Vol. 5 of 5

EP-457/2013/D

Central Kowloon Route

Kai Tak East

Contract No. HY/2018/02

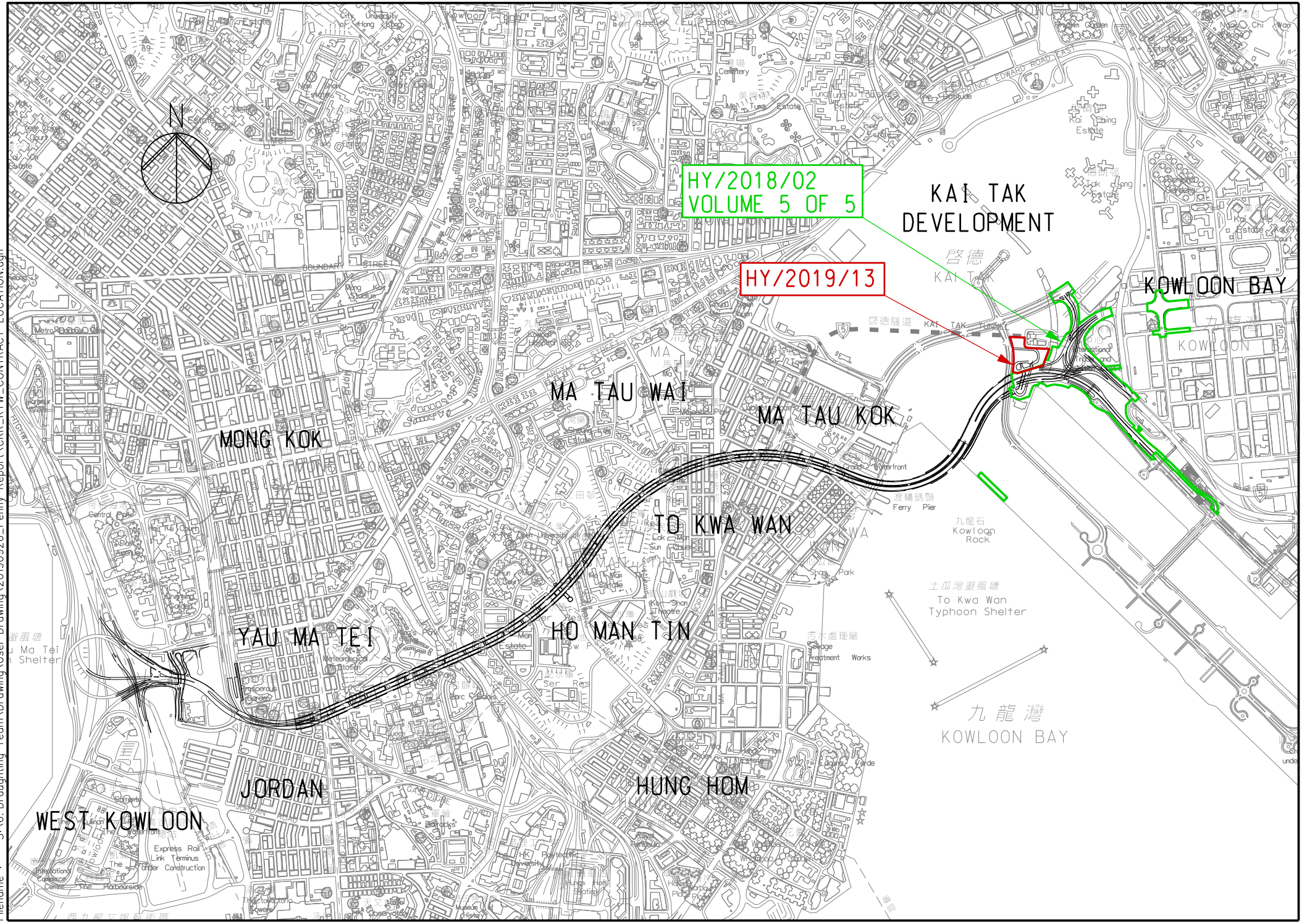
&

Buildings, Electrical and Mechanical Works

Contract No. HY/2019/13

(Kai Tak East Area)

March 2023



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Central Kowloon Route

Kai Tak East

Contract No. HY/2018/02

Alchmex – Paul Y Joint Venture

Central Kowloon Route Contract HY/2018/02

Section of Kai Tak East

Monthly EM&A Report No. 43

(Period from 1 to 31 March 2023)

Rev. 1
(12 April 2023)

	Name	Signature
Prepared by	Kako Ho (Assistant Environmental Consultant)	
Checked & Reviewed by	Tandy Tse (Senior Environmental Consultant)	
Approved & Certified by	Kevin W. M. Li (Environmental Team Leader)	

路政署
HIGHWAYS DEPARTMENT
主要工程管理處
MAJOR WORKS PROJECT MANAGEMENT OFFICE

ERM

Environmental Permit No. EP-457/2013/D

Central Kowloon Route

Independent Environmental Checker Verification

Works Contract:	**Kai Tak East (HY/2018/02)**

Reference Document/Plan

Document/~~Plan~~ to be ~~Certified~~/ Verified:	Monthly EM&A Report No.43 (March 2023)
Date of Report:	12 April 2023 (Rev. 1)
Date received by IEC:	12 April 2023

Reference EP Condition

Environmental Permit Condition: 3.4

Submission of Monthly EM&A Report of the Project

3.4 Four hard copies and one electronic copy of monthly EM&A Report shall be submitted to the Director within 2 weeks after the end of each reporting month throughout the entire construction period. The EM&A Reports shall include a summary of all non-compliance. The submissions shall be certified by the ET Leader and verified by the IEC as complying with the requirements as set out in the EM&A Manual before submission to the Director. Additional copies of the submission shall be provided to the Director upon request by the Director.

IEC Verification

I hereby verify that the above referenced document/~~plan~~ complies with the above referenced condition of EP-457/2013/D.

Ms Mandy To Date: 13 April 2023

Independent Environmental Checker

Our ref: 0436942_IEC Verification Cert_KTE_Monthly EM&A Rpt No.43.docx

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EXECUTIVE SUMMARY

LIST OF APPENDICES

EXECUTIVE SUMMARY

A.1 Alchmex – Paul Y Joint Venture ("Contractor") commenced the construction works of Highway Department (HyD) Central Kowloon Route Contract No. HY/2018/02 – Section of Kai Tak East ("The Project") on 9 September 2019. This report is the 43rd monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 March 2023 to 31 March 2023.

A.2 A summary of major Construction activities provided by Contractor for the Project during the reporting month is listed below.

Construction Activities undertaken
• S1, S3, S4, S9, CKRE, CKRW Bridge Construction
• Retaining Wall Construction at U-Turn & Portion 2B
• Excavation Work at Portion 3B
• Bored Pile at U-Turn

A.3 A summary of regular construction dust monitoring activities in this reporting period is listed below:

Construction dust (24-hour TSP) monitoring	
E-A1	5 times
Construction dust (1-hour TSP) monitoring	
E-A1	15 times

A.4 Joint weekly site inspections were conducted by representatives of Environmental team (ET), Contractor and Engineer on 1, 8, 15, 22 and 29 March 2023. A joint site inspection with Independent Environmental Checker (IEC) was undertaken on 8 March 2023. Details of the audit findings and implementation status are presented in Section 5.

A.5 Bi-weekly inspection of the implementation of landscape and visual mitigation measures by ET was conducted on 1, 15 and 29 March 2023. Details of the audit findings and implementation status are presented in Section 5.

A.6 Details of waste management are presented in Section 4.

A.7 No exceedance of the Action and Limit Levels of 24-hour TSP and 1-hour TSP monitoring were recorded during the reporting month.

A.8 No complaint or non-compliance was received in the reporting month.

A.9 No notification of summons and prosecution was received in the reporting period.

A.10 A summary of construction activities provided by the Contractor in next reporting month is listed below:

Construction Activities to be undertaken
• S1, S3, S4, S9 CKRE, CKRW Bridge Construction • Retaining Wall Construction at U-Turn & Portion 2B • Excavation Work at Portion 3B

1. BASIC PROJECT INFORMATION

1.1. Central Kowloon Route (CKR) is a 4.7 km long dual 3-lane trunk road in Central Kowloon linking Yau Ma Tei Interchange in West Kowloon with the road network on Kai Tak Development and Kowloon Bay in East Kowloon.

1.2. The Central Kowloon Route – Design and Construction Environmental Impact Assessment Report (Register No.: AEIAR-171/2013) was approved with conditions by the Environmental Protection Department (EPD) on 11 July 2013. An Environmental Permit (EP 457/2013) was issued on 9 August 2013. Variations of EP (VEP) was subsequently applied for and the latest EP (EP-457/2013/D) was issued by EPD on 15 June 2021.

1.3. The construction of the CKR had been divided into different sections. This Contract No. HY/2018/02 – Section of Kai Tak East (KTE) covers part of the construction activities located at Kai Tak under the EP which includes:

- Section of Kai Tak East

i. construction of an approximately 700m long dual 2-lane Central Kowloon Route mainline at Kai Tak, including at-grade roads and bridges;

ii. construction of Kai Tak Interchange, including bridges, underpass, and associated at-grade slip roads, connecting the Central Kowloon Route with the existing road network;

iii. construction of a footbridge, and demolition/backfill of an existing subway across Kai Fuk Road;

iv. realignment of existing Kai Fuk Road, Kai Cheung Road and Kai Cheung Road/Kai Fuk Road loop road;

v. reconstruction of an approximately 30m long existing multi-cell box culvert;

vi. construction of an approximately 130m long underground ventilation and E&M audit;

vii. construction of Ring Road Underpass, connecting Central Kowloon Route mainline and Central Kowloon Route Administration Building;

viii. junction improvement works at existing Wang Kwong Road/Kai Cheung Road and Wang Kwong Road/Lam Hing Street junctions;

ix. arrangement and implementation of cross boundary disposal of construction and demolition materials; and

x. associated roadworks, drainage, waterworks, landscaping works, geotechnical works, and electrical and mechanical works.

1.4. The alignment and works area for the Contract No. HY/2018/02 - are shown in **Appendix A**.

1.5. A summary of major construction activities provided by the Contractor in this reporting period is shown in **Table 1.1**. The construction programme is presented in **Appendix B**.

Table 1.1 Summary of Construction Activities during the Reporting Month

Construction Activities undertaken
• S1, S3, S4, S9, CKRE, CKRW Bridge Construction • Retaining Wall Construction at U-Turn & Portion 2B • Excavation Work at Portion 3B • Bored Pile at U-Turn

1.6. The project organisational chart specifying management structure and contact details are shown in **Appendix C**.

1.7. A summary of the valid permits, licences, and /or notifications on environmental protection for this Project is presented in **Table 1.2**.

Table 1.2 Summary of the Environmental Licence, Notification, Permit and Documentations

Permit/ Licences/ Notification /Reference No.	**Valid Period**		**Status**	**Remark**
	From	To		
Environmental Permit				
EP-457/2013/D	15-Jun-21	--	Valid	**-**
Wastewater Discharge License				
WT00035029-2019	17-Dec-19	31-Dec-24	Valid	-
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation				
445001	Apr-19	Dec-23	Notified	**-**
Chemical Waste Producer Registration				
WPN5113-247-A2940-01	17-May-19	--	Valid	-
Billing Account for Disposal of Construction Waste				
7034073	15-Jun-19	--	Valid	**-**
Construction Noise Permit				
GW-RE0874-22	17-Sep-22	16-Mar-23	Superseded by GW-RE0217-23	General Work at Area A
GW-RE0217-23	17-Mar-23	31-Aug-23	Valid	
GW-RE0889-22	12-Sep-22	11-Mar-23	Expired in the reporting period	Portion 2B
GW-RE0903-22	17-Sep-22	16-Mar-23	Superseded by GW-RE0272-23	General Work at Area B and Site Office
GW-RE0272-23	17-Mar-23	31-Aug-23	Valid	
GW-RE1327-22	7-Dec-22	6-Mar-23	Expired in the reporting period	Night Work at Kai Fuk & Kai Cheung Road
GW-RE0012-23	16-Jan-23	15-Mar-23	Expired in the reporting period	

Permit/ Licences/ Notification /Reference No.	Valid Period		Status	Remark
	From	To		
GW-RE0126-23	14-Feb-23	10-May-23	Superseded by GW-RE0256-23	Night Work at Kai Fuk & Kai Cheung Road
GW-RE0256-23	13-Mar-23	14-Jun-23	Valid	
GW-RE1466-22	10-Jan-23	28-Jun-23	Valid	Kai Cheung U Turns
GW-RE0126-23	14-Feb-23	10-May-23	Valid	Kai Fuk Road, Kai Cheung Road and Trademark Drive

2. ENVIRONMENTAL STATUS

2.1. Environmental permit (EP) conditions under the EIAO, submission status under the EP and implementation status of mitigation measures had been reviewed and implemented on schedule. The status of required submissions under the EP (EP-457/2013/D) as of the reporting period for the Project are summarised in **Table 2.1**.

Table 2.1 Summary of Status of Required Submission for EP-457/2013/D for the Project

EP Condition (EP-457/2013/D)	Submission	Submission date
Condition 3.4	Monthly EM&A Report (February 2023)	14 March 2023

2.2. The drawing showing the project layout and the location of the monitoring station and environmental sensitive receivers are attached in **Appendix A** and **Appendix J**. Co-ordinates of the monitoring location is shown in below:

Table 2.2 Summary for the location of monitoring station

Monitoring Location	Location ID	Latitude	Longitude
Hong Kong International Trade and Exhibition Centre	E-A1	22.323912	114.203512

3. AIR QUALITY MONITORING RESULTS

Monitoring Parameters

3.1. The impact monitoring had been carried out in accordance with section 5.8 of the approved EM&A Manual to determine the 1-hour and 24-hour total suspended particulates (TSP) levels at the monitoring locations in the reporting month.

3.2. The sampling frequency of at least once in every 6 days, shall be strictly observed at the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least 3 times in every 6 days should be undertaken when the highest dust impact occurs.

3.3. General meteorological conditions (wind speed, direction and precipitation) and notes regarding any significant adjacent dust producing sources had also been recorded throughout the impact monitoring period.

Monitoring Equipment

3.4. 1-hour TSP levels and 24-hour TSP had been measured with direct reading dust meter and High-Volume Samplers respectively. It has been demonstrated its capability in achieving comparable results with high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50).

3.5. The 1-hour TSP meter was calibrated by the manufacturer prior to purchasing. Zero response of the instrument was checked before and after each monitoring event. Operation of the 1-hour TSP meter followed manufacturer's Operation and Service Manual. The 24-hour TSP meter was calibrated against firmware 80570-8100-V1.0.4, annually. Operation of the 24-hour TSP meter followed manufacturer's Operation and Service Manual. Valid calibration certificate of dust monitoring equipment is attached in **Appendix H**.

3.6. A summary of the equipment that was deployed for the 24- hour averaged monitoring is shown in **Table 3.1**. The TSP monitoring was conducted as per the schedule presented in **Appendix G**.

3.7. The equipment used for 1-hour TSP and 24-hour TSP measurement and calibration are summarised in **Table 3.1**.

Table 3.1 Construction Dust Monitoring Equipment

Monitoring Parameter	Monitoring Equipment	Serial Number	Date of Calibration
1-hour TSP	LD-5R Digital Dust Indicator	882110	16 October 2022
24-hour TSP	TE-5170X High Volume Sampler	1049	3 March 2023
			17 March 2023
	TE-5028A Calibration Kit	3702	29 June 2022

Monitoring Methodology and QA/QC results

3.8. The 1-hour TSP monitor, portable dust meters (Sibata Digital Dust Indicator Model LD-5R) was used for the impact monitoring. The 1-hour TSP meters provides a real time 1-hour TSP measurement based on 90^{o} light scattering. Three 1-hour TSP level were logged per every six days.

