Issue No. : Issue 1
Issue Date : April 2022
Project No. : 1825

QUARTERLY ENVIRONMENTAL MONITORING & AUDIT REPORT (DECEMBER 2021 - FEBRUARY 2022)

FOR

PORT SHELTER PHASE 3, PO TOI O SEWERAGE TREATMENT PLANT

Prepared by

Allied Environmental Consultants Limited

COMMERCIAL-IN-CONFIDENCE

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Certified by:

Timmy WONG
Environmental Team Leader

Verified by:

F.C. TSANG
Independent Environmental Checker

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

Attention: Ms. Janet YUEN

27 April 2022

Dear Janet,

Port Shelter Sewerage, Stage3 - Sewerage Works at Po Toi O
Quarterly EM&A Report for December 2021 to February 2022

Referring to the captioned Quarterly EM&A Report (Issue No. 1) for December 2021 to February 2022, please be informed that we have no further comment on the report. We hereby verify the report as per Condition 3.4 of the Environmental Permit (No. EP 516/2016).

Yours faithfully,

F.C. Tsang
Independent Environmental Checker

cc. ETL – Timmy WONG

Document Verification

Project Title	Port Shelter Phase 3, Po Toi O Sewerage Treatment Plant	**Project No.**	1825
Document Title	Quarterly Environmental Monitoring & Audit Report (December 2021 - February 2022)		

Issue No.	Issue Date	Description	Prepared by	Checked by	Approved by
1	March 2022	1st Submission	Timmy Wong	Joanne Ng	Grace Kwok

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Table of Contents

List of Figure

List of Table

List of Appendices

1. Executive Summary

1.1. Background

1.1.1. This Quarterly Environmental Monitoring & Audit (EM&A) report presents the EM&A works performed in the period between December 2021 to February 2022 for "Port Shelter Sewerage, Stage 3 – Sewerage works at Po Toi O".

1.1.2. The impact stage EM&A Programme for the Project includes air quality, noise, water quality, waste, ecology, fisheries, landscape and visual and built heritage monitoring. The recommended environmental mitigation measures were implemented on site and regular inspections were carried out to ensure that the environmental conditions are acceptable.

1.1.3. The EM&A programme was carried out by the ET in accordance with the EM&A Manual requirements. It is concluded from the EM&A works that adequate environmental mitigation measures have been implemented by the contractor where appropriate in the reporting quarter.

1.1.4. The construction commencement date of the project was revised on 27 April 2021. The construction commencement date of provision of village sewerage to the unsewered areas of Po Toi O has been revised from 1 March 2021 to 16 June 2021, and the construction commencement date of village sewerage construction of the local sewage treatment plant (STP) has been revised from 10 May 2021 to 16 June 2021. In view of the revised construction commencement date, the EM&A programme was subsequently suspended from 28 April 2021 until 16 June 2021.

1.2. Exceedance of Action and Limit Level

1.2.1. There was no breach of Action or Limit levels for Air Quality (1-hour TSP and 24-hour TSP) and Noise in this reporting quarter.

1.3. Implementation of Mitigation Measures

1.3.1. Construction phase weekly site inspections were carried out to confirm the implementation measures undertaken by the Contractor in the reporting quarter. The status of implementation of mitigation measures during the reporting quarter is shown in **Appendix 3-1**.

1.4. Record of Complaints

1.4.1. One complaint was received on 28 December 2021 via EPD's mail. The complaint from a member of the public regarding environmental nuisance caused by construction waste and other waste. Refer to the joint investigation result on 30 December 2021 and the associated photo record, the complaint regarding construction waste and other waste placed in front of the House 1 of Seacrest Villas is not project related.

1.5. Record of Notification of Summons and Successful Prosecutions

1.5.1. No notification of summons and successful prosecution were recorded in the reporting quarter.

2. Introduction

2.1. Background

2.1.1. Allied Environmental Consultants (AEC) has been appointed by Drainage Services Department (DSD) as the Environmental Team (ET) to undertake the EM&A programme during construction phase of the Project in accordance to the approved EM&A Manual for the Project. The Environmental Impact Assessment (EIA) Report for the Project (Register No: AEIAR-206/2017) was approved on 27 January 2017. The Environmental Permit (EP) (Permit No.: EP-516/2016) was issued on 27 January 2017 and is the current permit for the Project.

2.1.2. The Quarterly EM&A Report is prepared in accordance with the section 13.6 of the EM&A Manual. This Quarterly EM&A Report presents the monitoring works conducted from 1 December 2021 to 28 February 2022. The purpose of this report is to summarise the findings in the EM&A of the project over the reporting quarter.

2.2. Project Organisation

2.2.1. The project organization chart, key personnel contact names and numbers and lines of communication with respect to the onsite environmental management perforce is shown in **Appendix 2-1**.

2.3. Environmental Status in the Reporting Quarter

2.3.1. During the reporting quarter, construction works at Po Toi O undertaken include:

- PTO-SW-03 (Open Trench, 25 nos., Length: 360m)

a) Installation of fencing
b) Temporary diversion of existing sewerage
c) Construction of sewer pipe, manhole and rising main by open trench
d) Tapping sewer & timber box

- Po Toi O Sewerage Treatment Plant (PTOSTP)

a) Installation the rockfall fencing
b) Slope work

2.3.2. The Construction Works Programme of the Project is provided in **Appendix 2-2**.

3. Summary of EM&A Requirements

3.1. Monitoring Requirements

3.1.1. In accordance with the EM&A Manual, environmental parameters including air quality, noise have been monitored in the reporting quarter. The specific parameters, monitoring frequency and the respective Action and Limit levels are given in **Table 3-1**. Locations of the monitoring stations are provided in **Figure 3-1**.

Table 3-1 -Summary of Impact EM&A Requirements

Parameters[2]	Descriptions	Locations[1]	Frequencies	Action Level	Limit Level
Air Quality	24-Hour TSP	AMS1N	At least once every 6 days	319 µg/m^3	500 µg/m^3
	24-Hour TSP	AMS2N1		279 µg/m^3	500 µg/m^3
	24-Hour TSP	AMS3N		303 µg/m^3	500 µg/m^3
	24-Hour TSP	AMS4N		278 µg/m^3	500 µg/m^3
	1-hour TSP	AMS1N		153 µg/m^3	260 µg/m^3
	1-hour TSP	AMS2N1		179 µg/m^3	260 µg/m^3
	1-hour TSP	AMS3N		158 µg/m^3	260 µg/m^3
	1-hour TSP	AMS4N		144 µg/m^3	260 µg/m^3
Noise	Leq, 30 minutes	NMS1N	At least once per week	When one documented complaint is received from any one of the noise sensitive receivers	75 dB(A)*
	Leq, 30 minutes	NMS2N1			75 dB(A)*
	Leq, 30 minutes	NMS3N			75 dB(A)*
	Leq, 30 minutes	NMS4N			75 dB(A)*

Notes:

1- *Due to a number of limitations (i.e. EM&A approved monitoring stations not accessible) identified at the air quality and noise monitoring stations in the Approved EM&A Manual for the Project, the monitoring location AMS1 – AMS4 & NMS1 – NMS4 were replaced by alternative monitoring location AMS1N – AMS4N & NMS1N – NMS4N, which was approved by ER and IEC.*

2- *Marine construction was not commenced within the reporting quarter; hence impact EM&A requirement for water quality monitoring is not included in this table.*

3.2. Environmental Mitigation Measures

3.2.1. Environmental mitigation measures have been recommended in the EM&A Manual. Summary implementation status of the environmental mitigation measures is provided in **Appendix 3-1**.

4. Summary of EM&A Monitoring Results

4.1. Monitoring Data

4.1.1. In accordance with the EM&A Manual, impact monitoring has been conducted in the reporting quarter. Meteorological data for the reporting quarter have been extracted from Hong Kong Observatory and present in **Appendix 4-1.** Monitoring data with graphical presentation for the reporting quarter are show in **Appendix 4-2** A summary on the monitoring results is presented in **Table 4.1**.

Table 4-1 - Summary of Monitoring Data

Parameter[1]	Monitoring Location	Minimum	Maximum	Average
Air Quality				
1-hour TSP	AMS1N	13.0 µg/m^3	161.0 µg/m^3	61.9 µg/m^3
1-hour TSP	AMS2N1	21.0 µg/m^3	179.0 µg/m^3	62.5 µg/m^3
1-hour TSP	AMS3N	16.0 µg/m^3	193.0 µg/m^3	63.7 µg/m^3
1-hour TSP	AMS4N	17.0 µg/m^3	149.0 µg/m^3	56.3 µg/m^3
24-hour TSP	AMS1N	15.0 µg/m^3	148.0 µg/m^3	62.0 µg/m^3
24-hour TSP	AMS2N1	22.0 µg/m^3	168.0 µg/m^3	62.6 µg/m^3
24-hour TSP	AMS3N	17.0 µg/m^3	152.0 µg/m^3	63.8 µg/m^3
24-hour TSP	AMS4N	18.0 µg/m^3	138.0 µg/m^3	56.3 µg/m^3
Construction Noise[2]				
Leq(30min)	NMS1N	50.6 dB(A)	65.4 dB(A)	58.1 dB(A)
Leq(30min)	NMS2N1	51.2 dB(A)	57.4 dB(A)	54.7 dB(A)
Leq(30min)	NMS3N	50.9 dB(A)	65.3 dB(A)	58.8 dB(A)
Leq(30min)	NMS4N	42.9 dB(A)	52.8 dB(A)	49.2 dB(A)

Remarks:

1. *Marine construction was not commenced within the reporting quarter; hence no water quality monitoring data summarized in this table.*
2. *A correction of +3 dB(A) was made to the free field measurements*

4.2. Other Influencing Factors of the Monitoring Results

Air quality monitoring

4.2.1. Major emission sources during air quality monitoring in the reporting quarter were mainly vehicle emission from Po Toi O Chuen Road and nearby residents' activities.

Noise monitoring

4.2.2. Major noise sources during noise monitoring in the reporting quarter were mainly road traffic noise.

4.3. Monitoring Exceedances

4.3.1. Summary of the exceedances in the reporting quarter is tabulated in **Table 4.2**.

Table 4-2 - Summary of Exceedances

Monitoring Station	Parameter[1]	No. of Exceedance		Action Taken
		Action Level	Limit Level	
Air Quality				
AMS1N	1-hour TSP	0	0	N/A
AMS2N1	1-hour TSP	0	0	N/A
AMS3N	1-hour TSP	0	0	N/A
AMS4N	1-hour TSP	0	0	N/A
AMS1N	24-hour TSP	0	0	N/A
AMS2N1	24-hour TSP	0	0	N/A
AMS3N	24-hour TSP	0	0	N/A
AMS4N	24-hour TSP	0	0	N/A
Construction Noise				
NMS1N	Leq(30min)	0	0	N/A
NMS2N1	Leq(30min)	0	0	N/A
NMS3N	Leq(30min)	0	0	N/A
NMS4N	Leq(30min)	0	0	N/A

Remarks:

1. *Marine construction was not commenced in the reporting quarter, no water quality monitoring was required in according to approved EM&A manual; hence no water quality monitoring data was recorded.*

4.4. 1-hour TSP Monitoring

4.4.1. All 1-hour TSP monitoring was conducted as scheduled in the reporting quarter. No action/ limit level exceedance was recorded.

4.5. 24-hour TSP Monitoring

4.5.1. All 24-hour TSP monitoring was conducted as scheduled in the reporting quarter. No action/ limit level exceedance was recorded.

4.6. Construction Noise Monitoring

4.6.1. All construction noise monitoring was conducted as scheduled in the reporting quarter. No action/ limit level exceedance was recorded.

4.7. Water Quality Monitoring

4.7.1. No marine construction was commenced in the reporting quarter; no water quality sampling was required according to approved EM&A manual; hence No action/ limit level exceedance was recorded

5. Waste Management

5.1. Waste Demand

5.1.1. As advised by the Contractor, 758 m^3 of inert C&D material was generated and disposal to Tseung Kwan O Area 137 Fill Bank (TKO137FB) in the reporting quarter. For C&D wastes, 0 m^3 of general refuse was disposed of at NENT landfill, 0 kg waste were collected by recycling contractors, and 0 kg of chemical wastes was collected by licensed Contractors in the reporting quarter.

5.1.2. The detailed summary of waste flow is show in **Appendix 5-1**.

6. Environmental Non-conformance

6.1.1. For this reporting quarter, one environmental complaint was received on 28 December 2021 via EPD's mail. The complaint from a member of the public regarding environmental nuisance caused by construction waste and other waste. Refer to the joint investigation result on 30 December 2021 and the associated photo record, the complaint regarding construction waste and other waste placed in front of the House 1 of Seacrest Villas is not project related.

6.1.2. No non-compliance and environmental related prosecution or notification of summons was received. There was no breach of Action or Limit Levels for Air Quality and Noise monitoring in the reporting quarter.

6.1.3. Statistics on complaints, notifications of summons, successful prosecutions and public engagement activities are summarized in **Appendix 6-1**.

7. Comments, Recommendations and Conclusion

7.1. Comments

7.1.1. Based on the observations made during site audits and construction dust and noise monitoring results, no non-compliances and exceedances of air quality and noise limits were recorded.

7.2. Recommendations

7.2.1. Reviewing the implementation of the recommended mitigation measures in the EM&A Manual, it was observed that they were effective and efficient in controlling the potential impacts due to construction of the project during the reporting quarterly. Review of the effectiveness and efficiency of the EM&A programme will continue, and recommendations will be provided to remediate any potential impacts due to the project and to improve the EM&A programme if deficiencies of the existing EM&A programme are identified.

7.3. Conclusion

7.3.1. The EM&A programme as recommended in the EM&A Manual has been undertaken since the construction works of Port Shelter Sewerage, Stage 3 – Sewerage works at Po Toi O works commenced on 1 March 2021.

7.3.2. Monitoring of air quality and noise with respect to the Project is underway. In particular, the 1-hour TSP, 24-hour TSP and noise level (as Leq, 30 minutes) under monitoring have been checked against established Action and Limit levels. There was no breach of Action and Limit Levels for 1-hour TSP, 24-hour TSP and noise monitoring in the reporting quarter.

