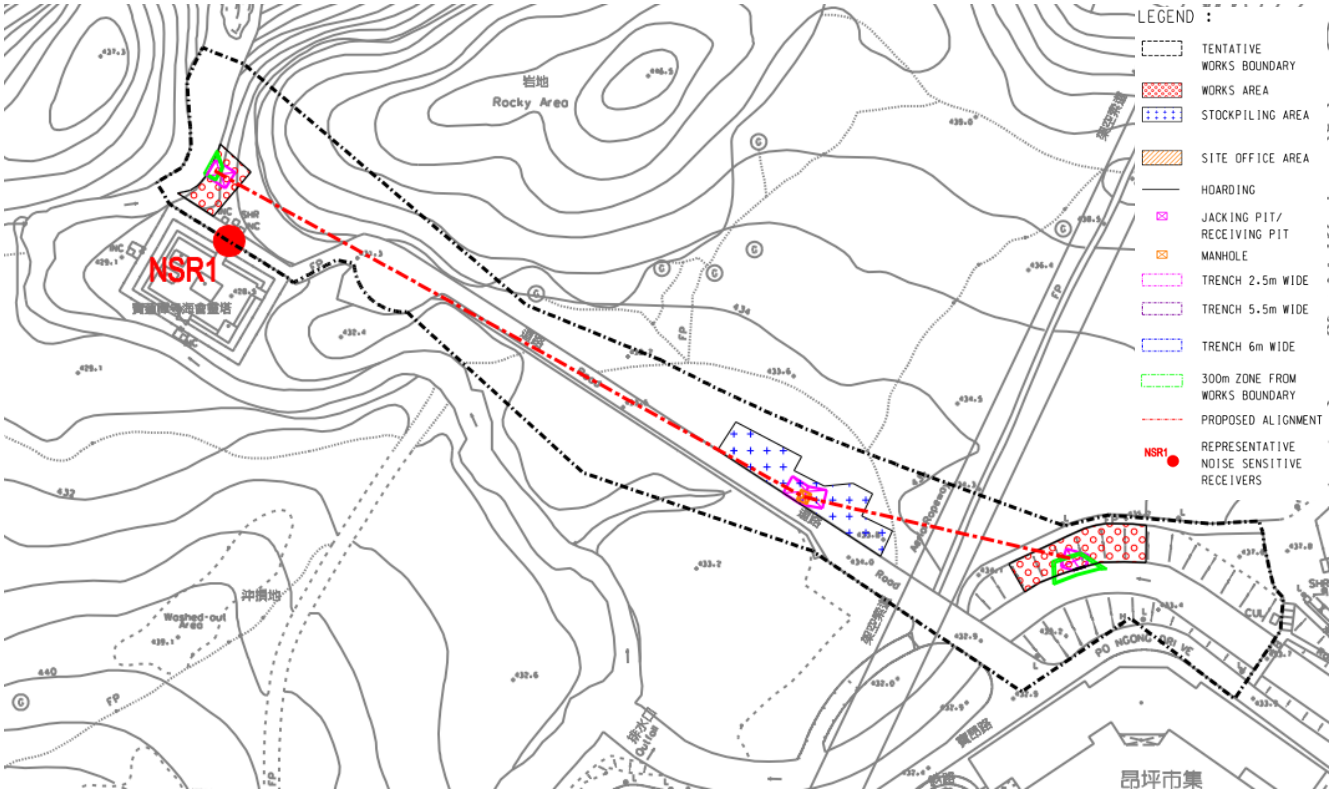
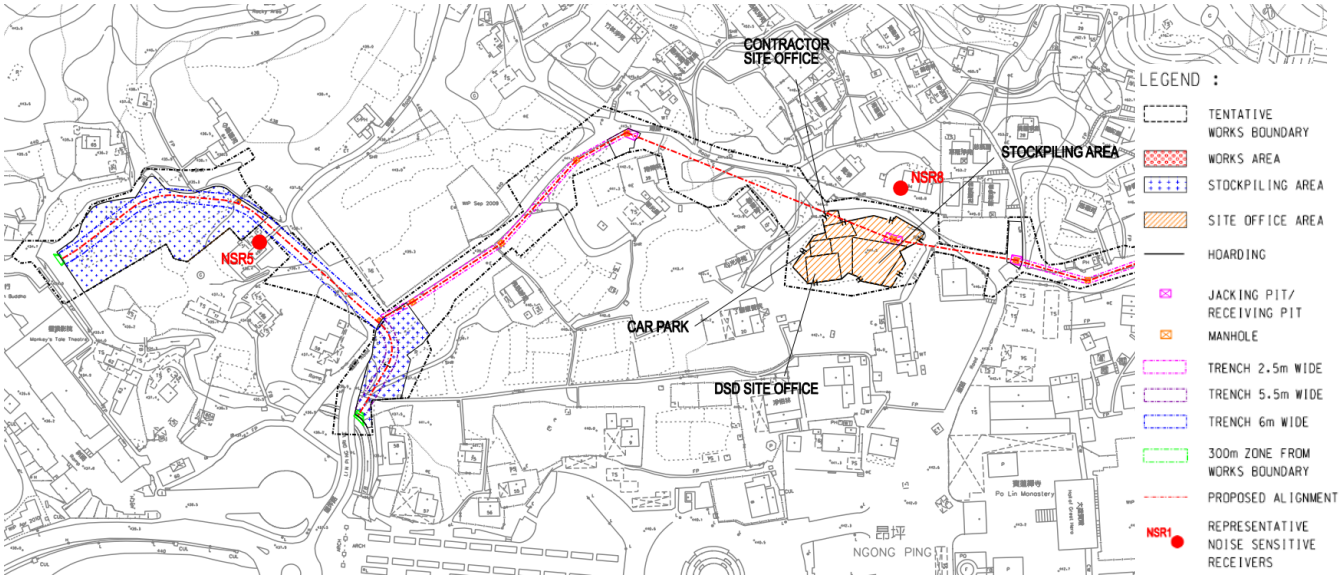


Figure 2b Noise Monitoring Locations (Part 2)

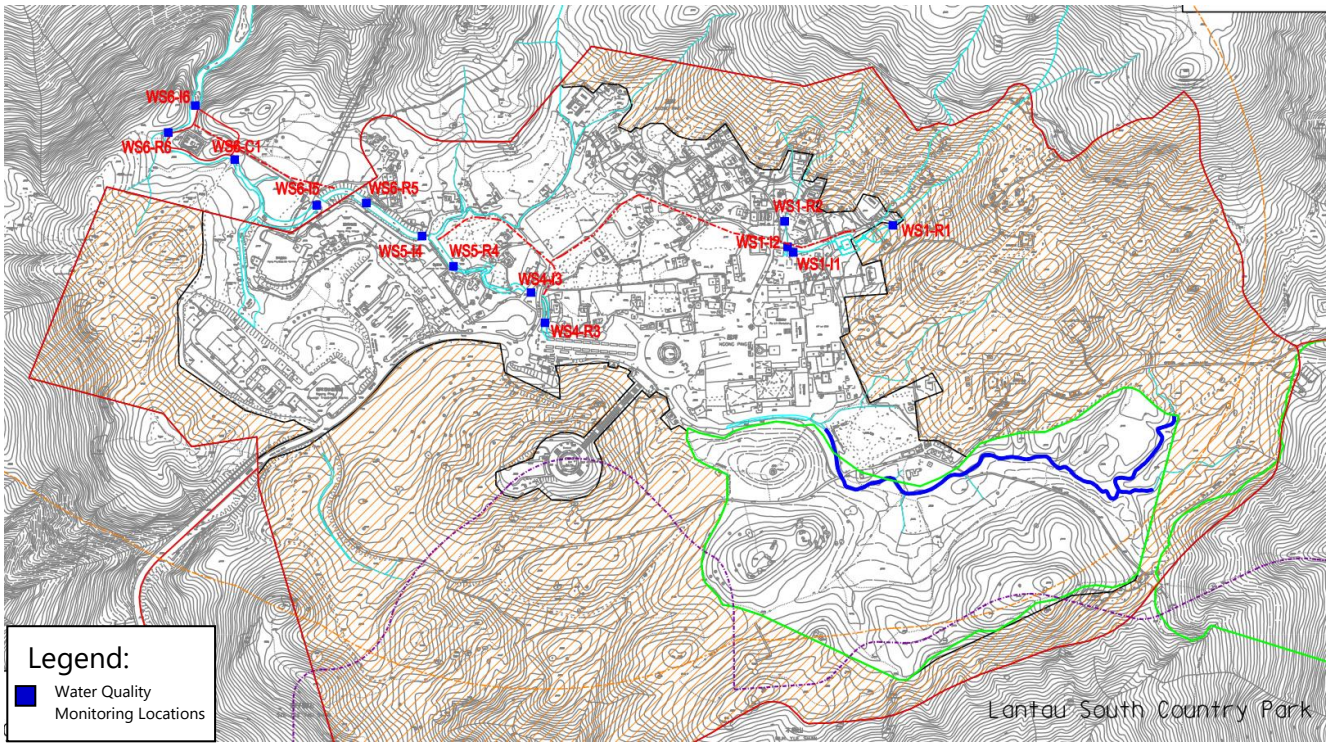


NSRs*	Monitoring Location	Type of Measurement#
NSR1	Columbarium of Po Lin Monastery	Free-field
NSR5	Village House No. 49A	Free-field
NSR8	Village House No. 34	Façade

* NSRs = Noise Sensitive Receivers

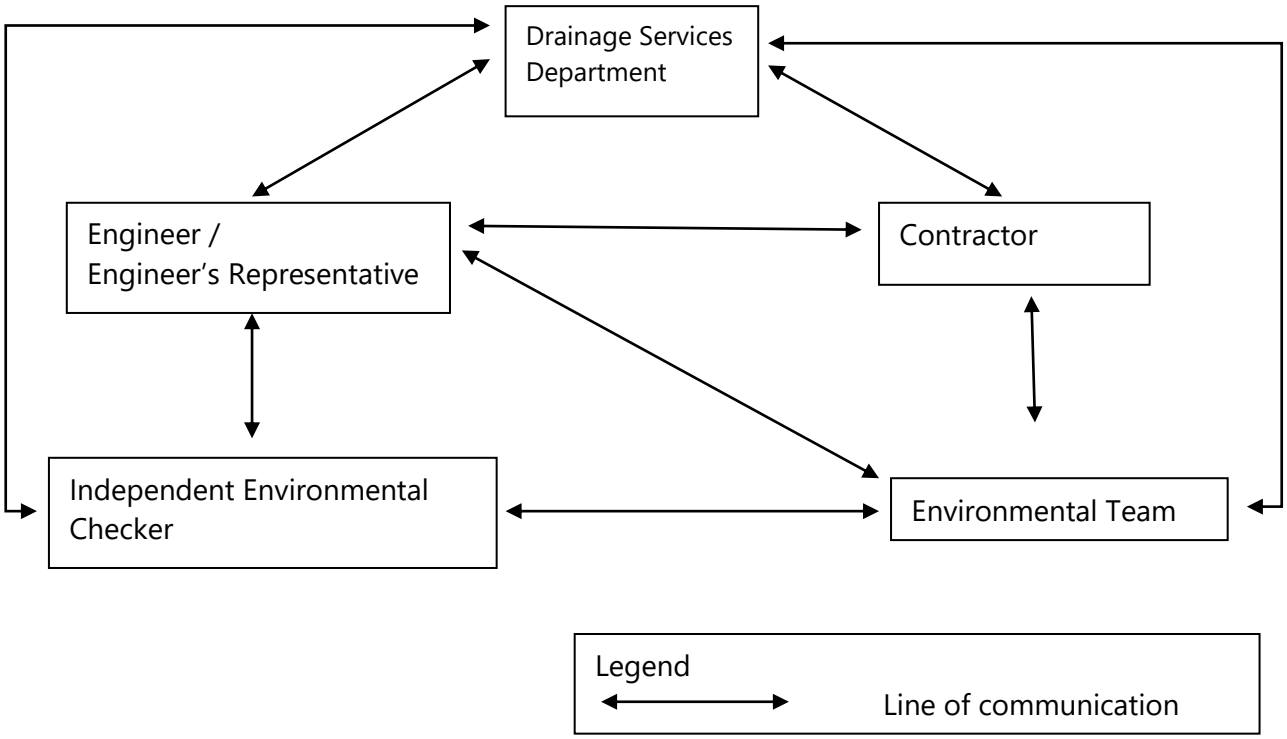
#For Free-field measurement, +3dB(A) should be added to the measured results

Figure 2c Water Quality Monitoring Locations



Station	Type
WS1-R1	Upstream reference
WS1-I1	Downstream impact
WS1-R2	Upstream reference
WS1-I2	Downstream impact
WS4-R3	Upstream reference
WS4-I3	Downstream impact
WS5-R4	Upstream reference
WS5-I4	Downstream impact
WS6-R5	Upstream reference
WS6-I5	Downstream impact
WS6-C1	Intermediate Control
WS6-R6	Upstream reference
WS6-I6	Downstream impact

Appendix A Project Organization and Management Structure

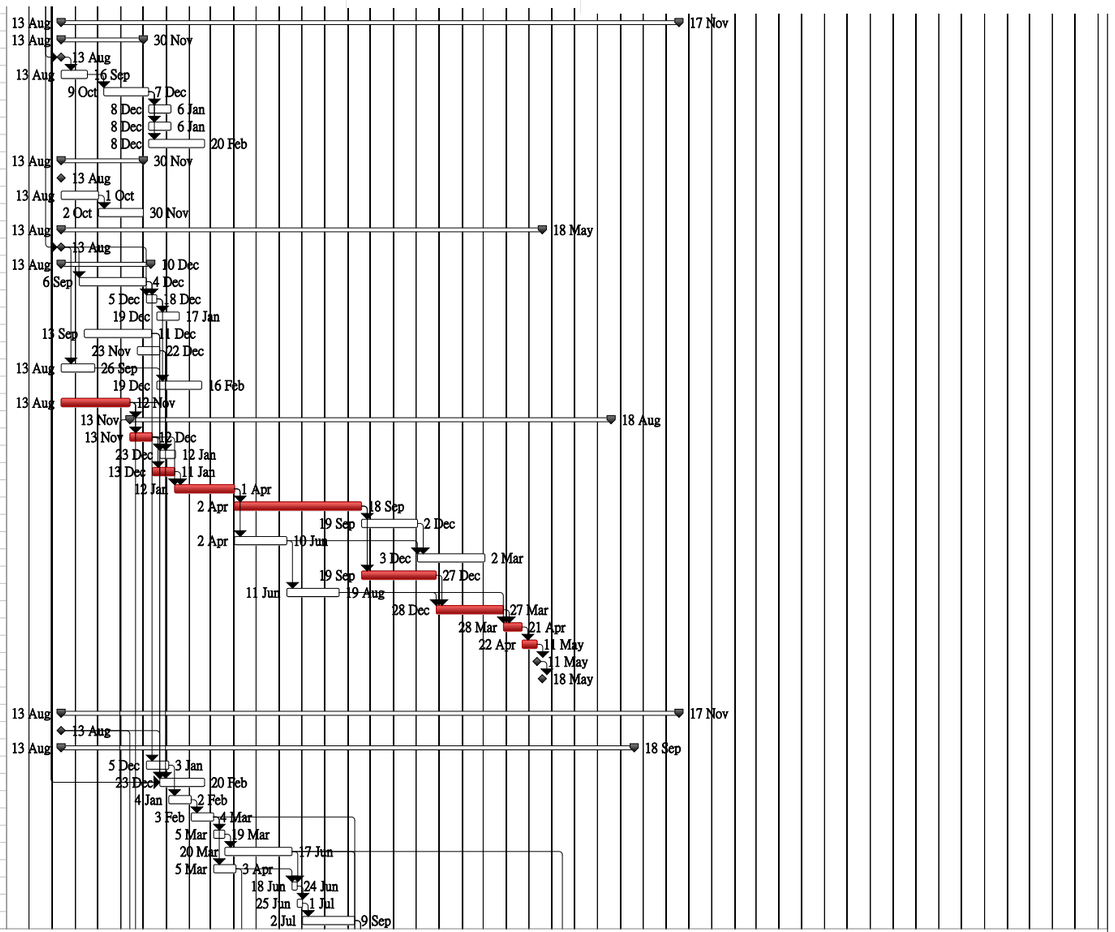


Note: Detailed key personnel contact names and telephone numbers refer to Table 1.1.

Appendix B1 Construction Programme

FIRST PROGRAMME (Rev. 4.0)

ID	WBS	Duration	Start	Finish	Predecessors
307	**LOCATION L3 - NGONG PING**	**827 days**	**Thu 13/8/20**	**Thu 17/11/22**	
308	**Works Area 3A**	**110 days**	**Thu 13/8/20**	**Mon 30/11/20**	
309	***Access date***	***0 days***	***Thu 13/8/20***	***Thu 13/8/20***	***1SS***
310	Preparation works	35 days	Thu 13/8/20	Wed 16/9/20	309
311	Subletting and design for PM's accommodation (MIC)	60 days	Fri 9/10/20	Mon 7/12/20	310
312	Fabrication of PM's accommodation off site	30 days	Tue 8/12/20	Wed 6/1/21	311
313	Site hoarding/chain link fence and project signboard at works area	30 days	Tue 8/12/20	Wed 6/1/21	311
314	Erection of PM's accommodation (subject to PM's agreement)	75 days	Tue 8/12/20	Sat 20/2/21	311
315	**Works Area 3B**	**110 days**	**Thu 13/8/20**	**Mon 30/11/20**	
316	***Access date***	***0 days***	***Thu 13/8/20***	***Thu 13/8/20***	
317	Preparation works	50 days	Thu 13/8/20	Thu 1/10/20	
318	Site hoarding/chain link fence	60 days	Fri 2/10/20	Mon 30/11/20	317
319	**PORTION 3A - DN1800**	**644 days**	**Thu 13/8/20**	**Wed 18/5/22**	
320	***Access date***	***0 days***	***Thu 13/8/20***	***Thu 13/8/20***	***1SS***
321	**Preparation Works for Portion 3A and 3B**	**120 days**	**Thu 13/8/20**	**Thu 10/12/20**	
322	Subletting and procurement	90 days	Sun 6/9/20	Fri 4/12/20	320
323	Preparation works	14 days	Sat 5/12/20	Fri 18/12/20	320,322
324	Application of Lantau closed road permits	30 days	Sat 19/12/20	Sun 17/1/21	323
325	Initial survey	90 days	Sun 13/9/20	Fri 11/12/20	
326	Tree survey	30 days	Mon 23/11/20	Tue 22/12/20	
327	Underground utitlies detection	45 days	Thu 13/8/20	Sat 26/9/20	320
328	Liaison with representatives of Ngong Ping Village, Po Lin Monastery & NP 360	60 days	Sat 19/12/20	Tue 16/2/21	323
329	Establishment of ET and IEC & baseline monitoring	92 days	Thu 13/8/20	Thu 12/11/20	
330	**DN1800 by TBM (approx. 200m) team A**	**644 days**	**Fri 13/11/20**	**Thu 18/8/22**	**329**
331	Establishing method statement and obtaining approval	30 days	Fri 13/11/20	Sat 12/12/20	329
332	Set up of enviromental mitigation measures	21 days	Wed 23/12/20	Tue 12/1/21	329,325,326,327,331
333	Trial pit excavation	30 days	Sun 13/12/20	Mon 11/1/21	331
334	Setting up of TBM at Launching Pit at MHL305	80 days	Tue 12/1/21	Thu 1/4/21	333,331
335	TBM pipe jacking between L305 to Outfall No.2 (140m approx, 1 day/m)	170 days	Fri 2/4/21	Sat 18/9/21	334
336	Extraction of TBM from outfall No.2	75 days	Sun 19/9/21	Thu 2/12/21	335
337	Construction of receiving pit at Outfall No.2	70 days	Fri 2/4/21	Thu 10/6/21	334
338	Construction of Outfall No. 2	90 days	Fri 3/12/21	Wed 2/3/22	337,336
339	Trecnhless by using hand digging between L305 to Intake No.3 (60m approx, 1 day/0.7m)	100 days	Sun 19/9/21	Mon 27/12/21	335
340	Construction of receving pit at Intake No. 3	70 days	Fri 11/6/21	Thu 19/8/21	337
341	Construction of Intake No.3	90 days	Tue 28/12/21	Sun 27/3/22	340,339
342	Reinstatement works	25 days	Mon 28/3/22	Thu 21/4/22	340,341
343	Final site clearance	20 days	Fri 22/4/22	Wed 11/5/22	342
344	**Planned completion date of Section 1 (Portion 3A)**	0 days	Wed 11/5/22	Wed 11/5/22	343
345	**Sectional Completion of Section 1 (Portion 3A)**	**0 days**	**Wed 18/5/22**	**Wed 18/5/22**	**344**
346					
347	**PORTION 3B - DN1500 & Box Culvert team C**	**827 days**	**Thu 13/8/20**	**Thu 17/11/22**	
348	***Access date***	***0 days***	***Thu 13/8/20***	***Thu 13/8/20***	
349	**DN1500 by TBM (approx. 440m)**	**767 days**	**Thu 13/8/20**	**Sun 18/9/22**	
350	Establishing method statement and obtaining approval	30 days	Sat 5/12/20	Sun 3/1/21	322
351	Set up of enviromental mitigation measures	60 days	Wed 23/12/20	Sat 20/2/21	329,325,326,348,1SS,330SS,331
352	Trial pit excavation	30 days	Mon 4/1/21	Tue 2/2/21	350
353	Construction of jacking pit at L304	30 days	Wed 3/2/21	Thu 4/3/21	352
354	Setting up of TBM at L304	15 days	Fri 5/3/21	Fri 19/3/21	353
355	Trenchless construction by TBM (approx. 90m from L304 to connection at BC)	90 days	Sat 20/3/21	Thu 17/6/21	354
356	Construction of receiving pit at connection with proposed box culvert (BC)	30 days	Fri 5/3/21	Sat 3/4/21	353
357	Extraction of TBM from BC	7 days	Fri 18/6/21	Thu 24/6/21	355,356
358	Setting up of TBM at L304	7 days	Fri 25/6/21	Thu 1/7/21	357
359	Trenchless construction by TBM (approx. 67m from L304 to L303, 1day/m)	70 days	Fri 2/7/21	Thu 9/9/21	358

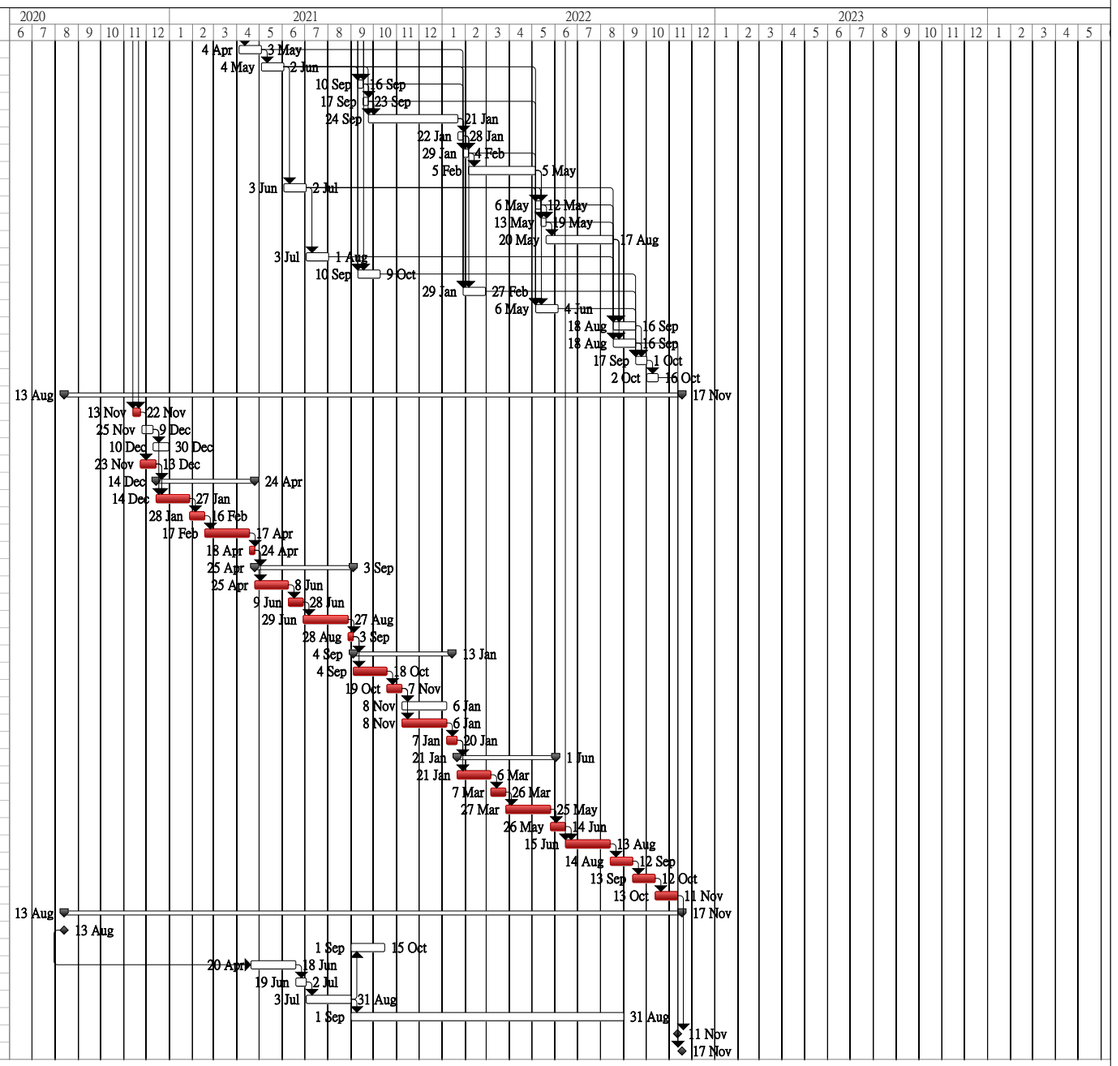


Non-critical tasks | Milestone | Summary | Critical

Drainage Improvement Works at Northern New Territories (remaining works), Southern Hong Kong Island & Ngong Ping

FIRST PROGRAMME (Rev. 4.0)

ID	WBS	Duration	Start	Finish	Predecessors
360	Construction of receiving pit at L303	30 days	Sun 4/4/21	Mon 3/5/21	356
361	Construction of jacking pit at L302	30 days	Tue 4/5/21	Wed 2/6/21	360
362	Extraction of TBM from L303	7 days	Fri 10/9/21	Thu 16/9/21	361,359
363	Setting up of TBM at L302	7 days	Fri 17/9/21	Thu 23/9/21	362
364	Trenchless construction by TBM (approx. 120m from L302 to L303, 1day/m)	120 days	Fri 24/9/21	Fri 21/1/22	361,363
365	Extraction of TBM at L303	7 days	Sat 22/1/22	Fri 28/1/22	364
366	Setting up of TBM at L302	7 days	Sat 29/1/22	Fri 4/2/22	365,361
367	Trenchless construction by TBM (approx. 90m from L302 to L301, 1day/m)	90 days	Sat 5/2/22	Thu 5/5/22	366
368	Construction of the jacking pit at L301	30 days	Thu 3/6/21	Fri 2/7/21	361
369	Extraction of TBM at L301	7 days	Fri 6/5/22	Thu 12/5/22	368,367
370	Setting up of TBM at L301	7 days	Fri 13/5/22	Thu 19/5/22	369,368
371	Trenchless construction by TBM (approx. 80m from L301 to Intake no.1, 1day/m)	90 days	Fri 20/5/22	Wed 17/8/22	370
372	Construction of receiving pit at Intake No.1	30 days	Sat 3/7/21	Sun 1/8/21	368
373	Construction of manholes L304	30 days	Fri 10/9/21	Sat 9/10/21	355,353,359
374	Construction of manholes L303	30 days	Sat 29/1/22	Sun 27/2/22	360,362,364,365
375	Construction of manholes L302	30 days	Fri 6/5/22	Sat 4/6/22	367,361,366,363
376	Construction of manholes L301	30 days	Thu 18/8/22	Fri 16/9/22	368,371,369,370
377	Construction of Intake No.1	30 days	Thu 18/8/22	Fri 16/9/22	371,372
378	Final reinstatement works	15 days	Sat 17/9/22	Sat 1/10/22	374,373,375,376,377
379	Final site clearance	15 days	Sun 2/10/22	Sun 16/10/22	378
380	**Box Culvert (approx. 252m) team B**	**827 days**	**Thu 13/8/20**	**Thu 17/11/22**	
381	Set up of enviromental mitigation measures	10 days	Fri 13/11/20	Sun 22/11/20	348,329
382	Submission of method statement for construction of box culvert	15 days	Wed 25/11/20	Wed 9/12/20	
383	Trial pit excavation	21 days	Thu 10/12/20	Wed 30/12/20	382
384	Temporary drainage diversion	21 days	Mon 23/11/20	Sun 13/12/20	381
385	**CH95 - CH150**	**132 days**	**Mon 14/12/20**	**Sat 24/4/21**	**384**
386	Temporary works for ELS	45 days	Mon 14/12/20	Wed 27/1/21	384,382
387	Excavation and erection of ELS	20 days	Thu 28/1/21	Tue 16/2/21	386
388	Construction of box culvert	60 days	Wed 17/2/21	Sat 17/4/21	387
389	Backfilling and reinstatement works	7 days	Sun 18/4/21	Sat 24/4/21	388
390	**CH150 - CH200**	**132 days**	**Sun 25/4/21**	**Fri 3/9/21**	**389**
391	Temporary works for ELS	45 days	Sun 25/4/21	Tue 8/6/21	389
392	Excavation and erection of ELS	20 days	Wed 9/6/21	Mon 28/6/21	391
393	Construction of box culvert	60 days	Tue 29/6/21	Fri 27/8/21	392
394	Backfilling and reinstatement works	7 days	Sat 28/8/21	Fri 3/9/21	393
395	**CH200 - CH252**	**132 days**	**Sat 4/9/21**	**Thu 13/1/22**	**394**
396	Temporary works for ELS	45 days	Sat 4/9/21	Mon 18/10/21	394
397	Excavation and erection of ELS	20 days	Tue 19/10/21	Sun 7/11/21	396
398	Construction of box culvert	60 days	Mon 8/11/21	Thu 6/1/22	397
399	Construction of Outfall No.1	60 days	Mon 8/11/21	Thu 6/1/22	397
400	Backfilling and reinstatement works	14 days	Fri 7/1/22	Thu 20/1/22	399
401	**CH40 - CH95**	**132 days**	**Fri 21/1/22**	**Wed 1/6/22**	**400**
402	Temporary works for ELS	45 days	Fri 21/1/22	Sun 6/3/22	400
403	Excavation and erection of ELS	20 days	Mon 7/3/22	Sat 26/3/22	402
404	Construction of box culvert	60 days	Sun 27/3/22	Wed 25/5/22	403
405	Construction of Intake No.2	20 days	Thu 26/5/22	Tue 14/6/22	404
406	**Construction the connection between DN1500 and box curlvert**	**60 days**	**Wed 15/6/22**	**Sat 13/8/22**	**405,355**
407	Backfilling and reinstatement works	30 days	Sun 14/8/22	Mon 12/9/22	406
408	Final reinstatement works	30 days	Tue 13/9/22	Wed 12/10/22	407
409	Final site clearance	30 days	Thu 13/10/22	Fri 11/11/22	408
410	**PORTION 3C**	**827 days**	**Thu 13/8/20**	**Thu 17/11/22**	
411	***Access date***	***0 days***	***Thu 13/8/20***	***Thu 13/8/20***	
412	Subletting and procurement	45 days	Wed 1/9/21	Fri 15/10/21	415
413	Preparation Works	60 days	Tue 20/4/21	Fri 18/6/21	411SS+250 days
414	Coordination with DSD sewage treatment plant	14 days	Sat 19/6/21	Fri 2/7/21	413
415	Planting of trees for compensation (subject to PM's instruction)	60 days	Sat 3/7/21	Tue 31/8/21	414
416	Establishment works for planted trees	365 days	Wed 1/9/21	Wed 31/8/22	415
417	**Planned completion date of Section 2**	0 days	Fri 11/11/22	Fri 11/11/22	409
418	**Section Completion of Section 2 (Portion 3B)**	**0 days**	**Thu 17/11/22**	**Thu 17/11/22**	**379,377**



Non-critical tasks | Milestone | Summary | Critical

Appendix B2 Works Undertaken Illustrations

Portion C

	
Set up site office	

Appendix B3 Proactive Environmental Protection or Control Measures for Next Three Month

Activity / Impact	Excavation of Trench or Pit	Pipe Lining	Installation of Drainage Pipe	Box culvert	TBM	Control Measures
Air Pollution Nuisance	✓	✓	✓	✓	✓	– Use of regular watering to reduce dust emissions – Open stockpiles shall be avoided or covered.
Noise Nuisance	✓	✓	✓		✓	– Use of quieter plant (QPME) – Use suitable acoustic enclosure. – Installation of a fixed noise barrier.
Water Nuisance		✓		✓	✓	– Intercept the surface runoff by sand bag or etc. – Treat the wastewater before discharge.
Waste Nuisance		✓	✓		✓	– The site and surroundings shall be kept tidy and litter free. – General refuse arising on-site should be stored in enclosed bins separately from C&D and chemical wastes – Recycle as many C&D materials as possible on-site
Ecology	✓	✓	✓	✓		– avoid damage and disturbance to the remaining and surrounding natural habitat – construction activities should be restricted to the proposed works boundary

Moreover, the ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirements. The recommended environmental mitigation measures shall be implemented on site and regular inspections as required will be carried out to ensure that the environmental conditions are acceptable.