3.9. The 24-hour TSP monitor, High Volume Samplers (Tisch TE-5170x High Volume Air Sampler) were used for the impact monitoring. The 24-hour TSP monitoring consists of the following:

- The HVS was set at the monitoring location, with electricity supply connected and secured;
- HVS was calibrated before commencing the 1st measurement;
- The filter paper was weight and provided by HOKLAS lab (Acumen Laboratory and Testing Limited and ALS Technichem (HK) Pty Ltd) before and after the sampling. Certificate of HOKLAS accredited laboratory can be referred to **Appendix I**;
- The airflow over time during sampling process was recorded by the HVS.

3.10. HVSs were free-standing with no obstruction. The following criteria were considered in the installation of the HVS:

- Appropriate support to secure the samples against gusty wind needed to be provided the monitoring station;
- A minimum of 2m separation from walls, parapets and penthouses was required for rooftop samplers;
- No furnace or incinerator flues was nearby;
- Airflow around the sampler was unrestricted; and
- Permission could be obtained to set up the samplers and gain access to the monitoring station.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring
- A secured supply of electricity is needed to operate the samplers.

3.11. Preparation of Filter Papers:

- Glass fiber filters were labelled and sufficient filters that were clean and without pinholes were selected;
- All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25°C and not varied by more than ±3°C; the relative humidity (RH)was 40%; and
- Acumen Laboratory and Testing Limited and ALS Technichem (HK) Pty Limited, as HOKLAS accredited laboratory, implemented comprehensive quality assurance and quality control programmes on the filters.

3.12. Field Monitoring:

- The power supply was checked to ensure that the HVS was working properly;
- The filter holder and area surrounding the filter were cleaned;
- The filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;

- The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- The shelter lid was closed and secured with an aluminum strip;
- The HVS was warmed- up for about 5 minutes to establish run- temperature conditions;
- A new flow rate record sheet was inserted into the flow recorder;
- The flow rates of the HVS was checked and adjusted to between 1.13-1.19 m3min-1, which was within the range specified in the EM&A Manual (i.e. 0.6- 1.7 m3min-1);
- The programmable timer was set for a sampling period of 24 hours ±hour, and the starting time, weather condition and filter number were recorded;
- The initial elapsed time was recorded;
- At the end of sampling, the sampled filter was removed carefully and folded in half so that only surfaces with collected particulate matter were in contact;
- The filter paper was placed in a clean plastic envelope and sealed; all monitoring information was recorded on a standard data sheet and
- The filters were sent to (Acumen Laboratory and Testing Ltd) for analysis.

3.13. Maintenance and Calibration:

- The HVS and their accessories were maintained in a good working condition. For example, motor brushes were replaced routinely and electrical wiring was checked to ensure a continuous power supply; and
- The flow rate of each HVS with mass flow controller was calibrated using an orifice calibrator, Initial calibrations of the dust monitoring equipment were conducted upon installation and prior to commissioning. Five-point calibration was carried out for HVS using TE-5025A Calibration Kit and TE-5028A Calibration KIT. HVS is calibrated in fortnightly Intervals. The calibration records for the HVS is given in **Appendix H**.

3.14. Wind Data Monitoring:

- The wind speed has been recorded from Hong Kong Observatory- King's Park meteorological station, along with portable wind speed meter stand by as back up if malfunction occurred or data was not recorded from HKO.

Monitoring Locations

3.15. During the site visit, air quality monitoring station Hong Kong International Trade and Exhibition Centre had been recommended in the approved EM&A Manual. A designated air quality monitoring location was identified and agreed with IEC and EPD. Detail of the air monitoring station is described in **Table 3.2**. The location plan of air quality monitoring stations is shown in **Appendix J**.

Table 3.2 Location of the Air Quality Monitoring Station

Monitoring Station	Monitoring Location
E-A1	Hong Kong International Trade and Exhibition Centre

Monitoring Date, Time, Frequency and Duration

3.16. A summary of impact monitoring duration, sampling parameter and frequency is presented in **Table 3.3**.

Table 3.3 Summary of Impact Monitoring Programme

Impact Monitoring	Duration	Parameter	Frequency
Dust	1-hour continuous measurement	1-hour TSP	3 times per six days
Dust	24-hour continuous sampling	24-hour TSP	Once per six days

Result Summary

3.17. According to our field observations, the major dust source identified at the designated air quality monitoring station in the reporting month are summarised in **Table 3.4**.

Table 3.4 Observation at Air Quality Monitoring Station

Monitoring Station	Major Dust Source
E-A1	Nearby traffic

3.18. Air quality impact monitoring for the reporting month was carried out on 4, 10, 16, 22 and 28 March 2023 at E-A1. Due to the malfunction of High Volume Sampler, the 24-hour TSP monitoring dated 3 February 2023 was rescheduled to 4 February 2023.

3.19. The results for 1-hour TSP and 24-hour TSP are summarized in **Table 3.5** and **Table 3.6**. The measurement data and details of influencing factors such as weather conditions and site observation are presented in **Appendix K**.

Table 3.5 Summary of 1-hour TSP Monitoring Results

Monitoring Location	Range ($\mu g/m^3$)	Action Level($\mu g/m^3$)	Limit Level($\mu g/m^3$)
E-A1	58.0 – 70.0	279	500

Table 3.6 Summary of 24-hour TSP Monitoring Results

Monitoring Location	Range ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)
E-A1	43 – 102	142	260

4. WASTE MANAGEMENT

4.1. The waste generated from this Project includes inert C&D materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse, vegetative wastes and recyclable wastes such as plastics and paper/cardboard packaging waste. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in **Table 4.1**. Details of cumulative waste management data are presented as a waste flow table in **Appendix L**.

Table 4.1 Quantities of Waste Generated from the Project

Reporting period	Quantity					
	Inert C&D Materials (in '000tonnes)	Chemical Waste (in 'kg)	Non-inert C&D Materials			
			Others, e.g. General Refuse disposed at Landfill (in 'kg)	Recycled materials		
				Paper/ cardboard (in 'kg)	Plastics (in '000 kg)	Metals (in '000 kg)
Mar 2023	0.30	0.00	134850.00	100.00	0.00	0.00

5. SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

5.1. The Environmental Complaint Handling Procedure is shown in below **Table 5.1**.

Table 5.1 Environmental Complaint Handling Procedure

Complaint Received via Project Hotline	Complaint Received via 1823 or from other government departments
Contractor notify ER, ET and IEC	ER notify Contractor, ET and IEC
Contractor log complaint and date of receipt onto the complaint database. Contractor, ER and ET to conduct investigation of complaint	
If complaint is considered not valid	If complaint is found valid
ET or ER to reply the complainant if necessary	Contractor to identify and implement remedial measures in consultation with the IEC, ET and ER.
	The ER, ET and IEC to review the effectiveness of the Contractor's remedial measures and the updated situation; ET to undertake additional monitoring and audit to verify the situation if necessary and oversee that circumstances leading to the complaint do not recur. ER to conduct further inspection as necessary.
If the complaint is referred by the EPD, the Contractor to prepare interim report on the status of the complaint investigation and follow-up actions stipulated above, including the details of the remedial measures and additional monitoring identified or already taken, for submission to EPD within the time frame assigned by the EPD	
The ET to record the details of the complaint, results of the investigation, subsequent actions taken to address the complaint and updated situation including the effectiveness of the remedial measures, supported by regular and additional monitoring results in the monthly EM&A reports	

5.2. Should non-compliance of the criteria occur, action in accordance with the Event and Action Plan in **Appendix D** and **Appendix E** shall be carried out.

5.3. No exceedance of the Action and Limit Levels of 24-hour TSP and 1-hour TSP monitoring was recorded in the reporting month.

5.4. No complaint and non-compliance were received in the reporting month.

5.5. No notification of summons and successful prosecution was received in the reporting month.

5.6. Statistics on complaints, notifications of summons and successful prosecutions are summarized in **Appendix M**.

6. EM&A SITE INSPECTION

6.1. Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, 5 site inspections were carried out by the representative of ET, Contractor and Engineer on 1, 8, 15, 22 and 29 March 2023, along with bi-weekly inspection of the implementation of landscape and visual mitigation measures conducted on 1, 15 and 29 March 2023.

6.2. One joint site inspection with IEC was also undertaken on 8 March 2023. Minor deficiencies were observed during weekly site inspection. Key observations during the site inspections are summarized in **Table 6.1**.

Table 6.1 Site Observations

Date	Environmental Observations	Follow-up Status
1 Mar 2023	NA	NA
8 Mar 2023	1. Drip tray should be provided for chemical containers in S9 Bridge.	1. Drip tray had been provided.
15 Mar 2023	NA	NA
22 Mar 2023	1. Cement bags should be covered with impervious sheeting at Ring Road 2.	1. Cement bags had been covered.
29 Mar 2023	NA	NA

6.3. The Contractor had rectified all observation identified during environmental site inspection in the reporting period.

6.4. According to the EIA Study Report, Environmental Permit, contract documents and EM&A Manual, the mitigation measures detailed in the documents had been implemented as much as practical during the reporting period. An updated Implementation Status of Environmental Mitigation Measures (EMIS) is provided in **Appendix F**.

7. FUTURE KEY ISSUES

7.1. The construction activities to be undertaken in the next reporting month are:

Construction Activities to be undertaken
• S1, S3, S4, S9 CKRE, CKRW Bridge Construction • Retaining Wall Construction at U-Turn & Portion 2B • Excavation Work at Portion 3B

7.2. Potential environmental impacts arising from the above construction activities are mainly associated with dust and waste management.

7.3. The tentative schedule of 1-hour TSP and 24-hour TSP monitoring in the next reporting period is presented in **Appendix N**.

7.4. The construction programme for the Project for the next reporting month is presented in **Appendix B**.

Conclusion and Recommendations

7.5. This 43rd monthly EM&A Report presents the EM&A works undertaken during the period from 1 March 2023 to 31 March 2023 in accordance with the EM&A Manual and the requirement under EP-457/2013/C and EP-457/2013/D.

7.6. Air quality (including 1-hour TSP and 24-hour TSP) was carried out in the reporting period. No exceedance of the Action and Limit Level was recorded for air quality impact monitoring during the reporting month.

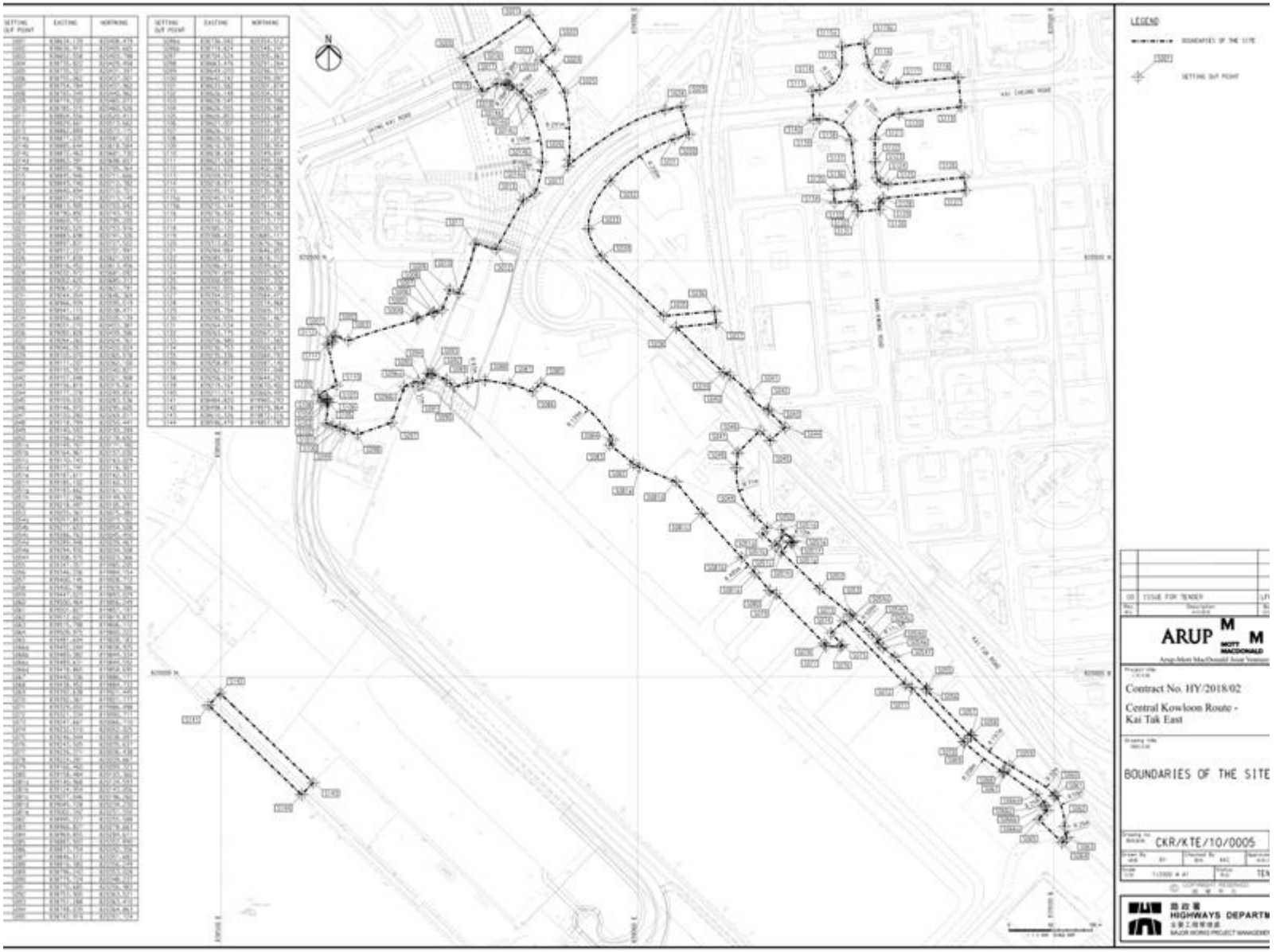
7.7. Weekly environmental site inspections by the representative of ET, Contractor and Engineer were conducted during the reporting period. One joint site inspection with IEC was carried out on 8 March 2023. Minor deficiency was observed during site inspection and was rectified within the specified deadlines. The environmental performance of the Project was therefore considered satisfactory.