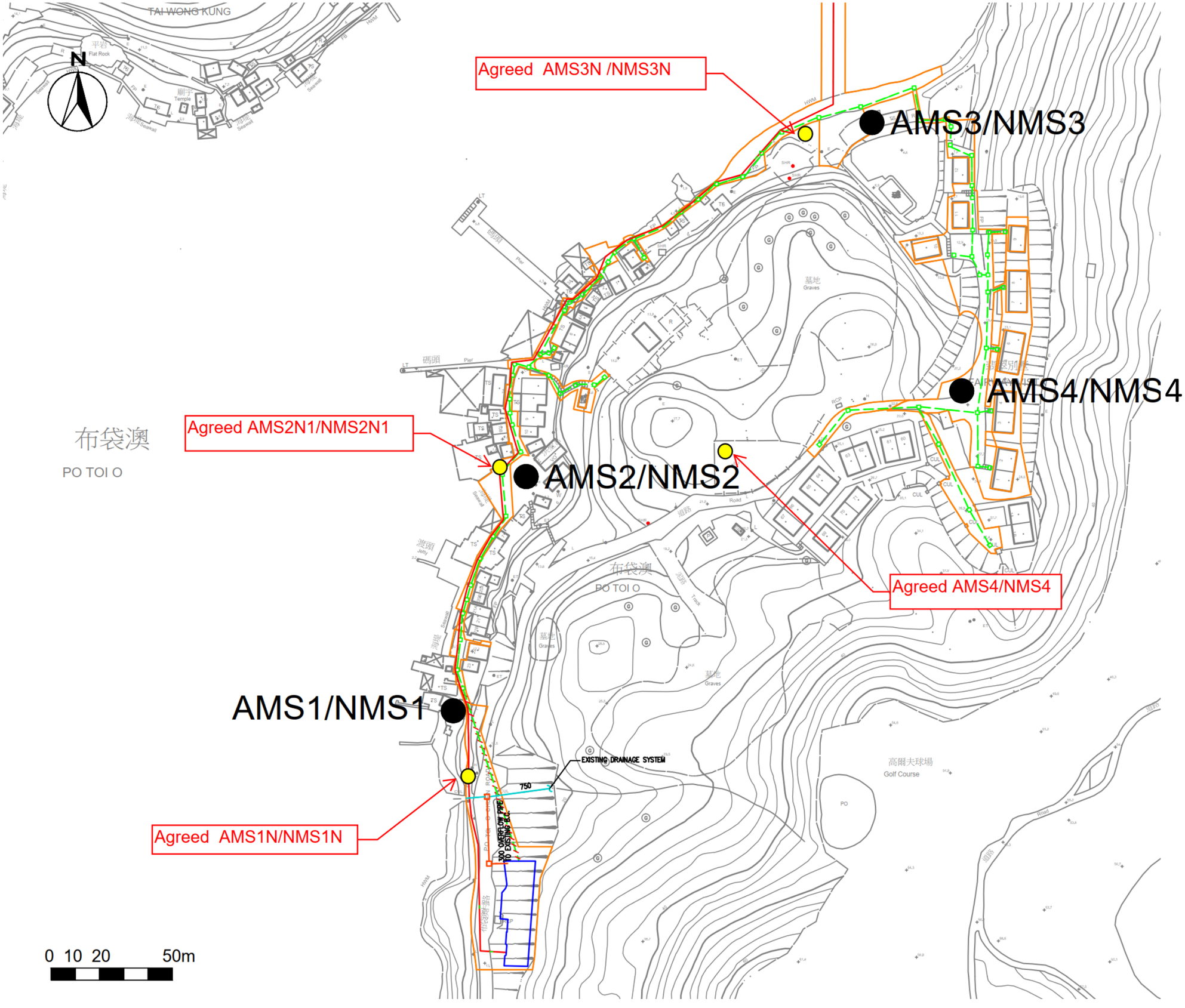
7.3.3. One complaint was received on 28 December 2021 via EPD's mail. The complaint from a member of the public regarding environmental nuisance caused by construction waste and other waste. Refer to the joint investigation result on 30 December 2021 and the associated photo record, the complaint regarding construction waste and other waste placed in front of the House 1 of Seacrest Villas is not project related.

7.3.4. No notifications of summons or successful prosecution were received during the reporting quarter.

7.3.5. Weekly site inspections were conducted during the reporting quarter as required. It was observed that the Contractor had implemented all possible and feasible mitigation measures to mitigate the potential environmental impacts during construction phase works.

Figure 3-1

Location of the Monitoringand Control Stations



NOTES :

- Proposed Work Boundary
- Proposed Sewer and Manhole
- Proposed Rising Main
- Proposed Sewer by Trenchless Method
- Proposed Sewage Treatment Plant
- Air/Noise Monitoring Stations Proposed in EM&A Manual
- Agreed Air/Noise Monitoring Stations AMS1N/NMS1N

Consultant

Allied Environmental Consultants Limited
ACOUSTICIANS & ENVIROMENTAL ENGINEERS

Project No. :	1825
File Name :	

Project :

Port Shelter Phase 3 - Po Toi O Sewerage Treatment Plant

Drawing Title :

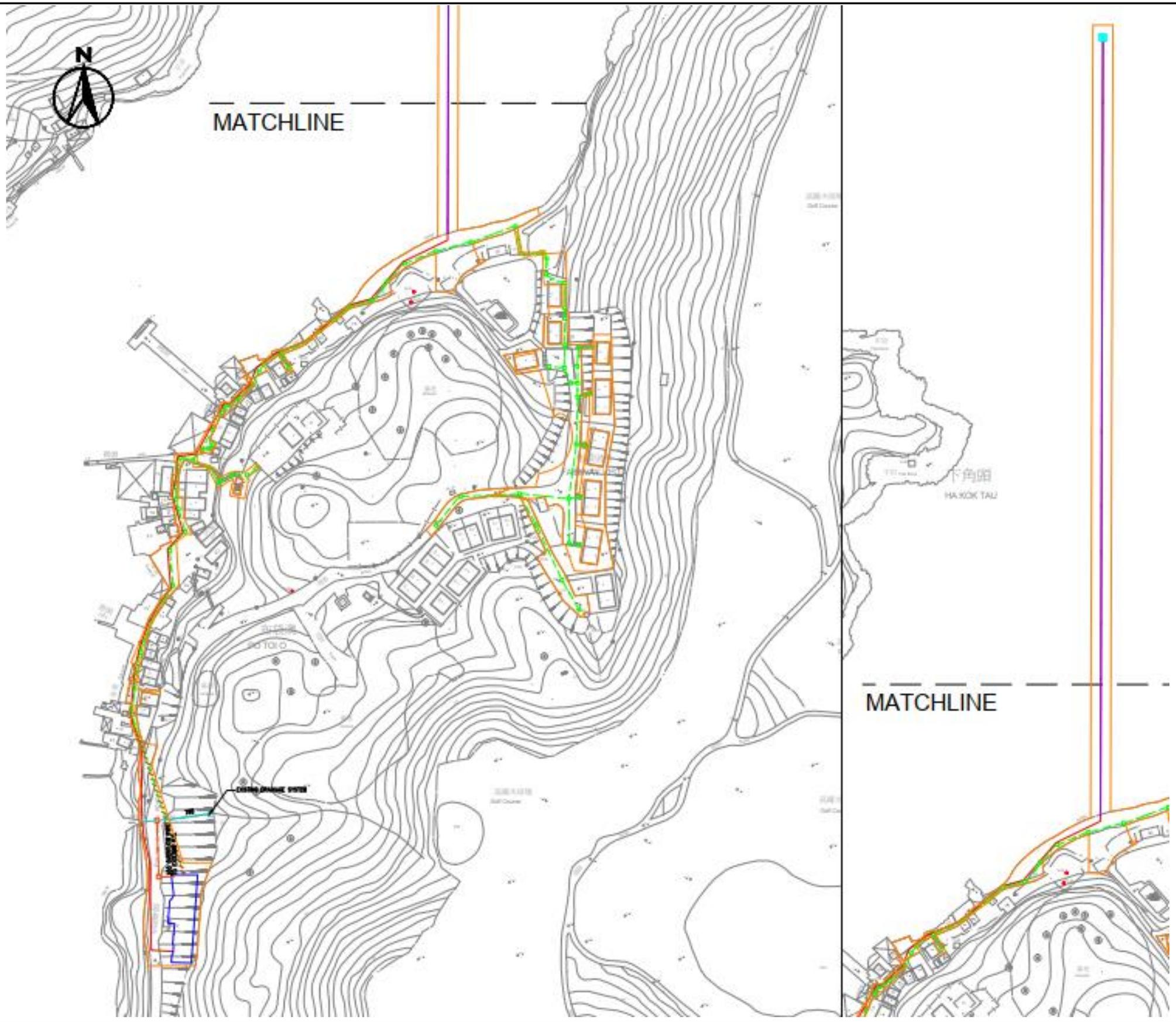
Locations of Monitoring and Control Stations

Drawing No : Figure 3-1	Revision : 1
Scale : NTS	Date : April 2021

A3 420 x 297

Figure 3-2

Layout Plan of Project Area



NOTES :

- Proposed Work Boundary
- Proposed Sewer and Manhole
- Proposed Rising Main
- Proposed Sewer by Trenchless Method
- Proposed Sewage Treatment Plant
- Proposed Submarine Outfall
- Proposed Diffuser

Consultant

Allied Environmental Consultants Limited
ACOUSTICIANS & ENVIROMENTAL ENGINEERS

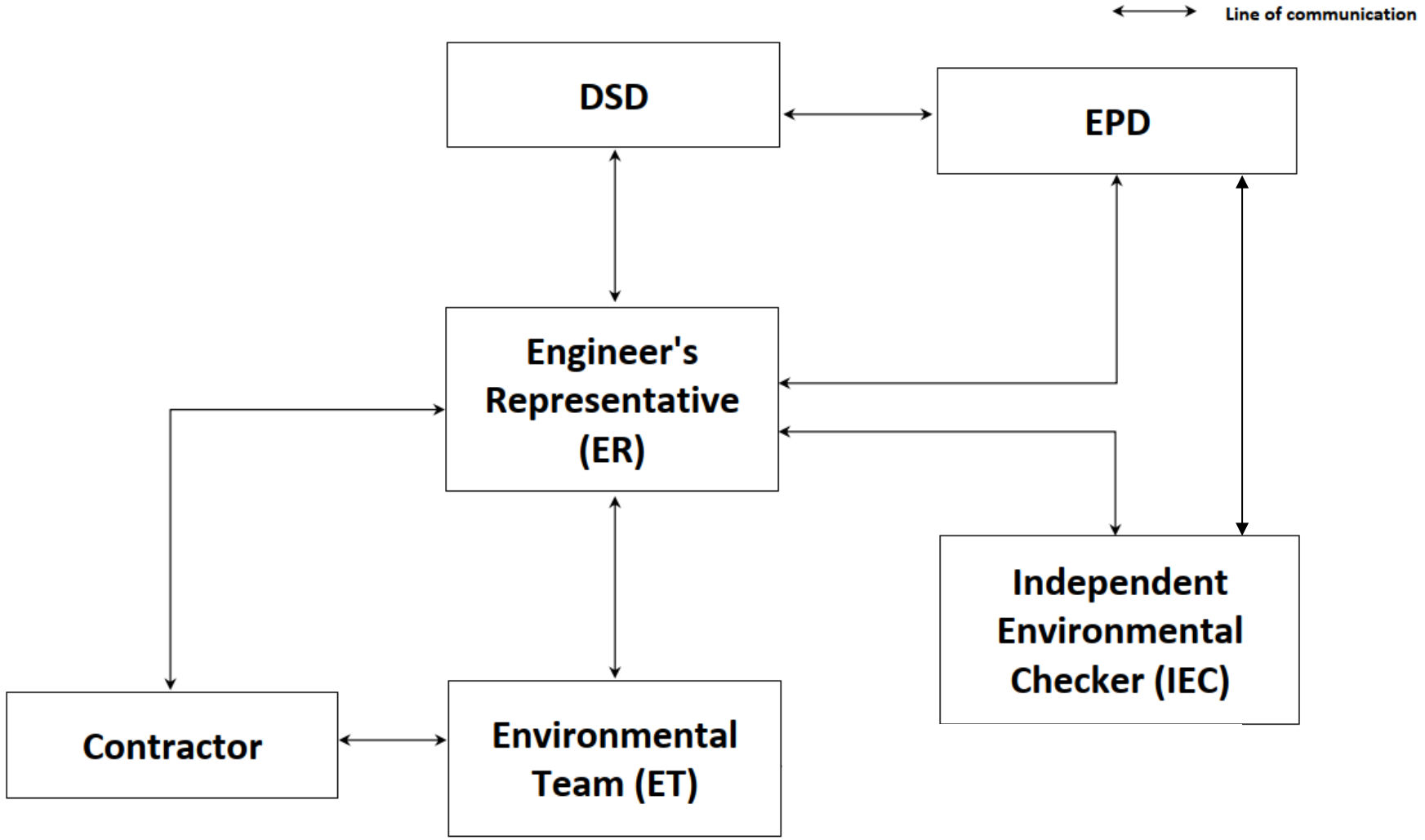
Project No. :	1825
File Name :	
Project	Port Shelter Phase 3- Po Toi O Sewerage Treatment Plant
Drawing Title :	Layout Plan of the Project Area
Drawing No :	
Revision :	1
Scale :	Figure 3-2
Date :	July 2021

A3 420 x 297

Appendix 2-1

Project Organization Chart & Contact Information of Key Personnel

Appendix 2-1 - Project Organization Chart & Contact Information of Key Personnel



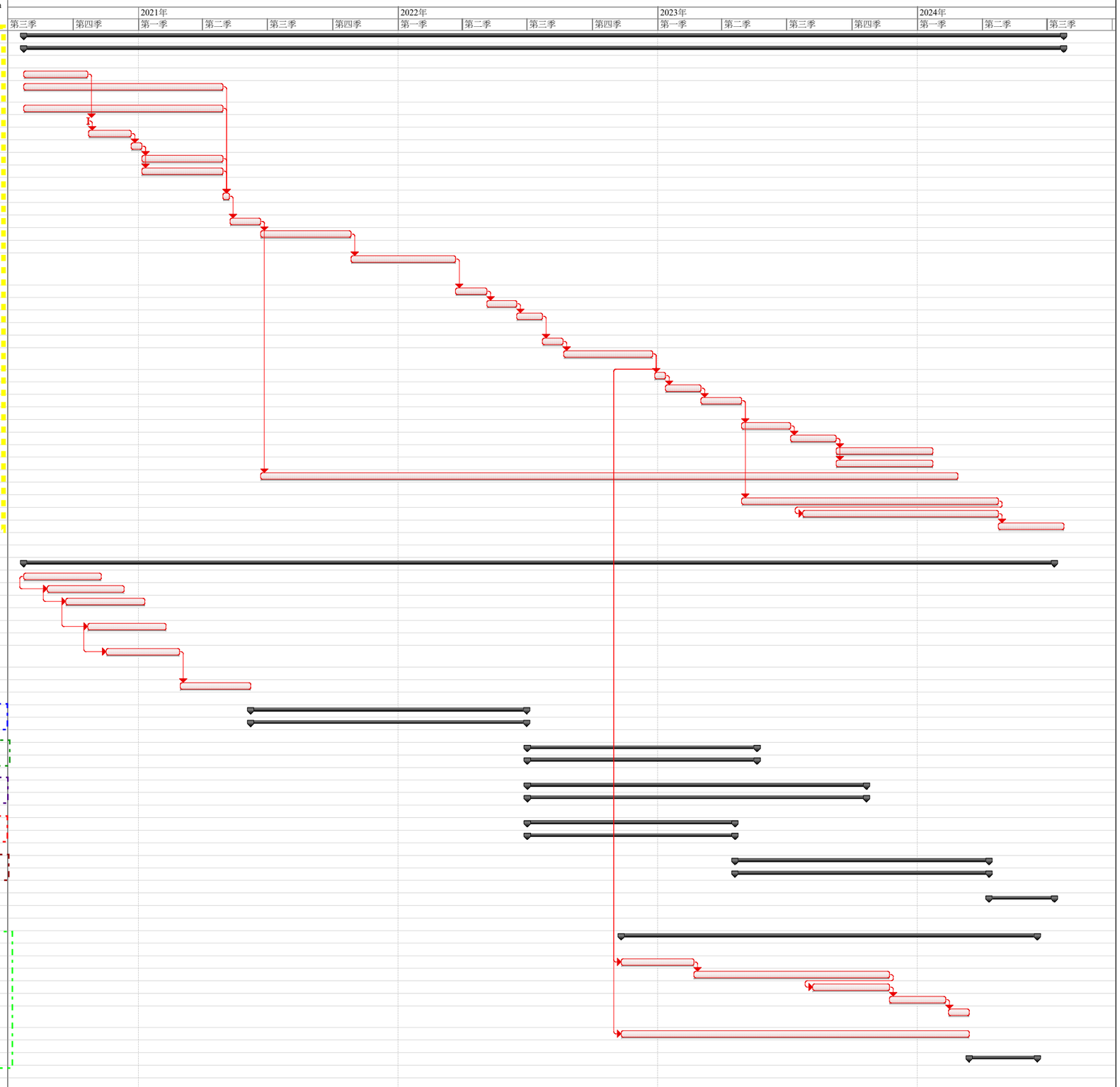
Contact Information of Key Personnel

Position	Party	Name	Telephone
Project Proponent	Drainage Services Department (DSD)	Ms. Janet Yuen	2594 7353
Resident Engineer (RE)	Binnies Hong Kong Limited	Mr. Eugene Chan	6392 3809
Independent Environmental Checker (IEC)	Acuity Sustainability Consulting Limited (ASC)	Dr. F.C. Tsang	2698 8060
Environmental Team (ET)	Allied Environmental Consultants Limited (AEC)	Mr. Timmy Wong	3915 7186
Environmental Officer (EO)	China Geo-engineering Corporation (CGC)	Mr. Jasper Tang	6997 5530
Hotline Telephone Number			6902 2820

