Our ref: 15-7-2024

15-7-2024 By hand

Environmental Protection Department

Environmental Assessment Division

Metro Assessment Group

Kowloon Section (2)

27th floor, Southorn Centre,

130 Hennessy Road,

Wan Chai, Hong Kong

(Attn: Mr. TANG Ho Him, Matthew)

Dear Mr. TANG,

Contract No. EDO 15/2018

Environmental Monitoring Works for Contract No. ED/2018/01 – Kai Tak Development – Stage 4 infrastructure at the Former Runway and South Apron

Submission of Monthly EM&A Report for June 2024

We refer to the Environment Permit (EP) No. EP-337/2009 and EP-445/2013/B for the captioned project.

Pursuant to Condition 3.3 of the EP-337/2009 and Condition of the 3.2 of the EP-445/2013/A, please find enclosed four hard copies and one electronic copy of Monthly EM&A Report, which has been verified by the IEC for your reference.

Thank you very much for your attention and please feel free to contact Mr. Lee at 9382 4204 should you require further information.

Yours faithfully,

For and on behalf of

Ka Shing Management Consultant Limited

AKCL

Applied Knowledge Center Limited

Company Secretary

Encl. Monthly EM&A report in June 2024

Ref.: CEDKTDS4EM00_0_0365L.24

12 July 2024

AECOM Asia Company Limited
12/F, Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin, Hong Kong

By Post and Email

Attention: Ms. Fanny Lau

Dear Madam,

Re: Contract No. ED/2018/01 – Kai Tak Development
Stage 4 Infrastructure at the Former Runway and South Apron

Monthly EM&A Report for June 2024

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for June 2024 (Version 1.1) certified by the ET Leader and provided to us via email on 12 July 2024.

Please be advised that we have no further comment on the captioned Monthly EM&A Report in accordance with Condition 3.3 of EP-337/2009 and Condition 3.2 of EP-445/2013/B.

Thank you for your attention. Please do not hesitate to contact the undersigned should you have any queries.

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

Y H Hui
Independent Environmental Checker

c.c.	CEDD	Attn.: Mr. Jason Wong	Fax: 2739 0076
	Ka Shing	Attn.: Mr. Chan Pang	By Email
	Penta-Ocean	Attn.: Mr. Daniel Ho	Fax: 2572 4080

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Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

Environmental Monitoring and Audit Report

for

Contract No. ED/2018/01 –

Kai Tak Development – Stage 4 infrastructure at the former runway and south apron

Contract No.: EDO 15/2018

June 2024

(Version 1.1)

Certified By:_____

(Environmental Team Leader)

Table of Content Page

List of Tables

List of Figure

List of Appendices

EXECUTIVE SUMMARY

This is the 54th Monthly Environmental Monitoring & Audit (EM&A) report which summaries the findings of the EM&A Programme during the reporting period from 1 to 30 June 2024.

Breaches of Action and Limit Levels

1) 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

2) 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

3) Construction noise monitoring was conducted as scheduled in the reporting month. No Action Level and Limit Level exceedance was recorded in the reporting month.

4) Summary of the non-compliance in the reporting month for the Project is tabulated in Table I.

Table I Non-compliance Record in the Reporting Month

Parameter	No. of Exceedance		Action Taken
	Action Level	Limit Level	
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Construction noise	0	0	N/A

Complaint log

5) No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table II.

Table II Summary of complaints in the Reporting Month

Date of complaint received	Description of complaint	Investigation / Recommendations / Action taken	Close-out date / Status
NA	NA	NA	NA

Date of complaint received	Description of complaint	Investigation / Recommendations / Action taken	Close-out date / Status

Notifications of summons and successful prosecutions

6) No notification of summons and successful prosecutions was received in the reporting month. Summary of summons and successful prosecutions in the reporting month is tabulated in Table III.

Table III Summary of summons and successful prosecutions in the Reporting Month

Date of receiving notification of summons or prosecutions	Date of event	Description of event	Action take	Close-out date / Status
No notification of summons and successful prosecutions were received in the reporting month.	NA	NA	NA	NA

Report changes

7) There was no reporting change in the reporting month.

Key construction works in the reporting month

8) Major construction activities undertake during the reporting month included:
   - Installation of steel roof structure at Observation Deck
   - Granolithic finishing works of Harbour Steps
   - Construction of thrust block, wash-out chamber, manhole for drainage works & draw pit for cable works.
   - Construction of concrete structure of Floating Stage
   - Remedial works in Cell B of DCS Intake Box Culvert
   - Installation of internal partition of Temporary Management Office
   - Installation of internal partition of Toilet cum and Changing Room
   - Installation of drainage near Pumping Stations
   - Finishing work in Pumping Stations
   - Construction of U-channel and footing of Rain Shelter and Feature Shelter at Elevated Landscape Deck

Future key issues

9) The future key issues and potential impact in the coming month are given in Table IV.

Table IV Summary of future key issues and potential impact in the coming month

Future key issues in the coming month	Potential impact
Diversion of DCS Intake Box Culvert (For example, Cell 2)	Noise and Air Quality, Chemical and Waste Management
Granolithic finishing works of Harbour Steps	Noise, Air and Water Quality
Construction of Underground Utilities (For example, watermains, storm drain, sewage pipe, cable duct etc.)	Noise and Air Quality, Chemical and Waste Management
Road works and utilities works at Road D3 (Metro Park Section) and Road L12d	Noise and Air Quality, Chemical and Waste Management
Diversion of DCS Intake Box Culvert (For example, Cell 2)	Noise and Air Quality, Chemical and Waste Management
Installation of lift cart and E&M works of Lift LT-1 & LT-2	Noise, Air and Water Quality
Rising Main laying works	Noise and Air Quality, Chemical and Waste Management
Finishing works of Pumping Stations	Noise and Air Quality, Chemical and Waste Management
E&M installation of Pumping Stations	Noise and Air Quality, Chemical and Waste Management
Installation of steel roof of Observation Deck, and Toilet cum and Changing Room	Noise, Air and Water Quality

1. INTRODUCTION

Project Background

1.1 The Kai Tak Development (KTD) is located in the south-eastern part of Kowloon Peninsula of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling.

1.2 Contract No. ED/2018/01 - Kai Tak Development – stage 4 infrastructure at the former runway and south apron (The Project), comprises mainly the design and construction of a dual two- lane Road D3 (Metro Park Section), a single 2-lane Road L12d, a salt water pumping station, a sewage pumping station, landscaped deck and promenade above and adjoining Road D3 (Metro Park Section) respectively, some remaining road works at Road L14, noise barrier at Road D3A, and other associated works at the former runway and south apron. The proposed works are shown in Figure 1 and Figure 2. During the course of the Contract No. ED/2018/01, there may be modification of noise barriers in association with the construction of footbridges connecting to the landscaped deck of Road D3A by developers of adjacent lands (Figure 3). The proposed works and site boundary are shown in Figure 4.

1.3 The new road connecting Shing Fung Road & Shing Kai Road has been open for public vehicles since 31 December 2022. Detailed location referring to Figure 5.

1.4 Civil Engineering and Development Department (CEDD) had completed an Environmental Impact Assessment (EIA) and is the Permit Holder.

1.5 The construction work under ED/2018/01 comprises the EM&A Manuals (EIA Register Nos. AEIAR-130/2009 for Kai Tak Development and EIA Register Nos. AEIAR-170/2013 for Roads D3A and D4A) and Environmental Permit (EP) Nos. EP-337/2009 and Variation to the EP (VEP) No. EP-445/2013/B.

1.6 Air quality and noise monitoring has been proposed in the EM&A Manual with EIA Register Nos. AEIAR-130/2009 for Kai Tak Development while no air quality and noise monitoring are proposed in EM&A Manual with EIA Register Nos. AEIAR-170/2013 for Roads D3A and D4A.

Project Organization

1.7 The project organization chart and with respect to the EM&A programme is shown in Appendix A. Information of key personnel contact names and telephone numbers are summarized in Table 1.1.

Table 1.1 Contact Information of Key Personnel

Party	Role	Contact Person	Position	Phone No.	Fax No.
Civil Engineering and Development Department (CEDD)	Project Proponent	Mr. Jason Wong	Senior Engineer	3579 2453	2739 0076
		Ms. Chan Ka Yan	Engineer	3579 2458	2739 0076
AECOM Asia Co. Ltd. (AECOM)	Supervisor (act as Engineers' Representative (ER) listed in EM&A Manual)	Ms. Fanny Lau	CRE	3911 4201	3911 4288
Ramboll Hong Kong Limited (Ramboll)	Independent Environmental Checker (IEC)	Mr. Y H Hui	IEC	3465 2850	3465 2899
Ka Shing Management Consultant Limited (Ka Shing)	Environmental Team (ET)	Mr. Chan Pang	ET Leader	6082 2973	2120 7752
Penta-Ocean Construction Co., Ltd. (Penta-Ocean)	Contractor	Mr. Tony Tang	Environmental Officer	9433 2628	3465 8898

Works Area and Construction Programme

1.8 The construction works commenced on 20 January 2020.The construction programme of the Project is given in Appendix B.

Construction works undertaken during reporting month

1.9 Major construction works of the Project in the reporting month are summarized in Table 1.2:

Table 1.2 Major activities of the Project during reporting month

Installation of steel roof structure at Observation Deck	Granolithic finishing works of Harbour Steps
Construction of thrust block, wash-out chamber, manhole for drainage works & draw pit for cable works	Construction of concrete structure of Floating Stage
Remedial works in Cell B of DCS Intake Box Culvert	Installation of internal partition of Temporary Management Office
Installation of internal partition of Toilet cum and Changing Room	Installation of drainage near Pumping Stations
Finishing work in Pumping Stations	Construction of U-channel and footing of Rain Shelter and Feature Shelter at Elevated Landscape Deck

Submission Status under the Environmental Permits

1.10 The status of required submission under Environmental Permit (EP) conditions under EP-337/2009 and Variation to the EP (VEP) No. EP-445/2013/B are summarized in Table 1.3.

Table 1.3 Summary of Status of Required Submission of EPs

EP Condition EP-337/2009	EP Condition EP-445/2013/B	Submission	Submission Date
Condition 1.11	Condition 1.12	Notification of Commencement Date of Construction of the Project	6 Jan 2020
Condition 2.3	Condition 2.3	Management Organization of Main Construction Companies	9 Sep 2019
Condition 2.3	Condition 2.3	Updated Management Organization of Main Construction Companies	17 Aug 2021
Condition 2.4	Condition 2.4	Design Drawings	6 Jan 2020
Condition 2.11	Condition 2.5	Landscape Mitigation Plans	13 Nov 2020
Condition 2.1	Condition 2.5	Landscape Mitigation Plans (Revision 2)	18 May 2021
NA	Condition 2.9	Detailed Design Plan of Traffic Noise Mitigation Measures	9 Dec 2022
Condition 3.2	NA	Baseline Monitoring Report	2 Jan 2020
Condition 3.2	NA	Revised Baseline Monitoring Report	28 Mar 2020
Condition 3.3	Condition 3.2	Monthly EM&A Report (May 2024)	14 June 2024

2. AIR QUALITY MONITORING

Monitoring Requirements

2.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009), impact air quality monitoring shall be carried out during the construction phase of the Project. For regular impact monitoring, a sampling frequency of at least once in every six says will be strictly observed at all of the monitoring stations for 24-hour TSP. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days will be undertaken when the highest dust impact occurs.

Monitoring Locations

2.2 Three designated monitoring stations were selected for air quality monitoring programme. Impact air quality monitoring was conducted at three air quality monitoring stations in the reporting month. Table 2.1 describes the air quality monitoring locations, which are also depicted in Figure 6.

Table 2.1 Locations of Air Quality Monitoring Stations

Air Quality Monitoring Locations for the Project	Location of Measurement
AM3 - Sky Tower	Podium floor near T7
AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop	Ground
AM7 – Hong Kong Children's Hospital	Rooftop

2.3 Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A) while 1-hr TSP monitoring at AM4(A) were conducted on the ground floor with orienting to the Project site.

2.4 ET approached the potential sensitive receivers for monitoring station relocation since May 2022. ET conducted site visit in nearby area and found that there was no property management company in most of the nearby premises and could not approach the residents regarding the environmental monitoring. No permission can be applied for environmental monitoring.

2.5 For those premises have property management company, ET sent the proposal to owner /

property management company and explained the purpose of environmental monitoring (refer to Appendix C – Apply permission for Environmental Monitoring). Figure 7 shows the proposed alternative monitoring locations. No permission of setup and entry is received until the reporting month.

2.6 Summary of the status of for proposed alternative monitoring locations for AM4(A) are given in Table 2.2.

Table 2.2 Proposed alternative monitoring locations for AM4(A)

Proposed alternative monitoring locations for M11	Status upto reporting month
A1 - The Lok Sin Tong Modular Social Housing Scheme	Rejected application on 13 Oct 2022
A2 - Freder Centre	No reply from building management office
A3 - New Port Centre	No reply from building management office
A4 - 112 - 138 To Kwa Wan Road	No property management company and could not apply the permission.
A5 - 2 - 26 Hok Ling Street	No property management company and could not apply the permission.
A6 - 1 - 27 Hok Ling Street	No property management company and could not apply the permission.
A7 - 2 - 28 Tsun Fat Street	No property management company and could not apply the permission.
A8 - 1 - 27 Tsun Fat Street	No property management company and could not apply the permission.
A9 – 2 - 28 Yin On Street	No property management company and could not apply the permission.
A10 – 1 – 27 Yin On Street	No property management company and could not apply the permission.
A11 – 2 – 28 Shim Luen Street	No property management company and could not apply the permission.
A12 - 1 - 27 Shim Luen Street	No property management company and could not apply the permission.
A13 - 2 - 28 Hung Wan Street	No property management company and could not apply the permission.
A14 - 1 - 27 Hung Wan Street	No property management company and could not apply the permission.
A15 - 2 - 28 Pang Ching Street	No property management company and could not apply the permission.
A16 - 1 - 27 Pang Ching Street	No property management company and could not apply the permission.
A17 - 2 - 28 Ying Yeung Street	No property management company and could not apply the permission.
A18 - 1 - 27 Ying Yeung Street	No property management company and could not apply the permission.
A19 - 2 - 28 Lun Cheung Street	No property management company and could not apply the permission.
A20 - 1 - 27 Lun Cheung Street	No property management company and could

Proposed alternative monitoring locations for M11	Status upto reporting month
	not apply the permission.
A21 - 2 - 28 Luk Ming Street	No property management company and could not apply the permission.
A22 - 1 - 27 Luk Ming Street	No property management company and could not apply the permission.
A23 - 2 - 28 Fung Yi Street	No property management company and could not apply the permission.

2.7 No update for the approval of monitoring relocation in the reporting month and ET will resume the impact monitoring once the alternative monitoring location for AM4(A) are confirmed.

Monitoring Parameters, Frequency and Duration

2.8 The air quality monitoring locations and monitoring frequency are listed in Table 2.3.

Table 2.3 Air Quality Monitoring Parameters, Frequency and Duration

Air Monitoring Station	Location for Measurement	Parameter	Duration	Frequency
AM3 - Sky Tower	Podium floor near T7	- 24-hour average TSP - 1-hour average TSP	- 24 hours - 1 hour	- Once every 6 days - Three times every 6 days
AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop	Ground			
AM7 - Hong Kong Children's Hospital	Rooftop			

2.9 The monitoring schedule for reporting month and next month is presented in Appendix D

2.10 Photographic records of the impact monitoring setup are shown in Appendix E.

Monitoring Equipment

2.11 24-hour average TSP and 1-hour average TSP levels were measured for impact monitoring. 24-hour average TSP levels were measured by the High Volume Samplers (HVS) and 1-hour average TSP levels were measured by direct reading method to indicate short-term impacts. Wind data monitoring equipment was set up at conspicuous locations for logging wind speed

and wind direction near to the dust monitoring locations. Table 2.4 summarizes the equipment to be used in the air quality monitoring.

Table 2.4 Air Quality Monitoring Equipment

Equipment	Model	Quantity
HVS Sampler	TE-5170 X c/w of TSP sampling inlet	2
Calibrator	TISCH TE-5025A	1
1-hour TSP Dust Meter	TSI Model AM510 SidePak Personal Aerosol Monitor	2
Wind Anemometer	Davis Vantage Pro2 Weather Station	1

2.12 High volume samplers (HVS) (TE-5170 X c/w of TSP sampling inlet) comprising with appropriate sampling inlets were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

2.13 Calibration certificates, catalogue of equipment are given in Appendix F.

Monitoring Methodology and QA/QC Procedure

24-hour TSP Monitoring

Operating/Analytical Procedures

2.14 Setup criteria of HVS are shown as follows:

- A horizontal platform with appropriate support to secure the samplers against gusty wind was provided.
- No two samplers were placed less than 2m apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2m of separation from walls, parapets and penthouses was set for the rooftop samples.
- A minimum of 2m separation from any supporting structure, measured horizontally was set.
- No furnaces or incineration flues was nearby.
- Airflow around the sampler was unrestricted.
- Any wire fence and gate, to protect the samplers, was not caused any obstruction during

monitoring.

- Permission were obtained to setup the samplers and to obtain access to the monitoring stations.
- A secured supply of electricity was provided to operate the samplers.

2.15 Prior to the commencement of the dust sampling, the flow rate of the HVS was properly set (between 1.1 m^3/min. and 1.7 m^3/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

2.16 For TSP sampling, Glass Fiber Filter Media 8" x 10" have a collection efficiency of > 99 % for particles of 0.3 μm diameter were used.

2.17 The power supply was checked to ensure the sampler worked properly and then placed any filter media at the designated air monitoring station.

2.18 The filter holding frame was removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.

2.19 The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure was sufficient to avoid air leakage at the edges.

2.20 The shelter lid was closed and secured with the aluminium strip.

2.21 The timer was programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).

2.22 After sampling, the filter was removed from the HVS and put into a clean and labeled seal plastic bag to avoid cross contamination. The elapsed time was also be recorded. The sampled filters were sent to the HOKLAS accredited or other internationally accredited laboratory for weighting.

Maintenance/Calibration

2.23 The following maintenance/calibration are required for the HVS:

- The HVS and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- High volume samplers were calibrated with at bi-monthly intervals using TE-5025A Calibration Kit throughout all stages of the air quality monitoring.

1-hour TSP Monitoring

Measurement Procedures

2.24 The measurement procedures of the 1-hour TSP were conducted in accordance with the Manufacturer's Instruction Manual as follows:

- Set up the dust meter on a tripod at 1.2m level.
- Turned on the dust meter and check the battery, if too low, change new ones. Pointed the meter to the source area or the planned measurement area.
- The zero calibration of the instrument was conducted before and after each sampling.
- TSP levels were recorded for 1-hour with 5-minute data logging interval.
- Recorded down the general meteorological conditions, Test ID no., start/end time, spot check reading at each sampling location for data processing.
- Recorded any activities that may generate dust during measurement period.

Maintenance/Calibration

2.25 The following maintenance/calibration are required for the direct dust meters:

- To validity the accuracy of dust meter, compare the results measured by dust meter and HVS by direct reading method every 12 months throughout all stages of the air quality monitoring.

Wind Data Monitoring

2.26 Wind Anemometer was installed at the roof-top of AM7 - Hong Kong Children's Hospital with 10m above ground and clear of constructions or turbulence caused by the buildings.

2.27 The wind data was captured by a data logger and the data was downloaded at least once per month for analysis.

2.28 The wind data monitoring equipment will be re-calibrated at least once every six months.

2.29 Wind direction is divided into 16 sectors of 22.5 degrees each.

2.30 Details of weather information during the monitoring period are shown in Appendix G.

Action and Limit Levels

2.31 The Action and Limit Levels of 24-hour average TSP and 1-hour average TSP are summarized in Table 2.5 and Table 2.6 respectively.

Table 2.5 Action and Limit Levels of 24-hour average TSP for Construction Dust Monitoring

Parameter	Air Monitoring Station	Action Level, $\mu g/m^3$	Limit Level, $\mu g/m^3$
24-hour average TSP	AM3	182	260
	AM4(A)	187	260
	AM7	181	260

Table 2.6 Action and Limit Levels of 1-hour average TSP for Construction Dust Monitoring

Parameter	Air Monitoring Station	Action Level, $\mu g/m^3$	Limit Level, $\mu g/m^3$
1-hour average TSP	AM3	297	500
	AM4(A)	326	500
	AM7	315	500

Impact Air Quality Monitoring results

2.32 Impact monitoring results for 24-hour average TSP and 1-hour average TSP levels at the designed air quality monitoring stations are summarized in Table 2.7 and Table 2.8 respectively.

2.33 Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A) while 1-hr TSP monitoring at AM4(A) were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for AM4(A) is confirmed.

Table 2.7 Summary of 24-hour average TSP Monitoring Data during the reporting month

Air Monitoring Station	Average TSP Concentration, $\mu g/m^3$	Range, $\mu g/m^3$	Action Level, $\mu g/m^3$	Limit Level, $\mu g/m^3$
AM3	47	29 – 81	182	260
AM4(A)	/	/ – /	187	260
AM7	48	25 – 86	181	260

Table 2.8 Summary of 1-hour average TSP Monitoring Data during the reporting month

Air Monitoring Station	Average TSP Concentration, $\mu g/m^3$	Range, $\mu g/m^3$	Action Level, $\mu g/m^3$	Limit Level, $\mu g/m^3$
AM3	49	30 – 83	297	500
AM4(A)	61	39 – 95	326	500
AM7	54	37 – 90	315	500

2.34 There was no Action and Limit Level exceedance of 24-hour average TSP and 1-hour average TSP levels recorded during the reporting month.

2.35 Graphical presentation and detailed monitoring results of 24-hour average TSP and 1-hour average TSP levels are shown in Appendix H and Appendix I respectively.

2.36 The Event and Action Plan is provided in Appendix J.

2.37 Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

3. NOISE MONITORING

Monitoring Requirements

3.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009), impact noise monitoring shall be carried out during the construction phase of the Project.

3.2 Regular monitoring, $L_{Aeq, 30\text{-minute}}$, for each station will be on a weekly basis and conduct one set of measurements between 0700 – 1900 on normal weekdays.

3.3 If construction works are extended to include works during 1900 – 0700 as well as public holidays and Sundays, additional weekly impact monitoring will be carried out during the respective restricted hours periods.

Monitoring Locations

3.4 Two designated monitoring stations were selected for noise monitoring programme. Impact noise monitoring was conducted at two noise monitoring stations in the reporting month. Table 3.1 describes the noise monitoring locations, which are also depicted in Figure 8.

Table 3.1 Locations of Noise Monitoring Stations

Noise Monitoring Locations for the Project	Location of Measurement
M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop	Ground (Façade)
M12 - Hong Kong Children's Hospital	Rooftop (Façade)

3.5 Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022.

3.6 ET approached the potential sensitive receivers for monitoring station relocation since May 2022. ET conducted site visit in nearby area and found that there was no property management company in most of the nearby premises and could not approach the residents regarding the environmental monitoring. No permission can be applied for environmental monitoring.

3.7 For those premises have property management company, ET sent the proposal to owner / property management company and explained the purpose of environmental monitoring (refer to Appendix C – Apply permission for Environmental Monitoring). Figure 9 shows the proposed alternative monitoring locations. No permission of setup and entry is received until the reporting month.

3.8 Summary of the status of for proposed alternative monitoring locations for M11 are given in Table 3.2.

Table 3.2 Proposed alternative monitoring locations for M11

Proposed alternative monitoring locations for M11	Status upto reporting month
A1 - The Lok Sin Tong Modular Social Housing Scheme	Rejected application on 13 Oct 2022
A2 - Freder Centre	No reply from building management office
A3 - New Port Centre	No reply from building management office
A4 - 112 - 138 To Kwa Wan Road	No property management company and could not apply the permission.
A5 - 2 - 26 Hok Ling Street	No property management company and could not apply the permission.
A6 - 1 - 27 Hok Ling Street	No property management company and could not apply the permission.
A7 - 2 - 28 Tsun Fat Street	No property management company and could not apply the permission.
A8 - 1 - 27 Tsun Fat Street	No property management company and could not apply the permission.
A9 – 2 - 28 Yin On Street	No property management company and could not apply the permission.
A10 – 1 – 27 Yin On Street	No property management company and could not apply the permission.
A11 – 2 – 28 Shim Luen Street	No property management company and could not apply the permission.
A12 - 1 - 27 Shim Luen Street	No property management company and could not apply the permission.
A13 - 2 - 28 Hung Wan Street	No property management company and could not apply the permission.
A14 - 1 - 27 Hung Wan Street	No property management company and could not apply the permission.
A15 - 2 - 28 Pang Ching Street	No property management company and could not apply the permission.
A16 - 1 - 27 Pang Ching Street	No property management company and could not apply the permission.
A17 - 2 - 28 Ying Yeung Street	No property management company and could not apply the permission.
A18 - 1 - 27 Ying Yeung Street	No property management company and could not apply the permission.
A19 - 2 - 28 Lun Cheung Street	No property management company and could

Proposed alternative monitoring locations for M11	Status upto reporting month
	not apply the permission.
A20 - 1 - 27 Lun Cheung Street	No property management company and could not apply the permission.
A21 - 2 - 28 Luk Ming Street	No property management company and could not apply the permission.
A22 - 1 - 27 Luk Ming Street	No property management company and could not apply the permission.
A23 - 2 - 28 Fung Yi Street	No property management company and could not apply the permission.

3.9 No update for the approval of monitoring relocation in the reporting month and ET will resume the impact monitoring once the alternative monitoring location for M11 are confirmed.

Monitoring Parameters, Frequency and Duration

3.10 The noise monitoring locations and monitoring frequency are listed in Table 3.3.

Table 3.3 Noise Monitoring Parameters, Frequency and Duration

Noise Monitoring Station	Location for Measurement	Parameter	Frequency and Duration
M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop*	Ground (Façade)	L_{Aeq}, L_{A10} and L_{A90}	30 - minutes measurement at each monitoring station between 0700 – 1900 hrs on normal weekdays (Monday to Saturday) at frequency of once per week.
M12 - Hong Kong Children's Hospital	Rooftop (Façade)		

* Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022.

3.11 The monitoring schedule for reporting month and next month is presented in Appendix D.

3.12 Photographic records of the monitoring setup are shown in Appendix E.

Monitoring Equipment

3.13 As referred to in the Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO), sound level meters in compliance with the IEC 61672-1 (Type 1) standard [this

standard replaced the International Electrotechnical Commission Publications 60651:1979 (Type 1) and 60804:1985 (Type 1)] were used for noise monitoring. Table 3.4 summarizes the equipment to be used in the noise monitoring.

Table 3.4 Noise Monitoring Equipment

Equipment	Model	Quantity
Sound Level Meter	RION NL52	2
Sound Level Calibrator	RION NC 74	2
Air Flowmeter	TSI TA440 Air Velocity	1

3.14 Calibration certificates, catalogue of equipment are given in Appendix K.

Monitoring Methodology and QA/QC Procedure

3.15 The noise level measurement was conducted at 1m from the exterior of the nearby noise sensitive receivers building façade and at 1.2m above the ground and facing to the source area or the planned measurement area.

3.16 No noise measurement was conducted in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. Air flow was measured by air flow meter.

3.17 Turned on the sound level meter and check the battery, if too low, change new ones.

3.18 Calibration was conducted immediately prior to and after each noise measurement, the accuracy of the sound level meters was checked by using sound calibrator generating 1,000 Hz with 94dB. Measurement data was found to be valid only if the calibration levels from before and after the noise measurement agreed to within 1.0 dB.

3.19 Noise level was recorded.

3.20 Recorded any activities that may generate noise during measurement period.

Maintenance and Calibration

3.21 The microphone head of the sound level meter and calibrator was cleaned with a soft cloth at

quarterly intervals.

3.22 The sound level meter and sound calibrator were calibrated annually.

3.23 Calibration for sound level meter was conducted immediately prior to and following each noise measurement by using sound calibrator generating a known sound pressure level at a known frequency (1,000 Hz with 94dB). Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

Action and Limit Levels

3.24 The Baseline Noise Levels and Action and Limit Levels for construction noise is presented in Table 3.5.

Table 3.5 Baseline Noise Level and Action and Limit Levels for Construction Noise Monitoring

Time Period	Noise Monitoring Station	Baseline Noise Levels, dB (A)	Action Level	Limit Level ^
0700 – 1900 on normal weekdays	M11	68.3	When one documented complaint is received.	75 dB(A)
	M12	61.9		

Note: ^ If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

Impact Noise Monitoring results

3.25 Impact noise monitoring results at the designed noise monitoring stations are summarized in Table 3.6 respectively.

3.26 Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 30-min noise monitoring at M11 were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for M11 is confirmed.

Table 3.6 Summary of Noise Monitoring Data during the reporting month

Noise Monitoring Station	Measured $L_{Aeq, 30\text{-}min}$, Average, dB(A)	Measured $L_{Aeq, 30\text{-}min}$, Range, dB(A)	Action Level	Limit Level ^
M11	73.0	71.8 – 73.9	When one documented complaint is received	75 dB(A)
M12	66.8	63.0 – 68.9		

Note: ^ If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

3.27 There were no Action Level exceedance of noise monitoring and Limit Level exceedance of $L_{Aeq,\ 30min}$ recorded during the reporting month.

3.28 Graphical presentation and detailed monitoring results are shown in Appendix L.

3.29 The Event and Action Plan is provided in Appendix J.

3.30 Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

4. COMPARISON OF EM&A RESULTS WITH EIA PREDICTIONS

4.1 The environmental impacts predictions were given in Agreement No. CE 35/2006(CE) Kai Tak Development Engineering Study cum Design and Construction of Advance Works - Investigation, Design and Construction - Kai Tak Development Environmental Impact Assessment Report, EIA Register Nos. AEIAR-130/2009 for Kai Tak Development (The EIA Report). The EM&A data was compared with the EIA predictions as summarized in Table 4.1 to Table 4.3.

Table 4.1 Comparison of 24-hour average TSP Monitoring Data with EIA predictions

Air Monitoring Station	ASR No. in EIA report	Predicted Cumulative Maximum 24-hour average TSP concentration		Measured 24-hr average TSP in Reporting Month (June 2024) $\mu g/m^3$
		Scenario 1 (Mid 2009 to Mid 2013), $\mu g/m^3$	Scenario 2 (Mid 2013 to Late 2016), $\mu g/m^3$	
AM3 - Sky Tower	A40^	106	138	29 – 81
AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop*	A43^	123	195	/ – /
AM7 – Hong Kong Children's Hospital	PA60	NA	NA	25 – 86

Note:
^ Prediction results are given in the Table 3.13 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.
* Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A) because of the assess limitation in the reporting month.

Table 4.2 Comparison of 1-hour average TSP Monitoring Data with EIA predictions

Air Monitoring Station	ASR No. in EIA report	Predicted Cumulative Maximum 1-hour average TSP concentration		Measured 1-hr average TSP in Reporting Month (June 2024) $\mu g/m^3$
		Scenario 1 (Mid 2009 to Mid 2013), $\mu g/m^3$	Scenario 2 (Mid 2013 to Late 2016), $\mu g/m^3$	
AM3 - Sky Tower	A40	217^	247^	30 – 83
AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop*	A43	283^	409^	39 – 95
AM7 – Hong Kong Children's Hospital	PA60	NA	NA	37 – 90

Note:

^ Prediction results are given in the Table 3.13 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.
* Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 1-hour TSP monitoring was conducted on the ground floor outside AM4(A) with facing to the Project Site because of the access limitation in the reporting month.

Table 4.3 Comparison of Noise Monitoring Data with EIA predictions

Noise Monitoring Station	NSR No. in EIA report	Predicted Mitigated Construction Noise Levels during Normal Daytime Working Hour $L_{Aeq, 30min}$, dB(A)	Measured Noise Level in Reporting Month (June 2024) $L_{Aeq, 30min}$, dB(A)
M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop*	N18	50 – 76*	71.8 – 73.9
M12 - Hong Kong Children's Hospital	PN83, PN84, PN84A	NA	63.0 – 68.9

Note:
* Prediction results are given in the Table 3.20 of the EIA report EIA Register Nos. AEIAR-130/2009 for Kai Tak Development.
*Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. Construction noise monitoring was conducted on the ground floor outside M11 with facing to the Project Site because of the access limitation in the reporting month.

4.2 24-hr TSP monitoring result at AM3 were recorded lower than the prediction in the EIA Report. Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A) because of the assess limitation in the reporting month. Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

4.3 No prediction in the EIA Report for 24-hour TSP monitoring results at AM7.

4.4 1-hour TSP monitoring results at AM3 and AM4(A) were recorded lower than the prediction in the EIA Report. Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 1-hour TSP monitoring was conducted on the ground floor outside AM4(A) with facing to the Project Site because of the access limitation in the reporting month. Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

4.5 No prediction in the EIA Report for 1-hour TSP monitoring results at AM7.

4.6 Noise monitoring results at M11 were recorded lower than the prediction in the EIA Report.

Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. Construction noise monitoring was conducted on the ground floor outside M11 with facing to the Project Site because of the access limitation in the reporting month. Non-project related construction activities in the adjacent construction sites were observed during the reporting period and may affect the monitoring results.

4.7 No prediction in the EIA Report for noise monitoring results at M12.

5. LANDSCAPE AND VISUAL MONITORING

5.1 In accordance with EM&A Manuals (EIA Register Nos. AEIAR-130/2009 and AEIAR-170/2013), Landscape and Visual Monitoring shall be carried out during the construction phase of the Project. Regular impact monitoring will be conducted at least once per week.

Results and Observations

5.2 Site inspections were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

5.3 Site inspections were conducted on 6, 11, 20 and 27 June 2024 in the reporting month.

5.4 The summaries of site audits are attached in Table 5.1.

Table 5.1 Summary of observations of Landscape and Visual impact during the reporting month

Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
06 June 2024	No	NA	NA
11 June 2024	No	NA	NA
20 June 2024	No	NA	NA
27 June 2024	No	NA	NA

5.5 No non-compliance of the landscape and visual impact was recorded in the reporting month.

5.6 Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in Appendix N shall be performed.

6. ENVIRONMENTAL SITE INSPECTION AND AUDIT

Site Inspection

6.1 Site inspections were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

6.2 Site inspections were conducted on 6, 11, 20 and 27 June 2024 in the reporting month.

6.3 The summaries of site audits are attached in Table 6.1.

Table 6.1 Summary of site inspections observations during the reporting month

Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
06 June 2024	No	NA	NA
11 June 2024	 Observation: Waste (C&D & Domestic) found at pumping station & harbour step area should be removed timely.	 Action Taken: Waste (C&D & Domestic) found at pumping station & harbour step area have been removed timely.	Closed-out on 11 June 2024

Inspection Date	Key Observations	Recommendations / Actions	Close-out Date / Status
	 Observation: Fencing in tree protection zone shall be maintained properly without any gap for unauthorized entry. Construction materials inside the protection zone is not allowed.	 Action Taken: Fencing in tree protection zone has been maintained properly without any gap for unauthorized entry. Construction materials inside the protection zone is not allowed.	Closed-out on 20 June 2024
20 June 2024	No	NA	NA
27 June 2024	 Observation: The NRMM Label should be displayed on the PME at pumping station.	 Action Taken: The NRMM Label have been displayed on the PME at pumping station.	Closed-out on 04 July 2024
	 Observation: The accumulation wastes should be removed at site office.	 Action Taken: The accumulation wastes have been removed at site office.	Closed-out on 04 July 2024

Status of Waste Management

6.4 The amount of wastes generated by the major site activities of the work contracts within the Project during the reporting month is shown in Appendix O.

6.5 The Contractor was registered as a chemical waste producer for the Project. The Contractor was reminded that chemical waste containers should be properly treated and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

Status of Environmental Licenses, Notification and Permits

6.6 A summary of the relevant permits, licenses and/or notifications on environmental protection for the Project is shown in Table 6.2.

Table 6.2 Summary of Environmental Licenses, Notifications and Permits

Environmental Licenses, Notifications and Permits	Ref. No.	Valid Form	Valid Till
Environmental Permit under EIAO	EP-337/2009	23 Apr 2009	N/A
	EP-445/2013/B	3 May 2022	N/A
Construction Dust Notification under APCO	445956	6 Jun 2019	N/A
Wastewater Discharge License under WPCO	WT00034610-2019	26 Sep 2019	30 Sep 2024
Waste Disposal Billing Account	7034450	28 Jun 2019	N/A
Registration as a Chemical Waste Producer	5218-286-P3182-03	18 Jul 2019	N/A
Construction Noise Permit	GW-RE0525-24	30 Apr 2024	29 Oct 2024
	GW-RE0526-24	30 Apr 2024	29 Oct 2024
	GW-RE0063-24	30 Jan2024	28 Jul 2024
	GW-RE0064-24	05 Feb 2024	04 Jul 2024
	GW-RE0082-24	14 Feb 2024	13 Aug 2024
	GW-RE0445-24	21 Apr 2024	20 Oct 2024
	GW-RE0570-24	10 May 2024	09 Nov 2024

Implementation Status of Environmental Mitigation Measures

6.7 The Contractor has implemented environmental mitigation measures and requires as stated in the EIA reports, the EP and the EM&A Manuals. The implementation status of the mitigation measures during the reporting month is summarized in Appendix P.

6.8 In response to the site audit findings, the Contractor carried out corrective actions with summary given in Appendix P.

Environmental Complaint and Non-compliance

6.9 No complaint was received in the reporting month. Summary of complaints in the reporting month is tabulated in Table 6.3.

Table 6.3 Summary of complaints in the Reporting Month

Date of complaint received	Description of complaint	Investigation / Recommendations / Action taken	Close-out date / Status
NA	NA	NA	NA

6.10 Complaint log and Complaint Investigation report are shown in Appendix Q.

Notifications of summons and successful prosecutions

6.11 No notification of summons and successful prosecutions was received in the reporting month. Summary of summons and successful prosecutions in the reporting month is tabulated in Table 6.4.

Table 6.4 Summary of summons and successful prosecutions in the Reporting Month

Date of receiving notification of summons or prosecutions	Date of event	Description of event	Action taken	Close-out date / Status
No notification of summons and successful prosecutions were received in the reporting month.	NA	NA	NA	NA

6.12 The summaries of cumulative environmental complaint, warning, summon and notification of

successful prosecution for the Project is presented in Appendix Q.

7. FUTURE KEY ISSUES

Construction Programme in the coming month

7.1 The major construction activities and potential impacts in the next reporting month as follow:

Table 7.1 Summary of future key issues and potential impact in the coming month

Future key issues in the coming month	Potential impact
Diversion of DCS Intake Box Culvert (For example, Cell 2)	Noise and Air Quality, Chemical and Waste Management
Granolithic finishing works of Harbour Steps	Noise, Air and Water Quality
Construction of Underground Utilities (For example, watermains, storm drain, sewage pipe, cable duct etc.)	Noise and Air Quality, Chemical and Waste Management
Road works and utilities works at Road D3 (Metro Park Section) and Road L12d	Noise and Air Quality, Chemical and Waste Management
Diversion of DCS Intake Box Culvert (For example, Cell 2)	Noise and Air Quality, Chemical and Waste Management
Installation of lift cart and E&M works of Lift LT-1 & LT-2	Noise, Air and Water Quality
Rising Main laying works	Noise and Air Quality, Chemical and Waste Management
Finishing works of Pumping Stations	Noise and Air Quality, Chemical and Waste Management
E&M installation of Pumping Stations	Noise and Air Quality, Chemical and Waste Management
Installation of steel roof of Observation Deck, and Toilet cum and Changing Room	Noise, Air and Water Quality

7.2 The mitigation measures for environmental impact including Air Quality, Construction Noise, Water Quality, Chemical and Waste Management, Landscape and Visual shall be implemented:

- Sufficient watering of the works site with the active dust emitting activities,
- Limitation of the speed for vehicles on unpaved site roads,
- Properly cover the stockpiles,
- Good maintenance to the plant and equipment,
- Use of quieter plant and Quality Powered Mechanical Equipment (QPME),
- Provide movable noise barriers,
- Appropriate desilting/ sedimentation devices provided on site for treatment before discharge,
- Well maintain the drainage system to prevent the spillage of wastewater during heavy

rainfall,

- Onsite waste sorting and implementation of trip ticket system,
- Good management and control on construction waste reduction,
- Erection of decorative screen hoarding,
- Strictly following the Environmental Permits and Licenses, and
- Provide sufficient mitigation measures as recommended in Approved EIA Reports.

Environmental Site Inspection and Monitoring Schedule for next month

7.3 The tentative schedule for weekly site inspection and air quality and noise monitoring in the next month is provided in Appendix D.

8. CONCLUSIONS

8.1 Environmental monitoring works were performed in the reporting month and all monitoring results were checked and reviewed.

8.2 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 1-hour TSP monitoring was conducted on the ground floor outside AM4(A) with facing to the Project Site because of the access limitation in the reporting month.

8.3 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since1 Sept 2022. No 24-hour TSP monitoring was conducted at AM4(A) because of the assess limitation in the reporting month.

8.4 Construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. Impact monitoring was conducted on the ground floor outside M11 with facing to the Project Site because of the access limitation in the reporting month.

8.5 No complaint was received in the reporting month.

8.6 No notification of summons and successful prosecutions was received in the reporting month.

Figure

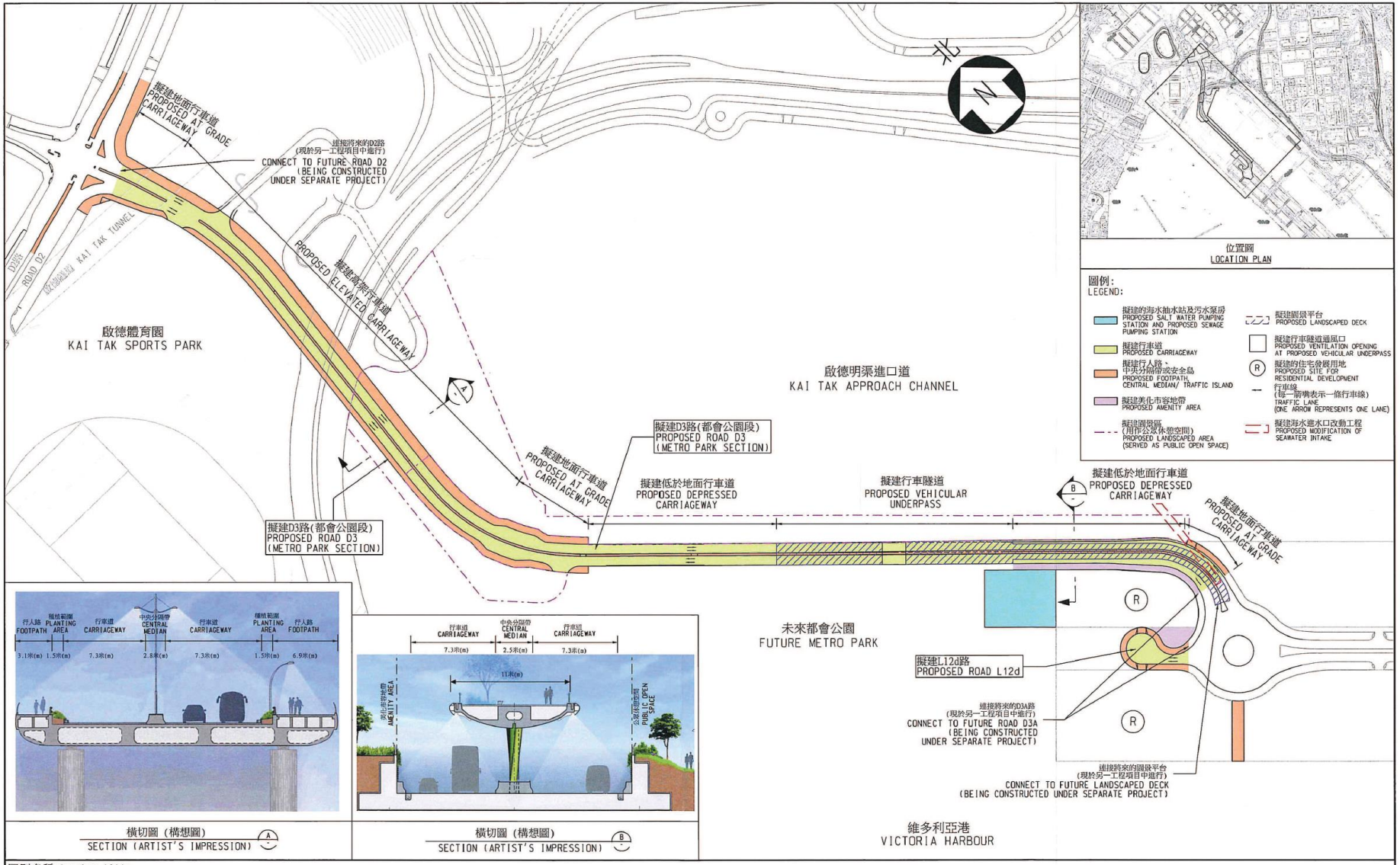


Figure 1 – Proposed works of Contract No. ED/2018/01

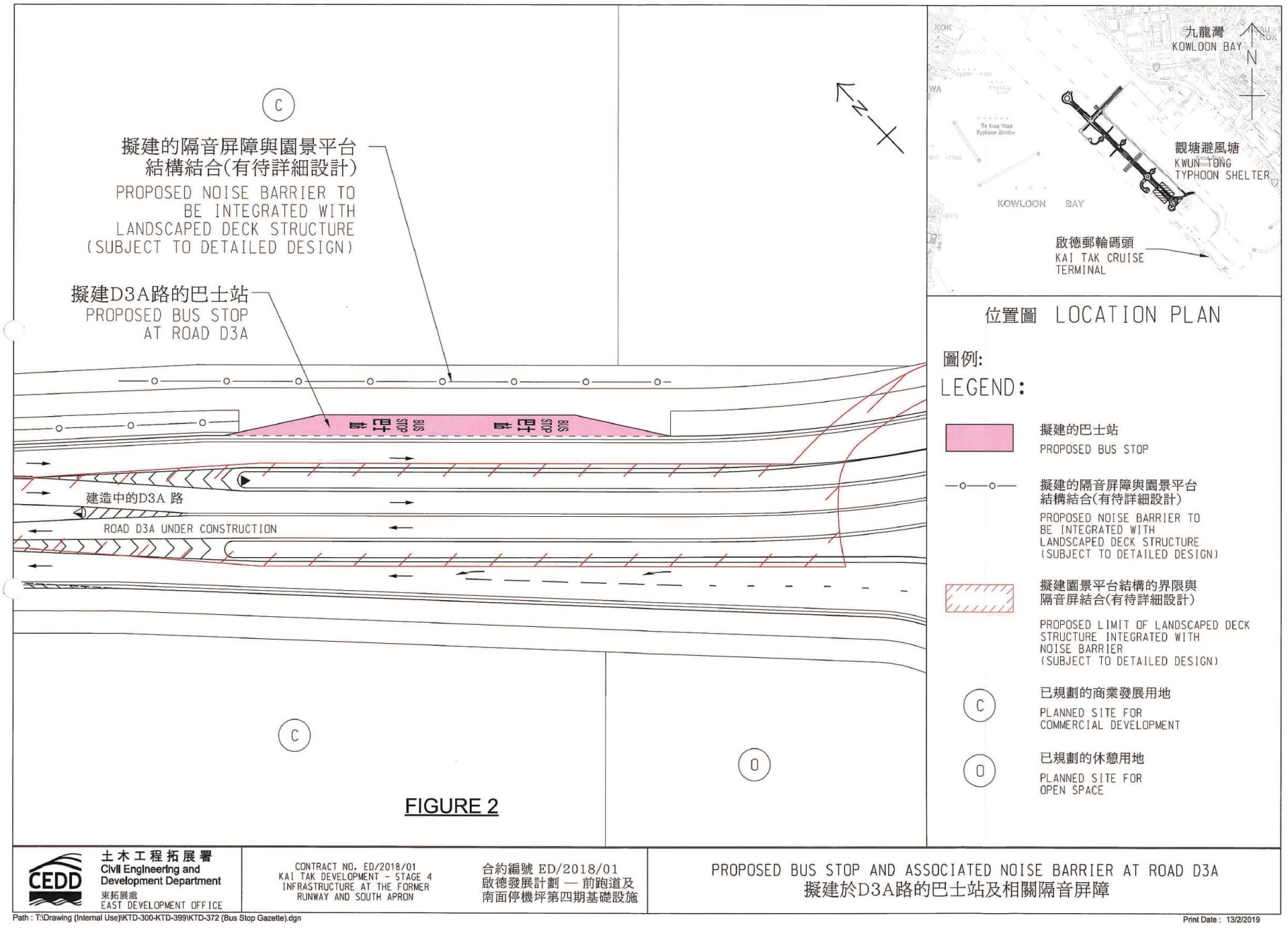


Figure 2 – Proposed Bus Stop And Associated Noise Barrier At Road D3A

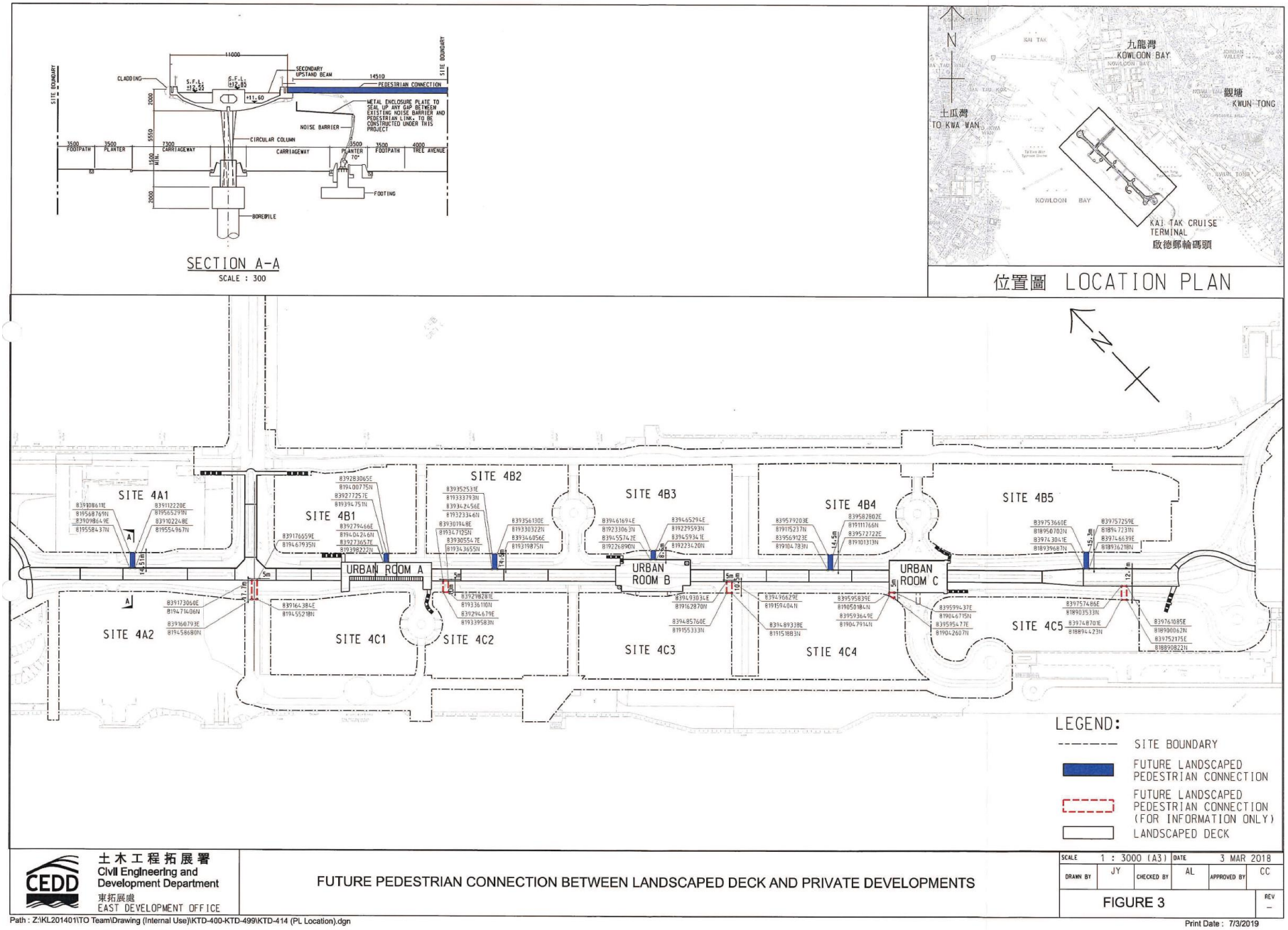


Figure 3 – Future Pedestrian Connection Between Landscaped Deck And Private Developments

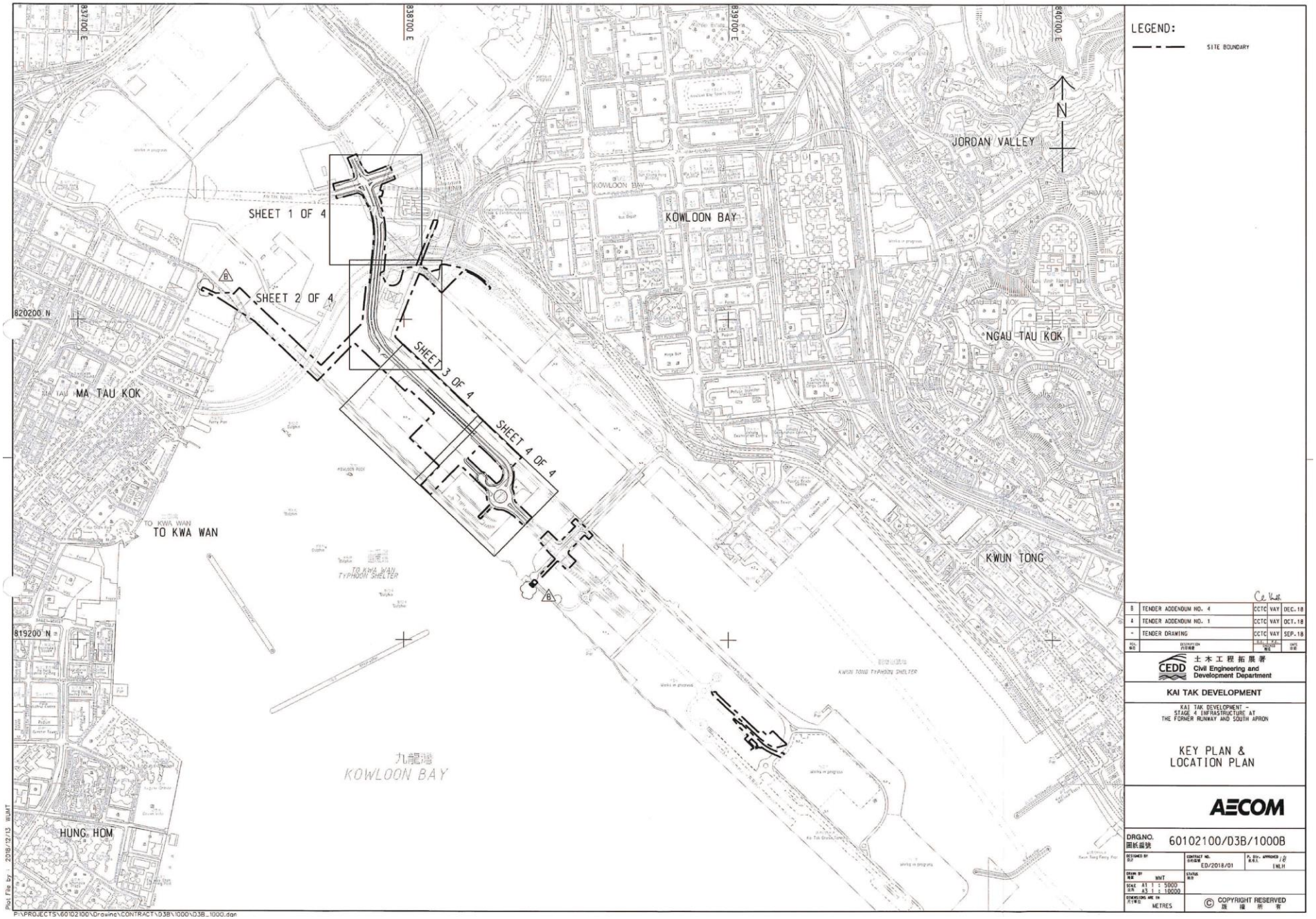
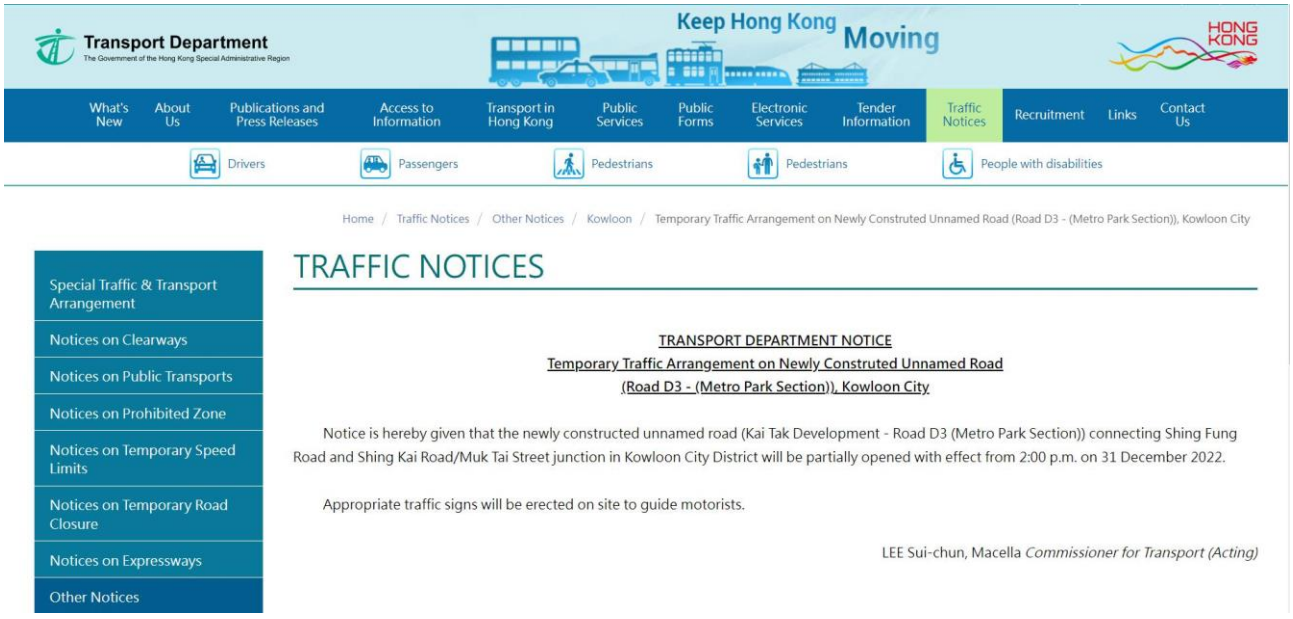