Appendix B4 Waste Flow Table

Name of Department: DSD

Contract No.: DC/2019/06

Monthly Summary Waste Flow Table for 2021

Contract Title: **Drainage Improvement Works in Northern Territories (remaining works), Southern Hong Kong Island & Ngong Ping**
Location: **L3 - Ngong Ping**

Month	Quantities of Inert C&D Materials Generated						Quantities of Non-inert C&D Materials Generated				
	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	Plastic (see Note 3)	Chemical Waste	Other, e.g. General Refuse
	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)
26-Jan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26-Feb											
26-Mar											
26-Apr											
26-May											
26-Jun											
Sub-total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26-Jul											
26-Aug											
26-Sep											
26-Oct											
26-Nov											
26-Dec											
Yearly Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Name of Department: DSD

Contract No.: DC/2019/06

Monthly Summary Waste Flow Table for 2021

Contract Title: **Drainage Improvement Works in Northern Territories (remaining works), Southern Hong Kong Island & Ngong Ping**
Location: **L3 - Ngong Ping**

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	Plastic (see Note 3)	Chemical Waste	Other, e.g. General Refuse
(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)	(0.00tonne)
49323.00	24660.00	8220.00	0.00	16440.00	0.00	0.00	0.00	0.00	0.00	3.00

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 C1 EP-456/2013/A Conditions

Summary Table for Status of Compliance / Required Submission

EP Conditions	Submission(s)	Submission Date	Approval Status
2.6	Landscape Plan (Rev. D)	17/11/2021	Pending for approval
2.7	Landscape as-built drawing(s)	At least one month before the Project commences operation	*
2.8	Updated Baseline Vegetation Survey Report (Rev. D)	12/01/2021	*
	Floral Protection Plan (Rev. G)	21/01/2021	*
	Floral Transplantation Plan (Rev. E)	14/12/2020	*
2.10	Aquatic Fauna Translocation Plan (Rev. H)	28/12/2020	*
2.11	Aquatic Fauna Translocation Survey Report (Rev. A)	02/02/2021	*
4.3	Noise Baseline Monitoring Report (Rev. A)	30/10/2020	*
	Water Quality Baseline Monitoring Report (Rev. D)	29/01/2021	*

*Remarks: * Approval not required in EP-456/2013/A*

Appendix C2 Mitigation Measures Implementation (Construction Phase)

Environmental Protection Measures (Construction Phase) [1]	Status
A) Air Quality	
Watering once per hour for 12 hours a day at **exposed soil in all active works areas and paved haul roads** to reduce dust emissions by 91.7%. The amount of water to be applied would be 0.25L/m^2 for the respective watering frequency.	**N/O**
Dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices:	--
■ Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather;	^
■ Use of frequent watering for particularly dusty construction areas and areas close to ASRs;	^
■ Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines;	**N/O**
■ Open stockpiles shall be avoided or covered. Prevent placing dusty material storage piles near ASRs;	**N/O**
■ Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations;	**N/O**
■ Establishment and use of vehicle wheel and body washing facilities at the exit points of the site;	**N/O**
■ Imposition of speed controls for vehicles on unpaved site roads, 8 km per hour is the recommended limit;	^
■ Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs;	^
■ Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;	**N/O**
■ Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; and	**N/O**
■ Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system.	**N/O**
B) Noise	
The use of quieter plant (QPME) is specified for the list of equipment:	--
■ Tracked excavator fitted with hydraulic rock breaker; ■ Concrete lorry mixer; ■ Tracked mobile crane (132kW, 55t); ■ Dump Truck; ■ Tracked excavator (14t); ■ Generator, Super Silenced, 70 dB(A) at 7m; ■ Poker vibratory; ■ Hand Held Electric Circular Saw, 150mm Blade with SWL of 103dB(A) or less; ■ Electric Chain-Saw, Hand-held; and ■ Water Pump, Submersible (Electric).	^
For the Columbarium (NSR1), the vertical gaps along of edge of the solid boundary wall facing the works area WA4 should be covered with acoustic fabric or small barrier for noise screening.	**N/A**
The use of temporary noise barrier / enclosure are specified for the list of equipment:	--
■ Bar Bender and Cutter (Electric) - Noise Enclosure ■ Tracked excavator fitted with hydraulic rock breaker - Temporary Noise barrier; ■ Tracked excavator (14t) - Temporary Noise barrier ■ Generator, Super Silenced, 70 dB(A) at 7m - Noise Enclosure; and ■ Hand Held Electric Circular Saw, 150mm Blade - Noise Enclosure.	**N/O**
Installation of a fixed noise barrier of 3m in height between the NSR5 and the open cut trench (Activities 4 and 4+ at Works Section 5)	**N/A**
Implementation of further good site practices:	--
■ Only well-maintained plant should be operated on- site and PME should be serviced regularly during the construction programme;	^
■ Silencers or mufflers on construction equipment should be utilised and properly maintained throughout the construction programme;	**N/O**
■ Any mobile PME should be sited as far from NSRs as possible;	**N/O**
■ Machines and PME that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;	**N/O**
■ PME known to emit noise strongly in one direction should be orientated to direct away from the nearby NSRs;	**N/O**
■ Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities;	^
■ Use of acoustic enclosure, in accordance with EPD's A Practical Guide for the Reduction of Noise from Construction Works; and	**N/O**
■ Re-scheduling of works should be considered to ameliorate the residual impact.	**N/O**
C) Water Quality	--
In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), construction phase mitigation measures shall include the following:	--
■ At the establishment of Site Office (**SO**), works area (**WA1 and WA2**) and stockpiling areas (**SA1, SA2, SA3 and SA4**; ~~(see Figures 2.9a-2.9g)~~, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided to divert the stormwater to silt removal facilities. The **design of the temporary on-site drainage system** will be undertaken by the Contractor prior to the commencement of construction;	**N/O**
■ Dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap.	**N/O**

Environmental Protection Measures (Construction Phase) [1]	**Status**
Sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates;	
■ While ProPECC PN 1/94 requires construction works should be programmed to minimise surface excavation works during **rainy seasons** (April to September). By the nature of the pipe laying works, it is considered not practicable to avoid excavation works in the wet season as this would substantially affect the overall construction programme. However, for works at areas that directly interface with the existing watercourses, excavation works shall avoid the rainy season as far as possible. These include **Intake A** interfacing the stream, **Intake B** interfacing the U channel, **Outfall A** interfacing the gabion channel, **Intake C/RP3** interfacing the gabion channel and **Outfall B/RP4** interfacing Ngong Ping Stream ~~(see Figures 2.9a-2.9g).~~ For the works in the above listed areas, an impermeable **cofferdam or similar barrier** to the level above the stream bank shall be erected to completely enclose these areas before any works are undertaken. This will ensure that any contaminated runoff from the works areas will not get into the ambient watercourses. These barriers shall not be removed until the interfacing works and the relevant upstream connected drains have been completed. All exposed earth areas should be completed and vegetated as soon as possible after the earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable;	**N/O**
■ Exposed slope surfaces should be covered by tarpaulin or other means during the rainy season;	**N/O**
■ 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. The 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;	**N/O**
■ The overall slope of works sites should be kept to a minimum to reduce the erosive potential of surface water flows, and all trafficked areas and access roads should be protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during the prolonged periods of inclement weather and the reduction of surface sheet flows;	**N/O**
■ All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure their proper and efficient operation at all times particularly following rainstorms. Deposited silts and grits should be removed regularly and disposed of proper waste receiving facilities. As the area is within the water gathering grounds, on-site disposal of silts/grits shall not be allowed;	**N/O**
■ Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet season is inevitable, they should be dug and backfilled in short sections wherever practicable. The water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;	**N/O**
■ Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers;	**N/O**
■ Precautions to be taken at any time of the year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted and during or after rainstorms, are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes;	**N/O**
■ All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at the exit of every construction site where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel- washing bay to public roads should be paved with sufficient backfall toward the wheel-washing bay to prevent vehicle tracking of soil and silty water to public roads and drains;	**N/O**
■ Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. Oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for oil interceptors to prevent flushing during heavy rain;	**N/O**
■ Stockpiled material shall be covered by tarpaulin and /or watered as appropriate to prevent windblown dust and surface run off. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system;	**N/O**
■ Major stockpiled areas shall be sited outside of the country parks area (Works Section 6) and away from stream courses as far as practicable. For the stockpiling area SA4 within the country park area, stockpiling of earthed material shall be minimised and excavated soil from Works Section 6 shall be delivered to the Site Office as soon as possible. Similarly, overnight stockpiling of earthed material along the exposed trench shall be minimised as far as possible and the excavated soil shall be transferred to the designated stockpiling area as soon as possible;	**N/O**
■ The Contractor shall comply with WSD's General Conditions for Working within Water Gathering Grounds as applicable;	**N/O**
■ The construction solid waste, debris and rubbish on-site should be collected, handled and disposed of properly to avoid causing any water quality impacts. The requirements for solid waste management are detailed in Section 9 of this EIA report; and	**N/O**
■ All fuel tanks and chemical and bentonite storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching the nearby WSRs.	**N/O**
There is a need to apply to the EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. It should particularly noted that the TM-DSS specifically **prohibits** the discharge of the following substances into the inland waters:	**N/A**
■ polychlorinated biphenyls (PCB); ■ polyaromatic hydrocarbon (PAH); ■ fumigant, pesticide or toxicant ;	
■ radioactive substances ; ■ chlorinated hydrocarbons; ■ flammable or toxic solvents ;	
■ petroleum oil or tar; ■ calcium carbide; ■ wastes liable to form scum, deposits or discoloration;	
■ sludge or solid refuse of any kind; and ■ detergents in Group A inland waters only.	

Environmental Protection Measures (Construction Phase) [(1)]	**Status**
The beneficial uses of the treated effluent for other on- site activities such as dust suppression, wheel washing and general cleaning etc, can minimise water consumption and reduce the effluent discharge volume and shall be encouraged. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license.	**N/A**
In addition to compliance with the discharge licence requirement, to prevent bank side erosion, the discharge of site effluents shall be either at existing storm drains or artificial channels. No effluent or treated surface runoff shall be allowed to discharge at natural stream course.	**N/O**
The use of bentonite slurries shall be minimised as far as possible. In addition to the requirement of a peripheral bunds and drainage system for the WA4 and SO, where the bentonite slurries will be used, to prevent any accidental release of bentonite slurry from getting into the surrounding environment, the following specific control measures shall be followed to reduce the risk and impacts of accidental spillage:	**--**
■ All bentonite slurry should be stored in a container that resistant to corrosion, maintained in good conditions and securely closed;	**N/O**
■ The container should be labelled in English and Chinese and note that the container is for storage of bentonite slurry only;	**N/O**
■ The storage container should be placed on an area of impermeable flooring and bunded with capacity to accommodate 110% of the volume of the container size or 20% by volume stored in the area and enclosed with at least 3 sides; and	**N/O**
■ Sufficiently covered to prevent rainfall entering the container or bunded area (water collected within the bund must be tested and disposed of as chemical waste, if necessary).	**N/O**
In order to reduce the possibility of frac-out, detailed ground investigation shall be undertaken to evaluate the likelihood of frac-out and if necessary advanced ground treatment applied before the commencement of the pipe jacking works. A member of the Contractor's site staff shall, also, be dedicated to closely monitor the ground surface above the pipe jacking head for any frac-outs release. The pipe jacking works and application of bentonite shall immediately stop if frac- outs are observed. Any frac-out shall be immediately cleaned or bunded to prevent spreading of the bentonite slurry. The Contractor shall immediately notify the Engineer and propose rectification measures to prevent further frac-out to the satisfaction of the Engineer before pipe jacking works resume. An emergency clean up kit shall be readily available at Works Section 2 and 6 where pipe jacking will be undertaken.	**N/O**
The handling and disposal of bentonite slurries should be undertaken in accordance within ProPECC PN 1/94. Surplus bentonite slurries used in construction works shall be reconditioned and reused wherever practicable. Residual bentonite slurry shall be disposed of from the site as soon as possible as stipulated in Clause 8.56 of the General Specification for Civil Engineering Works. The Contractor should explore alternative disposal outlets for the residual bentonite slurry (dewatered bentonite slurry to be disposed to a public filling area and liquid bentonite slurry if mixed with inert fill material to be disposed to a public filling area) and disposal at landfill should be the last resort.	**N/O**
The contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	**^**
Any maintenance facilities should be located outside Works Section 6 in the Lantau North Country Park. Such facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges. All maintenance activities which may generate chemical waste shall be undertaken in the Site Office area, as far as possible.	**^**
Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:	**--**
■ Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;	**^**
■ Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and	**^**
■ Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	**^**
In order to minimise the risk of accidental spillage, the use and storage of oils/chemicals/waste should be limited to absolute minimum volume and are to be removed from sites at the earliest opportunity. However, all chemical waste, fuels and oils shall be stored at the Site Office (SO), to minimise impact to the Lantau North Country Park and water gathering grounds.	**^**
In order to protect against an accidental spillage of fuel or oil, the Contractor will be required to prepare a **spill response plan** to the satisfaction of AFCD, EPD, FSD, HyD, Police, TD and WSD to define procedures for the control, containment and clean-up of any spillage that could occur on the construction site.	**^**
At all times, the Contractor shall comply with WSD's General Conditions for Working within Water Gathering Grounds as applicable.	**^**
The sewage of the site office will be connected the existing sewer networks and be treated at the Ngong Ping STW. Portable chemical toilets and sewage holding tanks are recommended for the handling of the construction sewage generated by the workforce at other works area. The use of temporary toilets within the water gathering ground, however, is also subject to the approval of Water Services Department. **A licensed contractor** should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance	**^**
The Outfall A and Intake C and associated works areas are within the gabion channel, the construction and operation of which was previously governed by the Environmental Permit EP-192/2004. While the EP was surrendered in May 2007, the currently proposed	**N/O**

Environmental Protection Measures (Construction Phase) [(1)]	**Status**
works at these locations shall, also, comply with the specific conditions of the EP (~~see Section 2.7 of this Report~~) as far as possible and in particular avoid works in the rainy period between April and September so as to minimise potential water quality pollution to the lowest possible.	
D) Ecology	**--**
Good construction practice measures which should be implemented and should include:	**--**
■ avoid damage and disturbance to the remaining and surrounding natural habitat;	**N/O**
■ placement of equipment in designated areas within the existing disturbed land;	**N/O**
■ spoil heaps should be covered at all times;	**N/O**
■ construction activities should be restricted to the proposed works boundary; and	**N/O**
■ disturbed areas to be reinstated immediately after completion of the works.	**N/O**
Landscape compensatory planting is recommended as mitigation for the loss of landscape and habitat. Recommended Planting Species included:	**--**
Tree	**--**
Cinnamomum burmannii, *Elaeocarpus sylvestris* *Ficus microcarpa* *Pongamia pinnata* *Schefflera heptaphylla* *Sapium discolor*	**N/A**
Minimisation mitigation measures required to protect water quality and the three aquatic faunal species of conservation would comprise controlling surface runoff:	**--**
■ All works on the banks of the natural stream should be undertaken within the dry season, where practical;	**^**
■ Perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented;	**N/A**
■ Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided to divert the stormwater to silt removal facilities;	**N/A**
■ Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources;	**N/A**
■ Stockpiled material shall be covered by tarpaulin and /or watered as appropriate to prevent windblown dust and surface run off;	**N/A**
■ Overnight stockpiling of earthed material along the exposed trench shall be minimised as far as possible and excavated soil shall be transferred to the designated stockpiling area as soon as possible;	**N/A**
■ All bentonite slurry shall be suitably stored in accordance with Section 5.8.8 of this EIA Report to minimise the chance of spillage;	**N/A**
■ All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils; and	**N/A**
■ Pipe jacking areas shall be closely monitored for frac-outs release of bentonite and frac-out area immediately cleaned if they occur.	**N/A**
The particular measures to protect the ecology of the Lantau North Country Park are summarised below:	**--**
■ Major stockpiled areas shall be sited outside of the country parks area (Works Section 6) and away from stream courses as far as practicable;	**^**
■ All backfilling material and cement required for this Works Section 6 shall be delivered daily and only the quantity required;	**^**
■ No storage of chemicals and waste in Works Section 6; and	**^**
■ No construction plant maintenance facilities in Works Section 6.	**^**
Treated site drainage shall be discharged via the existing drainage system or diverted to the artificial channel to prevent stream bank erosion and directly affect the stream ecology. No site drainage shall be allowed to be discharged at the natural stream bank.	**^**
E) Landscape and Visual	**--**
To maximize protection of existing resources including watercourses existing trees, ground vegetation and the associated understory habitats a "No-intrusion Zone" will be designated to various areas within and along the site boundary with rigid and durable fencing for each individual no-intrusion zone. Regular checks will be carried out to ensure that the work site boundaries are not exceeded, hoarding is properly maintained and that no damage is being caused to these protected areas.	**N/O**
A temporary screen hoarding shall be erected around the north side of the Site Office (SO) area to screen activities from local receivers. It shall be designed and to be compatible with the existing rural context, with visually unobtrusive design and colours where appropriate.	**^**
No night time work shall be programmed avoiding light pollution to visual receivers.	**^**
F) Cultural Heritage	
Four built heritage resources have been identified as being located in close proximity to the proposed works areas, namely, NP-19, NP-20, NP-21 and NP-26, as detailed in Appendix G1 and shown in Figures 8.12, 8.13 and 8.15 of the EIA Report. The structures may be damaged by contact with machinery and equipment. The recommended mitigation measures for each resource are as follows: ■ A buffer zone of a minimum of 5 metres in size (or if due to site/engineering constraints, as large as possible buffer zone should be provided) should be marked out for NP-19, NP-20, NP-21 and NP-26 by temporary fencing and placed around the structures 2 weeks prior to the construction works commencing.	**N/O**
Three built heritage resources have been identified as being in close proximity to an excavation area (NP-10, NP-11 and NP-19), a	**N/O**

Environmental Protection Measures (Construction Phase) [1]	**Status**
condition survey must be carried out by a qualified building surveyor or engineer one month in advance of works commencing near the buildings that may be affected by ground borne vibration. The Condition Survey Report should contain descriptions of the structure, identification of fragile elements, an appraisal of the condition and working methods for any proposed monitoring (including frequency of monitoring) and precautionary measures that are recommended. The Contractor must implement the approved monitoring and precautionary measures. ■ Vibration monitoring should be undertaken for the duration of the construction works based upon the recommendations of the approved Condition Survey Report, which will also define the frequency of monitoring required. The maximum acceptable level of vibration will be set at 15 mm/s. Based upon the findings of the condition survey, this limit may be revised for sensitive structures. The location of monitoring points should be situated on the structure closest to the construction works, unless the maximum level is set lower than the standard 15 mm/s, in which case monitoring points should be located on each affected structure. Installation of monitoring points must not damage the historic building fabric. The location of monitoring points (and access to the property for purposes of measurement) must be agreed with the property owner prior to installation.	
G) Waste Management	
The requirements as stipulated in the ETWB TC(W) No.19/2005 Environmental Management on Construction Sites and the other relevant guidelines should be included in the Particular Specification for the Contractor as appropriate.	
The future Contractor should be requested to submit a Waste Management Plan (WMP), which becomes part of the Environmental Management Plan (EMP), prior to the commencement of construction work, in accordance with the ETWB TC(W) No.19/2005 so as to provide an overall framework of waste management and reduction. The WMP should include:	^
■ Waste management policy; ■ Record of generated waste; ■ Waste reduction target; ■ Waste reduction programme;	
■ Role and responsibility of waste management team; ■ Benefit of waste management; ■ Analysis of waste materials;	
■ Reuse, recycling and disposal plans; ■ Transportation process of waste products; and ■ Monitoring and action plan.	
A trip-ticket system should be established in accordance with DevB TC(W) No. 6/2010 and Waste Disposal (Charges for Disposal of Construction Waste) Regulation to monitor the disposal of public fill and solid wastes at public filling facilities and landfills, and to control fly-tipping. A trip-ticket system would be included as one of the contractual requirements for the Contractor to strictly implement. The Engineer would also regularly audit the effectiveness of the system.	^
A recording system for the amount of waste generated, recycled and disposed (locations) should be established. The future Contractor should also provide proper training to workers regarding the appropriate concepts of site cleanliness and waste management procedures, e.g. waste reduction, reuse and recycling all the time.	^
The CEDD should be timely notified of the estimated volumes of excavated materials to be generated and the Public Fill Committee should be notified and agreement sort on the disposal of surplus inert C&D materials. Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and to ensure acceptability at public filling areas or reclamation sites.	**N/O**
Recommendations for good site practices:	--
■ The site and surroundings shall be kept tidy and litter free;	^
■ No waste shall be burnt on-site;	^
■ Make provisions in contract documents to allow and promote the use of recycled aggregates where appropriate;	^
■ The Contractor will be prohibited to dispose of C&D materials within the proposed site and at any sensitive locations including Lantau North Country Park, the Lantau South Country Park, the Ngong Ping Site of Special Scientific Interest, the Lantau Peak Special Area and Site of Special Scientific Interest and the Conservation Area, etc. The Contractor should propose the final disposal sites in the EMP and WMP for approval before implementation;	^
■ Stockpiled material shall be covered by tarpaulin and /or watered as appropriate to prevent windblown dust and surface run off;	^
■ Major stockpiled areas shall be sited outside of the country parks area (Works Section 6) and away from stream courses as far as practicable. For the stockpiling area SA4 within the country park area, stockpiling of earthed material shall be minimised and excavated soil from Works Section 6 shall be delivered to the Site Office as soon as possible. Similarly, overnight stockpiling of earthed material along the exposed trench shall be minimised as far as possible and the excavated soil shall be transferred to the designated stockpiling area as soon as possible;	**N/O**
■ Excavated material in trucks shall be covered by tarpaulins to reduce the potential for spillage and dust generation;	**N/O**
■ Wheel washing facilities shall be used by all trucks leaving the site to prevent transfer of mud onto public roads;	**N/O**
■ Standard formwork or pre-fabrication should be used as far as practicable so as to minimise the C&D materials arising. The use of more durable formwork or plastic facing for construction works should also be considered. The use of wooden hoardings should be avoided and metal hoarding should be used to facilitate recycling. Purchasing of construction materials should be carefully planned in order to avoid over-ordering and wastage;	**N/O**
■ The Contractor should recycle as many C&D materials as possible on-site. The public fill and C&D waste should be segregated and stored in separate containers or skips to facilitate the reuse or recycling of materials and proper disposal. Where practicable, the concrete and masonry should be crushed and used as fill materials. Steel reinforcement bar should be collected for use by scrap steel mills. Different areas of the sites should be considered for segregation and storage activities; and	**N/O**
■ Subject to agreement with Water Service Department, adequate numbers of portable toilets should be provided for on-site workers. Portable toilets should be maintained in reasonable states, which will not deter the workers from utilising them. Night soil should be regularly collected by licensed collectors.	^

Environmental Protection Measures (Construction Phase) [(1)]	**Status**
Recommendations for waste reduction measures:	**--**
■ General refuse arising on-site should be stored in enclosed bins or compaction units separately from C&D and chemical wastes. General refuse shall be removed from Works Section 6 within the country park on the regular basis. Sufficient dustbins shall be provided for storage of waste as required under the Public Cleansing and Prevention of Nuisances By-laws. In addition, general refuse shall be cleared regularly and shall be disposed of to the nearest licensed landfill or refuse transfer station. Burning of refuse on construction sites is prohibited;	**^**
■ All waste containers shall be in a secure area on hardstanding;	**^**
■ Aluminium cans are usually collected and recovered from the waste stream by individual collectors if they are segregated and easily accessible. Separately labelled bins for their deposition should be provided as far as practicable;	**^**
■ Office wastes can be reduced by recycling of paper if such volume is sufficiently large to warrant collection. Participation in a local collection scheme by the Contractor should be advocated. Waste separation facilities for paper, aluminium cans, plastic bottles, etc should be provided on- site; and	**N/O**
■ Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including waste reduction, reuse and recycling.	**^**
Chemical waste producers should register with the EPD. Chemical waste should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes as follows:	**^**
■ Suitable for the substance to be held, resistant to corrosion, maintained in good conditions and securely closed;	**^**
■ Having a capacity of <450L unless the specifications have been approved by the EPD;	**N/O**
■ Displaying a label in English and Chinese according to the instructions prescribed in Schedule 2 of the Regulations;	**N/O**
■ Clearly labelled and used solely for the storage of chemical wastes;	**^**
■ Enclosed with at least 3 sides;	**N/O**
■ Impermeable floor and bund with capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in the area, whichever is greatest;	**^**
■ Adequate ventilation;	**N/O**
■ Sufficiently covered to prevent rainfall from entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary);	**N/O**
■ Incompatible materials are adequately separated;	**^**
■ All chemical waste, fuels and oils shall be stored at the Site Office area, to minimise impacts to the Country Park and water gathering grounds;	**^**
■ All maintenance activities which may generate chemical waste shall be undertaken in Site Office area, as far as possible;	**N/O**
■ The Contractor shall comply with WSD's General Conditions for Working within Water Gathering Grounds as applicable; and	**^**
■ Waste oils, chemicals or solvents shall not be disposed of to drain.	**^**

Remark:

^	Compliance of mitigation measure in the reporting period.
#	Recommendations were made in the reporting period but has not yet been improved/rectified by the Contractor.
X	Non-compliance of mitigation measure in the reporting period.
N/A	Not Applicable in the reporting period.
N/O	Not observed in the reporting period.
(1)	Detailed EIA report and EM&A Manual reference refer to the Appendix A of approved EM&A Manual.

Appendix C3 Summary of Site Inspection

Inspection Date	Observations/ Reminders/ Recommendations	Follow Up Action	Completion Date
Follow Up action(s) of last reporting month	N.A	--	--
Weekly Site Inspection			
05/01/2021	No particular finding.	--	--
12/01/2021	The Contractor was reminded to proper implemented dust suppression measures to prevent dust nuisance to the surroundings. (Site Office)	--	--
19/01/2021	Obs.1. Chemical container was observed on-site (Site Office).	Chemical container had provided with drip tray. (Rectify on 19 Jan 2021)	19/01/2021
	The Contractor was reminded that no effluent or treated surface runoff shall be allowed to discharge at natural stream. (All Works Sites)	--	--
26/01/2021	The Contractor was reminded that no effluent or treated surface runoff shall be allowed to discharge at natural stream. (All Works Sites)	--	--
	The Contractor was reminded to clear up the general refuse regularly to prevent waste accumulation. (Site Office)	--	--
Landscape and Visual			
12/01/2021	No particular observation.	--	--
26/01/2021	No particular observation.	--	--
Cultural Heritage			
19/01/2021	The Contractor was reminded to mork out a buffer zone of min. 5m for NP-19, NP-21, NP-21 & NP-26 by temporary fencing.	--	--
	The Contractor was reminded to follow the monitoring & precautionary measures in the condition survey reports of NP-10, NP-11 & NP-19.	--	--
	The Contractor was reminded to provide latest works programme.	--	--
Post-transplantation Works			
26/01/2021	See the audit record as below.		
Floral Protection Measures			
26/01/2021	See the audit record as below.		

Contract No. DPW 01/2020 –
Environmental Team for Drainage Improvement Works at Ngong Ping (DC/2019/06)

Date: 26 January 2021 Weather: **Sunny / Fine / Overcast / Rainy / Hazy** Wind: **Calm / Light / Breeze / Strong**

Time: ~~0900~~ 9:30 am - 10:30 am Temperature: 18.1 °C Humidity: **High / Moderate / Low**

Monthly Environmental Site Audit for Floral Protection Measures

Observations/ Reminders/ Recommendations / Follow-up:

Follow-up of previous observation(s)

Observation(s)

Protection Measures	Location	Actions to be Taken			Remarks
		Retain	Replace	Repair	
Post Indicating Prohibition of Access					
1	~~Across~~ outfall B	✓			
2	West of columbarium	✓			
Chinese New year flower 3	outside of project ~~alignment~~ area alignment of cable car	✓			
Tea 4	Outside of project area alignment of cable car	✓			
Solid Fencing Around Plant Species					
1	near outfall B	✓			
2	/				

Solid Fencing at Access Entrance					
1	Across Outfall B	✓			
2	Near water fall of works area 4	✓			
3	Behind Works Area 4	✓			
4	Behind Work Area 4 (near private road)	✓			
Warning Signposts/Labels					
Gleditsia 1	Along storm water drain pipe alignment	✓			
Ehretia 2	11	✓			
Ehretia 3	11 (closer to SA4)	✓			
Ehretia 4	Near SA4	✓			

Reminder(s)

✓

	Name	Signature	Date
Inspected by Representative from ET:	Ray Li	Ray	26 Jan. 2021
Acknowledged by representatives of the ER:	Jason Ho, Francis Ma		26/01/2021
Agreed with Main Contractor:	Tom Ting		26/1/2021
Checked by IEC:	✓		✓

No.	Environmental Protection Measures (Construction Phase) [1]	Location & (Implementation Agent)	Yes (✓),No (×) N/A, N/O	Remark(s)
	Floral Protection Plan			
	Based upon the findings of the "Updated Baseline Vegetation Survey", a "Floral Protection Plan" for each species in the pre-construction phase shall be prepared for submission at least one month in advance of the works commencing to specifically define the protection measures required in each case. The possible measures for in-situ preservation include: ■ Restricting access to the floral species of conservation interest by mean of fencing, railing or temporary barriers. Enclosing or bunding of the species shall be considered as the last resort. ■ Restricting the works activities to within designated works area by mean of fencing, railing or temporary barrier; and ■ Controlling site-runoff if the species are located downstream of works area. It is recommended that solid fencing be erected at the access entrance to the flora species to be protected before the commencement of works to prevent vehicle movements and encroachment of personnel into adjacent areas where these species are located. All the proposed in-situ preservation measures shall be audited by the ET at least monthly to ensure that the approved "Floral Protection Plan" is properly implemented and that damage does not occur to the flora being protected and, also, the surrounding environment. Environmental briefing/training sessions should be provided and scheduled for site staff to raise their awareness on environmental protection. The ET ecologist(s) shall seek the Engineer, IEC, EPD and AFCD approval on the "Floral Protection Plan" prior to implementing the recommendations	Works Section 6 (Main Contractor)	✓	

Note:

(1) Detailed EIA report and EM&A Manual reference refer to the Appendix A of approved EM&A Manual.

N/A: Not Available, N/O: Not Observed.

Contract No. DPW 01/2020 –
Environmental Team for Drainage Improvement Works at Ngong Ping (DC/2019/06)

Date: 26 January 2021 Weather: **Sunny / (Fine) / Overcast / Rainy / Hazy** Wind: **Calm / (Light) / Breeze / Strong**

Time: 9:30am – 10:30 am Temperature: 18.1 °C Humidity: **(High) / Moderate / Low**

Monthly Environmental Site Audit for Post-transplantation Works

Observations/ Reminders/ Recommendations / Follow-up:

Follow-up of previous observation(s)

Observation(s)

Post-transplantation Works	Individuals						
	B28	B29	B30	B31	B32	B33	B34
Species	*Camellia euryoides*						
Growth condition	Fair	Fair	Fair	Fair	Fair	~~Health~~ ~~Healthy~~ Fair	Fair
Trunk/Stem	Good	Good	Good	Good	Good	~~Healthy~~ Good	Fair
Branches	Good	Good	Good	Good	Good	Good	Good
Foliage	Poor	Poor	Fair	Fair	Fair	~~Good but~~ Fair	Good
Root	Good	Good	Good	Good	Good	~~Fair~~ Good	Good
Any arboricultural problem/s	Curling leaves	Curling leaves	Curling leaves	Curling leaves	Curling leaves	Curling leaves	Curling leaves
Remedial measure/s	Need more watering and add more mulch	Need more watering and add more mulch	Need more watering and add more mulch	Need more watering and add more mulch	Need more watering and add more mulch	Need more watering and add more mulch	Need more water and add more mulch
Injuries/damages							

~~Need more watering and add more~~ mulch

FUGRO

Post-transplantation Works	Individuals				
	I12	I13	I14	I29	I31
Species	*Rhododendron farrerae*				
Growth condition	Poor	Fair	Fair	Fair	Fair
Trunk/Stem	Poor	Fair	Good	Fair	Fair
Branches	Poor	~~Fair~~ Fair	Fair	Fair	Fair
Foliage	Poor	Fair	Fair	Fair	Fair
Root	Good	Good	Good	~~Good~~ Fair	Good
Any arboricultural problem/s	Scaring and small cavity	~~Need~~		Crack in root flare	
Remedial measure/s	Need more watering	Need more watering	Need more watering	Need more watering	Need more watering
Injuries/damages					
Remarks :		Still buding	Still buding	Still buding	Still buding.

Reminder(s)

	Name	Signature	Date
Inspected by Representative from ET:	Ray Li		26 Jan. 2021
Acknowledged by representatives of the ER:	Tom Ting		26-01-2021
Agreed with Main Contractor:			26/1/2021
Checked by IEC:			

No.	Environmental Protection Measures (Construction Phase) [1]	Location & (Implementation Agent)	Yes (✓),No (×) N/A, N/O	Remark(s)
	Floral Transplantation Plan			
	Following the transplantation, in order to ensure the transplantation is providing an effective mitigation measure, post-transplantation monitoring would be required during the construction phase. The post-transplantation monitoring shall be conducted monthly for the first 12 months and then quarterly for a further 12 months. Given the works contract is approximately 30 months, all the post-transplantation monitoring would be undertaken within the construction phase. Should the survival rate of the transplanted individual be found to be unacceptably low, then the Environmental Team shall propose alternative compensation methods, such as seed collection or planting of new individuals of the same species after the works area has been reinstated. If required, a "Compensatory Planting Plan" shall be prepared by the ET and submitted to the Engineer, the Independent Environmental Checker (IEC), Environmental Protection Department and Agriculture, Fisheries and Conservation Department's for approval before implementing the recommendations of the plan. The "Compensatory Planting Plan" shall include details of the implementation programme and methodology for any proposed compensatory planting for species of conservation interest.	Works Section 6 (Main Contractor)	×	

Note:

(1) Detailed EIA report and EM&A Manual reference refer to the Appendix A of approved EM&A Manual.

N/A: Not Available, N/O: Not Observed.

Appendix D Monitoring Parameters Action and Limit Levels

Noise

Action and Limit Levels for Impact Monitoring

Time Period	Monitoring Location No.	Action Level	Limit Level*
Leq_{30},dB(A) (0700-1900 hrs in normal weekdays)(1)	NSR1 Columbarium of Po Lin Monastery	When one documented complaint is received.	70 dB(A)
	NSR5 Village House No. 49A	When one documented complaint is received.	75 dB(A)
	NSR8 Village House No. 34	When one documented complaint is received.	75 dB(A)

Note:
*75 dB(A) for residential premises and 70 dB(A) for educational institutions, kindergartens, nurseries and all others where voice communication
(1) Any general construction work carried out during restricted hours is controlled by Construction Noise Permit (CNP) under the NCO.