Appendix 2-2

Construction works Programme

識別碼	Task Name	Duration	Starting Date	Percentage of Completion	Completion Date
1	**Section 2 - Village Sewerage Works at Po Toi O and PTOSTP**	**1190 days**	**2020/7/24**	**0%**	**2024/7/24**
2	**Po Toi O Sewage Treatment Plant (PTOSTP)**	**1190 days**	**2020/7/24**	**0%**	**2024/7/24**
3					
4	Liaise with the village representative works to ensure the possession of construction site	75 days	2020/7/24	0%	2020/10/21
5	Preperation works (i.e. TMLG meetings; Application for traffic advice for suspension of existing parking slot; Re-provision of existing RCP, etc.)	231 days	2020/7/24	0%	2021/4/29
6	Environmental submissions	231 days	2020/7/24	0%	2021/4/29
7	Possession of site (Access Date: 22nd October 2020)	1 day	2020/10/22	0%	2020/10/22
8	Installation of site hoardings at PTOSTP	50 days	2020/10/23	0%	2020/12/21
9	Mobilization of plant and equipment	10 days	2020/12/22	0%	2021/1/5
10	Site clearance	95 days	2021/1/6	0%	2021/4/29
11	Initial survey, UU detection and permit-to-dig	95 days	2021/1/6	0%	2021/4/29
12					
13	Preparation for geotechnical submissions	7 days	2021/4/30	0%	2021/5/8
14					
15	Liaison with PTO VR	35 days	2021/5/10	0%	2021/6/21
16	Preparation and installation of rock fall fencing	105 days	2021/6/22	0%	2021/10/26
17					
18	Slope cutting (Total 2850 m3 solid materials to be removed, i.e. about 4275 m3 loosen materials. 23.8m3 loosen materials to be removed per day, i.e. 4 trips of dumping per day)(installation of silt curtain at the outlet of the box culvert)	120 days	2021/10/27	0%	2022/3/22
19	Installation of rock dowl (include drilling, rebar installation and grouting, etc.)	34 days	2022/3/23	0%	2022/5/5
20	Construction of anchorages for flexible barrier	34 days	2022/5/6	0%	2022/6/16
21	Installation of flexible barriers	30 days	2022/6/17	0%	2022/7/22
22					
23	Installation of sheetpile	25 days	2022/7/23	0%	2022/8/20
24	Excavation from +13.25 Mpd to -1.20 Mpd (Total 2150 m3 solid materials to be removed, i.e. about 3225m3 loosen materials. 23.8m3 loosen materials to be removed per day, i.e. 4 trips of dumping per day)	105 days	2022/8/22	0%	2022/12/24
25	Plate load test	12 days	2022/12/28	0%	2023/1/11
26	Construction of raft footing	40 days	2023/1/12	0%	2023/3/2
27	Construction of basement (below +13.25 mPD)	45 days	2023/3/3	0%	2023/4/28
28					
29	Construction of R.C. walls at 1st Floor	55 days	2023/4/29	0%	2023/7/6
30	Construction of rooftop (below + 17.75 mPD)	55 days	2023/7/7	0%	2023/9/8
31	External Finishes	110 days	2023/9/9	0%	2024/1/22
32	Internal Finishes (incl. installation of Door & Window etc)	110 days	2023/9/9	0%	2024/1/22
33	Landscape works & other associated works	797 days	2021/6/22	0%	2024/2/26
34					
35	E&M works	292 days	2023/4/29	0%	2024/4/23
36	T&C (Stage 1) + T&C (Stage 2)	223 days	2023/7/24	0%	2024/4/23
37	T&C (Stage 3)	75 days	2024/4/24	0%	2024/7/24
38					
39					
40	**Construction of PTO Village Sewerage**	**1179 days**	**2020/7/24**	**0%**	**2024/7/11**
41	Liaise with the village representatives	90 days	2020/7/24	0%	2020/11/9
42	Initial survey and photo-taking	90 days	2020/8/26	0%	2020/12/11
43	UU Detection and application for permit-to-dig	90 days	2020/9/21	0%	2021/1/9
44					
45	Trial pit excavation (Access Date of PTO-B1-01: 22nd Oct 2020)	90 days	2020/10/22	0%	2021/2/8
46					
47	Producing Layout plans showing the loction of terminal manholes, timber box and alignment of sewers and other associated preparation works	83 days	2020/11/17	0%	2021/2/27
48					
49	Liaison with PTO VR	83 days	2021/3/1	0%	2021/6/7
50					
51	**PTO-SW-01 (Open Trench, 18 nos. manholes (170m), and rising main(CH2+53.81 - CH4+36.66)**	**316 days**	**2021/6/8**	**0%**	**2022/6/30**
58	**Landscape works for PTO-SW-01**	**316 days**	**2021/6/8**	**0%**	**2022/6/30**
60					
61	**PTO-SW-02 (Open Trench, 16nos. Manhole(145m), and a Section of Rising Main)**	**263 days**	**2022/7/2**	**0%**	**2023/5/20**
68	**Landscape works for PTO-SW-02**	**263 days**	**2022/7/2**	**0%**	**2023/5/20**
70					
71	**PTO-SW-03 (Open Trench, 25 nos., Length: 360m)**	**390 days**	**2022/7/2**	**0%**	**2023/10/21**
78	**Landscape works for PTO-SW-03**	**390 days**	**2022/7/2**	**0%**	**2023/10/21**
80					
81	**PTO-Trenchless-01 (Trenchless, (Length: 75m) and related Rising Main)**	**237 days**	**2022/7/2**	**0%**	**2023/4/19**
88	**Landscape works for PTO-Trenchless-01**	**237 days**	**2022/7/2**	**0%**	**2023/4/19**
90					
91	**PTO-Trenchless-02 (Trenchless, (Length: 100m) and related Rising Main)**	**289 days**	**2023/4/20**	**0%**	**2024/4/10**
98	**Landscape works for PTO-Trenchless-02**	**289 days**	**2023/4/20**	**0%**	**2024/4/10**
100					
101	**Testing of PTO Village Sewerage**	**75 days**	**2024/4/11**	**0%**	**2024/7/11**
103					
104					
105	**Submarine Outfall by HDD Method with Cofferdam**	**471 days**	**2022/11/11**	**0%**	**2024/6/17**
106					
107	Installation of silt curtain near the rocky shore and construction of cofferdam for entry pit	81 days	2022/11/11	0%	2023/2/20
108	Horizontal Directional Drilling	225 days	2023/2/21	0%	2023/11/22
109	Construction of Cofferdam (include installation of silt curtain around the cofferdam)	90 days	2023/8/7	0%	2023/11/22
110	Construction of diffuser manifold	65 days	2023/11/23	0%	2024/2/9
111	Removal of cofferdam at both the manifold and the entry pit (including removal of silt curtain after removal of cofferdam)	25 days	2024/2/14	0%	2024/3/13
112	**Landscape works**	396 days	2022/11/11	0%	2024/3/13
113					
114	**Testing of Submaine Outfall**	**75 days**	**2024/3/14**	**0%**	**2024/6/17**
116					
117	**Completion of Section 2**	0 days	2024/7/11	0%	2024/7/11



Appendix 3-1

Impletementation of Recommended Mitgation Measures

Appendix 3-1 - Recommended Mitigation Measures Implementation Status

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Air Quality Impact	A10	Good housekeeping to minimize dust generation, e.g. by properly handling and storing dusty materials.	Rem.	Rem.	Rem.
	A11	Adopt dust control measures, such as dust suppression using water spray on exposed soil at least 4 times a day, in areas with dusty construction activities and during material handling.	✓	Rem.	Rem.
	A12	Store cement bags in shelter with 3 sides and the top covered by impervious materials if the stack exceeds 20 bags	N/A	N/A	N/A
	A13	Maintain a reasonable height when dropping excavated materials to limit dust generation	✓	Rem.	✓
	A14	Limit vehicle speed within construction site and in Po Toi O to 10km/hr and confine vehicle movement in haul road	✓	✓	✓
	A15	Minimize exposed earth after completion of work in a certain area by hydroseeding, vegetating, soil compacting or covering with bitumen	✓	✓	✓
	A16	Provide wheel washing at construction site exit to clean the vehicle body and wheel	N/A	N/A	N/A

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
	A17	Cover materials on trucks before leaving the construction site to prevent debris from dropping during traffic movement or being blown away by wind	✓	✓	✓
	A18	Regular maintenance of plant equipment to prevent black smoke Emission	✓	✓	✓
	A19	Throttle down or switch off unused machines or machine in intermittent use	✓	✓	✓
	A20	Minimize excavation area as far as possible	✓	Rem.	Rem.
	A21	Store odorous excavated materials in covered containers and remove off-site as soon as possible within 24 hours	✓	✓	✓
	A22	Cover open stockpiles of construction materials (e.g. aggregates, sand and fill materials) with impermeable materials such as tarpaulin during rainstorms.	✓	✓	Rem.
	A23	Hoarding of not less than 2.4 m high shall be erected from ground level to surround the construction site for sewage treatment plant along Po Toi O Chuen Road except for a construction site entrance or exit	N/A	N/A	N/A
	A24	Carry out air quality monitoring throughout the construction period	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Noise Impact	N1	Use hand-held plant equipment or manual equipment within village area	✓	✓	✓
	N2	For HDD, enclose the stationary plant equipment on three sides with cover. Only the side facing the sea shall be opened for heat exhaustion.	N/A	N/A	N/A
	N3	Generator should be placed at a fixed location at least 5-6m away from the NSRs and screened by noise barrier whenever excavation work has to be carried out at their front doors	✓	✓	✓
	N4	Avoid carrying out noisy activities at the same time. The work front of village sewer installation near NSRs PTO_N1 and PTO_N3 shall not be conducted concurrently with installation of Po Toi O Chuen Road sewer and horizontal directional drilling respectively.	✓	✓	✓
	N5	Vibratory poker shall only be operated 4m away from NSR and with noise barrier properly erected. Surfacing work within 4m from NSR shall be carried out by manual method.	✓	✓	✓
	N6	Schedule noisy activities to minimise exposure of nearby NSRs to high levels of construction noise	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
	N7	Use Quality Powered Mechanical Equipment (QPME) which produces lower noise level	✓	✓	✓
	N8	Erect 3m high mobile barriers with skid footing and a small cantilevered upper portion within a few meters of stationary plants and within about 5m of more mobile plant.	✓	✓	✓
	N9	Hand-held breaker shall be fitted with mufflers. A movable enclosure made up of plywood is proposed to surround both worker and breaker during breaking process. The internal wall of the enclosure should be laid with sound absorbent such as mineral wool.	✓	✓	✓
	N10	Regular maintenance of plant equipment to prevent noise emission due to impair	✓	✓	✓
	N11	Position mobile noisy equipment in location and direction away from NSR	✓	✓	✓
	N12	Use silencer or muffler on plant equipment and should be properly maintained	✓	✓	✓
	N13	Throttle down or switch off unused machines or machine in intermittent use between work	✓	✓	✓
	N14	Make good use of stockpiles or other structures for noise screening	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
	N15	Mobile plant should be sited as far away from NSRs as possible	✓	✓	✓
	N16	Reduce the percentage on-time for some noisy PMEs	✓	✓	✓
	N17	Carry out noise monitoring	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Water Quality	W1	Divert the water from outfall of W3 (stream near Fairway Vista) during open cut excavation for laying of gravity sewer nearby.	✓	✓	✓
	W2	Place sandbag along the upstream section of the stream near Fairway Vista and along rocky shore during open cut excavation for laying of gravity sewers/rising mains nearby.	✓	✓	✓
	W3	Intercept the water from u-channel at the foot of the slope where the STP will be built	✓	Rem.	✓
	W4	Install cofferdam around the proposed excavation area for entry pit of HDD work to prevent falling of debris into the sea	N/A	N/A	N/A
	W5	Install sheet piles in marine waters by vibratory action.	N/A	N/A	N/A
	W6	Marine works (dredging, construction and installation works at diffuser location, backfilling) shall be carried out inside the watertight cofferdam. The cofferdam can only be removed after completion of work.	N/A	N/A	N/A
	W7	Dredging should be carried out by grab dredgers anchored outside the cofferdam. The marine sediment should be placed in sealed compartment of the marine barge.	N/A	N/A	N/A

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
	W8	Water removed from the cofferdam should be desilted before discharge back into the sea.	N/A	N/A	N/A
Water Quality	W9	Carry out water quality monitoring at water sensitive receivers before and during cofferdam installation works, throughout dredging works, and during cofferdam extraction works	N/A	N/A	N/A
Water Quality	W12	Set up sedimentation tank for settling suspended solids in wastewater before discharge into storm drains. Sand/silt removal facilities such as sand traps, silt traps and sedimentation basin should be provided with adequate capacity.	✓	✓	✓
Water Quality	W13	Follow ProPECC PN 1/94 "Construction Site Drainage" as far as practicable	✓	✓	✓
Water Quality	W14	Construct catchpits and perimeter channels prior to commencement of site formation works and earthworks.	✓	✓	✓
Water Quality	W15	Maintain silt removal facilities, channels, manholes before and after rainstorm.	✓	Rem.	Rem.
Water Quality	W16	Remove silt and grit from silt trap at regular interval.	✓	✓	Rem.
Water Quality	W17	Well design works program to minimize the work areas to minimize the soil exposure and site runoff.	✓	✓	Rem.