7.8. No complaint and non-compliance situation were received in the reporting month.

7.9. No notification of summons or prosecution was received since commencement of the Contract.

7.10. The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Appendix A
Alignment and Works Area for the Contract No. HY/2018/02


LEGEND
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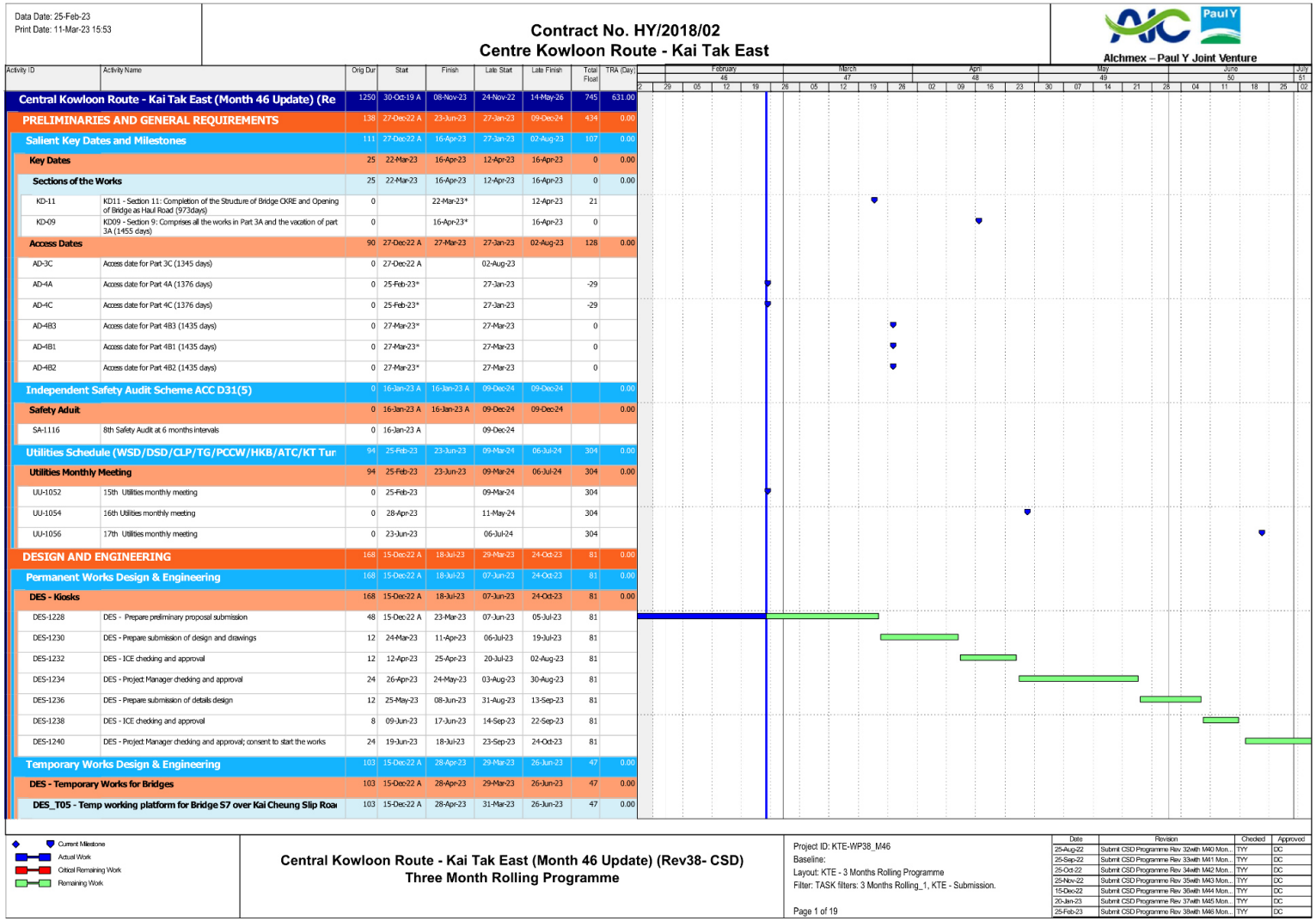
SETTING OUT POINT
ARUP
MOTT MACDONALD
Contract No. HY/2018/02
Central Kowloon Route -
Kai Tak East
BOUNDARIES OF THE SITE
CKR/KTE/10/0005
HIGHWAYS DEPARTMENT

Appendix B
Construction Programme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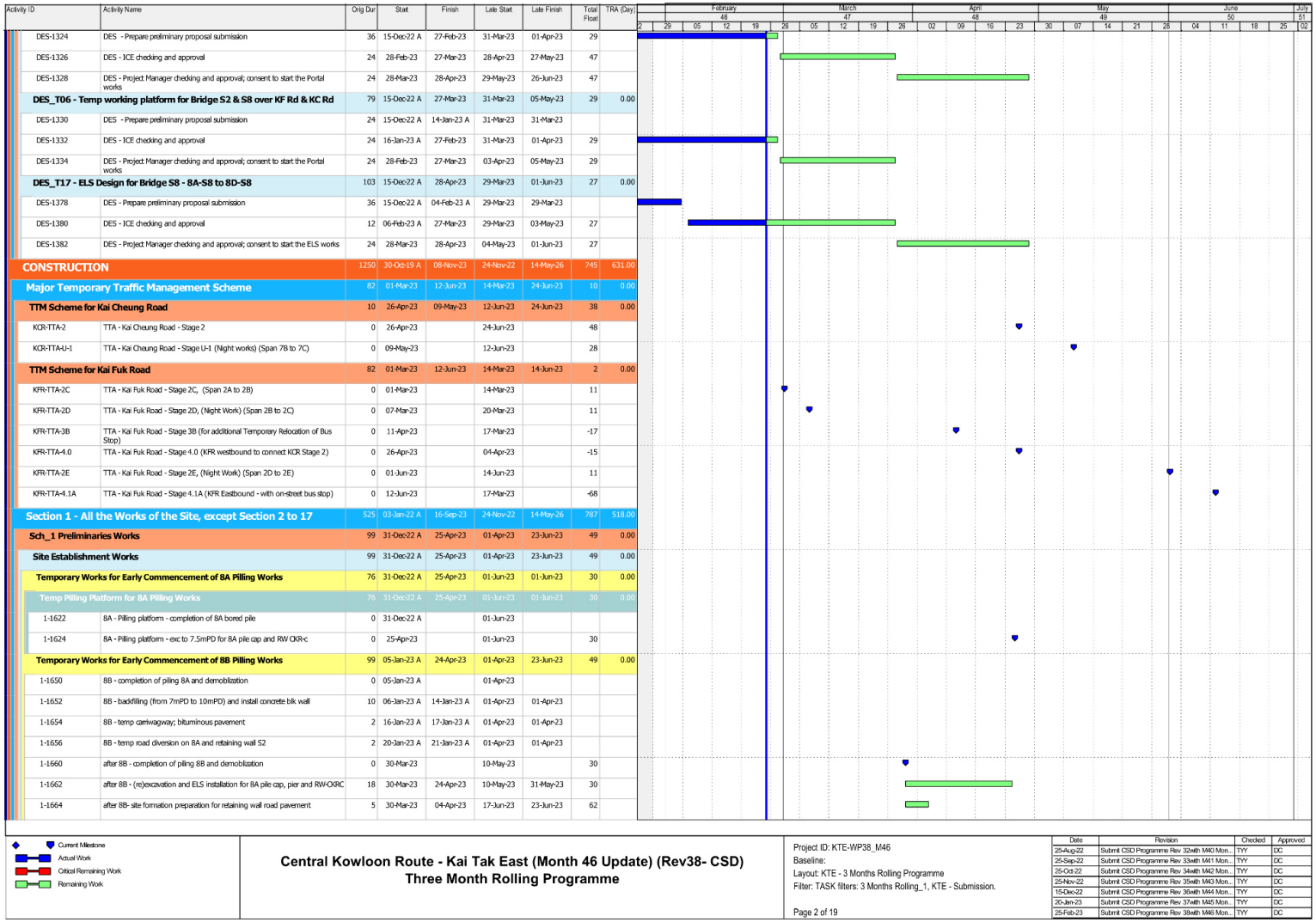
Alchmex – Paul Y Joint Venture
Central Kowloon Route - Kai Tak East (Month 46 Update) (Re
PRELIMINARIES AND GENERAL REQUIREMENTS
Salient Key Dates and Milestones
Key Dates
Sections of the Works
Access Dates
Independent Safety Audit Scheme ACC D31(5)
Safety Aduit
Utilities Schedule (WSD/DSD/CLP/TG/PCCW/HKB/ATC/KT Tur
Utilities Monthly Meeting
DESIGN AND ENGINEERING
Permanent Works Design & Engineering
DES - Kiosks
Temporary Works Design & Engineering
DES - Temporary Works for Bridges
DES_T05 - Temp working platform for Bridge S7 over Kai Cheung Slip Roa
Central Kowloon Route - Kai Tak East (Month 46 Update) (Rev38- CSD)
Three Month Rolling Programme
Project ID: KTE-WP38_M46
Baseline:
Layout: KTE - 3 Months Rolling Programme
Filter: TASK filters: 3 Months Rolling_1, KTE - Submission.
Page 1 of 19



Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	TRA (Day)
DES-1324	DES - Prepare preliminary proposal submission	36	15-Dec-22 A	27-Feb-23	31-Mar-23	01-Apr-23	29	
DES-1326	DES - ICE checking and approval	24	28-Feb-23	27-Mar-23	28-Apr-23	27-May-23	47	
DES-1328	DES - Project Manager checking and approval; consent to start the Portal works	24	28-Mar-23	28-Apr-23	29-May-23	26-Jun-23	47	
DES_T06 - Temp working platform for Bridge S2 & S8 over KF Rd & KC Rd		79	15-Dec-22 A	27-Mar-23	31-Mar-23	05-May-23	29	0.00
DES-1330	DES - Prepare preliminary proposal submission	24	15-Dec-22 A	14-Jan-23 A	31-Mar-23	31-Mar-23		
DES-1332	DES - ICE checking and approval	24	16-Jan-23 A	27-Feb-23	31-Mar-23	01-Apr-23	29	
DES-1334	DES - Project Manager checking and approval; consent to start the Portal works	24	28-Feb-23	27-Mar-23	03-Apr-23	05-May-23	29	
DES_T17 - ELS Design for Bridge S8 - 8A-S8 to 8D-S8		103	15-Dec-22 A	28-Apr-23	29-Mar-23	01-Jun-23	27	0.00
DES-1378	DES - Prepare preliminary proposal submission	36	15-Dec-22 A	04-Feb-23 A	29-Mar-23	29-Mar-23		
DES-1380	DES - ICE checking and approval	12	06-Feb-23 A	27-Mar-23	29-Mar-23	03-May-23	27	
DES-1382	DES - Project Manager checking and approval; consent to start the ELS works	24	28-Mar-23	28-Apr-23	04-May-23	01-Jun-23	27	
CONSTRUCTION		1250	30-Oct-19 A	08-Nov-23	24-Nov-22	14-May-26	745	631.00
Major Temporary Traffic Management Scheme		87	01-Mar-23	12-Jun-23	14-Mar-23	24-Jun-23	10	0.00
TTM Scheme for Kai Cheung Road		10	26-Apr-23	09-May-23	12-Jun-23	24-Jun-23	38	0.00
KCR-TTA-2	TTA - Kai Cheung Road - Stage 2	0	26-Apr-23		24-Jun-23		48	
KCR-TTA-U-1	TTA - Kai Cheung Road - Stage U-1 (Night works) (Span 7B to 7C)	0	09-May-23		12-Jun-23		28	
TTM Scheme for Kai Fuk Road		82	01-Mar-23	12-Jun-23	14-Mar-23	14-Jun-23	2	0.00
KFR-TTA-2C	TTA - Kai Fuk Road - Stage 2C, (Span 2A to 2B)	0	01-Mar-23		14-Mar-23		11	
KFR-TTA-2D	TTA - Kai Fuk Road - Stage 2D, (Night Work) (Span 2B to 2C)	0	07-Mar-23		20-Mar-23		11	
KFR-TTA-3B	TTA - Kai Fuk Road - Stage 3B (for additional Temporary Relocation of Bus Stop)	0	11-Apr-23		17-Mar-23		-17	
KFR-TTA-4.0	TTA - Kai Fuk Road - Stage 4.0 (KFR westbound to connect KCR Stage 2)	0	26-Apr-23		04-Apr-23		-15	
KFR-TTA-2E	TTA - Kai Fuk Road - Stage 2E, (Night Work) (Span 2D to 2E)	0	01-Jun-23		14-Jun-23		11	
KFR-TTA-4.1A	TTA - Kai Fuk Road - Stage 4.1A (KFR Eastbound - with on-street bus stop)	0	12-Jun-23		17-Mar-23		-68	
Section 1 - All the Works of the Site, except Section 2 to 17		525	03-Jan-22 A	16-Sep-23	24-Nov-22	14-May-26	787	518.00
Sch_1 Preliminaries Works		99	31-Dec-22 A	25-Apr-23	01-Apr-23	23-Jun-23	49	0.00
Site Establishment Works		99	31-Dec-22 A	25-Apr-23	01-Apr-23	23-Jun-23	49	0.00
Temporary Works for Early Commencement of 8A Pilling Works		76	31-Dec-22 A	25-Apr-23	01-Jun-23	01-Jun-23	30	0.00
Temp Pilling Platform for 8A Pilling Works		76	31-Dec-22 A	25-Apr-23	01-Jun-23	01-Jun-23	30	0.00
1-1622	8A - Pilling platform - completion of 8A bored pile	0	31-Dec-22 A		01-Jun-23			
1-1624	8A - Pilling platform - exc to 7.5mPD for 8A pile cap and RW CKR-c	0	25-Apr-23		01-Jun-23		30	
Temporary Works for Early Commencement of 8B Pilling Works		99	05-Jan-23 A	24-Apr-23	01-Apr-23	23-Jun-23	49	0.00
1-1650	8B - completion of piling 8A and demobilization	0	05-Jan-23 A		01-Apr-23			
1-1652	8B - backfilling (from 7mPD to 10mPD) and install concrete blk wall	10	06-Jan-23 A	14-Jan-23 A	01-Apr-23	01-Apr-23		
1-1654	8B - temp carriagway; bituminous pavement	2	16-Jan-23 A	17-Jan-23 A	01-Apr-23	01-Apr-23		
1-1656	8B - temp road diversion on 8A and retaining wall S2	2	20-Jan-23 A	21-Jan-23 A	01-Apr-23	01-Apr-23		
1-1660	after 8B - completion of piling 8B and demobilization	0	30-Mar-23		10-May-23		30	
1-1662	after 8B - (re)excavation and ELS installation for 8A pile cap, pier and RW-CKRC	18	30-Mar-23	24-Apr-23	10-May-23	31-May-23	30	
1-1664	after 8B- site formation preparation for retaining wall road pavement	5	30-Mar-23	04-Apr-23	17-Jun-23	23-Jun-23	62	