Water Quality

Action and Limit Levels for Impact Monitoring

Parameter(s)	DO in mg/L		Turbidity in NTU		pH		Suspended Solids in mg/L	
Station(s)	AL	LL	AL	LL	AL	LL	AL	LL
WS1-R1								
WS1-I1	7.36	7.32	15.8	17.3	< 6.5(3)or> 6.9(4)	<6.5 or >8.5	14(5)	14(6)
WS1-R2								
WS1-I2	7.19	7.11	16.4	18.4	< 6.5(3)or> 6.9(4)	<6.5 or >8.5	10(5)	14(6)
WS4-R3								
WS4-I3	7.29	7.28	22.9	31.2	< 6.9(3)or> 7.2(4)	<6.5 or >8.5	13(5)	13(6)
WS5-R4								
WS5-I4	6.75	6.64	24.7	28.2	< 6.6(3)or> 7.1(4)	<6.5 or >8.5	9(5)	9(6)
WS6-R5								
WS6-I5	6.31	6.23	12.6	13.2	< 6.6(3)or> 7.0(4)	<6.5 or >8.5	10(5)	10(6)
WS6-C1								
WS6-R6								
WS6-I6	6.57	6.38	21.7	23.7	< 6.9(3)or> 7.1(4)	<6.5 or >8.5	12(5)	13(6)

Note:
AL: Action Level, LL: Limit Level
(3) Or 80% of upstream control station.
(4) Or 110% of upstream control station.
(5) Or 120% of upstream control station of the same day.
(6) Or 130% of upstream control station of the same day.

Appendix E Event and Action Plans

Event and Action Plan for Construction Noise Monitoring

EVENT	ACTION			
	ET[1]	IEC[1]	Engineer	Contractor
Action Level	1. Notify the IEC and Contractor. 2. Carry out investigation. 3. Report the results of investigation to the IEC and Contractor. 4. Discuss with the Contractor and formulate remedial measures. 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET. 2. Review the proposed remedial measures by the Contractor and advise the Engineer accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to the IEC. 2. Implement noise mitigation proposals.
Limit Level	1. Notify the IEC, Engineer, EPD and Contractor. 2. Identify sources. 3. Repeat measurements to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of the Contractor's working procedures to determine possible mitigation to be implemented. 6. Inform the IEC, Engineer and EPD the causes and action taken for the exceedances. 7. Assess the effectiveness of the Contractor's remedial action and keep the IEC, EPD and Engineer informed of the results. 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst the Engineer, ET and Contractor on the potential remedial action. 2. Review the Contractor's remedial action whenever necessary to assure their effectiveness and advise the Engineer accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedance continues, consider what portion of work is responsible and instruct the Contractor to stop that portion of works until the exceedance is abated.	1. Take immediate action to avoid further exceedance. 2. Submit proposals for remedial action to the IEC within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problems still not under control. 5. Stop the relevant portion of works as determined by the Engineer until the exceedance is abated.

Note: (1) ET - Environmental Team, IEC - Independent Environmental Checker;
(2) According to EM&A Manual Table 3.4.

Event and Action Plan for Water Quality Monitoring (Part 1)

EVENT	ACTION			
	ET[1]	IEC[1]	ER[1]	Contractor
Action Level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform the IEC and the Contractor; 4. Check monitoring data, all plant, equipment and the Contractor's working methods; 5. Discuss mitigation measures with the IEC and the Contractor; 6. Repeat measurement on next day of exceedance.	1. Discuss with the ET and the Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by the Contractor and advise the ER accordingly; 3. Access the effectiveness of the implemented mitigation measures	1. Discuss with the IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented.	1. Inform the ER and confirm notification of the non- compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with the ES and the IEC and propose mitigation measures to the IEC
Action Level being exceeded by more than one consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform the IEC and the Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with the IEC and the Contractor; 6. Ensure mitigation measures are implemented; 7. Prepare to increase the monitoring frequency to daily;	1. Discuss with the ET and the Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by the Contractor and advise the ER accordingly; 3. Access the effectiveness of the implemented mitigation measures	1. Discuss with IEC on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented; 3 Access the effectiveness of the implemented mitigation measures.	1. Inform the ER and confirm notification of the non- compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with the ES and the IEC and propose mitigation measures to the IEC and ER within 3 working days; 6. Implement the agreed mitigation

Event and Action Plan for Water Quality Monitoring (Part 2)

EVENT	ACTION			
	ET[1]	IEC[1]	ER[1]	Contractor
Limit Level being exceeded by one consecutive sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform the IEC, the Contractor and the DEP; 4. Check monitoring data, all plant, equipment and the Contractor's working methods; 5. Discuss mitigation measures with the IEC, the ER and the Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level.	1. Discuss with the ES and the Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by the Contractor and advise the ER accordingly; 3. Access the effectiveness of the implemented mitigation measures.	1. Discuss with the IEC, the ES and the Contractor on the proposed mitigation measures; 2. Request the Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Access the effectiveness of the implemented mitigation measures.	1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with the ES, the IEC and the ER and propose mitigation measures to the IEC and the ER within 3 working days; 6. Implement the agreed mitigation measures.
Limit Level being exceeded by more than one consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform the IEC, the Contractor and DEP; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with the IEC, the ER and the Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days.	1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by the Contractor and advise the ER accordingly; 3. Access the effectiveness of the implemented mitigation measures.	1. Discuss with the IEC, the ES and the 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. Access the effectiveness of the implemented mitigation measures; 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the works until no exceedance of Limit Level.	1. Inform the ER and confirm notification of the non- compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with the ES, the IEC and the ER and propose mitigation measures to the IEC and the ER within 3 working days; 6. Implement the agreed mitigation measures; 7. As directed by the ER, slow down or stop all or part of the construction activities.

Note: (1) ET - Environmental Team, IEC - Independent Environmental Checker;
(2) According to EM&A Manual Table 4.4.

Event / Action Plan for Ecological Monitoring

Action Level	ET[1]	IEC[1]	ER[1]	Contractor
Non-conformity on one occasion	Identify Source Inform the IEC and the ER Discuss remedial actions with the IEC, the ER and the Contractor Monitor remedial actions until rectification has been completed	Check report Check the Contractor's working method Discuss with the ET and the Contractor on possible remedial measures Advise the ER on effectiveness of proposed remedial measures. Check implementation of remedial measures.	Notify Contractor Ensure remedial measures are properly implemented Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the works in the case of a serious non-conformity until situation rectified.	Amend working methods Rectify damage and undertake any necessary replacement
Repeated Non conformity	Identify Source Inform the IC(E) and the ER Increase monitoring frequency Discuss remedial actions with the IC(E), the ER and the Contractor Monitor remedial actions until rectification has been completed If exceedance stops, cease additional monitoring	Check monitoring report Check the Contractor's working method Discuss with the ES and the Contractor on possible remedial measures Advise the ER on effectiveness of proposed remedial measures Supervise implementation of remedial measures	Notify the Contractor Ensure remedial measures are properly implemented Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the works in the case of a serious non-conformity until situation rectified.	Amend working methods Rectify damage and undertake any necessary replacement

Note: (1) ET - Environmental Team, IEC - Independent Environmental Checker;
(2) According to EM&A Manual Table 5.4.

Event / Action Plan for Construction/Operational Phase for Ecology Issues (Landscape and Visual)

Action Level	ET[1]	IEC[1]	ER[1]	Contractor
Non-conformity on one occasion	1. Identify Source 2. Inform the IEC and the ER 3. Discuss remedial actions with the IEC, the ER and the Contractor 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Check the Contractor's working method 3. Discuss with the ET and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures. 5. Check implementation of remedial measures.	1. Notify Contractor 2. Ensure remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake any necessary replacement
Repeated Non-conformity	1. Identify Source 2. Inform the IEC and the ER 3. Increase monitoring frequency 4. Discuss remedial actions with the IEC, the ER and the Contractor 5. Monitor remedial actions until rectification has been completed 6. If exceedance stops, cease additional monitoring	1. Check monitoring report 2. Check the Contractor's working method 3. Discuss with the ET and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures 5. Supervise implementation of remedial measures.	1. Notify the Contractor 2. Ensure remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake any necessary replacement

Note: (1) ET - Environmental Team, IEC - Independent Environmental Checker;
(2) According to EM&A Manual Table 6.4.

Event / Action Plan for Construction Phase for Heritage Issue

Action Level	ET[1]	IEC[1]	ER[1]	Contractor
Non-conformity on one occasion	1. Identify Source 2. Inform the IEC and the ER 3. Discuss remedial actions with the IEC, the ER and the Contractor 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Check the Contractor's working method 3. Discuss with the ES and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures. 5. Check implementation of remedial measures.	1. Notify Contractor 2. Ensure remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake any necessary replacement
Repeated Non-conformity	1. Identify Source 2. Inform the IEC and the ER 3. Increase monitoring frequency 4. Discuss remedial actions with the IEC, the ER and the Contractor 5. Monitor remedial actions until rectification has been completed 6. If exceedance stops, cease additional monitoring	1. Check monitoring report 2. Check the Contractor's working method 3. Discuss with the ES and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures 5. Supervise implementation of remedial measures.	1. Notify the Contractor 2. Ensure remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake any necessary replacement

Note: (1) ET - Environmental Team, IEC - Independent Environmental Checker;
(2) According to EM&A Manual Table 7.

Appendix F1 Equipment Calibration Certificates (Noise Monitoring)

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report no.: 183057CA200894(2)

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model CEL-120/1)
Serial No.	:	4358289
Equipment ID	:	N/A
Next Calibration Date	:	14-Jun-2021
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration :	15-Jun-2020	Ambient Temperature : 22 °C
Calibration Location :	Calibration Laboratory of FTS	
Method Used	:	By direct comparison

Calibration Results :

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

Remarks :

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

Checked by : William Date : 20-6-2020 Certified by : P L Leung Date : 20-6-2020

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

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FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report no.: 203258CA201298(3)

CALIBRATION CERTIFICATE OF SOUND CALIBRATOR

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description	:	Sound Calibrator
Manufacturer	:	Casella (Model CEL-120/1)
Serial No.	:	5230758
Equipment ID	:	N/A
Next Calibration Date	:	13-Jul-2021
Specification Limit	:	EN 60942: 2003 Type 1

Laboratory Information

Description	:	Reference Sound level meter
Equipment ID.	:	R-119-1
Date of Calibration	:	14-Jul-2020 Ambient Temperature : 20±2 °C
Calibration Location	:	Calibration Laboratory of FTS
Method Used	:	By direct comparison

Calibration Results :

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

Remarks :

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

Checked by : William Date : 21-7-2020 Certified by : K.T. Leung Date : 21-7-2020

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

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FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report no.: 203258CA201871

CALIBRATION CERTIFICATE OF SOUND LEVEL METER

Client Supplied Information

Client : Fugro Technical Services Ltd.

Project : Calibration Services

Details of Unit Under Test, UUT

Description : Sound Level Meter

Manufacturer : Casella

	Meter	Microphone	Preamplifier
Model No. :	CEL-63X	CE-251	CEL-495
Serial No. :	4181587	02781	002845

Equipment ID : N/A

Next Calibration Date : 07-Sep-2021

Specification Limit : EN 61672-1: 2003 Class 1

Laboratory Information

Details of Reference Equipment -

Description : B & K Acoustic Multifunction Calibrator 4226 (Traditional free field setting)

Equipment ID. : R-108-1

Calibration Date : 08-Sep-2020

Calibration Location : Calibration Laboratory of FTS

Method Used : By direct comparison

Ambient Temperature : 20±2 °C

Relative Humidity : <80% R.H.

Calibration Results :

Parameters		Mean Value (dB)	Specification Limit(dB)
A-weigthing frequency response	4000Hz	1.6	2.6 to -0.6
	2000Hz	1.3	2.8 to -0.4
	1000Hz	0.0	1.1 to -1.1
	500Hz	-3.4	-1.8 to -4.6
	250Hz	-8.8	-7.2 to -10.0
	125Hz	-16.3	-14.6 to -17.6
	63Hz	-26.3	-24.7 to -27.7
	31.5Hz	-38.8	-37.4 to -41.4
Differential level linearity	94dB-104dB	0.0	± 0.6
	104dB-114dB	0.0	± 0.6

Remarks :

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

Checked by : Killiam Date : 11-9-2020 Certified by : K Tai Leung Date : 12-9-2020

CA-R-297 (22/07/2009)

Leung Kwok Tai (Assistant Manager)

** End of Report **

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Appendix F2 Equipment Calibration Certificates (Water Quality Monitoring)

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA201978

Report on Calibration of Aqua Troll 600 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	MateriaLab Consultants Limited
Client's address	:	Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description	:	One Aqua Troll 600 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 484254
Test required	:	Calibration of the Aqua Troll 600 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA201978/1
Date sample received	:	09/10/2020
Date of calibration	:	15/10/2020
Next calibration date	:	14/01/2021
Test method used	:	In-house comparison method

Note : This report refers only to the sample(s) tested.

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FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA201978

Results :

A. pH calibration

pH reading at 24°C for Q.C. solution(6.86) and at 24°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.18	Reading Failure	-
6.86	Reading Failure	-

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	9.73	-0.27	± 0.5
20	19.13	-0.87	± 1.0
30	29.75	-0.25	± 1.5
40	40.66	+0.66	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.22	8.07
2	8.33	8.14
3	8.22	8.02
Average	8.26	8.08

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.4mg/L

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

Date : 10/11/2020

Note : This report refers only to the sample(s) tested.

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FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA201978

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
23.8	24.07

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	3.79	-0.21	± 0.6
8	8.12	+0.12	± 0.8
40	40.90	+0.90	± 3.0
80	80.57	+0.57	± 4.0

F. Conductivity calibration

Conductivity, umhos/cm			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1408	1394	-14	± 70
6668	6475	-193	± 400
12860	12367	-493	± 700
24820	24649	-171	± 1200

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

Date : 10/11/2020

** End of Report **

Note : This report refers only to the sample(s) tested.

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FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA210046(1)

Report on Calibration of Aqua Troll 600 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	MateriaLab Consultants Limited
Client's address	:	Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description	:	One Aqua Troll 600 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 484254
Test required	:	Calibration of the Aqua Troll 600 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA210046(1)/1
Date sample received	:	30/12/2020
Date of calibration	:	18/01/2021
Next calibration date	:	17/04/2021
Test method used	:	In-house comparison method

Note : This report refers only to the sample(s) tested.

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FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA210046(1)

Results :

A. pH calibration

pH reading at 20°C for Q.C. solution(6.86) and at 20°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.23	9.28	+0.05
6.88	6.77	-0.11

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	10.36	+0.36	± 0.5
20	20.91	+0.91	± 1.0
30	29.14	-0.86	± 1.5
40	41.85	+1.85	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.66	8.77
2	8.61	8.76
3	8.71	8.78
Average	8.66	8.77

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.4mg/L

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

Date : 28/11/2024

Note : This report refers only to the sample(s) tested.

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FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Report No. : 142626WA210046(1)

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
19.7	20.13

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	4.01	+0.01	± 0.6
8	8.16	+0.16	± 0.8
40	38.19	-1.81	± 3.0
80	80.50	+0.50	± 4.0

F. Conductivity calibration

Conductivity, umhos/cm			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1408	1454	+56	± 70
6668	6468	-200	± 400
12860	12813	-47	± 700
24820	24732	-88	± 1200

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

Date : 28/1/2021

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Report No. : 142626WA201978(1)

Report on Calibration of Aqua Troll 600 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	MateriaLab Consultants Limited
Client's address	:	Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description	:	One Aqua Troll 600 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 489724
Test required	:	Calibration of the Aqua Troll 600 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA201978/2
Date sample received	:	09/10/2020
Date of calibration	:	15/10/2020
Next calibration date	:	14/01/2021
Test method used	:	In-house comparison method

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Report No. : 142626WA201978(1)

Results :

A. pH calibration

pH reading at 23°C for Q.C. solution(6.86) and at 23°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.18	9.25	+0.07
6.86	6.84	-0.02

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	9.74	-0.26	± 0.5
20	19.84	-0.16	± 1.0
30	29.93	-0.07	± 1.5
40	38.98	-1.02	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.43	8.64
2	8.48	8.68
3	8.53	8.67
Average	8.48	8.67

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.4mg/L

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

Date : 10/11/2020

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Report No. : 142626WA201978(1)

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
21.9	21.64

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	3.96	-0.04	± 0.6
8	7.82	-0.18	± 0.8
40	39.25	-0.75	± 3.0
80	79.61	-0.39	± 4.0

F. Conductivity calibration

Conductivity, umhos/cm			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1408	1473	+65	± 70
6668	6582	-86	± 400
12860	12680	-180	± 700
24820	24382	-438	± 1200

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Report No. : 142626WA201843

Report on Calibration of Aqua Troll 600 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	MateriaLab Consultants Limited
Client's address	:	Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description	:	One Aqua Troll 600 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 512229
Test required	:	Calibration of the Aqua Troll 600 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA201843/1
Date sample received	:	28/09/2020
Date of calibration	:	12/10/2020
Next calibration date	:	11/01/2021
Test method used	:	In-house comparison method

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Report No. : 142626WA201843

Results :

A. pH calibration

pH reading at 22°C for Q.C. solution(6.86) and at 22°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.18	9.13	-0.05
6.86	6.82	-0.04

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	9.76	-0.24	± 0.5
20	19.39	-0.61	± 1.0
30	30.55	+0.55	± 1.5
40	40.22	+0.22	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.38	8.38
2	8.17	8.36
3	8.28	8.35
Average	8.28	8.36

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.4mg/L

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Assistant General Manager – Laboratories

Date : 6/11/2020

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Report No. : 142626WA201843

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
22.6	23.30

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	3.69	-0.31	± 0.6
8	7.87	-0.13	± 0.8
40	39.92	-0.08	± 3.0
80	82.56	+2.56	± 4.0

F. Conductivity calibration

Conductivity, umhos/cm			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1408	1381	-27	± 70
6668	6288	-380	± 400
12860	12847	-12	± 700
24820	25288	+468	± 1200

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Date : 6/11/2020

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Report No. : 142626WA201978(2)

Report on Calibration of Aqua Troll 600 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	MateriaLab Consultants Limited
Client's address	:	Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description	:	One Aqua Troll 600 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 536451
Test required	:	Calibration of the Aqua Troll 600 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA201978/3
Date sample received	:	09/10/2020
Date of calibration	:	15/10/2020
Next calibration date	:	14/01/2021
Test method used	:	In-house comparison method

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Report No. : 142626WA201978(2)

Results :

A. pH calibration

pH reading at 21°C for Q.C. solution(6.86) and at 21°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.18	9.23	+0.05
6.86	6.79	-0.07

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	10.45	+0.45	± 0.5
20	20.26	+0.26	± 1.0
30	31.11	+1.11	± 1.5
40	40.36	+0.36	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.33	8.35
2	8.22	8.37
3	8.22	8.39
Average	8.26	8.37

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.4mg/L

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Assistant General Manager – Laboratories

Date : 10/11/2020

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Report No. : 142626WA201978(2)

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
22.0	21.98

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	3.66	-0.34	± 0.6
8	7.48	-0.52	± 0.8
40	38.91	-1.09	± 3.0
80	81.27	+1.27	± 4.0

F. Conductivity calibration

Conductivity, umhos/cm			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1408	1464	+56	± 70
6668	6879	+211	± 400
12860	12867	+7	± 700
24820	24303	-516	± 1200

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Report No. : 142626WA202066

Report on Calibration of Aqua Troll 600 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	MateriaLab Consultants Limited
Client's address	:	Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description	:	One Aqua Troll 600 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 512112
Test required	:	Calibration of the Aqua Troll 600 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA202066/1
Date of calibration	:	09/10/2020
Next calibration date	:	08/01/2021
Test method used	:	In-house comparison method

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Report No. : 142626WA202066

Results :

A. pH calibration

pH reading at 25°C for Q.C. solution(6.86) and at 25°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.18	9.18	0.00
6.86	6.87	+0.01

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	10.04	+0.04	± 0.5
20	20.07	+0.07	± 1.0
30	29.86	-0.14	± 1.5
40	39.71	-0.29	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By calibrated D.O. meter	By D.O. meter
1	7.37	7.38
2	7.38	7.40
3	7.37	7.39
Average	7.37	7.39

Differences of D.O. Content between calibrated D.O. meter and D.O. meter should be less than 0.4mg/L

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

Date : 10/11/2020

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Report No. : 142626WA202066

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
25.03	25.08

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	4.08	+0.08	± 0.6
8	8.09	+0.09	± 0.8
40	39.71	-0.29	± 3.0
80	79.57	-0.43	± 4.0

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Assistant General Manager – Laboratories

Date : 10/11/2020

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Report No. : 142626WA201978(3)

Report on Calibration of Aqua Troll 600 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	MateriaLab Consultants Limited
Client's address	:	Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description	:	One Aqua Troll 600 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 564730
Test required	:	Calibration of the Aqua Troll 600 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA201978/4
Date sample received	:	09/10/2020
Date of calibration	:	15/10/2020
Next calibration date	:	14/01/2021
Test method used	:	In-house comparison method

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Report No. : 142626WA201978(3)

Results :

A. pH calibration

pH reading at 21°C for Q.C. solution(6.86) and at 21°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.18	9.25	+0.07
6.86	6.88	+0.02

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	10.34	+0.34	± 0.5
20	20.02	+0.02	± 1.0
30	30.82	+0.82	± 1.5
40	41.00	+1.00	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.12	8.28
2	8.22	8.34
3	8.22	8.33
Average	8.19	8.31

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.4mg/L

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

Date : 10/11/2020

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Report No. : 142626WA201978(3)

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
21.9	22.05

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	4.48	+0.48	± 0.6
8	8.15	+0.15	± 0.8
40	40.20	+0.20	± 3.0
80	80.39	+0.39	± 4.0

F. Conductivity calibration

Conductivity, umhos/cm			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1408	1475	+67	± 70
6668	6960	+291	± 400
12860	12632	-228	± 700
24820	24626	-194	± 1200

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

Date : 10/11/2020

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Report No. : 142626WA210046

Report on Calibration of Aqua Troll 600 Multi-parameter Water Quality Meter

Information Supplied by Client

Client	:	MateriaLab Consultants Limited
Client's address	:	Rm. 723-726, 7/F, Profit Industrial Building, No. 1-15, Kwai Fung Crescent, Kwai Chung, N.T.
Sample description	:	One Aqua Troll 600 Multi-parameter Water Quality Meter
Client sample ID	:	Serial No. 564730
Test required	:	Calibration of the Aqua Troll 600 Multi-parameter Water Quality Meter

Laboratory Information

Lab. sample ID	:	WA210046/1
Date sample received	:	30/12/2020
Date of calibration	:	08/01/2021
Next calibration date	:	07/04/2021
Test method used	:	In-house comparison method

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Report No. : 142626WA210046

Results :

A. pH calibration

pH reading at 20°C for Q.C. solution(6.86) and at 20°C for Q.C. solution(9.18)		
Theoretical	Measured	Deviation
9.23	9.18	-0.05
6.88	6.90	+0.02

B. Salinity calibration

Salinity, ppt			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
10	10.50	+0.50	± 0.5
20	20.85	+0.85	± 1.0
30	31.46	+1.46	± 1.5
40	41.85	+1.85	± 2.0

C. Dissolved Oxygen calibration

Trial No.	Dissolved oxygen content, mg/L	
	By Titration	By D.O. meter
1	8.66	8.83
2	8.66	8.79
3	8.61	8.81
Average	8.64	8.81

Differences of D.O. Content between Wrinkler Titration and D.O. meter should be less than 0.4mg/L

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

Date : 28/1/2021

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Report No. : 142626WA210046

Results :

D. Temperature calibration

Thermometer reading, °C	Meter reading, °C
19.8	20.23

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
4	3.87	-0.13	± 0.6
8	7.51	-0.49	± 0.8
40	39.65	-0.35	± 3.0
80	78.49	-1.51	± 4.0

F. Conductivity calibration

Conductivity, umhos/cm			
Theoretical	Measured	Deviation	Maximum acceptable Deviation
1408	1468	+60	± 70
6668	6736	+68	± 400
12860	12887	+27	± 700
24820	24458	-362	± 1200

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

Date : 28/11/2021

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Appendix G Environmental Monitoring Schedules

Project: **Contract No. DPW 01/2020 –**
Environmental Team for Drainage Improvement Works at Ngong Ping

Tentative Impact Monitoring Schedule (January 2021)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1(Dec 2020)	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29 W & N	30	31 W	1(Jan 2021)	2 W
3	4	5 W & N	6	7 W	8	9 W
10	11	12 W & N	13	14 W	15	16 W
17	18	19 W & N	20	21 W	22	23 W
24	25	26 W & N	27	28 W	29	30 W
31						

Remarks

1. W: Impact Water Quality Monitoring.
2. N: Impact Noise Monitoring.
3. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition, etc.

Project: **Contract No. DPW 01/2020 –**
Environmental Team for Drainage Improvement Works at Ngong Ping

Tentative Impact Monitoring Schedule (February 2021)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1(Feb 2021)	2 W & N	3	4 W	5	6 W
7	8	9 W & N	10	11 W	12	13 W
14	15	16 W & N	17	18 W	19	20 W
21	22	23 W & N	24	25 W	26	27 W
28						

Remarks

1. W: Impact Water Quality Monitoring.
2. N: Impact Noise Monitoring.
3. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition, etc.

Project: **Contract No. DPW 01/2020 –**
Environmental Team for Drainage Improvement Works at Ngong Ping

Tentative Impact Monitoring Schedule (March 2021)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1(Mar 2021)	2 W & N	3	4 W	5	6 W
7	8	9 W & N	10	11 W	12	13 W
14	15	16 W & N	17	18 W	19	20 W
21	22	23 W & N	24	25 W	26	27 W
28	29	30 W & N	31			

Remarks

1. W: Impact Water Quality Monitoring.
2. N: Impact Noise Monitoring.
3. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition, etc.

Project: **Contract No. DPW 01/2020 –**
Environmental Team for Drainage Improvement Works at Ngong Ping

Tentative Impact Monitoring Schedule (April 2021)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1(Apr 2021) W	2	3
4	5	6 W & N	7	8 W	9	10 W
11	12	13 W & N	14	15 W	16	17 W
18	19	20 W & N	21	22 W	23	24 W
25	26 W & N	27	28 W	29	30 W	

Remarks

1. W: Impact Water Quality Monitoring.
2. N: Impact Noise Monitoring.
3. Actual monitoring may be subjected to change due to any safety concern or adverse weather condition, etc.

Appendix H1 Noise Monitoring Data and Graphical Presentations

Monitoring Location :	**NSR1 Columbarium of Po Lin Monastery**					
Date	Weather	Wind Speed (m/s)	Start Time	Noise Monitoring (30min)		
				Leq dB(A)	L90 dB(A)	L10 dB(A)
05-01-2021	Fine	0.3	10:16	43.1	37.5	44.0
12-01-2021	Fine	2.4	10:17	48.8	40.5	53.0
19-01-2021	Fine	0.8	09:56	48.7	42.0	51.0
26-01-2021	Fine	0.0	11:48	44.4	40.0	45.5

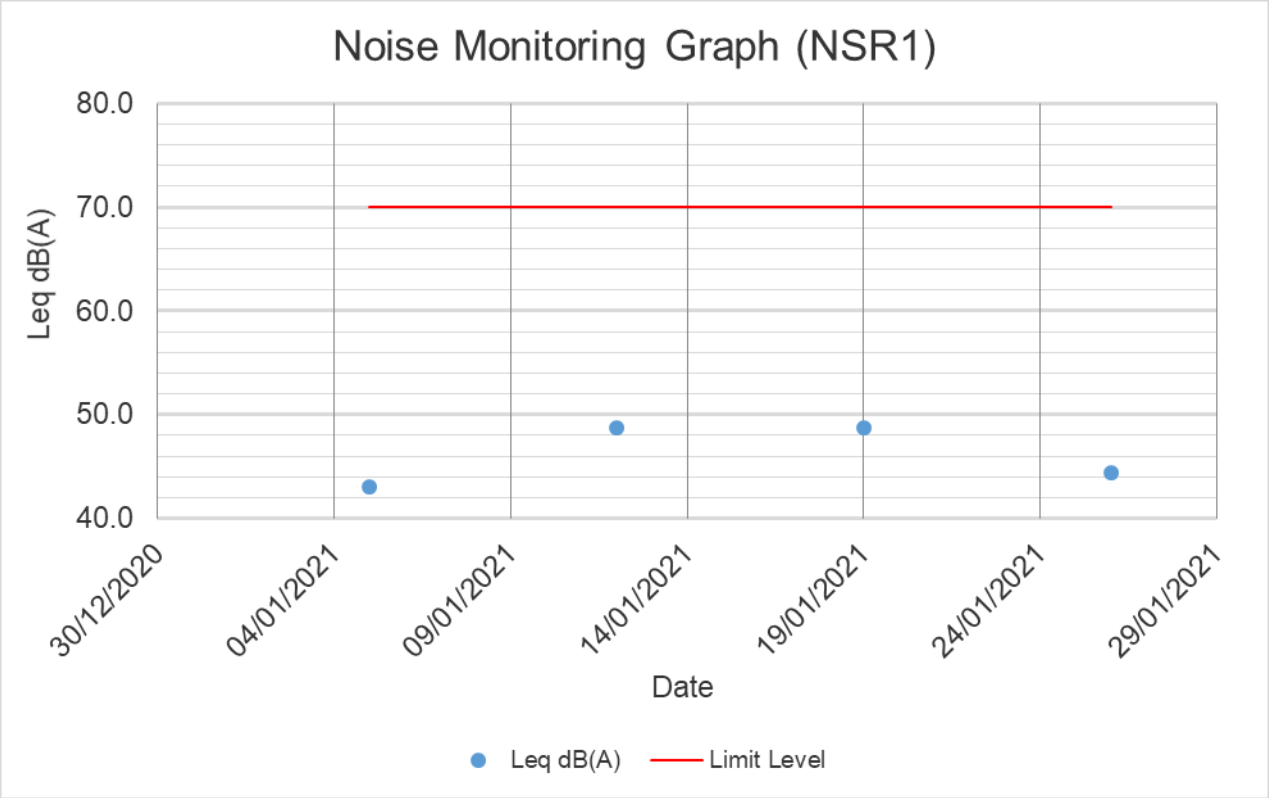
Monitoring Location :	**NSR5 Village House No. 49A**					
Date	Weather	Wind Speed (m/s)	Start Time	Noise Monitoring (30min)		
				Leq dB(A)	L90 dB(A)	L10 dB(A)
05-01-2021	Fine	0.4	11:18	53.0	40.5	57.0
12-01-2021	Fine	2.1	12:26	50.2	40.5	52.5
19-01-2021	Fine	0.7	11:04	53.5	42.0	56.5
26-01-2021	Fine	0.1	10:03	49.8	41.0	52.5

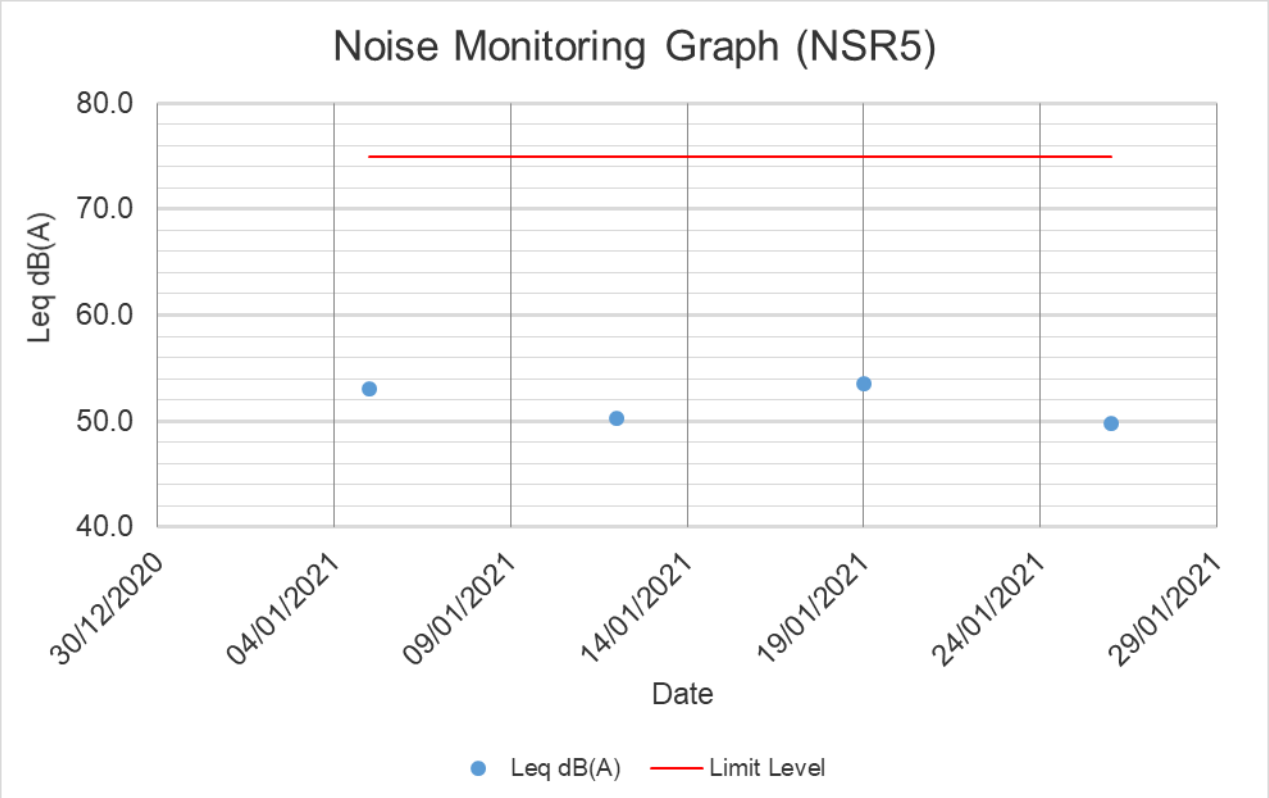
Monitoring Location :	**NSR8 Village House No. 34**					
Date	Weather	Wind Speed (m/s)	Start Time	Noise Monitoring (30min)		
				Leq dB(A)	L90 dB(A)	L10 dB(A)
05-01-2021	Fine	0.3	13:05	53.8	40.5	55.5
12-01-2021	Fine	2.1	11:31	48.6	39.0	51.0
19-01-2021	Fine	0.4	11:39	51.9	49.0	54.0
26-01-2021	Fine	0.2	14:11	55.1	46.0	56.0

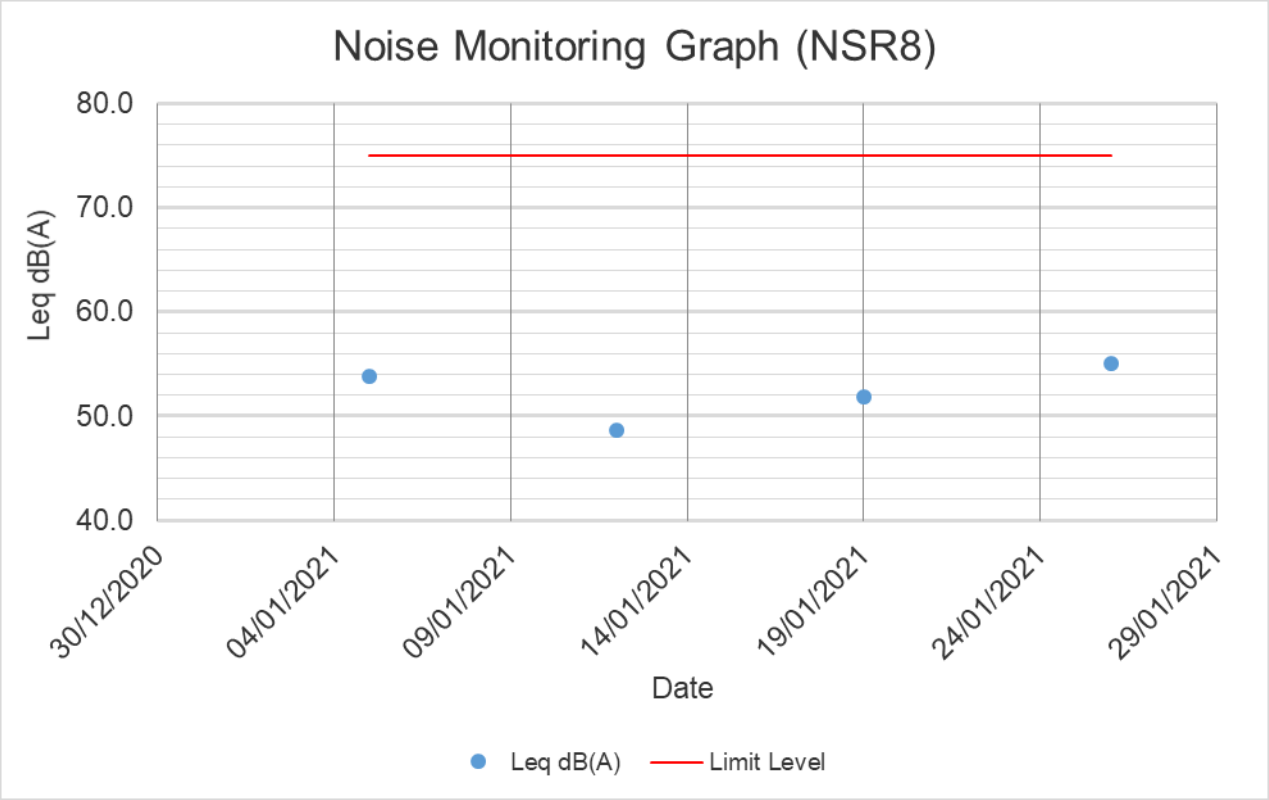
	Min Leq dB(A)	Max Leq dB(A)
NSR1	43.1	48.8
NSR5	49.8	53.5
NSR8	48.6	55.1

Remarks:

1) All noise results were calculated by +3 dB (A) correction for free-field.