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Water Quality	W18	Arrange soil excavation works outside rainy seasons (April to September) as far as possible. If this cannot be achieved, the following measures should be implemented:	✓	✓	✓
Water Quality		Cover temporary exposed slope surfaces with impermeable materials, e.g. tarpaulin	✓	✓	✓
Water Quality		Protect temporary access roads by crushed stone or gravel	✓	✓	✓
Water Quality		Provide intercepting channels along crest/edge of excavation	✓	✓	✓
Water Quality		Provide intercepting channels along crest/edge of excavation?	✓	✓	✓
Water Quality	W19	Minimize exposed earth after completion of work in a certain area by hydroseeding, vegetating, soil compacting or covering with bitumen	✓	✓	✓
Water Quality	W20	Prevent rainwater from entering trenches. Excavation of trenches should be dug and backfilled in short sections during rainy seasons. Remove silt in rainwater collected from the trenches or foundation excavations prior to discharge to storm drains.	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Water Quality	W21	Cover open stockpiles of construction materials (e.g. aggregates, sand and fill materials) with impermeable materials such as tarpaulin during rainstorms.	Rem.	Rem.	Rem.
Water Quality	W22	Cover and temporary seal manholes to prevent silt, construction materials or debris and surface runoff from entering foul sewers.	✓	✓	✓
Water Quality	W23	Remove waste from the construction site regularly.	✓	✓	✓
Water Quality	W24	Apply discharge license for effluent discharge. Treat the discharge to comply with the requirement in TM-DSS.	✓	✓	✓
Water Quality	W25	Reuse treated effluent onsite, e.g. dust suppression, wheel washing and general cleaning.	✓	✓	✓
Water Quality	W26	Monitor effluent water quality.	✓	✓	✓
Water Quality	W27	Register as chemical waste producer if chemical waste will be generated.	✓	✓	✓
Water Quality	W28	Perform maintenance of vehicles and equipment that have oil leakage and spillage potential on hard standings within a bunded area with sumps and oil interceptors.	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Water Quality	W29	Dispose chemical waste in accordance to Waste Disposal Ordinance. Follow the *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes,* examples as follows:	✓	✓	✓
Water Quality		Store chemical wastes with suitable containers to avoid leakage or spillage during storage, handling and transport	✓	✓	✓
Water Quality		Label chemical waste containers according to the CoP to notify and warn the waste handlers	✓	✓	✓
Water Quality		Store chemical wastes at designated safe location with adequate space	✓	✓	✓
Water Quality	W30	Provide sufficient chemical toilets with regular maintenance by registered waste collector where necessary	✓	✓	✓
Water Quality	W31	Provide a drip tray/container underneath the bentonite recycling system	N/A	N/A	N/A
Water Quality	W32	Carry out regular site inspection to audit the implementation of mitigation measures	✓	✓	✓
Water Quality	W33	Carry out effluent quality monitoring at location specified in the discharge licence	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Waste/Chemical Management	WM4	Allocate an area for waste sorting and storage of C&D materials into the following categories for reuse, recycle or disposal if possible. Remove waste from the construction site for sorting once generated if no suitable space can be identified.	✓	✓	✓
		Excavated materials suitable for reuse	✓	✓	✓
		Inert C&D materials (or public fill) for disposal offsite	✓	✓	✓
		Non-inert C&D materials (or C&D waste) for disposal at landfills	✓	✓	✓
		Records of quantities generated/recycled/disposed maintained?	✓	✓	✓
		chemical waste	✓	✓	✓
		Bentonite slurry for reconditioning and reuse	N/A	N/A	N/A
		General refuse	✓	✓	✓
Waste/Chemical Management	WM5	Adopt good site practice as follows:	✓	✓	✓
Waste/Chemical Management		Provide training to workers on site cleanliness, waste management (waste reduction, reuse and recycle) and chemical handling procedures	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Waste/Chemical Management		Provide sufficient waste collection points and regular removal	✓	✓	✓
Waste/Chemical Management		Cover waste materials with tarpaulin or in enclosure during transportation	✓	✓	✓
Waste/Chemical Management		Maintain drainage systems, sumps and oil interceptors	✓	✓	✓
Waste/Chemical Management		Sort out chemical waste for proper handling and treatment onsite or offsite	✓	✓	✓
Waste/Chemical Management	WM6	Adopt waste reduction measures as follows:	✓	✓	✓
Waste/Chemical Management		Allocate area/containers for sorting, recovering and storing waste for reuse, recycle or disposal (e.g. demolition debris and excavated materials, general refuse like aluminium cans.) Remove waste from the construction site for sorting once generated if no suitable space can be identified.	✓	✓	✓
Waste/Chemical Management		Allocate area for proper storage of construction materials to prevent contamination prevent soil contamination?	✓	✓	✓
Waste/Chemical Management		Minimize wastage through careful planning and avoiding over purchase of construction materials	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Waste/Chemical Management	WM7	Prepare and implement a site-specific Waste Management Plan (WMP) as part of Environmental Management Plan (EMP) in accordance with ETWB TCW No. 19/2005. Detail waste management method in the form of avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal according to the recommendations on the EIA and EM&A Manual. It should be approved by the ER and regularly reviewed.	✓	✓	✓
Waste/Chemical Management	WM8	Store waste materials properly as follows:	✓	✓	✓
Waste/Chemical Management		Avoid contamination by proper handling and storing waste	✓	✓	✓
Waste/Chemical Management		Prevent erosion by covering waste	✓	✓	✓
Waste/Chemical Management		Apply water spray on excavated materials	✓	✓	✓
Waste/Chemical Management		Maintain and clean storage area regularly	✓	✓	✓
Waste/Chemical Management		Sort and stockpile different materials at designated location to enhance reuse	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Waste/Chemical Management	WM9	Apply for relevant waste disposal permits in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap.345) and the Land (Miscellaneous Provisions) Ordinance (Cap.28), Dumping at Sea Ordinance (Cap. 466).	✓	✓	✓
Waste/Chemical Management	WM10	Hire licensed waste disposal contractors for waste collection and removal. Dispose waste at licensed waste disposal facilities	✓	✓	✓
Waste/Chemical Management	WM11	Implement trip-ticket system for recording the amount of waste generated, recycled and disposed, including chemical wastes	✓	✓	✓
Waste/Chemical Management	WM12	Provide wheel washing at construction site exit to clean the vehicle body and wheel	N/A	N/A	N/A
Waste/Chemical Management	WM13	Reduce water content in wet spoil generated from piling work by mixing with dry materials. Only dispose treated spoil with less than 25% dry density to Public Fill Reception Facilities	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Waste/Chemical Management	WM14	Dispose dry waste or waste with less than 70% water content by weight to landfill	✓	✓	✓
Waste/Chemical Management	WM15	Follow the *Code of Practice on the Packaging, Labelling and Storage of Chemical Waste* as follows:	✓	✓	✓
Waste/Chemical Management		Store chemical wastes with suitable containers. Seal and maintain the container to avoid leakage or spillage during storage, handling and transport	✓	✓	✓
Waste/Chemical Management		Label chemical waste containers in both English and Chinese with instructions in accordance to Schedule 2 of the Waste Disposal (Chemical Waste) (General) Regulation	✓	✓	✓
Waste/Chemical Management		The container capacity should be smaller than 450 litres unless agreed by the EPD	✓	✓	✓
Waste/Chemical Management	WM16	Comply with the requirement of the chemical storage area:	✓	✓	✓
Waste/Chemical Management		Store only chemical waste and label clearly the chemical characters of the waste	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Waste/Chemical Management	WM16	Have at least 3 sides enclosed and protected from rainfall with cover	✓	✓	✓
Waste/Chemical Management		Provide sufficient ventilation	✓	✓	✓
Waste/Chemical Management		Have impermeable floor and has bunds to contain 110% of the capacity of the largest container or 20% of the total volume of the stored waste in the area, whichever is larger	✓	✓	✓
Waste/Chemical Management	WM17	Transfer used lubricants, waste oils and other chemicals to oil recycling companies, if possible, and empty oil drums for reuse or refill. No direct or indirect discharge is permitted	✓	✓	✓
Waste/Chemical Management	WM18	Hire licensed chemical waste disposal contractors for waste collection and removal. Dispose chemical waste at the approved Chemical Waste Treatment Centre at Tsing Yi or other licensed facility	✓	✓	✓
Waste/Chemical Management	WM19	Hire reputable waste collector to separately collect and dispose general refuse from other wastes. Cover the waste to prevent being blown away	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Waste/Chemical Management	WM20	Provide recycling bins for sorting out recyclables for collection by recycling companies. Non-recyclables should be removed to designated landfills every day by licensed collectors to prevent environmental and health nuisance.	✓	✓	✓
Waste/Chemical Management	WM21	Organize training and reminders to site staff on waste minimization through avoidance and reduction, reusing and recycling	Rem	✓	✓
Waste/Chemical Management	WM22	Used bentonite shall be reconditioned onsite and reused as far as practical to minimize wastage. If this is deemed not viable, the used bentonite shall be delivered offsite for reconditioning.	N/A	N/A	N/A
Waste/Chemical Management	WM23	Characterize the sediment quality of the marine sediment to be dredged and submit a Sediment Quality Report for EPD's approval. Dispose the dredged marine sediment in accordance with ETWB TC(W) No. 34/2002	N/A	N/A	N/A

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Ecology	E1	Erect bright colour fencing along the boundary of the undisturbed region of the shrubland and woodland, and around *Diospyros vaccinioides* , a plant species of conservation importance, near the work boundary to remind workers not to trespass or occupy the area, and to be careful during operation of equipment.	Rem.	✓	✓
	E2	Reinstate the disturbed rocky shore with the rocks temporarily removed	N/A	N/A	N/A
	E3	Place sandbag around the section of W3 next to Fairway Vista and along the shore during open cut excavation for laying of gravity sewer nearby.	✓	✓	✓
Ecology	E4	Temporarily divert the water from outfall of W3 away from excavation area.	✓	✓	✓
Ecology	E5	Inspect the condition of the *Diospyros vaccinioides* near the work boundary as part of weekly site audit	✓	✓	✓
Ecology	E6	Erection of hoarding, fencing or provision of clear demarcation of work zones	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Ecology	E7	Designate areas for placement of equipment, building materials and wastes away from the natural environment	✓	Rem.	✓
Ecology	E8	Carry out tree preservation and compensatory tree planting will be carried out in accordance with DEVB TCW No. 7/2015.	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Landscape and Visual	CM8	Protective materials to be provided to natural rocky coastline to prevent damage to existing landform from plant and machinery during temporary drilling operations. Reinstatement following removal of plant & equipment to original or improved condition shall be undertaken.	N/A	N/A	N/A
Landscape and Visual	OM2	Use of appropriate building materials and colours for Sewage Treatment Plant to complement surroundings	N/A	N/A	N/A
Landscape and Visual	CM1	The construction area and contractor's temporary works areas should be minimised to avoid impacts on adjacent landscape. All slope excavation shall take place from within the work boundary to minimise impacts on adjacent slopes.	✓	✓	✓
Landscape and Visual	CM2	Reduction of construction period to practical minimum	✓	✓	✓
Landscape and Visual	CM3	Construction traffic (land and sea) including construction plant, construction vessels and barges to be kept to a practical minimum.	✓	✓	✓
Landscape and Visual	CM4	Erection of decorative mesh screens or construction hoardings and/or temporary noise barriers around works areas in visually unobtrusive colours.	✓	✓	✓
Landscape and Visual	CM5	Avoidance of excessive height and bulk of site buildings and structures.	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Landscape and Visual	CM6	Control of night-time lighting by hooding all lights and through minimisation of night working periods.	✓	✓	✓
Landscape and Visual	CM7	All existing trees shall be carefully protected during construction. A Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas. Tree risk assessment shall be undertaken to all existing trees within the project site as per "Guidelines for Tree Risk Assessment and Management Arrangement"	✓	✓	✓
Landscape and Visual	OM3	Lighting units to be directional and minimise unnecessary light spill and glare.	✓	✓	✓
Landscape and Visual	OM4	Greening measures to reinstate the landscape which are appropriate to the context, including tree and shrub planting and vertical greening, shall be implemented.	✓	✓	✓

Item	EM&A Ref.	EM&A Manual Recommended Mitigation/ Actions	Implementation Status		
			December 2021	January 2022	February 2022
Building Heritage	BH1	Undertake condition survey by professional qualified building surveyor or engineer to record the existing condition of the built heritage resources.	✓	✓	✓
Building Heritage	BH2	Carry out vibration and settlement monitoring to built heritage resources. A maximum vibration level 7.5mm/s shall be adopted for the Grade 3 Hung Shing Temple and settlement check points in the Alert/Alarm/Action limit levels at 6mm/8mm/10mm shall be adopted.	✓	✓	✓
Building Heritage	BH3	Are protective covering or protective screen provided to built heritage resources which are close to building area? (c.f. BH3)	N/A	N/A	N/A
Building Heritage	BH4	Maintain public access to the cultural landscape features (c.f. BH4)	N/A	N/A	N/A
Building Heritage	BH5	Provision of at least 1m buffer zone from the proposed works provided? (c.f. BH5)	N/A	N/A	N/A

Remark

N/A – Not Applicable

✓ – Implemented

Obs – Observed

Rem – Reminder

Appendix 4-1

Meteorological Data Extracted from Hong Kong Observatory

Appendix 4-1 Daily Extract of Meteorological Observations from HKO, December 2021 – February 2022

2021/12 Daily Extract of Meteorological Observations from HKO

Day	Hong Kong Observatory								King's Park	Waglan Island^	
	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)	Total Bright Sunshine (hours)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)							
1	1021.5	20.1	17.3	14.8	3.6	40	23	-	1	010	41.0
2	1021.8	20.4	17.4	14.6	4.1	42	11	-	2	010	25.2
3	1021.5	21.3	18.0	14.7	2.4	35	9	-	3	360	26.8
4	1022.2	20.6	18.1	15.3	6.2	46	37	-	4	070	29.8
5	1021.2	22.2	19.1	16.7	9.8	55	31	-	5	060	27.2
6	1020.3	22.2	19.2	16.4	10.7	59	7	-	6	010	21.4
7	1020.9	22.5	19.9	17.1	13.0	65	56	-	7	070	32.3
8	1022.3	22.2	20.1	18.4	13.6	67	19	-	8	080	42.5
9	1022.3	22.9	20.2	18.7	14.9	72	17	-	9	070	25.5
10	1020.7	23.7	20.9	18.6	15.8	73	30	-	10	070	29.8
11	1020.8	24.4	21.4	20.0	16.5	74	26	-	11	070	27.7
12	1021.0	24.7	21.5	19.2	16.7	75	20	-	12	060	19.4
13	1021.6	21.5	19.4	17.4	13.0	67	53	-	13	010	23.5
14	1018.6	23.6	20.5	18.7	15.3	72	71	Trace	14	070	21.8
15	1016.1	23.0	21.5	19.9	17.6	78	87	0.2	15	070	26.3
16	1015.8	25.8	23.2	21.7	19.8	81	69	Trace	16	050	23.8
17	1018.9	23.8	21.7	18.9	15.5	69	70	-	17	010	33.0
18	1022.8	20.0	18.1	16.3	9.7	58	88	-	18	010	32.2
19	1021.8	19.7	17.9	16.0	7.6	51	88	-	19	070	36.0
20	1017.6	19.3	17.2	15.7	13.0	78	91	9.4	20	050	45.5
21	1013.5	19.0	17.3	16.0	15.3	88	77	2.4	21	360	35.0
22	1016.5	21.7	19.3	17.1	15.7	80	89	Trace	22	360	15.8
23	1016.8	21.9	19.9	18.7	15.6	77	88	0.8	23	080	25.4
24	1017.2	21.8	19.9	18.2	17.0	84	84	1.7	24	040	9.5
25	1021.2	21.5	19.6	17.9	15.1	75	66	Trace	25	070	32.3