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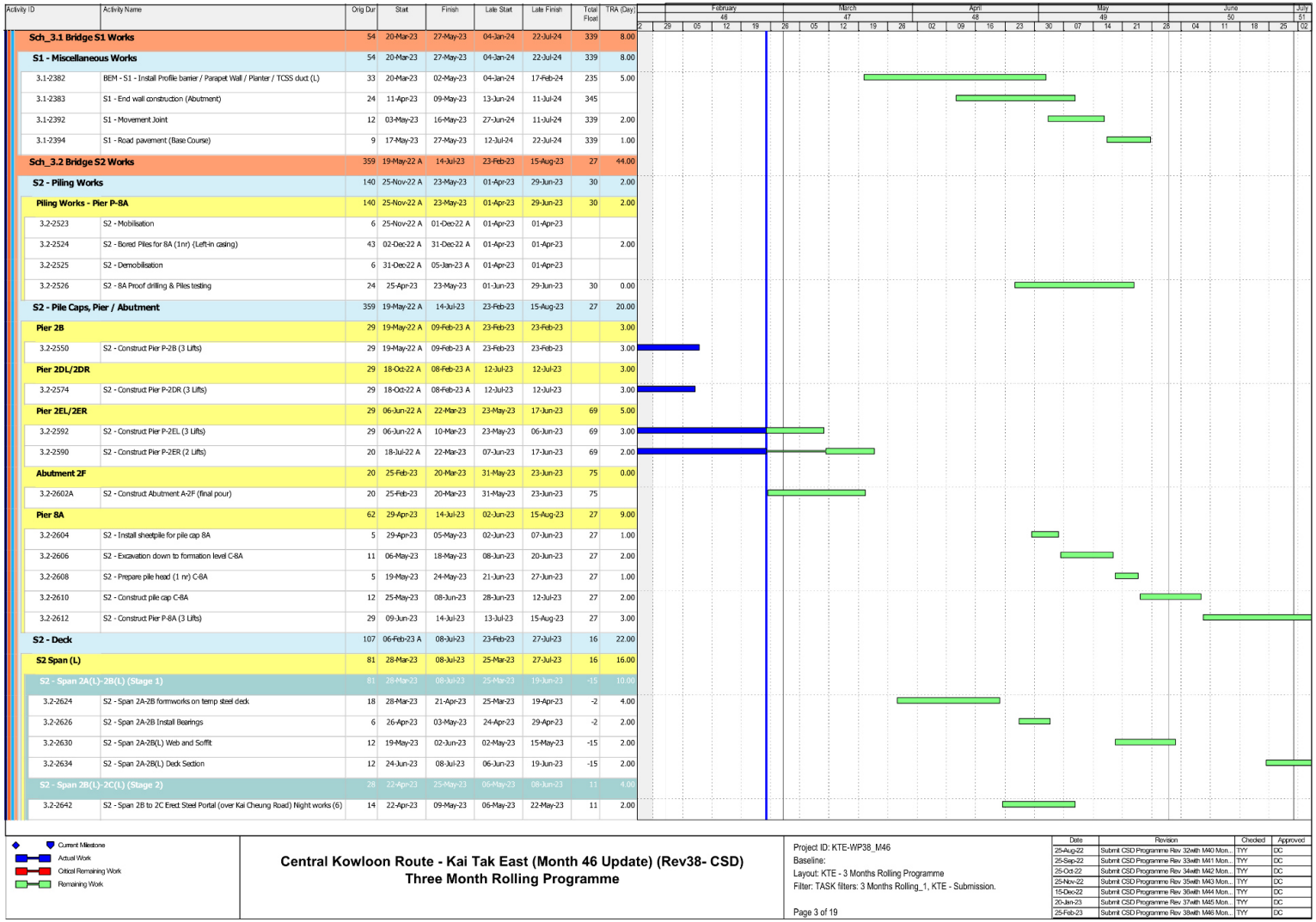
20-Jan-23	Submit CSD Programme Rev 37with M45 Mon...	TYY	DC
25-Feb-23	Submit CSD Programme Rev 38with M46 Mon...	TYY	DC



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Sch_3.1 Bridge S1 Works		54	20-Mar-23	27-May-23	04-Jan-24	22-Jul-24	339	8.00
S1 - Miscellaneous Works		54	20-Mar-23	27-May-23	04-Jan-24	22-Jul-24	339	8.00
3.1-2382	BEM - S1 - Install Profile barrier / Parapet Wall / Planter / TCSS duct (L)	33	20-Mar-23	02-May-23	04-Jan-24	17-Feb-24	235	5.00
3.1-2383	S1 - End wall construction (Abutment)	24	11-Apr-23	09-May-23	13-Jun-24	11-Jul-24	345	
3.1-2392	S1 - Movement Joint	12	03-May-23	16-May-23	27-Jun-24	11-Jul-24	339	2.00
3.1-2394	S1 - Road pavement (Base Course)	9	17-May-23	27-May-23	12-Jul-24	22-Jul-24	339	1.00
Sch_3.2 Bridge S2 Works		359	19-May-22 A	14-Jul-23	23-Feb-23	15-Aug-23	27	44.00
S2 - Piling Works		140	25-Nov-22 A	23-May-23	01-Apr-23	29-Jun-23	30	2.00
Piling Works - Pier P-8A		140	25-Nov-22 A	23-May-23	01-Apr-23	29-Jun-23	30	2.00
3.2-2523	S2 - Mobilisation	6	25-Nov-22 A	01-Dec-22 A	01-Apr-23	01-Apr-23		
3.2-2524	S2 - Bored Piles for 8A (1nr) (Left-in casing)	43	02-Dec-22 A	31-Dec-22 A	01-Apr-23	01-Apr-23		2.00
3.2-2525	S2 - Demobilisation	6	31-Dec-22 A	05-Jan-23 A	01-Apr-23	01-Apr-23		
3.2-2526	S2 - 8A Proof drilling & Piles testing	24	25-Apr-23	23-May-23	01-Jun-23	29-Jun-23	30	0.00
S2 - Pile Caps, Pier / Abutment		359	19-May-22 A	14-Jul-23	23-Feb-23	15-Aug-23	27	20.00
Pier 2B		29	19-May-22 A	09-Feb-23 A	23-Feb-23	23-Feb-23		3.00
3.2-2550	S2 - Construct Pier P-2B (3 Lifts)	29	19-May-22 A	09-Feb-23 A	23-Feb-23	23-Feb-23		3.00
Pier 2DL/2DR		29	18-Oct-22 A	08-Feb-23 A	12-Jul-23	12-Jul-23		3.00
3.2-2574	S2 - Construct Pier P-2DR (3 Lifts)	29	18-Oct-22 A	08-Feb-23 A	12-Jul-23	12-Jul-23		3.00
Pier 2EL/2ER		29	06-Jun-22 A	22-Mar-23	23-May-23	17-Jun-23	69	5.00
3.2-2592	S2 - Construct Pier P-2EL (3 Lifts)	29	06-Jun-22 A	10-Mar-23	23-May-23	06-Jun-23	69	3.00
3.2-2590	S2 - Construct Pier P-2ER (2 Lifts)	20	18-Jul-22 A	22-Mar-23	07-Jun-23	17-Jun-23	69	2.00
Abutment 2F		20	25-Feb-23	20-Mar-23	31-May-23	23-Jun-23	75	0.00
3.2-2602A	S2 - Construct Abutment A-2F (final pour)	20	25-Feb-23	20-Mar-23	31-May-23	23-Jun-23	75	
Pier 8A		62	29-Apr-23	14-Jul-23	02-Jun-23	15-Aug-23	27	9.00
3.2-2604	S2 - Install sheetpile for pile cap 8A	5	29-Apr-23	05-May-23	02-Jun-23	07-Jun-23	27	1.00
3.2-2606	S2 - Excavation down to formation level C-8A	11	06-May-23	18-May-23	08-Jun-23	20-Jun-23	27	2.00
3.2-2608	S2 - Prepare pile head (1 nr) C-8A	5	19-May-23	24-May-23	21-Jun-23	27-Jun-23	27	1.00
3.2-2610	S2 - Construct pile cap C-8A	12	25-May-23	08-Jun-23	28-Jun-23	12-Jul-23	27	2.00
3.2-2612	S2 - Construct Pier P-8A (3 Lifts)	29	09-Jun-23	14-Jul-23	13-Jul-23	15-Aug-23	27	3.00
S2 - Deck		107	06-Feb-23 A	08-Jul-23	23-Feb-23	27-Jul-23	16	22.00
S2 Span (L)		81	28-Mar-23	08-Jul-23	25-Mar-23	27-Jul-23	16	16.00
S2 - Span 2A(L)-2B(L) (Stage 1)		81	28-Mar-23	08-Jul-23	25-Mar-23	19-Jun-23	-15	10.00
3.2-2624	S2 - Span 2A-2B formworks on temp steel deck	18	28-Mar-23	21-Apr-23	25-Mar-23	19-Apr-23	-2	4.00
3.2-2626	S2 - Span 2A-2B Install Bearings	6	26-Apr-23	03-May-23	24-Apr-23	29-Apr-23	-2	2.00
3.2-2630	S2 - Span 2A-2B(L) Web and Soffit	12	19-May-23	02-Jun-23	02-May-23	15-May-23	-15	2.00
3.2-2634	S2 - Span 2A-2B(L) Deck Section	12	24-Jun-23	08-Jul-23	06-Jun-23	19-Jun-23	-15	2.00
S2 - Span 2B(L)-2C(L) (Stage 2)		28	22-Apr-23	25-May-23	06-May-23	08-Jun-23	11	4.00
3.2-2642	S2 - Span 2B to 2C Erect Steel Portal (over Kai Cheung Road) Night works (6)	14	22-Apr-23	09-May-23	06-May-23	22-May-23	11	2.00

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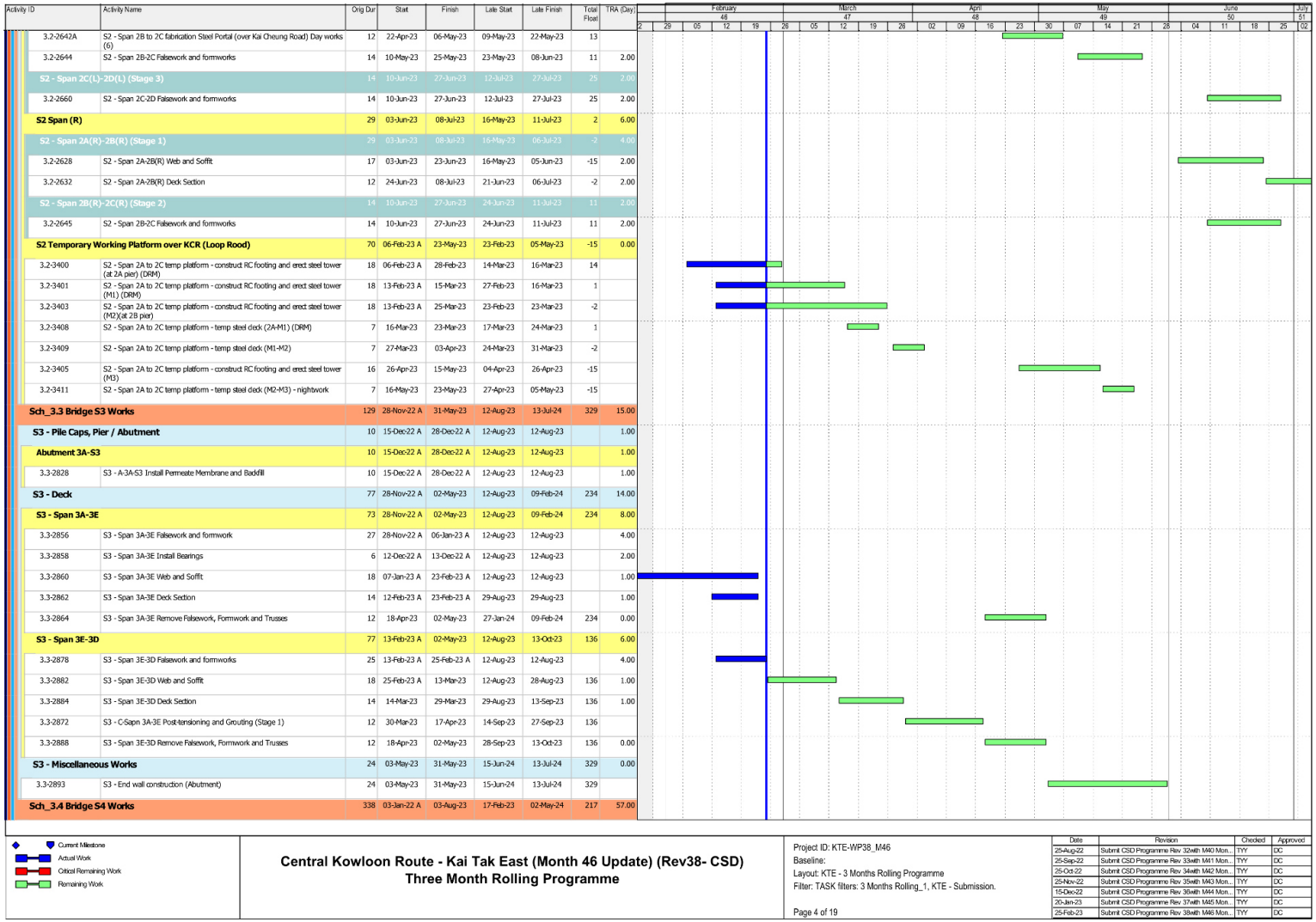

Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	TRA (Day)
3.2-2642A	S2 - Span 2B to 2C fabrication Steel Portal (over Kai Cheung Road) Day works (6)	12	22-Apr-23	06-May-23	09-May-23	22-May-23	13	
3.2-2644	S2 - Span 2B-2C Falsework and formworks	14	10-May-23	25-May-23	23-May-23	08-Jun-23	11	2.00
S2 - Span 2C(L)-2D(L) (Stage 3)		14	10-Jun-23	27-Jun-23	12-Jul-23	27-Jul-23	25	2.00
3.2-2660	S2 - Span 2C-2D Falsework and formworks	14	10-Jun-23	27-Jun-23	12-Jul-23	27-Jul-23	25	2.00
S2 Span (R)		29	03-Jun-23	08-Jul-23	16-May-23	11-Jul-23	2	6.00
S2 - Span 2A(R)-2B(R) (Stage 1)		29	03-Jun-23	08-Jul-23	16-May-23	06-Jul-23	-2	4.00
3.2-2628	S2 - Span 2A-2B(R) Web and Soffit	17	03-Jun-23	23-Jun-23	16-May-23	05-Jun-23	-15	2.00
3.2-2632	S2 - Span 2A-2B(R) Deck Section	12	24-Jun-23	08-Jul-23	21-Jun-23	06-Jul-23	-2	2.00
S2 - Span 2B(R)-2C(R) (Stage 2)		14	10-Jun-23	27-Jun-23	24-Jun-23	11-Jul-23	11	2.00
3.2-2645	S2 - Span 2B-2C Falsework and formworks	14	10-Jun-23	27-Jun-23	24-Jun-23	11-Jul-23	11	2.00
S2 Temporary Working Platform over KCR (Loop Rood)		70	06-Feb-23 A	23-May-23	23-Feb-23	05-May-23	-15	0.00
3.2-3400	S2 - Span 2A to 2C temp platform - construct RC footing and erect steel tower (at 2A pier) (DRM)	18	06-Feb-23 A	28-Feb-23	14-Mar-23	16-Mar-23	14	
3.2-3401	S2 - Span 2A to 2C temp platform - construct RC footing and erect steel tower (M1) (DRM)	18	13-Feb-23 A	15-Mar-23	27-Feb-23	16-Mar-23	1	
3.2-3403	S2 - Span 2A to 2C temp platform - construct RC footing and erect steel tower (M2)(at 2B pier)	18	13-Feb-23 A	25-Mar-23	23-Feb-23	23-Mar-23	-2	
3.2-3408	S2 - Span 2A to 2C temp platform - temp steel deck (2A-M1) (DRM)	7	16-Mar-23	23-Mar-23	17-Mar-23	24-Mar-23	1	
3.2-3409	S2 - Span 2A to 2C temp platform - temp steel deck (M1-M2)	7	27-Mar-23	03-Apr-23	24-Mar-23	31-Mar-23	-2	
3.2-3405	S2 - Span 2A to 2C temp platform - construct RC footing and erect steel tower (M3)	16	26-Apr-23	15-May-23	04-Apr-23	26-Apr-23	-15	
3.2-3411	S2 - Span 2A to 2C temp platform - temp steel deck (M2-M3) - nightwork	7	16-May-23	23-May-23	27-Apr-23	05-May-23	-15	
Sch_3.3 Bridge S3 Works		129	28-Nov-22 A	31-May-23	12-Aug-23	13-Jul-24	329	15.00
S3 - Pile Caps, Pier / Abutment		10	15-Dec-22 A	28-Dec-22 A	12-Aug-23	12-Aug-23		1.00
Abutment 3A-S3		10	15-Dec-22 A	28-Dec-22 A	12-Aug-23	12-Aug-23		1.00
3.3-2828	S3 - A-3A-S3 Install Permeate Membrane and Backfill	10	15-Dec-22 A	28-Dec-22 A	12-Aug-23	12-Aug-23		1.00
S3 - Deck		77	28-Nov-22 A	02-May-23	12-Aug-23	09-Feb-24	234	14.00
S3 - Span 3A-3E		73	28-Nov-22 A	02-May-23	12-Aug-23	09-Feb-24	234	8.00
3.3-2856	S3 - Span 3A-3E Falsework and formwork	27	28-Nov-22 A	06-Jan-23 A	12-Aug-23	12-Aug-23		4.00
3.3-2858	S3 - Span 3A-3E Install Bearings	6	12-Dec-22 A	13-Dec-22 A	12-Aug-23	12-Aug-23		2.00
3.3-2860	S3 - Span 3A-3E Web and Soffit	18	07-Jan-23 A	23-Feb-23 A	12-Aug-23	12-Aug-23		1.00
3.3-2862	S3 - Span 3A-3E Deck Section	14	12-Feb-23 A	23-Feb-23 A	29-Aug-23	29-Aug-23		1.00
3.3-2864	S3 - Span 3A-3E Remove Falsework, Formwork and Trusses	12	18-Apr-23	02-May-23	27-Jan-24	09-Feb-24	234	0.00
S3 - Span 3E-3D		77	13-Feb-23 A	02-May-23	12-Aug-23	13-Oct-23	136	6.00
3.3-2878	S3 - Span 3E-3D Falsework and formworks	25	13-Feb-23 A	25-Feb-23 A	12-Aug-23	12-Aug-23		4.00
3.3-2882	S3 - Span 3E-3D Web and Soffit	18	25-Feb-23 A	13-Mar-23	12-Aug-23	28-Aug-23	136	1.00
3.3-2884	S3 - Span 3E-3D Deck Section	14	14-Mar-23	29-Mar-23	29-Aug-23	13-Sep-23	136	1.00
3.3-2872	S3 - C-Sapn 3A-3E Post-tensioning and Grouting (Stage 1)	12	30-Mar-23	17-Apr-23	14-Sep-23	27-Sep-23	136	
3.3-2888	S3 - Span 3E-3D Remove Falsework, Formwork and Trusses	12	18-Apr-23	02-May-23	28-Sep-23	13-Oct-23	136	0.00
S3 - Miscellaneous Works		24	03-May-23	31-May-23	15-Jun-24	13-Jul-24	329	0.00
3.3-2893	S3 - End wall construction (Abutment)	24	03-May-23	31-May-23	15-Jun-24	13-Jul-24	329	
Sch_3.4 Bridge S4 Works		338	03-Jan-22 A	03-Aug-23	17-Feb-23	02-May-24	217	57.00