Noise Monitoring Graph (NSR1)
80.0
70.0
60.0
50.0
40.0
Leq dB(A)
30/12/2020
04/01/2021
09/01/2021
14/01/2021
19/01/2021
24/01/2021
29/01/2021
Date
Leq dB(A)
Limit Level


Noise Monitoring Graph (NSR5)
80.0
70.0
60.0
50.0
40.0
Leq dB(A)
30/12/2020
04/01/2021
09/01/2021
14/01/2021
19/01/2021
24/01/2021
29/01/2021
Date
Leq dB(A)
Limit Level



Note:

1) Major activities being carried out on site during the reporting period refer to section 1.4.
2) The other factors influencing the monitoring results refer to section 5.5.3.
3) The QA/QC procedures and detection Limits refer to section 5.1 and 5.2.

Appendix H2 Water Quality Monitoring Data and Graphical Presentations

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	2-Jan-21	Fine	13:13	17	1	7.5	7.5	0.00	0.00	12.0	12.0	82.9	82.4	8.94	8.89	4.7	4.4	6	6.0	NA
					2	7.5		0.00		12.0		81.8		8.84		4.0		6		
WS1-I1			13:25	14	1	7.8	7.8	0.00	0.00	11.1	11.1	88.5	88.3	9.75	9.76	2.5	2.7	7	7.0	NA
					2	7.8		0.00		11.0		88.1		9.77		2.8		7		
WS1-R2			13:39	20	1	8.0	8.0	0.00	0.00	13.7	13.7	96.4	96.4	10.00	9.99	1.8	1.9	4	4.0	NA
					2	7.9		0.00		13.7		96.3		9.98		2.0		4		
WS1-I2			13:48	13	1	7.9	7.9	0.01	0.01	15.6	15.6	98.5	98.6	9.80	9.81	3.2	3.2	3	3.0	NA
					2	7.9		0.00		15.6		98.7		9.82		3.2		3		
WS4-R3			12:29	5	1	8.0	8.0	0.04	0.04	14.3	14.4	95.4	95.3	9.76	9.74	2.0	2.1	3	3.0	NA
					2	7.9		0.03		14.4		95.1		9.71		2.1		3		
WS4-I3			12:51	7	1	8.4	8.4	0.00	0.00	14.1	14.2	105.5	105.7	10.85	10.87	2.8	2.7	4	4.0	NA
					2	8.4		0.00		14.2		105.8		10.88		2.5		4		
WS5-R4			12:03	14	1	8.0	8.0	0.00	0.00	10.6	10.6	81.0	80.7	9.02	8.99	2.6	2.7	4	4.0	NA
					2	7.9		0.00		10.5		80.3		8.95		2.8		4		
WS5-I4			12:16	8	1	7.9	7.9	0.00	0.00	10.0	10.0	86.9	86.6	9.85	9.90	1.9	1.9	3	3.0	NA
					2	7.9		0.00		10.0		86.2		9.94		1.8		3		
WS6-R5			12:20	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			12:22	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			11:10	19	1	7.5	7.5	0.00	0.00	12.9	13.0	73.5	71.8	7.72	7.64	3.0	3.4	8	8.0	NA
					2	7.5		0.00		13.0		70.0		7.56		3.7		8		
WS6-R6			11:26	30	1	7.6	7.6	0.00	0.00	9.9	9.9	74.5	74.3	8.45	8.41	5.0	5.0	7	7.0	NA
					2	7.6		0.00		9.9		74.0		8.36		5.0		7		
WS6-I6			11:43	20	1	7.6	7.6	0.00	0.00	10.0	10.0	74.1	72.4	8.29	8.14	0.9	1.0	6	6.0	NA
					2	7.6		0.00		10.0		70.6		7.99		1.1		6		

Note: 1. ND: Not Detected
2. NA: Not Applicable
3. TBC: To Be Confirm
3. Yellow Highlight equal to exceed Action Level
4. Red Highlight equal to exceed Limit Level

Water Quality Monitoring Results

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	5-Jan-21	Cloudy	13:13	16	1	6.8	6.9	0.01	0.01	14.2	14.2	85.4	85.2	6.92	6.91	8.7	8.7	5	5.0	NA
					2	6.9		0.01		14.2		85.0		6.89		8.7		5		
WS1-I1			13:20	33	1	6.7	6.7	0.01	0.01	14.2	14.2	86.8	87.3	7.20	7.16	9.4	9.4	4	4.5	NA
					2	6.7		0.01		14.1		87.7		7.12		9.3		5		
WS1-R2			13:56	22	1	7.3	7.3	0.02	0.02	15.7	15.7	99.5	99.5	7.83	7.83	4.8	4.8	5	5.0	NA
					2	7.3		0.02		15.7		99.5		7.83		4.8		5		
WS1-I2			14:12	6	1	7.0	7.1	0.02	0.02	16.6	16.6	97.3	97.3	7.52	7.52	5.2	5.2	5	5.0	NA
					2	7.1		0.02		16.6		97.3		7.52		5.2		5		
WS4-R3			11:26	5	1	7.4	7.5	0.05	0.05	16.7	16.7	107.3	107.3	8.37	8.37	8.6	8.6	4	4.5	NA
					2	7.5		0.05		16.7		107.3		8.37		8.5		5		
WS4-I3			11:39	10	1	7.7	7.6	0.05	0.05	16.8	16.8	117.9	117.9	9.06	9.07	8.3	8.3	6	6.0	NA
					2	7.4		0.05		16.8		117.9		9.07		8.3		6		
WS5-R4			12:26	28	1	7.4	7.4	0.06	0.06	14.9	14.9	88.1	88.1	7.07	7.06	6.8	6.8	6	6.0	NA
					2	7.4		0.06		14.9		88.0		7.05		6.7		6		
WS5-I4			12:39	32	1	7.6	7.6	0.05	0.05	14.4	14.4	88.2	89.1	7.09	7.14	6.9	6.9	6	6.0	NA
					2	7.6		0.05		14.4		89.9		7.18		6.8		6		
WS6-R5			12:10	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			12:15	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			10:19	26	1	7.2	7.3	0.22	0.22	15.8	15.8	66.1	65.6	5.19	5.16	19.3	18.1	4	4.0	NA
					2	7.3		0.22		15.7		65.1		5.12		16.8		4		
WS6-R6			10:37	33	1	7.4	7.4	0.19	0.20	13.6	13.6	78.3	77.7	6.41	6.38	3.5	3.6	3	3.0	NA
					2	7.4		0.21		13.6		77.0		6.34		3.6		3		
WS6-I6			10:51	16	1	7.5	7.5	0.21	0.21	13.5	13.5	80.5	80.7	6.64	6.65	3.6	3.5	10	10.0	NA
					2	7.5		0.21		13.4		80.8		6.65		3.4		10		

Note: 1. ND: Not Detected
2. NA: Not Applicable
3. TBC: To Be Confirm
3. Yellow Highlight equal to exceed Action Level
4. Red Highlight equal to exceed Limit Level

Water Quality Monitoring Results

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	7-Jan-21	Cloudy	13:12	10	1	7.3	7.3	0.02	0.02	13.4	13.4	64.9	64.9	5.33	5.34	7.0	6.7	6	6.0	NA
					2	7.3		0.02		13.4		64.9		5.35		6.4		6		
WS1-I1			13:28	16	1	6.8	6.8	0.02	0.02	13.3	13.3	69.8	69.8	5.75	5.75	7.0	7.0	6	6.0	NA
					2	6.8		0.02		13.3		69.8		5.74		6.9		6		
WS1-R2			14:04	22	1	7.0	7.0	0.01	0.01	14.7	14.7	99.3	99.3	7.97	7.97	4.0	4.0	9	8.5	NA
					2	7.0		0.01		14.7		99.3		7.97		3.9		8		
WS1-I2			14:20	3	1	6.7	6.7	0.02	0.02	16.8	16.8	93.3	93.4	7.40	7.41	4.3	4.3	10	10.0	NA
					2	6.7		0.02		16.8		93.4		7.41		4.2		10		
WS4-R3			12:26	6	1	7.9	7.9	0.05	0.05	15.5	15.5	113.1	113.2	8.89	8.90	4.4	4.4	5	4.5	NA
					2	7.9		0.05		15.5		113.2		8.90		4.4		4		
WS4-I3			12:44	7	1	7.9	7.9	0.05	0.05	15.7	15.7	112.4	112.1	8.83	8.81	4.6	4.6	5	5.0	NA
					2	7.9		0.05		15.7		111.8		8.78		4.6		5		
WS5-R4			11:31	26	1	7.4	7.4	0.05	0.06	14.0	14.0	71.0	70.2	5.74	5.69	3.3	3.3	8	8.0	NA
					2	7.3		0.06		14.0		69.3		5.64		3.2		8		
WS5-I4			11:45	8	1	7.5	7.5	0.06	0.06	14.3	14.3	73.2	73.6	5.93	5.96	3.4	3.4	5	5.0	NA
					2	7.5		0.06		14.3		74.0		5.99		3.4		5		
WS6-R5			12:10	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			12:16	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			10:33	25	1	7.1	7.1	0.23	0.23	14.9	14.9	71.6	71.1	5.72	5.68	1.8	1.9	5	5.0	NA
					2	7.1		0.23		14.9		70.6		5.63		1.9		5		
WS6-R6			10:50	32	1	7.4	7.4	0.22	0.22	13.2	13.2	73.0	73.0	6.04	6.04	4.5	4.4	6	6.0	NA
					2	7.4		0.22		13.2		72.9		6.04		4.2		6		
WS6-I6			11:02	20	1	7.4	7.4	0.22	0.22	13.0	13.0	71.7	71.4	5.94	5.92	4.4	4.5	6	6.0	NA
					2	7.4		0.22		13.0		71.1		5.89		4.5		6		

Note: 1. ND: Not Detected
2. NA: Not Applicable
3. TBC: To Be Confirm
3. Yellow Highlight equal to exceed Action Level
4. Red Highlight equal to exceed Limit Level

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	9-Jan-21	Fine	13:24	10	1	7.4	7.4	0.01	0.01	9.0	9.0	76.9	76.9	7.44	7.43	5.6	5.6	6	6.0	NA
					2	7.4		0.01		9.0		76.8		7.41		5.6		6		
WS1-I1			13:43	26	1	6.9	6.9	0.01	0.01	8.8	8.8	82.5	82.5	7.85	7.88	5.6	5.6	6	6.0	NA
					2	6.9		0.01		8.8		82.5		7.91		5.5		6		
WS1-R2			14:23	12	1	6.8	6.9	0.01	0.01	10.3	10.4	94.8	94.8	8.91	8.87	4.7	4.7	6	6.0	NA
					2	6.9		0.01		10.4		94.7		8.82		4.6		6		
WS1-I2			14:38	6	1	6.7	6.7	0.02	0.02	15.2	15.2	86.8	86.8	7.38	7.39	4.9	4.9	4	4.0	NA
					2	6.7		0.01		15.2		86.7		7.39		4.9		4		
WS4-R3			12:31	5	1	8.4	8.4	0.04	0.04	11.1	11.1	102.1	102.1	9.41	9.41	3.4	3.4	3	3.0	NA
					2	8.3		0.04		11.1		102.0		9.40		3.4		3		
WS4-I3			12:49	8	1	8.4	8.4	0.04	0.04	11.2	11.2	100.5	100.7	9.29	9.33	3.5	3.5	4	4.0	NA
					2	8.4		0.04		11.2		100.8		9.37		3.5		4		
WS5-R4			11:22	32	1	7.5	7.5	0.06	0.07	8.6	8.6	67.4	67.4	6.54	6.54	4.8	4.8	4	4.0	NA
					2	7.5		0.07		8.6		67.3		6.53		4.8		4		
WS5-I4			11:38	15	1	7.4	7.4	0.06	0.07	7.9	7.9	71.5	71.6	7.04	7.06	4.9	4.9	4	3.5	NA
					2	7.4		0.07		7.9		71.6		7.07		4.9		3		
WS6-R5			09:47	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			09:55	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			10:09	22	1	7.2	7.2	0.21	0.22	9.4	9.4	72.6	72.6	6.88	6.90	2.1	2.2	4	4.0	NA
					2	7.1		0.22		9.4		72.6		6.91		2.3		4		
WS6-R6			10:23	32	1	7.3	7.3	0.24	0.24	8.4	8.4	77.7	76.9	7.59	7.50	2.5	2.6	4	4.0	NA
					2	7.3		0.23		8.4		76.1		7.40		2.6		4		
WS6-I6			10:39	24	1	7.3	7.3	0.23	0.24	8.3	8.3	74.5	74.5	7.33	7.32	2.6	2.6	4	4.5	NA
					2	7.3		0.24		8.3		74.4		7.30		2.5		5		

Note: 1. ND: Not Detected
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4. Red Highlight equal to exceed Limit Level

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	12-Jan-21	Fine	12:18	10	1	7.8	7.7	0.01	0.01	8.0	8.0	77.7	77.2	7.64	7.60	14.6	14.8	5	5.0	NA
					2	7.6		0.01		7.9		76.6		7.55		14.9		5		
WS1-I1			12:40	23	1	7.3	7.3	0.02	0.02	7.5	7.5	82.6	82.7	8.44	8.39	13.2	13.2	3	3.0	NA
					2	7.3		0.02		7.5		82.7		8.33		13.2		3		
WS1-R2			13:19	25	1	7.4	7.4	0.01	0.01	10.2	10.2	94.4	94.4	8.86	8.87	3.2	3.2	4	4.0	NA
					2	7.4		0.01		10.2		94.4		8.87		3.2		4		
WS1-I2			13:38	6	1	7.1	7.1	0.02	0.02	13.9	14.0	90.3	90.3	8.41	8.38	3.4	3.4	6	6.0	NA
					2	7.0		0.01		14.1		90.2		8.35		3.4		6		
WS4-R3			14:27	6	1	8.2	8.2	0.04	0.04	11.0	11.0	108.2	108.1	9.45	9.46	5.1	5.2	4	4.5	NA
					2	8.1		0.04		10.9		108.0		9.47		5.2		5		
WS4-I3			14:50	12	1	8.4	8.4	0.04	0.04	11.0	11.0	109.6	109.7	9.51	9.52	5.5	5.5	5	5.0	NA
					2	8.4		0.04		11.0		109.7		9.53		5.4		5		
WS5-R4			13:24	26	1	7.7	7.7	0.05	0.05	7.4	7.3	96.7	96.4	9.16	9.16	5.5	5.6	5	5.0	NA
					2	7.7		0.05		7.2		96.1		9.15		5.7		5		
WS5-I4			13:42	12	1	7.6	7.6	0.05	0.05	9.3	9.3	101.5	101.4	9.19	9.18	5.2	5.3	6	6.0	NA
					2	7.5		0.05		9.3		101.3		9.17		5.4		6		
WS6-R5			10:30	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			10:35	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			10:48	22	1	7.2	7.2	0.23	0.23	8.6	8.6	79.6	79.6	7.76	7.75	3.1	3.1	6	6.0	NA
					2	7.2		0.22		8.6		79.5		7.74		3.0		6		
WS6-R6			11:18	32	1	7.5	7.5	0.21	0.21	6.9	6.9	83.8	83.1	8.44	8.40	2.5	2.5	4	4.0	NA
					2	7.5		0.21		6.9		82.4		8.35		2.5		4		
WS6-I6			11:39	16	1	7.4	7.4	0.21	0.21	6.5	6.5	81.0	80.6	8.27	8.23	2.1	2.2	6	5.5	NA
					2	7.4		0.21		6.5		80.1		8.18		2.2		5		

Note: 1. ND: Not Detected
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4. Red Highlight equal to exceed Limit Level

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	14-Jan-21	Fine	12:50	12	1	7.0	7.0	0.01	0.01	10.7	10.7	75.2	72.9	7.61	7.60	7.9	7.8	7	7.0	NA
					2	7.0		0.01		10.6		70.5		7.59		7.7		7		
WS1-I1			13:10	7	1	7.4	7.4	0.02	0.02	10.6	10.6	82.8	82.9	7.45	7.46	8.1	8.2	10	10.0	NA
					2	7.4		0.01		10.5		82.9		7.46		8.2		10		
WS1-R2			13:40	18	1	7.7	7.7	0.02	0.02	13.1	13.1	100.3	100.3	8.33	8.34	11.7	11.8	9	9.5	NA
					2	7.7		0.02		13.1		100.3		8.34		11.9		10		
WS1-I2			13:56	8	1	7.6	7.6	0.02	0.02	17.1	17.1	94.9	95.0	7.73	7.74	12.7	12.7	6	6.0	NA
					2	7.5		0.01		17.1		95.1		7.74		12.7		6		
WS4-R3			14:42	6	1	8.0	8.0	0.05	0.05	16.3	16.3	107.8	107.9	8.59	8.53	5.8	5.8	8	7.5	NA
					2	8.0		0.04		16.3		108.0		8.46		5.8		7		
WS4-I3			15:04	9	1	8.4	8.4	0.05	0.05	15.8	15.8	113.0	113.1	8.71	8.72	6.1	6.1	6	6.5	NA
					2	8.3		0.05		15.8		113.1		8.73		6.0		7		
WS5-R4			11:44	30	1	7.5	7.5	0.05	0.05	9.5	9.5	89.9	89.7	8.17	8.13	4.6	4.7	5	5.0	NA
					2	7.5		0.05		9.5		89.5		8.09		4.7		5		
WS5-I4			11:59	40	1	7.5	7.5	0.05	0.06	11.5	11.6	101.6	101.6	8.76	8.75	5.1	5.1	6	6.0	NA
					2	7.5		0.06		11.6		101.6		8.74		5.0		6		
WS6-R5			10:15	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			10:18	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			10:30	14	1	7.2	7.2	0.23	0.24	11.4	11.5	86.4	86.4	7.46	7.43	3.3	3.3	8	7.5	NA
					2	7.2		0.24		11.5		86.3		7.40		3.3		7		
WS6-R6			10:47	22	1	7.3	7.3	0.24	0.24	8.6	8.6	87.5	87.5	8.09	8.09	3.8	3.8	4	4.5	NA
					2	7.3		0.24		8.6		87.4		8.08		3.7		5		
WS6-I6			11:08	19	1	7.4	7.4	0.23	0.24	9.0	9.0	91.4	91.3	8.48	8.41	3.9	4.0	5	5.0	NA
					2	7.4		0.24		9.0		91.1		8.33		4.0		5		

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Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	16-Jan-21	Fine	12:39	16	1	7.8	7.9	0.01	0.01	13.4	13.4	75.1	75.0	7.41	7.40	9.7	9.8	4	4.0	NA
					2	7.9		0.01		13.3		74.9		7.38		9.8		4		
WS1-I1			13:04	11	1	7.5	7.5	0.02	0.02	13.0	13.0	80.2	80.2	7.84	7.87	8.6	8.6	3	3.0	NA
					2	7.5		0.02		12.9		80.2		7.89		8.6		3		
WS1-R2			13:40	14	1	7.3	7.3	0.02	0.02	14.4	14.4	99.3	99.3	9.68	9.68	3.4	3.4	4	4.0	NA
					2	7.3		0.02		14.4		99.2		9.67		3.4		4		
WS1-I2			13:59	8	1	7.3	7.3	0.02	0.02	16.3	16.3	95.1	95.2	9.16	9.18	3.6	3.6	4	4.0	NA
					2	7.3		0.02		16.3		95.3		9.20		3.6		4		
WS4-R3			11:44	5	1	7.3	7.3	0.05	0.06	15.3	15.4	102.0	101.2	9.65	9.72	12.6	12.5	7	7.0	NA
					2	7.3		0.06		15.4		100.3		9.78		12.3		7		
WS4-I3			11:59	8	1	7.6	7.6	0.06	0.07	15.5	15.5	107.8	107.9	10.36	10.35	11.6	11.7	6	6.0	NA
					2	7.6		0.07		15.5		107.9		10.33		11.7		6		
WS5-R4			11:02	11	1	6.9	6.9	0.07	0.07	12.6	12.6	82.4	82.3	7.57	7.57	3.8	3.9	4	4.0	NA
					2	6.9		0.07		12.6		82.2		7.56		3.9		4		
WS5-I4			11:21	20	1	6.9	6.9	0.07	0.07	12.8	12.8	84.7	84.5	7.81	7.83	3.3	3.3	5	5.0	NA
					2	6.8		0.06		12.8		84.2		7.84		3.3		5		
WS6-R5			09:24	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			09:39	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			10:00	22	1	6.6	6.6	0.24	0.24	13.8	13.9	72.2	72.2	6.92	6.90	3.6	3.7	4	4.0	NA
					2	6.6		0.24		14.0		72.1		6.88		3.7		4		
WS6-R6			10:22	31	1	6.7	6.7	0.23	0.24	12.4	12.4	69.9	70.3	6.37	6.39	3.8	3.8	6	5.5	NA
					2	6.7		0.24		12.3		70.7		6.41		3.7		5		
WS6-I6			10:42	28	1	6.7	6.7	0.23	0.24	12.0	12.1	71.2	71.2	6.50	6.49	3.6	3.6	4	4.0	NA
					2	6.6		0.24		12.1		71.2		6.48		3.5		4		

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Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	19-Jan-21	Fine	11:20	6	1	7.3	7.3	0.02	0.02	10.6	10.6	60.8	60.8	6.41	6.43	12.7	12.7	7	6.5	NA
					2	7.2		0.02		10.6		60.8		6.45		12.7		6		
WS1-I1			11:42	8	1	7.1	7.1	0.02	0.02	10.6	10.6	74.2	74.4	7.45	7.51	11.5	11.5	8	8.0	NA
					2	7.1		0.02		10.6		74.6		7.56		11.5		8		
WS1-R2			13:24	28	1	7.1	7.1	0.02	0.02	10.6	10.6	99.8	99.8	9.84	9.83	4.2	4.2	5	5.0	NA
					2	7.1		0.02		10.6		99.7		9.81		4.1		5		
WS1-I2			13:43	6	1	7.1	7.1	0.02	0.02	10.5	10.6	93.8	93.8	8.96	8.94	4.4	4.5	8	8.0	NA
					2	7.0		0.01		10.6		93.8		8.91		4.5		8		
WS4-R3			14:41	8	1	7.2	7.2	0.04	0.04	14.3	14.3	110.6	110.5	10.06	10.00	5.4	5.4	6	6.0	NA
					2	7.2		0.04		14.3		110.4		9.94		5.4		6		
WS4-I3			14:59	6	1	7.3	7.3	0.05	0.05	14.5	14.5	110.5	110.5	10.08	10.08	5.5	5.5	5	5.0	NA
					2	7.3		0.05		14.5		110.5		10.08		5.5		5		
WS5-R4			14:18	26	1	6.8	6.9	0.06	0.06	10.9	10.9	83.1	83.1	8.81	8.81	4.1	4.1	6	6.5	NA
					2	6.9		0.06		10.9		83.1		8.80		4.1		7		
WS5-I4			14:27	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-R5			09:34	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			09:47	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			10:00	22	1	6.9	6.9	0.21	0.21	12.4	12.4	79.2	78.8	8.01	7.99	3.7	3.7	4	4.0	NA
					2	6.9		0.21		12.4		78.3		7.97		3.7		4		
WS6-R6			10:24	32	1	7.0	7.0	0.23	0.23	11.2	11.2	81.8	81.8	8.57	8.56	4.9	4.9	5	5.0	NA
					2	6.9		0.22		11.2		81.8		8.55		4.9		5		
WS6-I6			10:49	16	1	6.9	6.9	0.23	0.24	10.5	10.5	85.0	85.0	9.04	9.05	5.2	5.2	5	5.0	NA
					2	6.9		0.24		10.5		85.0		9.05		5.2		5		

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Water Quality Monitoring Results

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	21-Jan-21	Cloudy	13:16	2	1	7.1	7.1	0.02	0.02	15.4	15.3	80.8	81.6	7.31	7.30	14.5	14.5	8	8.0	NA
					2	7.1		0.02		15.1		82.3		7.28		14.5		8		
WS1-I1			13:32	4	1	6.8	6.8	0.04	0.04	15.0	15.0	88.8	88.8	8.58	8.57	67.6	67.5	7	7.0	NA
					2	6.8		0.04		15.0		88.7		8.56		67.4		7		
WS1-R2			14:04	24	1	6.9	6.8	0.01	0.02	16.6	16.6	99.1	99.1	9.30	9.31	3.5	3.6	5	5.0	NA
					2	6.7		0.02		16.5		99.1		9.31		3.7		5		
WS1-I2			14:21	3	1	6.8	6.8	0.02	0.02	18.0	18.0	93.6	93.3	8.81	8.77	3.9	3.9	6	6.0	NA
					2	6.7		0.02		18.0		93.0		8.73		3.9		6		
WS4-R3			12:25	3	1	7.5	7.5	0.05	0.05	17.5	17.5	109.0	109.8	9.93	10.05	3.7	3.7	6	6.0	NA
					2	7.5		0.05		17.4		110.6		10.16		3.6		6		
WS4-I3			12:42	5	1	7.5	7.5	0.05	0.05	17.2	17.2	111.9	112.2	10.37	10.38	3.8	3.8	5	5.0	NA
					2	7.5		0.05		17.2		112.4		10.39		3.7		5		
WS5-R4			11:37	30	1	7.2	7.2	0.06	0.07	15.8	15.8	61.3	60.7	5.69	5.68	3.4	3.4	5	5.0	NA
					2	7.1		0.07		15.8		60.1		5.67		3.3		5		
WS5-I4			11:54	8	1	7.1	7.2	0.07	0.07	16.9	17.0	72.5	72.5	6.41	6.40	3.3	3.3	4	4.0	NA
					2	7.2		0.07		17.0		72.5		6.39		3.3		4		
WS6-R5			13:56	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			14:05	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			10:23	21	1	6.8	6.8	0.31	0.31	16.8	16.9	70.6	71.1	6.54	6.60	3.9	3.9	4	4.0	NA
					2	6.8		0.31		16.9		71.6		6.66		3.8		4		
WS6-R6			10:46	16	1	6.7	6.7	0.27	0.27	14.9	14.9	41.7	41.8	4.03	4.04	5.1	4.7	9	8.5	NA
					2	6.7		0.27		14.9		41.9		4.05		4.3		8		
WS6-I6			11:02	24	1	6.8	6.8	0.26	0.27	15.1	15.1	36.7	36.7	3.61	3.59	4.3	4.3	7	7.0	NA
					2	6.7		0.27		15.0		36.7		3.57		4.2		7		

Note: 1. ND: Not Detected
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Water Quality Monitoring Results

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	23-Jan-21	Cloudy	11:30	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS1-I1			11:49	8	1	7.3	7.3	0.03	0.03	15.6	15.3	85.3	85.3	8.51	8.52	4.3	4.3	6	6.0	NA
					2	7.2		0.03		15.0		85.3		8.52		4.3		6		
WS1-R2			12:29	24	1	6.9	7.0	0.02	0.02	17.4	17.4	90.6	90.6	8.74	8.75	3.8	3.8	4	4.0	NA
					2	7.0		0.02		17.4		90.6		8.75		3.8		4		
WS1-I2			12:51	4	1	6.8	6.8	0.02	0.02	18.5	18.5	84.7	84.7	7.97	7.98	4.1	4.1	3	3.0	NA
					2	6.8		0.02		18.5		84.7		7.99		4.1		3		
WS4-R3			10:28	6	1	7.4	7.5	0.06	0.06	17.9	17.9	99.9	99.9	9.53	9.54	5.1	5.1	5	5.0	NA
					2	7.5		0.06		17.9		99.9		9.55		5.0		5		
WS4-I3			10:57	7	1	7.7	7.7	0.06	0.06	17.7	17.7	99.8	99.8	9.59	9.57	5.2	5.3	4	4.0	NA
					2	7.7		0.05		17.7		99.8		9.55		5.3		4		
WS5-R4			13:17	19	1	7.0	7.1	0.09	0.09	16.8	16.8	51.8	51.7	4.79	4.77	3.3	3.3	3	3.0	NA
					2	7.1		0.09		16.8		51.5		4.74		3.2		3		
WS5-I4			13:30	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-R5			13:36	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			13:45	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			14:11	22	1	6.8	6.8	0.29	0.29	19.3	19.3	78.6	78.6	6.88	6.85	3.8	3.8	7	7.0	NA
					2	6.8		0.28		19.3		78.5		6.82		3.8		7		
WS6-R6			14:29	21	1	6.9	6.9	0.22	0.22	16.4	16.4	59.3	58.7	6.52	6.47	3.9	3.9	6	6.0	NA
					2	6.9		0.21		16.4		58.1		6.41		3.9		6		
WS6-I6			14:46	18	1	6.9	6.9	0.24	0.24	16.3	16.2	57.7	57.8	6.39	6.39	3.2	3.3	4	4.0	NA
					2	6.9		0.24		16.1		57.8		6.38		3.4		4		

Note: 1. ND: Not Detected
2. NA: Not Applicable
3. TBC: To Be Confirm
3. Yellow Highlight equal to exceed Action Level
4. Red Highlight equal to exceed Limit Level

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	26-Jan-21	Fine	10:08	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS1-I1			10:22	22	1	7.3	7.3	0.03	0.03	17.0	17.0	90.5	90.6	7.34	7.40	4.4	4.3	8	8.0	NA
					2	7.2		0.03		17.0		90.6		7.45		4.1		8		
WS1-R2			10:52	18	1	7.6	7.6	0.02	0.02	16.9	16.9	96.4	96.4	8.85	8.88	4.0	4.0	6	5.5	NA
					2	7.5		0.02		16.8		96.4		8.91		3.9		5		
WS1-I2			11:07	3	1	6.7	6.7	0.02	0.02	18.7	18.6	91.8	90.8	8.01	8.00	4.3	4.3	5	5.0	NA
					2	6.7		0.02		18.5		89.8		7.99		4.2		5		
WS4-R3			13:24	2	1	7.8	7.8	0.05	0.05	18.5	18.5	107.5	107.6	9.63	9.64	4.7	4.7	4	4.0	NA
					2	7.8		0.05		18.5		107.6		9.65		4.6		4		
WS4-I3			13:39	4	1	7.7	7.7	0.05	0.05	18.8	18.9	109.5	109.9	9.79	9.80	4.6	4.6	6	6.0	NA
					2	7.7		0.05		19.0		110.2		9.81		4.5		6		
WS5-R4			12:29	18	1	7.4	7.4	0.09	0.09	16.4	16.4	66.6	66.4	6.15	6.14	5.0	5.0	6	6.5	NA
					2	7.4		0.09		16.3		66.2		6.12		4.9		7		
WS5-I4			12:44	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-R5			12:59	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			13:09	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			11:37	24	1	6.7	6.7	0.27	0.27	18.4	18.3	84.4	83.7	7.46	7.46	3.9	3.9	5	4.5	NA
					2	6.6		0.27		18.1		83.0		7.45		3.9		4		
WS6-R6			11:58	32	1	6.9	6.9	0.27	0.27	16.0	16.0	70.5	70.6	6.66	6.66	3.7	3.7	6	6.0	NA
					2	6.9		0.27		15.9		70.7		6.65		3.7		6		
WS6-I6			12:14	16	1	6.8	6.8	0.27	0.27	15.4	15.4	67.0	67.1	6.40	6.41	3.7	3.7	6	6.0	NA
					2	6.8		0.27		15.4		67.1		6.41		3.7		6		

Note: 1. ND: Not Detected
2. NA: Not Applicable
3. TBC: To Be Confirm
3. Yellow Highlight equal to exceed Action Level
4. Red Highlight equal to exceed Limit Level