Day	Hong Kong Observatory								King's Park	Waglan Island^	
	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)	Total Bright Sunshine (hours)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)							
26	1025.5	18.5	15.0	11.7	11.1	78	92	3.5	26	010	35.0
27	1027.1	14.6	12.0	9.9	8.8	81	88	1.3	27	010	31.3
28	1024.4	17.5	15.3	12.2	10.7	74	89	0.2	28	030	21.8
29	1023.2	20.6	18.4	16.6	13.6	74	65	-	29	360	12.6
30	1024.6	21.4	18.1	16.2	14.0	77	51	-	30	080	19.7
31	1025.0	19.9	18.0	17.1	14.1	78	76	Trace		080	30.1

^ Information of wind direction and wind speed for Waglan Island are based on automatic weather station data since January 1989

Trace means rainfall less than 0.05 mm

Source: https://www.weather.gov.hk/wxinfo/pastwx/metob202112.htm

2022/01 Daily Extract of Meteorological Observations from HKO

Day	Hong Kong Observatory								King's Park	Waglan Island^	
	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)	Total Bright Sunshine (hours)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)							
1	1024.4	19.3	17.6	16.4	13.4	76	68	-	1.6	070	24.4
2	1022.5	22.0	18.4	16.0	14.2	77	10	-	9.5	020	15.1
3	1021.1	20.5	18.3	17.0	14.5	79	27	-	8.0	070	25.1
4	1019.6	21.5	19.1	17.4	14.4	75	49	-	8.7	070	29.6
5	1017.3	23.6	20.4	18.3	15.8	75	50	Trace	8.8	050	13.8
6	1019.2	23.6	20.3	18.3	16.5	80	54	-	8.1	080	21.6
7	1021.6	21.1	18.6	17.2	14.8	79	51	-	4.4	070	31.5
8	1020.5	20.2	17.8	16.0	13.2	75	34	-	9.5	070	20.7
9	1018.2	20.1	18.0	16.7	14.3	79	70	-	2.0	070	18.8
10	1017.5	20.9	18.4	16.5	14.1	76	78	-	3.8	060	21.3
11	1020.2	18.8	15.8	13.7	10.1	70	44	1.2	9.6	010	30.4
12	1020.9	17.9	16.1	14.7	11.1	72	84	-	1.4	060	28.8
13	1021.5	18.9	17.0	15.6	10.0	64	90	Trace	0.7	010	21.8
14	1020.7	17.3	16.6	15.4	11.9	75	84	-	0.1	070	34.7
15	1020.1	19.8	17.9	16.5	14.8	82	68	-	8.0	060	28.9
16	1020.4	21.1	18.8	17.4	15.6	82	59	-	4.7	050	25.9
17	1020.7	18.4	17.8	17.1	15.0	84	82	-	-	060	27.3
18	1020.9	18.3	17.3	15.8	14.1	82	89	0.2	1.1	030	18.4
19	1019.3	20.3	17.1	14.9	11.5	70	49	-	8.7	010	16.8
20	1018.4	20.8	17.6	15.4	12.6	73	54	-	7.6	060	25.6
21	1017.6	19.7	17.9	16.5	14.4	80	69	-	4.1	070	36.9
22	1014.3	17.8	17.3	16.8	15.8	91	94	1.5	-	070	32.8
23	1013.1	21.8	19.4	17.5	16.6	84	87	0.1	1.8	050	15.3
24	1014.3	21.8	19.7	18.8	17.7	88	86	1.0	1.2	060	18.6
25	1016.7	20.9	18.6	17.5	15.5	82	77	-	2.5	060	26.9
26	1017.1	21.1	19.2	17.7	16.1	83	88	Trace	3.4	070	26.5

Day	Hong Kong Observatory								King's Park	Waglan Island^	
	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)	Total Bright Sunshine (hours)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)							
27	1016.8	22.1	19.8	18.4	17.0	84	61	Trace	7.0	060	19.3
28	1016.3	19.9	18.8	18.1	16.4	86	89	Trace	-	080	32.7
29	1014.4	20.2	18.1	16.3	14.8	81	88	0.1	0.4	070	17.7
30	1017.5	20.0	16.0	13.2	9.1	64	58	-	7.0	360	26.1
31	1019.2	15.5	14.6	13.6	9.0	70	88	Trace	-	040	35.0

^ Information of wind direction and wind speed for Waglan Island are based on automatic weather station data since January 1989

Trace means rainfall less than 0.05 mm

Source: https://www.weather.gov.hk/wxinfo/pastwx/metob202201.htm

2022/02 Daily Extract of Meteorological Observations from HKO

Day	Hong Kong Observatory								King's Park	Waglan Island^	
	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)	Total Bright Sunshine (hours)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)							
1	1018.7	15.7	14.3	12.9	11.6	84	89	1.2	1.6	020	1
2	1018.7	17.0	15.6	14.5	13.7	88	98	1.0	9.5	040	2
3	1018.7	14.5	13.4	11.7	10.9	85	93	1.0	8.0	360	3
4	1021.4	18.5	14.4	11.9	8.6	69	65	-	8.7	360	4
5	1023.4	17.7	15.2	13.2	9.5	69	87	-	8.8	030	5
6	1022.0	18.2	16.0	14.6	11.5	75	87	-	8.1	070	6
7	1016.8	17.7	16.4	15.1	13.9	85	94	Trace	4.4	070	7
8	1018.6	18.1	17.1	15.8	13.1	78	88	Trace	9.5	050	8
9	1019.1	17.4	16.1	15.3	12.1	77	88	-	2.0	040	9
10	1017.7	18.1	17.0	15.4	13.8	81	90	-	3.8	030	10
11	1017.1	22.0	18.6	16.3	15.3	81	45	-	9.6	050	11
12	1016.0	21.3	18.7	17.0	15.8	83	80	-	1.4	040	12
13	1014.9	18.7	17.2	15.1	14.8	86	91	1.2	0.7	050	13
14	1017.3	21.3	17.0	14.1	12.2	75	59	1.2	0.1	010	14
15	1017.8	21.8	17.6	15.8	13.5	77	53	-	8.0	060	15
16	1016.0	18.5	16.9	15.6	12.8	77	74	-	4.7	080	16
17	1014.9	16.9	15.6	15.0	13.3	86	88	4.0	-	060	17
18	1015.4	16.7	15.9	15.2	13.3	84	88	Trace	1.1	070	18
19	1017.0	15.9	12.4	9.7	11.2	92	90	21.3	8.7	360	19
20	1020.8	9.8	8.5	8.0	7.7	94	97	43.4	7.6	010	20
21	1022.1	10.1	8.8	7.5	8.1	95	100	43.3	4.1	010	21
22	1022.0	12.2	10.7	9.2	10.1	96	100	39.9	-	360	22
23	1024.3	16.2	12.1	9.4	8.1	77	78	11.0	1.8	360	23
24	1026.2	14.9	12.6	10.7	7.6	72	60	-	1.2	010	24
25	1024.5	20.1	15.3	12.2	9.8	70	45	-	2.5	010	25
26	1021.9	21.4	16.8	13.6	12.4	76	23	-	3.4	040	26

Day	Hong Kong Observatory								King's Park	Waglan Island^	
	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)	Total Bright Sunshine (hours)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)							
27	1019.6	21.7	17.6	14.8	13.8	79	30	-	7.0	040	27
28	1018.6	22.5	18.9	16.4	13.3	70	71	-	-	040	28

^ Information of wind direction and wind speed for Waglan Island are based on automatic weather station data since January 1989

Trace means rainfall less than 0.05 mm

Source: https://www.weather.gov.hk/wxinfo/pastwx/metob202202.htm

Appendix 4-2

Graphical plots of the Monitoirng Result

Appendix 4-2 - Graphical plots of the Monitoring Result

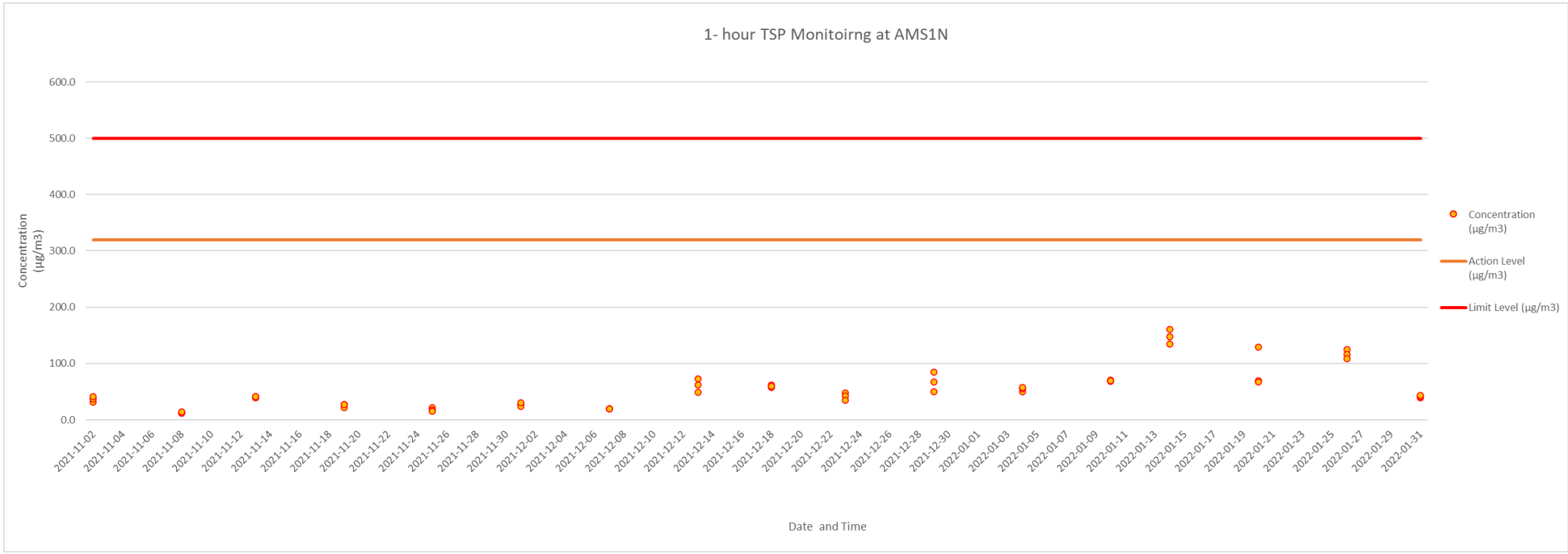
AMS1N – 1- hour and 24-hour TSP Monitoring

Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
1/12/2021	Fine	1st hr	08:25	27.0	27.0	08:25	27.0
		2nd hr	09:25	24.0			
		3rd hr	10:25	30.0			
7/12/2021	Fine	1st hr	08:32	20.0	19.3	08:32	19.0
		2nd hr	09:32	19.0			
		3rd hr	10:32	19.0			
13/12/2021	Fine	1st hr	08:30	73.0	61.3	08:30	61.0
		2nd hr	09:30	62.0			
		3rd hr	10:30	49.0			
18/12/2021	Cloudy	1st hr	08:00	57.0	59.7	08:00	60.0
		2nd hr	09:00	62.0			
		3rd hr	10:00	60.0			
23/12/2021	Fine	1st hr	08:24	48.0	41.7	08:24	42.0
		2nd hr	09:24	42.0			
		3rd hr	10:24	35.0			

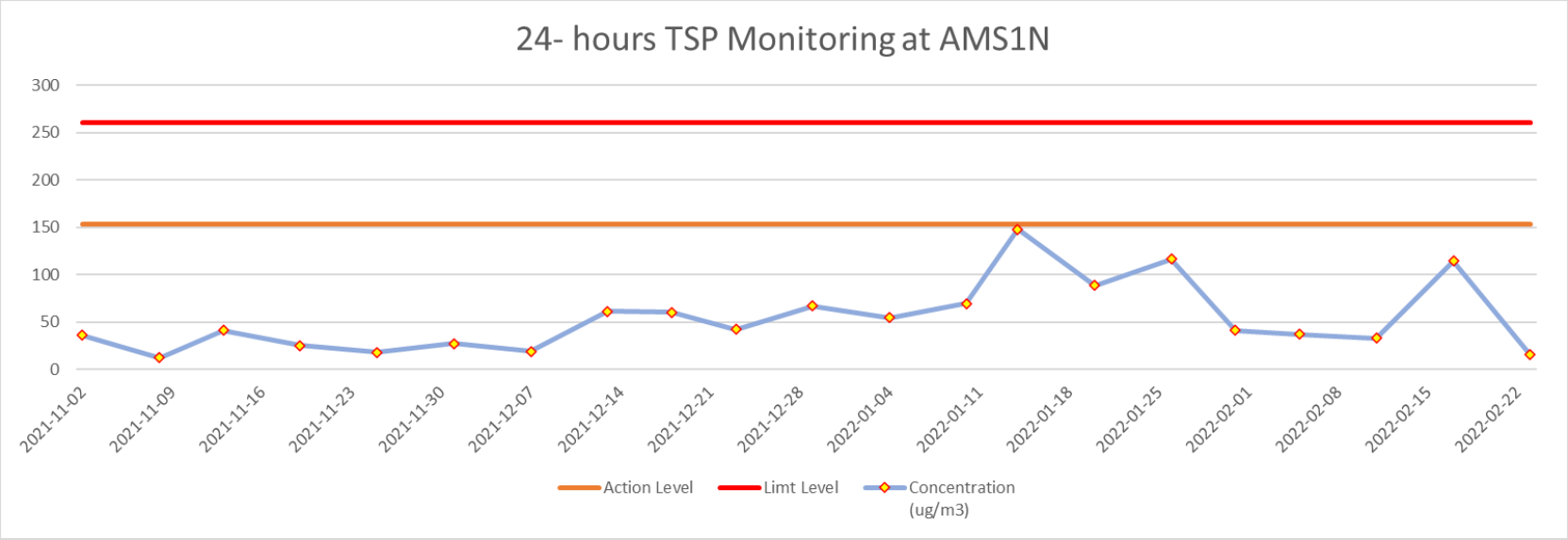
Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
29/12/2021	Cloudy	1st hr	08:25	85.0	67.3	08:25	67.0
		2nd hr	09:25	67.0			
		3rd hr	10:25	50.0			
4/1/2022	Fine	1st hr	08:29	50.0	54.3	08:29	54.0
		2nd hr	09:29	55.0			
		3rd hr	10:29	58.0			
10/1/2022	Fine	1st hr	13:06	71.0	69.3	13:06	69.0
		2nd hr	14:06	68.0			
		3rd hr	15:06	69.0			
14/1/2022	Cloudy	1st hr	08:20	135.0	147.7	08:20	148.0
		2nd hr	09:20	147.0			
		3rd hr	10:20	161.0			
20/1/2022	Fine	1st hr	08:24	129.0	88.3	08:24	89.0
		2nd hr	09:24	69.0			
		3rd hr	10:24	67.0			
26/1/2022	Cloudy	1st hr	08:30	125.0	116.3	08:30	116.0
		2nd hr	09:30	116.0			
		3rd hr	10:30	108.0			

Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
31/1/2022	Cloudy	1st hr	08:18	39.0	41.0	08:18	41.0
		2nd hr	09:18	41.0			
		3rd hr	10:18	43.0			
5/2/2022	Fine	1st hr	08:52	34.0	36.7	08:52	37.0
		2nd hr	09:52	38.0			
		3rd hr	10:52	38.0			
11/2/2022	Cloudy	1st hr	08:29	43.0	32.7	08:29	33.0
		2nd hr	09:29	29.0			
		3rd hr	10:29	26.0			
17/2/2022	Cloudy	1st hr	08:24	104.0	113.7	08:24	114.0
		2nd hr	09:24	113.0			
		3rd hr	10:24	124.0			
23/2/2022	Cloudy	1st hr	08:21	13.0	14.7	08:21	15.0
		2nd hr	09:21	17.0			
		3rd hr	10:21	14.0			
				Average :	61.9	Average :	62.0
				Action Level :	319	Action Level :	153
				Limit Level :	500	Limit Level :	260

AMS1N- 1 – hour TSP Monitoring



AMS1N- 24– hour TSP Monitoring



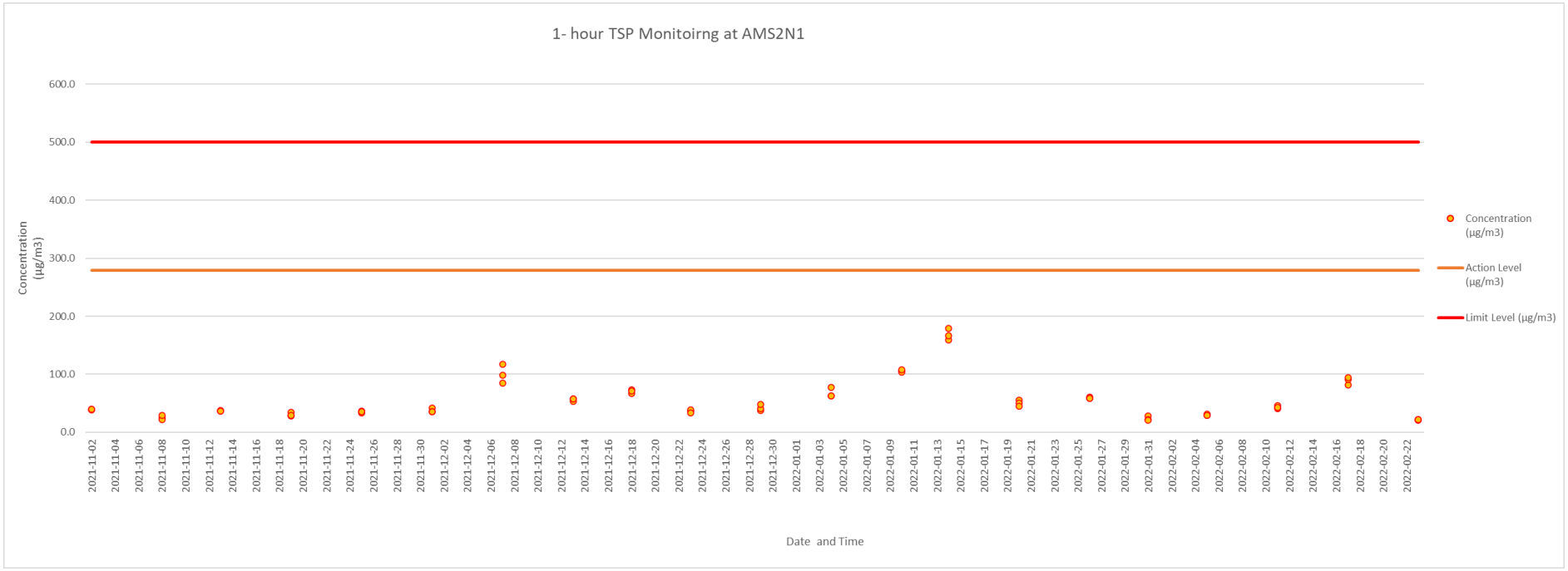
AMS2N1 – 1- hour and 24-hour TSP Monitoring

Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
1/12/2021	Fine	1st hr	13:00	42.0	37.3	13:00	37.0
		2nd hr	14:00	35.0			
		3rd hr	15:00	35.0			
7/12/2021	Fine	1st hr	13:00	85.0	100.0	13:00	100.0
		2nd hr	14:00	98.0			
		3rd hr	15:00	117.0			
13/12/2021	Fine	1st hr	13:00	53.0	55.7	13:00	56.0
		2nd hr	14:00	57.0			
		3rd hr	15:00	57.0			
18/12/2021	Cloudy	1st hr	08:13	73.0	70.3	08:13	70.0
		2nd hr	09:13	67.0			
		3rd hr	10:13	71.0			
23/12/2021	Fine	1st hr	13:00	37.0	36.3	13:00	37.0
		2nd hr	14:00	39.0			
		3rd hr	15:00	33.0			
29/12/2021	Cloudy	1st hr	13:00	38.0	42.3	13:00	42.0
		2nd hr	14:00	41.0			
		3rd hr	15:00	48.0			

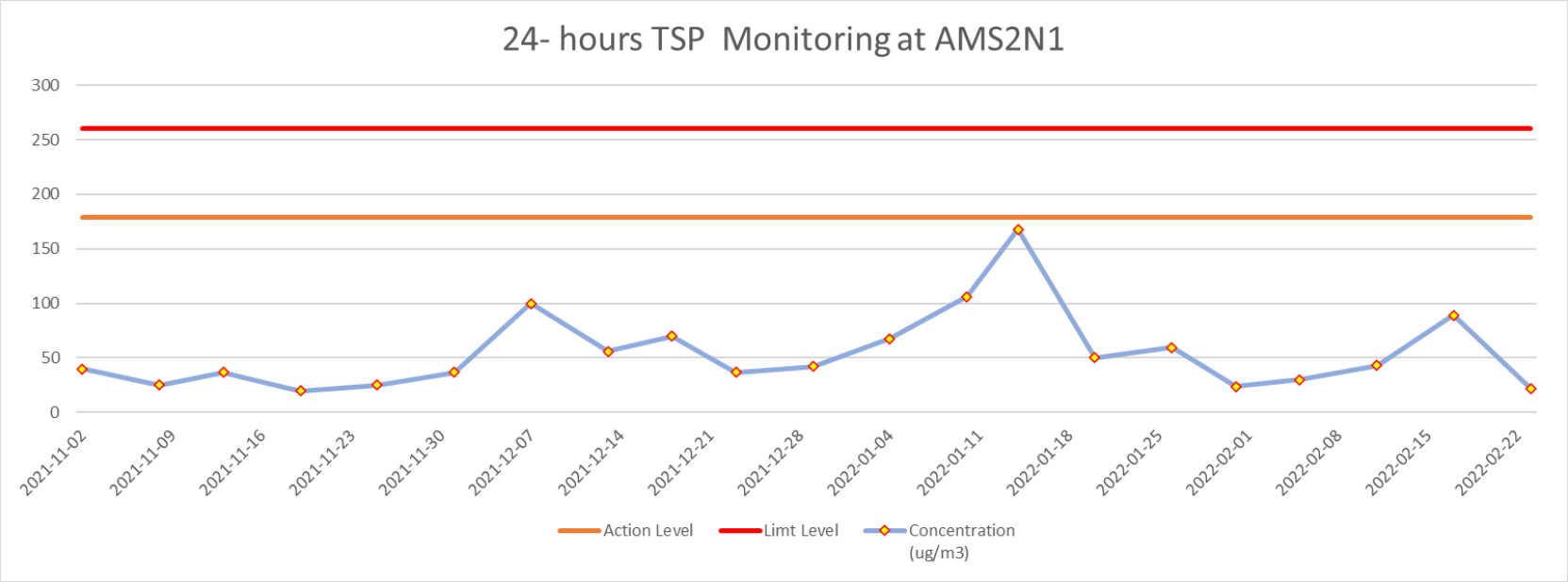
Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
4/1/2022	Fine	1st hr	13:00	63.0	67.7	13:00	68.0
		2nd hr	14:00	77.0			
		3rd hr	15:00	63.0			
10/1/2022	Fine	1st hr	09:49	106.0	106.0	09:49	106.0
		2nd hr	10:49	104.0			
		3rd hr	11:49	108.0			
14/1/2022	Cloudy	1st hr	13:00	159.0	168.0	13:00	168.0
		2nd hr	14:00	166.0			
		3rd hr	15:00	179.0			
20/1/2022	Fine	1st hr	13:00	55.0	50.0	13:00	50.0
		2nd hr	14:00	50.0			
		3rd hr	15:00	45.0			
26/1/2022	Cloudy	1st hr	13:00	61.0	59.7	13:00	60.0
		2nd hr	14:00	59.0			
		3rd hr	15:00	59.0			
31/1/2022	Cloudy	1st hr	08:20	28.0	23.7	08:20	24.0
		2nd hr	09:20	22.0			
		3rd hr	10:20	21.0			

Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
5/2/2022	Fine	1st hr	09:18	29.0	29.7	09:18	30.0
		2nd hr	10:18	31.0			
		3rd hr	11:18	29.0			
11/2/2022	Cloudy	1st hr	13:00	41.0	43.3	13:00	43.0
		2nd hr	14:00	46.0			
		3rd hr	15:00	43.0			
17/2/2022	Cloudy	1st hr	13:00	82.0	89.0	13:00	89.0
		2nd hr	14:00	91.0			
		3rd hr	15:00	94.0			
23/2/2022	Fine	1st hr	13:00	21.0	21.7	13:00	22.0
		2nd hr	14:00	22.0			
		3rd hr	15:00	22.0			
				Average :	62.5	Average :	62.6
				Action Level :	279	Action Level :	179
				Limit Level :	500	Limit Level :	260

AMS2N- 1 – hour TSP Monitoring



AMS2N1- 24 – hour TSP Monitoring



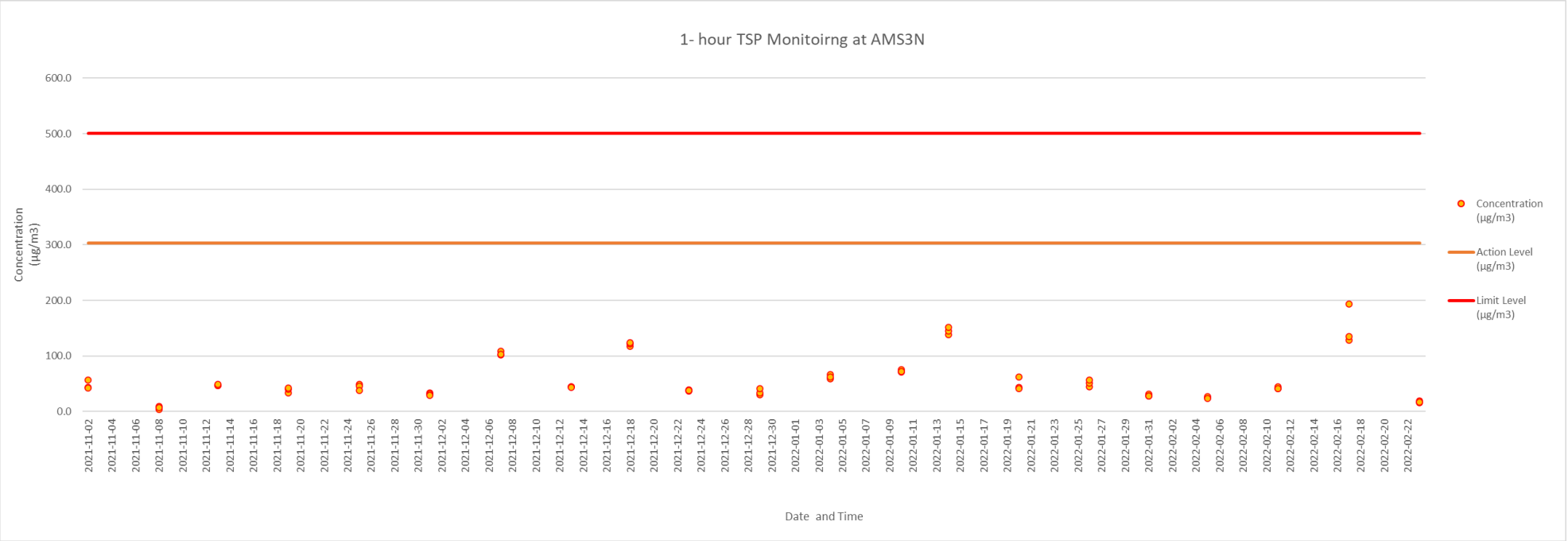
AMS3N – 1- hour and 24-hour TSP Monitoring

Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
1/12/2021	Fine	1st hr	13:06	34.0	31.3	13:06	31.0
		2nd hr	14:06	31.0			
		3rd hr	15:06	29.0			
7/12/2021	Fine	1st hr	08:37	102.0	104.3	08:37	105.0
		2nd hr	09:37	108.0			
		3rd hr	10:37	103.0			
13/12/2021	Fine	1st hr	13:08	44.0	43.7	13:08	44.0
		2nd hr	14:08	44.0			
		3rd hr	15:08	43.0			
18/12/2021	Cloudy	1st hr	08:19	117.0	121.0	08:19	121.0
		2nd hr	09:19	122.0			
		3rd hr	10:19	124.0			
23/12/2021	Fine	1st hr	08:31	39.0	38.0	08:31	38.0
		2nd hr	09:31	37.0			
		3rd hr	10:31	38.0			
29/12/2021	Cloudy	1st hr	13:03	30.0	35.0	13:03	35.0
		2nd hr	14:03	34.0			
		3rd hr	15:03	41.0			