Figure 4 – Site Layout Plan



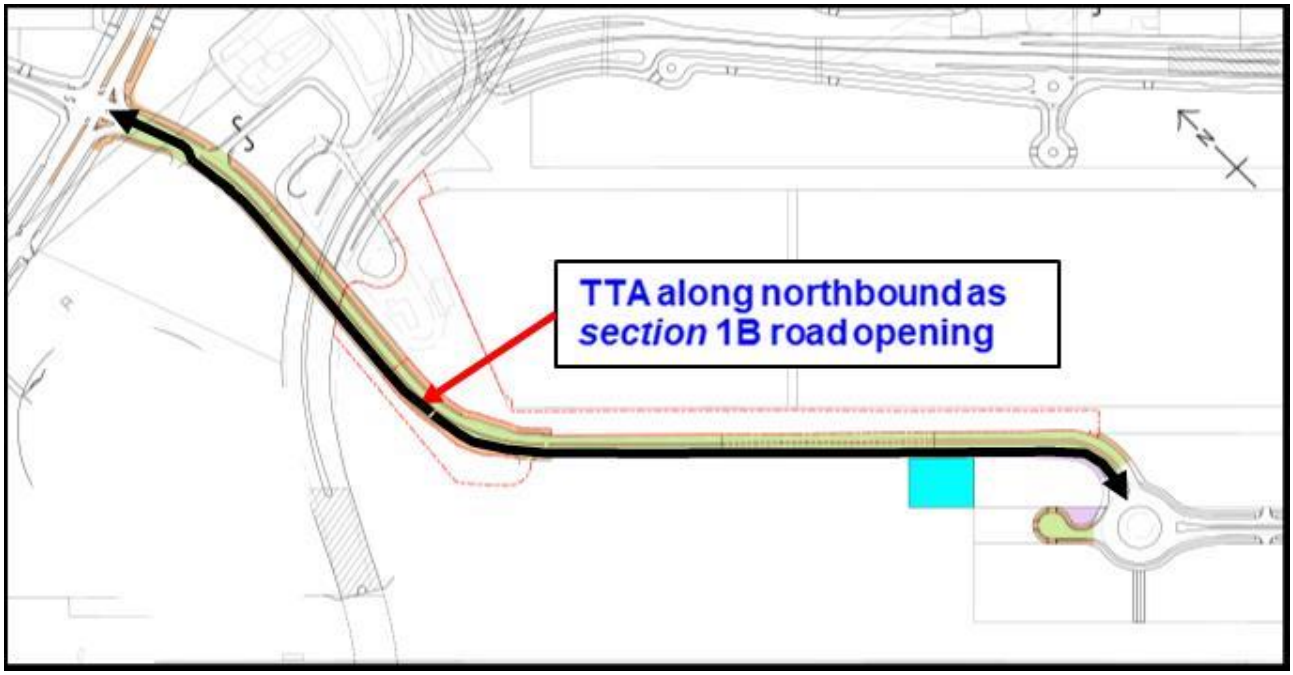


Figure 5 – New Opened Road on 31 December 2022

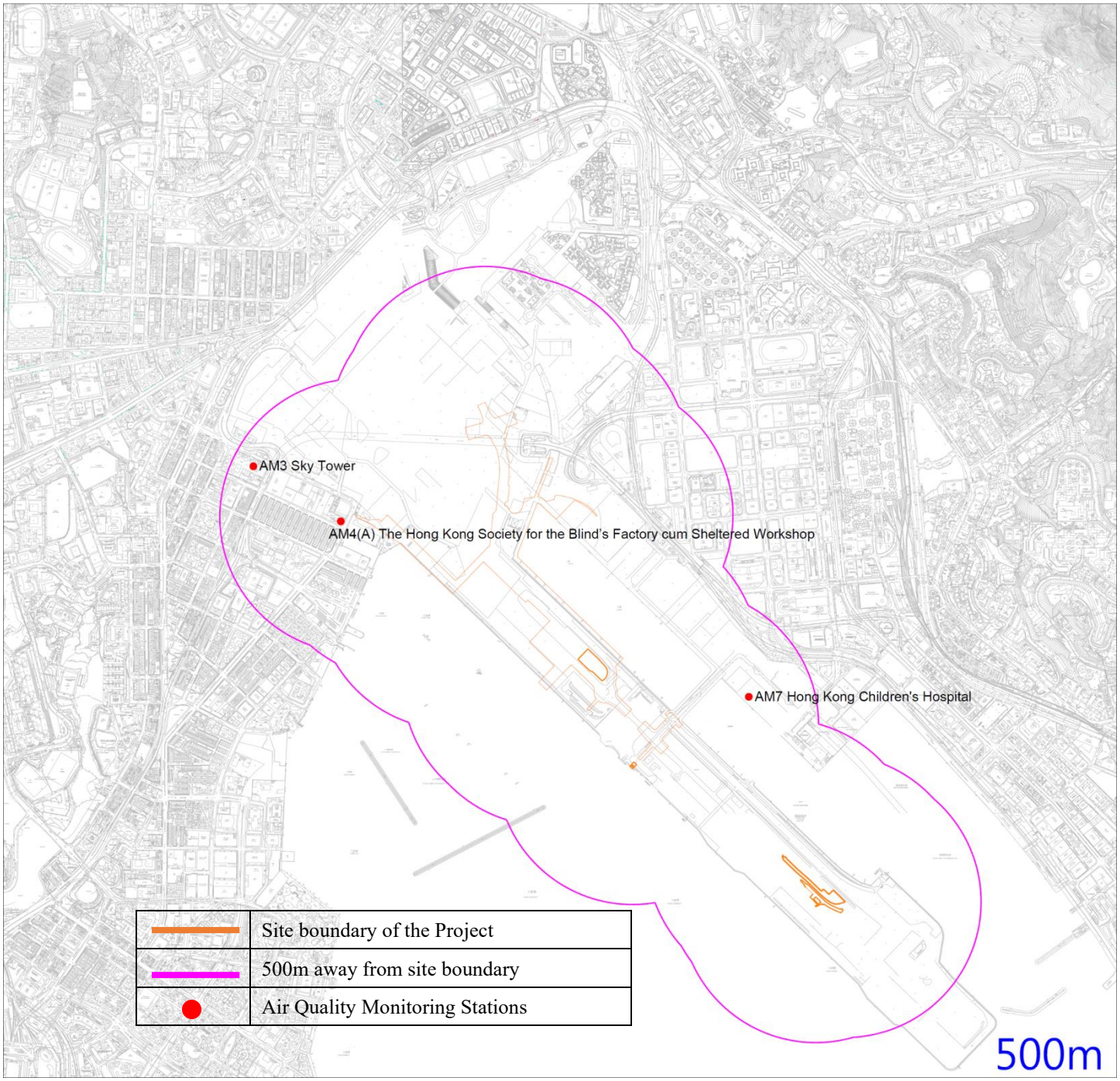


Figure 6 – Air Quality Monitoring Stations

* Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. Construction noise monitoring was conducted on the ground floor outside M11 with facing to the Project Site because of the access limitation in the reporting month.

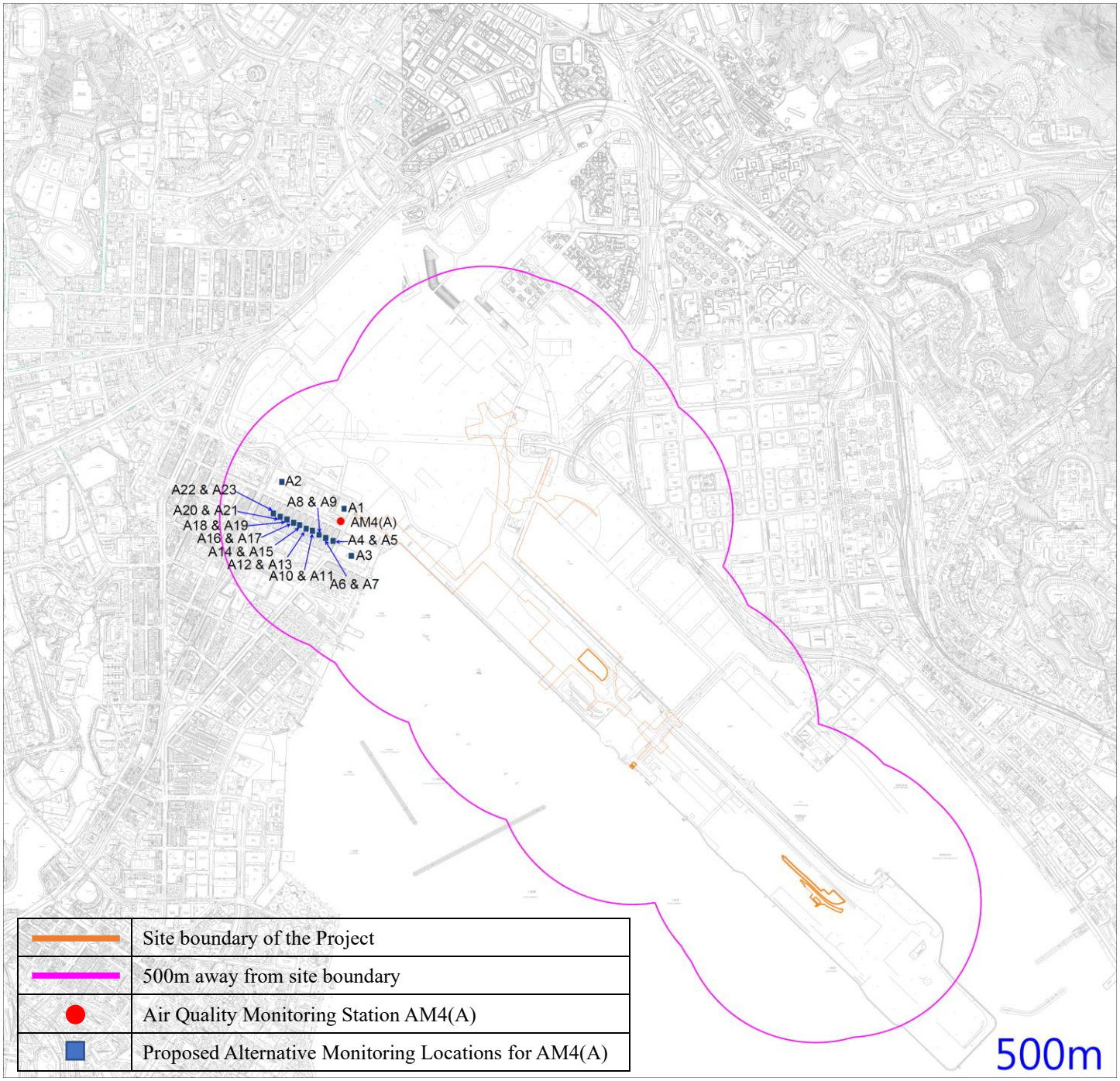


Figure 7 – Proposed Alternative Monitoring Locations for AM4(A)

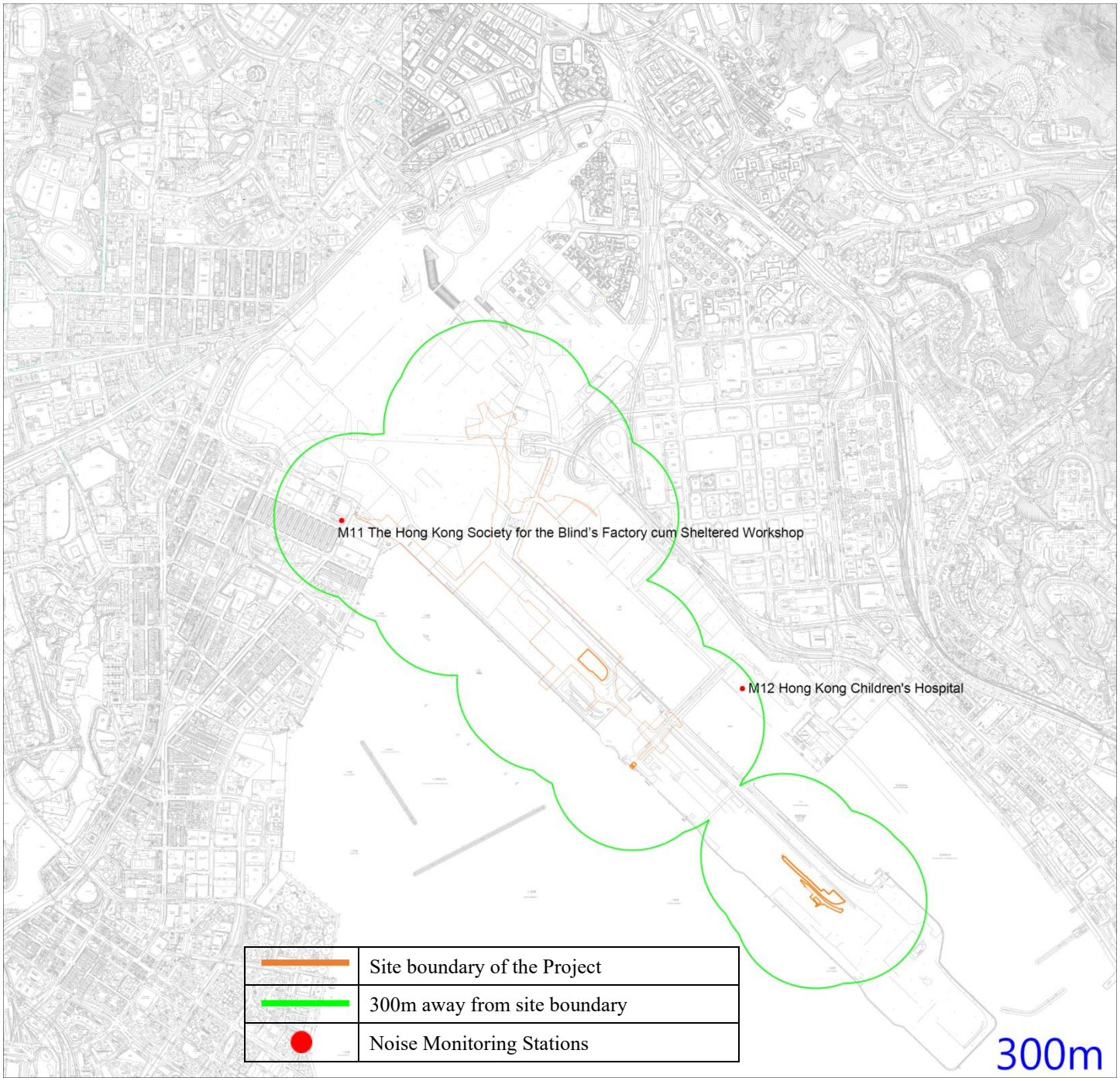


Figure 8 – Noise Monitoring Stations

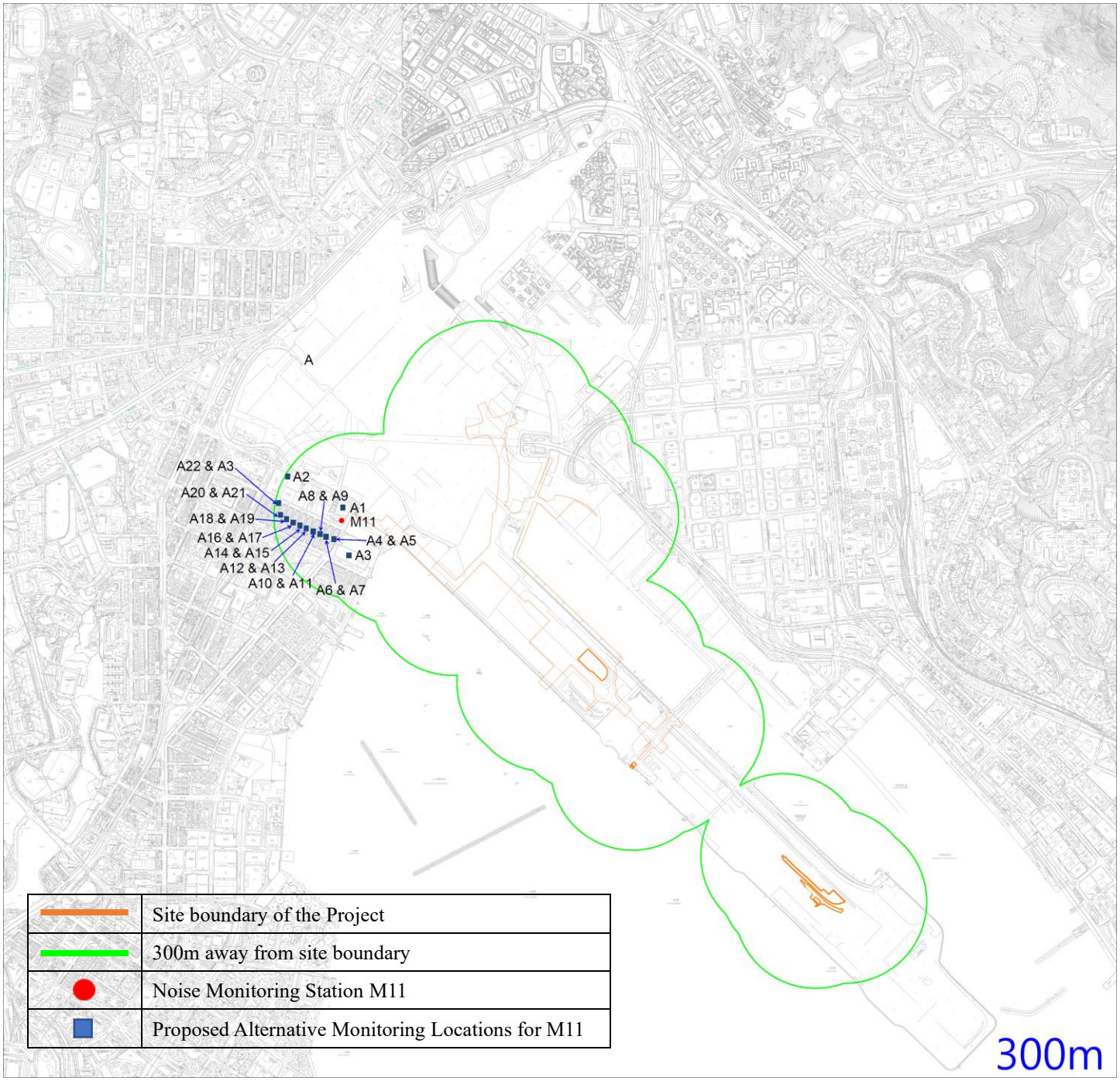
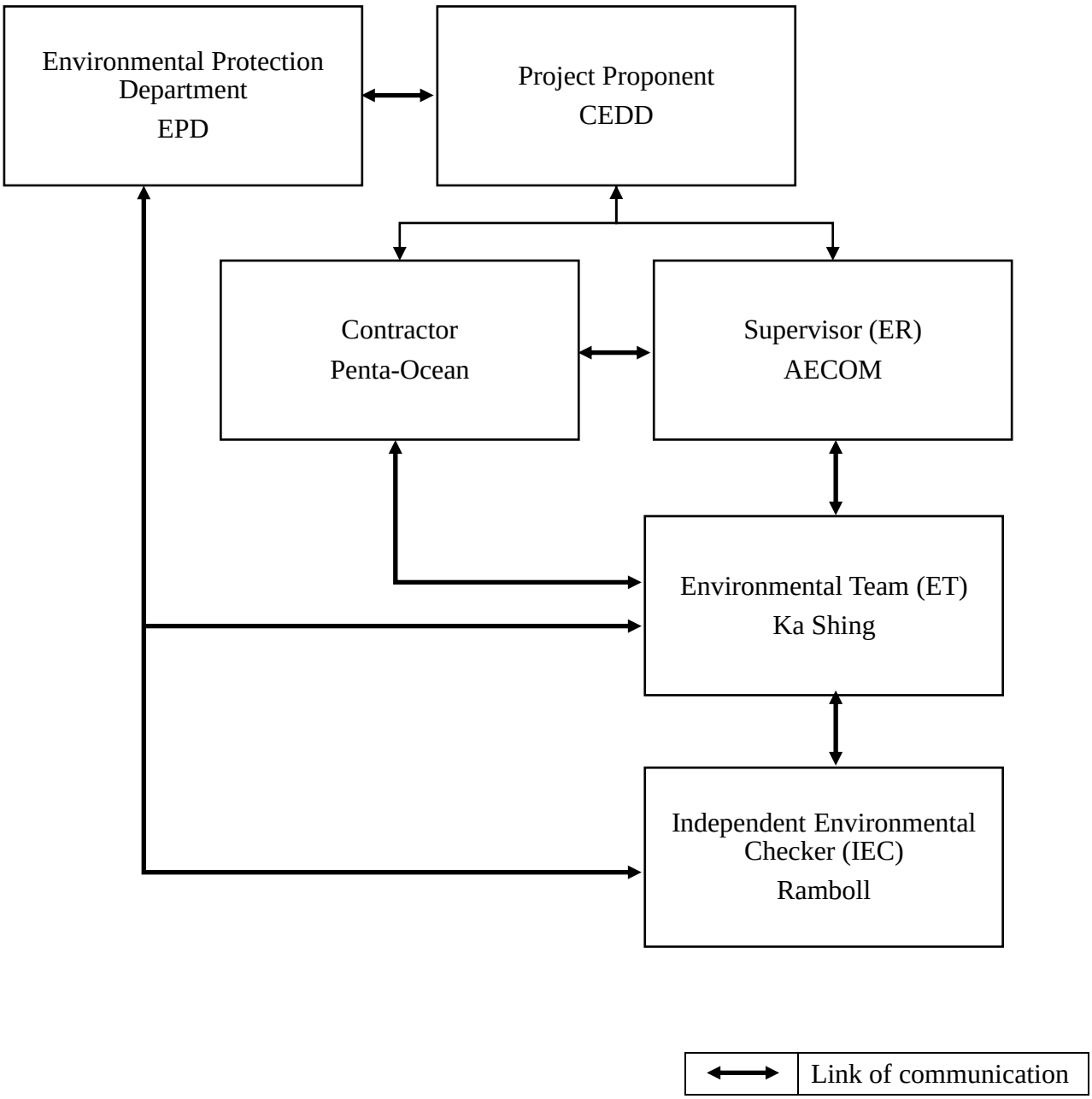


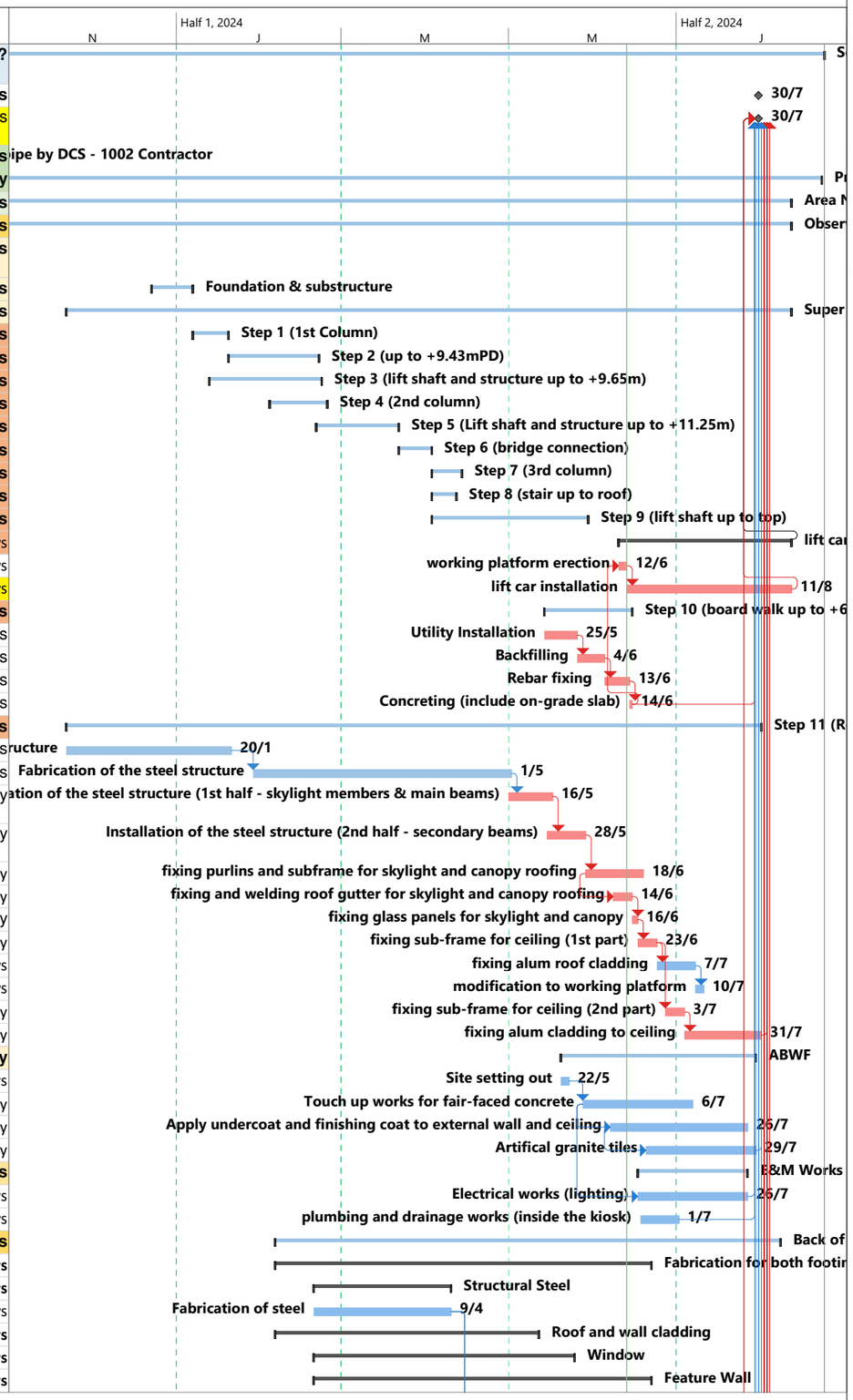
Figure 9 – Proposed Alternative Monitoring Locations for M11

Appendix A – Organization Chart of EM&A Team


Environmental Protection Department
EPD
Project Proponent
CEDD
Contractor
Penta-Ocean
Supervisor (ER)
AECOM
Environmental Team (ET)
Ka Shing
Independent Environmental Checker (IEC)
Ramboll
Link of communication

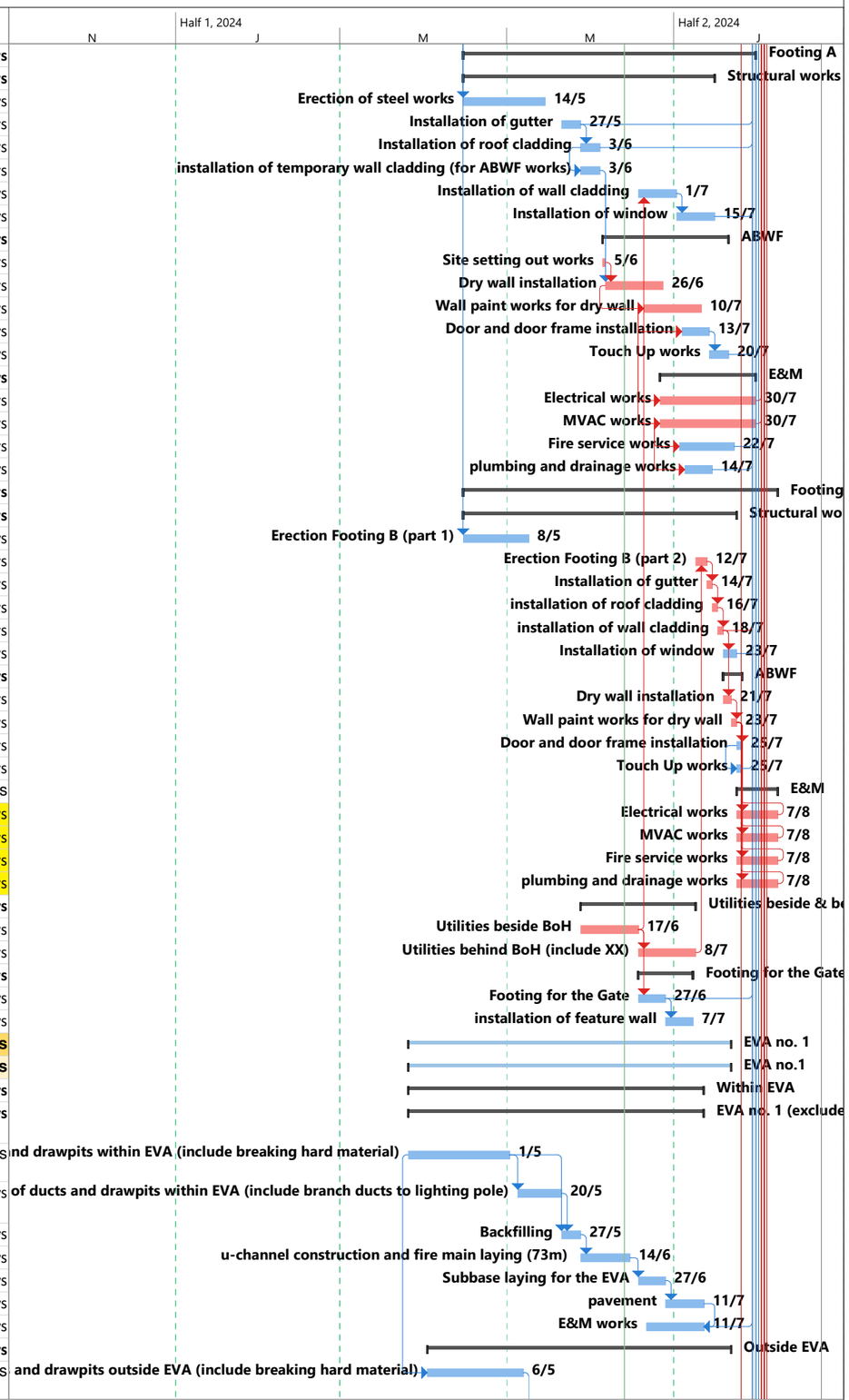
Appendix B – Construction Programme

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
1	**1**	**Section 6C - Completion of remaining works within Parts 1, 2A, 2B, 2E, 3A to 3I, 4, 7B, 8, 9, 9A, 9B and 10 including landscape**	**C2**	**701 days?**	**1 Sep '22**	**23 Aug '24**			**0 days?**
2	**1.1**	**Summary**	**C2**	**0 days**	**30 Jul '24**	**30 Jul '24**			**0 days**
3	1.1.1	Planned Section 6D completion (with Inclement weather upto end May 2024)	C2	0 days	30 Jul '24	30 Jul '24	26,68,60,37,7		-23 days
4	**1.2**	**Twin DN 1400DI pipe by DCS - 1002 Contractor**	**C2**	**376 days**	**1 Sep '22**	**11 Sep '23**			**325 days**
8	**1.3**	**Promenade**	**C2**	**569 days**	**10 Jan '23**	**22 Aug '24**			**1 day**
9	**1.3.1**	**Area No.1**	**C2**	**558 days**	**10 Jan '23**	**11 Aug '24**			**12 days**
10	**1.3.1.1**	**Observation Deck**	**C2**	**558 days**	**10 Jan '23**	**11 Aug '24**			**12 days**
11	**1.3.1.1.1**	**Area return from KTE for Observation Deck area (due to the disruption by DCS 1002EM19A)**	**C2**	**0 days**	**10 Jan '23**	**10 Jan '23**			**570 days**
12	**1.3.1.1.2**	**Foundation & substructure**	**C2**	**15 days**	**23 Dec '23**	**6 Jan '24**			**-2 days**
14	**1.3.1.1.3**	**Super Structure**	**C2**	**242 days**	**22 Nov '23**	**11 Aug '24**			**12 days**
15	**1.3.1.1.3.1**	**Step 1 (1st Column)**	**C2**	**13 days**	**7 Jan '24**	**19 Jan '24**			**-2 days**
21	**1.3.1.1.3.2**	**Step 2 (up to +9.43mPD)**	**C2**	**21 days**	**20 Jan '24**	**21 Feb '24**			**150 days**
27	**1.3.1.1.3.3**	**Step 3 (lift shaft and structure up to +9.65m)**	**C2**	**29 days**	**13 Jan '24**	**22 Feb '24**			**-2 days**
32	**1.3.1.1.3.4**	**Step 4 (2nd column)**	**C2**	**9 days**	**4 Feb '24**	**24 Feb '24**			**-2 days**
38	**1.3.1.1.3.5**	**Step 5 (Lift shaft and structure up to +11.25m)**	**C2**	**30 days**	**21 Feb '24**	**21 Mar '24**			**-2 days**
43	**1.3.1.1.3.6**	**Step 6 (bridge connection)**	**C2**	**12 days**	**22 Mar '24**	**2 Apr '24**			**-2 days**
49	**1.3.1.1.3.7**	**Step 7 (3rd column)**	**C2**	**11 days**	**3 Apr '24**	**13 Apr '24**			**-2 days**
55	**1.3.1.1.3.8**	**Step 8 (stair up to roof)**	**C2**	**9 days**	**3 Apr '24**	**11 Apr '24**			**100 days**
61	**1.3.1.1.3.9**	**Step 9 (lift shaft up to top)**	**C2**	**47 days**	**3 Apr '24**	**29 May '24**			**-2 days**
68	1.3.1.1.3.10	**lift car installation**	C2	63 days	10 Jun '24	11 Aug '24		3	-12 days
69	1.3.1.1.3.10.1	working platform erection	C2	3 days	10 Jun '24	12 Jun '24	75FS-5 days	70	-12 days
70	1.3.1.1.3.10.2	lift car installation	C2	60 days	13 Jun '24	11 Aug '24	69	3	-12 days
71	**1.3.1.1.3.11**	**Step 10 (board walk up to +6.22mPD))**	**C2**	**32 days**	**14 May '24**	**14 Jun '24**			**-12 days**
72	1.3.1.1.3.11.1	Utility Installation	C2	12 days	14 May '24	25 May '24	66	73	-12 days
73	1.3.1.1.3.11.2	Backfilling	C2	10 days	26 May '24	4 Jun '24	72	74	-12 days
74	1.3.1.1.3.11.3	Rebar fixing	C2	9 days	5 Jun '24	13 Jun '24	73	75	-12 days
75	1.3.1.1.3.11.4	Concreting (include on-grade slab)	C2	1 day	14 Jun '24	14 Jun '24	74	3,69FS-5 days	-12 days
76	**1.3.1.1.3.12**	**Step 11 (Roofing works including ceiling)**	**C2**	**231 days**	**22 Nov '23**	**31 Jul '24**			**19 days**
77	1.3.1.1.3.12.1	Design of the steel structure	C2	60 days	22 Nov '23	20 Jan '24		78	19 days
78	1.3.1.1.3.12.2	Fabrication of the steel structure	C2	75 days	29 Jan '24	1 May '24	77	79FS-13 days	11 days
79	1.3.1.1.3.12.3	Installation of the steel structure (1st half - skylight members & main beams)	C2	13 days	1 May '24	16 May '24	78FS-13 days,66,54	80FS-2 days	-1 day
80	1.3.1.1.3.12.4	Installation of the steel structure (2nd half - secondary beams)	C2	14 days	15 May '24	28 May '24	79FS-2 days	81	-1 day
81	1.3.1.1.3.12.5	fixing purlins and subframe for skylight and canopy roofing	C2	21 days	29 May '24	18 Jun '24	80	82SS+10 days	-1 day
82	1.3.1.1.3.12.6	fixing and welding roof gutter for skylight and canopy roofin	C2	7 days	8 Jun '24	14 Jun '24	81SS+10 days	83	-1 day
83	1.3.1.1.3.12.7	fixing glass panels for skylight and canopy	C2	2 days	15 Jun '24	16 Jun '24	82	84	-1 day
84	1.3.1.1.3.12.8	fixing sub-frame for ceiling (1st part)	C2	7 days	17 Jun '24	23 Jun '24	83	85,87FS+3 days	-1 day
85	1.3.1.1.3.12.9	fixing alum roof cladding	C2	14 days	24 Jun '24	7 Jul '24	84	86	44 days
86	1.3.1.1.3.12.10	modification to working platform	C2	3 days	8 Jul '24	10 Jul '24	85		44 days
87	1.3.1.1.3.12.11	fixing sub-frame for ceiling (2nd part)	C2	7 days	27 Jun '24	3 Jul '24	84FS+3 days	88	-1 day
88	1.3.1.1.3.12.12	fixing alum cladding to ceiling	C2	28 days	4 Jul '24	31 Jul '24	87	3	-1 day
89	**1.3.1.1.4**	**ABWF**	**C2**	**71 days**	**20 May '24**	**29 Jul '24**			**1 day**
90	1.3.1.1.4.1	Site setting out	C2	3 days	20 May '24	22 May '24		91	6 days
91	1.3.1.1.4.2	Touch up works for fair-faced concrete	C2	40 days	28 May '24	6 Jul '24	90	92SS+10 days,95SS+20 day	1 day
92	1.3.1.1.4.3	Apply undercoat and finishing coat to external wall and ceiling	C2	50 days	7 Jun '24	26 Jul '24	91SS+10 days	93SS+13 days	1 day
93	1.3.1.1.4.4	Artifical granite tiles	C2	40 days	20 Jun '24	29 Jul '24	92SS+13 days	3	1 day
94	**1.3.1.1.5**	**E&M Works**	**C2**	**40 days**	**17 Jun '24**	**26 Jul '24**			**4 days**
95	1.3.1.1.5.1	Electrical works (lighting)	C2	40 days	17 Jun '24	26 Jul '24	91SS+20 days	3	4 days
96	1.3.1.1.5.2	plumbing and drainage works (inside the kiosk)	C2	14 days	18 Jun '24	1 Jul '24		3	29 days
97	**1.3.1.2**	**Back of house facilities (under bridge D3)**	**C2**	**162 days**	**6 Feb '24**	**7 Aug '24**			**16 days**
98	**1.3.1.2.1**	**Fabrication for both footings A & B**	**None**	**127 days**	**6 Feb '24**	**21 Jun '24**			**57 days**
99	**1.3.1.2.1.1**	**Structural Steel**	**None**	**50 days**	**20 Feb '24**	**9 Apr '24**			**111 days**
100	1.3.1.2.1.1.1	Fabrication of steel	C2	50 days	20 Feb '24	9 Apr '24		118FS+5 days,137FS+5 day	101 days
101	**1.3.1.2.1.2**	**Roof and wall cladding**	**None**	**86 days**	**6 Feb '24**	**11 May '24**			**104 days**
109	**1.3.1.2.1.3**	**Window**	**C2**	**85 days**	**20 Feb '24**	**24 May '24**			**53 days**
113	**1.3.1.2.1.4**	**Feature Wall**	**None**	**123 days**	**20 Feb '24**	**21 Jun '24**			**63 days**



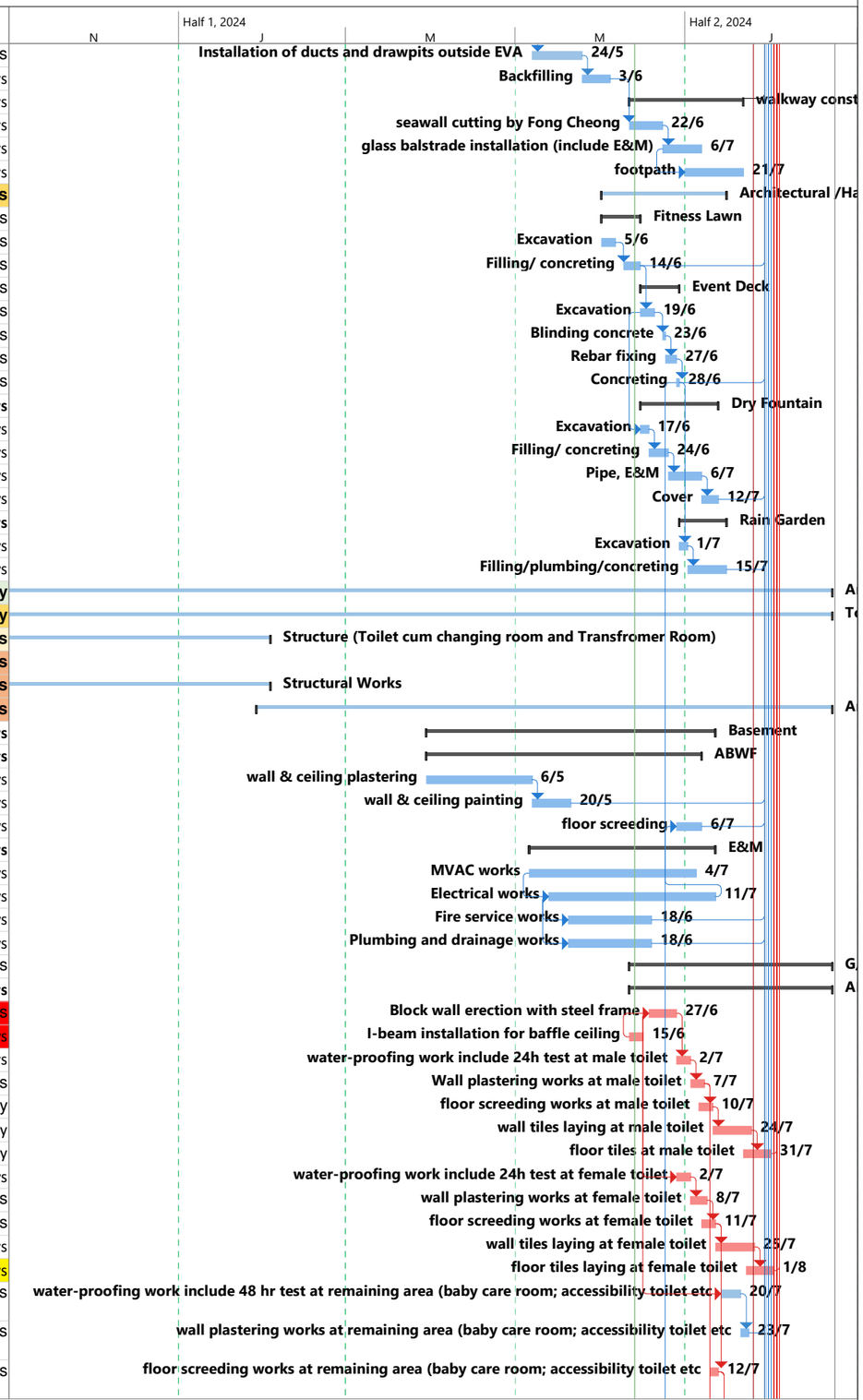
Task — Summary — Start-only — Critical — Progress
Milestone — Project Summary — Finish-only — Critical Split — Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
116	**1.3.1.2.2**	**Footing A**	**None**	**107 days**	**15 Apr '24**	**30 Jul '24**			**24 days**
117	**1.3.1.2.2.1**	**Structural works**	**None**	**92 days**	**15 Apr '24**	**15 Jul '24**			**38 days**
118	1.3.1.2.2.1.1	Erection of steel works	C2	20 days	15 Apr '24	14 May '24	100FS+5 days		101 days
119	1.3.1.2.2.1.2	Installation of gutter	C2	7 days	21 May '24	27 May '24		3,120	2 days
120	1.3.1.2.2.1.3	Installation of roof cladding	C2	7 days	28 May '24	3 Jun '24	119	3,121SS	2 days
121	1.3.1.2.2.1.4	installation of temporary wall cladding (for ABWF works)	C2	7 days	28 May '24	3 Jun '24	120SS	126	2 days
122	1.3.1.2.2.1.5	Installation of wall cladding	C2	14 days	18 Jun '24	1 Jul '24	154	123	15 days
123	1.3.1.2.2.1.6	Installation of window	C2	14 days	2 Jul '24	15 Jul '24	112,122	3	15 days
124	**1.3.1.2.2.2**	**ABWF**	**None**	**46 days**	**5 Jun '24**	**20 Jul '24**			**0 days**
125	1.3.1.2.2.2.1	Site setting out works	C2	1 day	5 Jun '24	5 Jun '24		126	0 days
126	1.3.1.2.2.2.2	Dry wall installation	C2	21 days	6 Jun '24	26 Jun '24	125,121	127SS+14 days	0 days
127	1.3.1.2.2.2.3	Wall paint works for dry wall	C2	21 days	20 Jun '24	10 Jul '24	126SS+14 days	128SS+14 days,131SS+6 da	0 days
128	1.3.1.2.2.2.4	Door and door frame installation	C2	10 days	4 Jul '24	13 Jul '24	127SS+14 days	129	10 days
129	1.3.1.2.2.2.5	Touch Up works	C2	7 days	14 Jul '24	20 Jul '24	128	3	10 days
130	**1.3.1.2.2.3**	**E&M**	**None**	**35 days**	**26 Jun '24**	**30 Jul '24**			**0 days**
131	1.3.1.2.2.3.1	Electrical works	C2	35 days	26 Jun '24	30 Jul '24	127SS+6 days	3	0 days
132	1.3.1.2.2.3.2	MVAC works	C2	35 days	26 Jun '24	30 Jul '24	127SS+6 days	3,133SS+7 days,134SS+7 d	0 days
133	1.3.1.2.2.3.3	Fire service works	C2	20 days	3 Jul '24	22 Jul '24	132SS+7 days	3	8 days
134	1.3.1.2.2.3.4	plumbing and drainage works	C2	10 days	5 Jul '24	14 Jul '24	132SS+7 days	3	16 days
135	**1.3.1.2.3**	**Footing B**	**None**	**115 days**	**15 Apr '24**	**7 Aug '24**			**16 days**
136	**1.3.1.2.3.1**	**Structural works**	**None**	**100 days**	**15 Apr '24**	**23 Jul '24**			**31 days**
137	1.3.1.2.3.1.1	Erection Footing B (part 1)	C2	14 days	15 Apr '24	8 May '24	100FS+5 days		107 days
138	1.3.1.2.3.1.2	Erection Footing B (part 2)	C2	4 days	9 Jul '24	12 Jul '24	155	139	-8 days
139	1.3.1.2.3.1.3	Installation of gutter	C2	2 days	13 Jul '24	14 Jul '24	138	140	-8 days
140	1.3.1.2.3.1.4	installation of roof cladding	C2	2 days	15 Jul '24	16 Jul '24	139	141	-8 days
141	1.3.1.2.3.1.5	installation of wall cladding	C2	2 days	17 Jul '24	18 Jul '24	140	3,142,144	-8 days
142	1.3.1.2.3.1.6	Installation of window	C2	5 days	19 Jul '24	23 Jul '24	141	3	7 days
143	**1.3.1.2.3.2**	**ABWF**	**None**	**7 days**	**19 Jul '24**	**25 Jul '24**			**-8 days**
144	1.3.1.2.3.2.1	Dry wall installation	C2	3 days	19 Jul '24	21 Jul '24	141	145	-8 days
145	1.3.1.2.3.2.2	Wall paint works for dry wall	C2	2 days	22 Jul '24	23 Jul '24	144	146,149,150,151,152	-8 days
146	1.3.1.2.3.2.3	Door and door frame installation	C2	2 days	24 Jul '24	25 Jul '24	145	147SS	5 days
147	1.3.1.2.3.2.4	Touch Up works	C2	2 days	24 Jul '24	25 Jul '24	146SS	3	5 days
148	1.3.1.2.3.3	**E&M**	C2	15 days	24 Jul '24	7 Aug '24			-8 days
149	1.3.1.2.3.3.1	Electrical works	C2	15 days	24 Jul '24	7 Aug '24	145	3	-8 days
150	1.3.1.2.3.3.2	MVAC works	C2	15 days	24 Jul '24	7 Aug '24	145	3	-8 days
151	1.3.1.2.3.3.3	Fire service works	C2	15 days	24 Jul '24	7 Aug '24	145	3	-8 days
152	1.3.1.2.3.3.4	plumbing and drainage works	C2	15 days	24 Jul '24	7 Aug '24	145	3	-8 days
153	**1.3.1.2.4**	**Utilities beside & behind the BoH**	**None**	**42 days**	**28 May '24**	**8 Jul '24**			**-8 days**
154	1.3.1.2.4.1	Utilities beside BoH	C2	21 days	28 May '24	17 Jun '24		157,155,122	-8 days
155	1.3.1.2.4.2	Utilities behind BoH (include XX)	C2	21 days	18 Jun '24	8 Jul '24	154	138	-8 days
156	**1.3.1.2.5**	**Footing for the Gate**	**None**	**20 days**	**18 Jun '24**	**7 Jul '24**			**33 days**
157	1.3.1.2.5.1	Footing for the Gate	C2	10 days	18 Jun '24	27 Jun '24	154	3,158	33 days
158	1.3.1.2.5.2	installation of feature wall	C2	10 days	28 Jun '24	7 Jul '24	157		47 days
159	**1.3.1.3**	**EVA no. 1**	**C2**	**108 days**	**26 Mar '24**	**21 Jul '24**			**9 days**
160	**1.3.1.3.1**	**EVA no.1**	**C2**	**108 days**	**26 Mar '24**	**21 Jul '24**			**9 days**
161	**1.3.1.3.1.1**	**Within EVA**	**None**	**108 days**	**26 Mar '24**	**11 Jul '24**			**9 days**
162	**1.3.1.3.1.1.1**	**EVA no. 1 (exclude the remaining section connect to the deck channel)**	**None**	**108 days**	**26 Mar '24**	**11 Jul '24**			**9 days**
163	1.3.1.3.1.1.1.1	Trench excavation for ducts and drawpits within EVA (include breaking hard material)	C2	30 days	26 Mar '24	1 May '24		171SS+7 days,164,165	9 days
164	1.3.1.3.1.1.1.2	Installation of ducts and drawpits within EVA (include branch ducts to lighting pole)	C2	16 days	5 May '24	20 May '24	163	165	19 days
165	1.3.1.3.1.1.1.3	Backfilling	C2	7 days	21 May '24	27 May '24	163,164	166	19 days
166	1.3.1.3.1.1.1.4	u-channel construction and fire main laying (73m)	C2	18 days	28 May '24	14 Jun '24	165	167FS+3 days	19 days
167	1.3.1.3.1.1.1.5	Subbase laying for the EVA	C2	10 days	18 Jun '24	27 Jun '24	166FS+3 days	168	19 days
168	1.3.1.3.1.1.1.6	pavement	C2	14 days	28 Jun '24	11 Jul '24	167	169FF	19 days
169	1.3.1.3.1.1.1.7	E&M works	C2	21 days	21 Jun '24	11 Jul '24	168FF	3	19 days
170	**1.3.1.3.1.2**	**Outside EVA**	**None**	**111 days**	**2 Apr '24**	**21 Jul '24**			**9 days**
171	1.3.1.3.1.2.1	Trench excavation for ducts and drawpits outside EVA (include breaking hard material)	C2	25 days	2 Apr '24	6 May '24	163SS+7 days	172	9 days