Water Quality Monitoring Results

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	28-Jan-21	Fine	11:04	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS1-I1			11:27	5	1	7.7	7.7	0.03	0.03	15.7	15.7	92.7	92.5	8.82	8.81	3.2	3.2	6	6.0	NA
					2	7.7		0.03		15.6		92.3		8.79		3.2		6		
WS1-R2			11:51	16	1	7.5	7.5	0.02	0.02	16.2	16.2	99.4	99.4	9.35	9.35	3.6	3.6	6	6.0	NA
					2	7.4		0.02		16.2		99.3		9.34		3.6		6		
WS1-I2			12:12	8	1	7.7	7.4	0.02	0.02	16.6	16.7	97.8	97.5	9.10	9.07	3.8	3.8	9	8.5	NA
					2	7.1		0.02		16.8		97.1		9.03		3.8		8		
WS4-R3			10:27	3	1	7.5	7.6	0.05	0.05	16.3	16.3	105.7	105.8	9.91	9.93	3.3	3.3	8	8.0	NA
					2	7.6		0.05		16.3		105.8		9.94		3.3		8		
WS4-I3			10:50	6	1	7.6	7.6	0.05	0.05	16.3	16.2	103.6	103.6	9.77	9.76	3.3	3.3	4	3.5	NA
					2	7.6		0.05		16.0		103.6		9.74		3.3		3		
WS5-R4			13:58	12	1	7.0	7.0	0.10	0.10	15.7	15.7	57.2	56.3	5.43	5.35	4.1	4.2	13	13.0	NA
					2	7.0		0.10		15.6		55.4		5.26		4.3		13		
WS5-I4			14:21	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-R5			13:20	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			13:35	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			12:31	22	1	6.8	6.8	0.26	0.26	16.6	16.6	69.8	69.5	6.49	6.49	3.4	3.4	5	5.0	NA
					2	6.8		0.26		16.6		69.2		6.49		3.3		5		
WS6-R6			12:49	15	1	6.8	6.8	0.25	0.25	15.2	15.2	70.0	69.9	6.67	6.64	3.5	3.5	4	3.5	NA
					2	6.8		0.25		15.1		69.8		6.60		3.4		3		
WS6-I6			13:07	32	1	6.8	6.8	0.15	0.15	15.0	15.0	66.9	66.9	6.45	6.43	3.4	3.4	4	4.0	NA
					2	6.8		0.15		15.0		66.8		6.41		3.4		4		

Note: 1. ND: Not Detected
2. NA: Not Applicable
3. TBC: To Be Confirm
3. Yellow Highlight equal to exceed Action Level
4. Red Highlight equal to exceed Limit Level

Water Quality Monitoring Results

Monitoring Location	Date	Weather	Time	Water Depth (cm)	Replicate	In-situ Measurement												Laboratory Analysis		Remarks
						pH		Salinity (ppt)		Temperature (ºC)		DO Saturation (%)		DO (mg/L)		Turbidity (NTU)		Total suspended solids dried at 103 - 105 (ºC), mg/L		
						Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.	
WS1-R1	30-Jan-21	Fine	13:45	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS1-I1			13:55	18	1	7.3	7.3	0.02	0.02	14.5	14.5	90.5	90.5	8.84	8.83	4.1	4.1	3	3.0	NA
					2	7.3		0.02		14.5		90.4		8.82		4.1		3		
WS1-R2			14:30	26	1	7.4	7.4	0.01	0.01	15.6	15.6	100.6	100.6	9.63	9.62	3.9	4.0	4	4.0	NA
					2	7.4		0.01		15.6		100.6		9.60		4.0		4		
WS1-I2			14:50	3	1	7.3	7.3	0.01	0.01	18.2	18.2	100.3	100.3	9.44	9.44	4.1	4.2	3	3.0	NA
					2	7.3		0.01		18.2		100.3		9.44		4.3		3		
WS4-R3			10:40	2	1	8.4	8.4	0.05	0.05	16.9	16.9	111.4	111.4	10.31	10.30	3.3	3.3	4	4.0	NA
					2	8.4		0.05		16.9		111.4		10.28		3.3		4		
WS4-I3			10:55	3	1	8.2	8.2	0.05	0.05	16.7	16.7	110.0	110.0	10.22	10.21	3.3	3.3	3	3.0	NA
					2	8.1		0.05		16.7		110.0		10.20		3.3		3		
WS5-R4			12:35	15	1	7.7	7.7	0.05	0.05	14.8	14.7	92.4	92.2	9.02	9.03	3.9	3.9	4	4.0	NA
					2	7.7		0.05		14.5		92.0		9.04		3.8		4		
WS5-I4			12:55	0	1	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-R5			13:10	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-I5			13:19	0	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Lack of sunface runoff
					2	NA		NA		NA		NA		NA		NA		NA		
WS6-C1			11:27	22	1	6.9	6.9	0.24	0.24	16.0	16.0	80.8	80.3	7.51	7.50	3.5	3.5	4	4.0	NA
					2	6.9		0.24		16.0		79.7		7.49		3.5		4		
WS6-R6			11:50	24	1	7.0	7.0	0.24	0.24	13.5	13.5	65.8	65.8	6.58	6.58	4.5	4.5	7	7.0	NA
					2	6.9		0.24		13.5		65.8		6.58		4.5		7		
WS6-I6			12:09	12	1	6.9	6.9	0.21	0.22	13.3	13.3	65.7	65.7	6.45	6.44	3.7	3.7	4	4.0	NA
					2	6.9		0.22		13.3		65.7		6.43		3.7		4		

Note: 1. ND: Not Detected
2. NA: Not Applicable
3. TBC: To Be Confirm
3. Yellow Highlight equal to exceed Action Level
4. Red Highlight equal to exceed Limit Level

Monitoring Results Summary

Parameter(s) / Station(s)	DO in mg/L	Turbidity in NTU	pH	Suspended Solids in mg/L
	Min - Max (Mean)	Min - Max (Mean)	Min - Max (Mean)	Min - Max (Mean)
WS1-R1	5.34 - 8.89 (7.21)	4.4 - 14.8 (9.4)	6.85 - 7.85 (7.33)	4 - 8 (6)
WS1-I1	5.75 - 9.76 (7.99)	2.7 - 67.5 (11.5)	6.70 - 7.80 (7.22)	3 - 10 (6)
WS1-R2	7.83 - 9.99 (9.02)	1.9 - 11.8 (4.4)	6.80 - 7.95 (7.29)	4 - 9.5 (5)
WS1-I2	7.39 - 9.81 (8.43)	3.2 - 12.7 (4.8)	6.70 - 7.90 (7.10)	3 - 10 (6)
WS4-R3	8.37 - 10.30 (9.50)	2.1 - 12.5 (5.2)	7.20 - 8.40 (7.77)	3 - 8 (5)
WS4-I3	8.72 - 10.87 (9.73)	2.7 - 11.7 (5.2)	7.30 - 8.40 (7.89)	3 - 6.5 (5)
WS5-R4	4.77 - 9.16 (7.14)	2.7 - 6.8 (4.3)	6.85 - 7.95 (7.34)	3 - 13 (6)
WS5-I4	5.96 - 9.90 (7.78)	1.9 - 6.9 (4.2)	6.85 - 7.90 (7.43)	3 - 6 (5)
WS6-R5				
WS6-I5				
WS6-C1	5.16 - 7.99 (6.95)	1.9 - 18.1 (4.4)	6.60 - 7.50 (6.99)	4 - 8 (5)
WS6-R6	4.04 - 8.56 (6.93)	2.5 - 5.0 (3.9)	6.70 - 7.60 (7.11)	3 - 8.5 (5)
WS6-I6	3.59 - 9.05 (6.88)	1.0 - 5.2 (3.4)	6.65 - 7.60 (7.10)	4 - 10 (5)

Laboratory Duplicate, Quality Assurance/Quality Control Summary extract form Lab test report

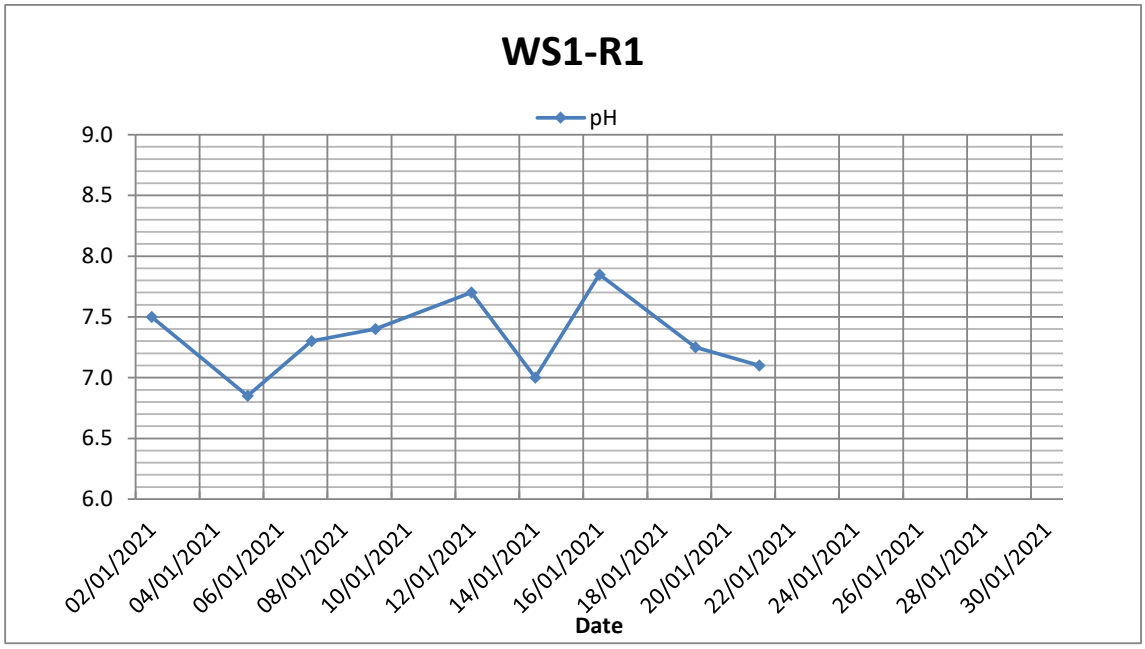
	Total suspended solids dried at 103°C – 105°C					
Sampling Date	Detection Limit	Blank	Spike recovery (%)	Original result	Duplicate result	RPD%
02/01/2021	1mg/L	<1	102.00	4	4	2.40
		<1	102.00	3	3	6.20
05/01/2021	1mg/L	<1	99.10	5.30	5.60	5.50
		<1	99.40	5.25	5.35	1.89
07/01/2021	1mg/L	<1	99.06	8.65	8.30	4.13
		<1	100.70	9.70	9.60	1.04
09/01/2021	1mg/L	<1	100.50	5.60	5.60	0.00
		<1	98.76	3.50	3.75	6.90
12/01/2021	1mg/L	<1	101.16	3.55	3.30	7.30
		<1	101.76	4.65	4.40	5.52
14/01/2021	1mg/L	<1	101.66	7.45	7.00	6.23
		<1	98.60	6.40	6.70	4.58
16/01/2021	1mg/L	<1	101.80	4.10	4.20	2.41
		<1	101.35	4.35	4.30	1.16
19/01/2021	1mg/L	<1	100.90	7.65	7.55	1.32
		<1	100.66	4.70	4.65	1.07
21/01/2021	1mg/L	<1	99.26	6.40	6.35	0.78
		<1	98.76	4.50	4.45	1.12
23/01/2021	1mg/L	<1	99.26	3.20	3.55	10.37
		<1	101.30	4.45	4.25	4.60
26/01/2021	1mg/L	<1	100.76	5.65	5.60	0.89
		<1	100.86	5.55	5.60	0.90
28/01/2021	1mg/L	<1	100.80	8.60	8.40	2.35
		<1	104.36	12.45	13.10	5.09
30/01/2021	1mg/L	<1	99.40	3.45	3.15	9.09
		<1	101.26	4.55	4.20	8.00

Parameter Exceedance Summary

Monitoring Date	Monitoring Location	Exceedance Parameter	Monitoring Results	Action Level(AL)	Limit Level(LL)	Project-related?
5-Jan-21	WS1-I1	Dissolved Oxygen (DO)	7.16 mg/L		<=7.32 mg/L	No
7-Jan-21	WS1-I1	Dissolved Oxygen (DO)	5.75 mg/L		<=7.32 mg/L	No
	WS5-I4	Dissolved Oxygen (DO)	5.96 mg/L		<=6.64 mg/L	No
	WS6-I6	Dissolved Oxygen (DO)	5.92 mg/L		<=6.38 mg/L	No
21-Jan-21	WS1-I1	Turbidity (Turb)	67.5 NTU		>=17.3 NTU	No
	WS5-I4	Dissolved Oxygen (DO)	6.40 mg/L		<=6.64 mg/L	No
	WS6-I6	Dissolved Oxygen (DO)	3.59 mg/L		<=6.38 mg/L	No
23-Jan-21	WS1-I1	pH	7.3	>6.9		No
26-Jan-21	WS1-I1	pH	7.3	>6.9		No
28-Jan-21	WS1-I1	pH	7.7	>6.9		No
30-Jan-21	WS1-I1	pH	7.3	>6.9		No

Monitoring Location Dried up Summary

Date / Location	WS1-R1	WS1-I1	WS1-R2	WS1-I2	WS4-R3	WS4-I3	WS5-R4	WS5-I4	WS6-R5	WS5-I5	WS6-R6	WS6-I6
02/01/2021									Dried Up	Dried Up		
05/01/2021									Dried Up	Dried Up		
07/01/2021									Dried Up	Dried Up		
09/01/2021									Dried Up	Dried Up		
12/01/2021									Dried Up	Dried Up		
14/01/2021									Dried Up	Dried Up		
16/01/2021									Dried Up	Dried Up		
19/01/2021								Dried Up	Dried Up	Dried Up		
21/01/2021									Dried Up	Dried Up		
23/01/2021	Dried Up							Dried Up	Dried Up	Dried Up		
26/01/2021	Dried Up							Dried Up	Dried Up	Dried Up		
28/01/2021	Dried Up							Dried Up	Dried Up	Dried Up		
30/01/2021	Dried Up							Dried Up	Dried Up	Dried Up		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6.0
02/01/2021
04/01/2021
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08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
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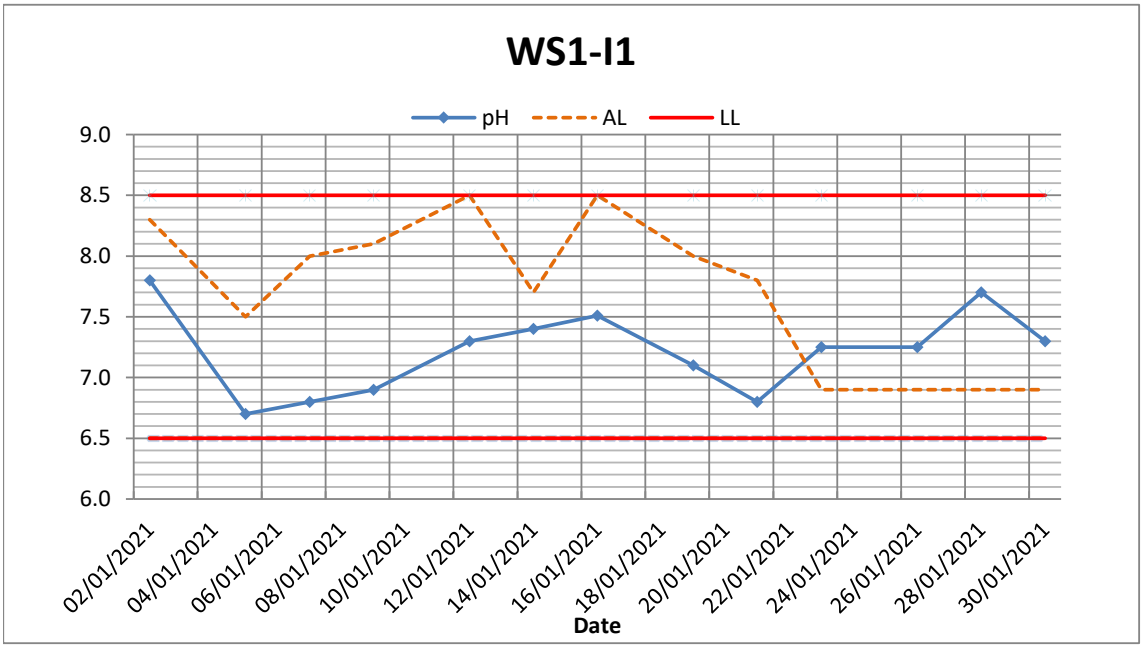
26/01/2021
28/01/2021
30/01/2021
Date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7.5
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02/01/2021
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12/01/2021
14/01/2021
16/01/2021
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26/01/2021
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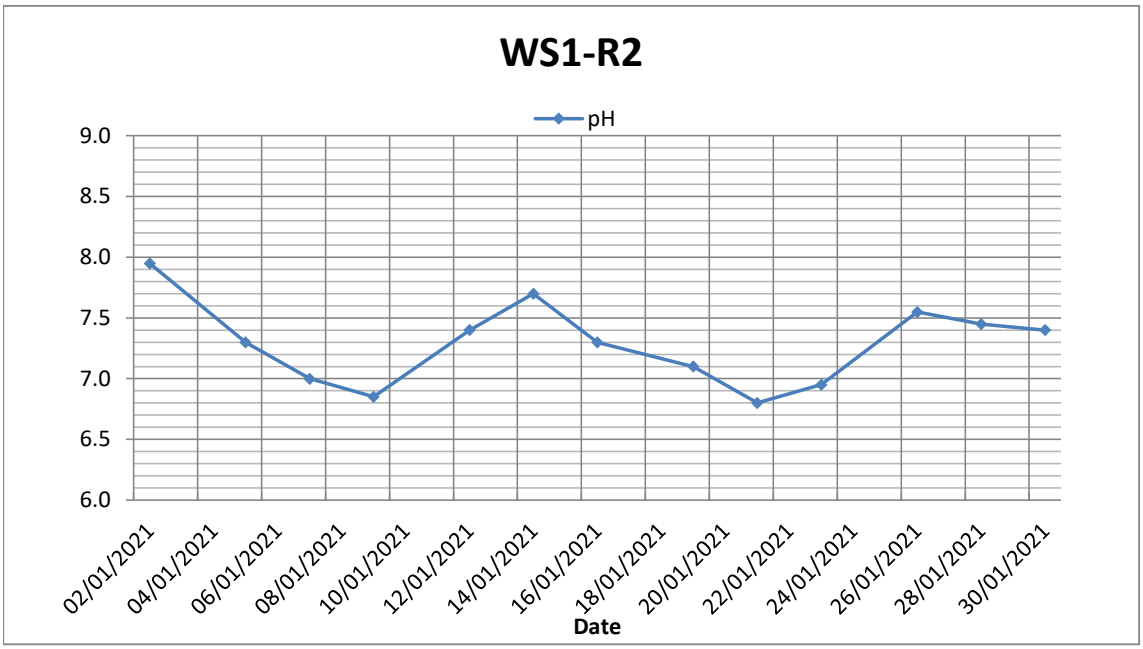
30/01/2021
Date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6.5
6.0
02/01/2021
04/01/2021
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12/01/2021
14/01/2021
16/01/2021
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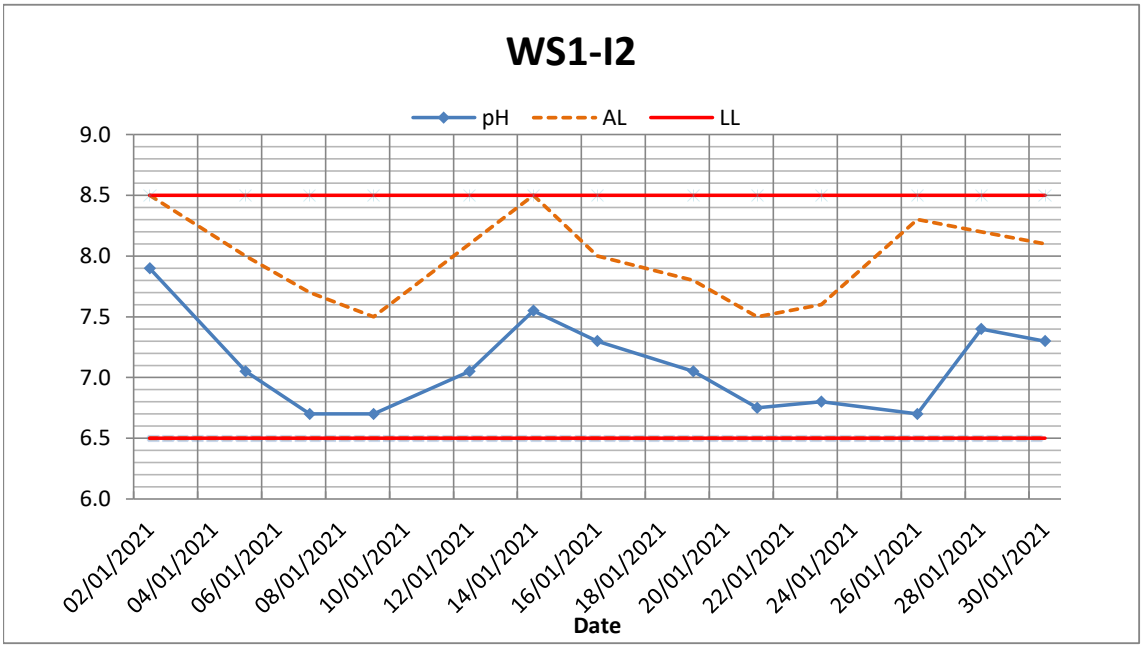
Date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LL
9.0
8.5
8.0
7.5
7.0
6.5
6.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
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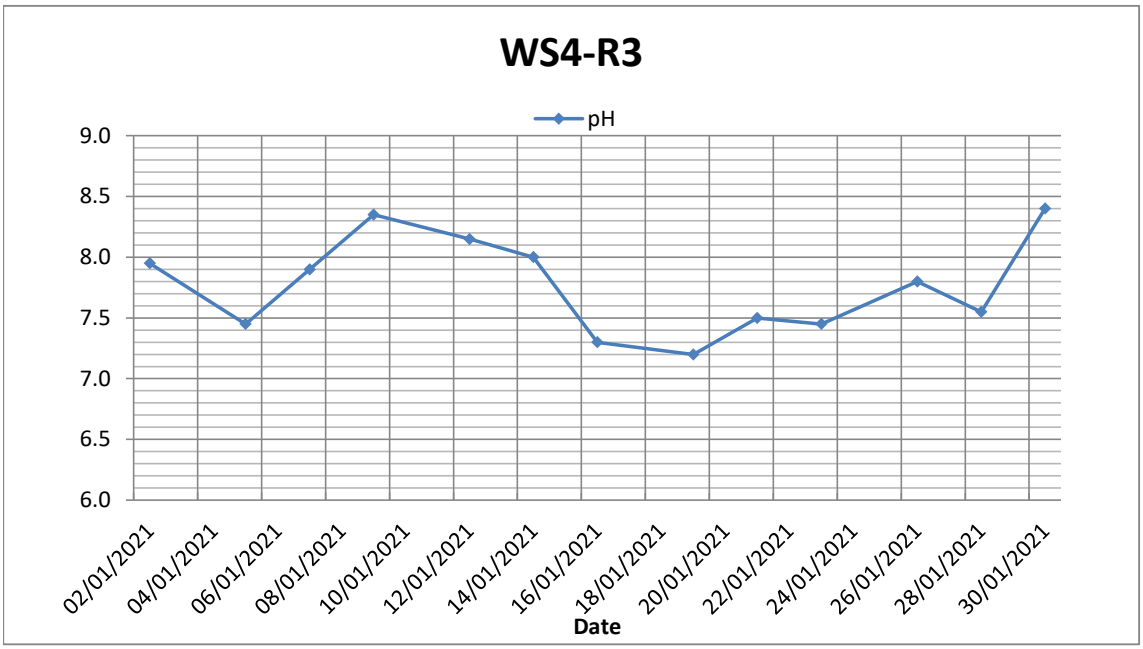
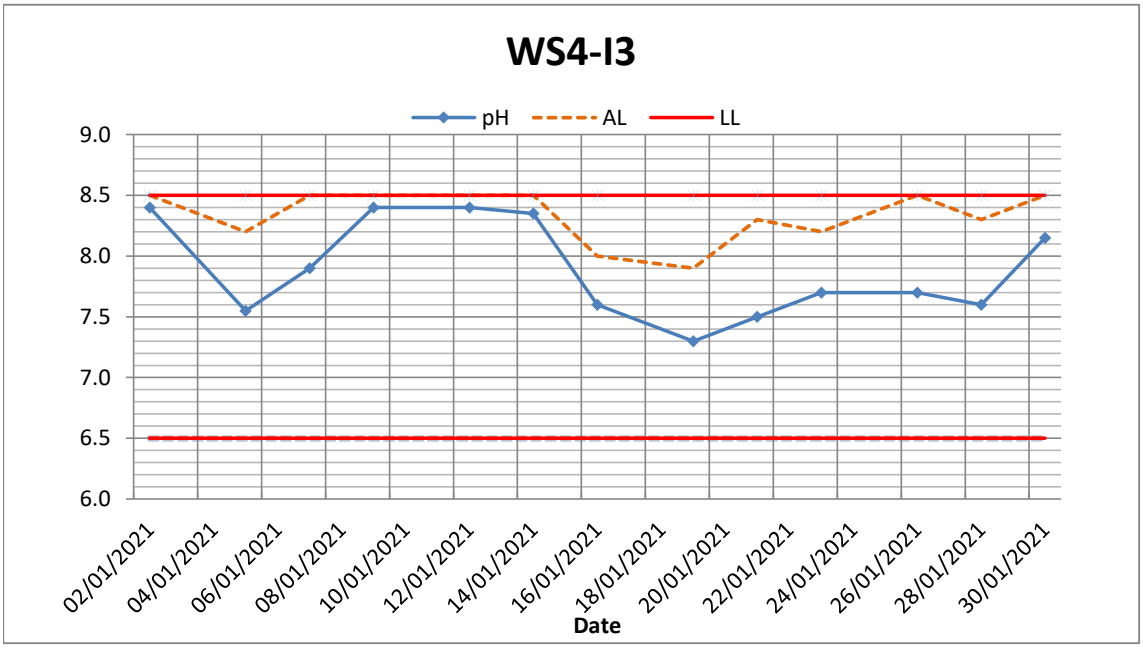
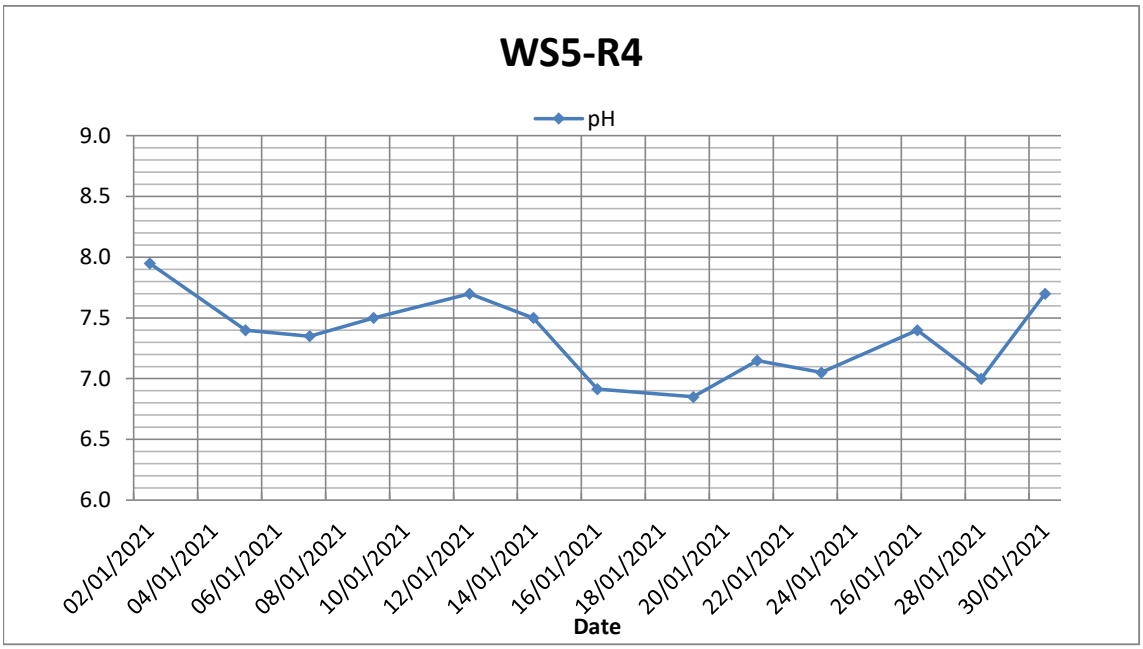
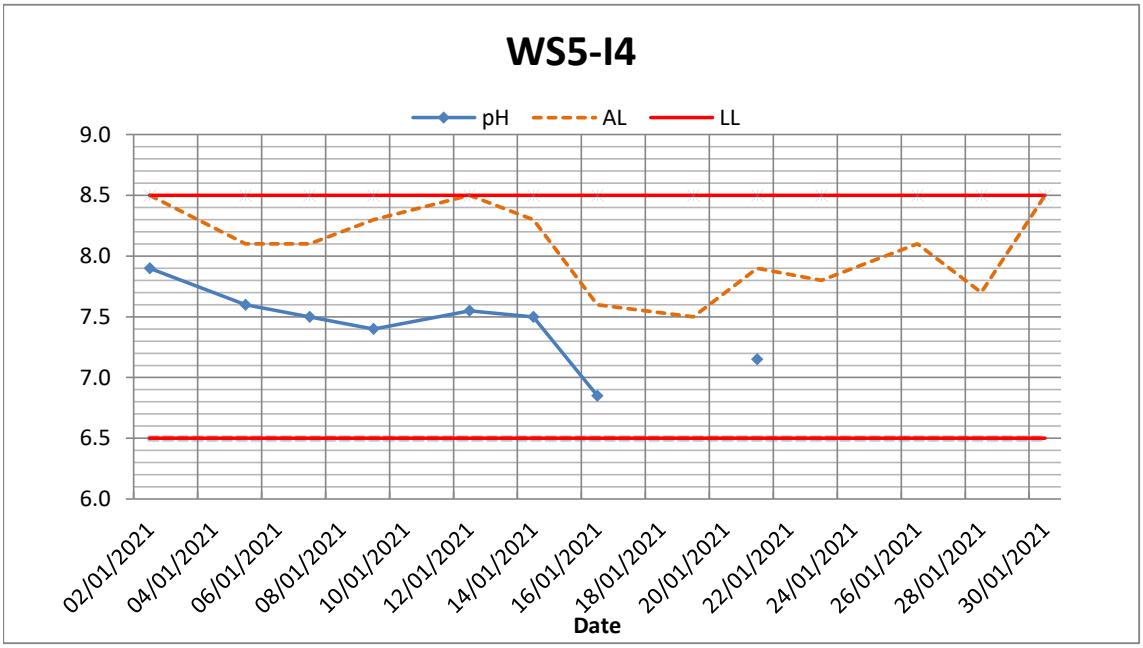
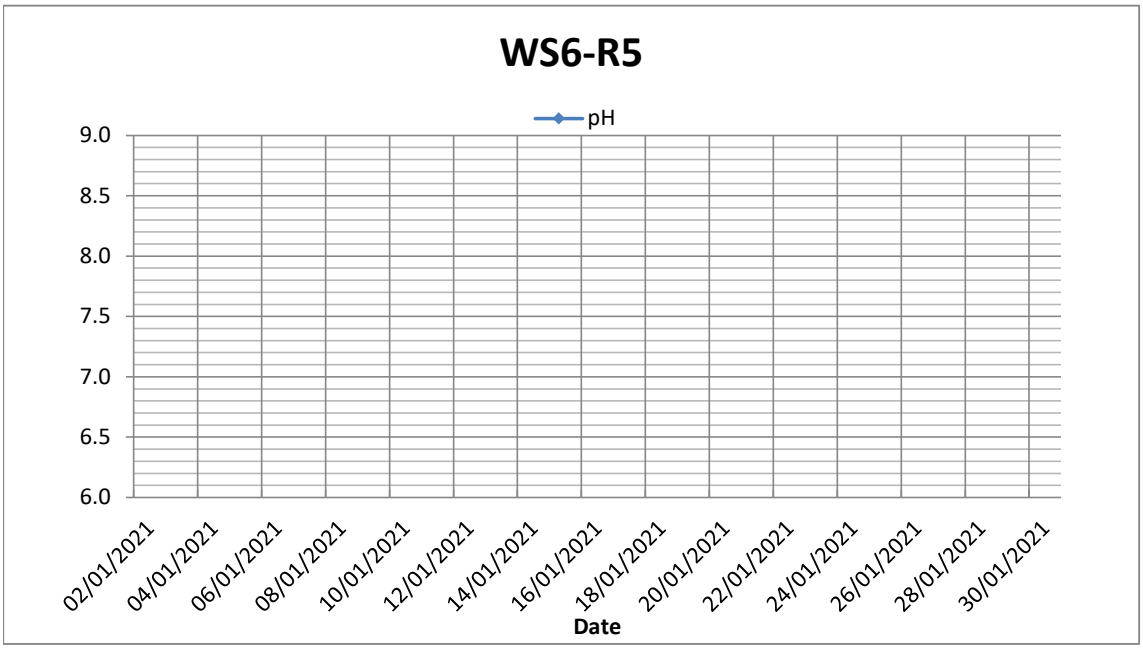
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