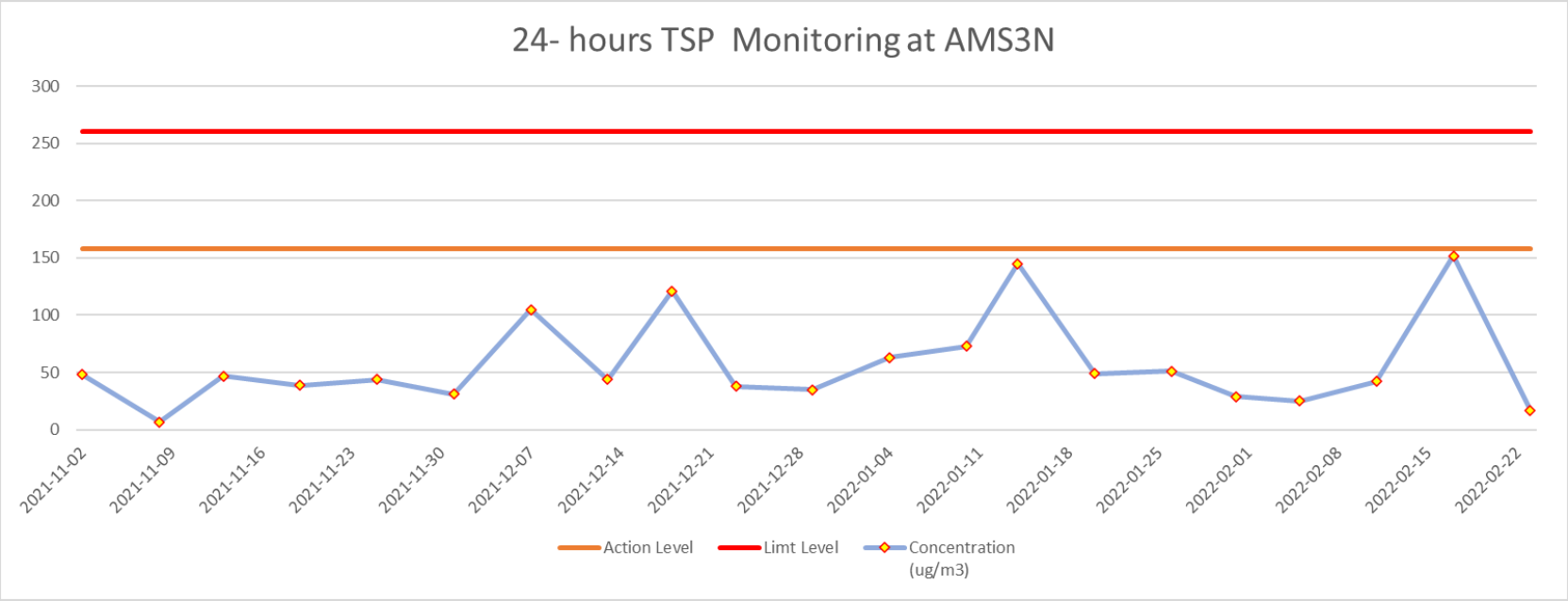
Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
4/1/2022	Fine	1st hr	13:03	67.0	62.7	13:03	63.0
		2nd hr	14:03	59.0			
		3rd hr	15:03	62.0			
10/1/2022	Fine	1st hr	09:13	71.0	72.7	09:13	73.0
		2nd hr	10:13	75.0			
		3rd hr	11:13	72.0			
14/1/2022	Cloudy	1st hr	13:05	138.0	144.7	13:05	145.0
		2nd hr	14:05	145.0			
		3rd hr	15:05	151.0			
20/1/2022	Fine	1st hr	08:40	62.0	48.7	08:40	49.0
		2nd hr	09:40	43.0			
		3rd hr	10:40	41.0			
26/1/2022	Cloudy	1st hr	13:04	45.0	51.0	13:04	51.0
		2nd hr	14:04	51.0			
		3rd hr	15:04	57.0			
31/1/2022	Cloudy	1st hr	08:25	31.0	29.0	08:25	29.0
		2nd hr	09:25	28.0			
		3rd hr	10:25	28.0			

Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
5/2/2022	Fine	1st hr	09:12	25.0	25.0	09:12	25.0
		2nd hr	10:12	27.0			
		3rd hr	11:12	23.0			
11/2/2022	Cloudy	1st hr	08:33	41.0	42.3	08:33	42.0
		2nd hr	09:33	45.0			
		3rd hr	10:33	41.0			
17/2/2022	Cloudy	1st hr	08:30	128.0	152.0	08:30	152.0
		2nd hr	09:30	135.0			
		3rd hr	10:30	193.0			
23/2/2022	Cloudy	1st hr	08:28	19.0	17.3	08:28	17.0
		2nd hr	09:28	16.0			
		3rd hr	10:28	17.0			
				Average :	63.7	Average :	63.8
				Action Level :	303	Action Level :	158
				Limit Level :	500	Limit Level :	260

AMS3N- 1 – hour TSP Monitoring



AMS3N – 24-hour TSP Monitoring



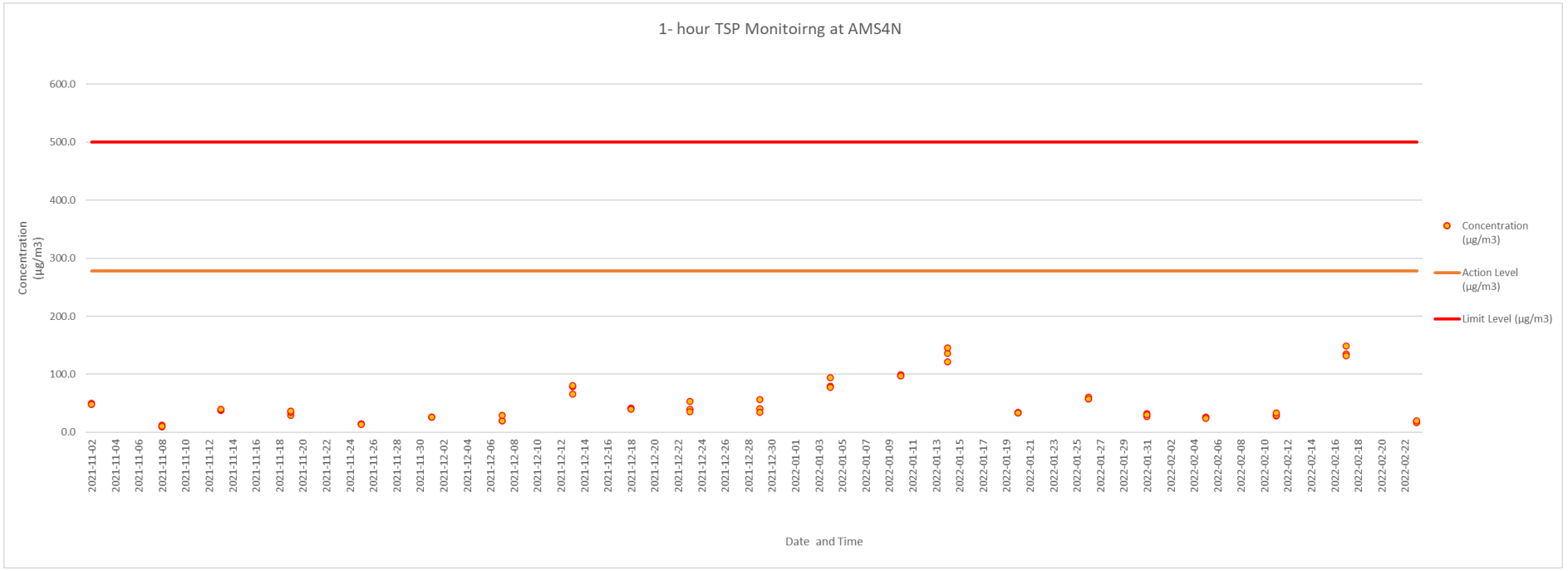
AMS4N — 1- hour and 24-hour TSP Monitoring

Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
1/12/2021	Fine	1st hr	08:29	26.0	26.0	08:29	26.0
		2nd hr	09:29	26.0			
		3rd hr	10:29	26.0			
7/12/2021	Fine	1st hr	13:04	20.0	23.0	13:04	23.0
		2nd hr	14:04	20.0			
		3rd hr	15:04	29.0			
13/12/2021	Fine	1st hr	08:25	78.0	75.0	08:25	75.0
		2nd hr	09:25	81.0			
		3rd hr	10:25	66.0			
18/12/2021	Cloudy	1st hr	08:05	42.0	41.0	08:05	41.0
		2nd hr	09:05	41.0			
		3rd hr	10:05	40.0			
23/12/2021	Fine	1st hr	13:06	40.0	42.7	13:06	43.0
		2nd hr	14:06	35.0			
		3rd hr	15:06	53.0			
29/12/2021	Cloudy	1st hr	08:28	56.0	43.7	08:28	44.0
		2nd hr	09:28	41.0			
		3rd hr	10:28	34.0			

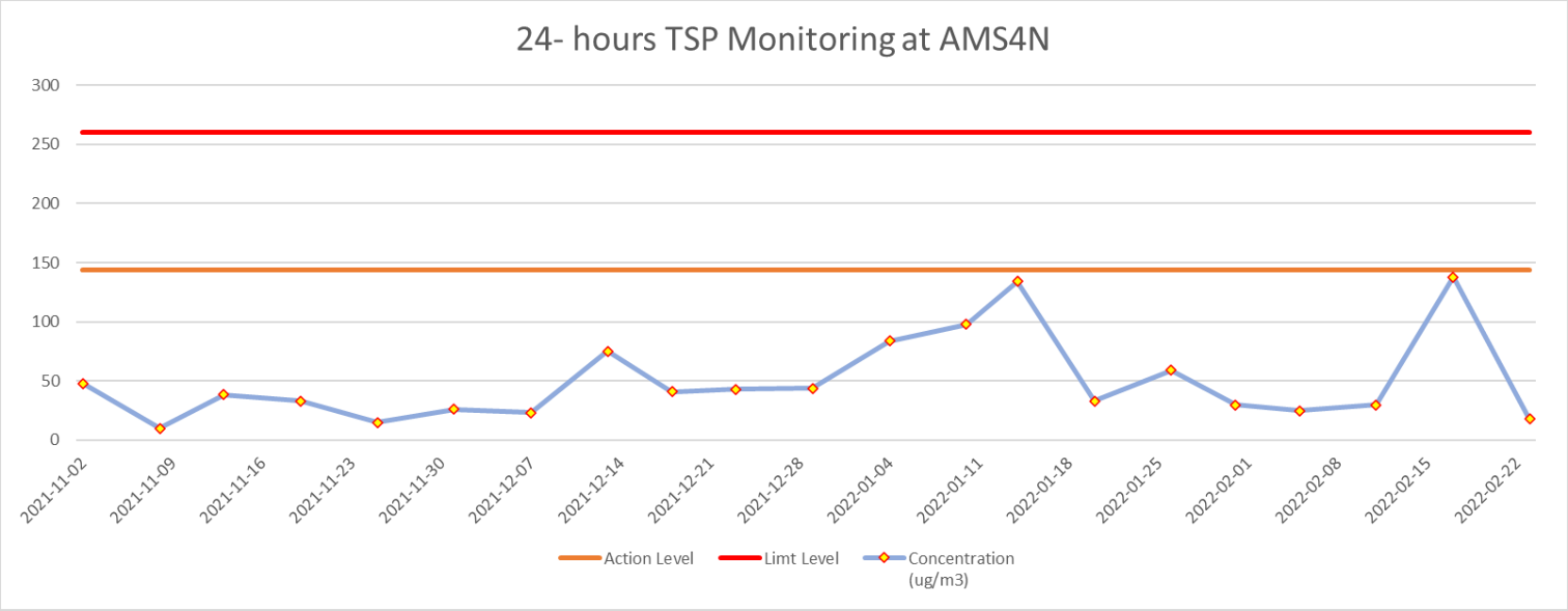
Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
4/1/2022	Fine	1st hr	08:36	94.0	83.7	08:36	84.0
		2nd hr	09:36	80.0			
		3rd hr	10:36	77.0			
10/1/2022	Fine	1st hr	13:46	97.0	97.7	13:46	98.0
		2nd hr	14:46	99.0			
		3rd hr	15:46	97.0			
14/1/2022	Cloudy	1st hr	08:30	121.0	134.0	08:30	134.0
		2nd hr	09:30	136.0			
		3rd hr	10:30	145.0			
20/1/2022	Fine	1st hr	13:00	34.0	33.3	13:00	33.0
		2nd hr	14:00	33.0			
		3rd hr	15:00	33.0			
26/1/2022	Cloudy	1st hr	08:24	57.0	58.7	08:24	59.0
		2nd hr	09:24	61.0			
		3rd hr	10:24	58.0			
31/1/2022	Cloudy	1st hr	08:23	32.0	29.7	08:23	30.0
		2nd hr	09:23	27.0			
		3rd hr	10:23	30.0			

Date	Weather	1-hour TSP Monitoring				24-hour TSP Monitoring	
			Start Time	Concentration ($\mu g/m^3$)	Average Concentration ($\mu g/m^3$)	Start Time	Concentration ($\mu g/m^3$)
5/2/2022	Fine	1st hr	09:00	26.0	25.3	09:00	25.0
		2nd hr	10:00	26.0			
		3rd hr	11:00	24.0			
11/2/2022	Cloudy	1st hr	13:03	28.0	30.0	13:03	30.0
		2nd hr	14:03	29.0			
		3rd hr	15:03	33.0			
17/2/2022	Cloudy	1st hr	13:03	149.0	138.7	13:03	138.0
		2nd hr	14:03	135.0			
		3rd hr	15:03	132.0			
23/2/2022	Fine	1st hr	13:05	19.0	18.7	13:05	18.0
		2nd hr	14:05	17.0			
		3rd hr	15:05	20.0			
				Average :	56.3	Average :	56.3
				Action Level :	278	Action Level :	144
				Limit Level :	500	Limit Level :	260

AMS4N- 1 – hour TSP Monitoring



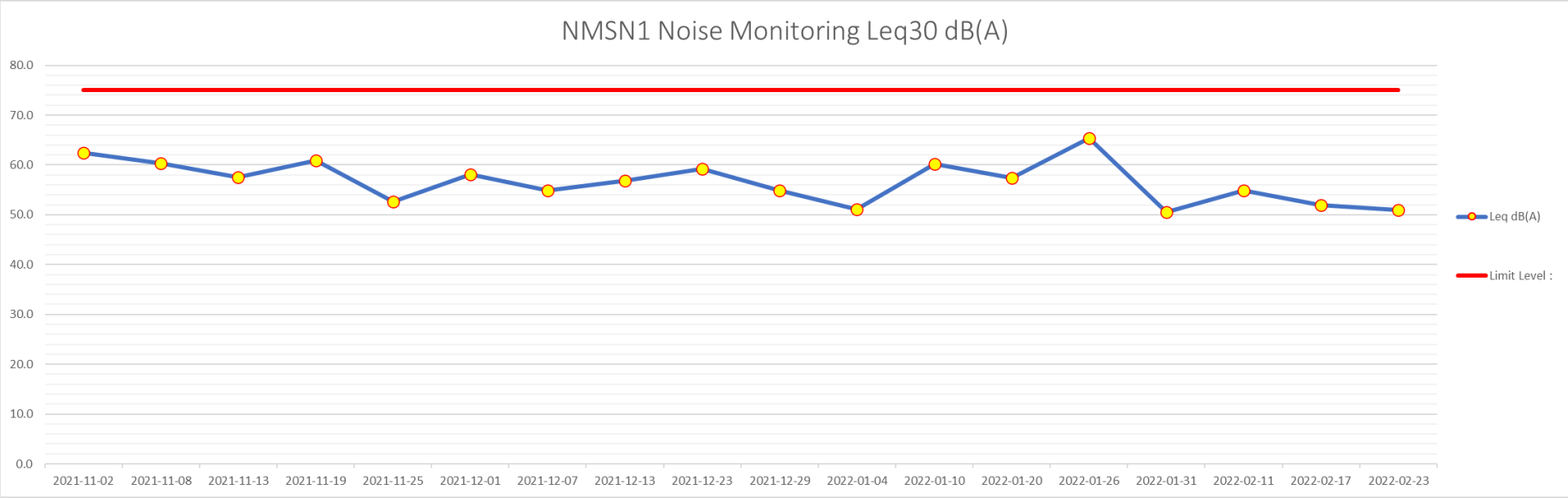
AMS4N- 24 – hour TSP Monitoring



NMS1N – Leq30 Noise monitoring

Start Date & Time	Leq dB(A)	L10 dB(A)	L90 dB(A)	Limit Level :
2021-12-01	58.1	60.5	52.3	75
2021-12-07	54.9	59.7	41.3	75
2021-12-13	56.8	60.9	46.0	75
2021-12-23	59.2	62.6	46.8	75
2021-12-29	54.9	57.9	42.8	75
2022-01-04	51.2	55.2	41.9	75
2022-01-10	60.3	61.6	53.8	75
2022-01-20	57.4	61.1	43.0	75
2022-01-26	65.4	69.1	51.6	75
2022-01-31	50.6	57.4	40.8	75
2022-02-11	54.8	58.6	42.2	75
2022-02-17	52.0	55.9	45.5	75
2022-02-23	51.0	53.5	46.0	75
Average :	58.1			
Action Level :	When one valid documented complaint is received			
Limit Level :	75.0 dB(A)			