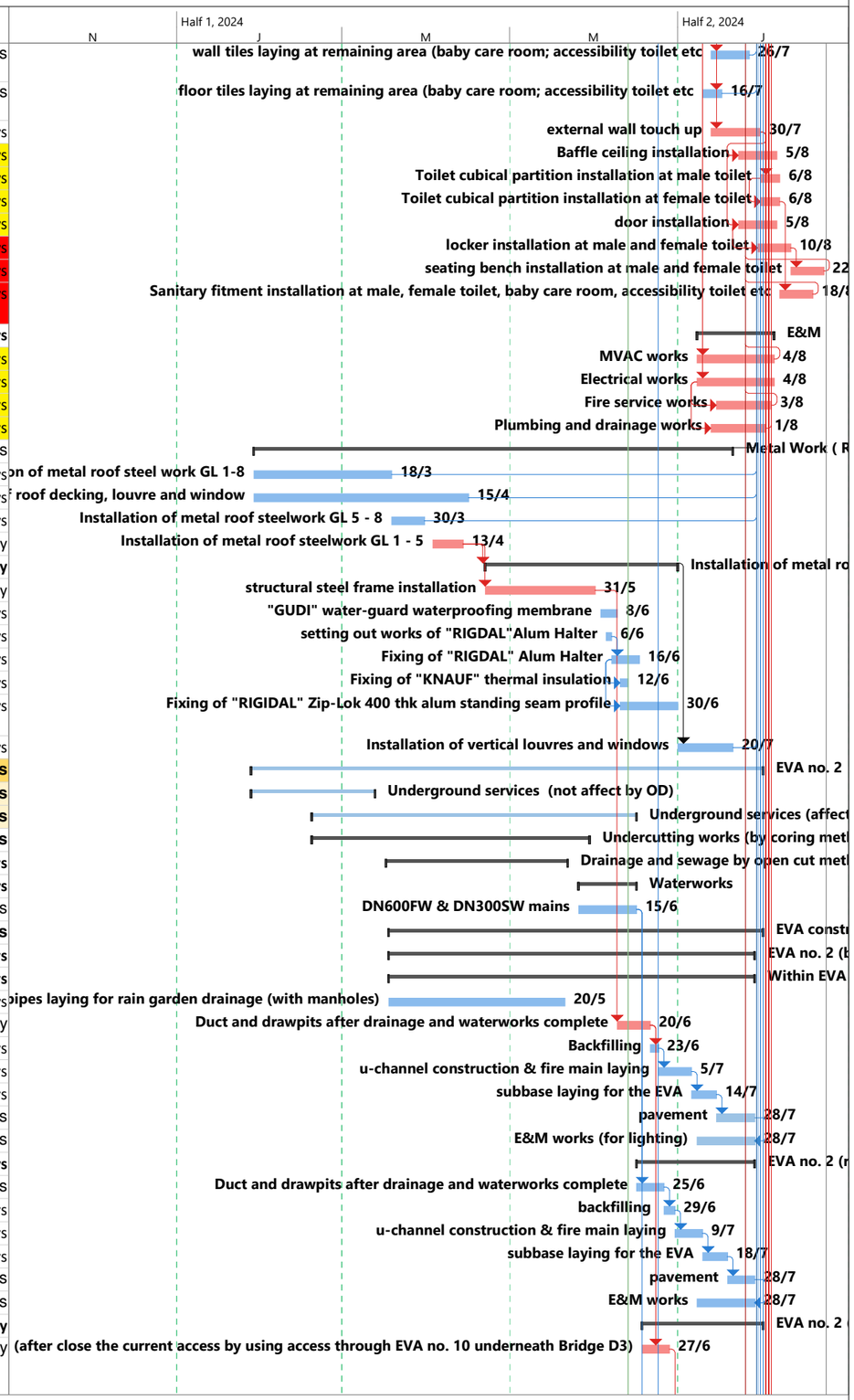
Task — Summary — Start-only — Critical — Progress
Milestone — Project Summary — Finish-only — Critical Split — Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
172	1.3.1.3.1.2.2	Installation of ducts and drawpits outside EVA	C2	18 days	7 May '24	24 May '24	171	173	9 days
173	1.3.1.3.1.2.3	Backfilling	C2	10 days	25 May '24	3 Jun '24	172	175FS+7 days	9 days
174	1.3.1.3.1.2.4	walkway construction	C2	41 days	11 Jun '24	21 Jul '24		3	9 days
175	1.3.1.3.1.2.4.1	seawall cutting by Fong Cheong	C2	12 days	11 Jun '24	22 Jun '24	173FS+7 days	176	9 days
176	1.3.1.3.1.2.4.2	glass balstrade installation (include E&M)	C2	14 days	23 Jun '24	6 Jul '24	175	177SS+8 days	9 days
177	1.3.1.3.1.2.4.3	footpath	C2	21 days	1 Jul '24	21 Jul '24	176SS+8 days		9 days
178	**1.3.1.4**	**Architectural /Hard landscaping Works**	**C2**	**45 days**	**1 Jun '24**	**15 Jul '24**			**12 days**
179	1.3.1.4.1	Fitness Lawn	C2	14 days	1 Jun '24	14 Jun '24			12 days
180	1.3.1.4.1.1	Excavation	C2	5 days	1 Jun '24	5 Jun '24		181FS+3 days	12 days
181	1.3.1.4.1.2	Filling/ concreting	C2	6 days	9 Jun '24	14 Jun '24	180FS+3 day	3,183	12 days
182	1.3.1.4.2	Event Deck	C2	14 days	15 Jun '24	28 Jun '24			12 days
183	1.3.1.4.2.1	Excavation	C2	5 days	15 Jun '24	19 Jun '24	181	184FS+3 days,188SS	12 days
184	1.3.1.4.2.2	Blinding concrete	C2	1 day	23 Jun '24	23 Jun '24	183FS+3 day	185	12 days
185	1.3.1.4.2.3	Rebar fixing	C2	4 days	24 Jun '24	27 Jun '24	184	186	12 days
186	1.3.1.4.2.4	Concreting	C2	1 day	28 Jun '24	28 Jun '24	185	3,193,340SS	12 days
187	**1.3.1.4.3**	**Dry Fountain**	**None**	**28 days**	**15 Jun '24**	**12 Jul '24**			**18 days**
188	1.3.1.4.3.1	Excavation	C2	3 days	15 Jun '24	17 Jun '24	183SS	189	18 days
189	1.3.1.4.3.2	Filling/ concreting	C2	7 days	18 Jun '24	24 Jun '24	188	190	18 days
190	1.3.1.4.3.3	Pipe, E&M	C2	12 days	25 Jun '24	6 Jul '24	189	191	18 days
191	1.3.1.4.3.4	Cover	C2	6 days	7 Jul '24	12 Jul '24	190	3	18 days
192	**1.3.1.4.4**	**Rain Garden**	**None**	**17 days**	**29 Jun '24**	**15 Jul '24**			**15 days**
193	1.3.1.4.4.1	Excavation	C2	3 days	29 Jun '24	1 Jul '24	186	194	15 days
194	1.3.1.4.4.2	Filling/plumbing/concreting	C2	14 days	2 Jul '24	15 Jul '24	193	3	15 days
195	**1.3.2**	**Area No. 2**	**C2**	**427 days**	**1 Jun '23**	**22 Aug '24**			**1 day**
196	**1.3.2.1**	**Toilet cum changing room and Transformer Room**	**C2**	**427 days**	**1 Jun '23**	**22 Aug '24**			**1 day**
197	**1.3.2.1.1**	**Structure (Toilet cum changing room and Transfromer F**	**C2**	**247 days**	**1 Jun '23**	**2 Feb '24**			**181 days**
198	**1.3.2.1.1.1**	**ELS**	**C2**	**97 days**	**1 Jun '23**	**5 Sep '23**			**331 days**
201	**1.3.2.1.1.2**	**Structural Works**	**C2**	**181 days**	**6 Aug '23**	**2 Feb '24**			**95 days**
221	**1.3.2.1.2**	**Architectural Works**	**C2**	**185 days**	**29 Jan '24**	**22 Aug '24**			**-18 days**
222	**1.3.2.1.2.1**	**Basement**	**None**	**104 days**	**30 Mar '24**	**11 Jul '24**			**24 days**
223	**1.3.2.1.2.1.1**	**ABWF**	**None**	**99 days**	**30 Mar '24**	**6 Jul '24**			**24 days**
224	1.3.2.1.2.1.1.1	wall & ceiling plastering	C2	28 days	30 Mar '24	6 May '24		225	71 days
225	1.3.2.1.2.1.1.2	wall & ceiling painting	C2	14 days	7 May '24	20 May '24	224	3	71 days
226	1.3.2.1.2.1.1.3	floor screeding	C2	9 days	28 Jun '24	6 Jul '24	229FS-14 days	3	24 days
227	**1.3.2.1.2.1.2**	**E&M**	**None**	**67 days**	**6 May '24**	**11 Jul '24**			**24 days**
228	1.3.2.1.2.1.2.1	MVAC works	C2	60 days	6 May '24	4 Jul '24		229SS+7 days	24 days
229	1.3.2.1.2.1.2.2	Electrical works	C2	60 days	13 May '24	11 Jul '24	228SS+7 days	226FS-14 days,230SS+7 da	24 days
230	1.3.2.1.2.1.2.3	Fire service works	C2	30 days	20 May '24	18 Jun '24	229SS+7 days	3	42 days
231	1.3.2.1.2.1.2.4	Plumbing and drainage works	C2	30 days	20 May '24	18 Jun '24	229SS+7 days	3	42 days
232	1.3.2.1.2.2	G/F	C2	73 days	11 Jun '24	22 Aug '24			-23 days
233	**1.3.2.1.2.2.1**	**ABWF**	**C2**	**73 days**	**11 Jun '24**	**22 Aug '24**			**-23 days**
234	1.3.2.1.2.2.1.1	Block wall erection with steel frame	C2	10 days	18 Jun '24	27 Jun '24	235SS+7 day	236,241SS+10 days,246	-23 days
235	1.3.2.1.2.2.1.2	I-beam installation for baffle ceiling	C2	5 days	11 Jun '24	15 Jun '24		234SS+7 days	-23 days
236	1.3.2.1.2.2.1.3	water-proofing work include 24h test at male toilet	C2	5 days	28 Jun '24	2 Jul '24	234	237	-5 days
237	1.3.2.1.2.2.1.4	Wall plastering works at male toilet	C2	5 days	3 Jul '24	7 Jul '24	236	238FS-2 days,260,261	-5 days
238	1.3.2.1.2.2.1.5	floor screeding works at male toilet	C2	5 days	6 Jul '24	10 Jul '24	237FS-2 days	239	-1 day
239	1.3.2.1.2.2.1.6	wall tiles laying at male toilet	C2	14 days	11 Jul '24	24 Jul '24	238	240FS-3 days	-1 day
240	1.3.2.1.2.2.1.7	floor tiles at male toilet	C2	10 days	22 Jul '24	31 Jul '24	239FS-3 days	3	-1 day
241	1.3.2.1.2.2.1.8	water-proofing work include 24h test at female toilet	C2	5 days	28 Jun '24	2 Jul '24	234SS+10 days	242	-23 days
242	1.3.2.1.2.2.1.9	wall plastering works at female toilet	C2	6 days	3 Jul '24	8 Jul '24	241	243FS-2 days	-23 days
243	1.3.2.1.2.2.1.10	floor screeding works at female toilet	C2	5 days	7 Jul '24	11 Jul '24	242FS-2 days	248FS-2 days,244	-23 days
244	1.3.2.1.2.2.1.11	wall tiles laying at female toilet	C2	14 days	12 Jul '24	25 Jul '24	243	245FS-3 days	-2 days
245	1.3.2.1.2.2.1.12	floor tiles laying at female toilet	C2	10 days	23 Jul '24	1 Aug '24	244FS-3 days	3	-2 days
246	1.3.2.1.2.2.1.13	water-proofing work include 48 hr test at remaining area (baby care room; accessibility toilet etc	C2	7 days	14 Jul '24	20 Jul '24	234SS+26 days	247	7 days
247	1.3.2.1.2.2.1.14	wall plastering works at remaining area (baby care room; accessibility toilet etc	C2	3 days	21 Jul '24	23 Jul '24	246	3	7 days
248	1.3.2.1.2.2.1.15	floor screeding works at remaining area (baby care room; accessibility toilet etc	C2	3 days	10 Jul '24	12 Jul '24	243FS-2 days	249,250FS-3 days,251	-23 days



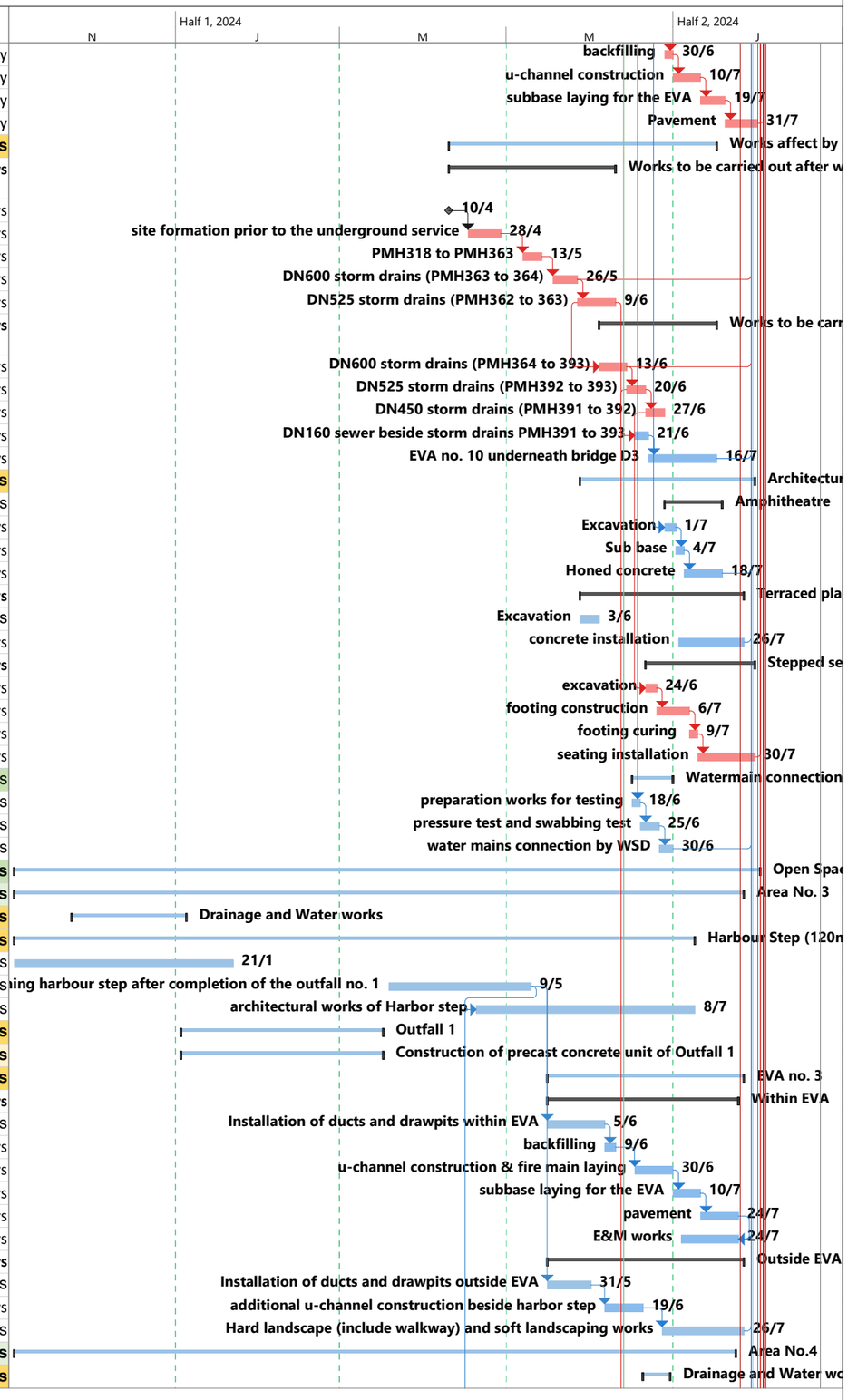
Task | Summary | Start-only | Critical | Progress
Milestone | Project Summary | Finish-only | Critical Split | Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
249	1.3.2.1.2.2.1.16	wall tiles laying at remaining area (baby care room; accessibility toilet etc	C2	14 days	13 Jul '24	26 Jul '24	248	3	4 days
250	1.3.2.1.2.2.1.17	floor tiles laying at remaining area (baby care room; accessibility toilet etc	C2	7 days	10 Jul '24	16 Jul '24	248FS-3 days	3	14 days
251	1.3.2.1.2.2.1.18	external wall touch up	C2	18 days	13 Jul '24	30 Jul '24	248	252FS-8 days,253	-23 days
252	1.3.2.1.2.2.1.19	Baffle ceiling installation	C2	14 days	23 Jul '24	5 Aug '24	251FS-8 days	255SS	-23 days
253	1.3.2.1.2.2.1.20	Toilet cubical partition installation at male toilet	C2	7 days	31 Jul '24	6 Aug '24	251	254SS	-19 days
254	1.3.2.1.2.2.1.21	Toilet cubical partition installation at female toilet	C2	7 days	31 Jul '24	6 Aug '24	253SS	258	-19 days
255	1.3.2.1.2.2.1.22	door installation	C2	14 days	23 Jul '24	5 Aug '24	252SS	256SS+7 days	-23 days
256	1.3.2.1.2.2.1.23	locker installation at male and female toilet	C2	12 days	30 Jul '24	10 Aug '24	255SS+7 days	257	-23 days
257	1.3.2.1.2.2.1.24	seating bench installation at male and female toilet	C2	12 days	11 Aug '24	22 Aug '24	256	3	-23 days
258	1.3.2.1.2.2.1.25	Sanitary fitment installation at male, female toilet, baby care room, accessibility toilet etc	C2	12 days	7 Aug '24	18 Aug '24	254	3	-19 days
259	**1.3.2.1.2.2.2**	**E&M**	**C2**	**28 days**	**8 Jul '24**	**4 Aug '24**			**-5 days**
260	1.3.2.1.2.2.2.1	MVAC works	C2	28 days	8 Jul '24	4 Aug '24	237	3	-5 days
261	1.3.2.1.2.2.2.2	Electrical works	C2	28 days	8 Jul '24	4 Aug '24	237	262SS+7 days,263SS+5 day	-4 days
262	1.3.2.1.2.2.2.3	Fire service works	C2	20 days	15 Jul '24	3 Aug '24	261SS+7 days	3	-4 days
263	1.3.2.1.2.2.2.4	Plumbing and drainage works	C2	20 days	13 Jul '24	1 Aug '24	261SS+5 days	3	-2 days
264	1.3.2.1.2.3	Metal Work (Roof)	C2	152 days	29 Jan '24	20 Jul '24		3	10 days
265	1.3.2.1.2.3.1	Fabrication of metal roof steel work GL 1-8	C2	38 days	29 Jan '24	18 Mar '24		3	124 days
266	1.3.2.1.2.3.2	Fabrication of roof decking, louvre and window	C2	66 days	29 Jan '24	15 Apr '24		3	96 days
267	1.3.2.1.2.3.3	Installation of metal roof steelwork GL 5 - 8	C2	12 days	19 Mar '24	30 Mar '24		3	112 days
268	1.3.2.1.2.3.4	Installation of metal roof steelwork GL 1 - 5	C2	11 days	3 Apr '24	13 Apr '24		269FS+8 days,270FS+8 day	-1 day
269	**1.3.2.1.2.3.5**	**Installation of metal roof decking GL 1 - 8**	**C2**	**60 days**	**22 Apr '24**	**30 Jun '24**	**268FS+8 days**	**276**	**-1 day**
270	1.3.2.1.2.3.5.1	structural steel frame installation	C2	30 days	22 Apr '24	31 May '24	268FS+8 days	306FS+8 days	-1 day
271	1.3.2.1.2.3.5.2	"GUDI" water-guard waterproofing membrane	C2	6 days	3 Jun '24	8 Jun '24			32 days
272	1.3.2.1.2.3.5.3	setting out works of "RIGDAL"Alum Halter	C2	2 days	5 Jun '24	6 Jun '24		273	10 days
273	1.3.2.1.2.3.5.4	Fixing of "RIGDAL" Alum Halter	C2	10 days	7 Jun '24	16 Jun '24	272	274SS+3 days,275SS+3 day	10 days
274	1.3.2.1.2.3.5.5	Fixing of "KNAUF" thermal insulation	C2	3 days	10 Jun '24	12 Jun '24	273SS+3 days		28 days
275	1.3.2.1.2.3.5.6	Fixing of "RIGIDAL" Zip-Lok 400 thk alum standing seam profile	C2	21 days	10 Jun '24	30 Jun '24	273SS+3 days		10 days
276	1.3.2.1.2.3.6	Installation of vertical louvres and windows	C2	20 days	1 Jul '24	20 Jul '24	269	3	10 days
277	**1.3.2.2**	**EVA no. 2**	**C2**	**164 days**	**28 Jan '24**	**31 Jul '24**			**12 days**
278	**1.3.2.2.1**	**Underground services (not affect by OD)**	**C2**	**33 days**	**28 Jan '24**	**12 Mar '24**			**95 days**
280	**1.3.2.2.2**	**Underground services (affect by OD)**	**C2**	**108 days**	**19 Feb '24**	**15 Jun '24**			**2 days**
281	**1.3.2.2.2.1**	**Undercutting works (by coring method)**	**C2**	**91 days**	**19 Feb '24**	**29 May '24**			**2 days**
296	**1.3.2.2.2.2**	**Drainage and sewage by open cut method**	**None**	**66 days**	**17 Mar '24**	**21 May '24**			**52 days**
300	**1.3.2.2.2.3**	**Waterworks**	**None**	**21 days**	**26 May '24**	**15 Jun '24**			**2 days**
301	1.3.2.2.2.3.1	DN600FW & DN300SW mains	C2	21 days	26 May '24	15 Jun '24	298FS+4 day	352,313	2 days
302	**1.3.2.2.3**	**EVA construction**	**C2**	**126 days**	**18 Mar '24**	**31 Jul '24**			**23 days**
303	**1.3.2.2.3.1**	**EVA no. 2 (beside toilet cum)**	**C2**	**123 days**	**18 Mar '24**	**28 Jul '24**			**26 days**
304	**1.3.2.2.3.1.1**	**Within EVA**	**None**	**133 days**	**18 Mar '24**	**28 Jul '24**			**26 days**
305	1.3.2.2.3.1.1.1	pipes laying for rain garden drainage (with manholes)	C2	54 days	18 Mar '24	20 May '24	279FS+5 days		95 days
306	1.3.2.2.3.1.1.2	Duct and drawpits after drainage and waterworks cor	C2	12 days	9 Jun '24	20 Jun '24	270FS+8 day	307,320FS-3 days	-1 day
307	1.3.2.2.3.1.1.3	Backfilling	C2	3 days	21 Jun '24	23 Jun '24	306	308	2 days
308	1.3.2.2.3.1.1.4	u-channel construction & fire main laying	C2	12 days	24 Jun '24	5 Jul '24	307	309	2 days
309	1.3.2.2.3.1.1.5	subbase laying for the EVA	C2	9 days	6 Jul '24	14 Jul '24	308	310	2 days
310	1.3.2.2.3.1.1.6	pavement	C2	14 days	15 Jul '24	28 Jul '24	309	311FF	2 days
311	1.3.2.2.3.1.1.7	E&M works (for lighting)	C2	21 days	8 Jul '24	28 Jul '24	310FF	3	2 days
312	**1.3.2.2.3.2**	**EVA no. 2 (reserve for observation deck)**	**C2**	**43 days**	**16 Jun '24**	**28 Jul '24**			**2 days**
313	1.3.2.2.3.2.1	Duct and drawpits after drainage and waterworks comp	C2	10 days	16 Jun '24	25 Jun '24	301	314	2 days
314	1.3.2.2.3.2.2	backfilling	C2	4 days	26 Jun '24	29 Jun '24	313	315	2 days
315	1.3.2.2.3.2.3	u-channel construction & fire main laying	C2	10 days	30 Jun '24	9 Jul '24	314	316	2 days
316	1.3.2.2.3.2.4	subbase laying for the EVA	C2	9 days	10 Jul '24	18 Jul '24	315	317	2 days
317	1.3.2.2.3.2.5	pavement	C2	10 days	19 Jul '24	28 Jul '24	316	318FF	2 days
318	1.3.2.2.3.2.6	E&M works	C2	21 days	8 Jul '24	28 Jul '24	317FF	3	2 days
319	**1.3.2.2.3.3**	**EVA no. 2 (reserve for the entrance of the works)**	**None**	**44 days**	**18 Jun '24**	**31 Jul '24**			**-1 day**
320	1.3.2.2.3.3.1	Duct and drawpits after EVA no. 3 complete (after close the current access by using access through EVA no. 10 underneath Bridge D3)	C2	10 days	18 Jun '24	27 Jun '24	306FS-3 days	321	-1 day



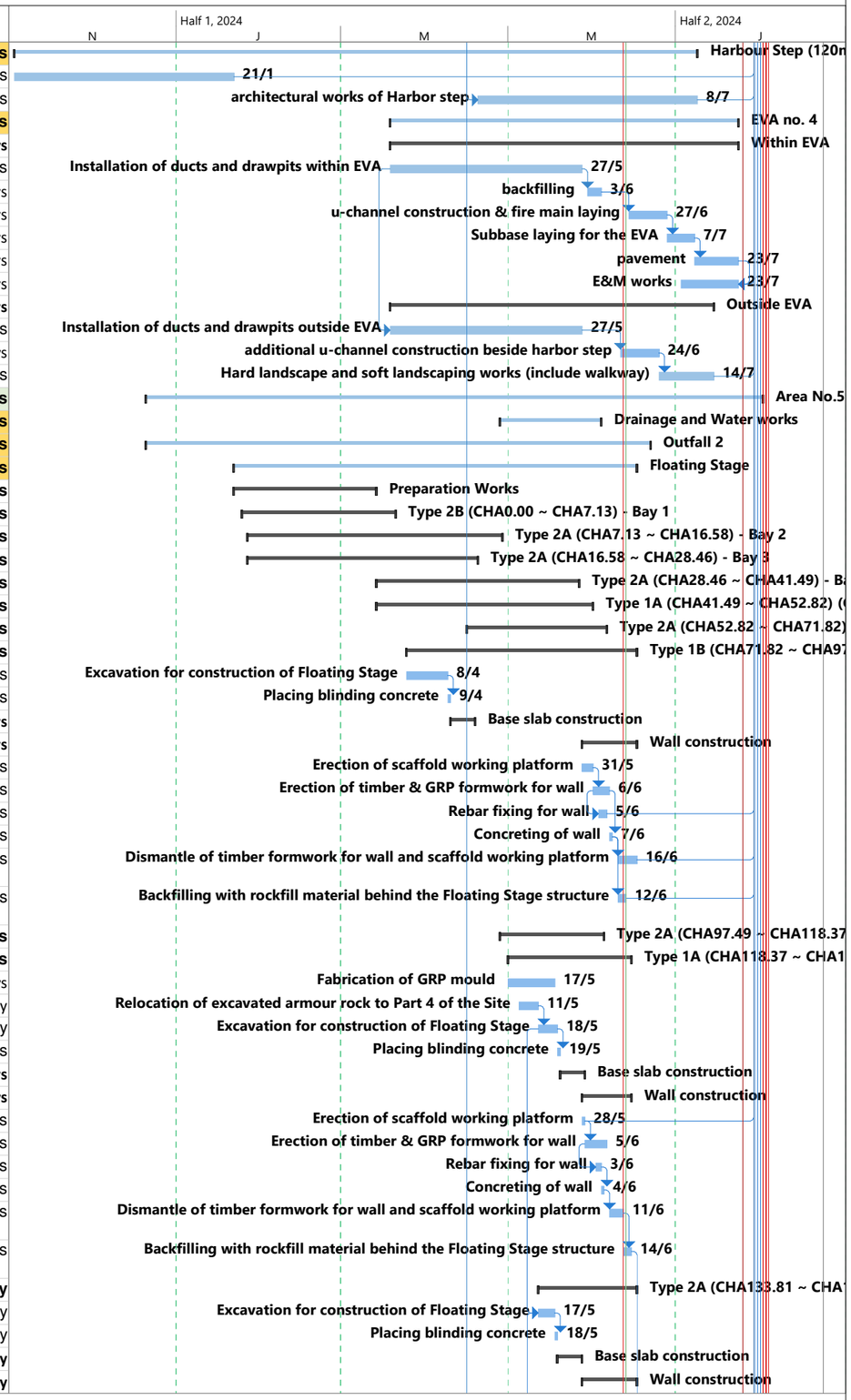
Task | Summary | Start-only | Critical | Progress
Milestone | Project Summary | Finish-only | Critical Split | Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
321	1.3.2.2.3.3.2	backfilling	C2	3 days	28 Jun '24	30 Jun '24	320	322	-1 day
322	1.3.2.2.3.3.3	u-channel construction	C2	10 days	1 Jul '24	10 Jul '24	321	323	-1 day
323	1.3.2.2.3.3.4	subbase laying for the EVA	C2	9 days	11 Jul '24	19 Jul '24	322	324	-1 day
324	1.3.2.2.3.3.5	Pavement	C2	12 days	20 Jul '24	31 Jul '24	323	3	-1 day
325	**1.3.2.3**	**Works affect by OD (outside EVA no. 2)**	**C2**	**88 days**	**10 Apr '24**	**16 Jul '24**			**0 days**
326	**1.3.2.3.1**	**Works to be carried out after water main diversion from Gammon complete**	**None**	**61 days**	**10 Apr '24**	**9 Jun '24**			**0 days**
327	1.3.2.3.1.1	water main in conflict with our drainage works divert by Gamm	None	0 days	10 Apr '24	10 Apr '24		328FS+7 days	0 days
328	1.3.2.3.1.2	site formation prior to the underground service	C2	7 days	17 Apr '24	28 Apr '24	327FS+7 days	329FS+3 days	0 days
329	1.3.2.3.1.3	PMH318 to PMH363	C2	7 days	7 May '24	13 May '24	328FS+3 days	330FS+4 days	0 days
330	1.3.2.3.1.4	DN600 storm drains (PMH363 to 364)	C2	9 days	18 May '24	26 May '24	329FS+4 days	3,331	0 days
331	1.3.2.3.1.5	DN525 storm drains (PMH362 to 363)	C2	14 days	27 May '24	9 Jun '24	330	333SS+8 days,1137	0 days
332	**1.3.2.3.2**	**Works to be carried out concurrently with the installation of steel roof of Observation Deck**	**None**	**43 days**	**4 Jun '24**	**16 Jul '24**			**0 days**
333	1.3.2.3.2.1	DN600 storm drains (PMH364 to 393)	C2	10 days	4 Jun '24	13 Jun '24	331SS+8 days	3,334	0 days
334	1.3.2.3.2.2	DN525 storm drains (PMH392 to 393)	C2	7 days	14 Jun '24	20 Jun '24	333	335,336SS+3 days	0 days
335	1.3.2.3.2.3	DN450 storm drains (PMH391 to 392)	C2	7 days	21 Jun '24	27 Jun '24	334	347SS	0 days
336	1.3.2.3.2.4	DN160 sewer beside storm drains PMH391 to 393	C2	5 days	17 Jun '24	21 Jun '24	334SS+3 days	337	14 days
337	1.3.2.3.2.5	EVA no. 10 underneath bridge D3	C2	25 days	22 Jun '24	16 Jul '24	336	3	14 days
338	**1.3.2.4**	**Architectural/ Hard Landscaping Works**	**C2**	**64 days**	**28 May '24**	**30 Jul '24**			**24 days**
339	1.3.2.4.1	Amphitheatre	C2	21 days	28 Jun '24	18 Jul '24			12 days
340	1.3.2.4.1.1	Excavation	C2	4 days	28 Jun '24	1 Jul '24	186SS	341	12 days
341	1.3.2.4.1.2	Sub base	C2	3 days	2 Jul '24	4 Jul '24	340	342	12 days
342	1.3.2.4.1.3	Honed concrete	C2	14 days	5 Jul '24	18 Jul '24	341	3	12 days
343	**1.3.2.4.2**	**Terraced planter**	**None**	**60 days**	**28 May '24**	**26 Jul '24**			**28 days**
344	1.3.2.4.2.1	Excavation	C2	7 days	28 May '24	3 Jun '24			81 days
345	1.3.2.4.2.2	concrete installation	C2	24 days	3 Jul '24	26 Jul '24		3	4 days
346	**1.3.2.4.3**	**Stepped seating (underneath bridge D3)**	**None**	**40 days**	**21 Jun '24**	**30 Jul '24**			**0 days**
347	1.3.2.4.3.1	excavation	C2	4 days	21 Jun '24	24 Jun '24	335SS	348	0 days
348	1.3.2.4.3.2	footing construction	C2	12 days	25 Jun '24	6 Jul '24	347	349	0 days
349	1.3.2.4.3.3	footing curing	C2	3 days	7 Jul '24	9 Jul '24	348	350	0 days
350	1.3.2.4.3.4	seating installation	C2	21 days	10 Jul '24	30 Jul '24	349	3	0 days
351	1.3.3	Watermain connection between Area No.1 and 2	None	15 days	16 Jun '24	30 Jun '24			30 days
352	1.3.3.1	preparation works for testing	C2	3 days	16 Jun '24	18 Jun '24	301	353	30 days
353	1.3.3.2	pressure test and swabbing test	C2	7 days	19 Jun '24	25 Jun '24	352	354	30 days
354	1.3.3.3	water mains connection by WSD	C2	5 days	26 Jun '24	30 Jun '24	353	3	30 days
355	**1.4**	**Open Space Beside Existing Seawall**	**C2**	**251 days**	**3 Nov '23**	**1 Aug '24**			**22 days**
356	**1.4.1**	**Area No. 3**	**C2**	**245 days**	**3 Nov '23**	**26 Jul '24**			**28 days**
357	**1.4.1.1**	**Drainage and Water works**	**C2**	**42 days**	**24 Nov '23**	**4 Jan '24**			**210 days**
360	**1.4.1.2**	**Harbour Step (120m)**	**C2**	**227 days**	**3 Nov '23**	**8 Jul '24**			**46 days**
361	1.4.1.2.1	Harbour step (upto the work zone of outfall no.1)	C2	80 days	3 Nov '23	21 Jan '24			193 days
362	1.4.1.2.2	Remaining harbour step after completion of the outfall no. 1	C2	42 days	19 Mar '24	9 May '24	384FS+2 day	363FS-10 days,387FS+(	4 days
363	1.4.1.2.3	architectural works of Harbor step	C2	70 days	20 Apr '24	8 Jul '24	362FS-10 da	402SS,691SS	22 days
364	**1.4.1.3**	**Outfall 1**	**C2**	**62 days**	**3 Jan '24**	**16 Mar '24**			**4 days**
365	**1.4.1.3.1**	**Construction of precast concrete unit of Outfall 1**	**C2**	**62 days**	**3 Jan '24**	**16 Mar '24**			**4 days**
385	**1.4.1.4**	**EVA no. 3**	**C2**	**72 days**	**16 May '24**	**26 Jul '24**			**4 days**
386	**1.4.1.4.1**	**Within EVA**	**None**	**70 days**	**16 May '24**	**24 Jul '24**			**6 days**
387	1.4.1.4.1.1	Installation of ducts and drawpits within EVA	C2	21 days	16 May '24	5 Jun '24	362FS+6 day	388	6 days
388	1.4.1.4.1.2	backfilling	C2	4 days	6 Jun '24	9 Jun '24	387	389FS+7 days	6 days
389	1.4.1.4.1.3	u-channel construction & fire main laying	C2	14 days	17 Jun '24	30 Jun '24	388FS+7 days	390	6 days
390	1.4.1.4.1.4	subbase laying for the EVA	C2	10 days	1 Jul '24	10 Jul '24	389	391	6 days
391	1.4.1.4.1.5	pavement	C2	14 days	11 Jul '24	24 Jul '24	390	392FF	6 days
392	1.4.1.4.1.6	E&M works	C2	21 days	4 Jul '24	24 Jul '24	391FF	3	6 days
393	**1.4.1.4.2**	**Outside EVA**	**None**	**72 days**	**16 May '24**	**26 Jul '24**			**4 days**
394	1.4.1.4.2.1	Installation of ducts and drawpits outside EVA	C2	16 days	16 May '24	31 May '24	362FS+6 day	395FS+5 days	4 days
395	1.4.1.4.2.2	additional u-channel construction beside harbor step	C2	14 days	6 Jun '24	19 Jun '24	394FS+5 days	399,396FS+7 days	4 days
396	1.4.1.4.2.3	Hard landscape (include walkway) and soft landscaping w	C2	30 days	27 Jun '24	26 Jul '24	395FS+7 day	3	4 days
397	**1.4.2**	**Area No.4**	**C2**	**242 days**	**3 Nov '23**	**23 Jul '24**			**7 days**
398	**1.4.2.1**	**Drainage and Water works**	**C2**	**10 days**	**20 Jun '24**	**29 Jun '24**			**31 days**



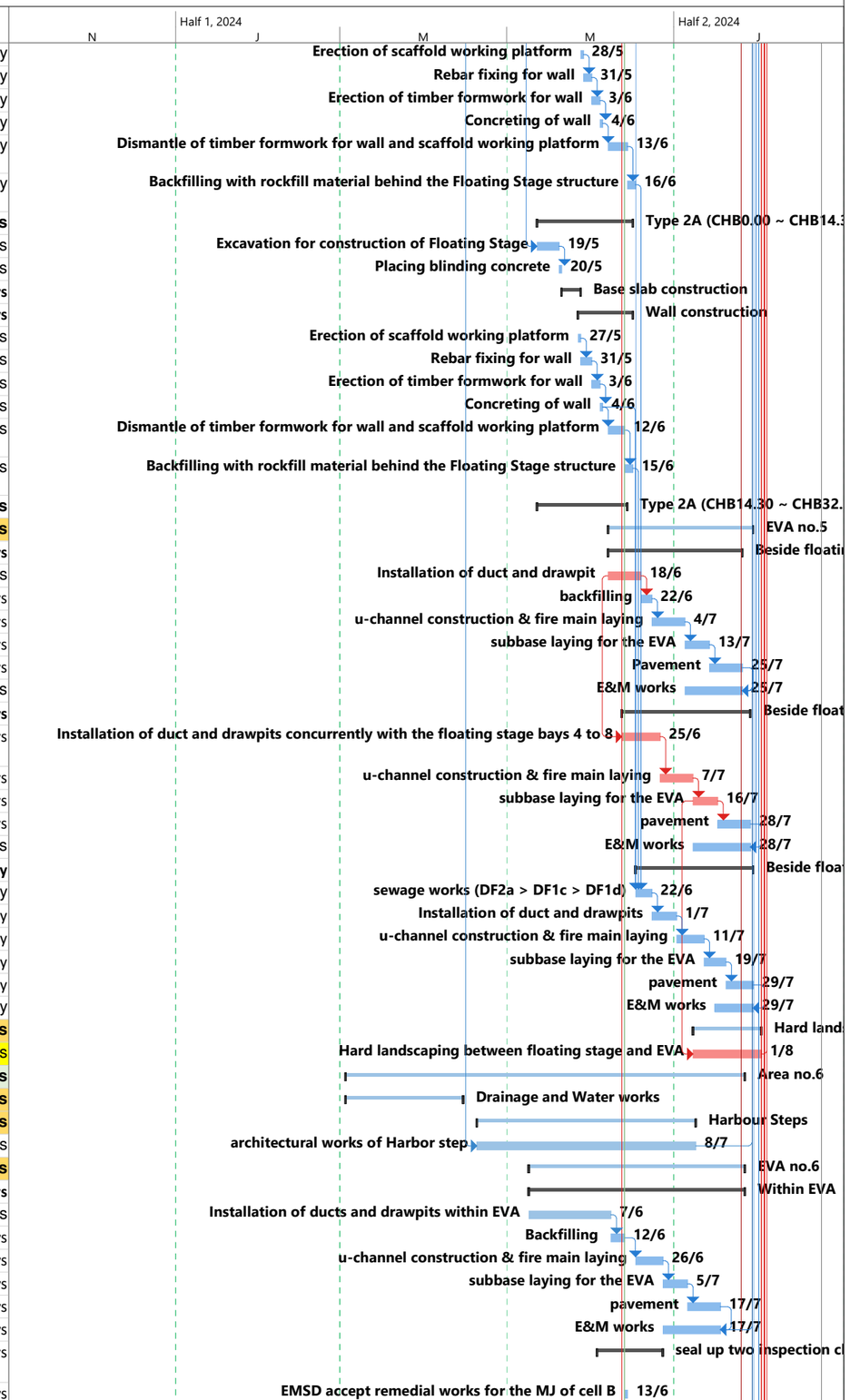
Task | Summary | Start-only | Critical | Progress
Milestone | Project Summary | Finish-only | Critical Split | Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
400	**1.4.2.2**	**Harbour Step (120m)**	**C2**	**227 days**	**3 Nov '23**	**8 Jul '24**			**22 days**
401	1.4.2.2.1	Harbour step (upto the work zone of outfall no.1)	C2	80 days	3 Nov '23	21 Jan '24		3	169 days
402	1.4.2.2.2	architectural works of Harbor step	C2	70 days	20 Apr '24	8 Jul '24	363SS	3	22 days
403	**1.4.2.3**	**EVA no. 4**	**C2**	**117 days**	**19 Mar '24**	**23 Jul '24**			**7 days**
404	**1.4.2.3.1**	**Within EVA**	**None**	**127 days**	**19 Mar '24**	**23 Jul '24**			**7 days**
405	1.4.2.3.1.1	Installation of ducts and drawpits within EVA	C2	60 days	19 Mar '24	27 May '24		412SS,406FS+2 days	7 days
406	1.4.2.3.1.2	backfilling	C2	5 days	30 May '24	3 Jun '24	405FS+2 days	407FS+10 days	7 days
407	1.4.2.3.1.3	u-channel construction & fire main laying	C2	14 days	14 Jun '24	27 Jun '24	406FS+10 days	408	7 days
408	1.4.2.3.1.4	Subbase laying for the EVA	C2	10 days	28 Jun '24	7 Jul '24	407	409	7 days
409	1.4.2.3.1.5	pavement	C2	16 days	8 Jul '24	23 Jul '24	408	410FF	7 days
410	1.4.2.3.1.6	E&M works	C2	21 days	3 Jul '24	23 Jul '24	409FF	3	7 days
411	**1.4.2.3.2**	**Outside EVA**	**None**	**118 days**	**19 Mar '24**	**14 Jul '24**			**16 days**
412	1.4.2.3.2.1	Installation of ducts and drawpits outside EVA	C2	60 days	19 Mar '24	27 May '24	405SS	413FS+14 days	16 days
413	1.4.2.3.2.2	additional u-channel construction beside harbor step	C2	14 days	11 Jun '24	24 Jun '24	412FS+14 days	414	16 days
414	1.4.2.3.2.3	Hard landscape and soft landscaping works (include walk	C2	20 days	25 Jun '24	14 Jul '24	413	3	16 days
415	**1.4.3**	**Area No.5**	**C2**	**203 days**	**21 Dec '23**	**1 Aug '24**			**22 days**
416	**1.4.3.1**	**Drainage and Water works**	**C2**	**32 days**	**28 Apr '24**	**3 Jun '24**			**18 days**
419	**1.4.3.2**	**Outfall 2**	**C2**	**162 days**	**21 Dec '23**	**21 Jun '24**			**40 days**
456	**1.4.3.3**	**Floating Stage**	**C2**	**125 days**	**22 Jan '24**	**16 Jun '24**			**68 days**
457	**1.4.3.3.1**	**Preparation Works**	**C2**	**40 days**	**22 Jan '24**	**13 Mar '24**			**129 days**
460	**1.4.3.3.2**	**Type 2B (CHA0.00 ~ CHA7.13) - Bay 1**	**C2**	**44 days**	**25 Jan '24**	**20 Mar '24**			**146 days**
477	**1.4.3.3.3**	**Type 2A (CHA7.13 ~ CHA16.58) - Bay 2**	**C2**	**76 days**	**27 Jan '24**	**28 Apr '24**			**88 days**
494	**1.4.3.3.4**	**Type 2A (CHA16.58 ~ CHA28.46) - Bay 3**	**C2**	**72 days**	**27 Jan '24**	**19 Apr '24**			**116 days**
511	**1.4.3.3.5**	**Type 2A (CHA28.46 ~ CHA41.49) - Bay 4**	**C2**	**64 days**	**14 Mar '24**	**26 May '24**			**65 days**
529	**1.4.3.3.6**	**Type 1A (CHA41.49 ~ CHA52.82) (C-shape structure) - B**	**C2**	**69 days**	**14 Mar '24**	**31 May '24**			**60 days**
545	**1.4.3.3.7**	**Type 2A (CHA52.82 ~ CHA71.82) - Bay 6**	**C2**	**41 days**	**16 Apr '24**	**5 Jun '24**			**55 days**
563	**1.4.3.3.8**	**Type 1B (CHA71.82 ~ CHA97.49) (C-shape structure) - B**	**C2**	**74 days**	**25 Mar '24**	**16 Jun '24**			**44 days**
564	1.4.3.3.8.1	Excavation for construction of Floating Stage	C2	15 days	25 Mar '24	8 Apr '24		565	93 days
565	1.4.3.3.8.2	Placing blinding concrete	C2	1 day	9 Apr '24	9 Apr '24	564	567	93 days
566	**1.4.3.3.8.3**	**Base slab construction**	**None**	**9 days**	**10 Apr '24**	**18 Apr '24**			**103 days**
572	**1.4.3.3.8.4**	**Wall construction**	**None**	**20 days**	**28 May '24**	**16 Jun '24**			**44 days**
573	1.4.3.3.8.4.1	Erection of scaffold working platform	C2	4 days	28 May '24	31 May '24	594SS+1 day	574	44 days
574	1.4.3.3.8.4.2	Erection of timber & GRP formwork for wall	C2	6 days	1 Jun '24	6 Jun '24	573	575SS+2 days,576	44 days
575	1.4.3.3.8.4.3	Rebar fixing for wall	C2	3 days	3 Jun '24	5 Jun '24	574SS+2 day	3	55 days
576	1.4.3.3.8.4.4	Concreting of wall	C2	1 day	7 Jun '24	7 Jun '24	574	577FS+2 days,578FS+2	44 days
577	1.4.3.3.8.4.5	Dismantle of timber formwork for wall and scaffold working platform	C2	7 days	10 Jun '24	16 Jun '24	576FS+2 days	3	44 days
578	1.4.3.3.8.4.6	Backfilling with rockfill material behind the Floating Stage structure	C2	3 days	10 Jun '24	12 Jun '24	576FS+2 days	3	48 days
579	**1.4.3.3.9**	**Type 2A (CHA97.49 ~ CHA118.37) - Bay 8**	**C2**	**33 days**	**28 Apr '24**	**4 Jun '24**			**3 days**
596	**1.4.3.3.10**	**Type 1A (CHA118.37 ~ CHA133.81) (C-shape structure) -**	**C2**	**42 days**	**1 May '24**	**14 Jun '24**			**2 days**
597	1.4.3.3.10.1	Fabrication of GRP mould	C2	14 days	1 May '24	17 May '24			98 days
598	1.4.3.3.10.2	Relocation of excavated armour rock to Part 4 of the Site	C2	7 days	5 May '24	11 May '24		599	1 day
599	1.4.3.3.10.3	Excavation for construction of Floating Stage	C2	7 days	12 May '24	18 May '24	598	600,615SS	1 day
600	1.4.3.3.10.4	Placing blinding concrete	C2	1 day	19 May '24	19 May '24	599	602	63 days
601	**1.4.3.3.10.5**	**Base slab construction**	**None**	**9 days**	**20 May '24**	**28 May '24**			**63 days**
607	**1.4.3.3.10.6**	**Wall construction**	**None**	**18 days**	**28 May '24**	**14 Jun '24**			**3 days**
608	1.4.3.3.10.6.1	Erection of scaffold working platform	C2	1 day	28 May '24	28 May '24	594SS+1 day	3,609	3 days
609	1.4.3.3.10.6.2	Erection of timber & GRP formwork for wall	C2	8 days	29 May '24	5 Jun '24	608	610SS+4 days	3 days
610	1.4.3.3.10.6.3	Rebar fixing for wall	C2	2 days	2 Jun '24	3 Jun '24	609SS+4 day	611	3 days
611	1.4.3.3.10.6.4	Concreting of wall	C2	1 day	4 Jun '24	4 Jun '24	610	612FS+2 days	3 days
612	1.4.3.3.10.6.5	Dismantle of timber formwork for wall and scaffold working platform	C2	5 days	7 Jun '24	11 Jun '24	611FS+2 days	613	3 days
613	1.4.3.3.10.6.6	Backfilling with rockfill material behind the Floating Stage structure	C2	3 days	12 Jun '24	14 Jun '24	612	677	3 days
614	**1.4.3.3.11**	**Type 2A (CHA133.81 ~ CHA137.55, adjacent Outfall 2) - E**	**C2**	**36 days**	**12 May '24**	**16 Jun '24**			**1 day**
615	1.4.3.3.11.1	Excavation for construction of Floating Stage	C2	6 days	12 May '24	17 May '24	599SS	616,631SS	1 day
616	1.4.3.3.11.2	Placing blinding concrete	C2	1 day	18 May '24	18 May '24	615	618	1 day
617	**1.4.3.3.11.3**	**Base slab construction**	**None**	**9 days**	**19 May '24**	**27 May '24**			**1 day**
623	**1.4.3.3.11.4**	**Wall construction**	**None**	**20 days**	**28 May '24**	**16 Jun '24**			**1 day**



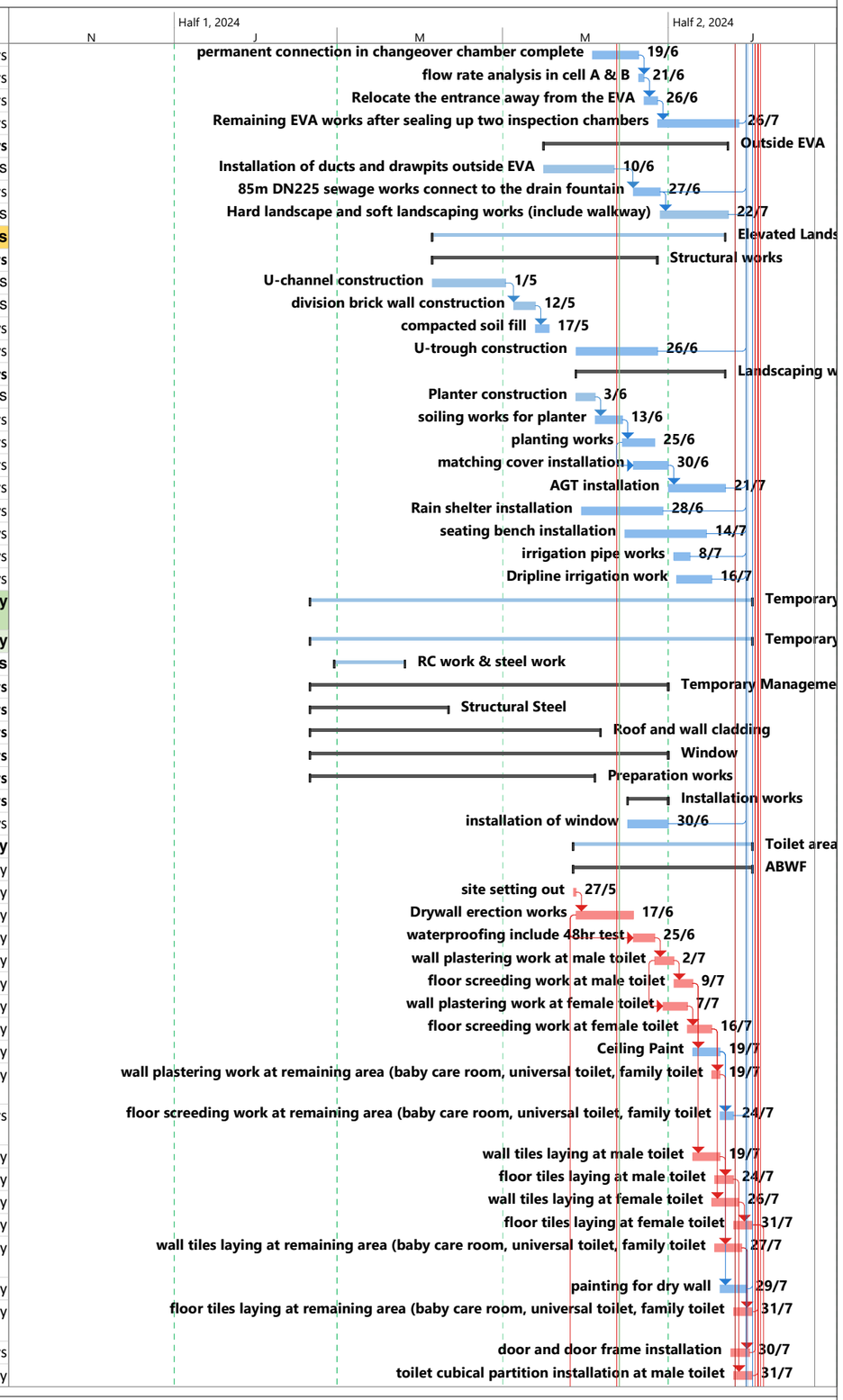
Task | Summary | Start-only | Critical | Progress
Milestone | Project Summary | Finish-only | Critical Split | Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
624	1.4.3.3.11.4.1	Erection of scaffold working platform	C2	1 day	28 May '24	28 May '24	622	625	1 day
625	1.4.3.3.11.4.2	Rebar fixing for wall	C2	3 days	29 May '24	31 May '24	624	626	1 day
626	1.4.3.3.11.4.3	Erection of timber formwork for wall	C2	3 days	1 Jun '24	3 Jun '24	625	627	1 day
627	1.4.3.3.11.4.4	Concreting of wall	C2	1 day	4 Jun '24	4 Jun '24	626	628FS+2 days	1 day
628	1.4.3.3.11.4.5	Dismantle of timber formwork for wall and scaffold working platform	C2	7 days	7 Jun '24	13 Jun '24	627FS+2 days	629	1 day
629	1.4.3.3.11.4.6	Backfilling with rockfill material behind the Floating Stage structure	C2	3 days	14 Jun '24	16 Jun '24	628	677	1 day
630	**1.4.3.3.12**	**Type 2A (CHB0.00 ~ CHB14.30, adjacent Outfall 2) - Bay**	**C2**	**35 days**	**12 May '24**	**15 Jun '24**			**2 days**
631	1.4.3.3.12.1	Excavation for construction of Floating Stage	C2	8 days	12 May '24	19 May '24	615SS	632,647SS	2 days
632	1.4.3.3.12.2	Placing blinding concrete	C2	1 day	20 May '24	20 May '24	631	634	2 days
633	**1.4.3.3.12.3**	**Base slab construction**	**None**	**7 days**	**21 May '24**	**27 May '24**			**2 days**
639	**1.4.3.3.12.4**	**Wall construction**	**None**	**20 days**	**27 May '24**	**15 Jun '24**			**2 days**
640	1.4.3.3.12.4.1	Erection of scaffold working platform	C2	1 day	27 May '24	27 May '24	637	641	2 days
641	1.4.3.3.12.4.2	Rebar fixing for wall	C2	4 days	28 May '24	31 May '24	640	642	2 days
642	1.4.3.3.12.4.3	Erection of timber formwork for wall	C2	3 days	1 Jun '24	3 Jun '24	641	643	2 days
643	1.4.3.3.12.4.4	Concreting of wall	C2	1 day	4 Jun '24	4 Jun '24	642	644FS+2 days,677	2 days
644	1.4.3.3.12.4.5	Dismantle of timber formwork for wall and scaffold working platform	C2	6 days	7 Jun '24	12 Jun '24	643FS+2 days	645	2 days
645	1.4.3.3.12.4.6	Backfilling with rockfill material behind the Floating Stage structure	C2	3 days	13 Jun '24	15 Jun '24	644	677	2 days
646	**1.4.3.3.13**	**Type 2A (CHB14.30 ~ CHB32.32) - Bay 12**	**C2**	**33 days**	**12 May '24**	**13 Jun '24**			**4 days**
662	**1.4.3.4**	**EVA no.5**	**C2**	**53 days**	**7 Jun '24**	**29 Jul '24**			**-2 days**
663	**1.4.3.4.1**	**Beside floating stage bays 1 to 4**	**None**	**49 days**	**7 Jun '24**	**25 Jul '24**			**-2 days**
664	1.4.3.4.1.1	Installation of duct and drawpit	C2	12 days	7 Jun '24	18 Jun '24	417FS+3 day	665,671SS+5 days	-2 days
665	1.4.3.4.1.2	backfilling	C2	4 days	19 Jun '24	22 Jun '24	664	666	5 days
666	1.4.3.4.1.3	u-channel construction & fire main laying	C2	12 days	23 Jun '24	4 Jul '24	665	667	5 days
667	1.4.3.4.1.4	subbase laying for the EVA	C2	9 days	5 Jul '24	13 Jul '24	666	668	5 days
668	1.4.3.4.1.5	Pavement	C2	12 days	14 Jul '24	25 Jul '24	667	669FF	5 days
669	1.4.3.4.1.6	E&M works	C2	21 days	5 Jul '24	25 Jul '24	668FF	3	5 days
670	**1.4.3.4.2**	**Beside floating stage bays 5 to 8**	**None**	**47 days**	**12 Jun '24**	**28 Jul '24**			**-2 days**
671	1.4.3.4.2.1	Installation of duct and drawpits concurrently with the floating stage bays 4 to 8	C2	14 days	12 Jun '24	25 Jun '24	664SS+5 days	672	-2 days
672	1.4.3.4.2.2	u-channel construction & fire main laying	C2	12 days	26 Jun '24	7 Jul '24	671	673	-2 days
673	1.4.3.4.2.3	subbase laying for the EVA	C2	9 days	8 Jul '24	16 Jul '24	672	674,684SS	-2 days
674	1.4.3.4.2.4	pavement	C2	12 days	17 Jul '24	28 Jul '24	673	675FF	2 days
675	1.4.3.4.2.5	E&M works	C2	21 days	8 Jul '24	28 Jul '24	674FF	3	2 days
676	**1.4.3.4.3**	**Beside floating stage 8 to 11**	**None**	**43 days**	**17 Jun '24**	**29 Jul '24**			**1 day**
677	1.4.3.4.3.1	sewage works (DF2a > DF1c > DF1d)	C2	6 days	17 Jun '24	22 Jun '24	613,629,645,	453SS-7 days,678	1 day
678	1.4.3.4.3.2	Installation of duct and drawpits	C2	9 days	23 Jun '24	1 Jul '24	677	679	1 day
679	1.4.3.4.3.3	u-channel construction & fire main laying	C2	10 days	2 Jul '24	11 Jul '24	678	680	1 day
680	1.4.3.4.3.4	subbase laying for the EVA	C2	8 days	12 Jul '24	19 Jul '24	679	681	1 day
681	1.4.3.4.3.5	pavement	C2	10 days	20 Jul '24	29 Jul '24	680	682FF	1 day
682	1.4.3.4.3.6	E&M works	C2	14 days	16 Jul '24	29 Jul '24	681FF	3	1 day
683	**1.4.3.5**	**Hard landscape and soft landscaping works**	**C2**	**25 days**	**8 Jul '24**	**1 Aug '24**			**-2 days**
684	1.4.3.5.1	Hard landscaping between floating stage and EVA	C2	25 days	8 Jul '24	1 Aug '24	673SS	3	-2 days
685	**1.4.4**	**Area no.6**	**C2**	**136 days**	**3 Mar '24**	**26 Jul '24**			**28 days**
686	**1.4.4.1**	**Drainage and Water works**	**C2**	**43 days**	**3 Mar '24**	**14 Apr '24**			**97 days**
690	**1.4.4.2**	**Harbour Steps**	**C2**	**70 days**	**20 Apr '24**	**8 Jul '24**			**22 days**
691	1.4.4.2.1	architectural works of Harbor step	C2	70 days	20 Apr '24	8 Jul '24	363SS	3	22 days
692	**1.4.4.3**	**EVA no.6**	**C2**	**79 days**	**9 May '24**	**26 Jul '24**			**13 days**
693	**1.4.4.3.1**	**Within EVA**	**None**	**79 days**	**9 May '24**	**26 Jul '24**			**13 days**
694	1.4.4.3.1.1	Installation of ducts and drawpits within EVA	C2	30 days	9 May '24	7 Jun '24		695	13 days
695	1.4.4.3.1.2	Backfilling	C2	5 days	8 Jun '24	12 Jun '24	694	696FS+4 days	13 days
696	1.4.4.3.1.3	u-channel construction & fire main laying	C2	10 days	17 Jun '24	26 Jun '24	695FS+4 days	697	13 days
697	1.4.4.3.1.4	subbase laying for the EVA	C2	9 days	27 Jun '24	5 Jul '24	696	698	13 days
698	1.4.4.3.1.5	pavement	C2	12 days	6 Jul '24	17 Jul '24	697	699FF	13 days
699	1.4.4.3.1.6	E&M works	C2	21 days	27 Jun '24	17 Jul '24	698FF	3	13 days
700	1.4.4.3.1.7	seal up two inspection chambers of box culvert (relate to the CE/124 of Section 8)	C2	24 days	3 Jun '24	26 Jun '24			4 days
701	1.4.4.3.1.7.1	EMSD accept remedial works for the MJ of cell B	C2	1 day	13 Jun '24	13 Jun '24			71 days