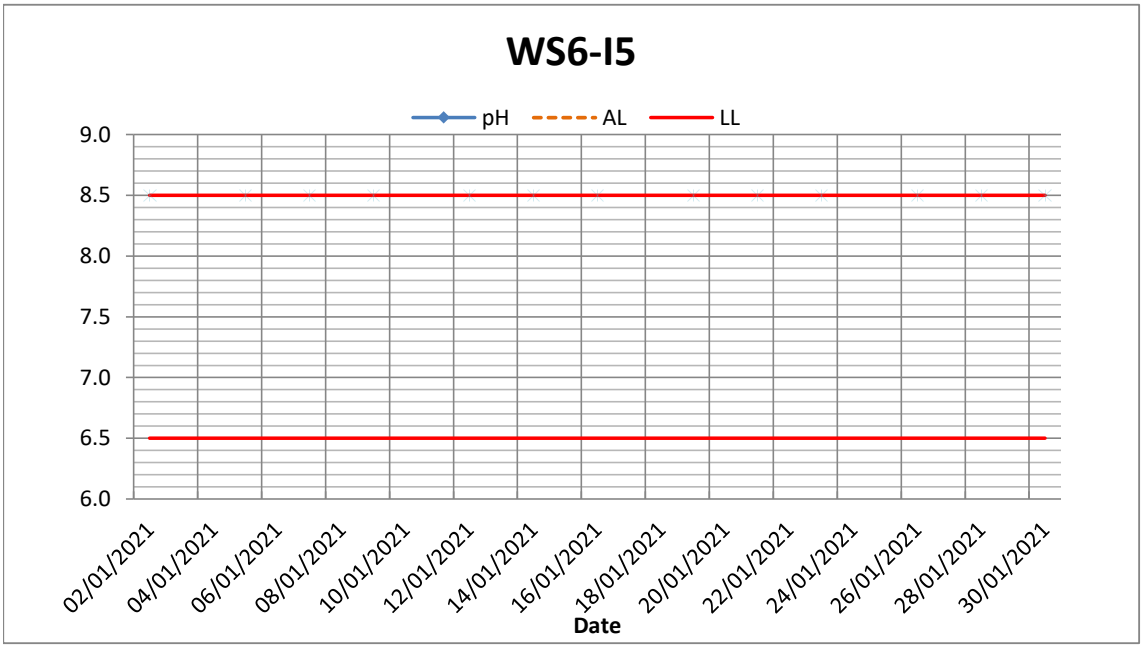

WS4-R3
pH
9.0
8.5
8.0
7.5
7.0
6.5
6.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

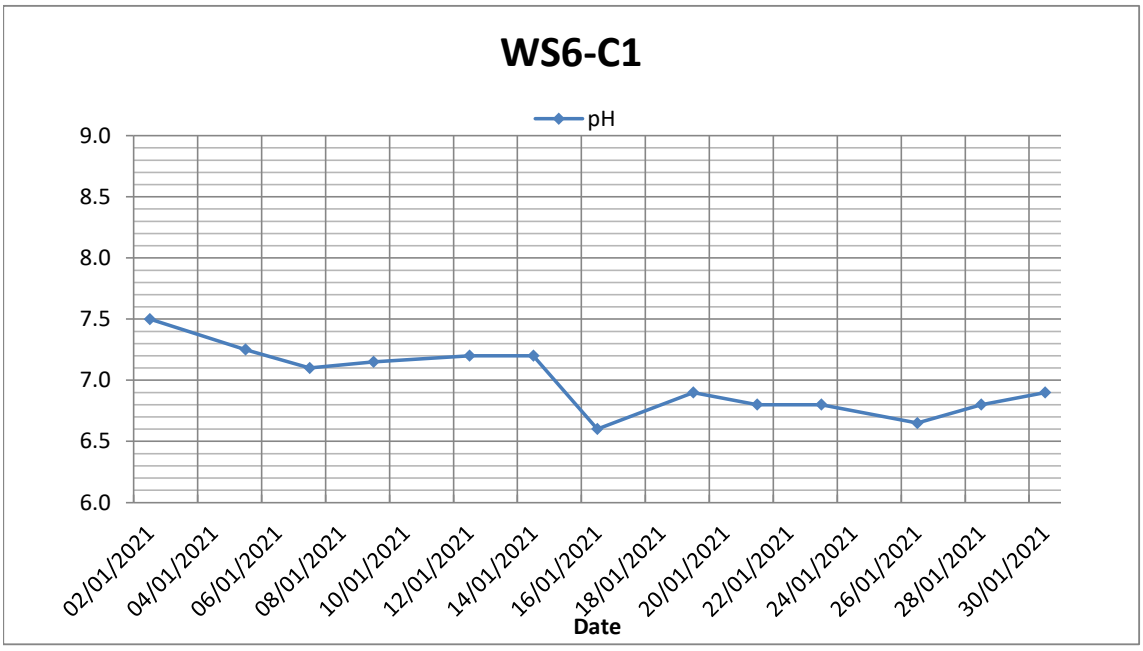

WS4-I3
pH
AL
LL
9.0
8.5
8.0
7.5
7.0
6.5
6.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

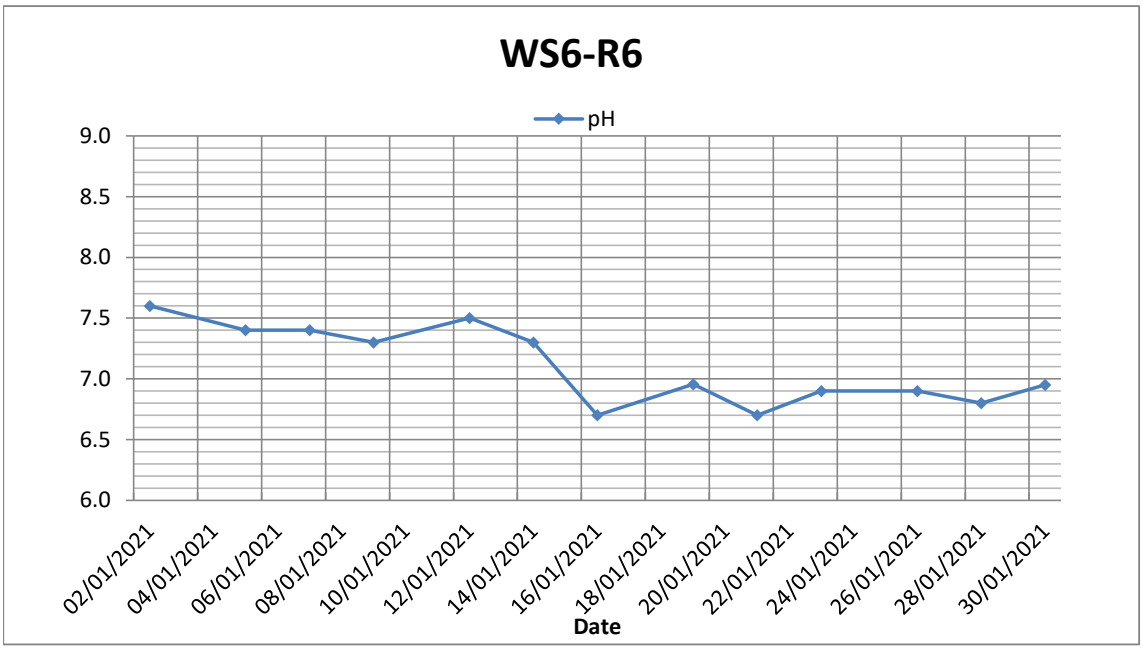

WS5-R4
pH
9.0
8.5
8.0
7.5
7.0
6.5
6.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

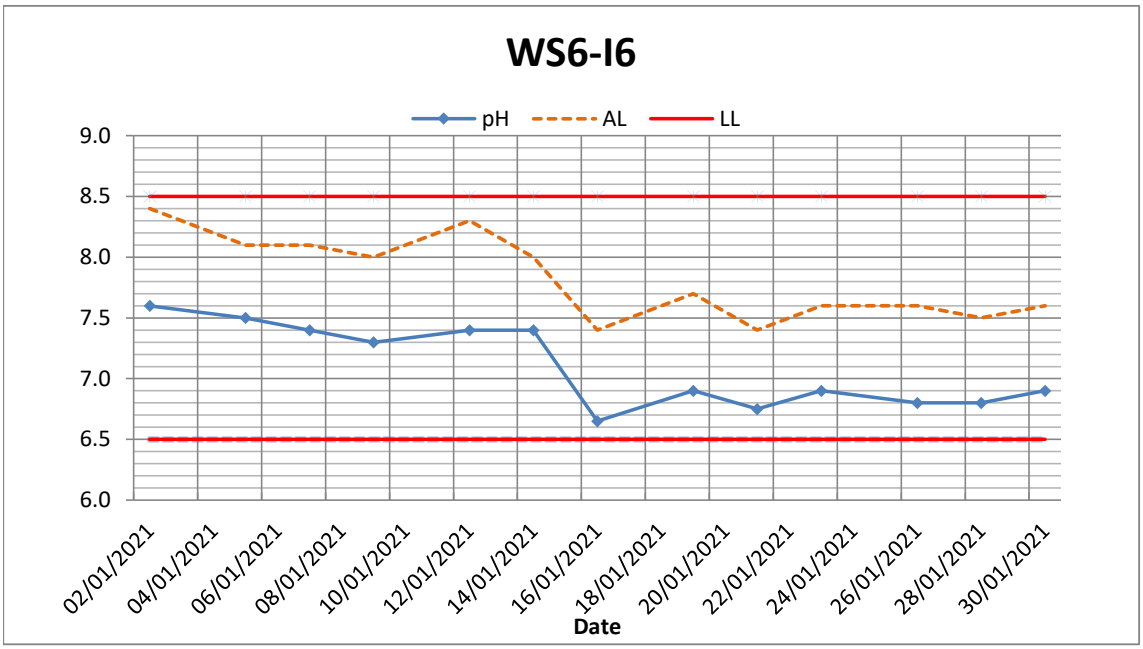

WS5-I4
pH
AL
LL
9.0
8.5
8.0
7.5
7.0
6.5
6.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

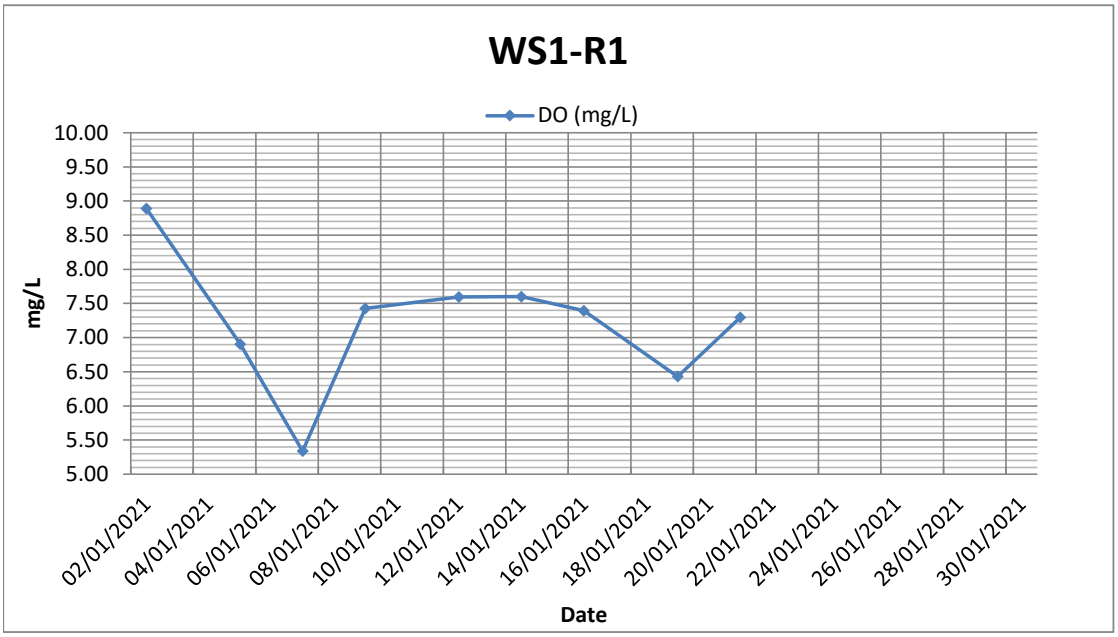

WS6-R5
pH
9.0
8.5
8.0
7.5
7.0
6.5
6.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

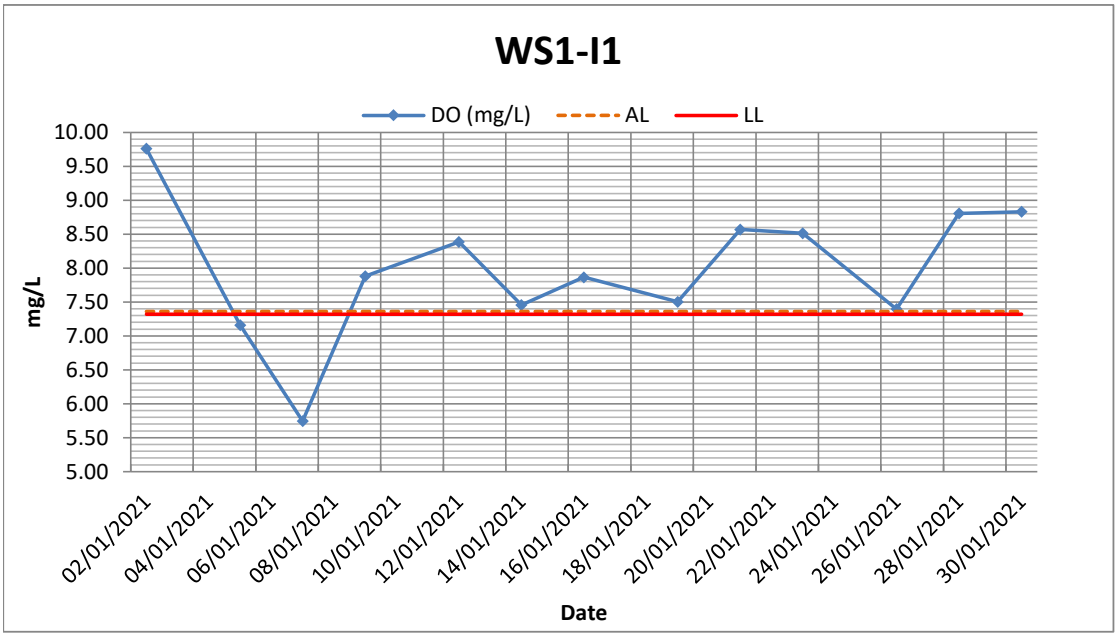

WS6-I5
pH
AL
LL
9.0
8.5
8.0
7.5
7.0
6.5
6.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

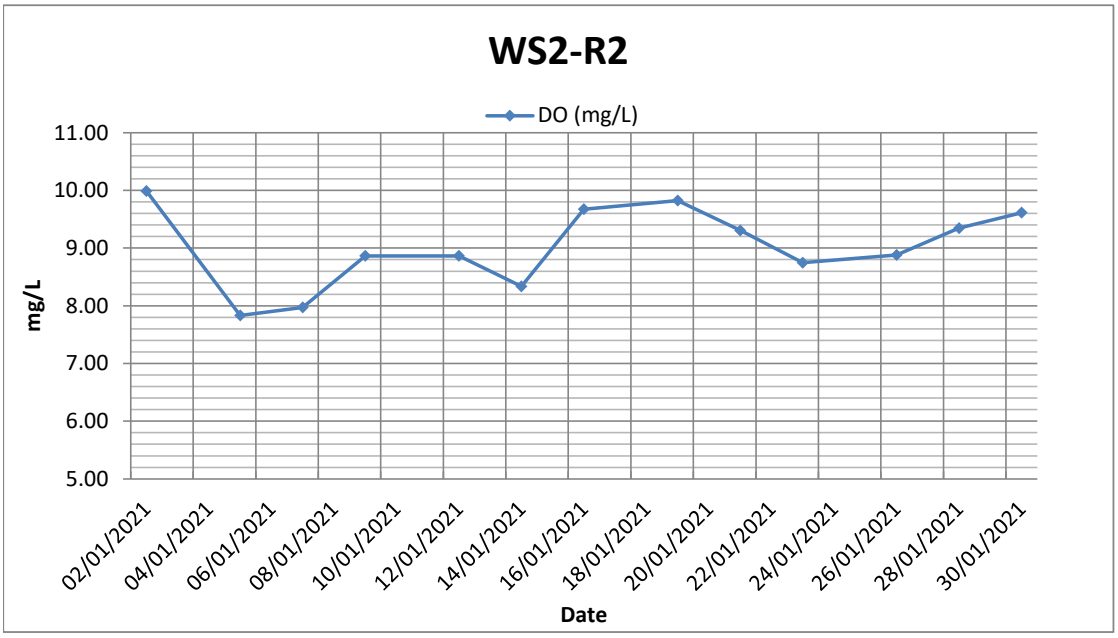

WS6-C1
pH
9.0
8.5
8.0
7.5
7.0
6.5
6.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

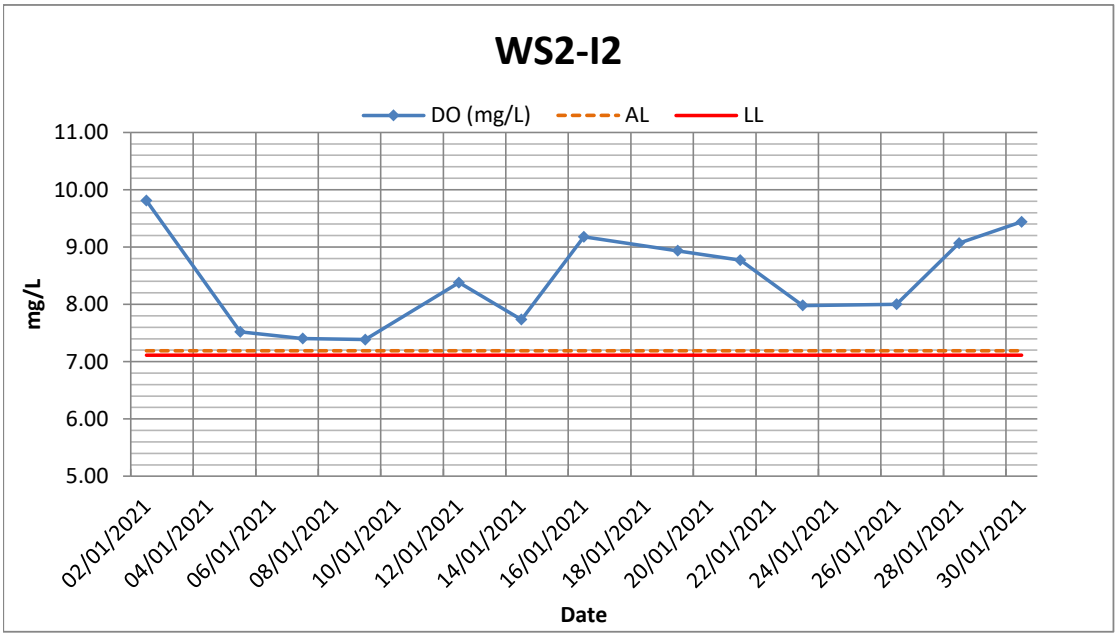

WS6-R6
pH
9.0
8.5
8.0
7.5
7.0
6.5
6.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

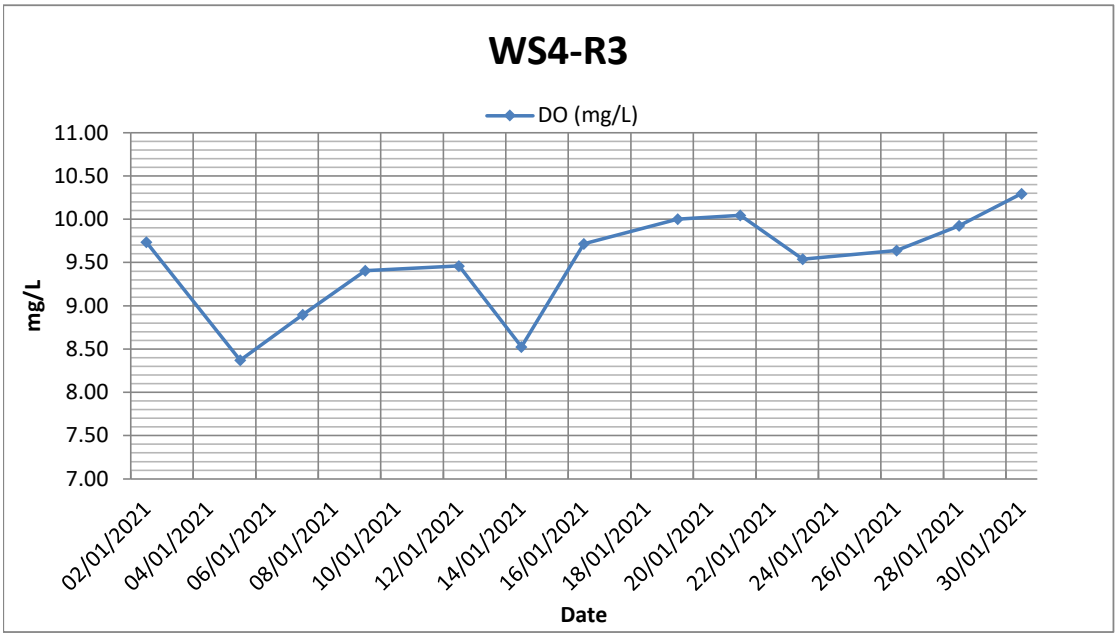

WS6-I6
pH
AL
LL
9.0
8.5
8.0
7.5
7.0
6.5
6.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

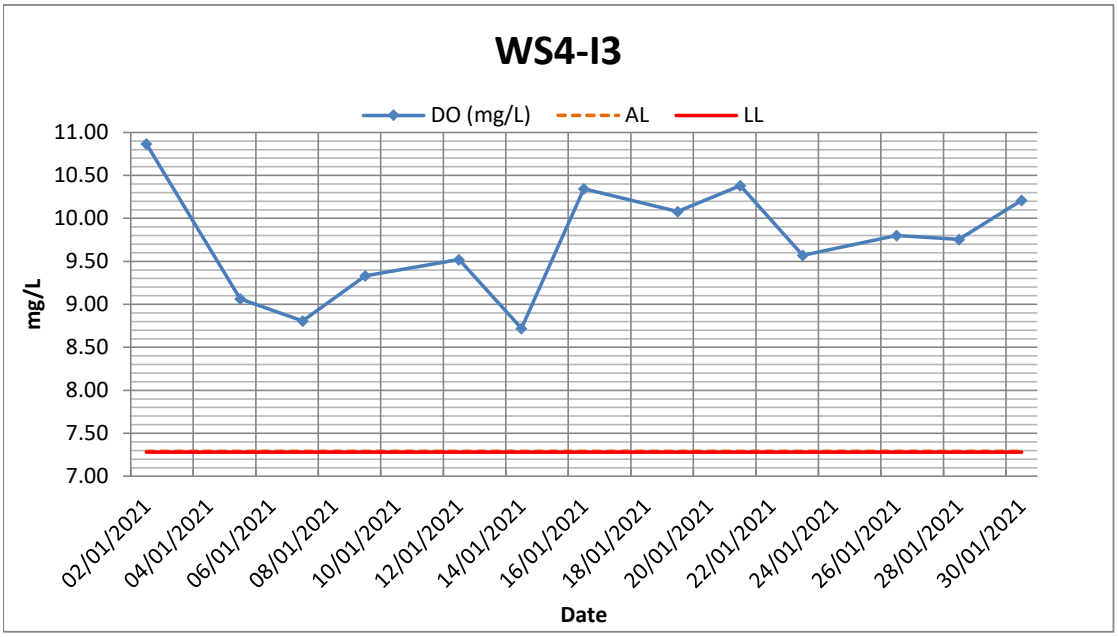

WS1-R1
DO (mg/L)
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

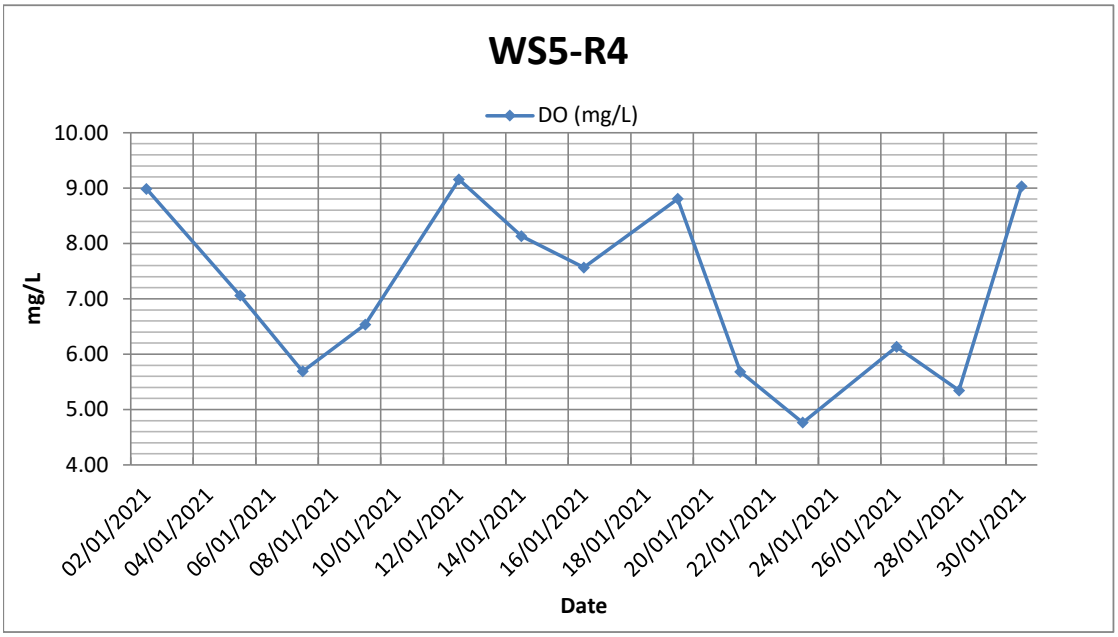

WS1-I1
DO (mg/L)
AL
LL
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
5.50
5.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

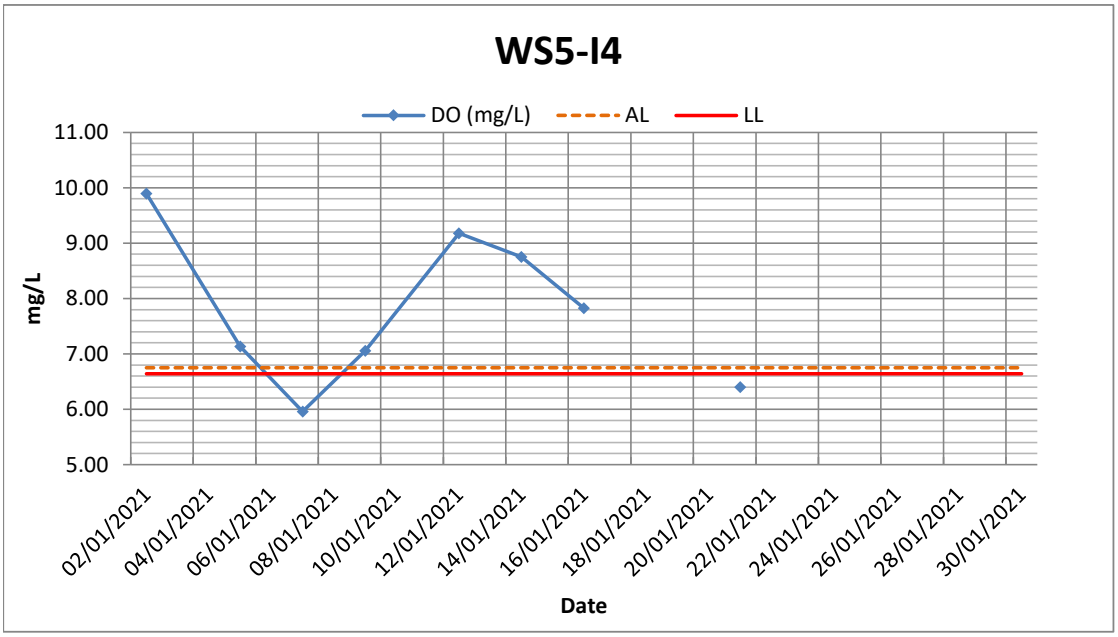

WS2-R2
DO (mg/L)
11.00
10.00
9.00
8.00
7.00
6.00
5.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

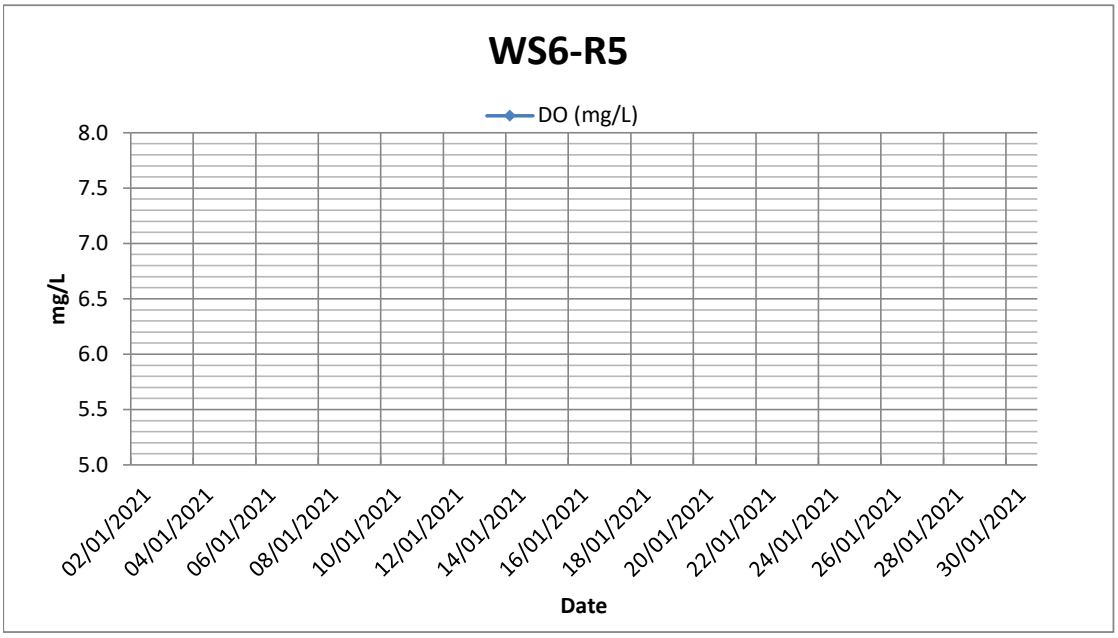

WS2-I2
DO (mg/L)
AL
LL
11.00
10.00
9.00
8.00
7.00
6.00
5.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

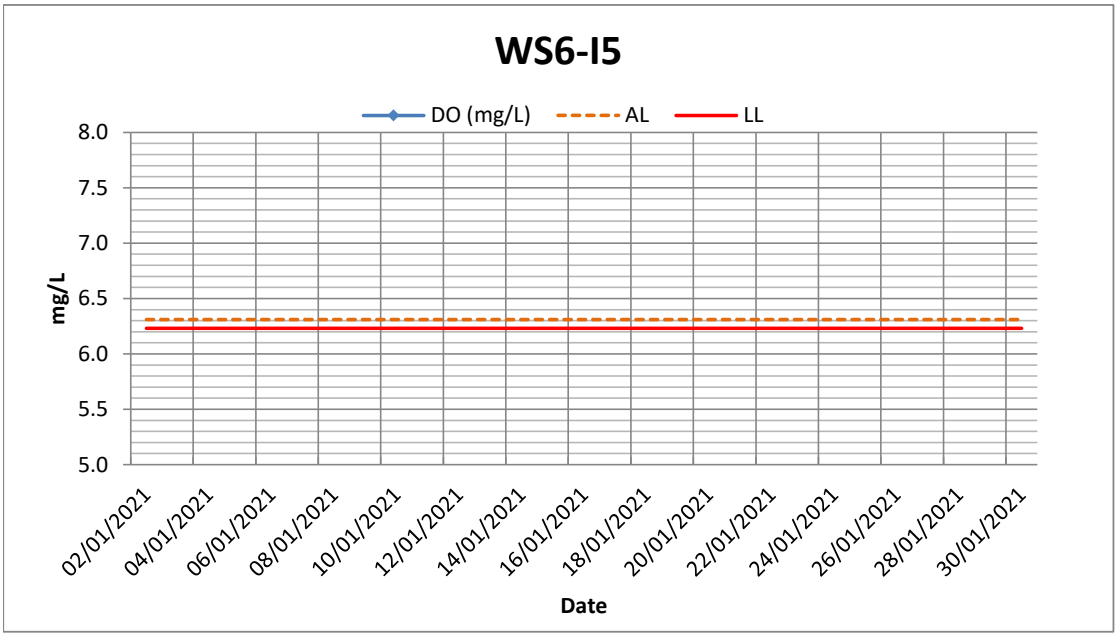

WS4-R3
DO (mg/L)
11.00
10.50
10.00
9.50
9.00
8.50
8.00
7.50
7.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

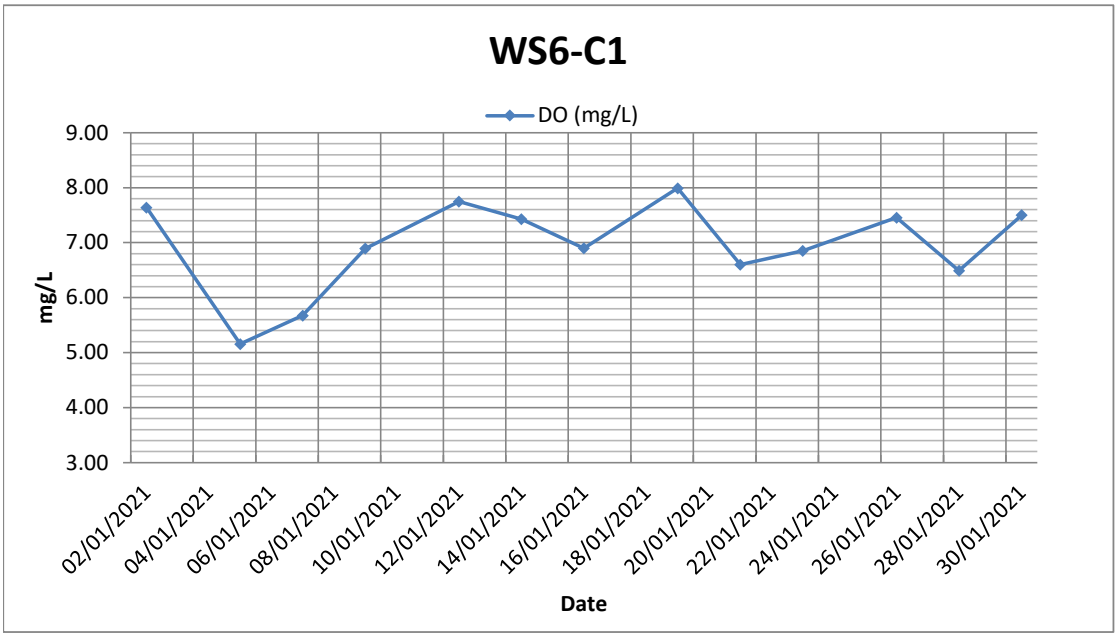

WS4-I3
DO (mg/L)
AL
LL
11.00
10.50
10.00
9.50
9.00
8.50
8.00
7.50
7.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