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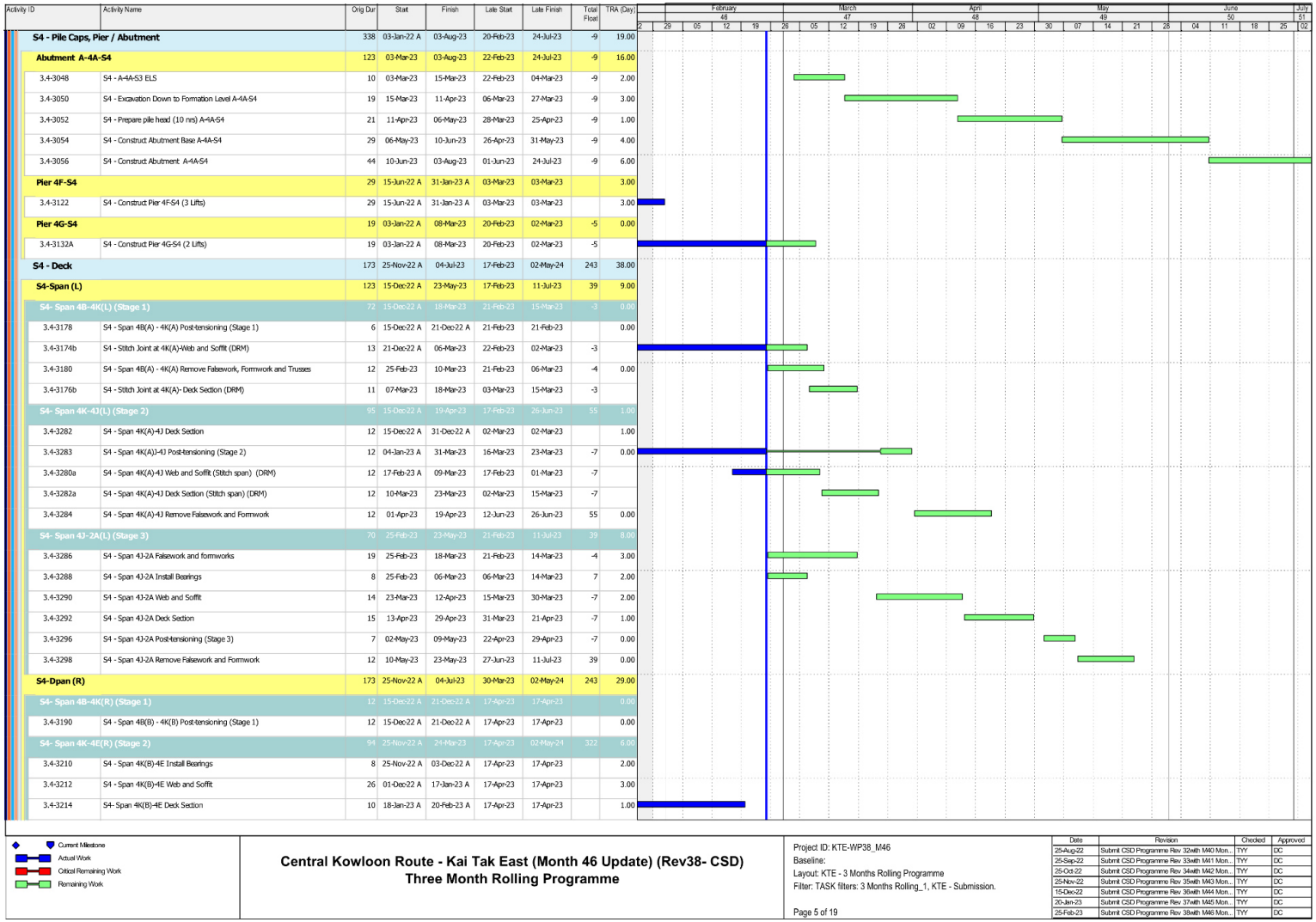
Activity ID
Activity Name
Orig Dur
Start
Finish
Late Start
Late Finish
Total Float
TRA (Day)
February
March
April
May
June
July
S4 - Pile Caps, Pier / Abutment 338 03-Jan-22 A 03-Aug-23 20-Feb-23 24-Jul-23 -9 19.00
Abutment A-4A-S4 123 03-Mar-23 03-Aug-23 22-Feb-23 24-Jul-23 -9 16.00
3.4-3048 S4 - A-4A-S3 ELS 10 03-Mar-23 15-Mar-23 22-Feb-23 04-Mar-23 -9 2.00
3.4-3050 S4 - Excavation Down to Formation Level A-4A-S4 19 15-Mar-23 11-Apr-23 06-Mar-23 27-Mar-23 -9 3.00
3.4-3052 S4 - Prepare pile head (10 nos) A-4A-S4 21 11-Apr-23 06-May-23 28-Mar-23 25-Apr-23 -9 1.00
3.4-3054 S4 - Construct Abutment Base A-4A-S4 29 06-May-23 10-Jun-23 26-Apr-23 31-May-23 -9 4.00
3.4-3056 S4 - Construct Abutment A-4A-S4 44 10-Jun-23 03-Aug-23 01-Jun-23 24-Jul-23 -9 6.00
Pier 4F-S4 29 15-Jun-22 A 31-Jan-23 A 03-Mar-23 03-Mar-23 3.00
3.4-3122 S4 - Construct Pier 4F-S4 (3 Lifts) 29 15-Jun-22 A 31-Jan-23 A 03-Mar-23 03-Mar-23 3.00
Pier 4G-S4 19 03-Jan-22 A 08-Mar-23 20-Feb-23 02-Mar-23 -5 0.00
3.4-3132A S4 - Construct Pier 4G-S4 (2 Lifts) 19 03-Jan-22 A 08-Mar-23 20-Feb-23 02-Mar-23 -5
S4 - Deck 173 25-Nov-22 A 04-Jul-23 17-Feb-23 02-May-24 243 38.00
S4-Span (L) 123 15-Dec-22 A 23-May-23 17-Feb-23 11-Jul-23 39 9.00
S4- Span 4B-4K(L) (Stage 1) 72 15-Dec-22 A 18-Mar-23 21-Feb-23 15-Mar-23 -3 0.00
3.4-3178 S4 - Span 4B(A) - 4K(A) Post-tensioning (Stage 1) 6 15-Dec-22 A 21-Dec-22 A 21-Feb-23 21-Feb-23 0.00
3.4-3174b S4 - Stitch Joint at 4K(A)-Web and Soffit (DRM) 13 21-Dec-22 A 06-Mar-23 22-Feb-23 02-Mar-23 -3
3.4-3180 S4 - Span 4B(A) - 4K(A) Remove Falsework, Formwork and Trusses 12 25-Feb-23 10-Mar-23 21-Feb-23 06-Mar-23 -4 0.00
3.4-3176b S4 - Stitch Joint at 4K(A)- Deck Section (DRM) 11 07-Mar-23 18-Mar-23 03-Mar-23 15-Mar-23 -3
S4- Span 4K-4J(L) (Stage 2) 95 15-Dec-22 A 19-Apr-23 17-Feb-23 26-Jun-23 55 1.00
3.4-3282 S4 - Span 4K(A)-4J Deck Section 12 15-Dec-22 A 31-Dec-22 A 02-Mar-23 02-Mar-23 1.00
3.4-3283 S4 - Span 4K(A)J-4J Post-tensioning (Stage 2) 12 04-Jan-23 A 31-Mar-23 16-Mar-23 23-Mar-23 -7 0.00
3.4-3280a S4 - Span 4K(A)-4J Web and Soffit (Stitch span) (DRM) 12 17-Feb-23 A 09-Mar-23 17-Feb-23 01-Mar-23 -7
3.4-3282a S4 - Span 4K(A)-4J Deck Section (Stitch span) (DRM) 12 10-Mar-23 23-Mar-23 02-Mar-23 15-Mar-23 -7
3.4-3284 S4 - Span 4K(A)-4J Remove Falsework and Formwork 12 01-Apr-23 19-Apr-23 12-Jun-23 26-Jun-23 55 0.00
S4- Span 4J-2A(L) (Stage 3) 70 25-Feb-23 23-May-23 21-Feb-23 11-Jul-23 39 8.00
3.4-3286 S4 - Span 4J-2A Falsework and formworks 19 25-Feb-23 18-Mar-23 21-Feb-23 14-Mar-23 -4 3.00
3.4-3288 S4 - Span 4J-2A Install Bearings 8 25-Feb-23 06-Mar-23 06-Mar-23 14-Mar-23 7 2.00
3.4-3290 S4 - Span 4J-2A Web and Soffit 14 23-Mar-23 12-Apr-23 15-Mar-23 30-Mar-23 -7 2.00
3.4-3292 S4 - Span 4J-2A Deck Section 15 13-Apr-23 29-Apr-23 31-Mar-23 21-Apr-23 -7 1.00
3.4-3296 S4 - Span 4J-2A Post-tensioning (Stage 3) 7 02-May-23 09-May-23 22-Apr-23 29-Apr-23 -7 0.00
3.4-3298 S4 - Span 4J-2A Remove Falsework and Formwork 12 10-May-23 23-May-23 27-Jun-23 11-Jul-23 39 0.00
S4-Dpan (R) 173 25-Nov-22 A 04-Jul-23 30-Mar-23 02-May-24 243 29.00
S4- Span 4B-4K(R) (Stage 1) 12 15-Dec-22 A 21-Dec-22 A 17-Apr-23 17-Apr-23 0.00
3.4-3190 S4 - Span 4B(B) - 4K(B) Post-tensioning (Stage 1) 12 15-Dec-22 A 21-Dec-22 A 17-Apr-23 17-Apr-23 0.00
S4- Span 4K-4E(R) (Stage 2) 94 25-Nov-22 A 24-Mar-23 17-Apr-23 02-May-24 322 6.00
3.4-3210 S4 - Span 4K(B)-4E Install Bearings 8 25-Nov-22 A 03-Dec-22 A 17-Apr-23 17-Apr-23 2.00
3.4-3212 S4 - Span 4K(B)-4E Web and Soffit 26 01-Dec-22 A 17-Jan-23 A 17-Apr-23 17-Apr-23 3.00
3.4-3214 S4- Span 4K(B)-4E Deck Section 10 18-Jan-23 A 20-Feb-23 A 17-Apr-23 17-Apr-23 1.00
Current Milestone
Actual Work
Critical Remaining Work
Remaining Work
Central Kowloon Route - Kai Tak East (Month 46 Update) (Rev38- CSD)
Three Month Rolling Programme
Project ID: KTE-WP38_M46
Baseline:
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Revision
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15-Dec-22 Submit CSD Programme Rev 36with M44 Mon... TYY DC
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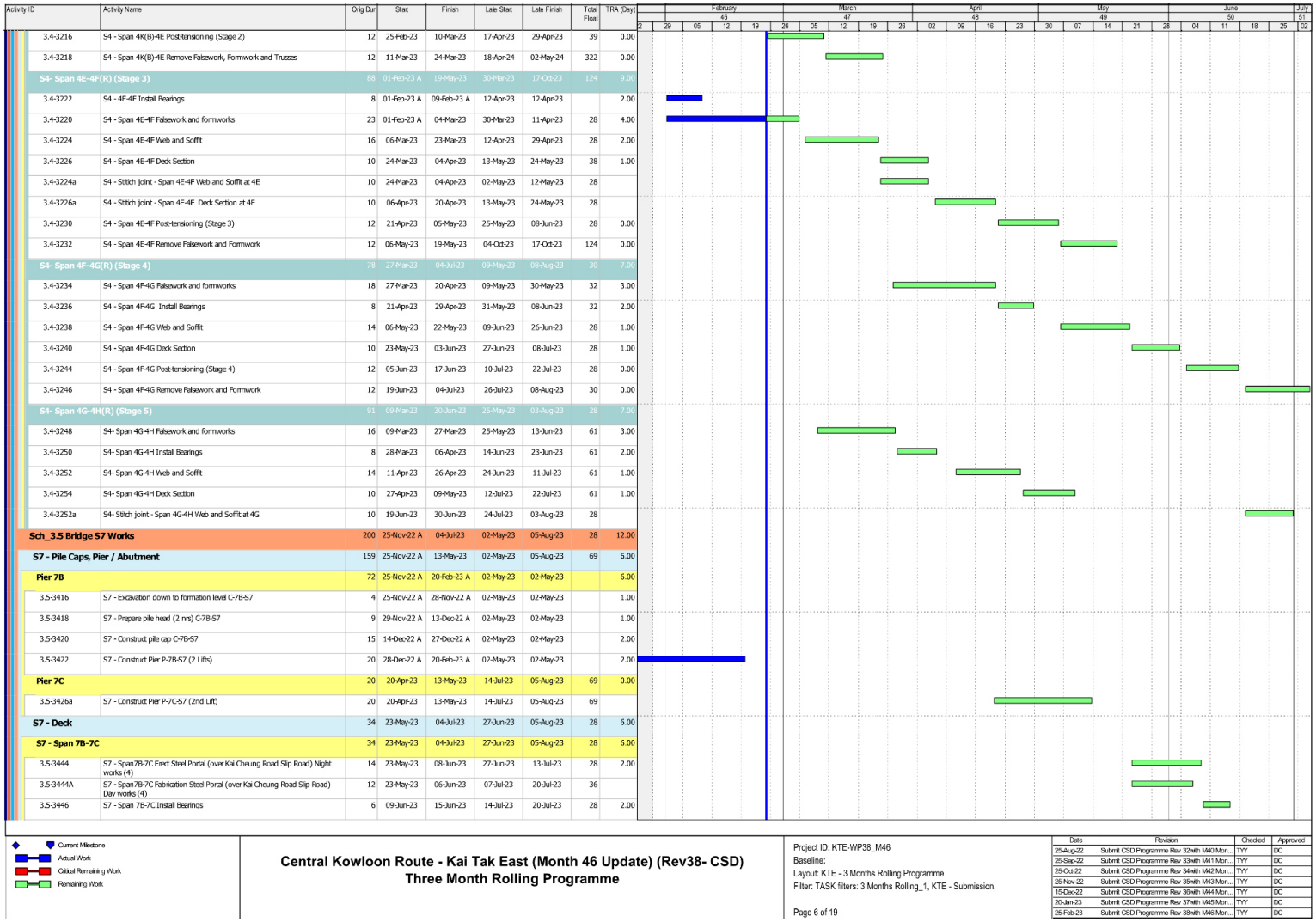

Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	TRA (Day)
3.4-3216	S4 - Span 4K(B)-4E Post-tensioning (Stage 2)	12	25-Feb-23	10-Mar-23	17-Apr-23	29-Apr-23	39	0.00
3.4-3218	S4 - Span 4K(B)-4E Remove Falsework, Formwork and Trusses	12	11-Mar-23	24-Mar-23	18-Apr-24	02-May-24	322	0.00
S4- Span 4E-4F(R) (Stage 3)		88	01-Feb-23 A	19-May-23	30-Mar-23	17-Oct-23	124	9.00
3.4-3222	S4 - 4E-4F Install Bearings	8	01-Feb-23 A	09-Feb-23 A	12-Apr-23	12-Apr-23		2.00
3.4-3220	S4 - Span 4E-4F Falsework and formworks	23	01-Feb-23 A	04-Mar-23	30-Mar-23	11-Apr-23	28	4.00
3.4-3224	S4 - Span 4E-4F Web and Soffit	16	06-Mar-23	23-Mar-23	12-Apr-23	29-Apr-23	28	2.00
3.4-3226	S4 - Span 4E-4F Deck Section	10	24-Mar-23	04-Apr-23	13-May-23	24-May-23	38	1.00
3.4-3224a	S4 - Stitch joint - Span 4E-4F Web and Soffit at 4E	10	24-Mar-23	04-Apr-23	02-May-23	12-May-23	28	
3.4-3226a	S4 - Stitch joint - Span 4E-4F Deck Section at 4E	10	06-Apr-23	20-Apr-23	13-May-23	24-May-23	28	
3.4-3230	S4 - Span 4E-4F Post-tensioning (Stage 3)	12	21-Apr-23	05-May-23	25-May-23	08-Jun-23	28	0.00
3.4-3232	S4 - Span 4E-4F Remove Falsework and Formwork	12	06-May-23	19-May-23	04-Oct-23	17-Oct-23	124	0.00
S4- Span 4F-4G(R) (Stage 4)		78	27-Mar-23	04-Jul-23	09-May-23	08-Aug-23	30	7.00
3.4-3234	S4 - Span 4F-4G Falsework and formworks	18	27-Mar-23	20-Apr-23	09-May-23	30-May-23	32	3.00
3.4-3236	S4 - Span 4F-4G Install Bearings	8	21-Apr-23	29-Apr-23	31-May-23	08-Jun-23	32	2.00
3.4-3238	S4 - Span 4F-4G Web and Soffit	14	06-May-23	22-May-23	09-Jun-23	26-Jun-23	28	1.00
3.4-3240	S4 - Span 4F-4G Deck Section	10	23-May-23	03-Jun-23	27-Jun-23	08-Jul-23	28	1.00
3.4-3244	S4 - Span 4F-4G Post-tensioning (Stage 4)	12	05-Jun-23	17-Jun-23	10-Jul-23	22-Jul-23	28	0.00
3.4-3246	S4 - Span 4F-4G Remove Falsework and Formwork	12	19-Jun-23	04-Jul-23	26-Jul-23	08-Aug-23	30	0.00
S4- Span 4G-4H(R) (Stage 5)		91	09-Mar-23	30-Jun-23	25-May-23	03-Aug-23	28	7.00
3.4-3248	S4- Span 4G-4H Falsework and formworks	16	09-Mar-23	27-Mar-23	25-May-23	13-Jun-23	61	3.00
3.4-3250	S4- Span 4G-4H Install Bearings	8	28-Mar-23	06-Apr-23	14-Jun-23	23-Jun-23	61	2.00
3.4-3252	S4- Span 4G-4H Web and Soffit	14	11-Apr-23	26-Apr-23	24-Jun-23	11-Jul-23	61	1.00
3.4-3254	S4- Span 4G-4H Deck Section	10	27-Apr-23	09-May-23	12-Jul-23	22-Jul-23	61	1.00
3.4-3252a	S4- Stitch joint - Span 4G-4H Web and Soffit at 4G	10	19-Jun-23	30-Jun-23	24-Jul-23	03-Aug-23	28	
Sch_3.5 Bridge S7 Works		200	25-Nov-22 A	04-Jul-23	02-May-23	05-Aug-23	28	12.00
S7 - Pile Caps, Pier / Abutment		159	25-Nov-22 A	13-May-23	02-May-23	05-Aug-23	69	6.00
Pier 7B		72	25-Nov-22 A	20-Feb-23 A	02-May-23	02-May-23		6.00
3.5-3416	S7 - Excavation down to formation level C-7B-S7	4	25-Nov-22 A	28-Nov-22 A	02-May-23	02-May-23		1.00
3.5-3418	S7 - Prepare pile head (7 nos) C-7B-S7	9	29-Nov-22 A	13-Dec-22 A	02-May-23	02-May-23		1.00
3.5-3420	S7 - Construct pile cap C-7B-S7	15	14-Dec-22 A	27-Dec-22 A	02-May-23	02-May-23		2.00
3.5-3422	S7 - Construct Pier P-7B-S7 (2 Lifts)	20	28-Dec-22 A	20-Feb-23 A	02-May-23	02-May-23		2.00
Pier 7C		20	20-Apr-23	13-May-23	14-Jul-23	05-Aug-23	69	0.00
3.5-3426a	S7 - Construct Pier P-7C-S7 (2nd Lift)	20	20-Apr-23	13-May-23	14-Jul-23	05-Aug-23	69	
S7 - Deck		34	23-May-23	04-Jul-23	27-Jun-23	05-Aug-23	28	6.00
S7 - Span 7B-7C		34	23-May-23	04-Jul-23	27-Jun-23	05-Aug-23	28	6.00
3.5-3444	S7 - Span7B-7C Erect Steel Portal (over Kai Cheung Road Slip Road) Night works (4)	14	23-May-23	08-Jun-23	27-Jun-23	13-Jul-23	28	2.00
3.5-3444A	S7 - Span7B-7C Fabrication Steel Portal (over Kai Cheung Road Slip Road) Day works (4)	12	23-May-23	06-Jun-23	07-Jul-23	20-Jul-23	36	
3.5-3446	S7 - Span 7B-7C Install Bearings	6	09-Jun-23	15-Jun-23	14-Jul-23	20-Jul-23	28	2.00

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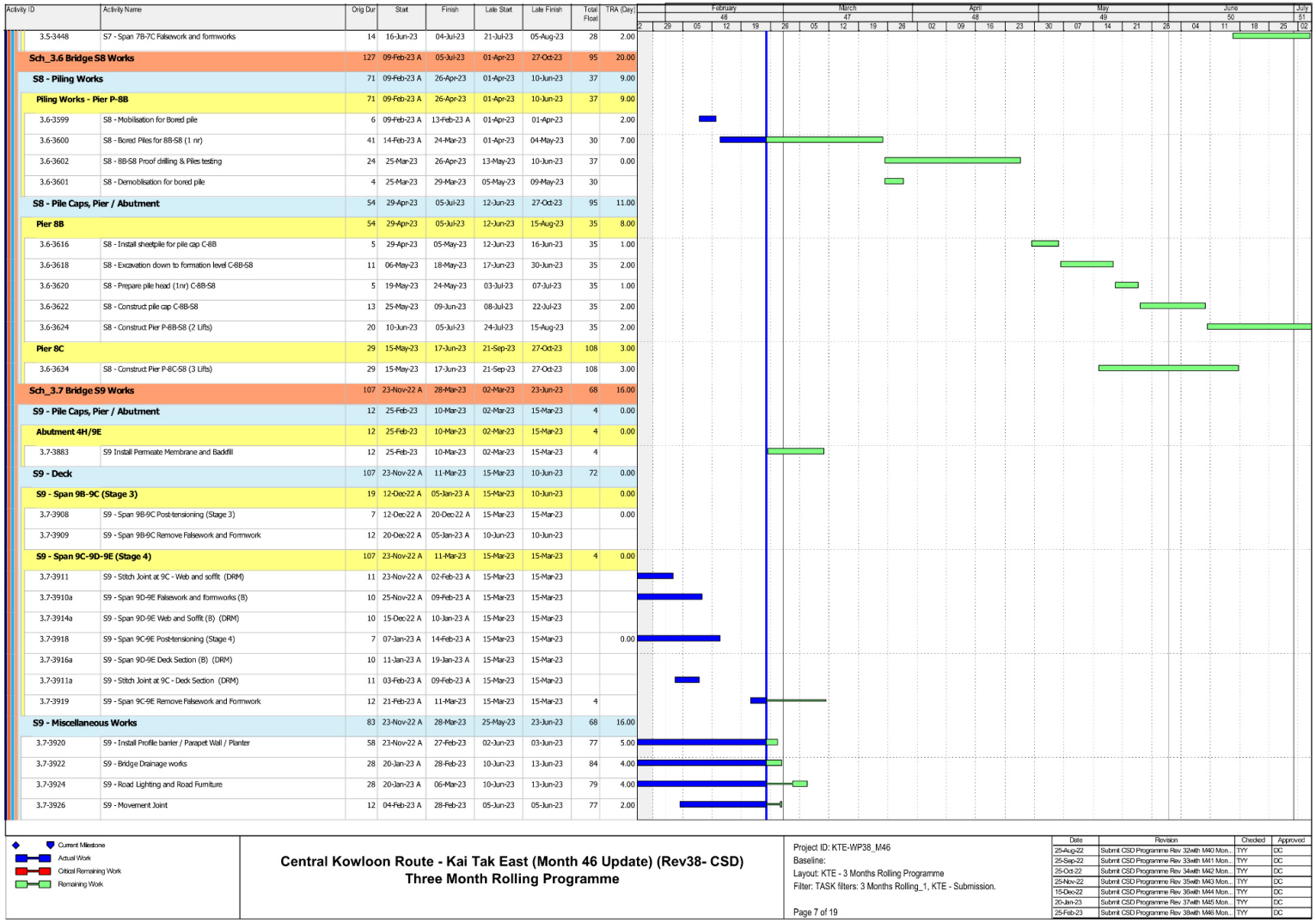

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3.5-3448	S7 - Span 7B-7C Falsework and formworks	14	16-Jun-23	04-Jul-23	21-Jul-23	05-Aug-23	28	2.00
Sch_3.6 Bridge S8 Works		127	09-Feb-23 A	05-Jul-23	01-Apr-23	27-Oct-23	95	20.00
S8 - Piling Works		71	09-Feb-23 A	26-Apr-23	01-Apr-23	10-Jun-23	37	9.00
Piling Works - Pier P-8B		71	09-Feb-23 A	26-Apr-23	01-Apr-23	10-Jun-23	37	9.00
3.6-3599	S8 - Mobilisation for Bored pile	6	09-Feb-23 A	13-Feb-23 A	01-Apr-23	01-Apr-23		2.00
3.6-3600	S8 - Bored Piles for 8B-S8 (1 nr)	41	14-Feb-23 A	24-Mar-23	01-Apr-23	04-May-23	30	7.00
3.6-3602	S8 - 8B-S8 Proof drilling & Piles testing	24	25-Mar-23	26-Apr-23	13-May-23	10-Jun-23	37	0.00
3.6-3601	S8 - Demobilisation for bored pile	4	25-Mar-23	29-Mar-23	05-May-23	09-May-23	30	
S8 - Pile Caps, Pier / Abutment		54	29-Apr-23	05-Jul-23	12-Jun-23	27-Oct-23	95	11.00
Pier 8B		54	29-Apr-23	05-Jul-23	12-Jun-23	15-Aug-23	35	8.00
3.6-3616	S8 - Install sheetpile for pile cap C-8B	5	29-Apr-23	05-May-23	12-Jun-23	16-Jun-23	35	1.00
3.6-3618	S8 - Excavation down to formation level C-8B-S8	11	06-May-23	18-May-23	17-Jun-23	30-Jun-23	35	2.00
3.6-3620	S8 - Prepare pile head (1nr) C-8B-S8	5	19-May-23	24-May-23	03-Jul-23	07-Jul-23	35	1.00
3.6-3622	S8 - Construct pile cap C-8B-S8	13	25-May-23	09-Jun-23	08-Jul-23	22-Jul-23	35	2.00
3.6-3624	S8 - Construct Pier P-8B-S8 (2 Lifts)	20	10-Jun-23	05-Jul-23	24-Jul-23	15-Aug-23	35	2.00
Pier 8C		29	15-May-23	17-Jun-23	21-Sep-23	27-Oct-23	108	3.00
3.6-3634	S8 - Construct Pier P-8C-S8 (3 Lifts)	29	15-May-23	17-Jun-23	21-Sep-23	27-Oct-23	108	3.00
Sch_3.7 Bridge S9 Works		107	23-Nov-22 A	28-Mar-23	02-Mar-23	23-Jun-23	68	16.00
S9 - Pile Caps, Pier / Abutment		12	25-Feb-23	10-Mar-23	02-Mar-23	15-Mar-23	4	0.00
Abutment 4H/9E		12	25-Feb-23	10-Mar-23	02-Mar-23	15-Mar-23	4	0.00
3.7-3883	S9 Install Permeate Membrane and Backfill	12	25-Feb-23	10-Mar-23	02-Mar-23	15-Mar-23	4	
S9 - Deck		107	23-Nov-22 A	11-Mar-23	15-Mar-23	10-Jun-23	72	0.00
S9 - Span 9B-9C (Stage 3)		19	12-Dec-22 A	05-Jan-23 A	15-Mar-23	10-Jun-23		0.00
3.7-3908	S9 - Span 9B-9C Post-tensioning (Stage 3)	7	12-Dec-22 A	20-Dec-22 A	15-Mar-23	15-Mar-23		0.00
3.7-3909	S9 - Span 9B-9C Remove Falsework and Formwork	12	20-Dec-22 A	05-Jan-23 A	10-Jun-23	10-Jun-23		
S9 - Span 9C-9D-9E (Stage 4)		107	23-Nov-22 A	11-Mar-23	15-Mar-23	15-Mar-23	4	0.00
3.7-3911	S9 - Stitch Joint at 9C - Web and soffit (DRM)	11	23-Nov-22 A	02-Feb-23 A	15-Mar-23	15-Mar-23		
3.7-3910a	S9 - Span 9D-9E Falsework and formworks (B)	10	25-Nov-22 A	09-Feb-23 A	15-Mar-23	15-Mar-23		
3.7-3914a	S9 - Span 9D-9E Web and Soffit (B) (DRM)	10	15-Dec-22 A	10-Jan-23 A	15-Mar-23	15-Mar-23		
3.7-3918	S9 - Span 9C-9E Post-tensioning (Stage 4)	7	07-Jan-23 A	14-Feb-23 A	15-Mar-23	15-Mar-23		0.00
3.7-3916a	S9 - Span 9D-9E Deck Section (B) (DRM)	10	11-Jan-23 A	19-Jan-23 A	15-Mar-23	15-Mar-23		
3.7-3911a	S9 - Stitch Joint at 9C - Deck Section (DRM)	11	03-Feb-23 A	09-Feb-23 A	15-Mar-23	15-Mar-23		
3.7-3919	S9 - Span 9C-9E Remove Falsework and Formwork	12	21-Feb-23 A	11-Mar-23	15-Mar-23	15-Mar-23	4	
S9 - Miscellaneous Works		83	23-Nov-22 A	28-Mar-23	25-May-23	23-Jun-23	68	16.00
3.7-3920	S9 - Install Profile barrier / Parapet Wall / Planter	58	23-Nov-22 A	27-Feb-23	02-Jun-23	03-Jun-23	77	5.00
3.7-3922	S9 - Bridge Drainage works	28	20-Jan-23 A	28-Feb-23	10-Jun-23	13-Jun-23	84	4.00
3.7-3924	S9 - Road Lighting and Road Furniture	28	20-Jan-23 A	06-Mar-23	10-Jun-23	13-Jun-23	79	4.00
3.7-3926	S9 - Movement Joint	12	04-Feb-23 A	28-Feb-23	05-Jun-23	05-Jun-23	77	2.00