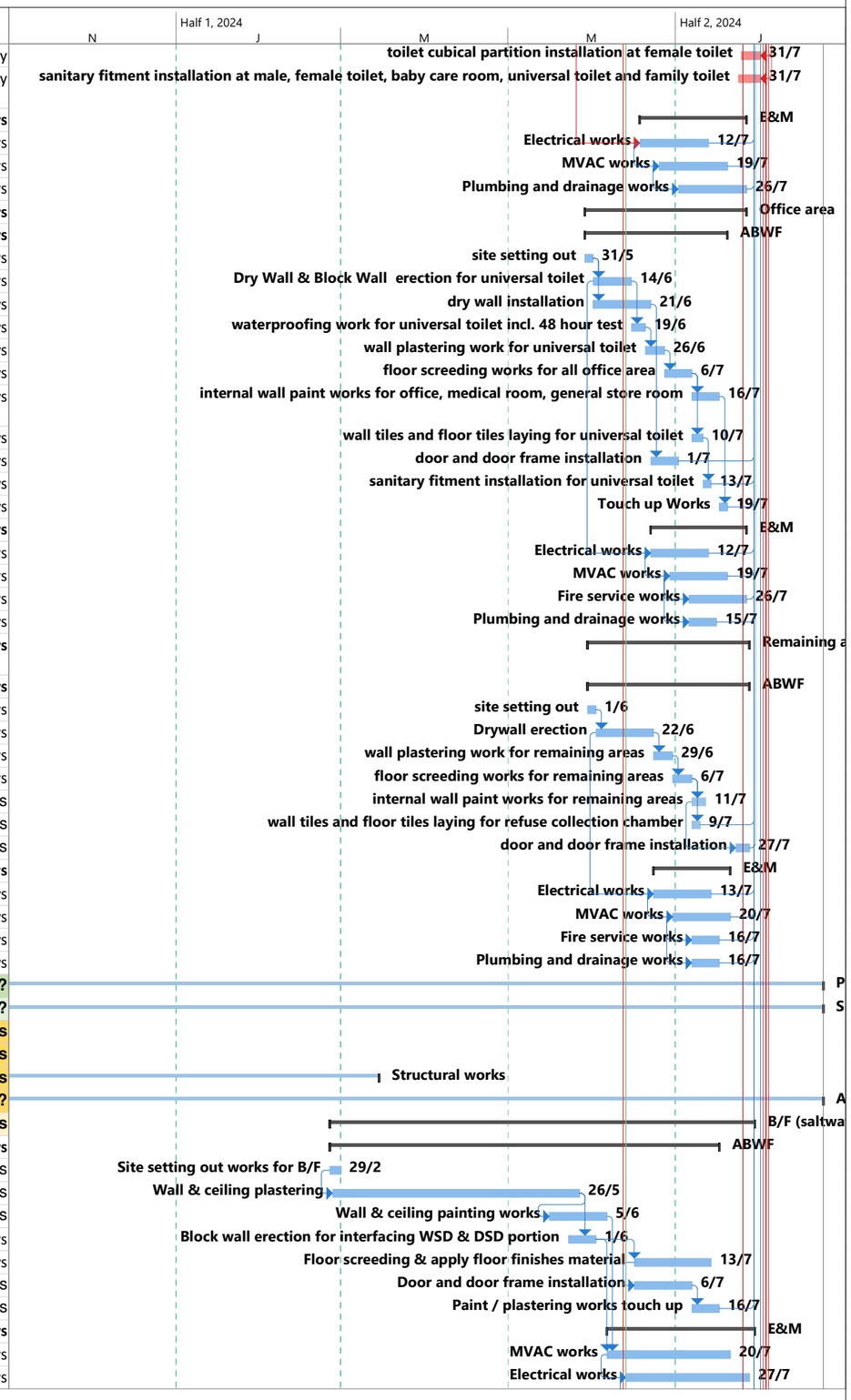
Task — Summary — Start-only — Critical — Progress
Milestone — Project Summary — Finish-only — Critical Split — Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
702	1.4.4.3.1.7.2	permanent connection in changeover chamber complete	C2	17 days	3 Jun '24	19 Jun '24		703	4 days
703	1.4.4.3.1.7.3	flow rate analysis in cell A & B	C2	2 days	20 Jun '24	21 Jun '24	702	704	4 days
704	1.4.4.3.1.7.4	Relocate the entrance away from the EVA	C2	5 days	22 Jun '24	26 Jun '24	703	705	4 days
705	1.4.4.3.1.8	Remaining EVA works after sealing up two inspection chamber	C2	30 days	27 Jun '24	26 Jul '24	704	3	4 days
706	**1.4.4.3.2**	**Outside EVA**	**None**	**68 days**	**16 May '24**	**22 Jul '24**			**8 days**
707	1.4.4.3.2.1	Installation of ducts and drawpits outside EVA	C2	26 days	16 May '24	10 Jun '24		708FS+7 days	8 days
708	1.4.4.3.2.2	85m DN225 sewage works connect to the drain fountain	C2	10 days	18 Jun '24	27 Jun '24	707FS+7 days	3,709	8 days
709	1.4.4.3.2.3	Hard landscape and soft landscaping works (include walk	C2	25 days	28 Jun '24	22 Jul '24	708	3	8 days
710	**1.4.4.4**	**Elevated Landscape deck**	**None**	**108 days**	**5 Apr '24**	**21 Jul '24**			**33 days**
711	**1.4.4.4.1**	**Structural works**	**None**	**83 days**	**5 Apr '24**	**26 Jun '24**			**58 days**
712	1.4.4.4.1.1	U-channel construction	C2	20 days	5 Apr '24	1 May '24		713	98 days
713	1.4.4.4.1.2	division brick wall construction	C2	8 days	5 May '24	12 May '24	712	714	98 days
714	1.4.4.4.1.3	compacted soil fill	C2	5 days	13 May '24	17 May '24	713		98 days
715	1.4.4.4.1.4	U-trough construction	C2	30 days	28 May '24	26 Jun '24		3	34 days
716	**1.4.4.4.2**	**Landscaping works**	**None**	**55 days**	**28 May '24**	**21 Jul '24**			**9 days**
717	1.4.4.4.2.1	Planter construction	C2	7 days	28 May '24	3 Jun '24		718	9 days
718	1.4.4.4.2.2	soiling works for planter	C2	10 days	4 Jun '24	13 Jun '24	717	719	9 days
719	1.4.4.4.2.3	planting works	C2	12 days	14 Jun '24	25 Jun '24	718	720SS+4 days	9 days
720	1.4.4.4.2.4	matching cover installation	C2	13 days	18 Jun '24	30 Jun '24	719SS+4 days	721	9 days
721	1.4.4.4.2.5	AGT installation	C2	21 days	1 Jul '24	21 Jul '24	720	3	9 days
722	1.4.4.4.2.6	Rain shelter installation	C2	30 days	30 May '24	28 Jun '24		3	32 days
723	1.4.4.4.2.7	seating bench installation	C2	30 days	15 Jun '24	14 Jul '24		3	16 days
724	1.4.4.4.2.8	irrigation pipe works	C2	6 days	3 Jul '24	8 Jul '24		3	22 days
725	1.4.4.4.2.9	Dripline irrigation work	C2	13 days	4 Jul '24	16 Jul '24		3	14 days
726	**1.5**	**Temporary Management Office, Temporary Toilet, Plant Rooms of Generatl Building services and Refuse Collection**	**C2**	**153 days**	**20 Feb '24**	**31 Jul '24**			**-1 day**
727	**1.5.1**	**Temporary Office**	**C2**	**153 days**	**20 Feb '24**	**31 Jul '24**			**-1 day**
728	**1.5.1.1**	**RC work & steel work**	**C2**	**26 days**	**29 Feb '24**	**25 Mar '24**			**117 days**
734	**1.5.1.2**	**Temporary Management Office**	**None**	**132 days**	**20 Feb '24**	**30 Jun '24**			**30 days**
735	**1.5.1.2.1**	**Structural Steel**	**None**	**51 days**	**20 Feb '24**	**10 Apr '24**			**111 days**
738	**1.5.1.2.2**	**Roof and wall cladding**	**C2**	**97 days**	**20 Feb '24**	**5 Jun '24**			**30 days**
751	**1.5.1.2.3**	**Window**	**None**	**132 days**	**20 Feb '24**	**30 Jun '24**			**30 days**
752	**1.5.1.2.3.1**	**Preparation works**	**None**	**105 days**	**20 Feb '24**	**3 Jun '24**			**42 days**
756	**1.5.1.2.3.2**	**Installation works**	**None**	**15 days**	**16 Jun '24**	**30 Jun '24**			**30 days**
757	1.5.1.2.3.2.1	installation of window	C2	15 days	16 Jun '24	30 Jun '24	750FS+10 days	3	30 days
758	**1.5.1.3**	**Toilet area**	**C2**	**66 days**	**27 May '24**	**31 Jul '24**			**-1 day**
759	1.5.1.3.1	ABWF	None	66 days	27 May '24	31 Jul '24			-1 day
760	1.5.1.3.1.1	site setting out	C2	1 day	27 May '24	27 May '24		761	-1 day
761	1.5.1.3.1.2	Drywall erection works	C2	21 days	28 May '24	17 Jun '24	760	762SS+21 days,782SS+21 d	-1 day
762	1.5.1.3.1.3	waterproofing include 48hr test	C2	8 days	18 Jun '24	25 Jun '24	761SS+21 days	763	-1 day
763	1.5.1.3.1.4	wall plastering work at male toilet	C2	7 days	26 Jun '24	2 Jul '24	762	764,765SS+3 days	-1 day
764	1.5.1.3.1.5	floor screeding work at male toilet	C2	7 days	3 Jul '24	9 Jul '24	763	767,770	-1 day
765	1.5.1.3.1.6	wall plastering work at female toilet	C2	9 days	29 Jun '24	7 Jul '24	763SS+3 days	766	-1 day
766	1.5.1.3.1.7	floor screeding work at female toilet	C2	9 days	8 Jul '24	16 Jul '24	765	768,772	-1 day
767	1.5.1.3.1.8	Ceiling Paint	C2	10 days	10 Jul '24	19 Jul '24	764	769,775	1 day
768	1.5.1.3.1.9	wall plastering work at remaining area (baby care room, universal toilet, family toilet	C2	3 days	17 Jul '24	19 Jul '24	766	774FS-2 days	-1 day
769	1.5.1.3.1.10	floor screeding work at remaining area (baby care room, universal toilet, family toilet	C2	5 days	20 Jul '24	24 Jul '24	767	3	6 days
770	1.5.1.3.1.11	wall tiles laying at male toilet	C2	10 days	10 Jul '24	19 Jul '24	764	771FS-2 days	-1 day
771	1.5.1.3.1.12	floor tiles laying at male toilet	C2	7 days	18 Jul '24	24 Jul '24	770FS-2 days	778	-1 day
772	1.5.1.3.1.13	wall tiles laying at female toilet	C2	10 days	17 Jul '24	26 Jul '24	766	773FS-2 days	-1 day
773	1.5.1.3.1.14	floor tiles laying at female toilet	C2	7 days	25 Jul '24	31 Jul '24	772FS-2 days	779FF,780FF	-1 day
774	1.5.1.3.1.15	wall tiles laying at remaining area (baby care room, universal toilet, family toilet	C2	10 days	18 Jul '24	27 Jul '24	768FS-2 days	776FS-3 days,777FS-4 days	-1 day
775	1.5.1.3.1.16	painting for dry wall	C2	10 days	20 Jul '24	29 Jul '24	767	3	1 day
776	1.5.1.3.1.17	floor tiles laying at remaining area (baby care room, universal toilet, family toilet	C2	7 days	25 Jul '24	31 Jul '24	774FS-3 days	3	-1 day
777	1.5.1.3.1.18	door and door frame installation	C2	7 days	24 Jul '24	30 Jul '24	774FS-4 days	3	0 days
778	1.5.1.3.1.19	toilet cubical partition installation at male toilet	C2	7 days	25 Jul '24	31 Jul '24	771	3	-1 day



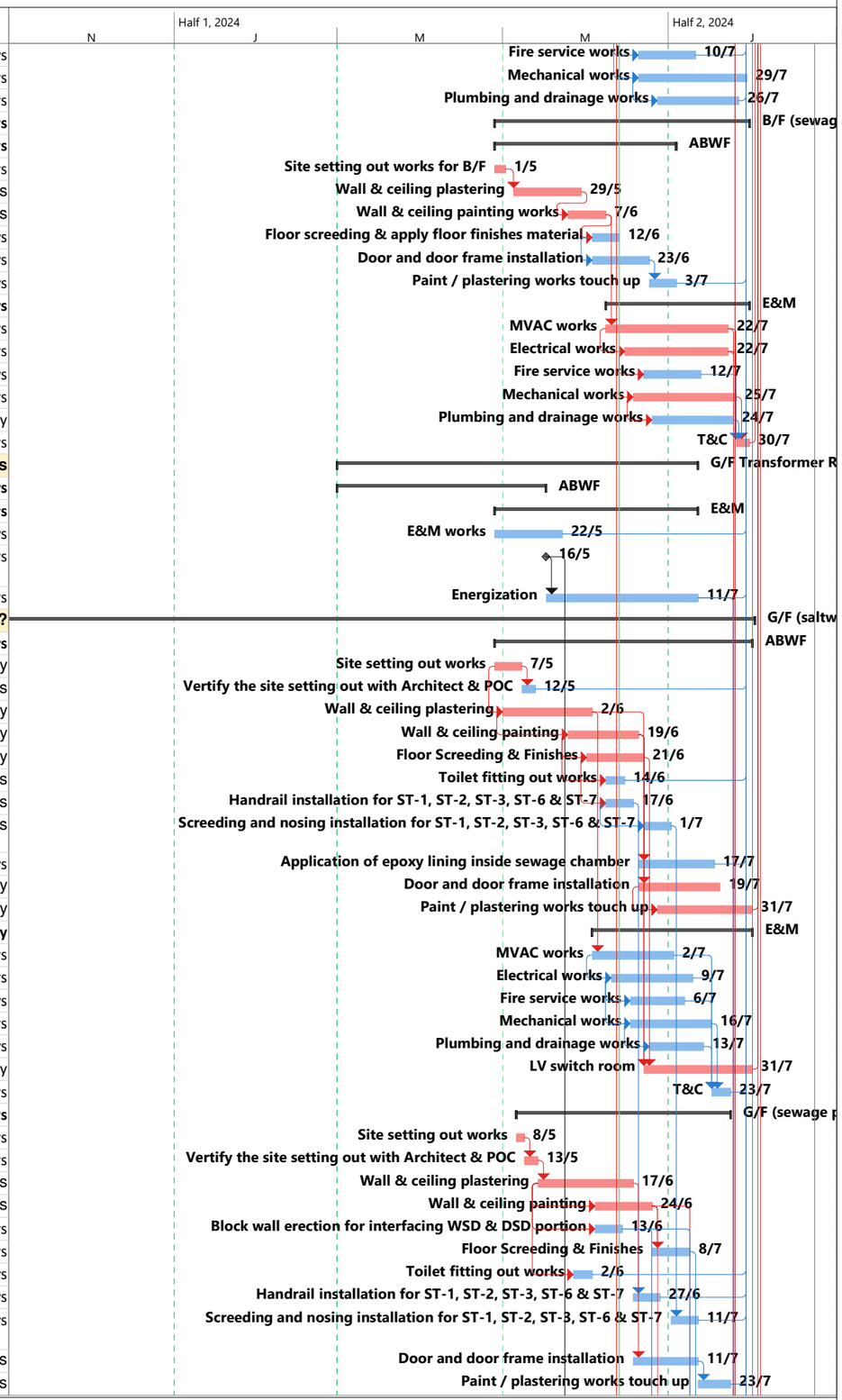
Task | Summary | Start-only | Critical | Progress
Milestone | Project Summary | Finish-only | Critical Split | Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
779	1.5.1.3.1.20	toilet cubical partition installation at female toilet	C2	7 days	25 Jul '24	31 Jul '24	773FF	3	-1 day
780	1.5.1.3.1.21	sanitary fitment installation at male, female toilet, baby care room, universal toilet and family toilet	C2	8 days	24 Jul '24	31 Jul '24	773FF	3	-1 day
781	**1.5.1.3.2**	**E&M**	**None**	**39 days**	**18 Jun '24**	**26 Jul '24**			**4 days**
782	1.5.1.3.2.1	Electrical works	C2	25 days	18 Jun '24	12 Jul '24	761SS+21 days	3,783SS+7 days	4 days
783	1.5.1.3.2.2	MVAC works	C2	25 days	25 Jun '24	19 Jul '24	782SS+7 days	3,784SS+7 days	4 days
784	1.5.1.3.2.3	Plumbing and drainage works	C2	25 days	2 Jul '24	26 Jul '24	783SS+7 days	3	4 days
785	**1.5.1.4**	**Office area**	**None**	**59 days**	**29 May '24**	**26 Jul '24**			**4 days**
786	**1.5.1.4.1**	**ABWF**	**None**	**52 days**	**29 May '24**	**19 Jul '24**			**4 days**
787	1.5.1.4.1.1	site setting out	C2	3 days	29 May '24	31 May '24		788,789	4 days
788	1.5.1.4.1.2	Dry Wall & Block Wall erection for universal toilet	C2	14 days	1 Jun '24	14 Jun '24	787	790,799SS+21 days	4 days
789	1.5.1.4.1.3	dry wall installation	C2	21 days	1 Jun '24	21 Jun '24	787	795	29 days
790	1.5.1.4.1.4	waterproofing work for universal toilet incl. 48 hour test	C2	5 days	15 Jun '24	19 Jun '24	788	791	11 days
791	1.5.1.4.1.5	wall plastering work for universal toilet	C2	7 days	20 Jun '24	26 Jun '24	790	792	11 days
792	1.5.1.4.1.6	floor screeding works for all office area	C2	10 days	27 Jun '24	6 Jul '24	791	793,794	11 days
793	1.5.1.4.1.7	internal wall paint works for office, medical room, general store room	C2	10 days	7 Jul '24	16 Jul '24	792	797	11 days
794	1.5.1.4.1.8	wall tiles and floor tiles laying for universal toilet	C2	4 days	7 Jul '24	10 Jul '24	792	796	17 days
795	1.5.1.4.1.9	door and door frame installation	C2	10 days	22 Jun '24	1 Jul '24	789	3	29 days
796	1.5.1.4.1.10	sanitary fitment installation for universal toilet	C2	3 days	11 Jul '24	13 Jul '24	794	3	17 days
797	1.5.1.4.1.11	Touch up Works	None	3 days	17 Jul '24	19 Jul '24	793	3	11 days
798	**1.5.1.4.2**	**E&M**	**None**	**35 days**	**22 Jun '24**	**26 Jul '24**			**4 days**
799	1.5.1.4.2.1	Electrical works	C2	21 days	22 Jun '24	12 Jul '24	788SS+21 days	3,800SS+7 days	4 days
800	1.5.1.4.2.2	MVAC works	C2	21 days	29 Jun '24	19 Jul '24	799SS+7 days	3,801SS+7 days,802SS+7 d	4 days
801	1.5.1.4.2.3	Fire service works	C2	21 days	6 Jul '24	26 Jul '24	800SS+7 days	3	4 days
802	1.5.1.4.2.4	Plumbing and drainage works	C2	10 days	6 Jul '24	15 Jul '24	800SS+7 days	3	15 days
803	**1.5.1.5**	**Remaining area (refuse collection chamber, horticultural machinery store room, etc**	**None**	**59 days**	**30 May '24**	**27 Jul '24**			**3 days**
804	**1.5.1.5.1**	**ABWF**	**None**	**59 days**	**30 May '24**	**27 Jul '24**			**3 days**
805	1.5.1.5.1.1	site setting out	C2	3 days	30 May '24	1 Jun '24		806	3 days
806	1.5.1.5.1.2	Drywall erection	C2	21 days	2 Jun '24	22 Jun '24	805	807,813SS+21 days	3 days
807	1.5.1.5.1.3	wall plastering work for remaining areas	C2	7 days	23 Jun '24	29 Jun '24	806	808	3 days
808	1.5.1.5.1.4	floor screeding works for remaining areas	C2	7 days	30 Jun '24	6 Jul '24	807	809,810	3 days
809	1.5.1.5.1.5	internal wall paint works for remaining areas	C2	5 days	7 Jul '24	11 Jul '24	808	811SS+16 days	3 days
810	1.5.1.5.1.6	wall tiles and floor tiles laying for refuse collection chambe	C2	3 days	7 Jul '24	9 Jul '24	808	3	21 days
811	1.5.1.5.1.7	door and door frame installation	C2	5 days	23 Jul '24	27 Jul '24	809SS+16 da	3	3 days
812	**1.5.1.5.2**	**E&M**	**None**	**28 days**	**23 Jun '24**	**20 Jul '24**			**10 days**
813	1.5.1.5.2.1	Electrical works	C2	21 days	23 Jun '24	13 Jul '24	806SS+21 days	3,814SS+7 days	10 days
814	1.5.1.5.2.2	MVAC works	C2	21 days	30 Jun '24	20 Jul '24	813SS+7 days	3,815SS+7 days,816SS+7 d	10 days
815	1.5.1.5.2.3	Fire service works	C2	10 days	7 Jul '24	16 Jul '24	814SS+7 days	3	14 days
816	1.5.1.5.2.4	Plumbing and drainage works	C2	10 days	7 Jul '24	16 Jul '24	814SS+7 days	3	14 days
817	**1.6**	**Pumping station, box culvert and lifts**	**C2**	**701 days?**	**1 Sep '22**	**23 Aug '24**			**0 days?**
818	**1.6.1**	**Sewage and Saltwater Pumping Station**	**C2**	**701 days?**	**1 Sep '22**	**23 Aug '24**			**0 days?**
819	**1.6.1.1**	**ELS**	**C2**	**104 days**	**19 Mar '23**	**30 Jun '23**		**820**	**0 days**
820	**1.6.1.2**	**PLT Test, Binder concrete**	**C2**	**13 days**	**14 Jun '23**	**26 Jun '23**	**819**	**826**	**0 days**
821	**1.6.1.3**	**Structural works**	**C2**	**354 days**	**15 Mar '23**	**14 Mar '24**			**128 days**
930	**1.6.1.4**	**Architectural works**	**C2**	**701 days?**	**1 Sep '22**	**23 Aug '24**			**0 days?**
931	**1.6.1.4.1**	**B/F (saltwater pumping station)**	**C2**	**145 days**	**26 Feb '24**	**29 Jul '24**			**4 days**
932	**1.6.1.4.1.1**	**ABWF**	**None**	**142 days**	**26 Feb '24**	**16 Jul '24**			**4 days**
933	1.6.1.4.1.1.1	Site setting out works for B/F	C2	4 days	26 Feb '24	29 Feb '24		934SS+1 day	4 days
934	1.6.1.4.1.1.2	Wall & ceiling plastering	C2	80 days	27 Feb '24	26 May '24	933SS+1 day	935FS-11 days,936FS-4	4 days
935	1.6.1.4.1.1.3	Wall & ceiling painting works	C2	21 days	16 May '24	5 Jun '24	934FS-11 da	941	4 days
936	1.6.1.4.1.1.4	Block wall erection for interfacing WSD & DSD portion	C2	10 days	23 May '24	1 Jun '24	934FS-4 days	937FS+14 days,941	8 days
937	1.6.1.4.1.1.5	Floor screeding & apply floor finishes material	C2	28 days	16 Jun '24	13 Jul '24	936FS+14 days	938SS	14 days
938	1.6.1.4.1.1.6	Door and door frame installation	C2	21 days	16 Jun '24	6 Jul '24	937SS	939	14 days
939	1.6.1.4.1.1.7	Paint / plastering works touch up	C2	10 days	7 Jul '24	16 Jul '24	938	3	14 days
940	**1.6.1.4.1.2**	**E&M**	**None**	**54 days**	**6 Jun '24**	**29 Jul '24**			**4 days**
941	1.6.1.4.1.2.1	MVAC works	C2	45 days	6 Jun '24	20 Jul '24	935,936	942SS+7 days	4 days
942	1.6.1.4.1.2.2	Electrical works	C2	45 days	13 Jun '24	27 Jul '24	941SS+7 days	943SS+7 days,944SS+7 day	4 days



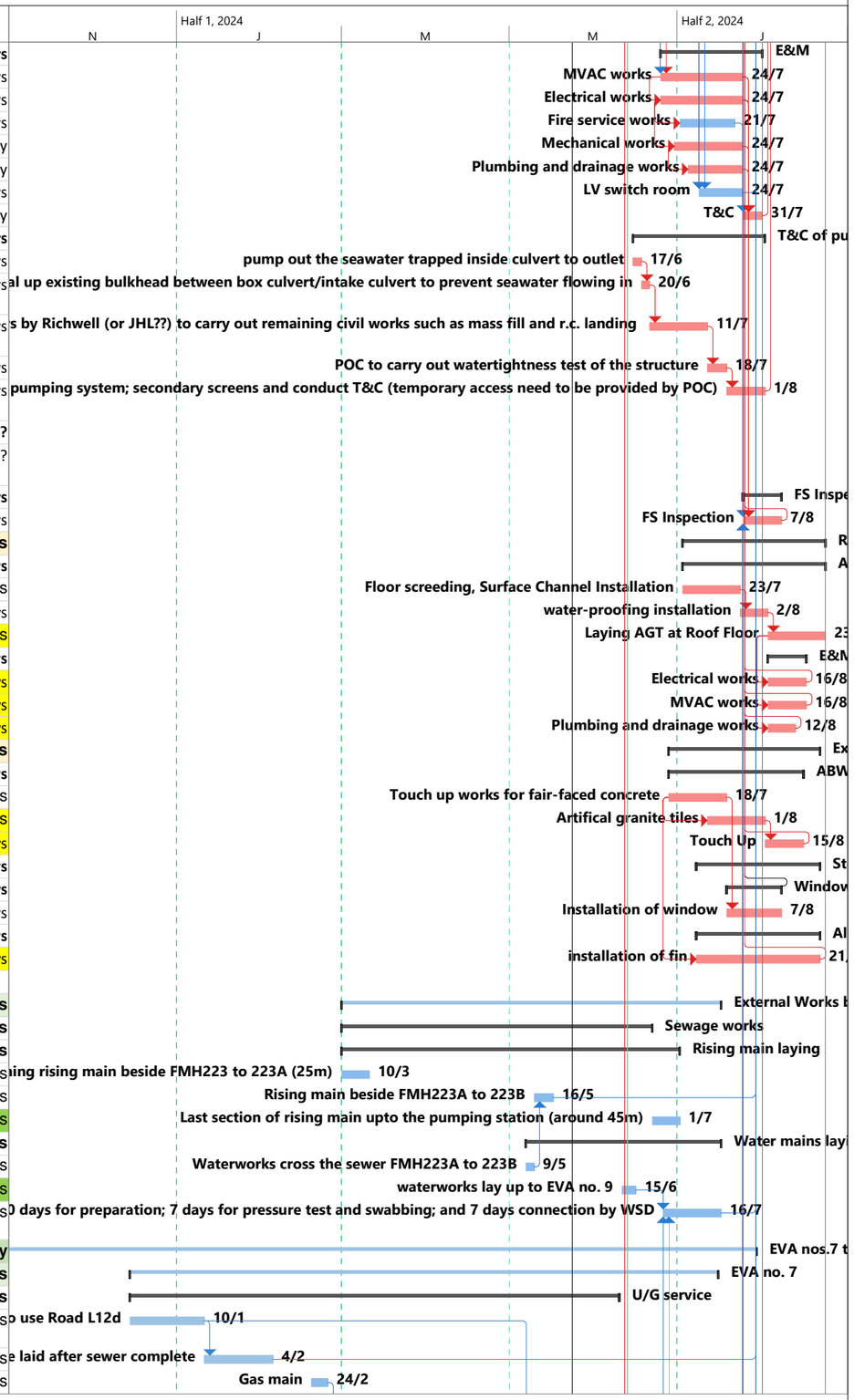
Task — Summary — Start-only — Critical — Progress
Milestone — Project Summary — Finish-only — Critical Split — Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
943	1.6.1.4.1.2.3	Fire service works	C2	21 days	20 Jun '24	10 Jul '24	942SS+7 days	3	20 days
944	1.6.1.4.1.2.4	Mechanical works	C2	40 days	20 Jun '24	29 Jul '24	942SS+7 days	945SS+7 days	4 days
945	1.6.1.4.1.2.5	Plumbing and drainage works	C2	30 days	27 Jun '24	26 Jul '24	944SS+7 days	3	4 days
946	**1.6.1.4.2**	**B/F (sewage pumping station)**	**None**	**94 days**	**28 Apr '24**	**30 Jul '24**			**-11 days**
947	**1.6.1.4.2.1**	**ABWF**	**None**	**67 days**	**28 Apr '24**	**3 Jul '24**			**-11 days**
948	1.6.1.4.2.1.1	Site setting out works for B/F	C2	2 days	28 Apr '24	1 May '24		949	-6 days
949	1.6.1.4.2.1.2	Wall & ceiling plastering	C2	25 days	5 May '24	29 May '24	948	950FS-5 days	-6 days
950	1.6.1.4.2.1.3	Wall & ceiling painting works	C2	14 days	25 May '24	7 Jun '24	949FS-5 days	951FS-5 days,955	-6 days
951	1.6.1.4.2.1.4	Floor screeding & apply floor finishes material	C2	10 days	3 Jun '24	12 Jun '24	950FS-5 days	952SS	27 days
952	1.6.1.4.2.1.5	Door and door frame installation	C2	21 days	3 Jun '24	23 Jun '24	951SS	953	27 days
953	1.6.1.4.2.1.6	Paint / plastering works touch up	C2	10 days	24 Jun '24	3 Jul '24	952	3	27 days
954	**1.6.1.4.2.2**	**E&M**	**None**	**53 days**	**8 Jun '24**	**30 Jul '24**			**-6 days**
955	1.6.1.4.2.2.1	MVAC works	C2	45 days	8 Jun '24	22 Jul '24	950	956SS+7 days,960,1028	-6 days
956	1.6.1.4.2.2.2	Electrical works	C2	38 days	15 Jun '24	22 Jul '24	955SS+7 days	957SS+7 days,958SS+3 day	-6 days
957	1.6.1.4.2.2.3	Fire service works	C2	21 days	22 Jun '24	12 Jul '24	956SS+7 days	960	13 days
958	1.6.1.4.2.2.4	Mechanical works	C2	38 days	18 Jun '24	25 Jul '24	956SS+3 days	959SS+7 days,960	0 days
959	1.6.1.4.2.2.5	Plumbing and drainage works	C2	30 days	25 Jun '24	24 Jul '24	958SS+7 days	960	1 day
960	1.6.1.4.2.2.6	T&C	C2	5 days	26 Jul '24	30 Jul '24	955,956,957,9	3	0 days
961	**1.6.1.4.3**	**G/F Transformer Room**	**C2**	**123 days**	**1 Mar '24**	**11 Jul '24**			**9 days**
962	**1.6.1.4.3.1**	**ABWF**	**None**	**77 days**	**1 Mar '24**	**16 May '24**			**9 days**
974	**1.6.1.4.3.2**	**E&M**	**None**	**75 days**	**28 Apr '24**	**11 Jul '24**			**14 days**
975	1.6.1.4.3.2.1	E&M works	C2	20 days	28 Apr '24	22 May '24	968	3	69 days
976	1.6.1.4.3.2.2	Handover to CLP (after water-proofing double slab certificate issued)	C2	0 days	16 May '24	16 May '24	973,972	977,1102FS+7 days	-5 days
977	1.6.1.4.3.2.3	Energization	C2	56 days	17 May '24	11 Jul '24	976	3,1028	5 days
978	**1.6.1.4.4**	**G/F (saltwater pumping station)**	**C2**	**679 days?**	**1 Sep '22**	**1 Aug '24**			**22 days?**
979	**1.6.1.4.4.1**	**ABWF**	**None**	**95 days**	**28 Apr '24**	**31 Jul '24**			**-6 days**
980	1.6.1.4.4.1.1	Site setting out works	C2	5 days	28 Apr '24	7 May '24		981,982SS+1 day	-1 day
981	1.6.1.4.4.1.2	Vertify the site setting out with Architect & POC	C2	5 days	8 May '24	12 May '24	980	3	79 days
982	1.6.1.4.4.1.3	Wall & ceiling plastering	C2	30 days	1 May '24	2 Jun '24	980SS+1 day	983SS+21 days,997,992	-1 day
983	1.6.1.4.4.1.4	Wall & ceiling painting	C2	26 days	25 May '24	19 Jun '24	982SS+21 da	984SS+7 days,985SS+1	-1 day
984	1.6.1.4.4.1.5	Floor Screeding & Finishes	C2	21 days	1 Jun '24	21 Jun '24	983SS+7 day	986SS+7 days,997	-1 day
985	1.6.1.4.4.1.6	Toilet fitting out works	C2	7 days	8 Jun '24	14 Jun '24	983SS+14 da	3	46 days
986	1.6.1.4.4.1.7	Handrail installation for ST-1, ST-2, ST-3, ST-6 & ST-7	C2	10 days	8 Jun '24	17 Jun '24	984SS+7 day	987SS+14 days,1007	19 days
987	1.6.1.4.4.1.8	Screeding and nosing installation for ST-1, ST-2, ST-3, ST-6 & ST-7	C2	10 days	22 Jun '24	1 Jul '24	986SS+14 days	1008	19 days
988	1.6.1.4.4.1.9	Application of epoxy lining inside sewage chamber	None	28 days	20 Jun '24	17 Jul '24	983	3	13 days
989	1.6.1.4.4.1.10	Door and door frame installation	C2	30 days	20 Jun '24	19 Jul '24	983	990SS+7 days	-1 day
990	1.6.1.4.4.1.11	Paint / plastering works touch up	C2	35 days	27 Jun '24	31 Jul '24	989SS+7 day	3	-1 day
991	**1.6.1.4.4.2**	**E&M**	**None**	**59 days**	**3 Jun '24**	**31 Jul '24**			**-1 day**
992	1.6.1.4.4.2.1	MVAC works	C2	30 days	3 Jun '24	2 Jul '24	982	993SS+7 days,998	7 days
993	1.6.1.4.4.2.2	Electrical works	C2	30 days	10 Jun '24	9 Jul '24	992SS+7 days	994SS+7 days,995SS+7 day	7 days
994	1.6.1.4.4.2.3	Fire service works	C2	20 days	17 Jun '24	6 Jul '24	993SS+7 days	998	17 days
995	1.6.1.4.4.2.4	Mechanical works	C2	30 days	17 Jun '24	16 Jul '24	993SS+7 days	996SS+7 days,998	7 days
996	1.6.1.4.4.2.5	Plumbing and drainage works	C2	20 days	24 Jun '24	13 Jul '24	995SS+7 days	998	10 days
997	1.6.1.4.4.2.6	LV switch room	C2	40 days	22 Jun '24	31 Jul '24	982,983,984	3	-1 day
998	1.6.1.4.4.2.7	T&C	C2	7 days	17 Jul '24	23 Jul '24	992,993,994,9	3	7 days
999	**1.6.1.4.4.3**	**G/F (sewage pumping station)**	**None**	**79 days**	**6 May '24**	**23 Jul '24**			**-18 days**
1000	1.6.1.4.4.3.1	Site setting out works	C2	3 days	6 May '24	8 May '24		1001	-8 days
1001	1.6.1.4.4.3.2	Vertify the site setting out with Architect & POC	C2	5 days	9 May '24	13 May '24	1000	1002	-8 days
1002	1.6.1.4.4.3.3	Wall & ceiling plastering	C2	35 days	14 May '24	17 Jun '24	1001	1003SS+21 days,1006S	-8 days
1003	1.6.1.4.4.3.4	Wall & ceiling painting	C2	21 days	4 Jun '24	24 Jun '24	1002SS+21 d	1005,1012,1017	-8 days
1004	1.6.1.4.4.3.5	Block wall erection for interfacing WSD & DSD portion	C2	10 days	4 Jun '24	13 Jun '24	1002SS+21 da	1012,1017	3 days
1005	1.6.1.4.4.3.6	Floor Screeding & Finishes	C2	14 days	25 Jun '24	8 Jul '24	1003	1017	6 days
1006	1.6.1.4.4.3.7	Toilet fitting out works	C2	7 days	27 May '24	2 Jun '24	1002SS+13 da	3	58 days
1007	1.6.1.4.4.3.8	Handrail installation for ST-1, ST-2, ST-3, ST-6 & ST-7	C2	10 days	18 Jun '24	27 Jun '24	986	3	33 days
1008	1.6.1.4.4.3.9	Screeding and nosing installation for ST-1, ST-2, ST-3, ST-6 & ST-7	C2	10 days	2 Jul '24	11 Jul '24	987	3	19 days
1009	1.6.1.4.4.3.10	Door and door frame installation	C2	24 days	18 Jun '24	11 Jul '24	1002	1010	7 days
1010	1.6.1.4.4.3.11	Paint / plastering works touch up	C2	12 days	12 Jul '24	23 Jul '24	1009	3	7 days



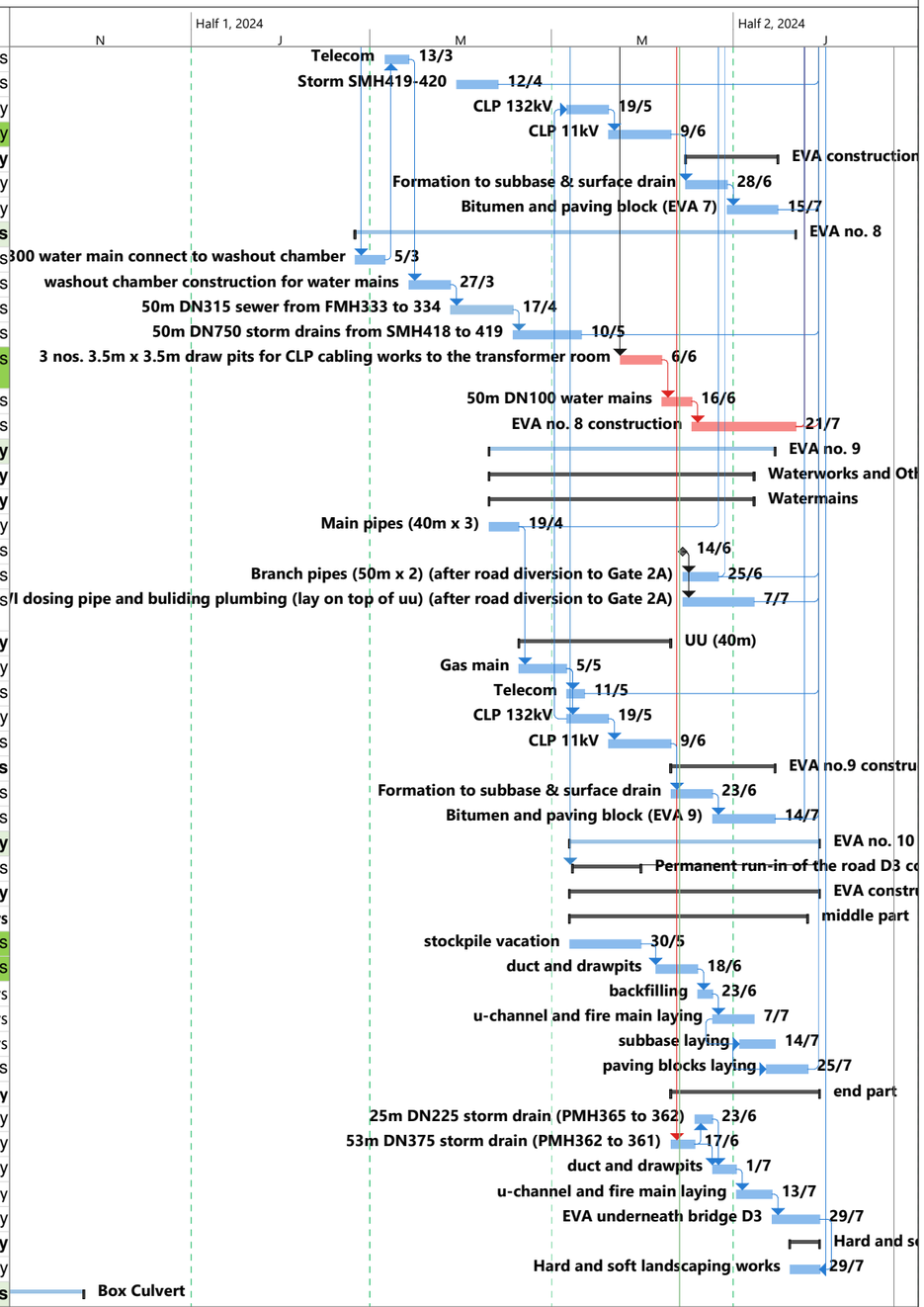
Task | Summary | Start-only | Critical | Progress
Milestone | Project Summary | Finish-only | Critical Split | Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
1011	**1.6.1.4.4.4**	**E&M**	**None**	**37 days**	**25 Jun '24**	**31 Jul '24**			**-8 days**
1012	1.6.1.4.4.4.1	MVAC works	C2	30 days	25 Jun '24	24 Jul '24	1003,1004	1013SS,1018,1028	-8 days
1013	1.6.1.4.4.4.2	Electrical works	C2	30 days	25 Jun '24	24 Jul '24	1012SS	1014SS+7 days,1015SS+5 d	-8 days
1014	1.6.1.4.4.4.3	Fire service works	C2	20 days	2 Jul '24	21 Jul '24	1013SS+7 days	1018	2 days
1015	1.6.1.4.4.4.4	Mechanical works	C2	25 days	30 Jun '24	24 Jul '24	1013SS+5 days	1016SS+5 days,1018	-1 day
1016	1.6.1.4.4.4.5	Plumbing and drainage works	C2	20 days	5 Jul '24	24 Jul '24	1015SS+5 days	1018	-1 day
1017	1.6.1.4.4.4.6	LV switch room	C2	16 days	9 Jul '24	24 Jul '24	1003,1004,10(	3	6 days
1018	1.6.1.4.4.4.7	T&C	C2	7 days	25 Jul '24	31 Jul '24	1012,1013,10:	3	-1 day
1019	**1.6.1.4.4.5**	**T&C of pumping system for saltwater pumping station (under**	**None**	**48 days**	**15 Jun '24**	**1 Aug '24**			**-2 days**
1020	1.6.1.4.4.5.1	pump out the seawater trapped inside culvert to outlet	C2	3 days	15 Jun '24	17 Jun '24		1021	-2 days
1021	1.6.1.4.4.5.2	seal up existing bulkhead between box culvert/intake culvert to prevent seawater flowing in	C2	3 days	18 Jun '24	20 Jun '24	1020	1022	-2 days
1022	1.6.1.4.4.5.3	Confined space workers by Richwell (or JHL??) to carry out remaining civil works such as mass fill and r.c. landing	C2	21 days	21 Jun '24	11 Jul '24	1021	1023	-2 days
1023	1.6.1.4.4.5.4	POC to carry out watertightness test of the structure	C2	7 days	12 Jul '24	18 Jul '24	1022	1024	-2 days
1024	1.6.1.4.4.5.5	ATAL to install pumping system; secondary screens and conduct T&C (temporary access need to be provided by	C2	14 days	19 Jul '24	1 Aug '24	1023	3	-2 days
1025	**1.6.1.4.4.6**	**water-proofing installation**	**None**	**1 day?**	**1 Sep '22**	**1 Sep '22**			**687 days?**
1026	1.6.1.4.4.6.1	water-proofing installation at the ground floor of the pumping station	None	1 day?	1 Sep '22	1 Sep '22			687 days?
1027	**1.6.1.4.5**	**FS Inspection**	**None**	**14 days**	**25 Jul '24**	**7 Aug '24**			**-8 days**
1028	1.6.1.4.5.1	FS Inspection	C2	14 days	25 Jul '24	7 Aug '24	1012,1013,95	3	-8 days
1029	**1.6.1.4.6**	**R/F**	**C2**	**52 days**	**3 Jul '24**	**23 Aug '24**			**-17 days**
1030	**1.6.1.4.6.1**	**ABWF**	**None**	**52 days**	**3 Jul '24**	**23 Aug '24**			**-17 days**
1031	1.6.1.4.6.1.1	Floor screeding, Surface Channel Installation	C2	21 days	3 Jul '24	23 Jul '24		1032	-17 days
1032	1.6.1.4.6.1.2	water-proofing installation	C2	10 days	24 Jul '24	2 Aug '24	1031	1033	-17 days
1033	1.6.1.4.6.1.3	Laying AGT at Roof Floor	C2	21 days	3 Aug '24	23 Aug '24	1032	1035SS,1036SS,1037S	-17 days
1034	**1.6.1.4.6.2**	**E&M works**	**None**	**14 days**	**3 Aug '24**	**16 Aug '24**			**-17 days**
1035	1.6.1.4.6.2.1	Electrical works	C2	14 days	3 Aug '24	16 Aug '24	1033SS	3	-17 days
1036	1.6.1.4.6.2.2	MVAC works	C2	14 days	3 Aug '24	16 Aug '24	1033SS	3	-17 days
1037	1.6.1.4.6.2.3	Plumbing and drainage works	C2	10 days	3 Aug '24	12 Aug '24	1033SS	3	-13 days
1038	**1.6.1.4.7**	**External Façade Works**	**C2**	**55 days**	**28 Jun '24**	**21 Aug '24**			**-22 days**
1039	**1.6.1.4.7.1**	**ABWF**	**None**	**49 days**	**28 Jun '24**	**15 Aug '24**			**-22 days**
1040	1.6.1.4.7.1.1	Touch up works for fair-faced concrete	C2	21 days	28 Jun '24	18 Jul '24		1041SS+14 days,1047S	-22 days
1041	1.6.1.4.7.1.2	Artifical granite tiles	C2	21 days	12 Jul '24	1 Aug '24	1040SS+14 d	1042	-16 days
1042	1.6.1.4.7.1.3	Touch Up	None	14 days	2 Aug '24	15 Aug '24	1041	3	-16 days
1043	**1.6.1.4.7.2**	**Steel Structure Works**	**None**	**45 days**	**8 Jul '24**	**21 Aug '24**			**-22 days**
1044	**1.6.1.4.7.2.1**	**Window and Louvre**	**None**	**20 days**	**19 Jul '24**	**7 Aug '24**		**3**	**-8 days**
1045	1.6.1.4.7.2.1.1	Installation of window	C2	20 days	19 Jul '24	7 Aug '24	1040		-8 days
1046	**1.6.1.4.7.2.2**	**Aluminium Fin**	**C2**	**45 days**	**8 Jul '24**	**21 Aug '24**			**-22 days**
1047	1.6.1.4.7.2.2.1	installation of fin	C2	45 days	8 Jul '24	21 Aug '24	1040SS+10 da	3	-22 days
1048									
1049	**1.7**	**External Works beside Underpass and pumping station**	**C2**	**128 days**	**1 Mar '24**	**16 Jul '24**			**38 days**
1050	**1.7.1**	**Sewage works**	**None**	**113 days**	**1 Mar '24**	**21 Jun '24**			**53 days**
1076	**1.7.2**	**Rising main laying**	**None**	**123 days**	**1 Mar '24**	**1 Jul '24**			**53 days**
1077	1.7.2.1	Remaining rising main beside FMH223 to 223A (25m)	C2	10 days	1 Mar '24	10 Mar '24			156 days
1078	1.7.2.2	Rising main beside FMH223A to 223B	C2	7 days	10 May '24	16 May '24	1081	3	75 days
1079	1.7.2.3	Last section of rising main upto the pumping station (around 4	C2	10 days	22 Jun '24	1 Jul '24	1075		53 days
1080	**1.7.3**	**Water mains laying**	**None**	**71 days**	**7 May '24**	**16 Jul '24**			**14 days**
1081	1.7.3.1	Waterworks cross the sewer FMH223A to 223B	C2	3 days	7 May '24	9 May '24	418	1078	75 days
1082	1.7.3.2	waterworks lay up to EVA no. 9	C2	5 days	11 Jun '24	15 Jun '24		1083	24 days
1083	1.7.3.3	arrange water mains connection (10 days for preparation; 7 days for pressure test and swabbing; and 7 days connection	C2	21 days	26 Jun '24	16 Jul '24	1082,1108,11	3	14 days
1084	**1.8**	**EVA nos.7 to 10**	**C2**	**676 days**	**1 Sep '22**	**29 Jul '24**			**1 day**
1085	**1.8.1**	**EVA no. 7**	**C2**	**192 days**	**15 Dec '23**	**15 Jul '24**			**15 days**
1086	**1.8.1.1**	**U/G service**	**None**	**163 days**	**15 Dec '23**	**9 Jun '24**			**51 days**
1087	1.8.1.1.1	DN315 sewer with 2.5m deep after diversion Site 4E1 to use Road L12d	C2	27 days	15 Dec '23	10 Jan '24		1121,1088	155 days
1088	1.8.1.1.2	DN600 water main is to be laid after sewer complete	C2	25 days	11 Jan '24	4 Feb '24	1087	3	155 days
1089	1.8.1.1.3	Gas main	C2	6 days	19 Feb '24	24 Feb '24		1098	81 days



Task | Summary | Start-only | Critical | Progress
Milestone | Project Summary | Finish-only | Critical Split | Manual Progress

ID	WBS	Task Name	Task Calendar	Duration	Start	Finish	Predecessors	Successors	Total Slack
1090	1.8.1.1.4	Telecom	C2	8 days	6 Mar '24	13 Mar '24	1098	1099	81 days
1091	1.8.1.1.5	Storm SMH419-420	C2	14 days	30 Mar '24	12 Apr '24		3	99 days
1092	1.8.1.1.6	CLP 132kV	C2	14 days	6 May '24	19 May '24	1115SS	1093	1 day
1093	1.8.1.1.7	CLP 11kV	C2	21 days	20 May '24	9 Jun '24	1092	1095FS+5 days	1 day
1094	**1.8.1.2**	**EVA construction**	**C2**	**31 days**	**15 Jun '24**	**15 Jul '24**			**1 day**
1095	1.8.1.2.1	Formation to subbase & surface drain	C2	14 days	15 Jun '24	28 Jun '24	1093FS+5 da	1096	1 day
1096	1.8.1.2.2	Bitumen and paving block (EVA 7)	C2	17 days	29 Jun '24	15 Jul '24	1095	3,1028	1 day
1097	**1.8.2**	**EVA no. 8**	**C2**	**138 days**	**25 Feb '24**	**21 Jul '24**			**9 days**
1098	1.8.2.1	DN300 water main connect to washout chamber	C2	10 days	25 Feb '24	5 Mar '24	1089	1090	81 days
1099	1.8.2.2	washout chamber construction for water mains	C2	14 days	14 Mar '24	27 Mar '24	1090	1100	81 days
1100	1.8.2.3	50m DN315 sewer from FMH333 to 334	C2	21 days	28 Mar '24	17 Apr '24	1099	1101	81 days
1101	1.8.2.4	50m DN750 storm drains from SMH418 to 419	C2	13 days	18 Apr '24	10 May '24	1100	3	81 days
1102	1.8.2.5	3 nos. 3.5m x 3.5m draw pits for CLP cabling works to the transformer room	C2	14 days	24 May '24	6 Jun '24	976FS+7 days	1103	-5 days
1103	1.8.2.6	50m DN100 water mains	C2	10 days	7 Jun '24	16 Jun '24	1102	1104	-5 days
1104	1.8.2.7	EVA no. 8 construction	C2	35 days	17 Jun '24	21 Jul '24	1103	3,1028	-5 days
1105	**1.8.3**	**EVA no. 9**	**C2**	**86 days**	**10 Apr '24**	**14 Jul '24**			**1 day**
1106	**1.8.3.1**	**Waterworks and Others**	**C2**	**79 days**	**10 Apr '24**	**7 Jul '24**			**1 day**
1107	**1.8.3.1.1**	**Watermains**	**C2**	**79 days**	**10 Apr '24**	**7 Jul '24**			**1 day**
1108	1.8.3.1.1.1	Main pipes (40m x 3)	C2	10 days	10 Apr '24	19 Apr '24	923	1113,1083	1 day
1109	1.8.3.1.1.2	road diversion to the completed run-in beside Gate 2A	None	0 days	14 Jun '24	14 Jun '24		1110,1111	14 days
1110	1.8.3.1.1.3	Branch pipes (50m x 2) (after road diversion to Gate 2A)	C2	12 days	14 Jun '24	25 Jun '24	1109	3,1083	14 days
1111	1.8.3.1.1.4	SWI dosing pipe and buliding plumbing (lay on top of uu) (after road diversion to Gate 2A)	C2	24 days	14 Jun '24	7 Jul '24	1109	3	23 days
1112	**1.8.3.1.2**	**UU (40m)**	**C2**	**41 days**	**20 Apr '24**	**9 Jun '24**			**1 day**
1113	1.8.3.1.2.1	Gas main	C2	6 days	20 Apr '24	5 May '24	1108	1114,1115	1 day
1114	1.8.3.1.2.2	Telecom	C2	6 days	6 May '24	11 May '24	1113	3	80 days
1115	1.8.3.1.2.3	CLP 132kV	C2	14 days	6 May '24	19 May '24	1113	1116,1092SS	1 day
1116	1.8.3.1.2.4	CLP 11kV	C2	21 days	20 May '24	9 Jun '24	1115	1118	2 days
1117	**1.8.3.2**	**EVA no.9 construction**	**C2**	**35 days**	**10 Jun '24**	**14 Jul '24**			**2 days**
1118	1.8.3.2.1	Formation to subbase & surface drain	C2	14 days	10 Jun '24	23 Jun '24	1116	1119	2 days
1119	1.8.3.2.2	Bitumen and paving block (EVA 9)	C2	21 days	24 Jun '24	14 Jul '24	1118	3,1028	2 days
1120	**1.8.4**	**EVA no. 10**	**C2**	**84 days**	**7 May '24**	**29 Jul '24**			**1 day**
1121	1.8.4.1	Permanent run-in of the road D3 construction	C2	23 days	8 May '24	30 May '24	1087	3	61 days
1127	**1.8.4.2**	**EVA construction**	**None**	**84 days**	**7 May '24**	**29 Jul '24**			**1 day**
1128	**1.8.4.2.1**	**middle part**	**None**	**80 days**	**7 May '24**	**25 Jul '24**			**5 days**
1129	1.8.4.2.1.1	stockpile vacation	C2	24 days	7 May '24	30 May '24		1130FS+5 days	5 days
1130	1.8.4.2.1.2	duct and drawpits	C2	14 days	5 Jun '24	18 Jun '24	1129FS+5 da	1131	5 days
1131	1.8.4.2.1.3	backfilling	C2	5 days	19 Jun '24	23 Jun '24	1130	1132	5 days
1132	1.8.4.2.1.4	u-channel and fire main laying	C2	14 days	24 Jun '24	7 Jul '24	1131	1133SS+9 days	5 days
1133	1.8.4.2.1.5	subbase laying	C2	12 days	3 Jul '24	14 Jul '24	1132SS+9 days	1134SS+9 days	5 days
1134	1.8.4.2.1.6	paving blocks laying	C2	14 days	12 Jul '24	25 Jul '24	1133SS+9 da	3	5 days
1135	**1.8.4.2.2**	**end part**	**None**	**50 days**	**10 Jun '24**	**29 Jul '24**			**1 day**
1136	1.8.4.2.2.1	25m DN225 storm drain (PMH365 to 362)	C2	6 days	18 Jun '24	23 Jun '24	1137	1138	1 day
1137	1.8.4.2.2.2	53m DN375 storm drain (PMH362 to 361)	C2	8 days	10 Jun '24	17 Jun '24	331	1138,1136	1 day
1138	1.8.4.2.2.3	duct and drawpits	C2	8 days	24 Jun '24	1 Jul '24	1137,1136	1139	1 day
1139	1.8.4.2.2.4	u-channel and fire main laying	C2	12 days	2 Jul '24	13 Jul '24	1138	1140	1 day
1140	1.8.4.2.2.5	EVA underneath bridge D3	C2	16 days	14 Jul '24	29 Jul '24	1139	1142FF	1 day
1141	**1.8.4.3**	**Hard and soft landscaping works**	**C2**	**10 days**	**20 Jul '24**	**29 Jul '24**			**1 day**
1142	1.8.4.3.1	Hard and soft landscaping works	C2	10 days	20 Jul '24	29 Jul '24	1140FF	3	1 day
1143	**1.8.5**	**Box Culvert**	**C2**	**451 days**	**1 Sep '22**	**25 Nov '23**			**226 days**



Task | Summary | Start-only | Critical | Progress
Milestone | Project Summary | Finish-only | Critical Split | Manual Progress

Appendix C – Apply permission for Environmental Monitoring

Propose alternative monitoring location: The Lok Sin Tong Modular Social Housing Scheme
Status: Rejected application

Email on: 10 May 2022

Subject **The Lok Sin Tong Benevolent Society Kowloon - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-05-10 15:48

- Figure 1 Impact dust measurement setup.jpg(~1.2 MB)
- Figure 2 Impact noise measurement setup.jpg(~979 KB)

Company: The Lok Sin Tong Benevolent Society Kowloon

By Email ([redacted]

Dear Madam
5 May 2022

Dear Sir/ Madam, [redacted]

Re: Environmental Monitoring for Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron

We, Ka Shing Management Consultant Limited (KS), is appointed by Civil Engineering and Development Department (CEDD), working as Environmental Team (ET) to conduct the monitoring and audit works as part of the EM&A programme of the Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron (KTD Stage 4 Project) starting from July 2019 to May 2024.