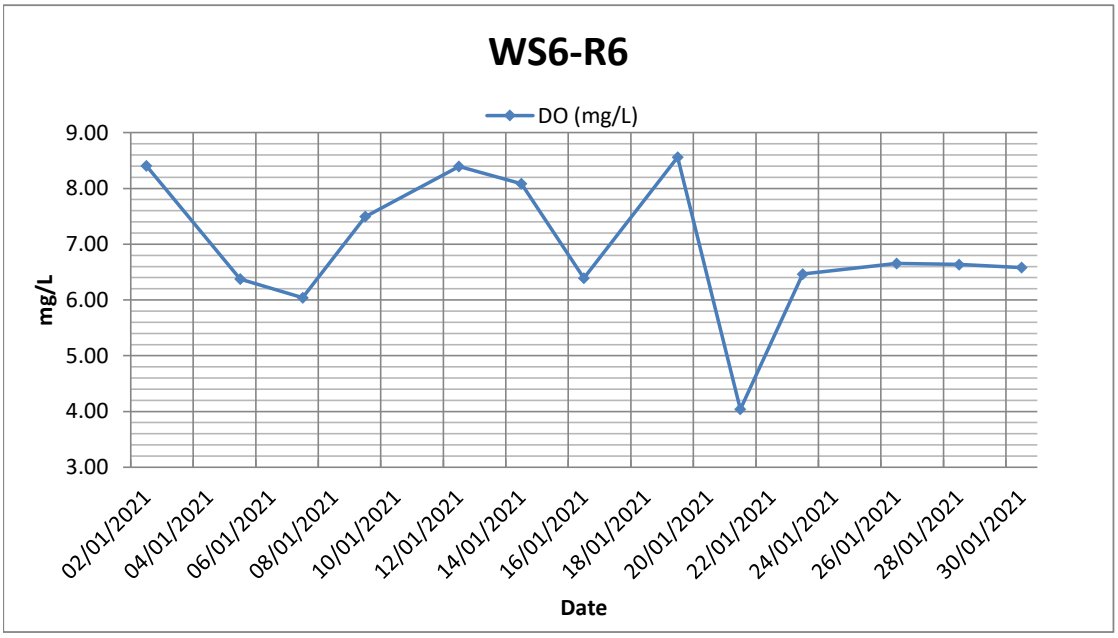

WS5-R4
DO (mg/L)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

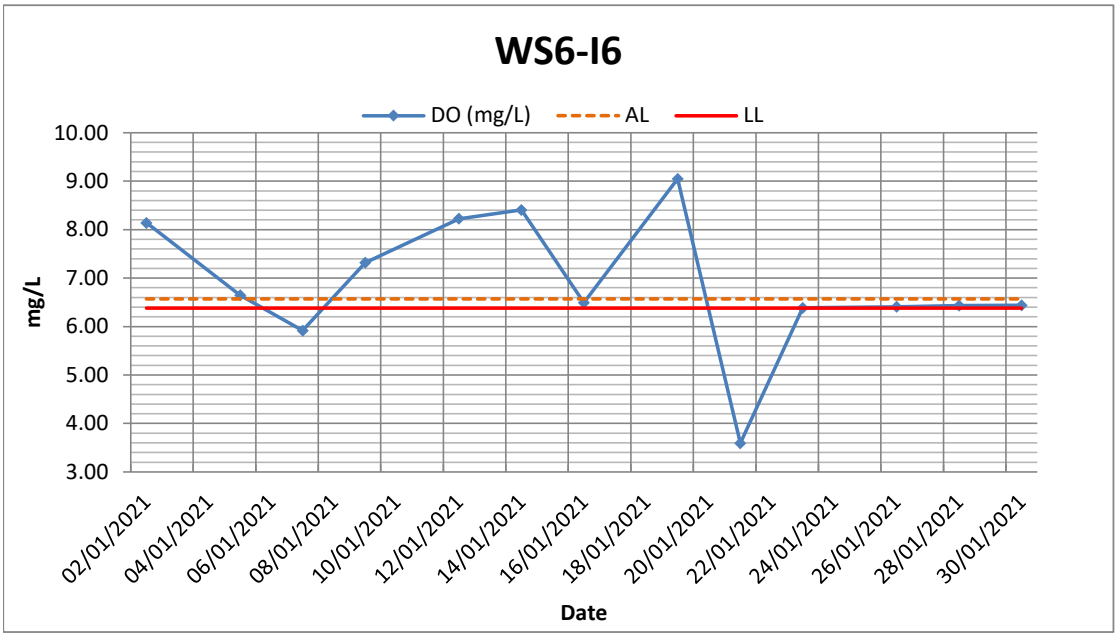

WS5-I4
DO (mg/L)
AL
LL
11.00
10.00
9.00
8.00
7.00
6.00
5.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

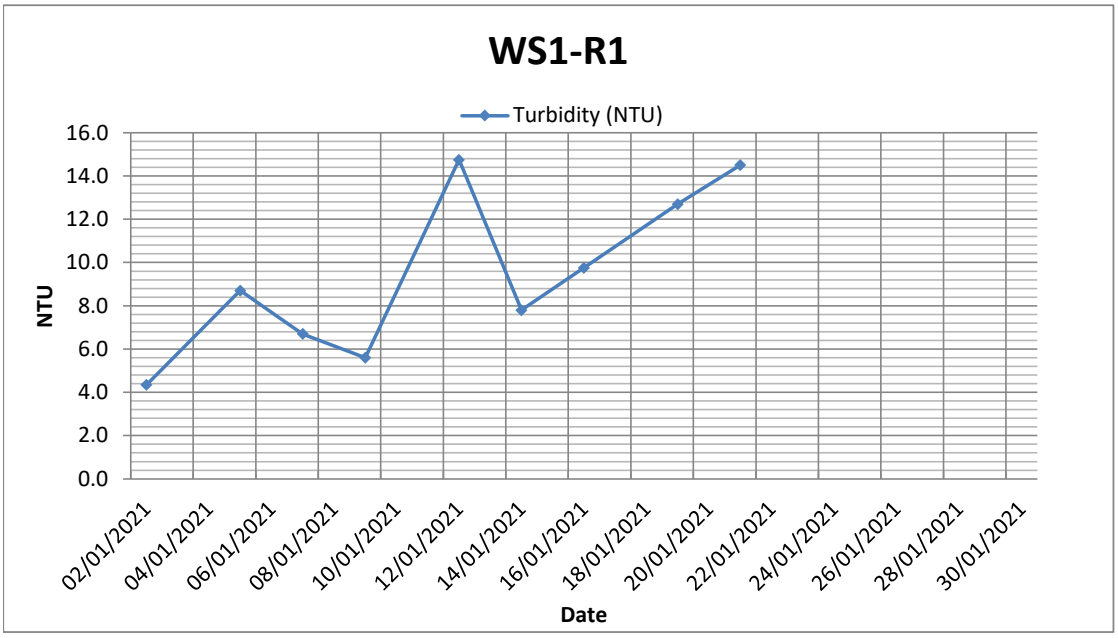

WS6-R5
DO (mg/L)
8.0
7.5
7.0
6.5
6.0
5.5
5.0
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

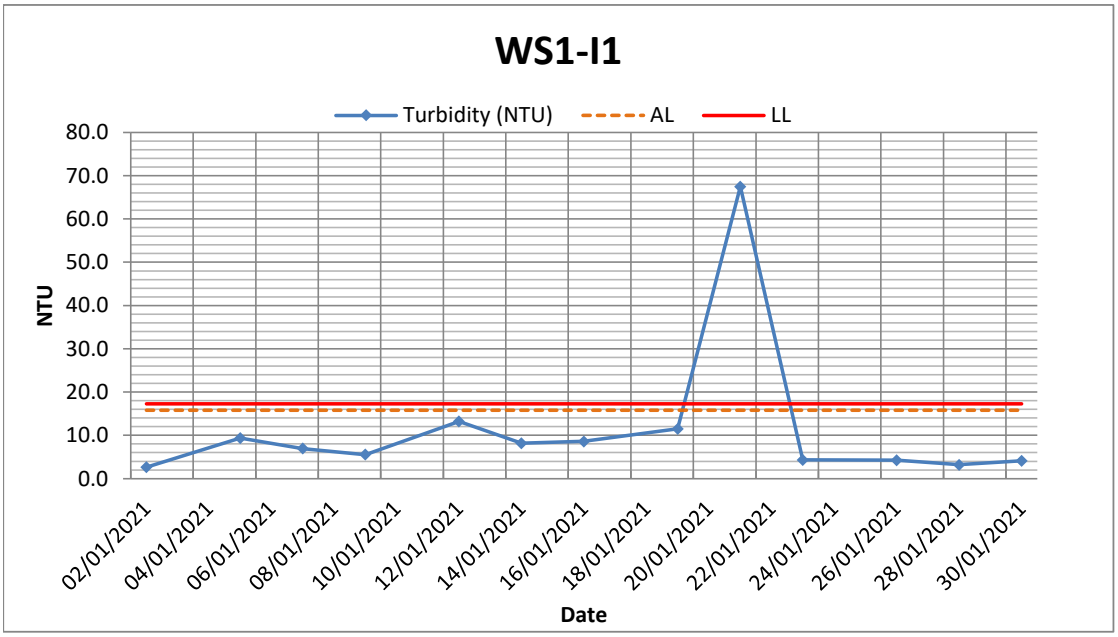

WS6-I5
DO (mg/L)
AL
LL
8.0
7.5
7.0
6.5
6.0
5.5
5.0
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

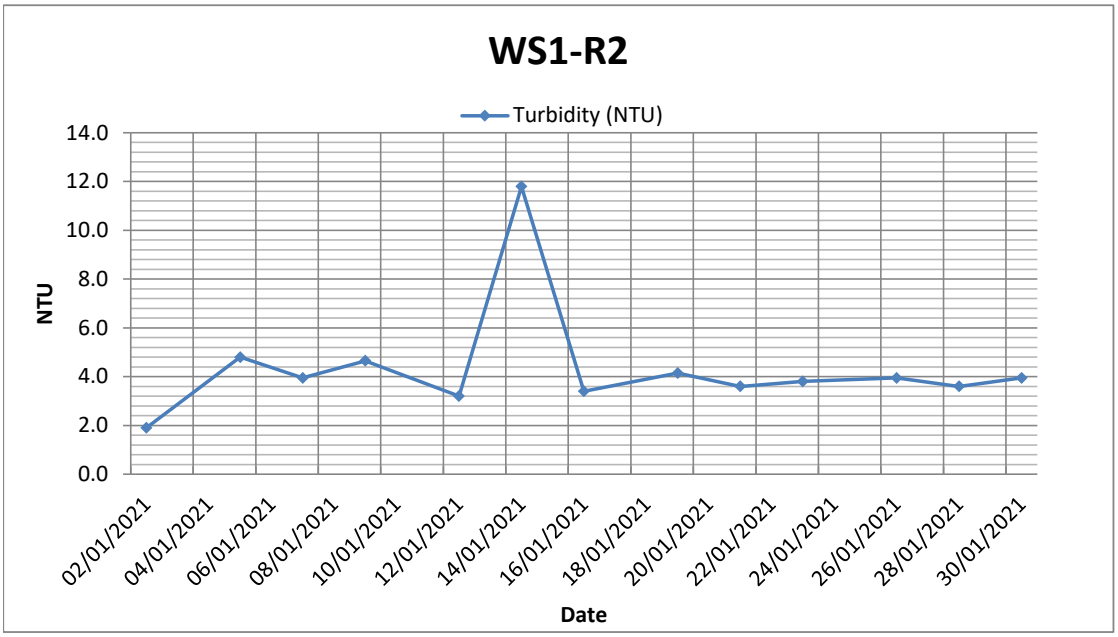

WS6-C1
DO (mg/L)
9.00
8.00
7.00
6.00
5.00
4.00
3.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

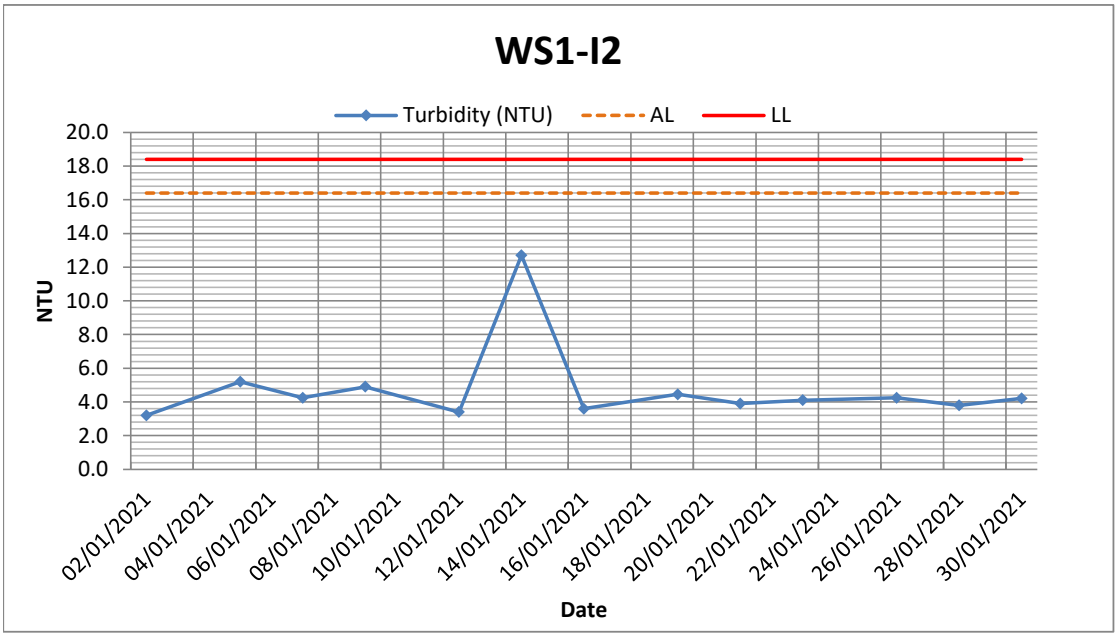

WS6-R6
DO (mg/L)
9.00
8.00
7.00
6.00
5.00
4.00
3.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

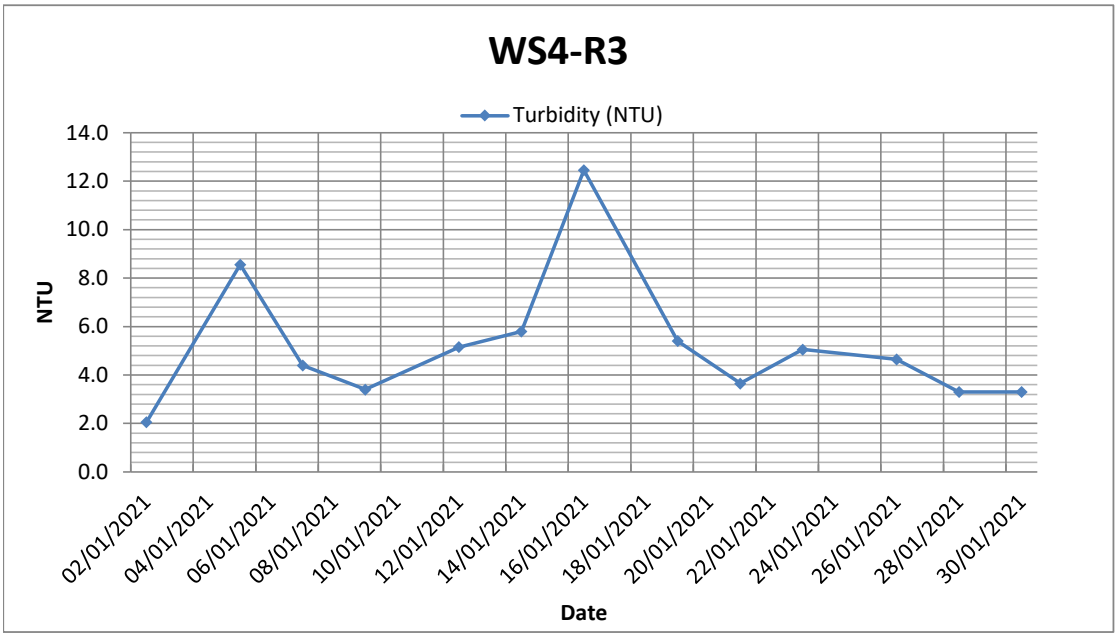

WS6-I6
DO (mg/L)
AL
LL
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

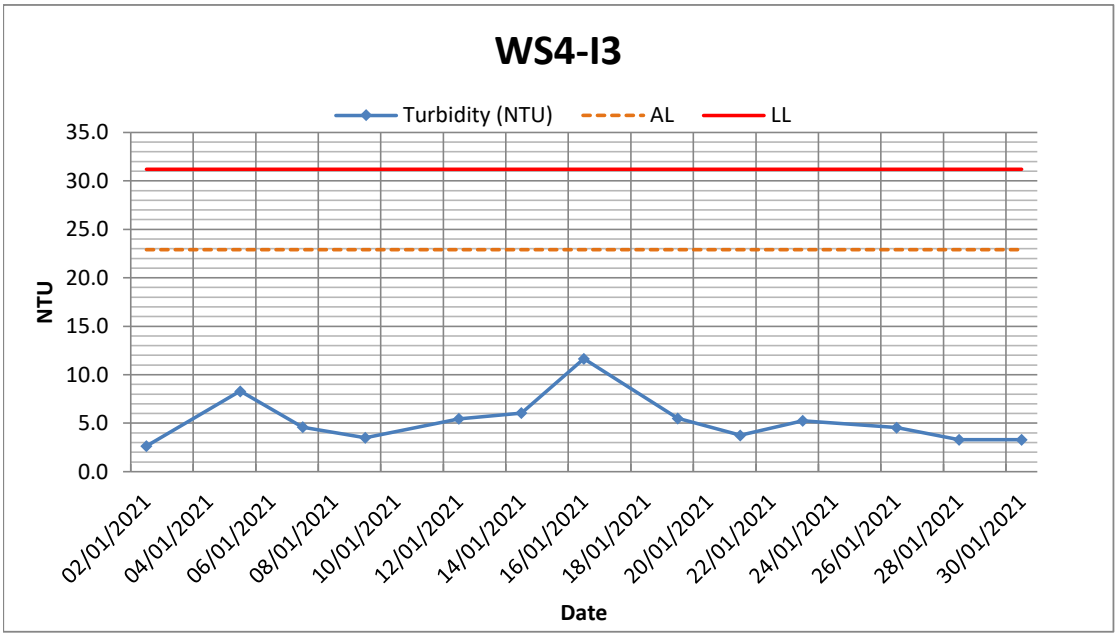

WS1-R1
Turbidity (NTU)
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
NTU
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

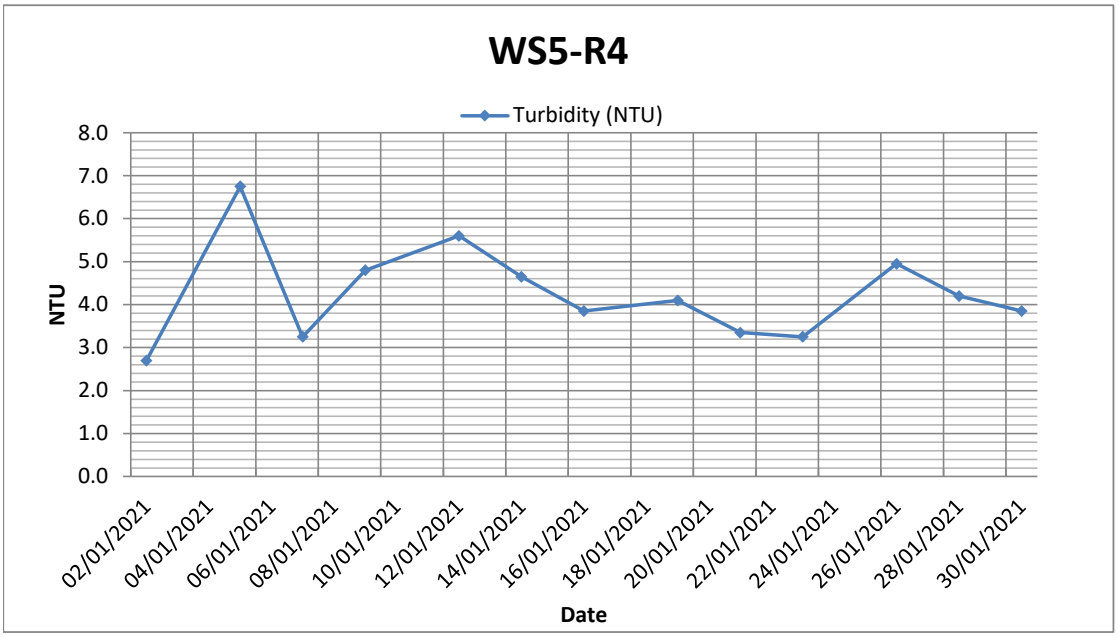

WS1-I1
Turbidity (NTU)
AL
LL
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
NTU
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

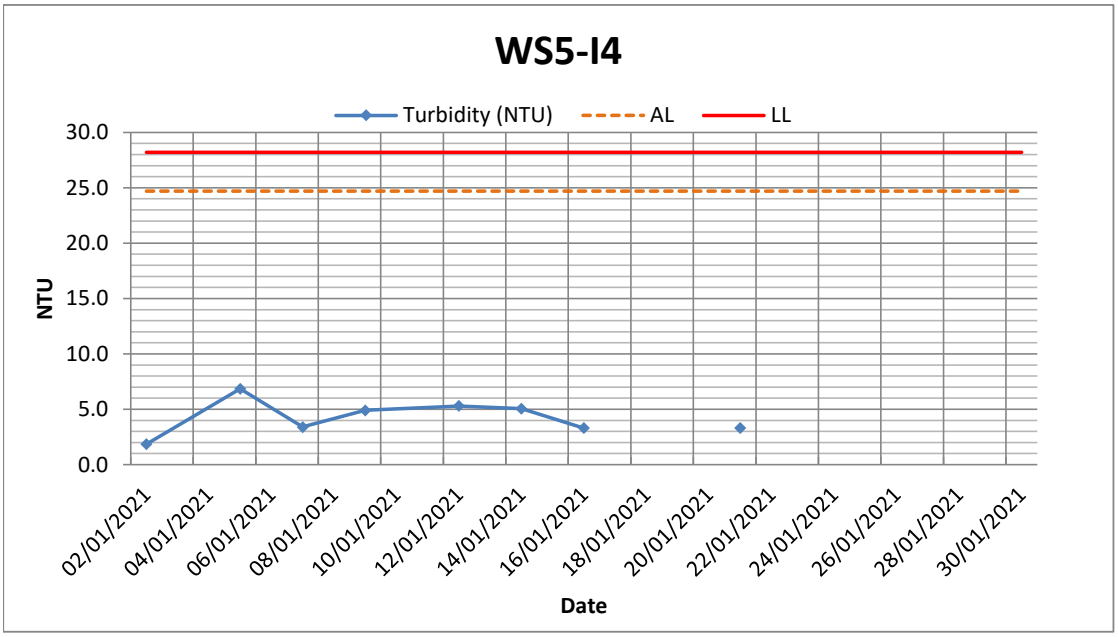

WS1-R2
Turbidity (NTU)
NTU
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

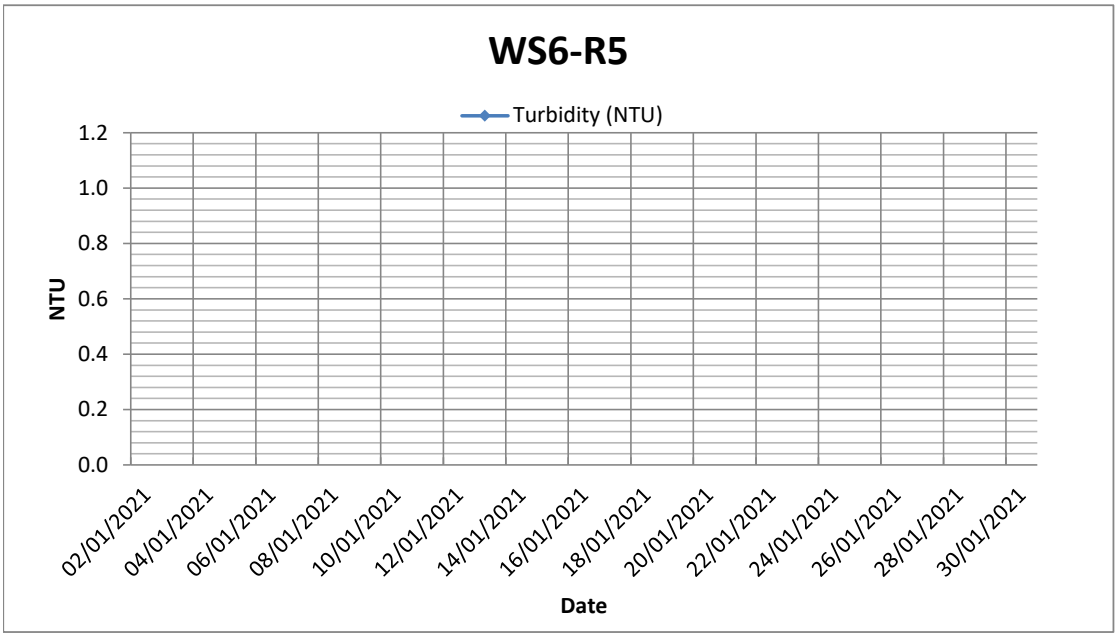

WS1-I2
Turbidity (NTU)
AL
LL
NTU
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

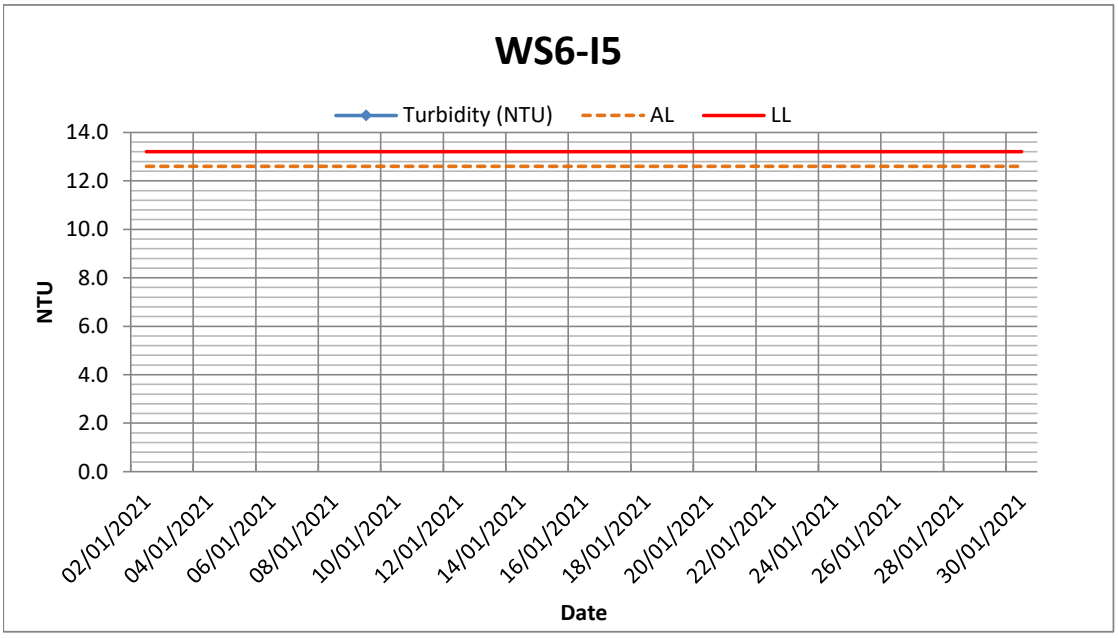

WS4-R3
Turbidity (NTU)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
NTU
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

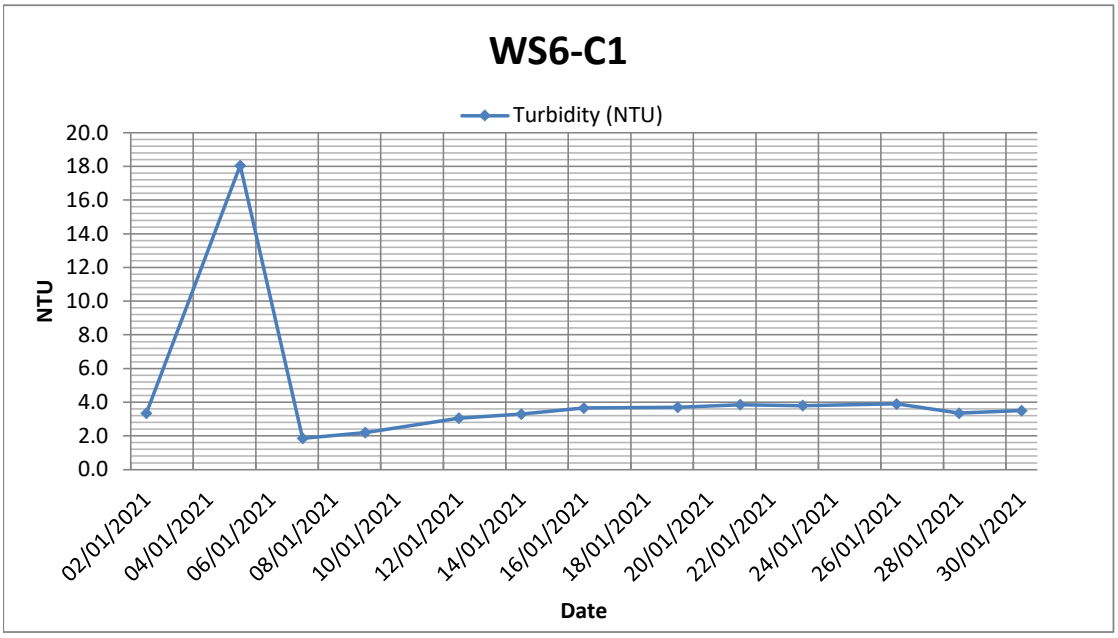

WS4-I3
Turbidity (NTU)
AL
LL
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
NTU
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

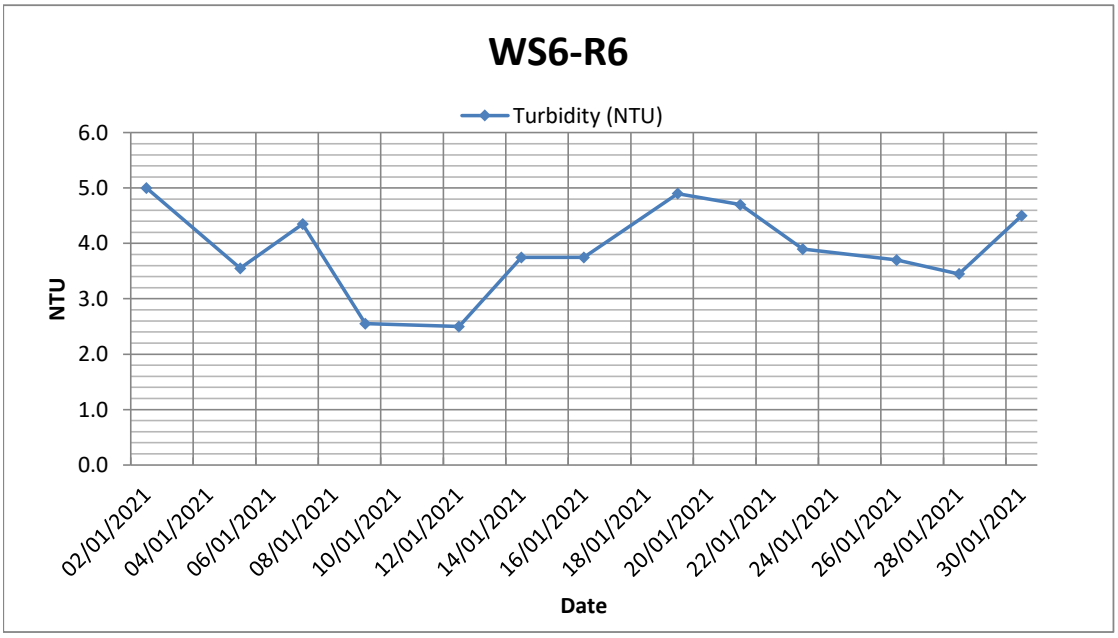

WS5-R4
Turbidity (NTU)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
NTU
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

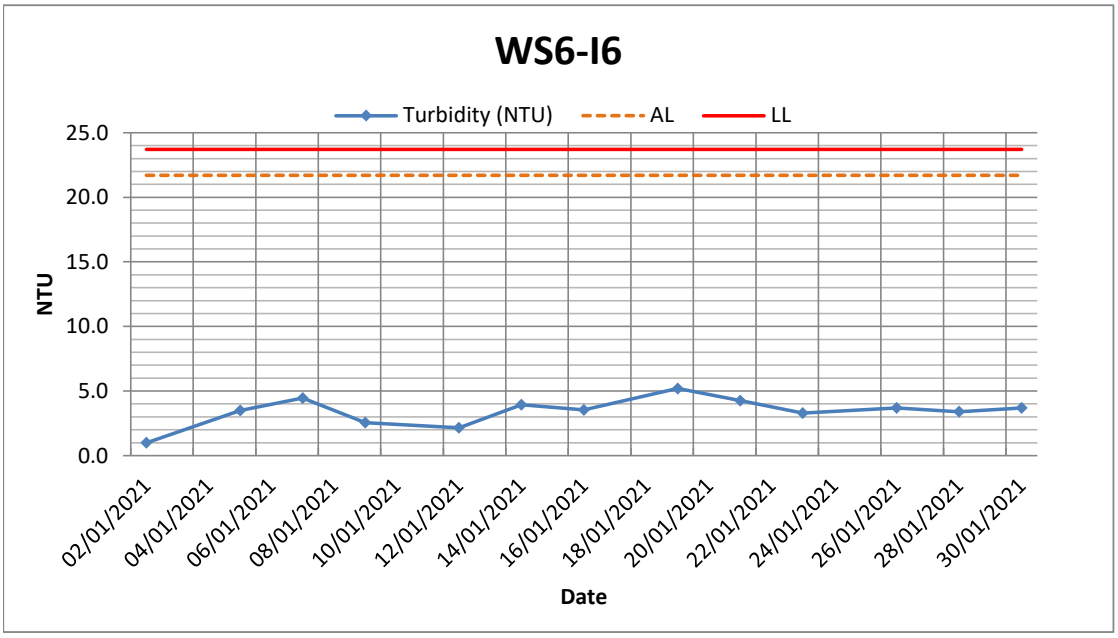

WS5-I4
Turbidity (NTU)
AL
LL
30.0
25.0
20.0
15.0
10.0
5.0
0.0
NTU
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