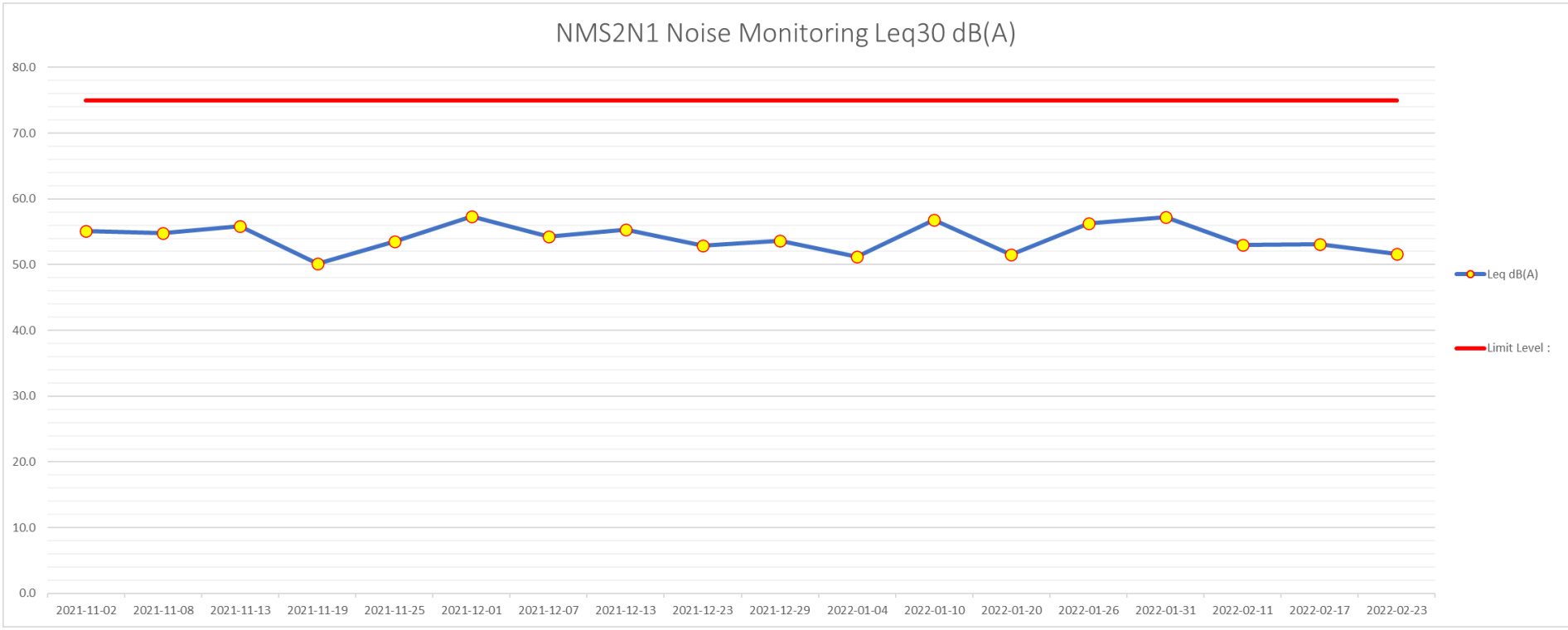
NMS1N – Leq30 Noise monitoring



NMS2N1 – Leq30 Noise monitoring

Start Date & Time	Leq dB(A)	L10 dB(A)	L90 dB(A)	Limit Level :
2021-12-01	57.4	60.6	49.5	75
2021-12-07	54.3	57.9	47.1	75
2021-12-13	55.4	58.2	47.5	75
2021-12-23	52.9	56.5	47.7	75
2021-12-29	53.7	56.8	47.4	75
2022-01-04	51.2	54.6	46.6	75
2022-01-10	56.8	60.3	45.6	75
2022-01-20	51.6	55.2	47.0	75
2022-01-26	56.3	58.8	50.3	75
2022-01-31	57.2	60.4	49.3	75
2022-02-11	53.0	58.9	47.3	75
2022-02-17	53.1	56.9	47.7	75
2022-02-23	51.6	53.2	43.0	75
Average :	54.7			
Action Level :	When one valid documented complaint is received			
Limit Level :	75.0 dB(A)			

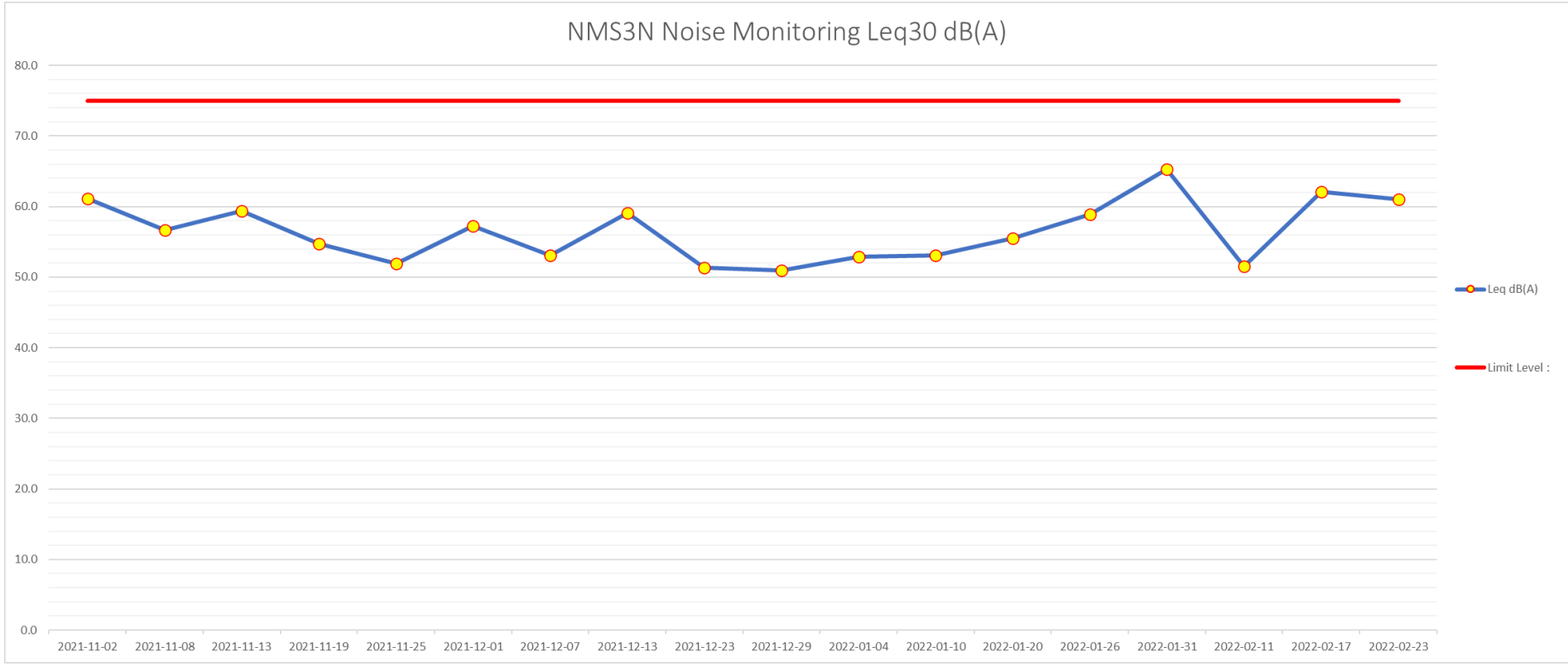
NMS2N1 – Leq30 Noise monitoring



NMS3N – Leq30 Noise monitoring

Start Date & Time	Leq dB(A)	L10 dB(A)	L90 dB(A)	Limit Level :
2021-12-01	57.3	59.6	54.1	75
2021-12-07	53.1	55.1	50.3	75
2021-12-13	59.1	61.9	54.6	75
2021-12-23	51.3	53.4	48.2	75
2021-12-29	50.9	53.7	46.8	75
2022-01-04	52.9	55.9	49.7	75
2022-01-10	53.1	55.2	49.5	75
2022-01-20	55.5	58.0	51.7	75
2022-01-26	58.9	61.8	54.1	75
2022-01-31	65.3	68.2	60.7	75
2022-02-11	51.6	54.6	47.6	75
2022-02-17	62.1	65.5	59.6	75
2022-02-23	61.1	62.7	57.6	75
Average :	58.8			
Action Level :	When one valid documented complaint is received			
Limit Level :	75.0 dB(A)			

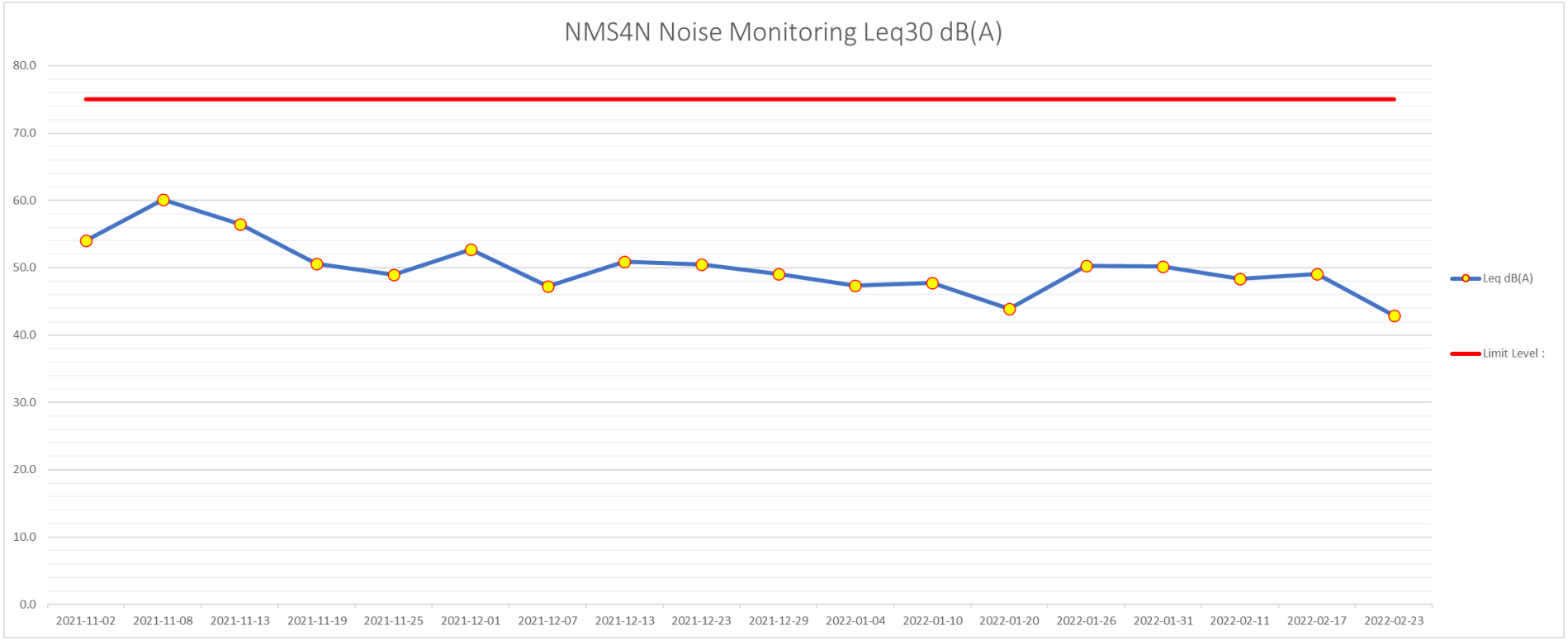
NMS3N – Leq30 Noise monitoring



NMS4N – Leq30 Noise monitoring

Start Date & Time	Leq dB(A)	L10 dB(A)	L90 dB(A)	Limit Level :
2021-12-01	52.8	54.5	49.2	75
2021-12-07	47.3	49.4	40.5	75
2021-12-13	50.9	52.6	46.0	75
2021-12-23	50.5	53.7	42.1	75
2021-12-29	49.1	51.3	41.4	75
2022-01-04	47.3	50.2	41.1	75
2022-01-10	47.7	50.6	40.4	75
2022-01-20	44.0	46.2	37.8	75
2022-01-26	50.3	53.8	39.9	75
2022-01-31	50.2	56.2	42.6	75
2022-02-11	48.4	50.5	41.9	75
2022-02-17	49.1	52.8	42.0	75
2022-02-23	42.9	46.9	41.9	75
Average :	49.2			
Action Level :	When one valid documented complaint is received			
Limit Level :	75.0 dB(A)			

NMS4N – Leq30 Noise monitoring



Appendix 5-1

Summary of Waste Flow Table

Appendix 5-1 Monthly summary Waste Flow Table

Monthly Summary Waste Flow Table for 2021 (year)

Name of Department: DSD
Contract No. DC 2019/09 Port Shelter Phase 3, Po Toi O Sewage Treatment Plant

Month		Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see notes 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan											
Feb											
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
June	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
July	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	0.013	0.000	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000
Sep	0.065	0.000	0.000	0.000	0.065	0.000	0.000	0.000	0.000	0.000	0.000
Oct	0.053	0.000	0.000	0.000	0.053	0.000	0.000	0.000	0.000	0.000	0.000
Nov	0.284	0.000	0.000	0.000	0.284	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dec	0.516	0.000	0.000	0.000	0.516	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.931	0.000	0.000	0.000	0.931	0.000	0.000	0.000	0.000	0.000	0.000

Monthly Summary Waste Flow Table for 2022 (year)

Name of Department: DSD
Contract No. DC 2019/09 Port Shelter Phase 3, Po Toi O Sewage Treatment Plant

Month		Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see notes 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	0.142	0.000	0.000	0.000	0.142	0.000	0.000	0.000	0.000	0.000	0.000
Feb	0.100	0.000	0.000	0.000	0.100	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
June	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-Total	0.242	0.000	0.000	0.000	0.242	0.000	0.000	0.000	0.000	0.000	0.000
July	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.242	0.000	0.000	0.000	0.242	0.000	0.000	0.000	0.000	0.000	0.000

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

Appendix 6-1

Cumulative Statistics on Complaints, Notifications of Summons

Appendix 6-1 Cumulative Statistics on Complaints, Notifications of Summons, Successful Prosecutions and Public Engagement Activities

Environmental Complaints Log

Complaint Log No.	Date of Complaint	Received From	Received By	Nature of Environmental Complaint	Relevant to the Construction Work of Project Site? (Y/N)	Investigation/ Mitigation Action	Status
001	28 December 2021	EPD	ET	Waste Management	N	The investigation report was submitted on 7 January 2022	Closed

Remark:

** No Notifications of Summons or Successful Prosecutions was received in the reporting period.*

Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions and Public Engagement Activities

Reporting Period	Complaints	Notifications of Summons and Prosecutions	Public Engagement Activities
2021/12	1	0	0
2022/01	0	0	0
2022/02	0	0	0
Cumulative Project-to-Date	1	0	0