KTD Stage 4 project is located in the south-eastern part of Kowloon Peninsular of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. Your premise, Hong Kong Society for Blind Workshop and Hotels, is one of the proposed sensitive receivers.

We would like to obtain your kind permission for entering the premise to carry out baseline and impact monitoring, baseline dust monitoring (1-hour and 24-hour TSP monitoring) and baseline noise monitoring (30-minute) would need to conduct continuously for 14 days, our propose baseline monitoring date is June 2022.

After baseline monitoring, impact dust monitoring (1-hour and 24-hour TSP monitoring) and impact noise monitoring (30-minute) would take place between 08:00 hrs to 18:00 hrs in normal working days once every six days.

The monitoring location will be located on the roof top floor of The Lok Sin Tong Modular Social Housing Scheme at Junction of Sung Wong Toi Road and To Kwa Wan Road facing to Kai Tak Development area. 220V power supply is needed for 24-hour TSP monitor with size 0.5m (L) x 0.5m (W) x 1.4m (H). We will pay for the electricity. Similar setup photo records are shown in Figure 1 and Figure 2 for your kindly reference. Our technician will stay at the measurement point for 1-hour TSP and 30-mintue noise measurement.

We hope to conduct site visit at 13:30 pm of 25 May 2022 (Wed).

Should you have any enquires regarding the measurement, please do not hesitate to contact [redacted] at [redacted]

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Email on: 13 October 2022

Subject **The Lok Sin Tong Benevolent Society Kowloon - Reject to Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-10-13 15:52

Company: The Lok Sin Tong Benevolent Society Kowloon

By Email

Dear Sir/ [redacted]

Referring to the communication between your staff and me regarding the captioned work at 21 September 2022, the Lok Sin Tong Benevolent Society Kowloon was rejected the apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development.
Due to electricity supply and security concern in Modular House , Environmental monitoring at Modular House is not allowed open.

Should you have any enquires regarding the measurement, please do not hesitate to contact [redacted] at [redacted]

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Propose alternative monitoring location: Freder Centre
Status: No reply from building management office unit the reporting month

Email on: 19 July 2022

Subject **Freder Centre - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-07-19 13:33

- Figure 1 Impact dust measurement setup.jpg(~1.2 MB)
- Figure 2 Impact noise measurement setup.jpg(~979 KB)

Company: Freder Centre

By Email

Dear Sir

Re: Environmental Monitoring for Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron

We, Ka Shing Management Consultant Limited (KS), is appointed by Civil Engineering and Development Department (CEDD), working as Environmental Team (ET) to conduct the monitoring and audit works as part of the EM&A programme of the Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron (KTD Stage 4 Project) starting from July 2019 to May 2024.

KTD Stage 4 project is located in the south-eastern part of Kowloon Peninsular of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. Your premise, Hong Kong Society for Blind Workshop and Hotels, is one of the proposed sensitive receivers.

We would like to obtain your kind permission for entering the premise to carry out baseline and impact monitoring, baseline dust monitoring (1-hour and 24-hour TSP monitoring) and baseline noise monitoring (30-minute) would need to conduct continuously for 14 days, our propose baseline monitoring date is August 2022.

After baseline monitoring, impact dust monitoring (1-hour and 24-hour TSP monitoring) and impact noise monitoring (30-minute) would take place between 08:00 hrs to 18:00 hrs in normal working days once every six days.

The monitoring location will be located on the roof top floor of Freder Centre at Junction of Sung Wong Toi Road and To Kwa Wan Road facing to Kai Tak Development area. 220V power supply is needed for 24-hour TSP monitor with size 0.5m (L) x 0.5m (W) x 1.4m (H). We will pay for the electricity. Similar setup photo records are shown in Figure 1 and Figure 2 for your kindly reference. Our technician will stay at the measurement point for 1-hour TSP and 30-mintue noise measurement.

We hope to conduct site visit at 15:30pm of 26 July 2022 (Tue).

Should you have any enquires regarding the measurement, please do not hesitate to contact at

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Propose alternative monitoring location: New Port Centre
Status: No reply from building management office unit the reporting month

Email on: 19 July 2022

Subject **New Port Centre - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-07-19 13:33

- Figure 1 Impact dust measurement setup.jpg(~1.2 MB)
- Figure 2 Impact noise measurement setup.jpg(~979 KB)

Company: New Port Centre & Synergis management services limited

By Email

Dear Sir,

Re: Environmental Monitoring for Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron

We, Ka Shing Management Consultant Limited (KS), is appointed by Civil Engineering and Development Department (CEDD), working as Environmental Team (ET) to conduct the monitoring and audit works as part of the EM&A programme of the Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron (KTD Stage 4 Project) starting from July 2019 to May 2024.

KTD Stage 4 project is located in the south-eastern part of Kowloon Peninsular of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. Your premise, New Port Centre, is one of the proposed sensitive receivers.

We would like to obtain your kind permission for entering the premise to carry out baseline and impact monitoring, baseline dust monitoring (1-hour and 24-hour TSP monitoring) and baseline noise monitoring (30-minute) would need to conduct continuously for 14 days, our propose baseline monitoring date is August 2022.

After baseline monitoring, impact dust monitoring (1-hour and 24-hour TSP monitoring) and impact noise monitoring (30-minute) would take place between 08:00 hrs to 18:00 hrs in normal working days once every six days.

The monitoring location will be located on the roof top floor of New Port Centre at Junction of Sung Wong Toi Road and To Kwa Wan Road facing to Kai Tak Development area. 220V power supply is needed for 24-hour TSP monitor with size 0.5m (L) x 0.5m (W) x 1.4m (H). We will pay for the electricity. Similar setup photo records are shown in Figure 1 and Figure 2 for your kindly reference. Our technician will stay at the measurement point for 1-hour TSP and 30-mintue noise measurement.

We hope to conduct site visit at 13:30pm of 26 July 2022 (Tue).

Should you have any enquires regarding the measurement, please do not hesitate to contact at

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Email on: 17 August 2022

Subject **Kum Shing Group and Hong Kong Energy Infrastructure Limited - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-08-17 11:54

- Figure 1 Impact dust measurement setup.jpg(~1.2 MB)
- Figure 2 Impact noise measurement setup.jpg(~979 KB)
- plug 01.jpg(~2.6 MB)

Company: Kum Shing Group and Hong Kong Energy Infrastructure Limited

By Email

Dear Sir,

Re: Environmental Monitoring for Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron

We, Ka Shing Management Consultant Limited (KS), is appointed by Civil Engineering and Development Department (CEDD), working as Environmental Team (ET) to conduct the monitoring and audit works as part of the EM&A programme of the Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron (KTD Stage 4 Project) starting from July 2019 to May 2024.

KTD Stage 4 project is located in the south-eastern part of Kowloon Peninsular of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. Your premise, New Port Centre, is one of the proposed sensitive receivers.

We would like to obtain your kind permission for entering the premise to carry out baseline and impact monitoring, baseline dust monitoring (1-hour and 24-hour TSP monitoring) and baseline noise monitoring (30-minute) would need to conduct continuously for 14 days, our propose baseline monitoring date is August 2022.

After baseline monitoring, impact dust monitoring (1-hour and 24-hour TSP monitoring) and impact noise monitoring (30-minute) would take place between 08:00 hrs to 18:00 hrs in normal working days once every six days.

The monitoring location will be located on the roof top floor of New Port Centre at Junction of Sung Wong Toi Road and To Kwa Wan Road facing to Kai Tak Development area. 220V power supply is needed for 24-hour TSP monitor with size 0.5m (L) x 0.5m (W) x 1.4m (H). We will pay for the electricity. Similar setup photo records are shown in Figure 1 and Figure 2 for your kindly reference. Our technician will stay at the measurement point for 1-hour TSP and 30-mintue noise measurement.

We hope to loan the company on the roof top floor of Plug 01 for 24-hour TSP monitor of power supply.

Should you have any enquires regarding the measurement, please do not hesitate to contact at

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Propose alternative monitoring location: New Port Centre
Status: No reply from building management office unit the reporting month

Email on: 19 August 2022

Subject **RE: Kum Shing Group and Hong Kong Energy Infrastructure Limited - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Cc

Date 2022-08-19 08:36

Dear Mr. LEE,

As we do not have ownership to the roof, we'd suggest you to approach the management company of Newport Center for further discussion.
https://www.synergis.com.hk/html/en/

best,
Paul Lee

Email on: 15 September 2022

Subject **New Port Centre - Apply permission for Environmental Monitoring for Stage 4 of Kai Tak Development**

From

To

Bcc

Date 2022-09-15 15:35

- Figure 1 Impact dust measurement setup.jpg(~1.2 MB)
- Figure 2 Impact noise measurement setup.jpg(~979 KB)
- Figure 3 expect Impact dust measurement setup.png(~267 KB)
- Figure 4 power supply plug.jpg(~2.6 MB)

Company: New Port Centre & Synergis management services limited

By Email

Dear Sir,

Re: Environmental Monitoring for Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron

We, Ka Shing Management Consultant Limited (KS), is appointed by Civil Engineering and Development Department (CEDD), working as Environmental Team (ET) to conduct the monitoring and audit works as part of the EM&A programme of the Kai Tak Development – Stage 4 Infrastructure at the former runway and south apron (KTD Stage 4 Project) starting from July 2019 to May 2024.

KTD Stage 4 project is located in the south-eastern part of Kowloon Peninsular of the HKSAR, comprising the apron and runway areas of the former Kai Tak Airport and existing waterfront areas at To Kwa Wan, Ma Tau Kok, Kowloon Bay, Kwun Tong and Cha Kwo Ling. Your premise, New Port Centre, is one of the proposed sensitive receivers.

We would like to obtain your kind permission for entering the premise to carry out baseline and impact monitoring, baseline dust monitoring (1-hour and 24-hour TSP monitoring) and baseline noise monitoring (30-minute) would need to conduct continuously for 14 days, our propose baseline monitoring date is August 2022.

After baseline monitoring, impact dust monitoring (1-hour and 24-hour TSP monitoring) and impact noise monitoring (30-minute) would take place between 08:00 hrs to 18:00 hrs in normal working days once every six days.

The monitoring location will be located on the roof top floor of New Port Centre at Junction of Sung Wong Toi Road and To Kwa Wan Road facing to Kai Tak Development area. 220V power supply is needed for 24-hour TSP monitor with size 0.5m (L) x 0.5m (W) x 1.4m (H). We will pay for the electricity. Similar setup photo records are shown in Figure 1 and Figure 2 for your kindly reference. The expect of impact dust measurement setup photo records are shown in Figure 3 and the power supply will come from the roof of the socket (Figure 4) for reference. Our technician will stay at the measurement point for 1-hour TSP and 30-mintue noise measurement.

Should you have any enquires regarding the measurement, please do not hesitate to contact at

Thank you for your kind attention and I look forward to receiving your favourable reply soon.

Yours Sincerely,

Lee Wing Hang
Ka Shing Management Consultant Limited

Appendix D – Environmental monitoring schedules

Contract No. EDO 15/2018 Environmental Monitoring at Kai Tak Development Stage 4 Infrastructure at the former runway and south apron

Environmental Monitoring and Weekly Site Inspection Schedule for June 2024

June 2024

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6 Weekly Site Inspection 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	7	8
9	10	11 Weekly Site Inspection + SSMC meeting	12 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	13	14	15
16	17	18 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	19	20 Weekly Site Inspection	21	22
23	24 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	25	26	27 Weekly Site Inspection	28	29 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7
30						

NOTE:

1) Site inspection schedule and Impact monitoring schedule may be changed due to unforeseen circumstance (e.g. adverse weather).

Air Quality Monitoring Station

AM3 - Sky Tower

AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

AM7 - Hong Kong Children's Hospital

Noise Quality Monitoring Station

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

M12 - Hong Kong Children's Hospital

Contract No. EDO 15/2018 Environmental Monitoring at Kai Tak Development Stage 4 Infrastructure at the former runway and south apron

Tentative Environmental Monitoring and Weekly Site Inspection Schedule for July 2024

July 2024

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4 Weekly Site Inspection	5 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	6
7	8	9 Weekly Site Inspection + SSMC meeting	10	11 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	12	13
14	15	16	17 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	18 Weekly Site Inspection	19	20
21	22	23 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	24	25 Weekly Site Inspection	26	27
28	29 24-hr TSP: AM3, AM4(A), AM7 1-hr X3 TSP: AM3, AM4(A), AM7 30-min Noise: M11, M12	30	31			

NOTE:

1) Site inspection schedule and Impact monitoring schedule may be changed due to unforeseen circumstance (e.g. adverse weather).
2) Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A) and M11), the premises owner rejected ET to conduct impact monitoring starting from 1 Sept 2022. No 24-TSP monitoring will be conducted at AM4(A) while 1-hr TSP at AM4(A) and 30-min noise monitoring at M11 will be conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for AM4(A) and M11 are confirmed.

Air Quality Monitoring Station

AM3 - Sky Tower

AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

AM7 - Hong Kong Children's Hospital

Noise Quality Monitoring Station

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

M12 - Hong Kong Children's Hospital

Appendix E – Photographic records

Impact TSP Monitoring

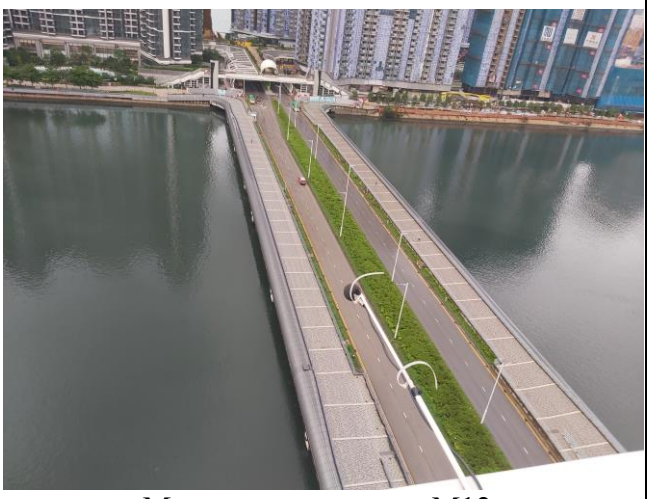
Measurement setup at AM3

Measurement setup at AM4(A)

Measurement setup at AM7

Impact Noise Monitoring

Measurement setup at M11



Measurement setup at M12

Weather Station at the rooftop of Hong Kong Children's Hospital

Appendix F – Calibration certificates, catalogue of air quality monitoring equipment

TISCH Environmental

TSP MFC

Total Suspended Particulate, Mass Flow Controlled

MFC **TSP**

Ambient Air Sampler

- **Meets EPA CFR, Appendix B to Part 50**
- **Total Suspended Particulate(TSP)**
- **Mass Flow Controlled**
- **7-Day Mechanical Timer**
- **Elapsed Time Indicator**
- **Aluminum Outdoor Shelter**
- **Brush Style Motor**
- **Dickson Chart Recorder, 24 Hour**
- **Stainless Steel Filter Holder**
- **36-60 CFM**
- **Made In USA**

The TE-5170 is a high volume ambient Total Suspended Particulate (TSP) air sampler featuring a mass flow controller (MFC) for accurate and consistent particulate sampling. The mass flow controller adjust the motor speed as the filter media collects particulate to maintain a constant flow rate throughout the entire sample duration. The system utilizes a stainless steel filter holder for use with standard 8" x 10" filter paper. The anodized aluminum shelter and robust electrical components allow the system to operate a continuous 24 hour sample.

ABOUT US: Tisch Environmental Inc. Tisch Environmental is the benchmark for high volume air sampling, particulate, metals, volatiles, and specialty monitoring equipment. Since the company's inception in 1953 as General Metal Works, our product line has expanded from the first high volume air sampler to include high-tech and custom samplers. Our clients are professionals from every sector of the regulatory and industrial markets.

TISCH Environmental

www.tisch-env.com

Tisch Environmental
145 S. Miami Ave
Cleves, OH 45002
513-467-9000
sales@tisch-env.com

TISCH Environmental

TSP MFC

MFC TSP Ambient Air Sampler

General System Specifications

Particulate Size: Total Suspended Particulate (TSP)
EPA Designation: CFR 40 Part 50 Appendix B
Flow Controller: Mass Flow Controller
Motor Style: Brush Style Motor Assembly
Pressure Recorder: Dickson Chart Recorder, 24 hour
Timer: 7 Day Mechanical
Elapsed Time Indicator: Mechanical, Hours and Tenths
Flow Range: 39-60CFM, 1.09M^3M-1.68M^3M
Housing: Anodized Aluminum
Filter Holder: Stainless Steel, 8" x 10"
4" Recorder Charts: Box of 100
Filter Holder: 8" x 10" Stainless Steel with hold down frame

Applications

US EPA Reference Method Sampling, CFR
Appendix J Part 50 Regulatory Compliance
Institutional Studies
Construction Sites
Bridge and Water Tower Painting Sites
Fence Line Monitoring
Industrial Monitoring
Landfill Monitoring
Public Health Applications

Available Models

TE-5170 TSP MFC, 110 Volt 60 Hertz, 8 Amps
TE-5170X TSP MFC, 220 Volt 50 Hertz 4 Amps
TE-5170XZ TSP MFC, 220 Volts 60 Hertz, 4 Amps

Optional Equipment

TE-3000 Filter Holder Cartridge
TE-G653 8" x 10" Glass Fiber Filter Media
TE-33384 Motor Brush Set (110volt)
TE-33378 Motor Brush Set (220volt)
TE-116311 Replacement Motor (110volt)
TE-116312 Replacement Motor (220volt)
TE-106 Recorder Charts
TE-160 Recorder Pen Points
TE-5018 Gasket 8" x 10"

Calibration Equipment

TE-5028 -Variable Flow Calibration Kit
TE-HVC-V Xcalibrator HiVol Calibrator

Physical Specifications

Weight: 75lbs, Shelter
Shipping Dimensions: 46"W x 23"L x 20" H, Shelter
19"W x 19"L x 20"H, Lid

Assembled Dimensions: 28"W x 28"L x 61"H

www.tisch-env.com

TISCH Environmental

Calibration Certificate of HVS

Air Sampler Calibration Curve Plotting & Calculation

(Dickson recorder)

Calibration curve ref. No. : ATSPC-01-2024040801 Date of calibration : 08/04/2024

Location : Sky Tower Sampler : TE-5170X

Calibration Data

Ambient barometric pressure, Pa = 759.1 (mmHg) Ambient temperature, Ta = 298.25 (deg K)

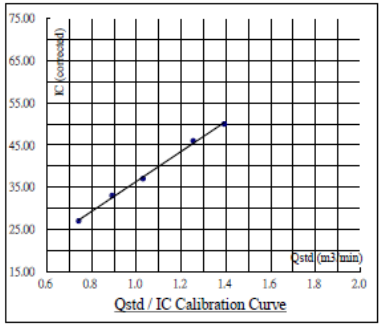
Qstd Slope, m = 2.01424 Qstd Intercept, b = 0.020850

Calibration Curve

Plate No.	H_2O (in)	Qstd (m^3 / min)	I (chart)	IC (corrected)
18	8.00	1.392	50.0	49.95
13	6.50	1.254	46.0	45.95
10	4.40	1.030	37.0	36.96
7	3.30	0.891	33.0	32.97
5	2.30	0.742	27.0	26.97

Subsequent calculation of sampler flow

Method	Calibration equation	Slope, m	Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [(I) (Sqrt ((Pav / 760) (298 / Tav))) - b1]	35.533	0.8308	0.9987



Qstd / IC Calibration Curve

Calibration curve requirements : (A). r > 0.990 ; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark : Qstd (m^3 / min) = 1/m [Sqrt (H_2O (Pa / 760) (298 / Ta)) - b].

IC (corrected) = I [Sqrt ((Pa / 760) (298 / Ta))].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta))

Calibrated by : _____ Checked by : _____

Name : (Poon Tsz Wing) Name : (Choy Ching Yee)

Form No. INS-HVS-CAL dd 16 01 2020

Air Sampler Calibration Curve Plotting & Calculation

(Dickson recorder)

Calibration curve ref. No. : ATSPC-01-2024060701 Date of calibration : 07/06/2024

Location : Sky Tower Sampler : TE-5170X

Calibration Data

Ambient barometric pressure, Pa = 755.4 (mmHg) Ambient temperature, Ta = 299.75 (deg K)

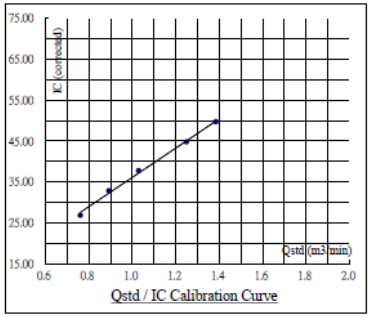
Qstd Slope, m = 2.03976 Qstd Intercept, b = -0.012990

Calibration Curve

Plate No.	H_2O (in)	Qstd (m^3 / min)	I (chart)	IC (corrected)
18	8.00	1.385	50.0	49.70
13	6.50	1.249	45.0	44.73
10	4.40	1.029	38.0	37.77
7	3.30	0.892	33.0	32.80
5	2.40	0.761	27.0	26.84

Subsequent calculation of sampler flow

Method	Calibration equation	Slope, m	Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [(I) (Sqrt ((Pav / 760) (298 / Tav))) - b1]	35.732	0.3774	0.9980



Qstd / IC Calibration Curve

Calibration curve requirements : (A). r > 0.990 ; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark : Qstd (m^3 / min) = 1/m [Sqrt (H_2O (Pa / 760) (298 / Ta)) - b].

IC (corrected) = I [Sqrt ((Pa / 760) (298 / Ta))].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta))

Calibrated by : _____ Checked by : _____

Name : (Poon Tsz Wing) Name : (Choy Ching Yee)

Form No. INS-HVS-CAL dd 16 01 2020

Air Sampler Calibration Curve Plotting & Calculation

(Dickson recorder)

Calibration curve ref. No. : ATSPC-01-2024040803 Date of calibration : 08/04/2024

Location : Hong Kong Children's Hospital Sampler : TE-5170X

Calibration Data

Ambient barometric pressure, Pa = 759.1 (mmHg) Ambient temperature, Ta = 298.25 (deg K)

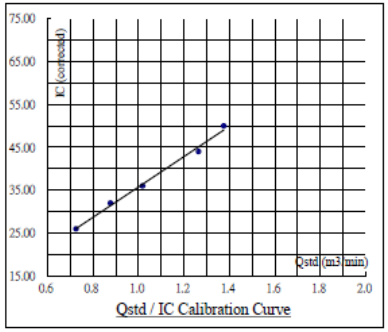
Qstd Slope, m = 2.01424 Qstd Intercept, b = 0.020850

Calibration Curve

Plate No.	H_2O (in)	Qstd (m^3 / min)	I (chart)	IC (corrected)
18	7.80	1.375	50.0	49.95
13	6.60	1.264	44.0	43.96
10	4.30	1.018	36.0	35.96
7	3.20	0.877	32.0	31.97
5	2.20	0.725	26.0	25.97

Subsequent calculation of sampler flow

Method	Calibration equation	Slope, m	Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [(I) (Sqrt ((Pav / 760) (298 / Tav))) - b1]	35.354	0.3766	0.9963



Qstd / IC Calibration Curve

Calibration curve requirements : (A). r > 0.990 ; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark : Qstd (m^3 / min) = 1/m [Sqrt (H_2O (Pa / 760) (298 / Ta)) - b].

IC (corrected) = I [Sqrt ((Pa / 760) (298 / Ta))].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by : _____ Checked by : _____

Name : (Poon Tsz Wing) Name : (Choy Ching Yee)

Form No. INS-HVS-CAL dd 16 01 2020

Air Sampler Calibration Curve Plotting & Calculation

(Dickson recorder)

Calibration curve ref. No. : ATSPC-01-2024060703 Date of calibration : 07/06/2024

Location : Hong Kong Children's Hospital Sampler : TE-5170X

Calibration Data

Ambient barometric pressure, Pa = 755.4 (mmHg) Ambient temperature, Ta = 299.75 (deg K)

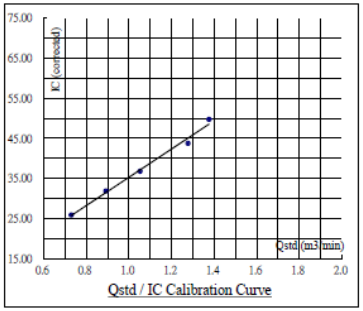
Qstd Slope, m = 2.03976 Qstd Intercept, b = -0.012990

Calibration Curve

Plate No.	H_2O (in)	Qstd (m^3 / min)	I (chart)	IC (corrected)
18	7.90	1.376	50.0	49.70
13	6.80	1.277	44.0	43.74
10	4.60	1.052	37.0	36.78
7	3.30	0.892	32.0	31.81
5	2.20	0.729	26.0	25.85

Subsequent calculation of sampler flow

Method	Calibration equation	Slope, m	Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [(I) (Sqrt ((Pav / 760) (298 / Tav))) - b1]	35.218	0.0617	0.9954



Qstd / IC Calibration Curve

Calibration curve requirements : (A). r > 0.990 ; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark : Qstd (m^3 / min) = 1/m [Sqrt (H_2O (Pa / 760) (298 / Ta)) - b].

IC (corrected) = I [Sqrt ((Pa / 760) (298 / Ta))].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by : _____ Checked by : _____

Name : (Poon Tsz Wing) Name : (Choy Ching Yee)

Form No. INS-HVS-CAL dd 16 01 2020

Calibration Certificate of HVS	Orifice Transfer Standard Certification Worksheet TE-5025A

Air Sampler Calibration Curve Plotting & Calculation

(Dickson recorder)

Calibration curve ref. No. : ATSPC-01-2024053001 Date of calibration : 30/05/2024

Model no : GS2310 Serial number : 10346

Calibration Data

Ambient barometric pressure, Pa = 753.9 (mmHg) Ambient temperature, Ta = 298.65 (deg K)

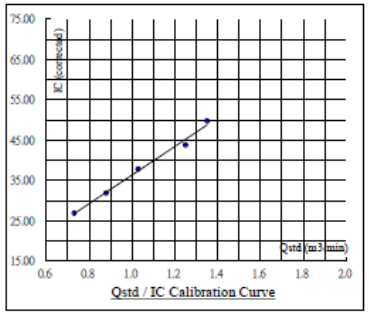
Qstd Slope, m = 2.03976 Qstd Intercept, b = -0.012990

Calibration Curve

Plate No.	H_2O (in)	Qstd (m^3 / min)	I (chart)	IC (corrected)
18	7.60	1.351	50.0	49.74
13	6.50	1.250	44.0	43.77
10	4.40	1.029	38.0	37.81
7	3.20	0.879	32.0	31.84
5	2.20	0.730	27.0	26.86

Subsequent calculation of sampler flow

Method	Calibration equation	Slope, m	Intercept, b	Corr. coeff., r
Dickson recorder	Qstd = 1 / m1 [(I) (Sqrt ((Pav / 760) (298 / Tav))) - b1]	35.445	0.8648	0.9952



Qstd / IC Calibration Curve

Calibration curve requirements : (A). r > 0.990 ; (B). At least 3 Qstd numbers are in the TSP range (1.1 - 1.7 m3 / min).

Remark : Qstd (m^3 / min) = 1/m [Sqrt (H_2O (Pa / 760) (298 / Ta)) - b].

IC (corrected) = I [Sqrt ((Pa / 760) (298 / Ta))].

FLOW (corrected) = Sqrt (FLOW (mano) (Pa / 760) (298 / Ta)).

Calibrated by : Checked by :

Name : (Poon Tsz Wing) Name : (Choy Ching Yee)

Form No. INS-HVS-CAL dd 16 01 2020

2024

TISCH Environmental

RECALIBRATION DUE DATE:
May 6, 2025

Certificate of Calibration

Calibration Certification Information

Cal. Date: May 6, 2024 Rootsmeter S/N: 438320 Ta: 295 °K

Operator: Jim Tisch Pa: 748.5 mm Hg

Calibration Model #: TE-5025A Calibrator S/N: 0006

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4190	3.2	2.00
2	3	4	1	1.0030	6.4	4.00
3	5	6	1	0.8950	7.9	5.00
4	7	8	1	0.8520	8.8	5.50
5	9	10	1	0.7040	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9907	0.6982	1.4106	0.9957	0.7017	0.8878
0.9864	0.9835	1.9949	0.9914	0.9885	1.2556
0.9844	1.0999	2.2304	0.9894	1.1055	1.4037
0.9832	1.1540	2.3393	0.9882	1.1599	1.4723
0.9781	1.3893	2.8213	0.9830	1.3964	1.7756
QSTD	m=	2.03976	QA	m=	1.27726
	b=	-0.01299		b=	-0.00818
	r=	1.00000		r=	1.00000

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	Va=	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	Qa=	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$ Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

Key

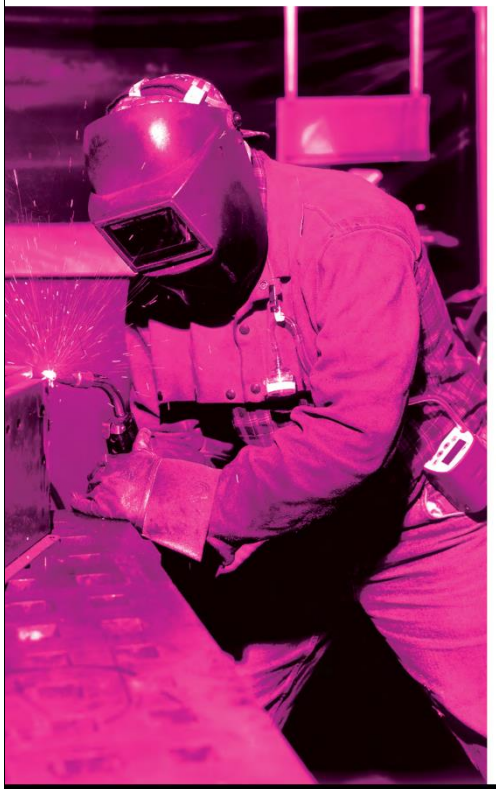
ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002
www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

The SidePak AM510 monitor's easy-to-read display shows your data as both real-time aerosol mass-concentration and 8-hour time-weighted average (TWA). With its convenient data logging and long battery life, the AM510 is also ideal for extended sampling. The easy-to-use TrakPro Data Analysis Software lets you create effective graphs and reports.



User Friendly

+ Small, lightweight and quiet to maximize worker acceptance
+ Rugged design with secure belt clip
+ Easy-to-understand user interface with only four keys
+ Lockable keypad prevents tampering while sampling
+ User-adjustable sample flow rate
+ Define, label and store multiple calibration constants
+ Easy-to-read LCD display
+ Convenient, threaded tripod socket accommodates area sampling

Advanced Features

+ Smart Battery Management System provides precise run time information, maximizes battery capacity and speeds charging
+ Integrated pump allows use of size-selective aerosol inlet conditioners
+ Built-in impactors let you choose "none," 1.0, 2.5 or 10-micron cut off
+ 10-mm Dorr-Oliver cyclone for respirable sampling
+ Display shows real-time concentrations (mg/m³) and "on-the-fly" TWA as you data log
+ Display statistics: max, min and average readings, elapsed time and 8-hour TWA

Quick and Easy Reports

+ Convenient preprogramming for occupational exposure sampling
+ Data log for long periods and store multiple tests
+ Analyze data, print graphs and create reports with TrakPro Data Analysis Software
+ USB port lets you conveniently connect to your computer

Power to Spare

+ Long-lasting NiMH rechargeable battery packs eliminate "memory" issues
+ Choice of rechargeable NiMH smart battery packs or AA-cell pack

Model AM510
SidePak Personal Aerosol Monitor

Sensitivity

Sensor Type	90° light scattering, 670 nm laser diode
Aerosol Concentration Range	0.001 to 20 mg/m³ (calibrated to respirable fraction of ISO 12103-1, A1 test dust)
Particle Size Range	0.1 to 10 micrometer (µm)
Minimum Resolution	0.001 mg/m³
Zero stability	±0.001 mg/m³ over 24 hours using 10-second time-constant
Temperature Coefficient	Approximately +0.0005 mg/m³ per °C (for variations from temperature at which instrument was last zeroed)

Flow Rate

Range	User-adjustable, 0.7 to 1.8 liters/min (L/min)

Temperature Range

Operating Range	32 to 120°F (0 to 50°C)
Storage Range	-4 to 140°F (-20 to 60°C)

Operational Humidity
0 to 95% RH, non-condensing

Time Constant (LCD display)

Range	User-adjustable, 1 to 60 seconds

Data Logging

Data Points	Approx. 31,000
Logging Interval	User-adjustable, 1 second to 1 hour

User-Select Calibration Factors

Factory Setting	1.0 (non-adjustable)
User-defined Settings	3, with user-defined labels
Range	0.1 to 10.0, user-adjustable

Physical

External Dimensions	4.2 x 3.7 x 2.8 in. (106 x 92 x 70 mm) with 801723, 801724, 801729 or 801743 battery 5.1 x 3.7 x 2.8 in. (130 x 92 x 70 mm) with 801708, 801722, 801728, 801735, or 801736 battery
Weight	16 oz (0.46 kg) with 801723, 801724, 801729 or 801743 battery 19 oz (0.54 kg) with 801708, 01722, 801728, 801735, or 801736 battery
Display	2 line x 12 character LCD
Tripod Socket	1/4-20 female thread

Power Supply/Charger (P/N 2613210)

Input Voltage Range	100 to 240 VAC, 50 to 60 Hz
Output Voltage	9 VDC @ 1.0 A

Maintenance

Factory Clean/Calibrate	Recommended annually
User Zero Calibration	Before each use
User Flow Calibration	As needed

Communications Interface

Type	USB 1.1
Connector, Instrument	USB Mini-B (socket)

Minimum Computer Requirements for TrakPro™ Data Analysis Software

Communications Port	Universal Serial Bus (USB) v 1.1 or higher
Operating System	Microsoft Windows® XP, or 7 (32-bit or 64-bit) operating systems

Battery Performance

Battery Options	Charge Time (hrs)*	Intrinsic Safety Rating	Run Time (hrs @ 1.7 L/min)
1600 mAH NiMH Pack, 4.8 V (P/N 801723)	3.0	No	7.1
1650 mAH NiMH Pack, 4.8V (P/N 801724, 801729 or 801743)	3.5	CSA**	7.5
2700 mAH NiMH Pack, 4.8 V (P/N 801722 or 801728)	5.5	No	12.0
2700 mAH NiMH Pack, 4.8 V (P/N 801735)	5.5	No	12.0
6-Cell AA-size Alkaline Pack*** (P/N 801708 or 801736 with six user-supplied AA cells)	N/A	No	22.5

*Of a fully depleted battery
**All dust plugs and dust gaskets must be installed.
***Using Energizer AA-size, E91 alkaline batteries.

Battery Level Indicator

The Smart Battery Management System™ technology utilizes a built-in "gauge" in the SidePak™ battery packs. The gauge monitors battery capacity and calculates run time information by dividing capacity of the battery (mAH) by the instantaneous current consumed by the instrument (mA). This calculation is correct for current operating conditions and can change due to current (mA) consumption or changes in battery capacity.

Calibration Certificate of Dust Meter (TSI Sidepak AM510)

CERTIFICATE OF CALIBRATION AND TESTING

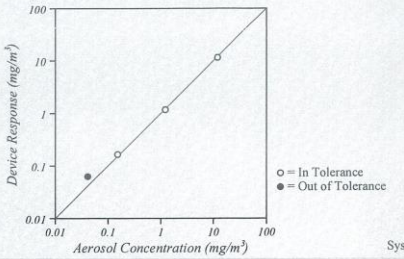
TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

Environment Conditions		
Temperature	74.14 (23.4)	°F (°C)
Relative Humidity	47.6	%RH
Barometric Pressure	28.96 (980.7)	inHg (hPa)

Model	AM510
Serial Number	11208032

☐ As Left ☐ In Tolerance
☒ As Found ☒ Out of Tolerance

Concentration Linearity Plot



System ID: DTII01-02

CONCENTRATION — Unit: mg/m3

#	Standard	Measured	Allowable Range	#	Standard	Measured	Allowable Range
1	1.205	1.108	1.084~1.326	3	0.041	* 0.059	0.029~0.053
2	0.150	0.156	0.128~0.172	4	11.824	10.777	10.642~13.006

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. There is no NIST standard for optical mass measurements. Calibration of this instrument performed by TSI has been done using emery oil and has been nominally adjusted to respirable mass per standard ISO 12103-1, A1 test dust (Arizona dust). Our calibration ratio is greater than 4:1

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
DC Voltage	E010539	12-05-22	06-30-24	Photometer	E003433	03-21-23	09-30-23
Microbalance	M001324	01-09-23	01-31-25	Pressure	E003511	10-25-22	10-31-23
Flowmeter	E002471	05-22-23	05-31-24	DC Voltage	E003315	01-09-23	01-31-24

August 8, 2023

TEAN, KEWU
Verified

Date

Personal Aerosol Monitor Performance check with High Volume Sampler

Preformance Check ref. No: AS0240523-1 Report Issue Date: 23/05/2024
Date of performance check: 23/05/2024

Objective:

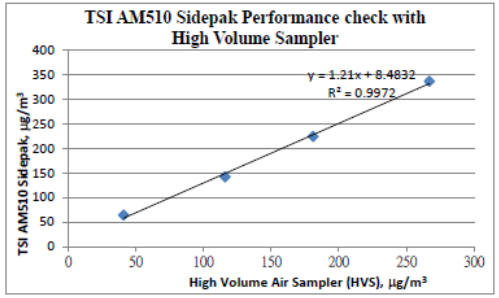
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

Equipment Used:

Equipment	Manufacturer and Model	Serial Number
Personal Aerosol Monitor	TSI AM510 Sidepak	11208032
Total Suspended Particulate High Volume Air Sampler	GS2310	10346

Resuslt:

Equipment	Measurement Result, μg/m³			
TSI AM510 Sidepak	64	142	224	336
High Volume Air Sampler (HVS)	41	116	181	267



Tested by : Name : (Poon Tsz Wing)

Checked by : Name : (Choy Ching Yee)

Form No. ENV CAL SAMPLER CCI dd12/12/2003

Calibration Certificate of Dust Meter (TSI Sidepak AM510)

CERTIFICATE OF CALIBRATION AND TESTING

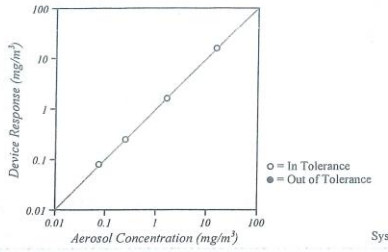
TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

Environment Conditions		
Temperature	73.99 (23.3)	°F (°C)
Relative Humidity	51.8	%RH
Barometric Pressure	28.83 (976.3)	inHg (hPa)

Model	AM510
Serial Number	11411017

☒ As Left ☐ As Found
☒ In Tolerance ☐ Out of Tolerance

Concentration Linearity Plot



System ID: DTII01-01

CONCENTRATION — Unit: mg/m3

#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	1.612	1.529	1.451~1.773	3	0.074	0.075	0.052~0.096
2	0.242	0.234	0.206~0.278	4	15.040	14.957	13.536~16.544

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. There is no NIST standard for optical mass measurements. Calibration of this instrument performed by TSI has been done using emery oil and has been nominally adjusted to respirable mass per standard ISO 12103-1, A1 test dust (Arizona dust). Our calibration ratio is greater than 4:1

Measurement Variable	System ID	Last Cal.	Cal. Due
Photometer	E003319	03-17-23	09-30-23
DC Voltage(Keithley)	E002455	06-13-23	06-30-24
Pressure	E005651	07-24-23	07-31-24

Measurement Variable	System ID	Last Cal.	Cal. Due
Flowmeter	E004570	06-05-23	06-30-24
Microbalance	M001324	02-09-23	02-28-25

Calibrated

August 9, 2023
Date

TSI P/N 2300157

Personal Aerosol Monitor Performance check with High Volume Sampler

Preformance Check ref. No: AS0240523-3 Report Issue Date: 23/05/2024
Date of performance check: 23/05/2024

Objective:

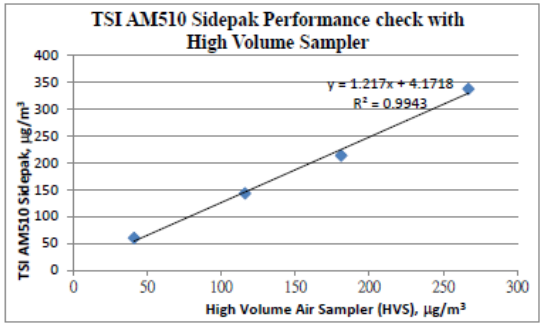
A dust meter and a Total Suspended Particulate High Volume Air Sampler (HVS) were placed together to measure the Total Suspended Particulate (TSP) concentrations simultaneously to check the performance.

Equipment Used:

Equipment	Manufacturer and Model	Serial Number
Personal Aerosol Monitor	TSI AM510 Sidepak	11411017
Total Suspended Particulate High Volume Air Sampler	GS2310	10346

Resuslt:

Equipment	Measurement Result, μg/m³			
TSI AM510 Sidepak	60	143	213	337
High Volume Air Sampler (HVS)	41	116	181	267



Tested by : _____ Checked by : _____
Name : (Poon Tsz Wing) Name : (Choy Ching Yee)

Form No. ENV CAL SAMPLER CC1 dd12/12/2003

Cabled Vantage Pro2™ & Vantage Pro2 Plus™ Stations

6152C
6162C

Vantage Pro2™

The Vantage Pro2™ (# 6152C) and Vantage Pro2™ Plus (# 6162C) cabled weather stations include two components: the Integrated Sensor Suite (ISS) and the console. The ISS contains the sensor interface module (SIM), rain collector, an anemometer, and a passive radiation shield. The Vantage Pro2 console provides the user interface, data display, and calculations. The Vantage Pro2 Plus weather station includes two additional sensors that are optional on the Vantage Pro2 and purchased separately: the UV Sensor and the Solar Radiation Sensor. The console and ISS are powered by an AC-power adapter connected to the console. Batteries can be installed in the console to provide a backup power supply. Use WeatherLink® to let your weather station interface with a computer, log data, and upload weather information to the Internet. The 6152C and 6162C models rely on passive shielding to reduce solar-radiation induced temperature errors in the outside temperature sensor readings.

Integrated Sensor Suite (ISS)

Operating Temperature	-40° to +150°F (-40° to +65°C)
Non-operating Temperature	-40° to +158°F (-40° to +70°C)
Current Draw	5 mA (average) at 4 to 6 VDC for ISS only. 10 mA average for both console and ISS
Connectors, Sensor	Modular RJ-11
Cable Type	4-conductor, 26 AWG
Cable Length, Anemometer	40' (12 m) (included); 240' (73 m) (maximum recommended)

Note: Maximum displayable wind decreases as the length of cable increases. at 140' (42 m) of cable, the maximum wind speed displayed is 135 mph (60 m/s); at 240' (73 m), the maximum wind speed displayed is 100 mph (34 m/s).

Wind Speed Sensor	Solid state magnetic sensor
Wind Direction Sensor	Wind vane with potentiometer
Rain Collector Type	Tipping bucket, 0.01" per tip (0.2 mm with metric rain adapter), 33.2 in^2 (214 cm^2) collection area
Temperature Sensor Type	PN Junction Silicon Diode
Relative Humidity Sensor Type	Film capacitor element
Housing Material	UV-resistant ABS, polypropylene
Sensor Inputs	
RF Filtering	RC low-pass filter on each signal line

ISS Dimensions(not including anemometer or bird spikes):

Vantage Pro2 with Standard Rad Shield	14.0" x 9.4" x 14.5" (356 mm x 239 mm x 368 mm)
Vantage Pro2 with Fan-Asprated Rad Shield	20.8" x 9.4" x 16.0" (528 mm x 239 mm x 406 mm)
Vantage Pro2 Plus with Standard Rad Shield	14.3" x 9.7" x 14.5" (363 mm x 246 mm x 368 mm)
Vantage Pro2 Plus with Fan-Aspirated Rad Shield	21.1" x 9.7" x 16.0" (536 mm x 246 mm x 406 mm)

DAVIS® Davis Instruments 3465 Diablo Ave., Hayward, CA 94545-2778 USA
(510) 732-9229 • FAX (510) 670-0589 • sales@davisinstruments.com • www.davisinstruments.com

Ultra Violet (UV) Radiation Index (requires UV sensor)

Resolution and Units	0.1 Index
Range	0 to 16 Index
Accuracy	±5% of full scale (Reference: Yankee UVB-1 at UV index 10 (Extremely High))
Cosine Response	±4% FS (0° to 90° zenith angle)
Update Interval	50 seconds to 1 minute (5 minutes when dark)
Current Graph Data	Instant Reading and Hourly Average; Daily, Monthly High
Historical Graph Data	Hourly Average, Daily, Monthly Highs
Alarm	High Threshold from Instant Calculation

Wind

Wind Chill (Calculated)

Resolution and Units	1°F or 1°C (user-selectable); °C is converted from °F and rounded to the nearest 1°C
Range	-110° to +135°F (-79° to +57°C)
Accuracy	±2°F (±1°C) (typical)
Update Interval	10 to 12 seconds
Source	United States National Weather Service (NWS)/NOAA
Equation Used	Osczevski (1995) (adopted by US NWS in 2001)
Variables Used	Instant Outside Temperature and 10-min. Avg. Wind Speed
Current Display Data	Instant Calculation
Current Graph Data	Instant Calculation; Hourly, Daily and Monthly Low
Historical Graph Data	Hourly, Daily and Monthly Lows
Alarm	Low Threshold from Instant Calculation

Wind Direction

Range	1 - 360°
Display Resolution	16 points (22.5°) on compass rose, 1° in numeric display
Accuracy	±3°
Update Interval	2.5 to 3 seconds
Current Graph Data	Instant Reading (user adjustable); 10-min. Dominant; Hourly, Daily, Monthly Dominant
Historical Graph Data	Past 6 10-min. Dominants on compass rose only; Hourly, Daily, Monthly Dominants

Wind Speed

Resolution and Units	1 mph, 1 km/h, 0.4 m/s, or 1 knot (user-selectable) Measured in mph; other units are converted from mph and rounded to nearest 1 km/hr, 0.1 m/s, or 1 knot.
Range	0 to 200 mph, 0 to 173 knots, 0 to 89 m/s, 0 to 322 km/h
Update Interval	Instant Reading: 2.5 to 3 seconds, 10-minute Average: 1 minute
Accuracy	±2 mph (2 kts, 3.2 km/h, 0.9 m/s) or ±5%, whichever is greater
Maximum Cable Length	540' (165 m) (Note that maximum wind speed reading decreases as length of cable from anemometer to ISS increases.)
Current Display Data	Instant
Current Graph Data	Instant Reading; 10-minute and Hourly Average; Hourly High; Daily, Monthly and Yearly High with Direction of High
Historical Graph Data	10-min. and Hourly Averages; Hourly Highs; Daily, Monthly and Yearly Highs with Direction of Highs
Alarms	High Thresholds from Instant Reading and 10-minute Average

Cal Lab Limited 校正實驗室有限公司
Room 2103, Technology Plaza, 29-35 Sha Tsui Road,
Tsuen Wan, N.T, Hong Kong
Tel: +852 25680106 Email: info@callab.com.hk
Fax: +852 30116194 Website: www.callab.com.hk

Calibration Certificate No.: CC0122402

Customer Information

Customer: Castco Testing Centre Limited
Address: 33, On Kui Street, Fanling, N.T.

Equipment Identification

Equipment Description	Manufacturer	Model No.	Serial No.	Assigned equipment No.:
Weather Station	Davis	Vantage PRO 2	BD190307008	AAST-WS-O-1

Certificate Information

Date of Receipt:	6 February 2024	Calibration Condition:	21.5°C, 55%RH, 1012hPa
Date of Calibration:	16 February 2024	Adjustment:	N/A
Due Date of Calibration:	N/A	Appearance:	Good
Calibration Procedure:	JJF 1183-2007, JJF 1076-2001, SOP-116	Remark:	N/A

Reference Equipment Identification

Equipment Description	Model	Serial No.	Expiration Date
Platinum resistance thermometer	KPPRHT-A-1	KCI I-1095, KCI P-1095	9 November 2024
Humidity sensor	KPPRHT-A-1	KCI I-1095, KCI P-1095	9 November 2024
Hot Wire Anemometer	9535	T95351316004	11 August 2024

Note1: The estimated expanded uncertainties have been calculated in "Evaluation and expression of uncertainty in measurement" and give an internal estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.
Note2: The standard (s) and instrument used in the calibration are traceable to national or international recognized standard and are calibrated on a schedule to maintain the accuracy and good condition.
Note3: The result reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long term stability of the instrument.
Note4: The result shows in this calibration certificate relate only to the item calibrated, and the result only applies to the calibration item as received.