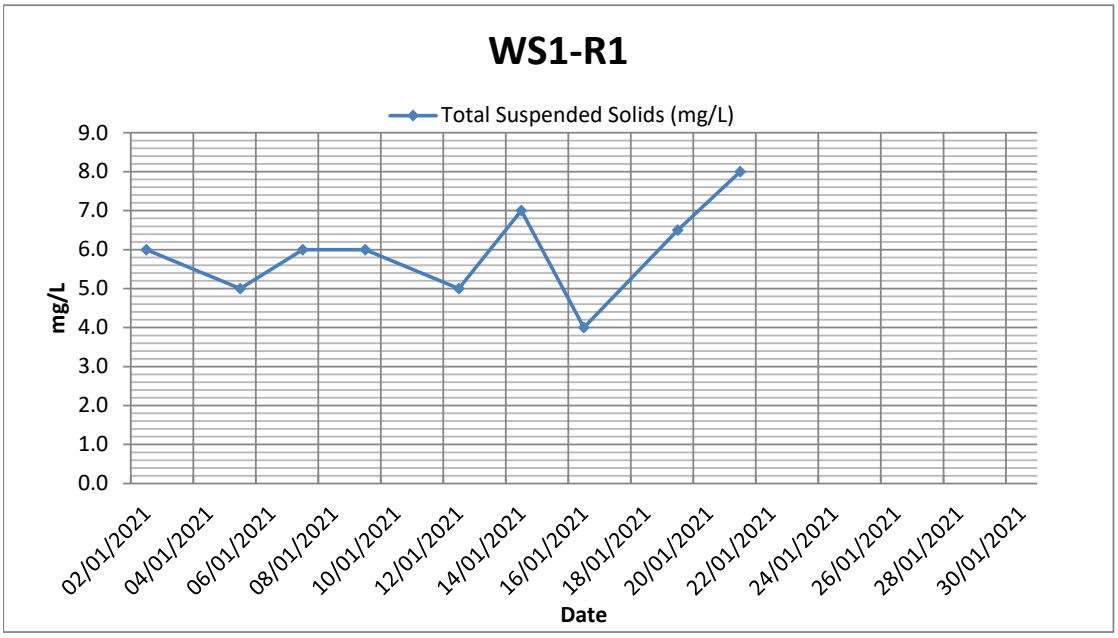

WS6-R5
Turbidity (NTU)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
NTU
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

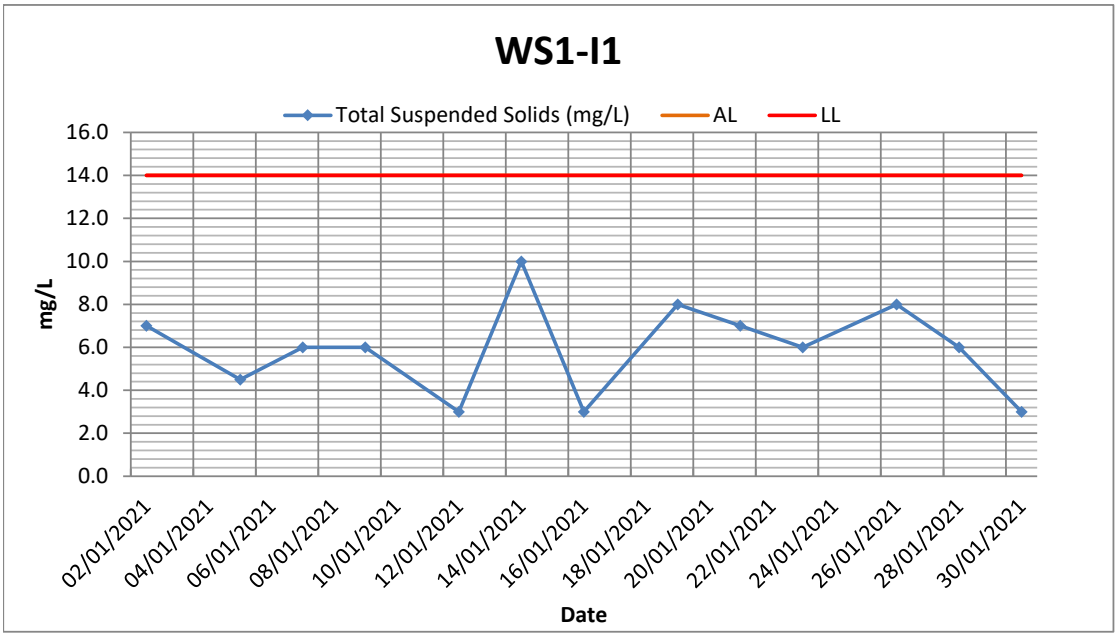

WS6-I5
Turbidity (NTU)
AL
LL
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
NTU
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

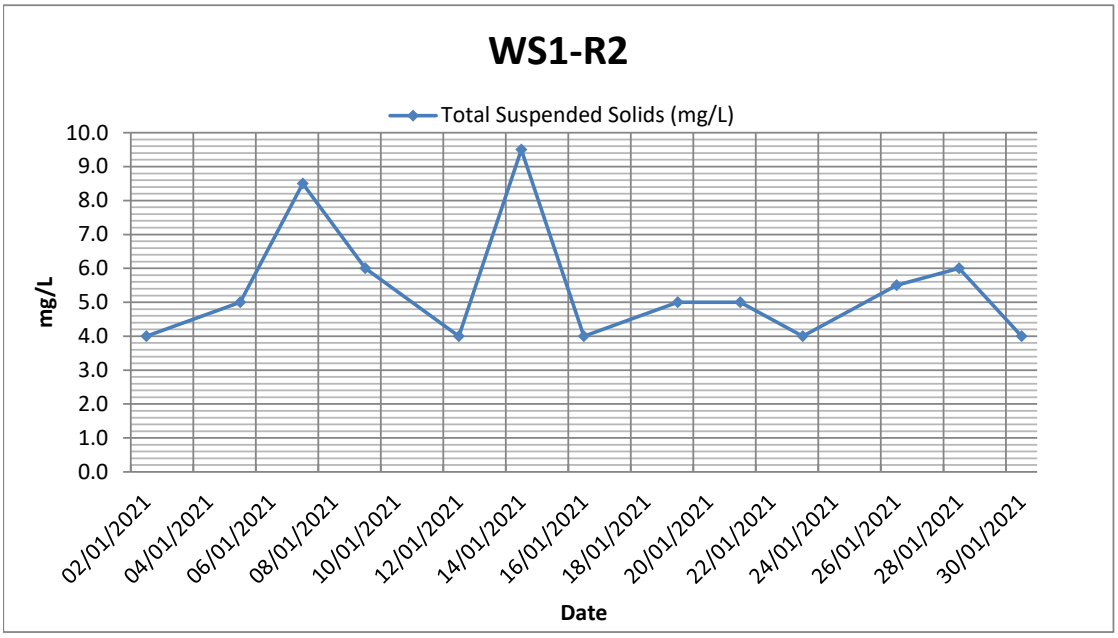

WS6-C1
Turbidity (NTU)
NTU
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

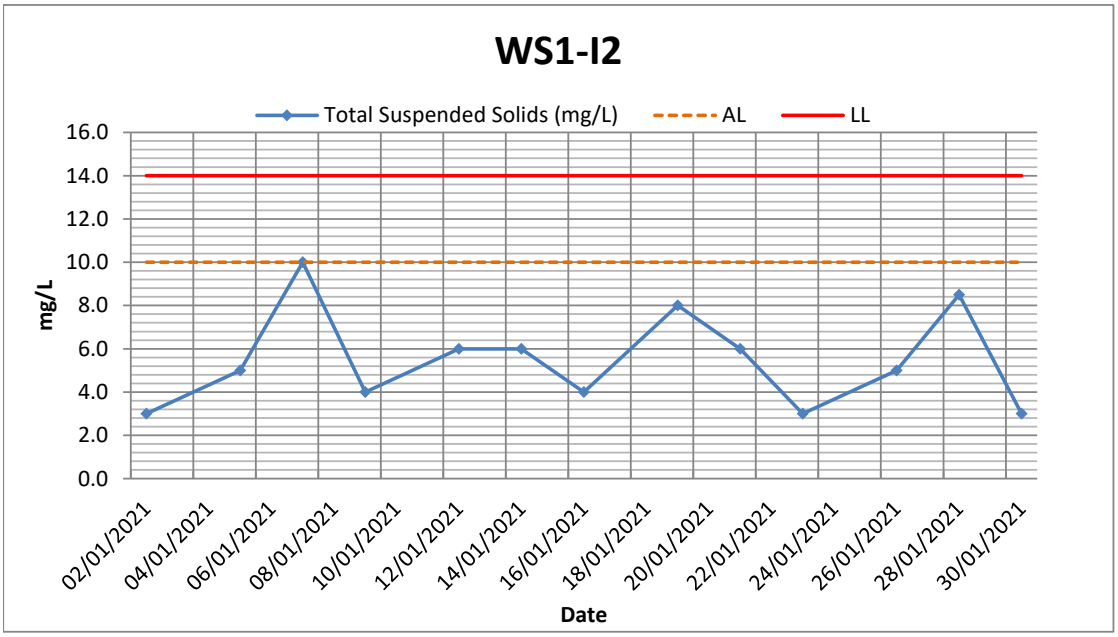

WS6-R6
Turbidity (NTU)
NTU
6.0
5.0
4.0
3.0
2.0
1.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

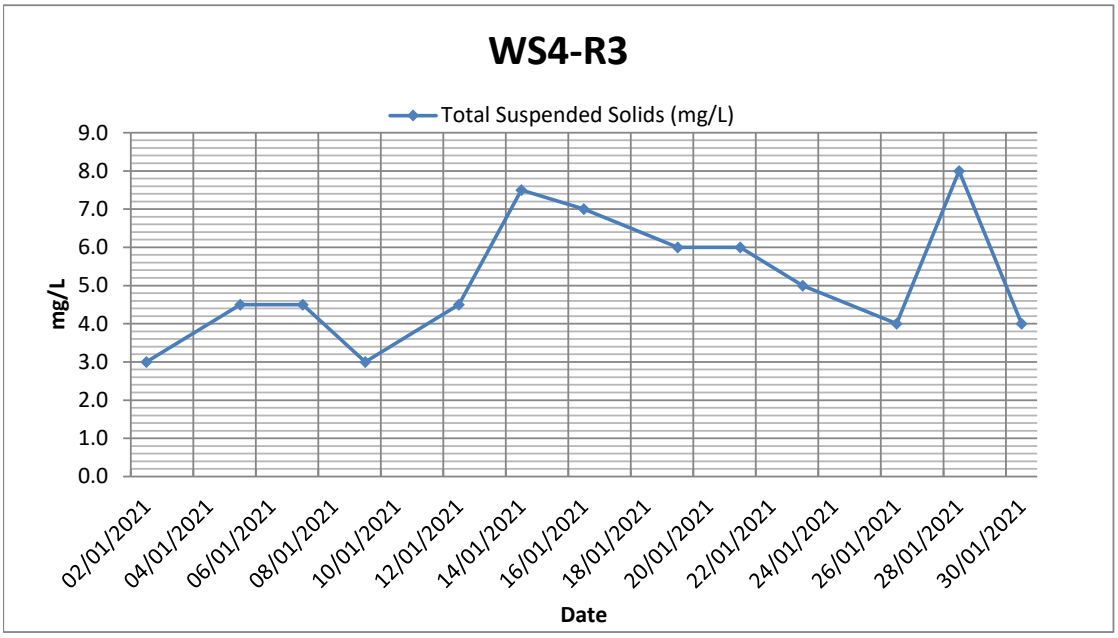

WS6-I6
Turbidity (NTU)
AL
LL
25.0
20.0
15.0
10.0
5.0
0.0
NTU
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

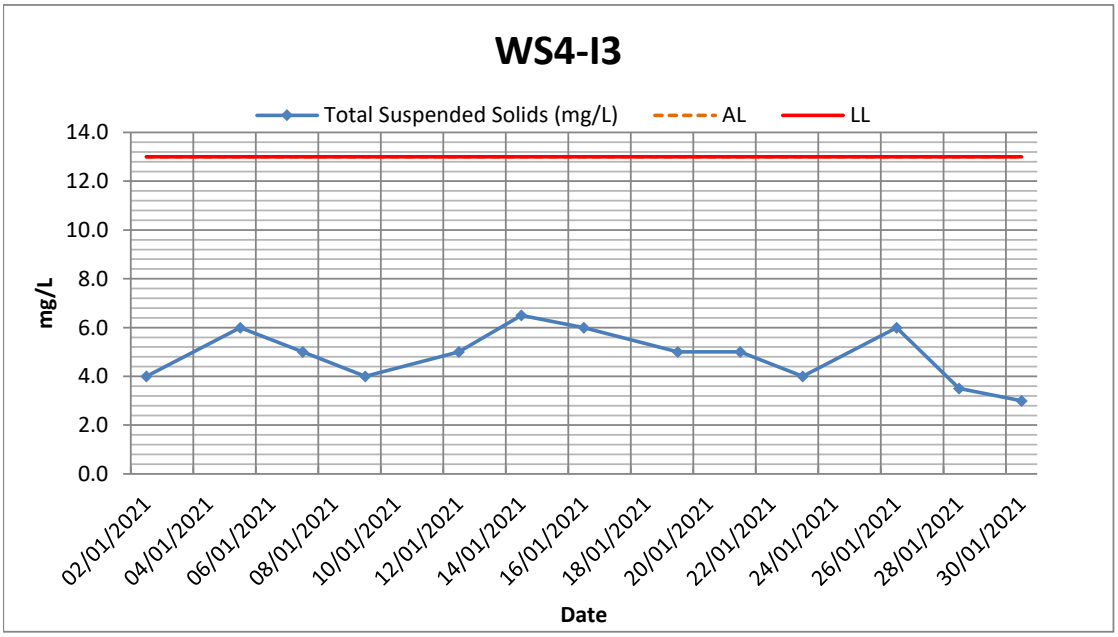

WS1-R1
Total Suspended Solids (mg/L)
mg/L
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

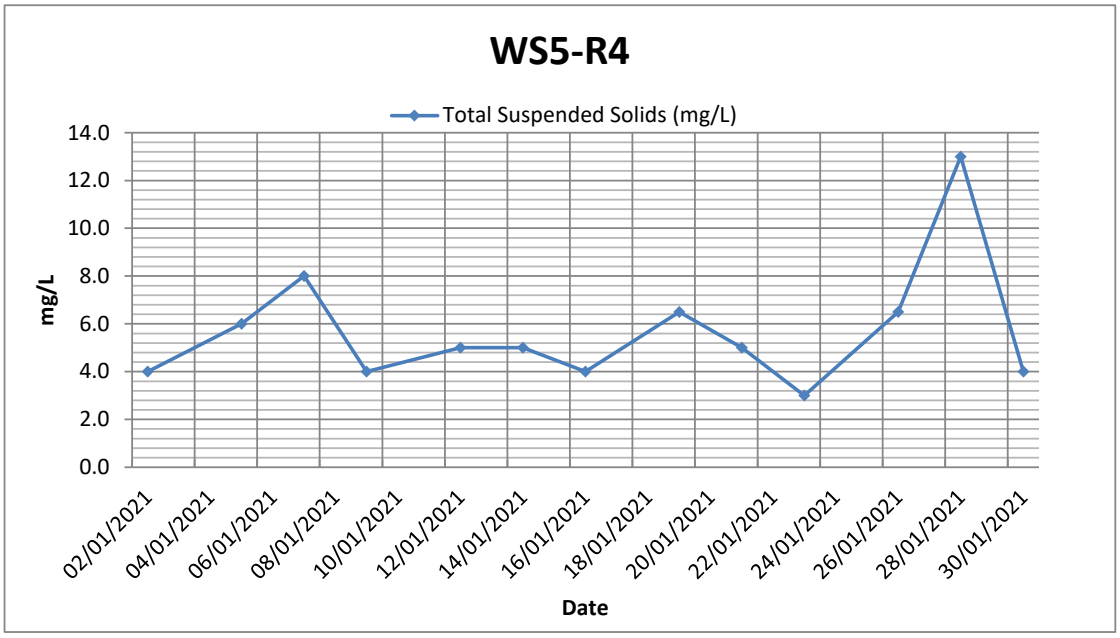

WS1-I1
Total Suspended Solids (mg/L)
AL
LL
mg/L
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

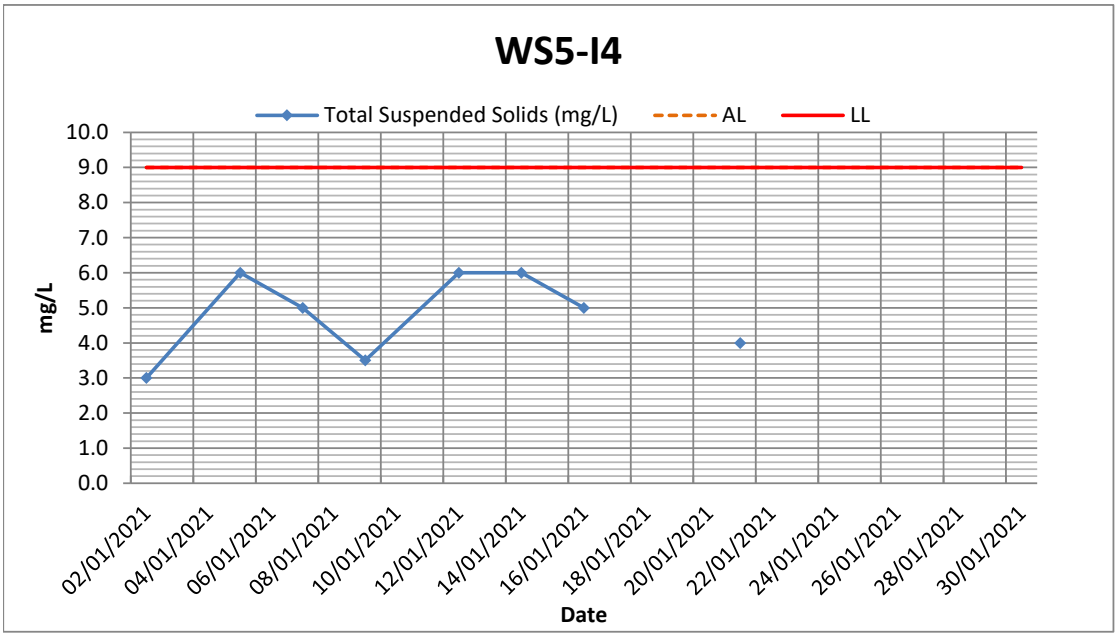

WS1-R2
Total Suspended Solids (mg/L)
mg/L
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

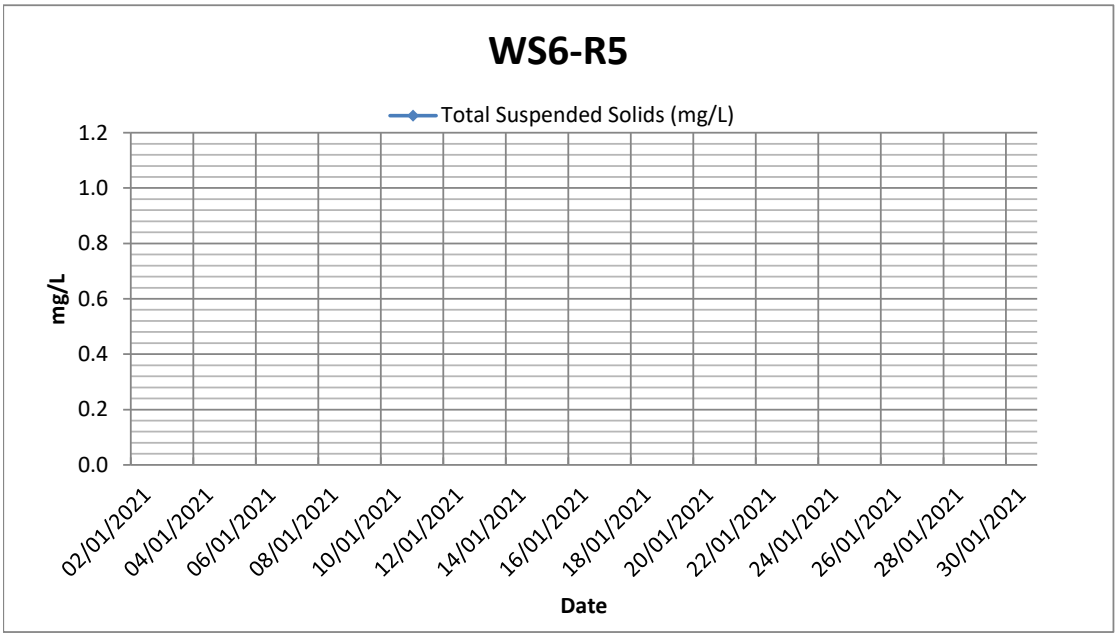

WS1-I2
Total Suspended Solids (mg/L)
AL
LL
mg/L
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

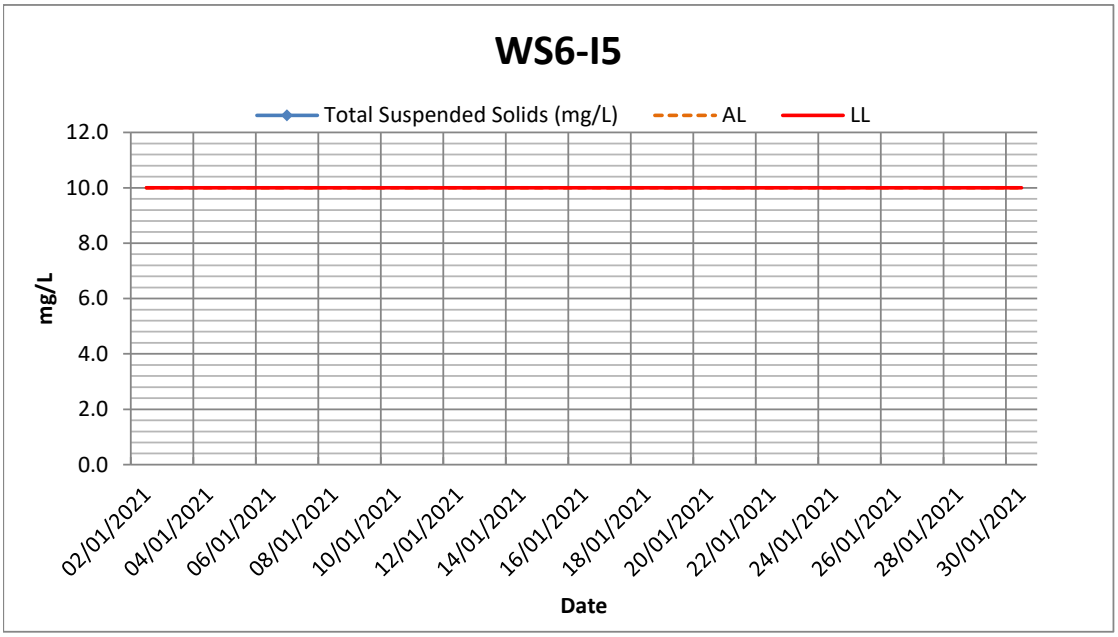

WS4-R3
Total Suspended Solids (mg/L)
mg/L
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

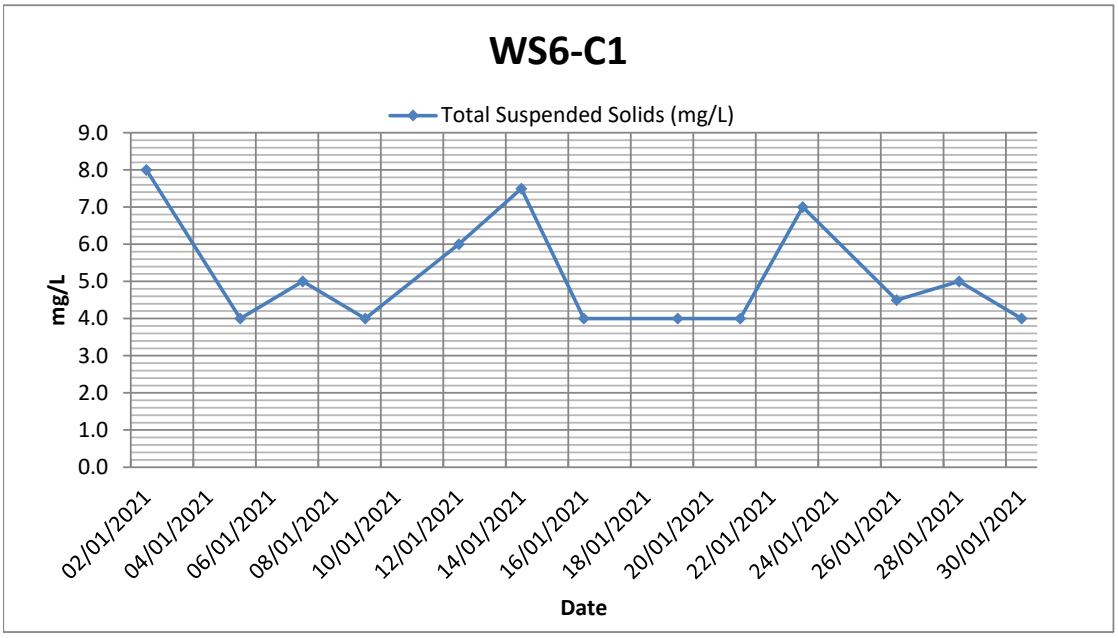

WS4-I3
Total Suspended Solids (mg/L)
AL
LL
mg/L
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

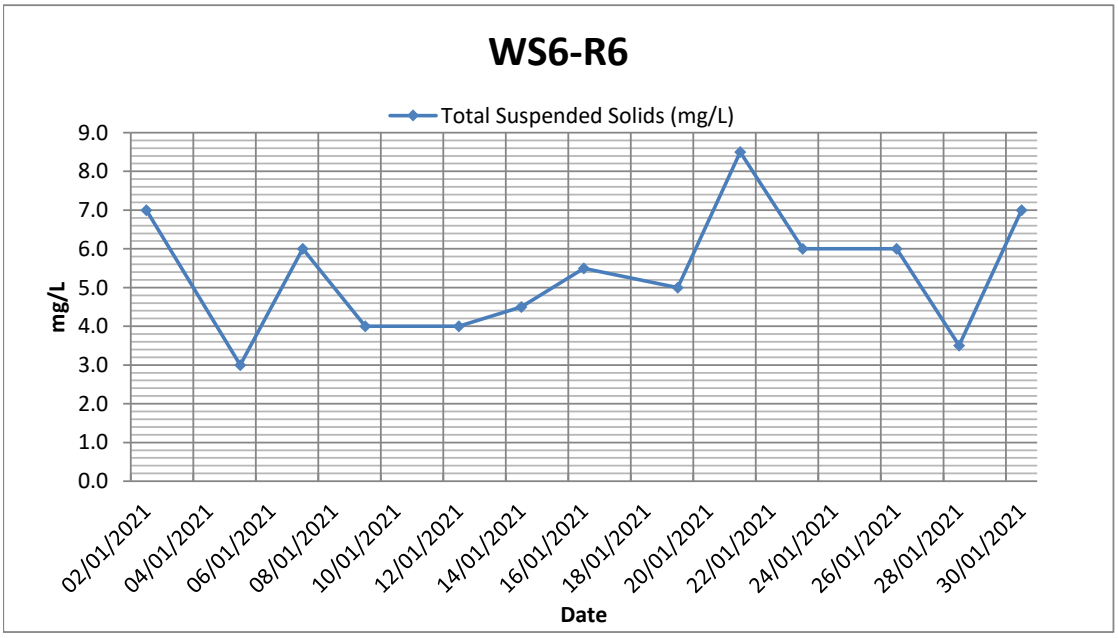

WS5-R4
Total Suspended Solids (mg/L)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

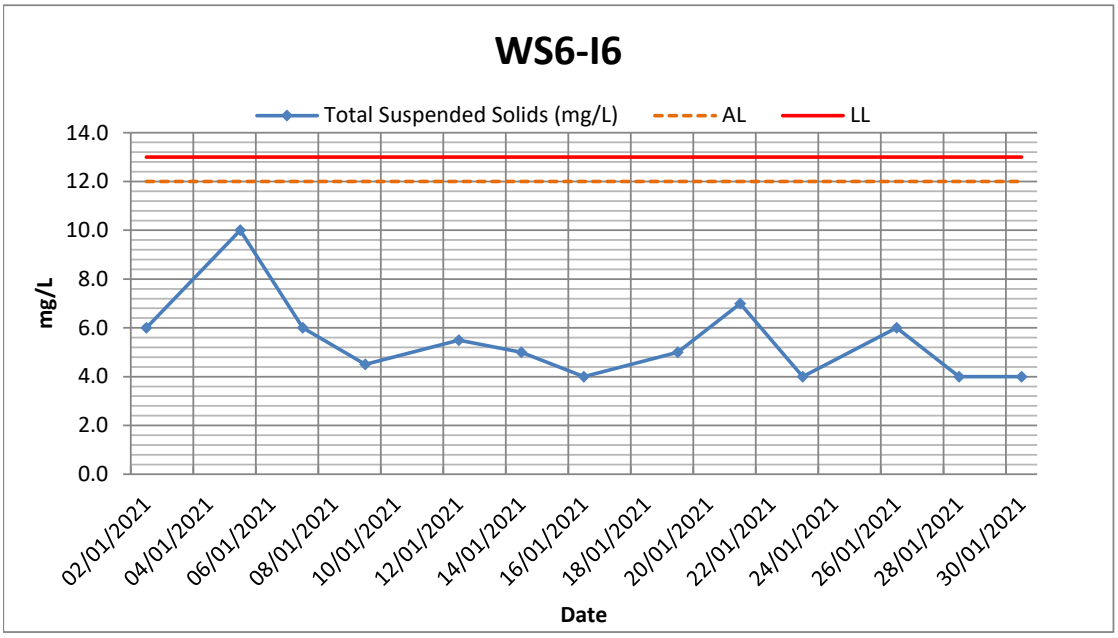

WS5-I4
Total Suspended Solids (mg/L)
AL
LL
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date


WS6-R5
Total Suspended Solids (mg/L)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date


WS6-I5
Total Suspended Solids (mg/L)
AL
LL
12.0
10.0
8.0
6.0
4.0
2.0
0.0
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date


WS6-C1
Total Suspended Solids (mg/L)
mg/L
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date


WS6-R6
Total Suspended Solids (mg/L)
mg/L
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date


WS6-I6
Total Suspended Solids (mg/L)
AL
LL
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
mg/L
02/01/2021
04/01/2021
06/01/2021
08/01/2021
10/01/2021
12/01/2021
14/01/2021
16/01/2021
18/01/2021
20/01/2021
22/01/2021
24/01/2021
26/01/2021
28/01/2021
30/01/2021
Date

Note:

1) Major activities being carried out on site during the reporting period refer to section 1.4.
2) The other factors influencing the monitoring results refer to section 5.5.4.
3) The QA/QC procedures and detection Limits refer to section 5.1 and 5.2.

Appendix I Statistics on Exceedances, Complaints, Notifications of Summons and Prosecutions

Statistics on Monitoring Exceedance

Reporting Period			No. of Exceedance AL	No. of Exceedance LL
No. of Exceedance This Month	Noise		0	0
	Water Quality	pH	4	0
		DO	0	6
		Turbidity	0	1
		Suspended Solids	0	0
Cumulative Project-to-Date			**4**	**7**

Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period	Complaints	Notifications of Summons	Successful Prosecutions
No. of Complaints , Notifications of Summons and Successful Prosecutions This Month	0	0	0
Cumulative Project-to-Date	**0**	**0**	**0**

Environmental Complaints Log

Complaint Log No.	Date of Complaint Received	Received From	Received By	Nature of Complaint	Investigation/Mitigation Action	Status
NIL	**--**	**--**	**--**	**--**	**--**	**--**

Remark:

(1) No Complaints, Notifications of Summons or Successful Prosecutions was received in the reporting period.

Appendix J Weather Condition

Date	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)				
January 2021								
1	1025.5	15.0	11.8	8.6	-1.4	40	14	-
2	1022.9	17.8	14.0	10.4	3.9	52	12	-
3	1021.9	20.6	16.7	13.4	9.9	65	54	-
4	1021.0	20.7	18.3	16.9	11.6	66	87	-
5	1020.1	21.9	18.8	17.3	11.9	65	60	-
6	1020.0	19.6	17.1	16.0	12.0	72	68	-
7	1020.8	18.3	15.3	10.6	9.1	67	88	-
8	1025.0	10.7	9.1	7.7	-0.6	52	88	-
9	1024.5	13.1	10.7	8.0	-3.3	38	84	-
10	1023.5	15.2	12.8	11.0	-0.4	40	88	-
11	1025.8	12.4	10.6	9.2	-1.1	44	88	-
12	1023.6	15.7	11.9	8.6	-3.8	33	8	-
13	1019.8	17.8	13.4	10.4	2.3	48	11	-
14	1017.8	19.5	15.2	11.8	6.0	55	18	-
15	1016.1	20.9	17.3	14.6	9.2	59	26	-
16	1017.4	20.3	17.6	15.8	11.5	68	69	-
17	1023.5	19.6	16.6	14.1	7.9	58	39	-
18	1023.3	17.3	14.2	11.7	4.7	53	5	-
19	1020.3	17.4	15.4	12.6	8.6	64	50	-
20	1018.1	21.4	18.2	16.1	12.4	69	85	-
21	1015.6	22.8	20.1	17.6	15.1	73	69	-
22	1013.4	24.5	20.3	18.2	16.6	80	61	-
23	1014.0	24.4	20.2	17.7	16.0	78	24	-
24	1017.1	20.0	18.4	17.3	15.3	83	73	Trace
25	1017.6	22.9	19.2	16.9	14.4	74	28	-
26	1016.9	23.5	19.6	17.4	15.6	78	9	-
27	1017.8	21.9	18.9	17.6	14.6	77	46	-
28	1020.7	22.8	19.1	16.5	13.2	70	27	-
29	1022.6	19.7	16.6	14.3	8.6	60	11	-
30	1022.5	19.5	16.7	14.8	10.8	68	27	-
31	1021.6	21.6	18.4	16.0	12.1	67	31	-

Trace means rainfall less than 0.05 mm

Source: Hong Kong Observatory