Approved By:

Warren Yeung

Company Chop:

Certificate Issue Date: 16 February 2024

CT-BEG-04

Appendix G – Weather information

General Information

Date	Absolute Daily Min Temperature (°C)	Absolute Daily Max Temperature (°C)	Total Rainfall (mm)
01/06/2024	25.6	29.8	54.2
02/06/2024	25.8	30.3	3.2
03/06/2024	23.8	28.2	8.6
04/06/2024	22.9	24.9	2.9
05/06/2024	23.4	25.4	8.5
06/06/2024	24.7	28.7	Trace
07/06/2024	25.1	26.6	1.6
08/06/2024	24.8	28.9	6.8
09/06/2024	25.3	27.5	33.5
10/06/2024	26.5	30.7	0.2
11/06/2024	28.2	30.8	0.6
12/06/2024	28.1	31.8	8.3
13/06/2024	28.7	32	4.9
14/06/2024	27.7	30.4	32
15/05/2024	25	30	28.3
16/06/2024	26.1	30.9	17.5
17/06/2024	28.6	32.7	Trace
18/06/2024	27.6	32.1	4.6
19/06/2024	28	32.2	9.4
20/06/2024	27.3	33	5
21/06/2024	28.7	34	0
22/06/2024	29.5	33.8	0
23/06/2024	27.9	33.9	4.7
24/06/2024	28.8	33.4	0.3
25/06/2024	26.5	33.2	19
26/06/2024	27.9	34	0
27/06/2024	28.4	34.4	1.4
28/06/2024	28.9	34.2	1.6
29/06/2024	26.8	31.5	15.5
30/06/2024	27.7	32	8.7

NOTE1: The above weather information was obtained from manned weather station of Hong Kong Observatory.
NOTE2: race means rainfall less than 0.05 mm

https://www.hko.gov.hk/en/cis/dailyExtract.htm?y=2024&m=6

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
01/06/2024	0:00	2.2	112.5	02/06/2024	0:00	1.3	112.5	03/06/2024	0:00	0.9	135	04/06/2024	0:00	0.9	45
01/06/2024	1:00	2.7	337.5	02/06/2024	1:00	1.3	112.5	03/06/2024	1:00	0.9	112.5	04/06/2024	1:00	0.4	90
01/06/2024	2:00	2.7	67.5	02/06/2024	2:00	1.8	112.5	03/06/2024	2:00	1.3	112.5	04/06/2024	2:00	0.4	112.5
01/06/2024	3:00	3.1	67.5	02/06/2024	3:00	1.3	112.5	03/06/2024	3:00	0.9	90	04/06/2024	3:00	0.4	112.5
01/06/2024	4:00	3.1	90	02/06/2024	4:00	1.8	45	03/06/2024	4:00	1.3	90	04/06/2024	4:00	0.4	180
01/06/2024	5:00	3.6	67.5	02/06/2024	5:00	1.3	337.5	03/06/2024	5:00	0.4	112.5	04/06/2024	5:00	0.4	270
01/06/2024	6:00	4.1	67.5	02/06/2024	6:00	0.9	112.5	03/06/2024	6:00	0.4	135	04/06/2024	6:00	0.4	45
01/06/2024	7:00	4.1	90	02/06/2024	7:00	0.9	135	03/06/2024	7:00	0.4	112.5	04/06/2024	7:00	0.9	45
01/06/2024	8:00	3.6	90	02/06/2024	8:00	1.8	90	03/06/2024	8:00	0.4	112.5	04/06/2024	8:00	0.9	90
01/06/2024	9:00	2.2	112.5	02/06/2024	9:00	1.8	135	03/06/2024	9:00	0.9	112.5	04/06/2024	9:00	0.4	67.5
01/06/2024	10:00	2.2	90	02/06/2024	10:00	1.3	135	03/06/2024	10:00	0.9	135	04/06/2024	10:00	1.8	157.5
01/06/2024	11:00	1.8	270	02/06/2024	11:00	1.8	67.5	03/06/2024	11:00	0.9	112.5	04/06/2024	11:00	1.8	112.5
01/06/2024	12:00	2.7	270	02/06/2024	12:00	0.4	90	03/06/2024	12:00	0.9	90	04/06/2024	12:00	0.4	180
01/06/2024	13:00	2.2	270	02/06/2024	13:00	1.3	225	03/06/2024	13:00	0.9	112.5	04/06/2024	13:00	0.9	112.5
01/06/2024	14:00	2.7	90	02/06/2024	14:00	1.3	67.5	03/06/2024	14:00	0.9	90	04/06/2024	14:00	0.9	90
01/06/2024	15:00	2.2	90	02/06/2024	15:00	0.9	22.5	03/06/2024	15:00	0.9	112.5	04/06/2024	15:00	1.3	135
01/06/2024	16:00	2.2	90	02/06/2024	16:00	0.4	270	03/06/2024	16:00	0.4	112.5	04/06/2024	16:00	1.3	112.5
01/06/2024	17:00	2.7	90	02/06/2024	17:00	0.4	270	03/06/2024	17:00	1.3	45	04/06/2024	17:00	1.8	135
01/06/2024	18:00	3.1	112.5	02/06/2024	18:00	0.9	247.5	03/06/2024	18:00	0.4	45	04/06/2024	18:00	1.3	135
01/06/2024	19:00	2.7	337.5	02/06/2024	19:00	0.9	247.5	03/06/2024	19:00	0.4	135	04/06/2024	19:00	0.9	270
01/06/2024	20:00	2.7	67.5	02/06/2024	20:00	0.4	270	03/06/2024	20:00	0.9	112.5	04/06/2024	20:00	0.9	247.5
01/06/2024	21:00	3.1	67.5	02/06/2024	21:00	0.4	270	03/06/2024	21:00	0.4	90	04/06/2024	21:00	0.4	270
01/06/2024	22:00	3.1	90	02/06/2024	22:00	0.9	225	03/06/2024	22:00	0.4	112.5	04/06/2024	22:00	1.3	247.5
01/06/2024	23:00	3.6	67.5	02/06/2024	23:00	0.4	225	03/06/2024	23:00	0.4	112.5	04/06/2024	23:00	1.3	90

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
05/06/2024	0:00	1.3	67.5	06/06/2024	0:00	0.9	270	07/06/2024	0:00	1.3	112.5	08/06/2024	0:00	1.3	112.5
05/06/2024	1:00	1.3	90	06/06/2024	1:00	0.9	247.5	07/06/2024	1:00	0.9	112.5	08/06/2024	1:00	1.3	90
05/06/2024	2:00	0.4	90	06/06/2024	2:00	0.9	225	07/06/2024	2:00	0.9	112.5	08/06/2024	2:00	0.9	112.5
05/06/2024	3:00	0.4	112.5	06/06/2024	3:00	0.9	45	07/06/2024	3:00	1.3	202.5	08/06/2024	3:00	1.3	67.5
05/06/2024	4:00	0.4	112.5	06/06/2024	4:00	0.9	247.5	07/06/2024	4:00	0.4	90	08/06/2024	4:00	0.9	112.5
05/06/2024	5:00	0.4	112.5	06/06/2024	5:00	0.4	270	07/06/2024	5:00	0.9	112.5	08/06/2024	5:00	1.3	135
05/06/2024	6:00	0.4	135	06/06/2024	6:00	0.9	202.5	07/06/2024	6:00	0.4	90	08/06/2024	6:00	0.9	90
05/06/2024	7:00	0.4	112.5	06/06/2024	7:00	0.9	45	07/06/2024	7:00	0.9	90	08/06/2024	7:00	0.9	112.5
05/06/2024	8:00	0.4	112.5	06/06/2024	8:00	0.9	112.5	07/06/2024	8:00	1.3	90	08/06/2024	8:00	0.4	112.5
05/06/2024	9:00	0.4	67.5	06/06/2024	9:00	0.9	112.5	07/06/2024	9:00	1.8	90	08/06/2024	9:00	0.9	112.5
05/06/2024	10:00	1.3	247.5	06/06/2024	10:00	0.4	112.5	07/06/2024	10:00	0.9	90	08/06/2024	10:00	0.9	135
05/06/2024	11:00	1.3	22.5	06/06/2024	11:00	0.4	112.5	07/06/2024	11:00	0.9	90	08/06/2024	11:00	1.3	112.5
05/06/2024	12:00	0.9	225	06/06/2024	12:00	0.9	112.5	07/06/2024	12:00	0.9	112.5	08/06/2024	12:00	1.3	157.5
05/06/2024	13:00	0.9	67.5	06/06/2024	13:00	0.9	135	07/06/2024	13:00	0.9	112.5	08/06/2024	13:00	0.9	112.5
05/06/2024	14:00	0.9	22.5	06/06/2024	14:00	0.4	112.5	07/06/2024	14:00	0.9	90	08/06/2024	14:00	0.9	90
05/06/2024	15:00	1.3	157.5	06/06/2024	15:00	0.4	112.5	07/06/2024	15:00	0.9	90	08/06/2024	15:00	0.9	112.5
05/06/2024	16:00	0.9	135	06/06/2024	16:00	0.9	22.5	07/06/2024	16:00	0.4	112.5	08/06/2024	16:00	0.9	67.5
05/06/2024	17:00	0.9	67.5	06/06/2024	17:00	0.4	45	07/06/2024	17:00	0.9	112.5	08/06/2026	17:00	0.9	22.5
05/06/2024	18:00	0.9	247.5	06/06/2024	18:00	0.4	45	07/06/2024	18:00	0.4	112.5	08/06/2024	18:00	0.9	247.5
05/06/2024	19:00	0.4	225	06/06/2024	19:00	1.3	45	07/06/2024	19:00	0.4	112.5	08/06/2024	19:00	0.9	22.5
05/06/2024	20:00	0.9	45	06/06/2024	20:00	0.9	67.5	07/06/2024	20:00	0.4	135	08/06/2024	20:00	0.9	22.5
05/06/2024	21:00	0.9	45	06/06/2024	21:00	0.9	45	07/06/2024	21:00	0.9	135	08/06/2024	21:00	1.3	270
05/06/2024	22:00	1.3	45	06/06/2024	22:00	0.4	67.5	07/06/2024	22:00	0.9	112.5	08/06/2024	22:00	1.3	247.5
05/06/2024	23:00	1.3	45	06/06/2024	23:00	0.4	157.5	07/06/2024	23:00	0.9	112.5	08/06/2024	23:00	1.3	270

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
09/06/2024	0:00	0.9	67.5	10/06/2024	0:00	1.3	247.5	11/06/2024	0:00	1.3	225	12/06/2024	0:00	1.3	247.5
09/06/2024	1:00	0.9	22.5	10/06/2024	1:00	0.9	247.5	11/06/2024	1:00	0.9	112.5	12/06/2024	1:00	1.3	270
09/06/2024	2:00	0.9	45	10/06/2024	2:00	0.4	247.5	11/06/2024	2:00	1.3	67.5	12/06/2024	2:00	1.3	67.5
09/06/2024	3:00	0.9	67.5	10/06/2024	3:00	0.4	112.5	11/06/2024	3:00	1.3	45	12/06/2024	3:00	0.9	67.5
09/06/2024	4:00	1.3	67.5	10/06/2024	4:00	0.4	180	11/06/2024	4:00	1.3	337.5	12/06/2024	4:00	1.3	67.5
09/06/2024	5:00	1.3	45	10/06/2024	5:00	0.9	225	11/06/2024	5:00	0.9	67.5	12/06/2024	5:00	1.3	67.5
09/06/2024	6:00	1.3	45	10/06/2024	6:00	0.9	247.5	11/06/2024	6:00	0.4	45	12/06/2024	6:00	1.3	67.5
09/06/2024	7:00	2.7	45	10/06/2024	7:00	0.9	247.5	11/06/2024	7:00	0.4	112.5	12/06/2024	7:00	1.3	67.5
09/06/2024	8:00	1.8	45	10/06/2224	8:00	0.4	225	11/06/2024	8:00	0.4	112.5	12/06/2024	8:00	0.9	90
09/06/2024	9:00	1.3	22.5	10/06/2024	9:00	0.4	247.5	11/06/2024	9:00	0.4	112.5	12/06/2024	9:00	0.4	112.5
09/06/2024	10:00	1.3	45	10/06/2024	10:00	0.4	292.5	11/06/2024	10:00	0.9	112.5	12/06/2024	10:00	0.4	67.5
09/06/2024	11:00	1.8	45	10/06/2024	11:00	0.9	225	11/06/2026	11:00	1.8	112.5	12/06/2024	11:00	0.4	90
09/06/2024	12:00	2.2	270	10/06/2024	12:00	0.9	247.5	11/06/2024	12:00	0.4	247.5	12/06/2024	12:00	0.9	67.5
09/06/2024	13:00	3.6	22.5	10/06/2024	13:00	0.4	247.5	11/06/2024	13:00	0.4	247.5	12/06/2024	13:00	0.9	67.5
09/06/2024	14:00	2.2	45	10/06/2024	14:00	0.4	157.5	11/06/2024	14:00	0.4	112.5	12/06/2024	14:00	0.4	90
09/06/2024	15:00	3.6	247.5	10/06/2024	15:00	0.9	112.5	11/06/2024	15:00	0.9	112.5	12/06/2024	15:00	0.9	67.5
09/06/2024	16:00	1.3	270	10/06/2024	16:00	0.9	157.5	11/06/2024	16:00	0.9	135	12/06/2024	16:00	0.9	67.5
09/06/2024	17:00	1.3	270	10/06/2024	17:00	0.4	157.5	11/06/2024	17:00	0.9	112.5	12/06/2024	17:00	0.9	67.5
09/06/2024	18:00	1.8	247.5	10/06/2024	18:00	0.9	247.5	11/06/2024	18:00	1.3	112.5	12/06/2024	18:00	1.3	67.5
09/06/2024	19:00	1.8	247.5	10/06/2024	19:00	0.9	112.5	11/06/2024	19:00	0.9	112.5	12/06/2024	19:00	0.9	90
09/06/2024	20:00	2.7	247.5	10/06/2024	20:00	0.4	247.5	11/06/2024	20:00	0.9	112.5	12/06/2024	20:00	0.9	67.5
09/06/2024	21:00	1.3	67.5	10/06/2024	21:00	0.9	225	11/06/2024	21:00	1.3	202.5	12/06/2024	21:00	0.9	45
09/06/2024	22:00	2.7	45	10/06/2024	22:00	0.9	157.5	11/06/2024	22:00	0.4	90	12/06/2024	22:00	0.9	67.5
09/06/2024	23:00	0.9	135	10/06/2024	23:00	1.8	112.5	11/06/2024	23:00	0.9	112.5	12/06/2024	23:00	1.3	225

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
13/06/2024	0:00	1.3	112.5	14/06/2024	0:00	0.9	135	15/06/2024	0:00	0.4	247.5	16/06/2024	0:00	0.4	112.5
13/06/2024	1:00	1.3	90	14/06/2024	1:00	0.9	247.5	15/06/2024	1:00	1.3	247.5	16/06/2024	1:00	0.4	135
13/06/2024	2:00	1.3	90	14/06/2024	2:00	0.9	135	15/06/2024	2:00	0.9	180	16/06/2024	2:00	0.9	67.5
13/06/2024	3:00	0.9	90	14/06/2024	3:00	0.4	270	15/06/2024	3:00	2.7	180	16/06/2024	3:00	0.9	67.5
13/06/2024	4:00	0.9	67.5	14/06/2024	4:00	1.3	112.5	15/06/2024	4:00	2.2	247.5	16/06/2024	4:00	0.4	90
13/06/2024	5:00	0.9	67.5	14/06/2024	5:00	1.3	112.5	15/06/2024	5:00	2.2	247.5	16/06/2024	5:00	0.9	67.5
13/06/2024	6:00	0.4	112.5	14/06/2024	6:00	1.3	135	15/06/2024	6:00	1.8	225	16/06/2024	6:00	1.8	112.5
13/06/2024	7:00	0.4	90	14/06/2024	7:00	1.3	112.5	15/06/2024	7:00	1.3	247.5	16/06/2024	7:00	0.4	112.5
13/06/2024	8:00	1.3	67.5	14/06/2024	8:00	2.2	112.5	15/06/2024	8:00	1.3	247.5	16/06/2024	8:00	1.8	112.5
13/06/2024	9:00	1.3	45	14/06/2024	9:00	2.2	112.5	15/06/2024	9:00	1.8	247.5	16/06/2024	9:00	1.8	112.5
13/06/2024	10:00	0.9	90	14/06/2024	10:00	1.8	112.5	15/06/2024	10:00	1.3	247.5	16/06/2024	10:00	0.9	112.5
13/06/2024	11:00	0.9	67.5	14/06/2024	11:00	1.3	112.5	15/06/2024	11:00	1.8	225	16/06/2024	11:00	1.3	112.5
13/06/2024	12:00	0.9	90	14/06/2024	12:00	1.8	90	15/06/2025	12:00	0.9	225	16/06/2024	12:00	0.9	112.5
13/06/2024	13:00	0.9	90	14/06/2024	13:00	2.2	112.5	15/06/2024	13:00	0.9	247.5	16/06/2024	13:00	0.9	112.5
13/06/2024	14:00	1.3	90	14/06/2024	14:00	2.2	90	15/06/2024	14:00	0.4	225	16/06/2024	14:00	0.9	135
13/06/2024	15:00	0.9	112.5	14/06/2024	15:00	2.2	112.5	15/06/2024	15:00	0.9	247.5	16/06/2024	15:00	0.9	112.5
13/06/2024	16:00	0.9	112.5	14/06/2024	16:00	2.7	112.5	15/06/2024	16:00	0.9	112.5	16/06/2024	16:00	0.4	112.5
13/06/2024	17:00	0.9	112.5	14/06/2024	17:00	1.8	90	15/06/2024	17:00	0.4	112.5	16/06/2024	17:00	0.4	112.5
13/06/2024	18:00	1.3	90	14/06/2024	18:00	1.8	112.5	15/06/2024	18:00	0.4	337.5	16/06/2024	18:00	0.4	135
13/06/2024	19:00	1.3	90	14/06/2024	19:00	2.2	112.5	15/06/2024	19:00	0.4	112.5	16/06/2024	19:00	0.9	112.5
13/06/2024	20:00	1.3	90	14/06/2024	20:00	2.2	90	15/06/2024	20:00	0.9	112.5	16/06/2024	20:00	0.9	112.5
13/06/2024	21:00	1.3	112.5	14/06/2024	21:00	2.2	112.5	15/06/2024	21:00	0.9	112.5	16/06/2024	21:00	0.9	112.5
13/06/2024	22:00	1.3	135	14/06/2024	22:00	1.8	112.5	15/06/2024	22:00	1.3	112.5	16/06/2024	22:00	0.9	112.5
13/06/2024	23:00	1.8	112.5	14/06/2024	23:00	1.8	112.5	15/06/2024	23:00	1.8	112.5	16/06/2024	23:00	0.9	135

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
17/06/2024	0:00	0.9	135	18/06/2024	0:00	0.9	135	19/06/2024	0:00	0.9	112.5	20/06/2024	0:00	1.8	90
17/06/2024	1:00	0.4	135	18/06/2024	1:00	0.4	135	19/06/2024	1:00	0.9	112.5	20/06/2024	1:00	0.9	90
17/06/2024	2:00	0.4	135	18/06/2024	2:00	0.4	135	19/06/2024	2:00	0.9	67.5	20/06/2024	2:00	0.9	202.5
17/06/2026	3:00	0.4	135	18/06/2024	3:00	0.4	135	19/06/2024	3:00	0.9	45	20/06/2024	3:00	0.9	112.5
17/06/2024	4:00	0.4	0	18/06/2024	4:00	0.4	0	19/06/2024	4:00	0.9	337.5	20/06/2024	4:00	0.9	0
17/06/2024	5:00	0.4	112.5	18/06/2024	5:00	0.4	112.5	19/06/2024	5:00	1.8	0	20/06/2024	5:00	1.3	112.5
17/06/2024	6:00	0	112.5	18/06/2024	6:00	0	112.5	19/06/2024	6:00	1.8	45	20/06/2024	6:00	1.3	247.5
17/06/2024	7:00	0.4	112.5	18/06/2024	7:00	1.8	90	19/06/2024	7:00	0.9	112.5	20/06/2024	7:00	1.8	337.5
17/06/2024	8:00	0.4	337.5	18/06/2024	8:00	1.3	90	19/06/2024	8:00	1.3	90	20/06/2024	8:00	1.8	45
17/06/2024	9:00	0.9	45	18/06/2024	9:00	0.9	45	19/06/2024	9:00	0.9	90	20/06/2024	9:00	0.9	67.5
17/06/2024	10:00	0.4	45	18/06/2024	10:00	0.9	90	19/06/2024	10:00	0.4	135	20/06/2024	10:00	0.4	112.5
17/06/2024	11:00	0.4	112.5	18/06/2024	11:00	0.9	90	19/06/2024	11:00	0.9	337.5	20/06/2024	11:00	1.3	247.5
17/06/2024	12:00	0.9	112.5	18/06/2024	12:00	1.8	45	19/06/2024	12:00	0.9	135	20/06/2024	12:00	0.9	225
17/06/2024	13:00	0.4	315	18/06/2024	13:00	1.3	0	19/06/2024	13:00	0.9	90	20/06/2024	13:00	0.9	247.5
17/06/2024	14:00	0.4	112.5	18/06/2024	14:00	0.9	112.5	19/06/2024	14:00	1.3	90	20/06/2024	14:00	0.4	247.5
17/06/2024	15:00	1.3	67.5	18/06/2024	15:00	2.2	90	19/06/2024	15:00	1.8	112.5	20/06/2024	15:00	0.4	247.5
17/06/2024	16:00	1.3	90	18/06/2024	16:00	1.8	90	19/06/2024	16:00	2.2	112.5	20/06/2024	16:00	0.4	247.5
17/06/2024	17:00	1.8	112.5	18/06/2024	17:00	1.3	90	19/06/2024	17:00	1.3	112.5	20/06/2024	17:00	0	247.5
17/06/2024	18:00	2.7	90	18/06/2024	18:00	0.9	337.5	19/06/2024	18:00	0.9	112.5	20/06/2024	18:00	0.4	112.5
17/06/2024	19:00	1.3	90	18/06/2024	19:00	1.3	45	19/06/2024	19:00	0.9	112.5	20/06/2024	19:00	0.9	270
17/06/2024	20:00	1.8	45	18/06/2024	20:00	0.4	292.5	19/06/2024	20:00	1.8	247.5	20/06/2024	20:00	0.4	292.5
17/06/2024	21:00	1.8	67.5	18/06/2024	21:00	0.9	112.5	19/06/2024	21:00	0.9	202.5	20/06/2024	21:00	0.4	135
17/06/2024	22:00	0.9	112.5	18/06/2024	22:00	0.4	247.5	19/06/2024	22:00	0.9	135	20/06/2024	22:00	0.9	135
17/06/2024	23:00	0.9	45	18/06/2024	23:00	0.9	270	19/06/2024	23:00	0.9	112.5	20/06/2024	23:00	0.9	90

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
21/06/2024	0:00	0.9	0	22/06/2024	0:00	0.4	90	23/06/2024	0:00	0.4	225	24/06/2024	0:00	0.4	90
21/06/2024	1:00	0.4	292.5	22/06/2024	1:00	0.4	22.5	23/06/2024	1:00	0.4	202.5	24/06/2024	1:00	0.4	22.5
21/06/2024	2:00	0.4	135	22/06/2024	2:00	1.3	90	23/06/2024	2:00	0	202.5	24/06/2024	2:00	1.3	90
21/06/2024	3:00	0.9	135	22/06/2024	3:00	0.9	112.5	23/06/2024	3:00	0.4	225	24/06/2024	3:00	0.9	112.5
21/06/2024	4:00	0.9	90	22/06/2024	4:00	0.9	112.5	23/06/2024	4:00	0.4	202.5	24/06/2024	4:00	0.9	112.5
21/06/2024	5:00	0.4	270	22/06/2024	5:00	0.9	135	23/06/2024	5:00	0	202.5	24/06/2024	5:00	0.9	135
21/06/2024	6:00	0.9	45	22/06/2024	6:00	0.9	90	23/06/2024	6:00	0.4	112.5	24/06/2024	6:00	0.9	90
21/06/2024	7:00	0.4	337.5	22/06/2024	7:00	0.9	112.5	23/06/2024	7:00	0	112.5	24/06/2024	7:00	0.9	112.5
21/06/2024	8:00	0.9	45	22/06/2024	8:00	1.8	112.5	23/06/2024	8:00	0.4	112.5	24/06/2024	8:00	1.8	112.5
21/06/2024	9:00	0.4	247.5	22/06/2024	9:00	1.3	112.5	23/06/2024	9:00	0.4	112.5	24/06/2024	9:00	1.3	112.5
21/06/2024	10:00	0.4	225	22/06/2024	10:00	0.9	90	23/06/2024	10:00	0.4	112.5	24/06/2024	10:00	0.9	90
21/06/2024	11:00	1.3	90	22/06/2024	11:00	0	247.5	23/062024	11:00	1.3	112.5	24/06/2024	11:00	1.8	90
21/06/2024	12:00	0.4	112.5	22/06/2024	12:00	0	225	23/06/2024	12:00	0.4	90	24/06/2024	12:00	1.3	90
21/06/2024	13:00	0.9	202.5	22/06/2024	13:00	1.3	247.5	23/06/2024	13:00	0.4	22.5	24/06/2024	13:00	1.8	67.5
21/06/2024	14:00	0.4	112.5	22/06/2024	14:00	0.9	225	23/06/2024	14:00	1.3	90	24/06/2024	14:00	0.9	112.5
21/06/2024	15:00	0	112.5	22/06/2024	15:00	0.9	247.5	23/06/2024	15:00	0.9	112.5	24/06/2024	15:00	1.8	22.5
21/06/2024	16:00	0.4	112.5	22/06/2024	16:00	0.4	247.5	23/06/2024	16:00	0.9	112.5	24/06/2024	16:00	0.9	270
21/06/2024	17:00	0.4	112.5	22/06/2024	17:00	0.4	247.5	23/06/2024	17:00	0.9	135	24/06/2024	17:00	1.3	0
21/06/2024	18:00	0.4	112.5	22/06/2024	18:00	0.4	247.5	23/06/2024	18:00	0.9	90	24/06/2024	18:00	1.3	270
21/06/2024	19:00	1.3	112.5	22/06/2024	19:00	0	247.5	23/06/2024	19:00	0.9	112.5	24/06/2024	19:00	0.4	337.5
21/06/2024	20:00	1.8	112.5	22/06/2024	20:00	0.4	112.5	23/06/2024	20:00	1.8	112.5	24/06/2024	20:00	1.3	270
21/06/2024	21:00	2.2	90	22/06/2024	21:00	0.9	270	23/06/2024	21:00	1.3	112.5	24/06/2024	21:00	0.9	247.5
21/06/2024	22:00	1.8	90	22/06/2024	22:00	0.4	292.5	23/06/2024	22:00	0.9	90	24/06/2024	22:00	0.4	225
21/06/2024	23:00	1.3	90	22/06/2024	23:00	0.4	112.5	23/06/2024	23:00	1.8	90	24/06/2024	23:00	0.4	180

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
25/06/2024	0:00	2.2	112.5	26/06/2024	0:00	1.3	67.5	27/06/2024	0:00	1.3	90	28/06/2024	0:00	1.3	90
25/06/2024	1:00	2.2	90	26/06/2024	1:00	0.9	67.5	27/06/2024	1:00	1.8	67.5	28/06/2024	1:00	0.9	45
25/06/2024	2:00	2.7	112.5	26/06/2024	2:00	0.9	135	27/06/2024	2:00	0.9	112.5	28/06/2024	2:00	0.4	45
25/06/2024	3:00	1.8	112.5	26/06/2024	3:00	0.9	45	27/06/2024	3:00	0.4	112.5	28/06/2024	3:00	0.4	67.5
25/06/2024	4:00	2.2	90	26/06/2024	4:00	0.9	247.5	27/06/2024	4:00	0.4	90	28/06/2024	4:00	0.4	315
25/06/2024	5:00	1.3	90	26/06/2024	5:00	0.4	225	27/06/2024	5:00	0.9	112.5	28/06/2024	5:00	0.9	270
25/06/2024	6:00	1.3	112.5	26/06/2024	6:00	0.9	67.5	27/06/2024	6:00	0.9	90	28/06/2024	6:00	0.4	337.5
25/06/2024	7:00	1.3	112.5	26/06/2024	7:00	0.4	270	27/06/2024	7:00	1.3	90	28/06/2024	7:00	0.9	292.5
25/06/2024	8:00	2.2	112.5	26/06/2024	8:00	0.4	247.5	27/06/2024	8:00	1.3	112.5	28/06/2024	8:00	0.4	337.5
25/06/2024	9:00	2.2	90	26/06/2024	9:00	0.4	180	27/06/2024	9:00	0.4	45	28/06/2024	9:00	0.9	315
25/06/2024	10:00	2.7	112.5	26/06/2024	10:00	0.4	247.5	27/06/2024	10:00	0.4	0	28/06/2024	10:00	0.9	112.5
25/06/2024	11:00	1.8	112.5	26/06/2024	11:00	0.4	270	27/06/2024	11:00	0.9	90	28/06/2024	11:00	0.9	225
25/06/2024	12:00	2.2	90	26/06/2024	12:00	0.4	135	27/06/2024	12:00	0.4	112.5	28/06/2024	12:00	0.9	112.5
25/06/2024	13:00	1.3	90	26/06/2024	13:00	0.4	157.5	27/06/2024	13:00	0.4	135	28/06/2024	13:00	0.4	67.5
25/06/2024	14:00	1.3	112.5	26/06/2024	14:00	0.4	157.5	27/06/2024	14:00	0.4	135	28/06/2024	14:00	0.4	337.5
25/06/2024	15:00	1.3	112.5	26/06/2024	15:00	0.4	202.5	27/06/2024	15:00	0.4	112.5	28/06/2024	15:00	0.4	135
25/06/2024	16:00	0.9	135	26/06/2024	16:00	1.3	225	27/06/2024	16:00	0.4	112.5	28/06/2024	16:00	0.4	90
25/06/2024	17:00	1.3	90	26/06/2024	17:00	1.3	247.5	27/06/2024	17:00	0.4	112.5	28/06/2024	17:00	1.3	90
25/06/2024	18:00	0.9	112.5	26/06/2024	18:00	0.9	135	27/06/2024	18:00	0.4	112.5	28/06/2024	18:00	0.9	135
25/06/2024	19:00	0.9	112.5	26/06/2024	19:00	0.9	112.5	27/06/2024	19:00	0.9	112.5	28/06/2024	19:00	0.9	90
25/06/2024	20:00	1.8	112.5	26/06/2024	20:00	1.3	22.5	27/06/2024	20:00	0.4	112.5	28/06/2024	20:00	0.4	135
25/06/2024	21:00	0.4	90	26/06/2024	21:00	1.3	135	27/06/2024	21:00	1.3	112.5	28/06/2024	21:00	0.4	112.5
25/06/2024	22:00	1.3	45	26/06/2024	22:00	2.2	90	27/06/2024	22:00	1.3	90	28/06/2024	22:00	0.4	112.5
25/06/2024	23:00	0.9	112.5	26/06/2024	23:00	1.8	112.5	27/06/2024	23:00	0.9	112.5	28/06/2024	23:00	0.9	112.5

Mean Wind Speed and Wind Direction recorded by the weather station setup at the rooftop of Hong Kong Children's Hospital

Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction	Date	Time	Wind Speed (m/s)	Wind Direction
29/06/2024	0:00	1.8	157.5	30/06/2024	0:00	0.4	67.5								
29/06/2024	1:00	1.8	67.5	30/06/2024	1:00	0.4	112.5								
29/06/2024	2:00	2.2	67.5	30/06/2024	2:00	0.9	337.5								
29/06/2024	3:00	2.7	90	30/06/2024	3:00	0.9	135								
29/06/2024	4:00	2.7	90	30/06/2024	4:00	0.4	135								
29/06/2024	5:00	2.2	90	30/06/2024	5:00	0.9	135								
29/06/2024	6:00	2.7	67.5	30/06/2024	6:00	0.9	135								
29/06/2024	7:00	2.2	90	30/06/2024	7:00	1.3	45								
29/06/2024	8:00	2.2	67.5	30/06/2024	8:00	1.3	112.5								
29/06/2024	9:00	1.8	90	30/06/2024	9:00	0.9	90								
29/06/2024	10:00	0.9	135	30/06/2024	10:00	1.3	112.5								
29/06/2024	11:00	0.9	135	30/06/2024	11:00	0.9	337.5								
29/06/2024	12:00	0.9	112.5	30/06/2024	12:00	0.4	337.5								
29/06/2024	13:00	0.9	135	30/06/2024	13:00	0.4	337.5								
29/06/2024	14:00	0.9	135	30/06/2024	14:00	0.4	337.5								
29/06/2024	15:00	1.3	112.5	30/06/2024	15:00	0.4	135								
29/06/2024	16:00	1.8	112.5	30/06/2024	16:00	0.4	135								
29/06/2024	17:00	1.3	112.5	30/06/2024	17:00	1.3	112.5								
29/06/2024	18:00	1.3	112.5	30/06/2024	18:00	1.3	112.5								
29/06/2024	19:00	0.9	112.5	30/06/2024	19:00	1.3	112.5								
29/06/2024	20:00	0.9	112.5	30/06/2024	20:00	0.4	90								
29/06/2024	21:00	0.4	247.5	30/06/2024	21:00	0.4	90								
29/06/2024	22:00	0.9	90	30/06/2024	22:00	0.4	112.5								
29/06/2024	23:00	0.4	135	30/06/2024	23:00	0.4	112.5								

Appendix H – 24-hr TSP monitoring results and graphical presentation

Location: AM3 – Sky Tower

Start Date	Weather	Air Temp. (℃)	Atmospheric Pressure (hPa)	Filter weight (g)		Particulate weight (g)	Elapse Time		Sampling Time (min)	Flow Rate (cfm)		Av. Flow (m^3/min)	Total vol. (m^3)	Conc. ($\mu g/m^3$)
				Initial	Final		Initial	Final		Initial	Final			
06/06/2024	Sunny	27.9	1009.4	17.9571	18.0177	0.0606	2024/6/6 9:24	2024/6/7 9:24	1440.0	46	46	1.26	1818	33
12/06/2024	Cloudy	32.7	1006.9	14.4438	14.4979	0.0541	2024/6/12 13:24	2024/6/13 13:24	1440.0	48	48	1.31	1881	29
18/06/2024	Sunny	32.3	1005.9	18.3874	18.5342	0.1468	2024/6/18 13:29	2024/6/19 13:29	1440.0	46	46	1.25	1801	81
24/06/2024	Sunny	29.8	1007.3	15.1304	15.1922	0.0618	2024/6/24 9:26	2024/6/25 9:26	1440.0	46	46	1.26	1810	34
29/06/2024	Cloudy	32.2	1007.6	15.0609	15.1642	0.1033	2024/6/29 13:27	2024/6/30 13:27	1440.0	46	46	1.25	1803	57

Maximum	81
Minimum	29
Average	47
Action Level	182
Limit Level	260

Location: AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

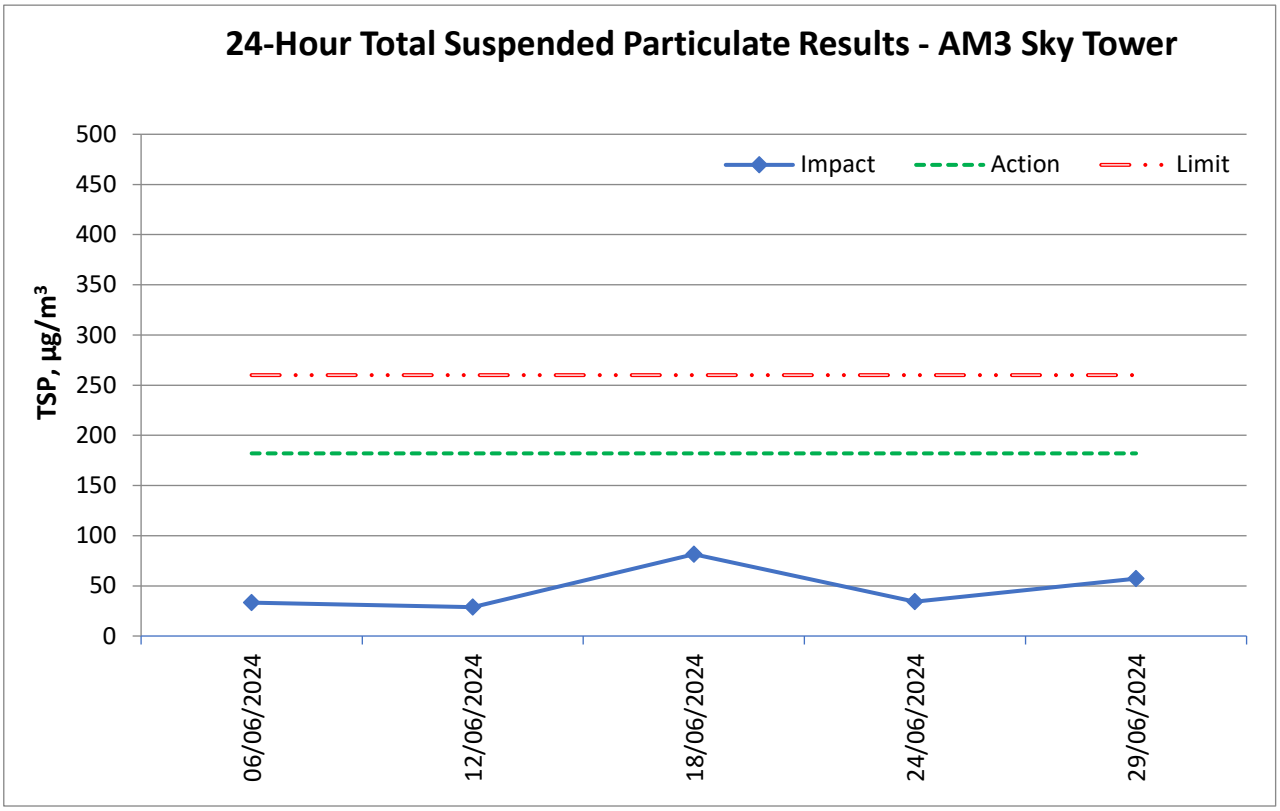
Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A) ET will resume the impact monitoring once the alternative monitoring location for AM4(A) is confirmed.

Location: AM7 – Hong Kong Children's Hospital

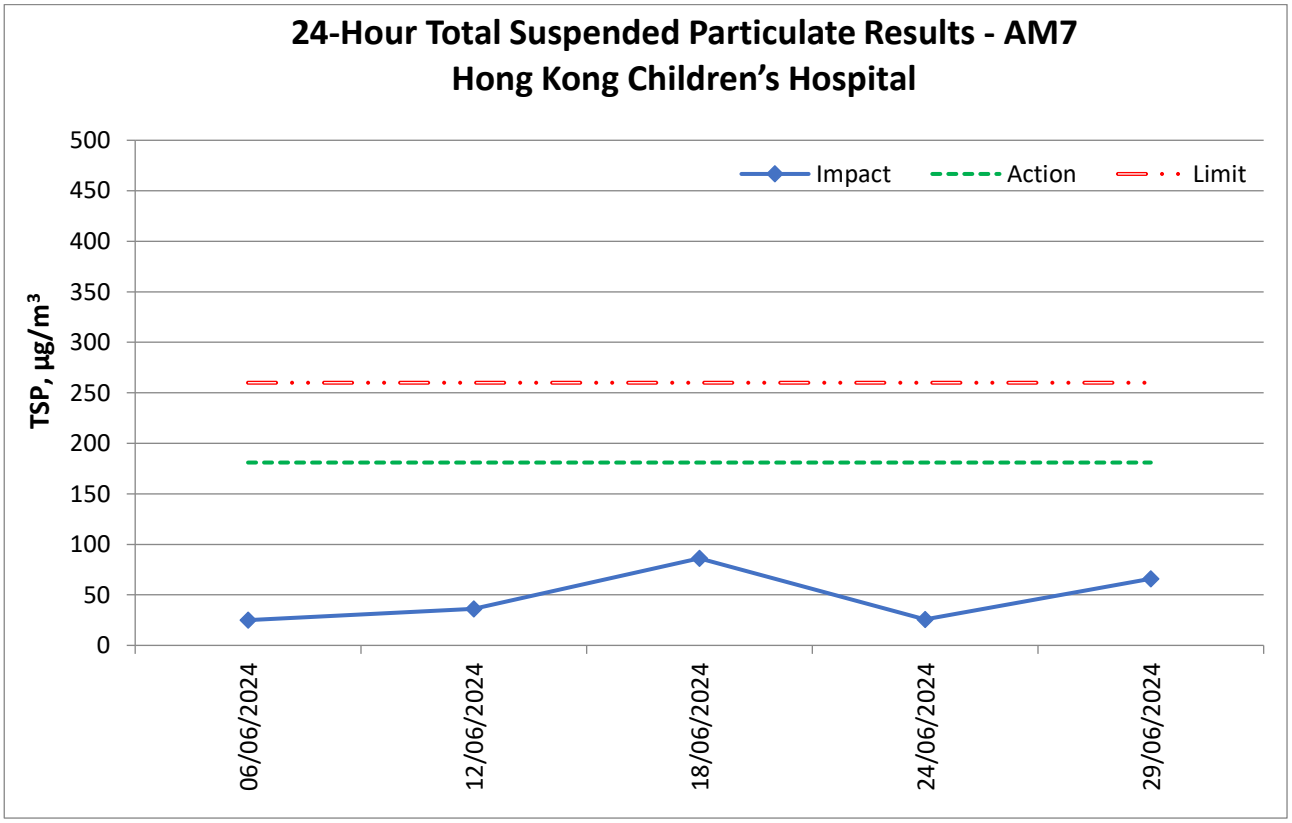
Start Date	Weather	Air Temp. (°C)	Atmospheric Pressure (hPa)	Filter weight (g)		Particulate weight (g)	Elapse Time		Sampling Time (min)	Flow Rate (cfm)		Av. Flow (m^3/min)	Total vol. (m^3)	Conc. (μg/m^3)
				Initial	Final		Initial	Final		Initial	Final			
06/06/2024	Sunny	27.9	1009.4	14.5259	14.5761	0.0502	2024/6/6 13:35	2024/6/7 13:35	1440.0	50	50	1.39	2007	25
12/06/2024	Cloudy	32.7	1006.9	18.2521	18.3248	0.0727	2024/6/12 9:27	2024/6/13 9:27	1440.0	50	50	1.40	2010	36
18/06/2024	Sunny	32.3	1005.9	18.3581	18.5313	0.1732	2024/6/18 9:31	2024/6/19 9:31	1440.0	50	50	1.40	2010	86
24/06/2024	Sunny	29.8	1007.3	15.0019	15.0517	0.0498	2024/6/24 13:19	2024/6/25 13:19	1440.0	48	48	1.35	1939	26
29/06/2024	Cloudy	32.2	1007.6	14.8599	14.9874	0.1275	2024/6/29 9:39	2024/6/30 9:39	1440.0	48	48	1.34	1931	66

Maximum	86
Minimum	25
Average	48
Action Level	181
Limit Level	260

24-hour average TSP



Note: Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. No 24-TSP monitoring was conducted at AM4(A). ET will resume the impact monitoring once the alternative monitoring location for AM4(A) is confirmed.



Appendix I – 1-hr TSP monitoring results and graphical presentation

Location:
AM3 - Sky Tower

Date	Measurement Period			1-hr TSP concentration, g/m^3	Weather
06/06/2024	9:00	-	10:00	42	Sunny
	10:00	-	11:00	47	
	11:00	-	12:00	46	
12/06/2024	13:00	-	14:00	32	Cloudy
	14:00	-	15:00	36	
	15:00	-	16:00	38	
18/06/2024	13:00	-	14:00	78	Sunny
	14:00	-	15:00	78	
	15:00	-	16:00	83	
24/06/2024	9:00	-	10:00	30	Sunny
	10:00	-	11:00	38	
	11:00	-	12:00	37	
29/06/2024	13:00	-	14:00	47	Cloudy
	14:00	-	15:00	54	
	15:00	-	16:00	54	
Maximum				83	
Minimum				30	
Average				49	
Action Level				297	
Limit Level				500	

Location:
AM4(A) - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

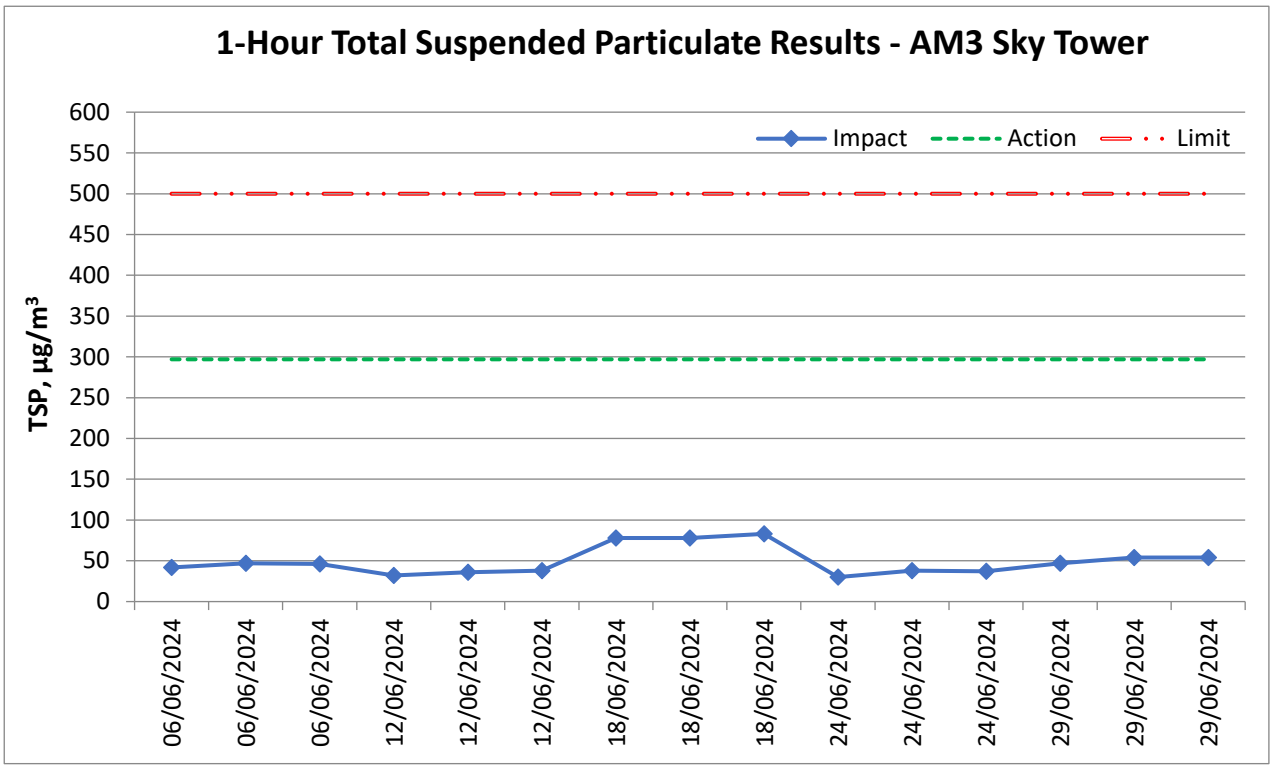
Date	Measurement Period			1-hr TSP concentration, μg/m^3	Weather
06/06/2024	9:00	-	10:00	53	Sunny
	10:00	-	11:00	56	
	11:00	-	12:00	56	
12/06/2024	13:00	-	14:00	39	Cloudy
	14:00	-	15:00	41	
	15:00	-	16:00	47	
18/06/2024	13:00	-	14:00	91	Sunny
	14:00	-	15:00	94	
	15:00	-	16:00	95	
24/06/2024	9:00	-	10:00	44	Sunny
	10:00	-	11:00	45	
	11:00	-	12:00	51	
29/06/2024	13:00	-	14:00	62	Cloudy
	14:00	-	15:00	66	
	15:00	-	16:00	68	
Maximum				95	
Minimum				39	
Average				61	
Action Level				326	
Limit Level				500	

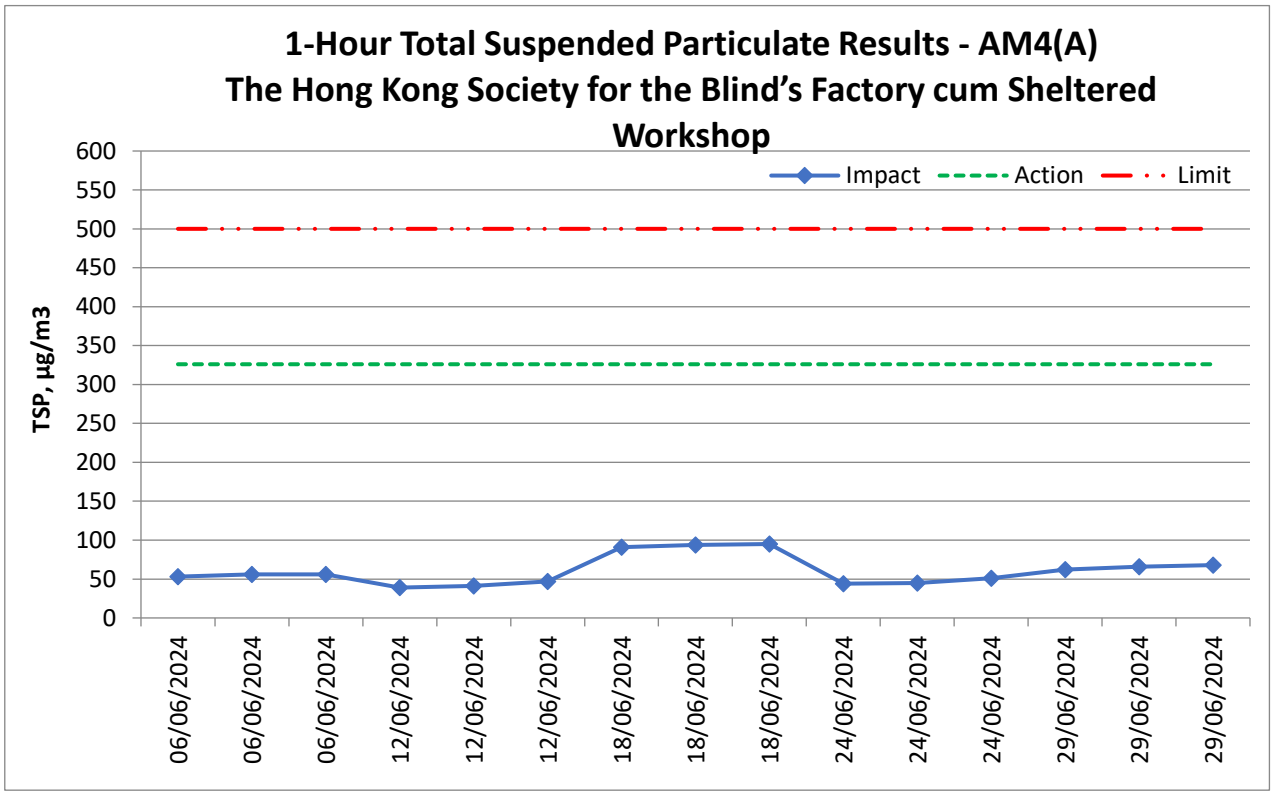
NOTE: Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since1 Sept 2022. 1-hr TSP monitoring at AM4(A) were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for AM4(A) is confirmed.

Location:
AM7 - Hong Kong Children's Hospital

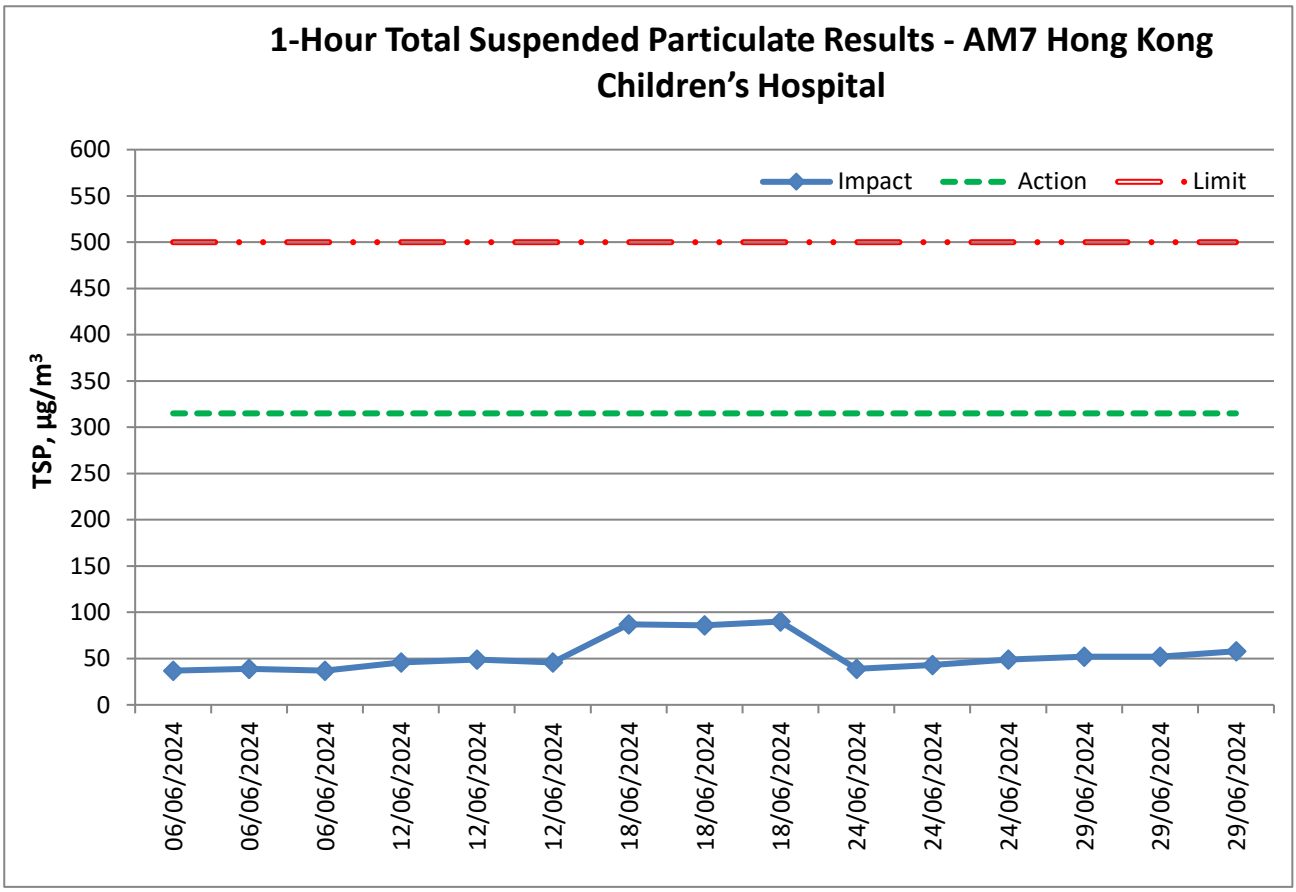
Date	Measurement Period			1-hr TSP concentration, μg/m^3	Weather
06/06/2024	13:00	-	14:00	37	Sunny
	14:00	-	15:00	39	
	15:00	-	16:00	37	
12/06/2024	9:00	-	10:00	46	Cloudy
	10:00	-	11:00	49	
	11:00	-	12:00	46	
18/06/2024	9:00	-	10:00	87	Sunny
	10:00	-	11:00	86	
	11:00	-	12:00	90	
24/06/2024	13:00	-	14:00	39	Sunny
	14:00	-	15:00	43	
	15:00	-	16:00	49	
29/06/2024	9:00	-	10:00	52	Cloudy
	10:00	-	11:00	52	
	11:00	-	12:00	58	
Maximum				90	
Minimum				37	
Average				54	
Action Level				315	
Limit Level				500	

1-hour average TSP





NOTE: Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (AM4(A)), the premises owner rejected ET to conduct impact monitoring since1 Sept 2022. 1-hr TSP monitoring at AM4(A) were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for AM4(A) is confirmed.


1-Hour Total Suspended Particulate Results - AM7 Hong Kong Children's Hospital
TSP, µg/m³
600
550
500
450
400
350
300
250
200
150
100
50
0
Impact
Action
Limit
06/06/2024
06/06/2024
06/06/2024
12/06/2024
12/06/2024
12/06/2024
18/06/2024
18/06/2024
18/06/2024
24/06/2024
24/06/2024
24/06/2024
29/06/2024
29/06/2024
29/06/2024

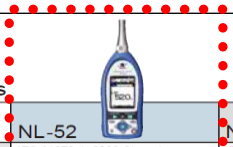
Appendix J – Event and Action Plan for air quality

Event	Action			
	ET	IEC	Supervisor / ER	Contractor
Action Level being exceeded by one sampling	1. Identify source and investigate the causes of exceedance; 2. Inform Contractor, IEC and Supervisor /ER; 3. Repeat measurement to confirm finding.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
Action Level being exceeded by two or more consecutive sampling	1. Identify source and investigate the causes of exceedance; 2. Inform Contractor, IEC and Supervisor /ER; 3. Increase monitoring frequency to daily; 4. Discuss with IEC and Contractor on remedial actions required; 5. Assess the effectiveness of Contractor's remedial actions; 6. If exceedance continues, arrange meeting with IEC and Supervisor /ER; 7. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the Supervisor /ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise implementation of remedial measures; 5. Conduct meeting with ET and IEC if exceedance continues.	1. Discuss with ET and IEC on proper remedial actions; 2. Submit proposals for remedial actions to Supervisor /ER and IEC within three working day of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate.
Limit Level being exceeded by one sampling	1. Identify source and investigate the causes of exceedance; 2. Inform Contractor, IEC, Supervisor /ER, and EPD; 3. Repeat measurement to confirm finding; 4. Assess effectiveness of	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss possible remedial measures with ET and Contractor; 4. Advise the Supervisor /ER	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be	1. Take immediate action to avoid further exceedance; 2. Discuss with ET and IEC on proper remedial actions; 3. Submit proposal for remedial actions to Supervisor /ER and IEC

Event	Action			
	ET	IEC	Supervisor / ER	Contractor
	Contractor's remedial actions and keep EPD, IEC and Supervisor /ER informed of the results.	on the effectiveness of the proposed remedial measures.	implemented; 4. Supervise implementation of remedial measures; 5. Conduct meeting with ET and IEC if exceedance continues.	within three working days of notification; 4. Implement the agreed proposals.
Limit Level being exceeded by two or more consecutive sampling	1. Notify IEC, Supervisor /ER, Contractor and EPD; 2. Repeat measurement to confirm findings; 3. Carry out analysis of Contractor's working procedures to identify source and investigate the causes of exceedance; 4. Increase monitoring frequency to daily; 5. Arrange meeting with IEC, Supervisor /ER and Contractor to discuss the remedial action to be taken; 6. Assess effectiveness of Contractor's remedial actions and keep EPD, IEC and Supervisor /ER informed of the results; 7. If exceedance stop, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with Supervisor /ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the Supervisor /ER accordingly.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Discuss with ET and IEC on proper remedial actions; 3. Submit proposal for remedial actions to Supervisor /ER and IEC within three working days of notification; 4. Implement the agreed proposals; 5. Submit further remedial actions if problem still not under control; 6. Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated.

Appendix K – Calibration certificates, catalogue of noise monitoring equipment

Specifications



	NL-52	NL-42
Applicable standards	IEC 61672-1: 2002 Class 1 ANSI S1.4-1983 Type 1 ANSI S1.4A-1985 Type 1 ANSI S1.43-1997 Type 1 JIS C 1509-1: 2005 Class 1	IEC 61672-1: 2002 Class 2 ANSI S1.4-1983 Type 2 ANSI S1.4A-1985 Type 2 ANSI S1.43-1997 Type 2 JIS C 1509-1: 2005 Class 2
	CE Marking (EMC Directive 2004/108/EC, Low Voltage Directive 2006/95/EC), WEEE Directives, Chinese RoHS (export model for China only)	
Measurement functions	Simultaneous measurement of the following items, with selected time weighting and frequency weighting	
Processing (main ch)	Instantaneous sound pressure level: L_p Equivalent continuous sound pressure level: L_{eq} Sound exposure level: L_E Maximum sound pressure level: L_{max} Minimum sound pressure level: L_{min} Percentile sound levels: L_N (0.1 to 99.9 %, 0.1-increment steps, max. 5 values)	
Processing (sub ch)	Instantaneous sound pressure level: L_p	
Additional processing	In addition to main processing items, one of the following can be selected for simultaneous processing: C-weighted equivalent continuous sound level: L_{Ceq} C-weighted peak sound level: L_{Cpeak} Z-weighted peak sound level: L_{Zpeak} Δ-time-weighted equivalent continuous sound level: $L_{A\Delta eq}$ ＊2 Maximum Δ-time-weighted equivalent continuous sound level: $L_{A\Delta max}$ ＊2 The power average of the maximum level of each 5 second interval: L_{ATm5} The frequency weighting for the additional processing synchronizes with the frequency weighting of the sub-channel, so when the sub-channel has A-weighting, L_{ATm5} can be selected. When C-weighting (Z-weighting) is selected, the additional processing L_{Ceq} and L_{Cpeak} (L_{Zpeak}) are selectable.	
Measuring time	10 s, 1, 5, 10, 15, 30 m, 1, 8, 24 h, and manual (maximum 24 h)	
Microphone Type	UC-59	UC-52
Microphone Sensitivity level	−27 dB	−33 dB
Measurement range	A-weighting: 25 dB to 138 dB C-weighting: 33 dB to 138 dB Z-weighting: 38 dB to 138 dB C-weighting peak sound level: 55 dB to 141 dB Z-weighting peak sound level: 60 dB to 141 dB	
Inherent noise A-weighting	17 dB or less	19 dB or less
Inherent noise C-weighting	25 dB or less	27 dB or less
Inherent noise Z-weighting	30 dB or less	32 dB or less
Frequency range	20 Hz to 20 kHz	20 Hz to 8 kHz
Frequency weighting	A, C, and Z	
Time weighting	F (Fast) and S (Slow)	
Level range	Single range (Linearity range: 113 dB)	
Bar graph display range max	Max. 110 dB (20 to 130 dB)	
Switching of bar graph display	Set the upper/ lower limit in 10 dB increments.	
RMS detection circuit	Digital processing method	
Sampling cycle	20.8 μs (L_p, L_{eq}, L_E, L_{max}, L_{min}, L_{peak} : sampling frequency: 48 kHz) 100 ms (L_N)	
Calibration	Measurement Law: electrical calibration performed according to IEC and JIS standards, using internally generated signals: acoustic calibration performed with the NC-74.	
Correction functions	Windscreen correction: Compliant with IEC 61672-1 and JIS C 1509-1 standards when the windscreen is installed.	
	Diffuse sound field correction: Correction of frequency characteristics in order to comply with standards (ANSI S1.4) in diffuse sound field.	
Delay time	The meter can be set to start measuring a specified time (OFF, 1, 3, 5 or 10 s) after the start button has been pressed or when a user-set trigger is exceeded.	
Back erase function	When the PAUSE key is pressed to pause measurement, the preceding (user selectable) 0, 1, 3 or 5 s data are excluded from processing.	
Display	Backlit semitransparent color TFT LCD display WQVGA (400 x 240 dots) ＊LCD with touch panel (Capacitive Touch Panel)	
	Numerical display update frequency: 1 s／Bar graph update frequency: 100 ms	
Store Manual	Data for measurement results are stored manually in single address increments.	
Number of data	Internal memory: max. 1000 sets SD Card: depends on the capacity of the SD Card＊1	
Auto＊2	Instantaneous values (L_p mode) and processed values (L_{eq} mode) are stored continuously and automatically at preset intervals.	
L_p sampling cycle	100 ms, 200 ms, 1 s, L_{eq} 1s	
L_{eq} sampling cycle	10 s, 1, 5, 10, 15, 30 ms, 1, 8, 24 h	
Measurement Time	Max. 1000 h (depends on the capacity of the SD Card)＊1	

Data recall	Allows viewing of stored data
Setup memory	Up to five setup configurations can be saved in internal memory, for later recall Start up via file settings previously stored on SD card possible
Waveform recording＊3	
File format	Uncompressed waveform WAVE file
Sampling frequency	Select 48 kHz, 24 kHz or 12 kHz
Data length	Select 24 bit or 16 bit
Outputs DC output	Output DC signals using a frequency weighting characteristic selected by processing.
Output voltage	2.5 V, 25 mV / dB at bar graph display full scale
AC output	Output AC signals using a frequency weighting characteristic selected by processing or by A, C, Z-weighting.
Output voltage	1 V (rms values) at bar graph display full scale
Comparator output＊2	Turns on when the open-collector output exceeds the set value (max. applied voltage 24 V, max. current 60 mA, allowable dissipation 300 mW).
USB	Allows USB to be connected to a computer and recognized as a removable disk Allows USB to be controlled via communication commands
RS-232C communication	Allows for RS-232C communication via use of a dedicated cable
Data continuous output＊2	
Type of data Instantaneous value	L_p
Type of data Processed value	L_{eq}, L_{max}, L_{min}, L_{peak}
Output interval	100 ms
Print out	Printing of measurement results on dedicated printer DPU-414
Power requirements	Four IEC R6 (size AA) batteries (alkaline or rechargeable batteries) or external power supply
Battery life (23 ℃)	Alkaline battery LR6 (AA): 26 h Ni-MH secondary battery: 25 h At the maximum ＊Depends on the setting
AC adapter	NC-98C (NC-34 for previous models cannot be used)
External power voltage	5 to 7 V (rated voltage: 6 V)
Current consumption	Approximately 90 mA (normal operation, rated voltage)
Ambient conditions Temperature	−10 to +50 ℃
Ambient conditions Humidity	10 to 90 % RH (non-condensing)
Dustproof / water-resistant performance＊4	IP code: IP54 (except for microphone) See precautions regarding waterproofing
Dimensions, weight	Approx. 250 (H) x 76 (W) x 33 mm(D); approx. 400 g (with batteries)
Supplied accessories	Storage case x 1, Windscreen WS-10 x 1, Windscreen fall prevention rubber x 1, Hand strap x 1, LR6 (AA) alkaline batteries x 4, SD card 512 MB×1 (NX-42EX preinstalled model only)

Options

Product name	Product number
Extended function program (Inst.on 512 MB SD card)	NX-42EX
Waveform recording program＊2 (Inst.on 2 GB SD card)	NX-42WR
Octave, 1/3 octave real-time analysis program＊2 (Inst.on 512 MB SD card)	NX-42RT
FFT analysis program＊2 (Inst.on 512 MB SD card)	NX-42FT
Data management software for environmental measurement	AS-60
Data management software for environmental measurement (Includes the octave and 1/3 octave data management software)	AS-60RT
Data management software for environmental measurement (Includes the vibration level data management software)	AS-60VM
Waveform analysis software	CAT-WAVE
SD Card 512 MB	SD-512M
SD Card 2 GB	SD-2G
AC adapter (100 V to 240 V)	NC-98C
Battery pack	BP-21
Microphone extension cables	EC-04 (from 2 m)
BNC-Pin output code	CC-24
Comparator output cable	CC-42C
Printer	DPU-414
Printer cable	CC-42P
RS 232C serial I/O cable	CC-42R
USB cable	—
Sound calibrator	NC-74
All-weather windscreen	WS-15
Windscreen mounting adapter	WS-15006
Rain-protection windscreen	WS-16
Sound level meter tripod	ST-80
All-weather windscreen tripod	ST-81

＊1 Use Rion fully guaranteed products. ＊2 NX-42EX required (sold separately). ＊3 NX-42WR required (sold separately).
＊4 Protection against harmful dust and water splashing from any direction.

Precautions regarding waterproofing
Before use, verify that the rubber bottom cover and the battery compartment lid are firmly closed.
To maintain the water and dust proof rating, internal packing replacement is required every two years (at cost).

＊ Windows is a trademark of Microsoft Corporation.
＊ Specifications subject to change without notice.

ISO 14001 RION CO., LTD.
ISO 9001 RION CO., LTD.

Distributed by:

RION CO., LTD.
http://www.rion.co.jp/english/
3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan
Tel: +81-42-359-7888 Fax: +81-42-359-7442

This product is environment-friendly. It does not include toxic chemicals on our policy.
This product is certified to an International Protection rating of IP54 (dust protected and resistant to splashing water).
This leaflet is printed with environmentally friendly vegetable-based ink on recycled paper.

1011-4 1212.PD

Calibration Certificate of Sound Level Meter

中国赛宝实验室计量检测中心
(工业和信息化部电子第五研究所计量检测中心)
CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

校 准 证 书
CALIBRATION CERTIFICATE

证书编号：2HB23001488-0004
Certificate No.

CALIBRATION
CNAS L13344

委托单位：Client	Castco Testing Centre Limited
仪器名称：Description	Sound Level Meter
型号规格：Model/Type	NL-52
制造商：Manufacturer	RION
机身号：Serial No.	01287681
管理号：Asset No.	AAST-SLM-12
接收日期：Rec. Date	2023-07-28
校准日期：Cal. Date	2023-08-07
签发日期：App. Date	2023-08-08
建议校准周期：Reference Cal. Period	12个月(12 months)
结论：Conclusion	所校准项目符合技术要求(The calibrated items meet the technical requirements)

校准：Calibrated by 赵文钰　　核验：Inspected by 钟灏

签发：Approved by 郑术力　　印章：Stamp

扫一扫查真伪

赛宝计量检测中心
总部地址：广州市增城区朱村街朱村大道西78号
实验室地址：广州市增城区朱村街朱村大道西78号
客服电话：020-87237633 传真：020-87236189
投诉电话：020-87236896
邮件：cal@ceprei.com
网址：www.ceprei-cal.com

CEPREI Calibration and Testing Centre
HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Add. of the Lab: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Service Tel: 020-87237633 Fax: 020-87236189
Complaint Tel: 020-87236896
Email: cal@ceprei.com
Website: www.ceprei-cal.com

说 明
DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求，获得中国合格评定国家认可委员会（CNAS）认可，认可证书号为：CNAS L13344。
This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

2. 本机构出具的数据均可溯源到国际单位制（SI）单位和社会公用计量标准。
The data issued by this laboratory is traceable to International system of Units（SI）and national primary standards.

3. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes)：
▪ JJG 188-2017 声级计检定规程；Sound pressure level：(20～130)dB；Frequency Weighting：(20～130)dB，(10 Hz～20kHz)
▪ 详细内容请查看CNAS网站中注册编号为L13344的证书附件，超出范围的内容未被认可，其结果/结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)

4. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration)：

名 称 (Description)	证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to)	技术指标 (Specification)	测量范围 (Measuring Range)
实验室标准传声器(2246093)	GFJGJL1001230304187/2024-04-13/航空304所	U_r=(0.05~0.20)dB（k=2）	10Hz～20kHz
正弦信号发生器(2431656)	4GC22000542-0057/2023-10-26/赛宝(广州)	f：±1mHz；失真度Distortion：＜-70dB	f：0.001Hz～200kHz；U：100μV～5Vrms
前置放大器(3194482)	4GC22000429-0039/2023-08-29/赛宝(广州)	±0.1dB	10Hz～50kHz
数字多用表(MY53006483)	4GC22000447-0003/2023-09-26/赛宝(广州)	DCV：±0.0035%；ACV：±0.06%；DCI：±0.05%；ACI：±0.1%；R：±0.01%；f：±0.001%	DCV:(0～1000)V；ACV:(0.001～750)V@(3Hz～300kHz)；DCI:(0～3)A；ACI:(0～3)A@(3Hz～5kHz)；R:(0～100)MΩ；f:3Hz～300kHz
功率放大器(2536312)	4GC22000600-0093/2023-11-30/赛宝(广州)	频率响应：±1dB，失真度：≤0.2%	20Hz～50kHz
PULSE分析系统(3160-106540)	4GC23000001-0137/2024-01-03/赛宝(广州)	频率:U_{rel}=0.001%,k=2;电压:U_{rel}=0.10%,k=2	频率:0.001Hz~51.2kHz,电压:(1×10^{-5}～30)V
声校准器(2272351)	4GC22000600-0073/2023-11-29/赛宝(广州)	1级 First Level	31.5Hz～16kHz

5. 校准地点(The calibration place)：
广州市增城区朱村街朱村大道西78号9栋110室

6. 环境条件(Environmental conditions)：
温度(Temperature)：25.3℃　　相对湿度(Relative Humidity)：65%

7. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定，由合成标准不确定度乘以包含概率约为95%时对应的包含因子k得到。
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.

8. 证书中"P"、"合格"代表"测量结果在允许范围内"，"F"、"不合格"代表"测量结果不在允许范围内"，"N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考，使用人员应结合实际测量的要求合理使用，如考虑测量结果测量不确定度的影响等。
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value＜Low Limit or the measured value＞High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc".The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

9. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议，供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。
The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the actual use.

CEPREI

证书编号(Certificate No.)：2HB23001488-0004

1 外观与工作正常性检查 (Appearance and Function Check)
无影响证书中测量结果准确度的因素和缺陷。
There are no factor and defect that affect the measurement result accuracy of the certificate.

2 指示声级调整 (Indication SPL Calibration) 频率(Frequency)=1000Hz

传声器型号 (Microphone Type)	传声器编号 (Microphone SN.)	放大器型号 (Preamplifier Type)	放大器编号 (Preamplifier SN.)
/	/	/	/

声校准器型号 (Calibrator Type)	标准声压级 (Reference SPL) (dB)	校准前示值 (Before Calibration) (dB)	校准后示值 (After Calibration) (dB)	U (k=2) (dB)
4226	94.0	94.0	94.0	0.2

3 级线性 (Level Linearity)
3.1 参考级量程 (Reference Range) 频率(Frequency): 8000Hz

标准声级 (Standard) (dB)	指示声级 (Indication) (dB)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U (k=2) (dB)
130.0	129.8	-0.2	±0.8	P	0.3
129.0	128.8	-0.2	±0.8	P	0.3
128.0	127.8	-0.2	±0.8	P	0.3
127.0	126.8	-0.2	±0.8	P	0.3
126.0	125.9	-0.1	±0.8	P	0.3
125.0	124.9	-0.1	±0.8	P	0.3
120.0	119.9	-0.1	±0.8	P	0.3
110.0	110.0	0.0	±0.8	P	0.3
100.0	100.0	0.0	±0.8	P	0.3
90.0	90.0	0.0	±0.8	P	0.3
80.0	79.9	-0.1	±0.8	P	0.3
70.0	69.9	-0.1	±0.8	P	0.3
60.0	60.0	0.0	±0.8	P	0.3
50.0	49.9	-0.1	±0.8	P	0.3
40.0	39.9	-0.1	±0.8	P	0.3
35.0	34.8	-0.2	±0.8	P	0.3
34.0	33.8	-0.2	±0.8	P	0.3
33.0	32.9	-0.1	±0.8	P	0.3
32.0	31.8	-0.2	±0.8	P	0.3
31.0	30.8	-0.2	±0.8	P	0.3
30.0	29.8	-0.2	±0.8	P	0.3

3.2 其它级量程 (Other Range)

频率(Frequency): 1000Hz

标准声级 (Standard) (dB)	指示声级 (Indication) (dB)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U (k=2) (dB)
130.0	129.9	-0.1	±0.8	P	0.3
129.0	128.9	-0.1	±0.8	P	0.3
128.0	127.9	-0.1	±0.8	P	0.3
127.0	126.9	-0.1	±0.8	P	0.3
126.0	125.9	-0.1	±0.8	P	0.3
125.0	124.9	-0.1	±0.8	P	0.3
120.0	120.0	0.0	±0.8	P	0.3
110.0	110.0	0.0	±0.8	P	0.3
100.0	100.0	0.0	±0.8	P	0.3
90.0	90.0	0.0	±0.8	P	0.3
80.0	80.0	0.0	±0.8	P	0.3
70.0	70.0	0.0	±0.8	P	0.3
60.0	60.0	0.0	±0.8	P	0.3
50.0	50.0	0.0	±0.8	P	0.3
40.0	40.0	0.0	±0.8	P	0.3
35.0	34.9	-0.1	±0.8	P	0.3
34.0	33.9	-0.1	±0.8	P	0.3
33.0	32.9	-0.1	±0.8	P	0.3
32.0	31.9	-0.1	±0.8	P	0.3
31.0	30.9	-0.1	±0.8	P	0.3
30.0	29.9	-0.1	±0.8	P	0.3

4 A计权特性(A-Weighting Characteristic)

频率 (Frequency) (Hz)	实测值 (Actual) (dB)	理论值 (Theoretical value) (dB)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U (k=2) (dB)
20	-50.8	-50.5	-0.3	±2.0	P	0.5
25	-45.0	-44.7	-0.3	+2.0 ~ -1.5	P	0.5
31.5	-39.6	-39.4	-0.2	±1.5	P	0.5
40	-34.6	-34.6	0.0	±1.0	P	0.5
50	-30.2	-30.2	0.0	±1.0	P	0.5
63	-26.1	-26.2	0.1	±1.0	P	0.5
80	-22.3	-22.5	0.2	±1.0	P	0.5
100	-19.1	-19.1	0.0	±1.0	P	0.5
125	-16.1	-16.1	0.0	±1.0	P	0.5
160	-13.2	-13.4	0.2	±1.0	P	0.5
200	-10.7	-10.9	0.2	±1.0	P	0.5
250	-8.7	-8.6	-0.1	±1.0	P	0.5
315	-6.8	-6.6	-0.2	±1.0	P	0.4
400	-4.7	-4.8	0.1	±1.0	P	0.4
500	-3.1	-3.2	0.1	±1.0	P	0.4
630	-1.8	-1.9	0.1	±1.0	P	0.4
800	-0.7	-0.8	0.1	±1.0	P	0.4
1000(Ref.)	0.0	0.0	0.0	±0.7	P	0.4
1250	0.6	0.6	0.0	±1.0	P	0.6
1600	1.0	1.0	0.0	±1.0	P	0.6
2000	1.1	1.2	-0.1	±1.0	P	0.6
2500	1.1	1.3	-0.2	±1.0	P	0.6
3150	1.0	1.2	-0.2	±1.0	P	0.6
4000	0.7	1.0	-0.3	±1.0	P	0.6
5000	0.4	0.5	-0.1	±1.5	P	0.6
6300	-0.2	-0.1	-0.1	+1.5 ~ -2.0	P	0.6
8000	-1.0	-1.1	0.1	+1.5 ~ -2.5	P	0.6
10000	-2.3	-2.5	0.2	+2.0 ~ -3.0	P	0.6
12500	-4.2	-4.3	0.1	+2.0 ~ -5.0	P	1.0
16000	-8.5	-6.6	-1.9	+2.5 ~ -16.0	P	1.0
20000	-18.4	-9.3	-9.1	+3.0 ~ -∞	P	1.0

5 C计权特性(C-Weighting Characteristic)

频率 (Frequency) (Hz)	实测值 (Actual) (dB)	理论值 (Theoretical value) (dB)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U (k=2) (dB)
20	-6.3	-6.2	-0.1	±2.0	P	0.5
25	-4.5	-4.4	-0.1	+2.0 ~ -1.5	P	0.5
31.5	-3.0	-3.0	0.0	±1.5	P	0.5
40	-2.0	-2.0	0.0	±1.0	P	0.5
50	-1.2	-1.3	0.1	±1.0	P	0.5
63	-0.7	-0.8	0.1	±1.0	P	0.5
80	-0.4	-0.5	0.1	±1.0	P	0.5
100	-0.2	-0.3	0.1	±1.0	P	0.5
125	-0.1	-0.2	0.1	±1.0	P	0.5
160	0.0	-0.1	0.1	±1.0	P	0.5
200	0.0	0.0	0.0	±1.0	P	0.5
250	0.0	0.0	0.0	±1.0	P	0.5
315	0.0	0.0	0.0	±1.0	P	0.4
400	0.0	0.0	0.0	±1.0	P	0.4
500	0.0	0.0	0.0	±1.0	P	0.4
630	0.0	0.0	0.0	±1.0	P	0.4
800	0.0	0.0	0.0	±1.0	P	0.4
1000(Ref.)	0.0	0.0	0.0	±0.7	P	0.4
1250	-0.1	0.0	-0.1	±1.0	P	0.6
1600	-0.2	-0.1	-0.1	±1.0	P	0.6
2000	-0.3	-0.2	-0.1	±1.0	P	0.6
2500	-0.5	-0.3	-0.2	±1.0	P	0.6
3150	-0.8	-0.5	-0.3	±1.0	P	0.6
4000	-1.1	-0.8	-0.3	±1.0	P	0.6
5000	-1.5	-1.3	-0.2	±1.5	P	0.6
6300	-2.1	-2.0	-0.1	+1.5 ~ -2.0	P	0.6
8000	-2.9	-3.0	0.1	+1.5 ~ -2.5	P	0.6
10000	-4.2	-4.4	0.2	+2.0 ~ -3.0	P	0.6
12500	-6.2	-6.2	0.0	+2.0 ~ -5.0	P	1.0
16000	-10.4	-8.5	-1.9	+2.5 ~ -16.0	P	1.0
20000	-20.4	-11.2	-9.2	+3.0 ~ -∞	P	1.0

6 自生噪声 (Autogenous noise)

计权 (Weighting)	实测值 (Actual) (dB)
A	17.7

以下空白/No data hereafter

中国赛宝实验室计量检测中心
(工业和信息化部电子第五研究所计量检测中心)
CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

校 准 证 书
CALIBRATION CERTIFICATE

证书编号：2HB23001488-0003
Certificate No.

CNAS 中国认可 国际互认 校准 CALIBRATION CNAS L13344

委托单位：Client — Castco Testing Centre Limited

仪器名称：Description — Sound Level Meter

型号规格：Model/Type — NL-52

制造商：Manufacturer — RION

机身号：Serial No. — 00976204

管理号：Asset No. — AAST-SLM-11

接收日期：Rec. Date — 2023-07-28　　校准日期：Cal. Date — 2023-08-07

签发日期：App. Date — 2023-08-08　　建议校准周期：Reference Cal. Period — 12个月(12 months)

结论：Conclusion — 所校准项目符合技术要求(The calibrated items meet the technical requirements)

校准：Calibrated by 赵文钰　　核验：Inspected by 钟灏

签发：Approved by 郑术力　　印章：Stamp

钟灏

扫一扫查真伪

赛宝计量检测中心
总部地址：广州市增城区朱村街朱村大道西78号
实验室地址：广州市增城区朱村街朱村大道西78号
客服电话：020-87237633 传真：020-87236189
投诉电话：020-87236896
邮件：cal@ceprei.com
网址：www.ceprei-cal.com

CEPREI Calibration and Testing Centre
HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Add. of the Lab: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Service Tel: 020-87237633 Fax: 020-87236189
Complaint Tel: 020-87236896
Email: cal@ceprei.com
Website: www.ceprei-cal.com

说 明
DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求，获得中国合格评定国家认可委员会（CNAS）认可，认可证书号为：CNAS L13344。
This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

2. 本机构出具的数据均可溯源到国际单位制（SI）单位和社会公用计量标准。
The data issued by this laboratory is traceable to International system of Units（SI）and national primary standards.

3. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes)：
▪ JJG 188-2017 声级计检定规程：Sound pressure level：(20～130)dB；Frequency Weighting：(20～130)dB，(10 Hz～20kHz)
▲ 详细内容请查看CNAS网站中注册编号为L13344的证书附件，超出范围的内容未被认可，其结果/结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)

4. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration)：

名 称 (Description)	证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to)	技术指标 (Specification)	测量范围 (Measuring Range)
实验室标准传声器(2246093)	GFJGJL100123030418 7/2024-04-13/航空304所	U=(0.05-0.20)dB（k=2）	10Hz～20kHz
正弦信号发生器(2431656)	4GC22000542-0057/2023-10-26/赛宝(广州)	f：±1mHz；失真度 Distortion：＜-70dB	f：0.001Hz～200kHz；U：100μV～5Vrms
前置放大器(3194482)	4GC22000429-0039/2023-08-29/赛宝(广州)	±0.1dB	10Hz～50kHz
数字多用表(MY53006483)	4GC22000447-0003/2023-09-26/赛宝(广州)	DCV：±0.0035%；ACV：±0.06%；DCI：±0.05%；ACI：±0.1%；R：±0.01%；f：±0.001%	DCV:(0～1000)V；ACV:(0.001～750)V@(3Hz～300kHz)；DCI:(0～3)A；ACI:(0～3)A@(3Hz～5kHz)；R:(0～100)MΩ；f:3Hz～300kHz
功率放大器(2536312)	4GC22000600-0093/2023-11-30/赛宝(广州)	频率响应：±1dB，失真度：≤0.2%	20Hz～50kHz
PULSE分析系统(3160-106540)	4GC23000001-0137/2024-01-03/赛宝(广州)	频率:U_{rel}=0.001%,k=2;电压:U_{rel}=0.10%,k=2	频率:0.001Hz~51.2kHz,电压:(1×10^{-5}～30)V
声校准器(2272351)	4GC22000600-0073/2023-11-29/赛宝(广州)	1级 First Level	31.5Hz～16kHz

5. 校准地点(The calibration place)：
广州市增城区朱村街朱村大道西78号9栋110室

6. 环境条件(Environmental conditions)：
温度(Temperature)：25.3℃　　相对湿度(Relative Humidity)：65%

7. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定，由合成标准不确定度乘以包含概率约为95%时对应的包含因子k得到。
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.

8. 证书中"P"、"合格"代表"测量结果在允许范围内"，"F"、"不合格"代表"测量结果不在允许范围内"，"N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考，使用人员应结合实际测量的要求合理使用，如考虑测量结果测量不确定度的影响等。
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value＜Low Limit or the measured value＞High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc".The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

CEPREI

证书编号(Certificate No.)：2HB23001488-0003

1 外观与工作正常性检查 (Appearance and Function Check)

无影响证书中测量结果准确度的因素和缺陷。

There are no factor and defect that affect the measurement result accuracy of the certificate.

2 指示声级调整 (Indication SPL Calibration)

频率(Frequency)=1000Hz

传声器型号 (Microphone Type)	传声器编号 (Microphone SN.)	放大器型号 (Preamplifier Type)	放大器编号 (Preamplifier SN.)
/	/	/	/

声校准器型号 (Calibrator Type)	标准声压级 (Reference SPL) (dB)	校准前示值 (Before Calibration) (dB)	校准后示值 (After Calibration) (dB)	U (k=2) (dB)
4226	94.0	93.8	93.8	0.2

3 级线性 (Level Linearity)

3.1 参考级量程 (Reference Range)

频率(Frequency): 8000Hz

标准声级 (Standard) (dB)	指示声级 (Indication) (dB)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U (k=2) (dB)
130.0	129.8	-0.2	±0.8	P	0.3
129.0	128.8	-0.2	±0.8	P	0.3
128.0	127.8	-0.2	±0.8	P	0.3
127.0	126.8	-0.2	±0.8	P	0.3
126.0	125.9	-0.1	±0.8	P	0.3
125.0	124.9	-0.1	±0.8	P	0.3
120.0	119.9	-0.1	±0.8	P	0.3
110.0	110.0	0.0	±0.8	P	0.3
100.0	100.0	0.0	±0.8	P	0.3
90.0	90.0	0.0	±0.8	P	0.3
80.0	79.9	-0.1	±0.8	P	0.3
70.0	69.9	-0.1	±0.8	P	0.3
60.0	60.0	0.0	±0.8	P	0.3
50.0	49.9	-0.1	±0.8	P	0.3
40.0	39.9	-0.1	±0.8	P	0.3
35.0	34.8	-0.2	±0.8	P	0.3
34.0	33.8	-0.2	±0.8	P	0.3
33.0	32.9	-0.1	±0.8	P	0.3
32.0	31.8	-0.2	±0.8	P	0.3
31.0	30.8	-0.2	±0.8	P	0.3
30.0	29.8	-0.2	±0.8	P	0.3

数据页(Data sheet) ID：071288 第 5 页,共 9 页 Page of

CEPREI

证书编号(Certificate No.)：2HB23001488-0003

3.2 其它级量程 (Other Range)

频率(Frequency): 1000Hz

标准声级 (Standard) (dB)	指示声级 (Indication) (dB)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U (k=2) (dB)
130.0	129.9	-0.1	±0.8	P	0.3
129.0	128.9	-0.1	±0.8	P	0.3
128.0	127.9	-0.1	±0.8	P	0.3
127.0	126.9	-0.1	±0.8	P	0.3
126.0	125.9	-0.1	±0.8	P	0.3
125.0	124.9	-0.1	±0.8	P	0.3
120.0	120.0	0.0	±0.8	P	0.3
110.0	110.0	0.0	±0.8	P	0.3
100.0	100.0	0.0	±0.8	P	0.3
90.0	90.0	0.0	±0.8	P	0.3
80.0	80.0	0.0	±0.8	P	0.3
70.0	70.0	0.0	±0.8	P	0.3
60.0	60.0	0.0	±0.8	P	0.3
50.0	50.0	0.0	±0.8	P	0.3
40.0	40.0	0.0	±0.8	P	0.3
35.0	34.9	-0.1	±0.8	P	0.3
34.0	33.9	-0.1	±0.8	P	0.3
33.0	32.9	-0.1	±0.8	P	0.3
32.0	31.9	-0.1	±0.8	P	0.3
31.0	30.9	-0.1	±0.8	P	0.3
30.0	29.9	-0.1	±0.8	P	0.3

第 6 页,共 9 页 Page of 数据页(Data sheet) ID：071288

CEPREI

证书编号(Certificate No.)：2HB23001488-0003

4 A计权特性(A-Weighting Characteristic)

频率 (Frequency) (Hz)	实测值 (Actual) (dB)	理论值 (Theoretical value) (dB)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U (k=2) (dB)
20	-50.5	-50.5	0.0	±2.0	P	0.5
25	-44.9	-44.7	-0.2	+2.0 ~ -1.5	P	0.5
31.5	-39.7	-39.4	-0.3	±1.5	P	0.5
40	-34.5	-34.6	0.1	±1.0	P	0.5
50	-30.3	-30.2	-0.1	±1.0	P	0.5
63	-26.2	-26.2	0.0	±1.0	P	0.5
80	-22.3	-22.5	0.2	±1.0	P	0.5
100	-19.1	-19.1	0.0	±1.0	P	0.5
125	-16.1	-16.1	0.0	±1.0	P	0.5
160	-13.2	-13.4	0.2	±1.0	P	0.5
200	-10.8	-10.9	0.1	±1.0	P	0.5
250	-8.6	-8.6	0.0	±1.0	P	0.5
315	-6.6	-6.6	0.0	±1.0	P	0.4
400	-4.7	-4.8	0.1	±1.0	P	0.4
500	-3.2	-3.2	0.0	±1.0	P	0.4
630	-1.9	-1.9	0.0	±1.0	P	0.4
800	-0.8	-0.8	0.0	±1.0	P	0.4
1000(Ref.)	0.0	0.0	0.0	±0.7	P	0.4
1250	0.5	0.6	-0.1	±1.0	P	0.6
1600	0.9	1.0	-0.1	±1.0	P	0.6
2000	1.1	1.2	-0.1	±1.0	P	0.6
2500	1.1	1.3	-0.2	±1.0	P	0.6
3150	0.9	1.2	-0.3	±1.0	P	0.6
4000	0.7	1.0	-0.3	±1.0	P	0.6
5000	0.3	0.5	-0.2	±1.5	P	0.6
6300	-0.2	-0.1	-0.1	+1.5 ~ -2.0	P	0.6
8000	-1.1	-1.1	0.0	+1.5 ~ -2.5	P	0.6
10000	-2.3	-2.5	0.2	+2.0 ~ -3.0	P	0.6
12500	-4.3	-4.3	0.0	+2.0 ~ -5.0	P	1.0
16000	-8.5	-6.6	-1.9	+2.5 ~ -16.0	P	1.0
20000	-18.4	-9.3	-9.1	+3.0 ~ -∞	P	1.0

CEPREI

证书编号(Certificate No.)：2HB23001488-0003

5 C计权特性(C-Weighting Characteristic)

频率 (Frequency) (Hz)	实测值 (Actual) (dB)	理论值 (Theoretical value) (dB)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U (k=2) (dB)
20	-6.6	-6.2	-0.4	±2.0	P	0.5
25	-4.7	-4.4	-0.3	+2.0 ~ -1.5	P	0.5
31.5	-3.0	-3.0	0.0	±1.5	P	0.5
40	-2.0	-2.0	0.0	±1.0	P	0.5
50	-1.3	-1.3	0.0	±1.0	P	0.5
63	-0.8	-0.8	0.0	±1.0	P	0.5
80	-0.4	-0.5	0.1	±1.0	P	0.5
100	-0.2	-0.3	0.1	±1.0	P	0.5
125	-0.1	-0.2	0.1	±1.0	P	0.5
160	0.0	-0.1	0.1	±1.0	P	0.5
200	0.0	0.0	0.0	±1.0	P	0.5
250	0.0	0.0	0.0	±1.0	P	0.5
315	0.0	0.0	0.0	±1.0	P	0.4
400	0.0	0.0	0.0	±1.0	P	0.4
500	0.0	0.0	0.0	±1.0	P	0.4
630	0.0	0.0	0.0	±1.0	P	0.4
800	0.0	0.0	0.0	±1.0	P	0.4
1000(Ref.)	0.0	0.0	0.0	±0.7	P	0.4
1250	-0.1	0.0	-0.1	±1.0	P	0.6
1600	-0.2	-0.1	-0.1	±1.0	P	0.6
2000	-0.3	-0.2	-0.1	±1.0	P	0.6
2500	-0.5	-0.3	-0.2	±1.0	P	0.6
3150	-0.8	-0.5	-0.3	±1.0	P	0.6
4000	-1.1	-0.8	-0.3	±1.0	P	0.6
5000	-1.5	-1.3	-0.2	±1.5	P	0.6
6300	-2.1	-2.0	-0.1	+1.5 ~ -2.0	P	0.6
8000	-3.0	-3.0	0.0	+1.5 ~ -2.5	P	0.6
10000	-4.3	-4.4	0.1	+2.0 ~ -3.0	P	0.6
12500	-6.2	-6.2	0.0	+2.0 ~ -5.0	P	1.0
16000	-10.4	-8.5	-1.9	+2.5 ~ -16.0	P	1.0
20000	-20.3	-11.2	-9.1	+3.0 ~ -∞	P	1.0

Catalogue of Sound Calibrator	Calibration Certificate of Sound Calibrator

For microphone calibration NC-74

How to use

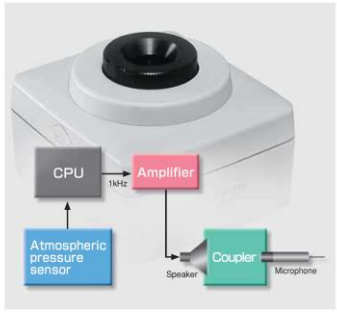
Carefully insert the microphone all the way into the coupler of the NC-74. Then simply turn the power on to apply a constant sound pressure level to the diaphragm of the microphone.

Usage example (NL series)

The performance of the NC-74 is suitable for calibration of high-precision sound level meters. The unit is compact, lightweight, and easy to use. Two IEC LR6 (size AA) alkaline batteries will power the unit for more than 30 hours of continuous use at room temperature.

Atmospheric pressure compensation principle

The NC-74 incorporates a sensor that detects atmospheric pressure. Based on the information provided by the sensor, the CPU controls the signal amplitude. This allows the unit to always provide the correct output for achieving constant sound pressure level, regardless of fluctuations in atmospheric pressure.



Using the 1/2-inch adapter

To allow calibration of sound level meter microphones with 1 inch diameter, the 1/2-inch microphone adapter can be removed. 1/2-inch microphones are calibrated with the adapter in place.

Specifications

Applicable standards	IEC 60942:2003 Class 1 JIS C1515:2004 Class 1	
Suitable microphones	1-inch microphones	IEC 61094-1 Type LS1P UC-27 UC-25 UC-34
	1/2-inch microphones	IEC 61094-1 Type LS2aP UC-59 UC-57 UC-53A UC-52 UC-35 UC-30 UC-31 UC-33P
Nominal sound pressure level	94 dB	
Sound pressure level tolerance	±0.3 dB	
Nominal frequency	1 kHz	
Frequency tolerance	±1.0 % or less	
Power requirements	IEC LR6 (size AA) alkaline battery × 2	
Dimensions, mass	Approx. 49 (H) × 80 (W) × 74 (D) mm Approx. 200 g (including batteries)	
Supplied accessories	Case × 1 IEC LR6 (size AA) alkaline battery × 2 1/2-inch microphone adapter NC-74-002 × 1	

* Specification subject to change without notice.

ISO 14001 RION CO., LTD.
ISO 9001 RION CO., LTD.

RION CO., LTD.
3-20-41,Higashimotomachi,Kokubunji,Tokyo 185-8533,Japan
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http://www.rion.co.jp/english/

Distributed by:

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中国赛宝实验室计量检测中心
(工业和信息化部电子第五研究所计量检测中心)
CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

校 准 证 书
CALIBRATION CERTIFICATE

证书编号：2HB23001488-0001
Certificate No.

CNAS 中国认可 国际互认 校准 CALIBRATION CNAS L13344

委托单位：Client	Castco Testing Centre Limited
仪器名称：Description	Sound Level Calibrator
型号规格：Model/Type	NC-74
制造商：Manufacturer	RION
机身号：Serial No.	34178129
管理号：Asset No.	AAST-SLC-05
接收日期：Rec. Date	2023-07-28
校准日期：Cal. Date	2023-08-08
签发日期：App. Date	2023-08-10
建议校准周期：Reference Cal. Period	12个月(12 months)
结论：Conclusion	所校准项目符合技术要求(The calibrated items meet the technical requirements)

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校准：Calibrated by 赵文钰 赵文钰
核验：Inspected by 钟灏 钟灏
签发：Approved by 郑术力 郑术力
印章：Stamp

扫一扫查真伪

赛宝计量检测中心
总部地址：广州市增城区朱村街朱村大道西78号
实验室地址：广州市增城区朱村街朱村大道西78号
客服电话：020-87237633 传真：020-87236189
投诉电话：020-87236896
邮件：cal@ceprei.com
网址：www.ceprei-cal.com

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Complaint Tel: 020-87236896
Email: cal@ceprei.com
Website: www.ceprei-cal.com

说　明
DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求，获得中国合格评定国家认可委员会（CNAS）认可，认可证书号为：CNAS L13344。
This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

2. 本机构出具的数据均可溯源到国际单位制（SI）单位和社会公用计量标准。
The data issued by this laboratory is traceable to International system of Units（SI）and national primary standards.

3. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes)：
* JJG 176-2022 声校准器检定规程：Sound Pressure Level：94dB、104dB、114dB、124dB(63Hz～8kHz)：94dB、104dB、114dB,(31.5Hz～16kHz)；Frequency：31.5Hz～16kHz；Harmonic Distortion：0.1%～10%，(20Hz～20kHz)
* 详细内容请查看CNAS网站中注册编号为L13344的证书附件，超出范围的内容未被认可，其结果/结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)

4. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration)：

名　称 (Description)	证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to)	技术指标 (Specification)	测量范围 (Measuring Range)
实验室标准传声器(2246093)	GFJGJL1001230304187/2024-04-13/航空304所	U=(0.05~0.20)dB（k=2）	10Hz～20kHz
前置放大器(3194482)	4GC22000429-0039/2023-08-29/赛宝(广州)	±0.1dB	10Hz～50kHz
数字多用表(MY53006483)	4GC22000447-0003/2023-09-26/赛宝(广州)	DCV：±0.0035%；ACV：±0.06%；DCI：±0.05%；ACI：±0.1%；R：±0.01%；f：±0.001%	DCV:(0～1000)V；ACV:(0.001～750)V@(3Hz～300kHz)；DCI:(0～3)A；ACI:(0～3)A@(3Hz～5kHz)；R:(0～100)MΩ；f:3Hz～300kHz
PULSE分析系统(3050-I-02038)	4GC23000001-0135/2024-01-03/赛宝(广州)	频率:U_{rel}=0.001%,k=2;电压:U_{rel}=0.04%,k=2	频率:0.001Hz~51.2kHz,电压:(1×10^{-5}~30)V

5. 校准地点(The calibration place)：
广州市增城区朱村街朱村大道西78号9栋110室

6. 环境条件(Environmental conditions)：
温度(Temperature)：22.6℃　　相对湿度(Relative Humidity)：58%

7. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定，由合成标准不确定度乘以包含概率约为95%时对应的包含因子k得到。
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.

8. 证书中"P"、"合格"代表"测量结果在允许范围内"，"F"、"不合格"代表"测量结果不在允许范围内"，"N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考，使用人员应结合实际测量的要求合理使用，如考虑测量结果测量不确定度的影响等。
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value＜Low Limit or the measured value＞High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc".The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

9. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议，供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。

1 外观与工作正常性检查 (Appearance and Function Check)

无影响证书中测量结果准确度的因素和缺陷。

There are no factor and defect that affect the measurement result accuracy of the certificate.

2 声压级 (Sound Pressure Level)

规定声压级 (Prescribed SPL) (dB)	测量声压级 (Measured SPL) (dB)	声压级差的绝对值 (Absolute value of SPL) (dB)	接受限 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
94	93.95	0.05	≤0.25	P	0.10

3 频率 (Frequency)

规定频率 (Prescribed Fre.) (Hz)	测量频率 (Measured Fre.) (Hz)	频率误差的绝对值 (Absolute value of Fre.) (%)	接受限 (Limit) (%)	结论 (Pass/Fail)	U_{rel} (k=2) (%)
1000	1002.1	0.21	≤0.70	P	0.10

4 总失真+噪声 (Distortion and noise)

规定声压级 (Prescribed SPL) (dB)	规定频率 (Measured Fre.) (Hz)	总失真+噪声 (Distortion and noise) (%)	接受限 (Limit) (%)	结论 (Pass/Fail)	U_{rel} (k=2) (%)
94	1000	0.57	≤2.50	P	5.0

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中国赛宝实验室计量检测中心
(工业和信息化部电子第五研究所计量检测中心)
CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

校 准 证 书
CALIBRATION CERTIFICATE

证书编号：2HB23001715-0001
Certificate No.

中国认可 国际互认 校准 CALIBRATION CNAS L13344

委托单位：Client	Castco Testing Centre Limited		
仪器名称：Description	Sound Level Calibrator		
型号规格：Model/Type	NC-74		
制造商：Manufacturer	RION		
机身号：Serial No.	34678556		
管理号：Asset No.	AAST-SLC-06		
接收日期：Rec. Date	2023-08-23	校准日期：Cal. Date	2023-09-05
签发日期：App. Date	2023-09-05	建议校准周期：Reference Cal. Period	12个月(12 months)
结论：Conclusion	所校准项目符合技术要求(The calibrated items meet the technical requirements)		

校准：Calibrated by 赵文钰 赵文钰　核验：Inspected by 钟灏 钟灏

签发：Approved by 郑术力 郑术力　印章：Stamp

扫一扫查真伪

赛宝计量检测中心
总部地址：广州市增城区朱村街朱村大道西78号
实验室地址：广州市增城区朱村街朱村大道西78号
客服电话：020-87237633 传真：020-87236189
投诉电话：020-87236896
邮件：cal@ceprei.com
网址：www.ceprei-cal.com

CEPREI Calibration and Testing Centre
HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Add. of the Lab: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China
Service Tel: 020-87237633 Fax: 020-87236189
Complaint Tel: 020-87236896
Email: cal@ceprei.com
Website: www.ceprei-cal.com

证书编号(Certificate No.)：2HB23001715-0001

说 明
DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求，获得中国合格评定国家认可委员会（CNAS）认可，认可证书号为：CNAS L13344。
This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

2. 本机构出具的数据均可溯源到国际单位制（SI）单位和社会公用计量标准。
The data issued by this laboratory is traceable to International system of Units（SI）and national primary standards.

3. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes)：
* JJG 176-2022 声校准器检定规程；Sound Pressure Level：94dB、104dB、114dB、124dB(63Hz～8kHz)；94dB、104dB、114dB,(31.5Hz～16kHz)；Frequency：31.5Hz～16kHz；Harmonic Distortion：0.1%～10%，(20Hz～20kHz)
* 详细内容请查看CNAS网站中注册编号为L13344的证书附件，超出范围的内容未被认可，其结果/结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)

4. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration)：

名 称 (Description)	证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to)	技术指标 (Specification)	测量范围 (Measuring Range)
前置放大器(2239843)	GFJGJL1001230304185/2024-03-22/航空304所	频率响应：±0.1dB	（10～50000）Hz
数字多用表(MY4505167 4)	GFJGJL1004230400378/2024-04-02/航天514所	DCV：$\pm 8\times10^{-5}$；DCI：$\pm 2\times10^{-3}$；ACV：±0.02%,ACI：±0.03%,R：$\pm 1\times10^{-5}$；f：±0.01%	DCV：10nV～1000V；DCI：1pA～1A；ACV：（10nV～700V）@（1Hz～2MHz）；ACI：（100pA～1A）@（10Hz～100kHz）；R：10μΩ～1GΩ；F：1Hz～10MHz
PULSE分析系统(3160-106540)	4GC23000528-0009/2024-08-16/赛宝(广州)	频率:U_{rel}=0.001%,k=2;电压:U_{rel}=0.10%,k=2	频率:0.001Hz~51.2kHz,电压:(1×10^{-3}～30)V
实验室标准传声器(2246093)	GFJGJL1001230304187/2024-04-13/航空304所	LS级	10Hz～25kHz

5. 校准地点(The calibration place)：
广州市增城区朱村街朱村大道西78号9栋110室

6. 环境条件(Environmental conditions)：
温度(Temperature)：21.2℃　相对湿度(Relative Humidity)：60%

7. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定，由合成标准不确定度乘以包含概率约为95%时对应的包含因子k得到。
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.

8. 证书中"P"、"合格"代表"测量结果在允许范围内"，"F"、"不合格"代表"测量结果不在允许范围内"，"N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考，使用人员应结合实际测量的要求合理使用，如考虑测量结果测量不确定度的影响等。
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value＜Low Limit or the measured value＞High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc".The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

9. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议，供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。

Calibration Certificate of Sound Calibrator	Catalogue of Air Flow Meter (TSI TA440)

CEPREI

证书编号(Certificate No.)：2HB23001715-0001

1 外观与工作正常性检查 (Appearance and Function Check)

无影响证书中测量结果准确度的因素和缺陷。

There are no factor and defect that affect the measurement result accuracy of the certificate.

2 声压级 (Sound Pressure Level)

规定声压级 (Prescribed SPL) (dB)	测量声压级 (Measured SPL) (dB)	声压级差的绝对值 (Absolute value of SPL) (dB)	接受限 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
94	93.86	0.14	≤0.25	P	0.10

3 频率 (Frequency)

规定频率 (Prescribed Fre.) (Hz)	测量频率 (Measured Fre.) (Hz)	频率误差的绝对值 (Absolute value of Fre.) (%)	接受限 (Limit) (%)	结论 (Pass/Fail)	U_{rel} (k=2) (%)
1000	1003.7	0.37	≤0.70	P	0.10

4 总失真+噪声 (Distortion and noise)

规定声压级 (Prescribed SPL) (dB)	规定频率 (Measured Fre.) (Hz)	总失真+噪声 (Distortion and noise) (%)	接受限 (Limit) (%)	结论 (Pass/Fail)	U_{rel} (k=2) (%)
94	1000	0.69	≤2.50	P	5.0

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数据页(Data sheet) ID：013393 第 5 页,共 5 页 Page of

SPECIFICATIONS

THERMAL ANEMOMETERS
MODELS TA410, TA430 AND TA440

Velocity

Range (TA410)	0 to 20 m/s (0 to 4,000 ft/min)
Range (TA430, TA440)	0 to 30 m/s (0 to 6,000 ft/min)
Accuracy (TA410)[1&2]	±5% of reading or ±0.025 m/s (±5 ft/min), whichever is greater
Accuracy (TA430, TA440)[1&2]	±3% of reading or ±0.015 m/s (±3 ft/min), whichever is greater
Resolution	0.01 m/s (1 ft/min)

Duct Size (TA430, TA440)

Dimensions	1 to 635 cm in increments of 0.1 cm (1 to 250 inches in increments of 0.1 in.)

Volumetric Flow Rate (TA430, TA440)

Range	Actual range is a function of velocity, and duct size

Temperature

Range (TA410, TA430)	-18 to 93°C (0 to 200°F)
Range (TA440)	-10 to 60°C (14 to 140°F)
Accuracy[3]	±0.3°C (±0.5°F)
Resolution	0.1°C (0.1°F)

Relative Humidity (TA440 only)

Range	5 to 95% RH
Accuracy[4]	±3% RH
Resolution	0.1% RH

Wet Bulb Temperature (TA440 only)

Range	5 to 60°C (40 to 140°F)
Resolution	0.1°C (0.1°F)

Dew Point (TA440 only)

Range	-15 to 49°C (5 to 120°F)
Resolution	0.1°C (0.1°F)

Instrument Temperature Range

Operating (Electronics)	5 to 45°C (40 to 113°F)
Model TA410, TA430 Operating (Probe)	-18 to 93°C (0 to 200°F)
Model TA440 Operating (Probe)	-10 to 60°C (14 to 140°F)
Storage	-20 to 60°C (-4 to 140°F)

Data Storage Capabilities (TA430, TA440)

Range	12,700+ samples and 100 test IDs

Logging Interval (TA430, TA440)
1 second to 1 hour

Time Constant (TA430, TA440)
User selectable

External Meter Dimensions
8.4 cm x 17.8 cm x 4.4 cm (3.3 in. x 7.0 in. x 1.8 in.)

Meter Weight with Batteries
0.27 kg (0.6 lbs.)

Meter Probe Dimensions

Probe Length	101.6 cm (40 in.)
Probe Diameter of Tip	7.0 mm (0.28 in.)
Probe Diameter of Base	13.0 mm (0.51 in.)

Articulating Probe Dimensions

Articulating Section Length	19.7 cm (7.8 in.)
Diameter of Articulating Knuckle	9.5 mm (0.38 in.)

Power Requirements
Four AA-size batteries or AC adapter

	TA410	TA430, TA430-A	TA440, TA440-A
Velocity range 0 to 20.00 m/s (0 to 4000 ft/min)	+		
Velocity range 0 to 30.00 m/s (0 to 6000 ft/min)		+	+
Temperature	+	+	+
Flow		+	+
Humidity, wet bulb, dew point			+
Probe	Straight	Straight or -A articulated	Straight or -A articulated
Variable time constant		+	+
Manual data logging		+	+
Auto save data logging			+
Statistics		+	+
Review data		+	+
LogDat2 downloading software		+	+
Free Certificate of Calibration	+	+	+

[1] Temperature compensated over an air temperature range of 5 to 65°C (40 to 150°F).
[2] The accuracy statement begins at 30 ft/min through 4000 ft/min (0.15 m/s through 20 m/s) for the Model TA410, and 30 ft/min through 6,000 ft/min (0.15 m/s through 30 m/s) for Models TA430 and TA440.
[3] Accuracy with instrument case at 25°C (77°F), add uncertainty of 0.03°C/°C (0.05°F/°F) for change in instrument temperature.
[4] Accuracy with probe at 25°C (77°F). Add uncertainty of 0.2% RH/°C (0.1% RH/°F) for change in probe temperature. Includes 1% hysteresis.

Specifications subject to change without notice.

AIRFLOW INSTRUMENTS

Airflow Instruments, TSI Instruments Ltd.
Visit our website at **www.airflowinstruments.co.uk** for more information.

UK **Tel:** +44 149 4 459200 **Germany** **Tel:** +49 241 523030
France **Tel:** +33 491 11 87 64

P/N 2980548 Rev D (A4)

Cal Lab Limited 校正實驗室有限公司
Room 2103, Technology Plaza, 29-35 Sha Tsui Road,
Tsuen Wan, NT, Hong Kong
Tel: +852 25680106 Email: info@callab.com.hk
Fax: +852 30116194 Website: www.callab.com.hk

ACCREDITED Certificate #3815.01

Calibration Certificate No.: CC0242312

Information provided by customer

Customer: Castco Testing Centre Limited
Address: 33, On Kui Street, Fanling, N.T.

Equipment identification provided by customer

Equipment Description	Manufacturer	Model No.	Serial No.	Assigned equipment No.
Air Velocity Monitor	TSI	AIRFLOW TA440	TA4401232005	AAST-FLOW-02

Certificate Information

Date of Receipt:	15 December 2023	Calibration Condition:	21.3°C, 56%RH, 1014hPa
Date of Calibration:	18 December 2023	Adjustment:	N/A
Due Date of Calibration:	N/A	Appearance:	Good
Calibration Procedure:	SOP-112	Remark:	N/A

Reference Equipment Identification

Equipment Description	Model	Serial No.	Expiration Date
Hot Wire Anemometer	9535	T95351316004	11 August 2024

Result of Calibration

Air Velocity

Reference Reading (m/s)	Measured Reading (m/s)	Error (m/s)	Uncertainty (%)	Technical Requirement	Technical Reference Doc.
0.99	0.99	0.00	3.6	± 5 %	Mfr's Spec.
2.02	2.03	0.01	3.6	± 5 %	Mfr's Spec.
5.01	4.98	-0.03	3.6	± 5 %	Mfr's Spec.
7.96	8.07	0.11	3.6	± 5 %	Mfr's Spec.

CT-AFR-01

Note1: The estimated expanded uncertainties have been calculated in "Evaluation and expression of uncertainty in measurement" and give an internal estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.
Note2: The standard (s) and instrument used in the calibration are traceable to national or international recognized standard and are calibrated on a schedule to maintain the accuracy and good condition.
Note3: The result reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long term stability of the instrument.
Note4: The result shows in this calibration certificate relate only to the item calibrated, and the result only applies to the calibration item as received.

Calibrated By: Wing Cheng
Checked and Approved By: Warren Yeung
Company Chop:
Certificate Issue Date: 19 December 2023

CT-BEG-04

*** End of Certificate ***

Appendix L – Noise monitoring results and graphical presentation

M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop

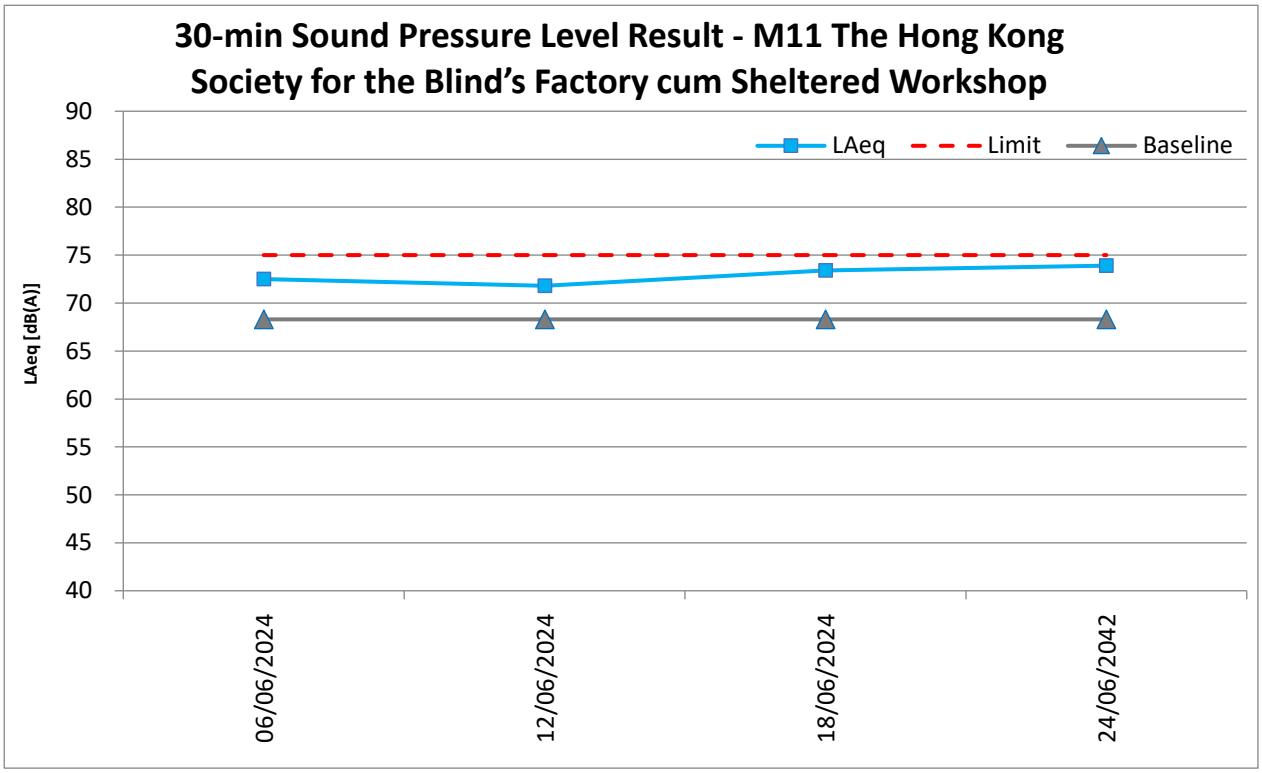
Date	Temp (°C)	Weather	Measured Noise Level at M11, dB(A)							Limit
			Time			Baseline	L_{Aeq}	L_{A10}	L_{A90}	
06/06/2024	27.9	Sunny	10:14	-	10:44	68.3	72.5	76.3	62.8	75
12/06/2024	32.7	Cloudy	14:02	-	14:32	68.3	71.8	75.7	65.2	75
18/06/2024	32.3	Sunny	13:37	-	14:07	68.3	73.4	77.8	66.7	75
24/06/2042	29.8	Sunny	10:04	-	10:34	68.3	73.9	78.1	65.6	75
			Maximum				73.9			
			Minimum				71.8			
			Average				73.0			

NOTE: Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 30-min noise monitoring at M11 were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for M11 is confirmed.

M12 - Hong Kong Children's Hospital

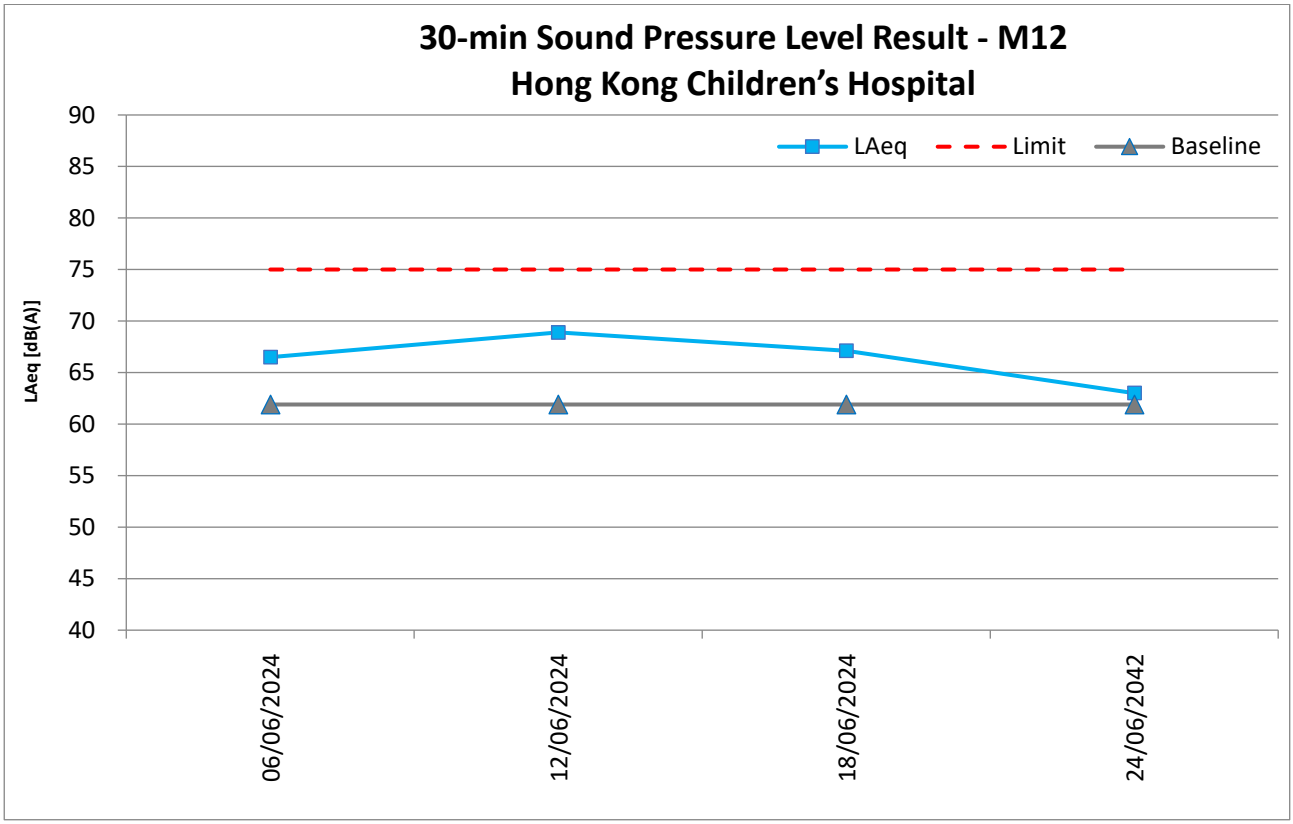
Date	Temp (°C)	Weather	Measured Noise Level at M12, dB(A)							Limit
			Time			Baseline	L_{Aeq}	L_{A10}	L_{A90}	
06/06/2024	27.9	Sunny	14:12	-	14:42	61.9	66.5	70.0	59.5	75
12/06/2024	32.7	Cloudy	10:22	-	10:52	61.9	68.9	69.7	66.7	75
18/06/2024	32.3	Sunny	10:06	-	10:36	61.9	67.1	69.8	58.1	75
24/06/2042	29.8	Sunny	13:37	-	14:07	61.9	63.0	64.8	60.9	75
			Maximum				68.9			
			Minimum				63.0			
			Average				66.8			

$L_{Aeq,\ 30\text{-}min}$ graphical results of M11 - The Hong Kong Society for the Blind's Factory cum Sheltered Workshop



NOTE: Due to the relocation of The Hong Kong Society for the Blind's Factory cum Sheltered Workshop (M11), the premises owner rejected ET to conduct impact monitoring since 1 Sept 2022. 30-min noise monitoring at M11 were conducted on the ground floor with orienting to the Project site. ET will resume the impact monitoring once the alternative monitoring location for M11 is confirmed.

$L_{Aeq,\ 30\text{-}min}$ graphical results of M12 - Hong Kong Children's Hospital



Appendix M – Event and Action Plan for noise

Event	Action			
	ET	**IEC**	**Supervisor / ER**	**Contractor**
Action Level being exceeded	1. Notify Supervisor / ER, IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, Supervisor / ER and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working days after the exceedance is identified.)	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures submitted by the Contractor and advise the ER accordingly; 3. Advise the Supervisor / ER on the proposed remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified.)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified.)	1. Submit noise mitigation proposal to IEC and Supervisor / ER; 2. Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified.)
Limit Level being exceeded	1. Inform IEC, Supervisor /ER, Contractor and EPD; 2. Repeat measurement to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contract's working procedure; 6. Discuss remedial measures required with the IEC, Contractor and Supervisor /ER; 7. Assess effectiveness of	1. Discuss the potential remedial actions with Supervisor /ER, ET and Contractor; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the Supervisor /ER accordingly. (The above actions should be taken within 2 working days after the exceedance is identified.)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and Supervisor /ER within 3 working days of notification; 3. Implement the agreed proposal; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the Supervisor /ER until the exceedance is abated. (The above actions should be

Event	Action			
	ET	**IEC**	**Supervisor / ER**	**Contractor**
	Contractor's remedial actions and keep IEC, EPD, and Supervisor /ER informed of the results; 8. If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified.)		exceedance until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified.)	taken within 2 working days after the exceedance is identified.)

Appendix N – Event and Action Plan for Landscape and Visual Impact

Event	Action			
	ET	**IEC**	**Supervisor / ER**	**Contractor**
Design Check	1. Check final design conforms to the requirements of EP and prepare report.	1. Check report. 2. Recommend remedial design if necessary.	1. Undertake remedial design if necessary.	
Non-conformity on one occasion	1. Identify Source. 2. Inform IEC and Supervisor /ER. 3. Discuss remedial actions with IEC, Supervisor /ER and Contractor. 4. Monitor remedial actions until rectification has been completed.	1. Check report. 2. Check Contractor's working method. 3. Discuss with ET and Contractor on possible remedial measures. 4. Advise Supervisor /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 IEC and Supervisor /ER. 3. Increase monitoring frequency. 4. Discuss remedial actions with IEC, Supervisor /ER and Contractor. 5. Monitor remedial actions until rectification has been completed. 6. If non-conformity stops, cease additional monitoring.	1. Check monitoring report. 2. Check Contractor's working method. 3. Discuss with ET and Contractor on possible remedial measures. 4. Advise Supervisor /ER on effectiveness of proposed remedial measures. 5. Supervise 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.

Appendix O – Waste Flow Table

Appendix I - Monthly Summary Waste Flow Table

Name of Department: CEDD

Contract No.: ED/2018/01

Monthly Summary Waste Flow Table for June 2024

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m³)
Jan	2.311	0.111	--	--	2.311	--	--	--	--	--	0.184
Feb	2.232	0.177	--	--	2.232	--	--	--	--	--	0.173
Mar	2.893	0.032	--	--	2.893	--	--	0.051	--	--	0.259
Apr	3.482	0.016	--	--	3.482	--	--	--	--	--	0.238
May	5.531	0.595			5.531	--	--	--	--	--	0.143
Jun	1.610	0.248			1.610	1.106					0.190
Sub-total	18.059	1.179	--	--	18.059	1.106	--	0.051	--	--	1.187
July											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	18.059	1.179	--	--	18.059	1.106	--	0.051	--	--	1.187

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*

Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000m³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m³)
207.384	**2.103**	**10.2**	**140**	**27.415**	**25**	**200**	**0.8**	**0.1**	--	**3.891**

Notes:
(1) The performance targets are given in **ER Appendix 8I Clause 14** and the EM&A Manual
(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 and water barrier
(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m³ (**ER Part 8 Clause 8.7.5(d)**(ii) refers)
(5) Assume inert C&D materials density and non-inert C&D materials are 1.9 ton/m³ and 1.5 ton/m³

Appendix P – Environmental Mitigation Implementation Schedule (EMIS)

Implementation Schedule for Air Quality Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
S3.2		8 times daily watering of the work site with active dust emitting activities.	^
S3.2	S4.8	Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimize cumulative dust impacts.	^
		- Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission.	^
		- Misting for the dusty material should be carried out before being loaded into the vehicle.	^
		- Any vehicle with an open load carrying area should have properly fitted side and tail boards.	^
		- Material having the potential to create dust should not be loaded from a level higher than the side and tail boards and should be dampened and covered by a clean tarpaulin.	^
		- The tarpaulin should be properly secured and should extent at least 300 mm over the edges of the sides and tailboards. The material should also be dampened if necessary, before transportation.	^
		- The vehicles should be restricted to maximum speed of 10 km per hour and confined haulage and delivery vehicle to designated roadways insider the site. On- site unpaved roads should be compacted and kept free of lose materials.	^
		- Vehicle washing facilities should be provided at every vehicle exit point.	^
		- The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.	^
		- Every main haul road should be scaled with concrete and kept clear of dusty materials or sprayed with water so as to maintain the entire road surface wet.	^
		- Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the three sides.	^
		- Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.	^

Implementation Schedule for Noise Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
S3.3		Use of quiet PME, movable barriers for Asphalt Paver, Breaker, Excavator and Hand-held breaker and full enclosure for Air Compressor, Bar Bender, Concrete Pump, Generator and Water Pump.	^
S3.3		Good Site Practice:	
S3.3		- Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.	^*
		- Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program.	^
		- Mobile plant, if any, should be sited as far away from NSRs as possible.	^
		- Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.	^
		- Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.	^
		- Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.	^
		- Scheduling of Construction Works during School Examination Period	N/A

Implementation Schedule for Water Quality Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
S3.4		<u>Construction Runoff</u> Exposed soil areas should be minimised to reduce the potential for increased siltation, contamination of runoff, and erosion. Construction runoff related impacts associated with the above ground construction activities can be readily controlled through the use of appropriate mitigation measures which include:	^
S3.4		- use of sediment traps.	^
S3.4		- adequate maintenance of drainage systems to prevent flooding and overflow.	^

Implementation Schedule for Water Quality Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
	S5.8	- Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins.	^
	S5.8	- Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels should be provided on site boundaries where necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	^
	S5.8	- Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to prevent local flooding. Any practical options for the diversion and re-alignment of drainage should comply with both engineering and environmental requirements in order to provide adequate hydraulic capacity of all drains. Minimum distance of 100 m should be maintained between the discharge points of construction site run-off and the existing saltwater intakes.	^
	S5.8	- Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.	^
	S5.8	- Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	^
	S5.8	- Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms.	^
	S5.8	- Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul	^

Implementation Schedule for Water Quality Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
		sewerage system.	
	S5.8	- Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis.	^
S3.4		Construction site should be provided with adequately designed perimeter channel and pre-treatment facilities and proper maintenance. The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection. Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses, via a silt retention pond. Permanent drainage channels should incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94.	^
S3.4	S5.8	Ideally, construction works should be programmed to minimise surface excavation works during the rainy season (April to September). All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. If excavation in soil cannot be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest / edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place in such a way that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.	^
S3.4		Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m^3 capacity, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity is flexible and able to handle multiple inputs from a variety of sources	^

Implementation Schedule for Water Quality Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
		and particularly suited to applications where the influent is pumped.	
S3.4		Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m^3 should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	^
S3.4		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.	^
S3.4		Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken 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.	^
S3.4		Oil interceptors should be provided in the drainage system and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	NA
S3.4	S5.8	<u>Wheel Washing Water</u> 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 located wheel washing bay should be provided at every site exit, and 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-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.	^
S3.4		<u>Drainage</u> It is recommended that on-site drainage system should be installed prior to the commencement of other construction activities. Sediment traps should be installed in order to minimise the sediment loading of the effluent prior to discharge into foul sewers. There should be no direct discharge of effluent from the site into the sea.	^
S3.4		All temporary and permanent drainage pipes and culverts provided	^

Implementation Schedule for Water Quality Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
		to facilitate runoff discharge should be adequately designed for the controlled release of storm flows. All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage should be reinstated to its original condition when the construction work has finished or the temporary diversion is no longer required.	
S3.4		All fuel tanks and storage areas should be provided with locks and be located 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 coastal waters of the Victoria Harbour WCZ.	^
S3.4	S5.8	<u>Sewage Effluent</u> Construction work force sewage discharges on site are expected to be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage may need to be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor should also be responsible for waste disposal and maintenance practices. Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the surrounding environment. Regular environmental audit of the construction site will provide an effective control of any malpractices and can encourage continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the project would not cause water pollution problem after undertaking all required measures.	^
S3.4		<u>Stormwater Discharges</u> Minimum distances of 100 m should be maintained between the existing or planned stormwater discharges and the existing or planned seawater intakes	^
S3.4		<u>Debris and Litter</u> In order to maintain water quality in acceptable conditions with regard to aesthetic quality, contractors should be required, under conditions of contract, to ensure that site management is optimised	^

Implementation Schedule for Water Quality Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
		and that disposal of any solid materials, litter or wastes to marine waters does not occur.	
	S5.8	Boring and Drilling Water Water used in ground boring and drilling for site investigation or rock / soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.	^
	S5.8	Acid Cleaning, Etching and Pickling Wastewater Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers.	NA
	S5.8	Effluent Discharge There is a need to apply to 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. Minimum distance of 100 m should be maintained between the discharge points of construction site effluent and the existing seawater intakes and the planned WSR mentioned in S5.3.1 as appropriate. 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. 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 relevant WPCO licence which is under the ambit of regional office (RO) of EPD.	^
	S5.8	Accidental Spillage 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 service shop and maintenance facilities should be located on	^

Implementation Schedule for Water Quality Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
		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.	
	S5.8	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. 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.	^
	S5.8	- Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.	^
	S5.8	- Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	^

Implementation Schedule for Waste Management Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
S3.5		<u>Good Site Practices</u> It is not anticipated that adverse waste management related impacts would arise, provided that good site practices are adhered to. Recommendations for good site practices during construction activities include:	
S3.5		- Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	^
	S6.7	- Prepare a Waste Management Plan, which becomes a part of the Environmental Management Plan, in accordance with the requirements stipulated in ETWB TC(W) No. 19/2005, approved by the Engineer/Supervising Officer of the Project based on current practices on construction sites.	^
S3.5	S6.7	- Training of site personnel in proper waste management and chemical waste handling procedures.	^

Implementation Schedule for Waste Management Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
S3.5	S6.7	- Provision of sufficient waste disposal points and regular collection for disposal.	^*
S3.5	S6.7	- Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	^
S3.5		- A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).	^
	S6.7	- Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	^
	S6.7	- Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.	^
S3.5		<u>Waste Reduction Measures</u> Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:	
S3.5	S6.7	- Sort C&D waste from demolition of the remaining structures to recover recyclable portions such as metals.	NA
S3.5	S6.7	- Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	^
S3.5	S6.7	- Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.	^
S3.5		- Any unused chemicals or those with remaining functional capacity should be recycled.	^
S3.5	S6.7	- Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	^
S3.5		<u>Construction and Demolition Materials</u> Mitigation measures and good site practices should be incorporated in the contract document to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include:	
S3.5		- Where it is unavoidable to have transient stockpiles of C&D material within the Project work site pending collection for	^

Implementation Schedule for Waste Management Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
		disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible.	
S3.5		- Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	^
S3.5		- Skip hoist for material transport should be totally enclosed by impervious sheeting.	^
S3.5		- Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site.	^
S3.5		- The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.	^
S3.5		- The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle.	^
S3.5		- All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.	^
S3.5		- The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.	^
S3.5		- When delivering inert C&D material to public fill reception facilities, the material should consist entirely of inert construction waste and of size less than 250mm or other sizes as agreed with the Secretary of the Public Fill Committee. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system as stipulated in the ETWB TCW No. 31/2004 “Trip Ticket System for Disposal of Construction and Demolition Materials” should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.	^
	S6.7	- Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation	^

Implementation Schedule for Waste Management Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
		of waste.	
S3.5		Chemical Waste After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTF or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	^
	S6.7	Separation of chemical wastes for special handling and appropriate treatment.	^
S3.5		General Refuse General refuse should be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Effective collection and storage methods (including enclosed and covered area) of site wastes would be required to prevent waste materials from being blown around by wind, wastewater discharge by flushing or leaching into the marine environment, or creating odour nuisance or pest and vermin problem.	^

Implementation Schedule for Landscape and Visual Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
S3.8.12		All existing trees should be carefully protected during construction.	^*
S3.8.12		Trees unavoidably affected by the works should be transplanted where practical. Detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBC 2/2004 and 3/2006. Final locations of transplanted trees should be agreed prior to commencement of the work.	NA
S3.8.12		Control of night-time lighting.	^
S3.8.12		Erection of decorative screen hoarding.	^
	S7.9	Construction Site Control - CM1 - Minimized construction area and contractor's temporary works areas.	^
		- CM2- Control of night-time lighting and glare by hooding all lights.	^
		- CM3 - Erection of decorative mesh screens or construction	^

Implementation Schedule for Landscape and Visual Measures			
EIA for KTD Development Ref.	**EIA for KTD – Roads D3A & D4A Ref.**	**Environmental Protection Measures / Mitigation Measures**	**Status**
		hoardings around works areas in visually unobtrusive colours.	
		- CM4 - Reduction of construction period to practical minimum.	^
		- CM5 - Limitation of / Ensuring no run-off into surrounding landscape and adjacent seawater areas.	^
		- CM6 - Temporary or advance landscape should be provided along the temporary access roads to the Cruise Terminal until such time as road D3 is open.	NA

Remarks:			
^	Compliance of mitigation measure.	X	Non-compliance of mitigation measure.
N/A N/A (1)	Not Applicable at this stage. Not observed.	●	Non-compliance but rectified by the contractor.
*	Recommendation was made during site audit but improved/rectified by the contractor.	#	Recommendation was made during audit and to be improved/ rectified by the contractor.

Mitigation Measures undertaken by the Contractor for site inspections			
			
Date:	06 June 2024	Date:	20 June 2024
Mitigation Measures:	Provided domestic garbage bins for waste storage.	Mitigation Measures:	The vehicles are restricted to maximum speed of 8 km per hour inside the site.
			
Date:	27 June 2024	Date:	27 June 2024
Mitigation Measures:	The construction materials were provided and manufactured under the control of quality and environmental management systems certified systems.	Mitigation Measures:	The portable toilets were provided in the construction site.

Appendix Q – Summaries of Environmental Complaint, Warning, Summon and Notification of Successful Prosecution

Reporting Month: June 2024

Contract No.	Record of Complaint (Yes/No)	Record of Warning (Yes/No)	Notification of Summons and Successful Prosecutions (Yes/No)
ED/2018/01	No	No	No

Cumulative Statistics on Complaints, Notification of Summons and Successful Prosecutions up to reporting month

Contract No.	Record of Complaint	Record of Warning	Notification of Summons and Successful Prosecutions
ED/2018/01	17	0	0

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
C0001	A dust complaint was referred from the Contractor on 21 Oct 2020 regarding a public complaint via 1823 hotline (Case no. 3-6518939602) on 20 Oct 2020.	1. The water spraying system was not operated in proper time. 2. Stockpile was not covered properly. 3. Haul road was not wetted. 4. Materials transported on trucks were not provided with mechanical covers.	Investigation 1. Based on the information provided by the Contractor on 22 Oct 2020, the water sprinklers system was sprayed every 15 minutes with 70 seconds interval automatically. For the area that water sprinklers system was not covered, manual water spraying was provided. Dump trucks were covered with mechanical cover after loading the materials. The stockpile area was covered by the tarpaulin during night time. 2. Based on the monitoring results on 16 Oct 2020, the 1-hour and 24-hour TSP results were below the Action Levels and Limit Levels. 3. Regular site inspection was conducted by ET on 22 Oct 2020, no adverse observation against the dust impact was recorded. Action taken As per the Contractor, the water sprinkler are now adjusted to start at 8:00am and end at 6:00pm for Monday to Saturday while from 8:00am to 5:00pm on Sunday. Water spraying are set with 5-minute time interval with duration 30-60 seconds. Recommendations To minimize the impact for air quality, mitigation measures should be enhanced specially in dry seasons are recommended: 1. Increase the frequency and duration for automatic water spraying system. 2. Main haul road and the area that water sprinklers system was not covered in the construction site should be wetted by water trucks or manually in regular basis. 3. Ensure stockpiling sites should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting at all time except during working process.	- Closed-out on 5 Nov 2020. - No further complaint was received.
C0002	A dust complaint was referred from the Contractor on 8 Sep 2021 through E-Mail regarding a complaint	Complaint of dust problem at the pavement of Muk Tai Street near Sports	Investigation As per contractor, part of the complaint area was within the site boundary of the project. 1. Manual water spraying was provided. 2. The exposed surface and stockpile areas were covered by the impermeable	- Closed-out on 4 Oct 2021. - No further complaint was received.

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
	received by EPD (EPD ref.: K19/RE/00021205-21) on 7 Sep 2021.	Park.	tarpaulin sheet. Action taken The exposed surface and stockpile area was covered by the impermeable tarpaulin sheet. Recommendations There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however the contractor is recommended to implement the following measures to minimize the impact for air quality: 1. Ensure stockpiling sites should be lined with impermeable sheeting and bunded. 2. Stockpiles should be fully covered by impermeable sheeting at all time except during working process. 3. Ensure the work fulfill the relevant statutory requirements on control of air pollution. 4. Take necessary measures to minimize the environmental nuisance arising from the construction site.	
C0003	A water discharge complaint was referred from the Contractor on 10 Dec 2021 through E-Mail regarding a complaint received by EPD (ref.: K19/RE/00029046-21) on 9 Dec 2021.	Complaint of muddy water being discharged into the sea of To Kwa Wan Typhoon Shelter via a DSD outfall near the roundabout of Shing Fung Road.	Investigation Joint site inspection was conducted by ER, IEC, ET and the contractor on 14 Dec 2021, no adverse observation against the water impact was recorded. 1. There was no muddy water discharge to DSD outfall near the roundabout of Shing Fung Road. 2. The sandbag with layers and filter were provided at the manholes. Action taken - Sandbags and filter were used to block the manholes. - Manholes had been adequately covered and replace the filter frequently. Recommendations There was no direct evidence showing that the water nuisance was caused by the contractor at the complaint area.	- Closed-out on 5 Jan 2022. - No further complaint was received.

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
			Some of muddy water generated from wheel washing might be flow to the outfall inside the site boundary, however the contractor had taken the mitigation measure by using sandbag and filter to ease the nuisance. The contractor is recommended to implement the following measures to minimize the impact for waste water: 1. Enhance the sandbag with several layers instead of one layer only and replace the filter frequently. 2. Modify the wheel washing area such that the muddy water will be directly flow to the pit and then waste water treatment facility. 3. Take necessary measures to minimize the environmental nuisance arising from the construction site.	
C0004	A dust complaint was received by EPD on 16 Dec 2022. Contractor received Notification of Environmental Complaints from EPD (ref.: K19/RE/00029136-22) by E-Mail on 22 Dec 2021.	Complaint of mud/ silt being brought out by vehicles from the project site casing mud/silt accumulation on Shing Fung Road.	<u>Investigation</u> Regular site inspection was conducted by ET on 29 Dec 2022. 1. As per the Contractor, mud / slit generated from nearby construction sites might be brought to Shing Fung Road roundabout. 2. No adverse observation against the dust impact was recorded during site inspection. <u>Action taken</u> 1. Watering manually frequently. 2. Haul Road surfaces were wetted by water truck. 3. Wheel washing for the trucks and vehicles before leaving the project site. <u>Recommendations</u> To minimize the impact for air quality, mitigation measures should be enhanced specially in dry seasons are recommended: 1. Increase the frequency and duration for automatic water spraying system. 2. Main haul road and the area that water sprinklers system was not covered in the construction site should be wetted by water trucks or manually in regular basis. 3. Regular wash and clean the share haul road and roundabout in Shing Fung Road.	- Closed-out on 13 Jan 2023. - No further complaint was received.

<table>
<tr><th colspan="5">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td></td><td></td><td></td><td>4. Wheel washing for the trucks and vehicles before leaving the project site. The muddy water after the wheel washing should be directed to sedimentation tank and wastewater treatment facility before discharging to gully.
5. Ensure stockpiling sites should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting at all time except during working process.
6. Dusty materials transported on truck shall be covered.</td><td></td></tr>
<tr><td>C0005</td><td>A noise complaint was received by EPD on 21 Dec 2022.

Contractor received Notification of Environmental Complaints from EPD (EPD ref.: K19/RE/00029422-22) on 22 Dec 2022.

IEC received the notification on 22 Dec 2022 from EPD and forwarded the notification to CEDD, Contractor, ER and ET on same day.</td><td>Complaint of construction noise arising from the project site near Shing Kai Road and Muk Tai Street continued to 01:30 am on 21 Dec 2022.</td><td><u>Investigation</u>
Regular site inspection was conducted by ET and the Contractor on 29 Dec 2022
1. The complaint was project-related as construction noise arose from the project site near Shing Kai Road and Muk Tai Street.
2. Status of CNPs in the work area near Shing Kai Road and Muk Tai Street were checked and all of them were valid. However, the CNPs only cover the period up to 2300.

<table><tr><th>Construction Noise Permit</th><th>Valid Form</th><th>Valid Till</th></tr><tr><td>GW-RE1297-22</td><td>10 Dec 2022</td><td>08 Jun 2023</td></tr><tr><td>GW-RE1299-22</td><td>17 Dec 2022</td><td>15 Jun 2023</td></tr></table>
<u>Actions taken</u>
1. Refresher training about CNP was provided to the labour on 22 Dec 2022.
2. No construction activities were allowed in the restricted hours for those areas without valid CNP.

<u>Recommendations</u>
To minimize the impact of construction noise, the following mitigation measures are recommended:
1. Provide regular training about CNP and other environmental issues to staff.
2. Regularly check the status of ALL CNP and other environmental permits.</td><td>- After six months of receiving the complaint, there was no further action from EPD.
- Closed-out on 29 Jun 2024.</td></tr>
<tr><td>C0006</td><td>A dust complaint was received by EPD on 6</td><td>Complaint of construction</td><td><u>Investigation</u>
Site inspections were conducted by ET on 26 Jan 2023 and joint site inspection</td><td>- Closed-out on 16 Mar 2023.</td></tr>
</table>

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
	Dec 2022. Contractor (POC) received Notification of Environmental Complaints from EPD (ref.: K19/RE/00027862-22) by E-Mail on 7 Dec 2022. IEC received the notification on 19 Jan 2023 and forwarded the notification to CEDD, ER and ET on same day.	dust arising from construction sites along Shing Fung Road.	was conducted by Contractor (POC), ER, ET and IEC on 8 Feb 2023. 1. The concerned area (roundabout) is the common road for public vehicles. In addition, construction vehicles from several nearby construction sites also use the concerned road, especially a lots of dump trucks. 2. Construction vehicles from Contractor (POC) project site are not allowed leaving the site to Shing Fung Road directly as the exit was blocked by barriers since 21 Jan 2023. 3. Worker of sub-contractor from Contractor (POC) wetted the part of the concerned road surface during the site inspection on 8 Feb 2023 to suppress dust emission. 4. No construction works was observed on 26 Jan 2023 and no adverse observation against the dust impact were found during the site inspection on both dates. <u>Action taken</u> 1. Haul Road surfaces were wetted manually and washed the dusty water barrier regularly. 2. Wheel washing for the trucks and vehicles before leaving the project site directly through Shing Fung Road exit. 3. Construction vehicles from Contractor (POC) are not allowed leaving the site to Shing Fung Road directly as the exit was blocked by barriers since 21 Jan 2023. <u>Recommendations</u> There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality: 1. Main haul road and the area that water sprinklers system was not covered in the construction site should be wetted manually in regular basis. 2. Regular wash the share haul road and roundabout in Shing Fung Road. 3. Wheel washing for the trucks and vehicles before leaving the project site. The muddy water after the wheel washing should be directed to sedimentation tank and wastewater treatment facility before discharging to	

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
			gully. 4. Dusty materials transported on truck shall be covered.	
C0007	A dust complaint was received by EPD on 19 Jan 2023. Contractor (POC) received Notification of Environmental Complaints from EPD (ref.: K19/RE/00001988-23) by E-Mail on 2 Feb 2023. IEC received the notification on 2 Feb 2023 and forwarded the notification to CEDD, ER and ET on the same day.	Complaint of dusty environment at the new road connecting Shing Fung Road and Shing Kai Road caused by vehicles from construction sites nearby.	<u>Investigation</u> Joint site inspection was conducted by Contractor (POC), ER, ET and IEC on 8 Feb 2023. 1. The concerned area (new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 Dec 2022. 2. Construction vehicles from POC are not allowed leaving the site to Shing Fung Road directly with barriers blocked since 21 Jan 2023. 3. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023. 4. Worker of sub-contractor from Contractor (POC) wetted the part of the concerned road surface during the site inspection on 8 Feb 2023 to suppress dust emission. 5. No adverse observation against the dust impact were found during the site inspection along the new road. <u>Action taken</u> 1. Haul Road surfaces were wetted manually and washed the dusty water barrier regularly. 2. Wheel washing for the trucks and vehicles before leaving the project site. 3. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023. <u>Recommendations</u> There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality: 1. Main haul road and the area that water sprinklers system was not covered in	- Closed-out on 16 Mar 2023.

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
			the construction site should be wetted by water trucks or manually in regular basis. 2. Regular wash the share haul road in Shing Fung Road. 3. Wheel washing for the trucks and vehicles before leaving the project site. The muddy water after the wheel washing should be directed to sedimentation tank and wastewater treatment facility before discharging to gully. 4. Dusty materials transported on truck shall be covered.	
C0008	A dust complaint was received by EPD on 13 Feb 2023. Contractor (POC) received the Notification of Environmental Complaints from EPD (ref.: K19/RE/00003909-23) by E-Mail on 17 Feb 2023 and forwarded the E-mail to ER, ET and IEC on same day.	Complaint of silt / mud accumulation on the new road connecting Shing Fung Road and Shing Kai Road caused by vehicles from construction sites nearby.	<u>Investigation</u> Joint site inspection was conducted by Contractor (POC), ER, ET and IEC on 23 Feb 2023 and regular site inspection was conducted by Contractor (POC), ER and ET on 2 Mar 2023. 1. The concerned area (new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 Dec 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust nuisance. 2. Construction vehicles from POC are not allowed leaving the site to Shing Fung Road directly with barriers blocked since 21 Jan 2023. 3. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023. 4. As per Contractor (POC), EPD conducted site visit on 16 Feb 2023. 5. No adverse observation against the dust / muddy water impact were found during the site inspection on both dates. <u>Action taken</u> 1. Construction vehicles from Contractor (POC) are not allowed leaving the site to Shing Fung Road directly as the exit was blocked by barriers since 21 Jan 2023. 2. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023.	- Closed-out on 29 Mar 2023.

<table>
<tr><th colspan="5">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td></td><td></td><td></td><td>3. Haul Road surfaces were wetted manually and washed the dusty water barrier regularly.
4. Wheel washing for the trucks and vehicles before leaving the project site.
5. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted once a week as follow:
<table><tr><th>Date</th><th>Road Washing by</th></tr><tr><td>8 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>9 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>14 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>22 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr></table>6. During the two site inspections, mitigation measures implemented by the Contractor (POC) were found properly based on existing site condition and resources.

<u>Recommendations</u>
There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:
1. Main haul road and the area that water sprinklers system was not covered in the construction site should be wetted by water trucks or manually in regular basis.
2. Regular wash the share haul road in Shing Fung Road.
3. Dusty materials transported on truck shall be covered.</td><td></td></tr>
<tr><td>C0009</td><td>A dust complaint was received by EPD on 15 Feb 2023.

Contractor (POC) received the Notification of Environmental</td><td>Complaint of mud / silt being brought out by vehicles from construction site at Shing Fung Road roundabout</td><td><u>Investigation</u>
Joint site inspection was conducted by Contractor (POC), ER, ET and IEC on 23 Feb 2023 and regular site inspection was conducted by Contractor (POC), ER and ET on 2 Mar 2023.
1. The concerned area (new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 Dec 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust nuisance.</td><td>- Closed-out on 29 Mar 2023.</td></tr>
</table>

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<tr><th colspan="5">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td></td><td>Complaints from EPD (ref.: K19/RE/00004280-23) by E-Mail on 22 Feb 2023 and forwarded the E-mail to ER, ET and IEC on same day.</td><td>(near Lamp Post DF4831) causing mud / silt accumulation along Shing Fung Road.</td><td>2. Construction vehicles from POC are not allowed leaving the site to Shing Fung Road directly with barriers blocked since 21 Jan 2023.
3. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023.
4. As per Contractor (POC), EPD conducted site visit on 16 Feb 2023.
5. No adverse observation against the dust impact were found during the site inspection on both dates.

<u>Action taken</u>
1. Construction vehicles from Contractor (POC) are not allowed leaving the site to Shing Fung Road directly as the exit was blocked by barriers since 21 Jan 2023.
2. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023.
3. Haul Road surfaces were wetted manually and washed the dusty water barrier regularly.
4. Wheel washing for the trucks and vehicles before leaving the project site.
5. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted once a week as follow:
<table><tr><th>Date</th><th>Road Washing by</th></tr><tr><td>8 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>9 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>14 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>22 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr></table>6. During the two site inspections, mitigation measures implemented by the Contractor (POC) were found properly based on existing site condition and resources.

<u>Recommendations</u>
There was no direct evidence showing that the dust nuisance was caused by the</td><td></td></tr>
</table>

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
			contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality: 1. Main haul road and the area that water sprinklers system was not covered in the construction site should be wetted by water trucks or manually in regular basis. 2. Regular wash the share haul road in Shing Fung Road. 3. Dusty materials transported on truck shall be covered.	
C0010	A dust and muddy water complaint was received by Hotline 1823 on 9 Mar 2023. ER received the transfer from the Hotline 1823 on 9 Mar 2023 and forwarded the E-mail to Contractor (POC), ET and IEC on same day.	Complaint of dusty environment at the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road roundabout. Worker wetted the road surface and might cause mud / silt problem.	<u>Investigation</u> Joint site inspection was conducted by Contractor (POC), ER, and ET on 16 Mar 2023 and 23 Mar 2023. 1. The concerned area (new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 Dec 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust nuisance. 2. Construction vehicles from POC are not allowed leaving the site to Shing Fung Road directly with barriers blocked since 21 Jan 2023. 3. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023. 4. The sandbags were provided around the manholes. 5. No adverse observation against the dust / muddy water impact were found during the site inspection on both dates. <u>Action taken</u> 1. Construction vehicles from Contractor (POC) are not allowed leaving the site to Shing Fung Road directly as the exit was blocked by barriers since 21 Jan 2023. 2. Contractor (POC) has restricted the construction vehicles from nearby construction site (Gammon site) using this site entrance for any construction activities since 4 Feb 2023. 3. Haul Road surfaces were wetted manually and washed the dusty water barrier regularly. 4. Wheel washing for the trucks and vehicles before leaving the project site.	- Closed-out on 6 Apr 2023.

<table>
<tr><th colspan="5">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td></td><td></td><td></td><td>5. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted once a week as follow:
<table><tr><th>Date</th><th>Road Washing by</th></tr><tr><td>8 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>9 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>14 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>22 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr></table>6. The sandbags were provided around the manholes.
7. During the two site inspections, mitigation measures implemented by the Contractor (POC) were found properly based on existing site condition and resources.

<u>Recommendations</u>
There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air and water quality:
1. Dusty materials transported on truck shall be covered.
2. Enhance the sandbags with several layers of filters and replace the filter frequently.</td><td></td></tr>
<tr><td>C0011</td><td>A muddy water complaint was received by EPD on 9 Mar 2023.

Contractor (POC) received the Notification of Environmental Complaints from EPD (ref.: K19/RE/00004280-23)</td><td>Complaint of water being sprayed onto vehicles passing by and mud / silt being washed into roadside gully near Shing Fung Road roundabout.</td><td><u>Investigation</u>
Joint site inspection was conducted by Contractor (POC), ER and ET on 23 Mar 2023.
1. The concerned area (new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 Dec 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust / mud / silt nuisance.
2. The sandbags were provided around the manholes.
3. No adverse observation against the muddy water impact were found during the site inspection on both dates.</td><td>- Closed-out on 6 Apr 2023.</td></tr>
</table>

<table>
<tr><th colspan="5">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td></td><td>by E-Mail on 22 Feb 2023 and forwarded the E-mail to ER, ET and IEC on same day.</td><td></td><td><u>Action taken</u>
1. As per Contractor (POC), no manually road surfaces watering on Shing Fung Road after receiving complaint (16 Mar 2023).
2. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted once a week as follow:
<table><tr><th>Date</th><th>Road Washing by</th></tr><tr><td>8 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>9 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>14 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>22 Mar 2023</td><td>Sweeper truck with water spraying truck</td></tr></table>3. The sandbags were provided around the manholes.

<u>Recommendations</u>
There was no direct evidence showing that the muddy water nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air and water quality:
1. Enhance the sandbags with several layers of filters and replace the filter frequently.</td><td></td></tr>
<tr><td>C0012</td><td>A dust complaint was received by EPD on 31 May 2023.

Contractor (POC) received the Notification of Environmental Complaints from EPD (ref.: K19/RE/00013488-23) by E-Mail on 6 June</td><td>Complaint of silt / mud accumulation on the new road connecting Shing Fung Road and Shing Kai Road caused by vehicles from construction site nearby.</td><td><u>Investigation</u>
Joint site inspection was conducted by Contractor (POC), ER and ET on 8 June 2023.
1. As per Mr. Tony Tang from POC, the concerned area was the section of Shing Fung Road at the entrance of Gammon site accommodation.
2. The new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 December 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust / silt nuisance.
3. As per Mr. Tony Tang from POC, recycled water was used in wheel washing machine near the entrance of Gammon site. Those are the possible sources of mud nuisance.</td><td>- Closed-out on 19 June 2023.</td></tr>
</table>

<table>
<tr><th colspan="4">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td></td><td>2023 and forwarded the E-mail to ER, ET and IEC on same day.</td><td></td><td>4. No adverse observation against the dust impact were found during the site inspection.

<u>Action taken</u>
1. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted twice a week start from 11 May 2023.<table><tr><th>Date</th><th>Road Washing by</th></tr><tr><td>19 May 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>23 May 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>25 May 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>30 May 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>2 June 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>6 June 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>9 June 2023</td><td>Sweeper truck with water spraying truck</td></tr><tr><td>13 June 2023</td><td>Sweeper truck with water spraying truck</td></tr></table>2. Wheel washing for the vehicles before leaving the construction site.

<u>Recommendations</u>
There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:
1. Regular wash the share haul road in Shing Fung Road and Shing Kai Road.
2. Dusty materials transported on truck should be covered.</td><td></td></tr>
<tr><td>C0013</td><td>A water complaint was received by EPD on 19 June 2023.

Contractor (POC) received the Notification of Environmental</td><td>- Complaint of muddy water being discharged into Kai Tak Approach Channel on 18 Jun</td><td><u>Investigation</u>
Joint site inspection was conducted by Contractor (POC), ER and ET on 6 Jul 2023.
1. As per Mr. Tony Tang from POC, the concerned area was the section of Shing Fung Road at the nearby channel.
2. Heavy raining was recorded on 18 Jun 2023. The recorded rainfall was 35.8mm (sourced from manned weather station of Hong Kong Observatory at https://www.hko.gov.hk/en/cis/dailyExtract.htm?y=2023&m=6). The</td><td>- Closed-out on 2 Aug 2023.</td></tr>
</table>

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
	Complaints from EPD (ref.: K19/RE/00014944-23) by E-Mail on 29 June 2023 and forwarded the E-mail to ER, ET and IEC on 4 July 2023.	2023. - Complaint of construction work being conducted on the Sunday of 18 Jun 2023.	implication of heavy rainfall storm runoff might wash across the exposed soil surfaces which was direct muddy water discharge. This is the possible source of water nuisance. 3. As per Mr. Tony Tang from POC, no construction work was conducted on 18 Jun 2023. Based on the attendance record, 6 employees including 4 watchman, labourer and driver, were on site on 18 Jun 2023 and they were not involved in the construction work. In the joint site inspection, no construction work was conducted on the nearby channel. 4. No adverse observation against the muddy water impact were found during the site inspection on 14 and 20 June 2023, and 6 July 2023. The sedimentation tank and wastewater treatment plant are operating efficiently during the site inspection. <u>Action taken</u> 1. The ditch is maintained regularly and excavated deeper by workers. 2. Pumps are placed at the ditch to prevent flooding and overflow. 3. Enhanced training for site workers to prevent flushing during heavy rain by placing pumps in the ditch to prevent flooding and overflow during periods of heavy rain during Tool- Box-Talk training. <u>Recommendations</u> There was no direct evidence showing that the muddy water nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for water quality: 1. Regular cleaning and maintenance drainage systems at the nearby Kai Tak Approach Channel.	

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
C0014	A polluting discharge complaint was received by EPD on 16 October 2023. Contractor (POC) received the Notification of Environmental Complaints from EPD (ref.: K19/RE/00024581-23) by E-Mail on 19 October 2023 and forwarded the E-mail to ER, ET and IEC on 21 October 2023.	- Complaint of polluting discharge from the construction site of Stage 4 Infrastructure at the Former Runway and South Apron, Kowloon City ("illegal discharge from kai tak 6577 construction site the main contractor should be hip hing)	<u>Investigation</u> Joint site inspection was conducted by Contractor (POC), ER and ET on 26 October 2023. 1. The concerned area is near at Former Runway and South Apron, Kowloon City. Those are the possible sources should be illegal discharge from Kai Tak 6577 construction site which the main contractor should be hip hing. The possible source of polluting discharge does not come from the Contractor (POC). 2. No adverse observation against the muddy water impact were found during the site inspection on dates. No surface runoff is observed, and the sedimentation tank and wastewater treatment plant were implemented normally. <u>Action taken</u> 1. As per Contractor (POC), no wastewater generated at concerned area and ensure fulfil the conditions stipulated in the valid WPCO licence after receiving complaint (16 October 2023). The effluent discharge has been implemented properly. 2. The silt curtain has been installed around the construction activities at the concerned area. (referring to Photo 2) The sedimentation tank and wastewater treatment has been implemented properly. 3. The pump has been installed and collected sewage at the channel which can minimize water quality impacts and prevent overload the foul sewage system. (referring to Photo 3) The channel and ditches have been clear after receiving complaint. <u>Recommendations</u> There was no direct evidence showing that the muddy water nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for water quality:	- Closed-out on 15 November 2023.

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
			1. The silt removal facilities, channels and manholes should be maintained regularly. 2. The silt curtain and equipment should be properly maintained.	

<table>
<tr><th colspan="5">Complaint Log for ED/2018/01</th></tr>
<tr><th>Complaint Ref. No.</th><th>Date of Complaint</th><th>Description of Complaint</th><th>Investigation / Actions taken / Recommendations</th><th>Close-Out Date / Status</th></tr>
<tr><td>C0015</td><td>A dust complaint was received by EPD on 12 December 2023. Contractor (POC) received the Notification of Environmental Complaints from EPD (ref.: K19/RE/00030287-23) by E-Mail on 19 December 2023 and forwarded the E-mail to ER, ET and IEC on 20 December 2023.</td><td>- Complaint of construction dust nuisance on Shing Fung Road.</td><td><u>Investigation</u>
Joint site inspection was conducted by Contractor (POC), ER, and ET on 21 December 2023.
1. As per the email clarified by Mr. Tony Tang from POC on 20 December 2023, the concerned area (section of Shing Fung Road) was the junction of Road D3 and gate 2A& 2B.
2. The new road connecting Shing Fung Road & Shing Kai Road) has been open for public vehicles (not only project related vehicles) since 31 December 2022. Vehicles from nearby construction sites also used the concerned road. Those are the possible sources of dust / silt nuisance. The non-project of stockpiles is founded near the concerned road during the site inspection.
3. 3. As per Mr. Tony Tang from POC, recycled water was used in wheel washing machine near the entrance of Gammon site. The washing facilities and regular road watering are implemented.
4. No adverse observation against the dust impact were found during the site inspection. The washing facilities and dust control measures are implemented properly. <u>Action taken</u>
1. As per instruction from CEDD and AECOM, road washing along the new road (connecting Shing Fung Road and Shing Kai Road) and Shing Fung Road by water truck was conducted once per week in December 2023.
<table><tr><th>Date</th><th>Road Washing by</th></tr></table></td><td>- 17 January 2024</td></tr>
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<tr><th colspan="5">Complaint Log for ED/2018/01</th></tr>
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<tr><td></td><td></td><td></td><td>
<table>
<tr><td>07 December 2023</td><td>Sweeper truck with water spraying truck</td></tr>
<tr><td>16 December 2023</td><td>Sweeper truck with water spraying truck</td></tr>
<tr><td>21 December 2023</td><td>Sweeper truck with water spraying truck</td></tr>
<tr><td>29 December 2023</td><td>Sweeper truck with water spraying truck</td></tr>
</table>
2. Wheel washing for the vehicles before leaving the construction site.
<u>Recommendations</u>
There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:
1. Regular wash the share haul road in Shing Fung Road and Shing Kai Road.
2. Dusty materials transported on truck should be covered.
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<tr><td>C0016</td><td>A dust complaint was received by Hotline 1823 on 20 May 2024. ER (AECOM) and Contractor (POC) received the transferred from Hotline 1823 (Case No. 3-8226038234) on 20 May 2024 and forwarded the E-mail to ET, and IEC on same day.</td><td>- The dust emission generated from a excavator near EVA No. 10 which affecting the surrounding residents. The complainant also expressed doubt the effectiveness of implementation of environmental management system.</td><td><u>Investigation</u>
Joint site inspection was conducted by Contractor (POC), ER, and ET on 23 May 2024.
1. The complaint is not directly project-related since C&D stockpiling works from nearby construction sites. (locations referring to Attachment 2) Those are the possible sources of dust nuisance.
2. As per the email reply by Mr. Tony Tang from POC on 21 May 2024, the concerned area (section of Shing Fung Road) was near EVA No. 10. The POC proposed to implement measures for mitigate the dust nuisance.
3. The nearest surrounding resident to the concerned area is 580.23m (locations referring to Attachment 1)
4. As per Mr. Tony Tang from POC, POC will provide a worker starting from 22 May 2024 to spray water at the concerned location (Near EVA No. 10) within office hour to suppress dust emission no matter there is any loading or unloading of dusty materials site activities. (locations referring to Attachment 3)
5. Based on the monitoring results on 20 May 2024, 1-hour and 24-hour TSP results were below the Action Levels and Limit as shown as below.
<table>
<tr><th></th><th colspan="2">AM3</th><th colspan="2">AM4(A)</th><th colspan="2">AM7</th></tr>
<tr><th></th><th>1-hour TSP</th><th>24-hour TSP</th><th>1-hour TSP</th><th>24-hour TSP</th><th>1-hour TSP</th><th>24-hour TSP</th></tr>
<tr><td>Measured result ($\mu g/m^3$)</td><td>44 -48</td><td>42</td><td>56-63</td><td>/</td><td>53 – 57</td><td>54</td></tr>
</table></td><td>- Closed-out on 04 June 2024</td></tr>
</table>

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<table>
<tr><td>Action Level ($\mu g/m^3$)</td><td>297</td><td>182</td><td>326</td><td>187</td><td>315</td><td>181</td></tr>
<tr><td>Limit Level ($\mu g/m^3$)</td><td>500</td><td>260</td><td>500</td><td>260</td><td>500</td><td>260</td></tr>
</table>
6. The effectiveness of the environmental management system implemented has been reviewed.
7. No adverse observation against the dust impact were found during the site inspection. The dust control measures are implemented properly. (referring to Attachment 4)
<u>Action taken</u>
1. Regularly monitor all the Powered Mechanical Equipment (PME) to ensure no dark smoke emission. (refer to Attachment 3).
2. Arrange to cover the stockpile with tarpaulin sheet to prevent dust emission. (refer to Attachment 3)
3. Arrange resources to spray water during excavator loading and unloading of dusty material which have including fill material and sub-base. (refer to Attachment 3)
<u>Recommendations</u>
There was no direct evidence showing that the dust nuisance was caused by the contractor at the complaint area, however Contractor (POC) is recommended to implement the following measures to minimize the impact for air quality:</td><td></td></tr>
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Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
			1. The share haul road in Shing Fung Road should be washed regularly. 2. Dust mitigation control should be done at the work site 8 times per day. 3. Stockpiling sites should be lined with impermeable sheeting and bunded. 4. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission.	

Complaint Log for ED/2018/01				
Complaint Ref. No.	Date of Complaint	Description of Complaint	Investigation / Actions taken / Recommendations	Close-Out Date / Status
C0017	A waste management complaint was received by Hotline 1823 on25 May 2024. The public complaint is received via 1823 (Case No.: 3-8234938050) on 25 May 2024 and forwarded by CEDD on 27 May 2024, and forwarded to ER, Contractor, ET and IEC.	- Rodent problem at the junction of Shing Kai Road & Shing Fung Road	<u>Investigation</u> Joint site inspection was conducted by Contractor (POC), ER, IEC and ET on 30 May 2024. 1. Accumulation of waste was found in the concerned area, the grade road (Shing Kai Road to NSR) and the junction of Road D3 (Shing Kai Road Junction). (refer to Photo Record 7 of Attachment 3) 2. No trace of rats was found during inspection but flies were present. (refer to Photo Record 6 of Attachment 3) 3. Waste management measures were not implemented properly. There were no sufficient waste disposal points and regular dispose of waste at the concerned area (refer to Photo Record 8 of Attachment 3). 4. The complaint was project-related as improper disposal of waste could lead to occurrence of rats. <u>Action taken</u> 1. Poisonous rat bait was placed within the site boundary (refer to Photo Record 2,3,4 of Attachment 3). 2. Workers received regular briefing about proper waste management (refer to Photo Record 5 of Attachment 3). 3. The general waste was collected and removed after site inspection on 30 May 2024. (refer to Photo Record 9 and 10 of Attachment 3). <u>Recommendations</u> There was related evidence showing that the waste nuisance at the concerned area was caused by the Contractor (POC). However, it is recommended to	- Closed-out on 04 June 2024

Complaint Log for ED/2018/01				
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			implement the following measures to minimize the impact of waste accumulation 1. Multiple waste disposal points should be set up for proper waste storage. 2. Frequency of waste cleaning and collection should be increased to prevent waste accumulation. 3. Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.	