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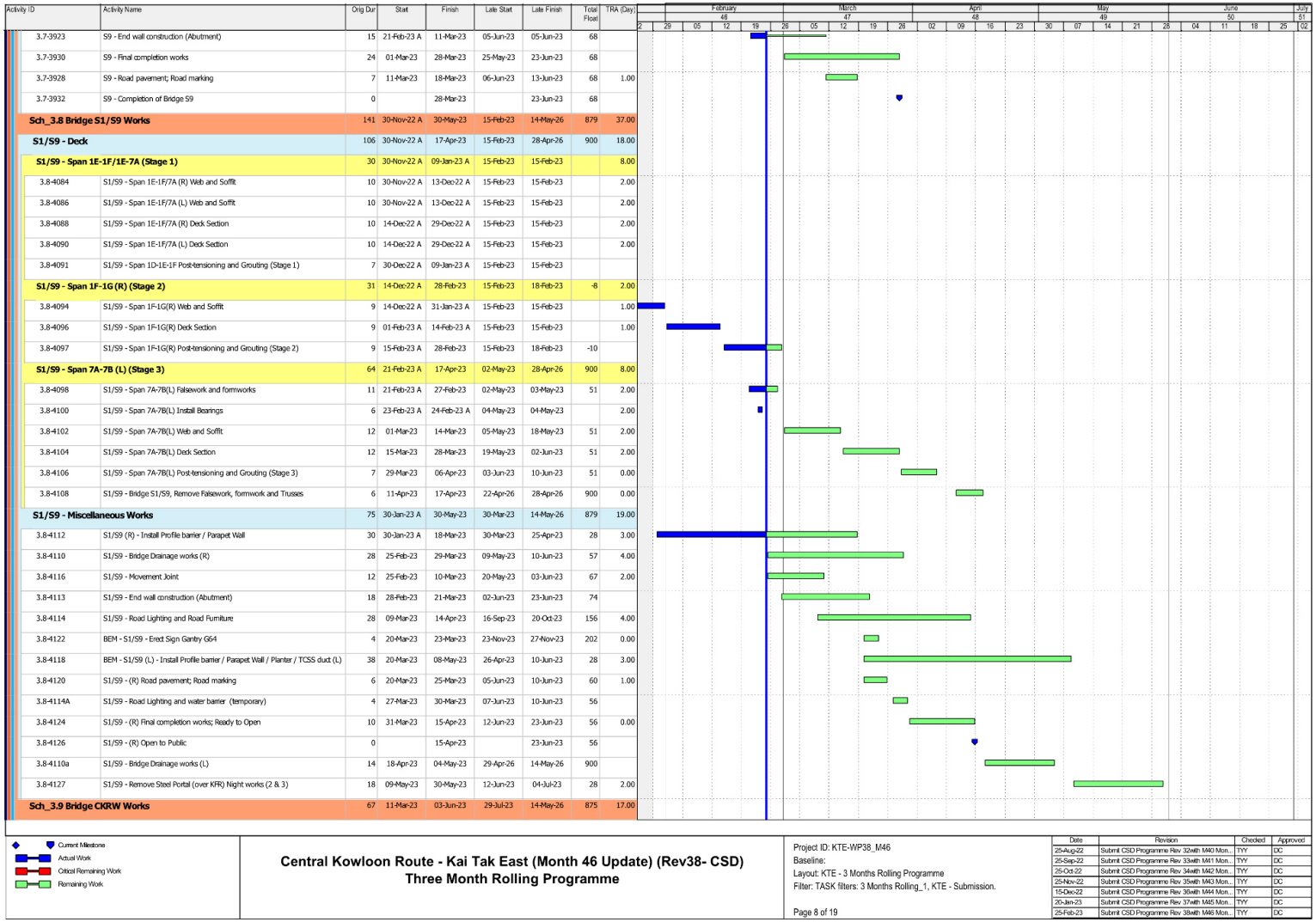

Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	TRA (Day)
3.7-3923	S9 - End wall construction (Abutment)	15	21-Feb-23 A	11-Mar-23	05-Jun-23	05-Jun-23	68	
3.7-3930	S9 - Final completion works	24	01-Mar-23	28-Mar-23	25-May-23	23-Jun-23	68	
3.7-3928	S9 - Road pavement; Road marking	7	11-Mar-23	18-Mar-23	06-Jun-23	13-Jun-23	68	1.00
3.7-3932	S9 - Completion of Bridge S9	0		28-Mar-23		23-Jun-23	68	
Sch_3.8 Bridge S1/S9 Works		141	30-Nov-22 A	30-May-23	15-Feb-23	14-May-26	879	37.00
S1/S9 - Deck		106	30-Nov-22 A	17-Apr-23	15-Feb-23	28-Apr-26	900	18.00
S1/S9 - Span 1E-1F/1E-7A (Stage 1)		30	30-Nov-22 A	09-Jan-23 A	15-Feb-23	15-Feb-23		8.00
3.8-4084	S1/S9 - Span 1E-1F/7A (R) Web and Soffit	10	30-Nov-22 A	13-Dec-22 A	15-Feb-23	15-Feb-23		2.00
3.8-4086	S1/S9 - Span 1E-1F/7A (L) Web and Soffit	10	30-Nov-22 A	13-Dec-22 A	15-Feb-23	15-Feb-23		2.00
3.8-4088	S1/S9 - Span 1E-1F/7A (R) Deck Section	10	14-Dec-22 A	29-Dec-22 A	15-Feb-23	15-Feb-23		2.00
3.8-4090	S1/S9 - Span 1E-1F/7A (L) Deck Section	10	14-Dec-22 A	29-Dec-22 A	15-Feb-23	15-Feb-23		2.00
3.8-4091	S1/S9 - Span 1D-1E-1F Post-tensioning and Grouting (Stage 1)	7	30-Dec-22 A	09-Jan-23 A	15-Feb-23	15-Feb-23		
S1/S9 - Span 1F-1G (R) (Stage 2)		31	14-Dec-22 A	28-Feb-23	15-Feb-23	18-Feb-23	-8	2.00
3.8-4094	S1/S9 - Span 1F-1G(R) Web and Soffit	9	14-Dec-22 A	31-Jan-23 A	15-Feb-23	15-Feb-23		1.00
3.8-4096	S1/S9 - Span 1F-1G(R) Deck Section	9	01-Feb-23 A	14-Feb-23 A	15-Feb-23	15-Feb-23		1.00
3.8-4097	S1/S9 - Span 1F-1G(R) Post-tensioning and Grouting (Stage 2)	9	15-Feb-23 A	28-Feb-23	15-Feb-23	18-Feb-23	-10	
S1/S9 - Span 7A-7B (L) (Stage 3)		64	21-Feb-23 A	17-Apr-23	02-May-23	28-Apr-26	900	8.00
3.8-4098	S1/S9 - Span 7A-7B(L) Falsework and formworks	11	21-Feb-23 A	27-Feb-23	02-May-23	03-May-23	51	2.00
3.8-4100	S1/S9 - Span 7A-7B(L) Install Bearings	6	23-Feb-23 A	24-Feb-23 A	04-May-23	04-May-23		2.00
3.8-4102	S1/S9 - Span 7A-7B(L) Web and Soffit	12	01-Mar-23	14-Mar-23	05-May-23	18-May-23	51	2.00
3.8-4104	S1/S9 - Span 7A-7B(L) Deck Section	12	15-Mar-23	28-Mar-23	19-May-23	02-Jun-23	51	2.00
3.8-4106	S1/S9 - Span 7A-7B(L) Post-tensioning and Grouting (Stage 3)	7	29-Mar-23	06-Apr-23	03-Jun-23	10-Jun-23	51	0.00
3.8-4108	S1/S9 - Bridge S1/S9, Remove Falsework, formwork and Trusses	6	11-Apr-23	17-Apr-23	22-Apr-26	28-Apr-26	900	0.00
S1/S9 - Miscellaneous Works		75	30-Jan-23 A	30-May-23	30-Mar-23	14-May-26	879	19.00
3.8-4112	S1/S9 (R) - Install Profile barrier / Parapet Wall	30	30-Jan-23 A	18-Mar-23	30-Mar-23	25-Apr-23	28	3.00
3.8-4110	S1/S9 - Bridge Drainage works (R)	28	25-Feb-23	29-Mar-23	09-May-23	10-Jun-23	57	4.00
3.8-4116	S1/S9 - Movement Joint	12	25-Feb-23	10-Mar-23	20-May-23	03-Jun-23	67	2.00
3.8-4113	S1/S9 - End wall construction (Abutment)	18	28-Feb-23	21-Mar-23	02-Jun-23	23-Jun-23	74	
3.8-4114	S1/S9 - Road Lighting and Road Furniture	28	09-Mar-23	14-Apr-23	16-Sep-23	20-Oct-23	156	4.00
3.8-4122	BEM - S1/S9 - Erect Sign Gantry G64	4	20-Mar-23	23-Mar-23	23-Nov-23	27-Nov-23	202	0.00
3.8-4118	BEM - S1/S9 (L) - Install Profile barrier / Parapet Wall / Planter / TCSS duct (L)	38	20-Mar-23	08-May-23	26-Apr-23	10-Jun-23	28	3.00
3.8-4120	S1/S9 - (R) Road pavement; Road marking	6	20-Mar-23	25-Mar-23	05-Jun-23	10-Jun-23	60	1.00
3.8-4114A	S1/S9 - Road Lighting and water barrier (temporary)	4	27-Mar-23	30-Mar-23	07-Jun-23	10-Jun-23	56	
3.8-4124	S1/S9 - (R) Final completion works; Ready to Open	10	31-Mar-23	15-Apr-23	12-Jun-23	23-Jun-23	56	0.00
3.8-4126	S1/S9 - (R) Open to Public	0		15-Apr-23		23-Jun-23	56	
3.8-4110a	S1/S9 - Bridge Drainage works (L)	14	18-Apr-23	04-May-23	29-Apr-26	14-May-26	900	
3.8-4127	S1/S9 - Remove Steel Portal (over KFR) Night works (2 & 3)	18	09-May-23	30-May-23	12-Jun-23	04-Jul-23	28	2.00
Sch_3.9 Bridge CKRW Works		67	11-Mar-23	03-Jun-23	29-Jul-23	14-May-26	875	17.00

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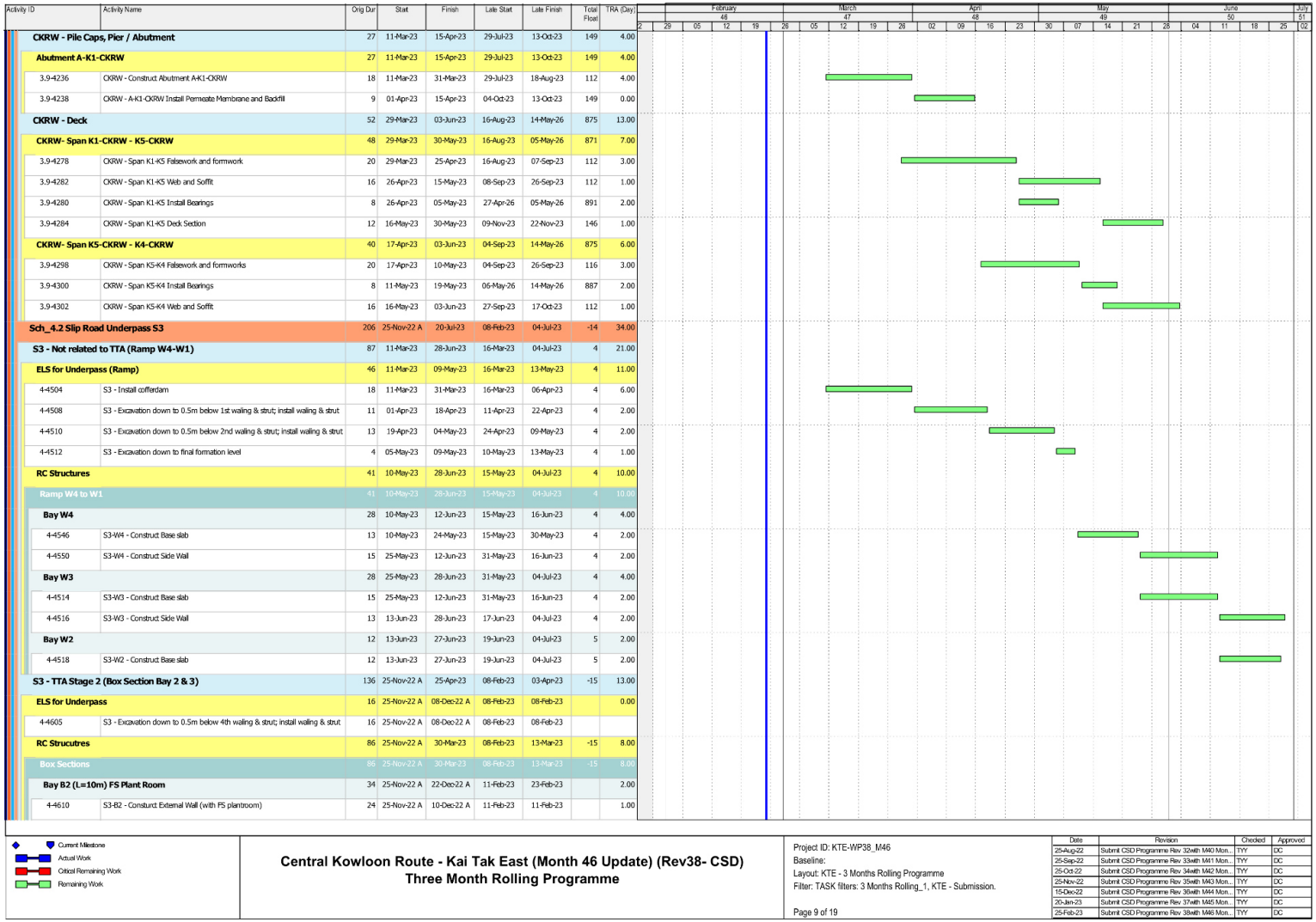
25-Nov-22	Submit CSD Programme Rev 35with M43 Mon...	TYY	DC
15-Dec-22	Submit CSD Programme Rev 36with M44 Mon...	TYY	DC
20-Jan-23	Submit CSD Programme Rev 37with M45 Mon...	TYY	DC
25-Feb-23	Submit CSD Programme Rev 38with M46 Mon...	TYY	DC



Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	TRA (Day)
CKRW - Pile Caps, Pier / Abutment		27	11-Mar-23	15-Apr-23	29-Jul-23	13-Oct-23	149	4.00
Abutment A-K1-CKRW		27	11-Mar-23	15-Apr-23	29-Jul-23	13-Oct-23	149	4.00
3.9-4236	CKRW - Construct Abutment A-K1-CKRW	18	11-Mar-23	31-Mar-23	29-Jul-23	18-Aug-23	112	4.00
3.9-4238	CKRW - A-K1-CKRW Install Permeate Membrane and Backfill	9	01-Apr-23	15-Apr-23	04-Oct-23	13-Oct-23	149	0.00
CKRW - Deck		52	29-Mar-23	03-Jun-23	16-Aug-23	14-May-26	875	13.00
CKRW- Span K1-CKRW - K5-CKRW		48	29-Mar-23	30-May-23	16-Aug-23	05-May-26	871	7.00
3.9-4278	CKRW - Span K1-K5 Falsework and formwork	20	29-Mar-23	25-Apr-23	16-Aug-23	07-Sep-23	112	3.00
3.9-4282	CKRW - Span K1-K5 Web and Soffit	16	26-Apr-23	15-May-23	08-Sep-23	26-Sep-23	112	1.00
3.9-4280	CKRW - Span K1-K5 Install Bearings	8	26-Apr-23	05-May-23	27-Apr-26	05-May-26	891	2.00
3.9-4284	CKRW - Span K1-K5 Deck Section	12	16-May-23	30-May-23	09-Nov-23	22-Nov-23	146	1.00
CKRW- Span K5-CKRW - K4-CKRW		40	17-Apr-23	03-Jun-23	04-Sep-23	14-May-26	875	6.00
3.9-4298	CKRW - Span K5-K4 Falsework and formworks	20	17-Apr-23	10-May-23	04-Sep-23	26-Sep-23	116	3.00
3.9-4300	CKRW - Span K5-K4 Install Bearings	8	11-May-23	19-May-23	06-May-26	14-May-26	887	2.00
3.9-4302	CKRW - Span K5-K4 Web and Soffit	16	16-May-23	03-Jun-23	27-Sep-23	17-Oct-23	112	1.00
Sch_4.2 Slip Road Underpass S3		206	25-Nov-22 A	20-Jul-23	08-Feb-23	04-Jul-23	-14	34.00
S3 - Not related to TTA (Ramp W4-W1)		87	11-Mar-23	28-Jun-23	16-Mar-23	04-Jul-23	4	21.00
ELS for Underpass (Ramp)		46	11-Mar-23	09-May-23	16-Mar-23	13-May-23	4	11.00
4-4504	S3 - Install cofferdam	18	11-Mar-23	31-Mar-23	16-Mar-23	06-Apr-23	4	6.00
4-4508	S3 - Excavation down to 0.5m below 1st waling & strut; install waling & strut	11	01-Apr-23	18-Apr-23	11-Apr-23	22-Apr-23	4	2.00
4-4510	S3 - Excavation down to 0.5m below 2nd waling & strut; install waling & strut	13	19-Apr-23	04-May-23	24-Apr-23	09-May-23	4	2.00
4-4512	S3 - Excavation down to final formation level	4	05-May-23	09-May-23	10-May-23	13-May-23	4	1.00
RC Structures		41	10-May-23	28-Jun-23	15-May-23	04-Jul-23	4	10.00
Ramp W4 to W1		41	10-May-23	28-Jun-23	15-May-23	04-Jul-23	4	10.00
Bay W4		28	10-May-23	12-Jun-23	15-May-23	16-Jun-23	4	4.00
4-4546	S3-W4 - Construct Base slab	13	10-May-23	24-May-23	15-May-23	30-May-23	4	2.00
4-4550	S3-W4 - Construct Side Wall	15	25-May-23	12-Jun-23	31-May-23	16-Jun-23	4	2.00
Bay W3		28	25-May-23	28-Jun-23	31-May-23	04-Jul-23	4	4.00
4-4514	S3-W3 - Construct Base slab	15	25-May-23	12-Jun-23	31-May-23	16-Jun-23	4	2.00
4-4516	S3-W3 - Construct Side Wall	13	13-Jun-23	28-Jun-23	17-Jun-23	04-Jul-23	4	2.00
Bay W2		12	13-Jun-23	27-Jun-23	19-Jun-23	04-Jul-23	5	2.00
4-4518	S3-W2 - Construct Base slab	12	13-Jun-23	27-Jun-23	19-Jun-23	04-Jul-23	5	2.00
S3 - TTA Stage 2 (Box Section Bay 2 & 3)		136	25-Nov-22 A	25-Apr-23	08-Feb-23	03-Apr-23	-15	13.00
ELS for Underpass		16	25-Nov-22 A	08-Dec-22 A	08-Feb-23	08-Feb-23		0.00
4-4605	S3 - Excavation down to 0.5m below 4th waling & strut; install waling & strut	16	25-Nov-22 A	08-Dec-22 A	08-Feb-23	08-Feb-23		
RC Strucutres		86	25-Nov-22 A	30-Mar-23	08-Feb-23	13-Mar-23	-15	8.00
Box Sections		86	25-Nov-22 A	30-Mar-23	08-Feb-23	13-Mar-23	-15	8.00
Bay B2 (L=10m) FS Plant Room		34	25-Nov-22 A	22-Dec-22 A	11-Feb-23	23-Feb-23		2.00
4-4610	S3-B2 - Consturct External Wall (with FS plantroom)	24	25-Nov-22 A	10-Dec-22 A	11-Feb-23	11-Feb-23		1.00

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Central Kowloon Route - Kai Tak East (Month 46 Update) (Rev38- CSD)
Three Month Rolling Programme

Project ID: KTE-WP38_M46
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Filter: TASK filters: 3 Months Rolling_1, KTE - Submission.

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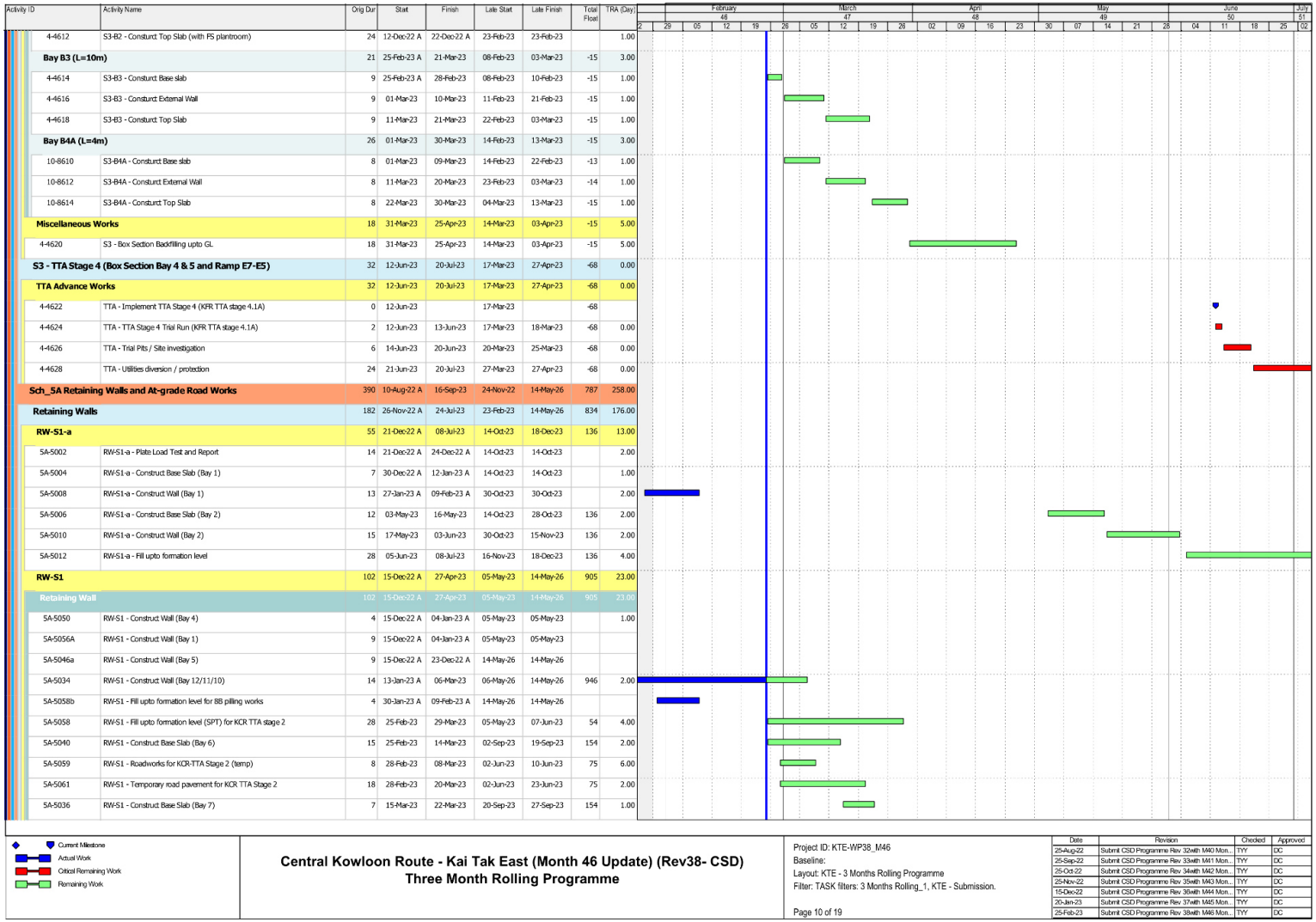

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4-4612	S3-B2 - Construct Top Slab (with FS plantroom)	24	12-Dec-22 A	22-Dec-22 A	23-Feb-23	23-Feb-23		1.00
Bay B3 (L=10m)		21	25-Feb-23 A	21-Mar-23	08-Feb-23	03-Mar-23	-15	3.00
4-4614	S3-B3 - Construct Base slab	9	25-Feb-23 A	28-Feb-23	08-Feb-23	10-Feb-23	-15	1.00
4-4616	S3-B3 - Construct External Wall	9	01-Mar-23	10-Mar-23	11-Feb-23	21-Feb-23	-15	1.00
4-4618	S3-B3 - Construct Top Slab	9	11-Mar-23	21-Mar-23	22-Feb-23	03-Mar-23	-15	1.00
Bay B4A (L=4m)		26	01-Mar-23	30-Mar-23	14-Feb-23	13-Mar-23	-15	3.00
10-8610	S3-B4A - Construct Base slab	8	01-Mar-23	09-Mar-23	14-Feb-23	22-Feb-23	-13	1.00
10-8612	S3-B4A - Construct External Wall	8	11-Mar-23	20-Mar-23	23-Feb-23	03-Mar-23	-14	1.00
10-8614	S3-B4A - Construct Top Slab	8	22-Mar-23	30-Mar-23	04-Mar-23	13-Mar-23	-15	1.00
Miscellaneous Works		18	31-Mar-23	25-Apr-23	14-Mar-23	03-Apr-23	-15	5.00
4-4620	S3 - Box Section Backfilling upto GL	18	31-Mar-23	25-Apr-23	14-Mar-23	03-Apr-23	-15	5.00
S3 - TTA Stage 4 (Box Section Bay 4 & 5 and Ramp E7-E5)		32	12-Jun-23	20-Jul-23	17-Mar-23	27-Apr-23	-68	0.00
TTA Advance Works		32	12-Jun-23	20-Jul-23	17-Mar-23	27-Apr-23	-68	0.00
4-4622	TTA - Implement TTA Stage 4 (KFR TTA stage 4.1A)	0	12-Jun-23		17-Mar-23		-68	
4-4624	TTA - TTA Stage 4 Trial Run (KFR TTA stage 4.1A)	2	12-Jun-23	13-Jun-23	17-Mar-23	18-Mar-23	-68	0.00
4-4626	TTA - Trial Pits / Site investigation	6	14-Jun-23	20-Jun-23	20-Mar-23	25-Mar-23	-68	0.00
4-4628	TTA - Utilities diversion / protection	24	21-Jun-23	20-Jul-23	27-Mar-23	27-Apr-23	-68	0.00
Sch_5A Retaining Walls and At-grade Road Works		390	10-Aug-22 A	16-Sep-23	24-Nov-22	14-May-26	787	258.00
Retaining Walls		182	26-Nov-22 A	24-Jul-23	23-Feb-23	14-May-26	834	176.00
RW-S1-a		55	21-Dec-22 A	08-Jul-23	14-Oct-23	18-Dec-23	136	13.00
5A-5002	RW-S1-a - Plate Load Test and Report	14	21-Dec-22 A	24-Dec-22 A	14-Oct-23	14-Oct-23		2.00
5A-5004	RW-S1-a - Construct Base Slab (Bay 1)	7	30-Dec-22 A	12-Jan-23 A	14-Oct-23	14-Oct-23		1.00
5A-5008	RW-S1-a - Construct Wall (Bay 1)	13	27-Jan-23 A	09-Feb-23 A	30-Oct-23	30-Oct-23		2.00
5A-5006	RW-S1-a - Construct Base Slab (Bay 2)	12	03-May-23	16-May-23	14-Oct-23	28-Oct-23	136	2.00
5A-5010	RW-S1-a - Construct Wall (Bay 2)	15	17-May-23	03-Jun-23	30-Oct-23	15-Nov-23	136	2.00
5A-5012	RW-S1-a - Fill upto formation level	28	05-Jun-23	08-Jul-23	16-Nov-23	18-Dec-23	136	4.00
RW-S1		102	15-Dec-22 A	27-Apr-23	05-May-23	14-May-26	905	23.00
Retaining Wall		102	15-Dec-22 A	27-Apr-23	05-May-23	14-May-26	905	23.00
5A-5050	RW-S1 - Construct Wall (Bay 4)	4	15-Dec-22 A	04-Jan-23 A	05-May-23	05-May-23		1.00
5A-5056A	RW-S1 - Construct Wall (Bay 1)	9	15-Dec-22 A	04-Jan-23 A	05-May-23	05-May-23		
5A-5046a	RW-S1 - Construct Wall (Bay 5)	9	15-Dec-22 A	23-Dec-22 A	14-May-26	14-May-26		
5A-5034	RW-S1 - Construct Wall (Bay 12/11/10)	14	13-Jan-23 A	06-Mar-23	06-May-26	14-May-26	946	2.00
5A-5058b	RW-S1 - Fill upto formation level for BB pilling works	4	30-Jan-23 A	09-Feb-23 A	14-May-26	14-May-26		
5A-5058	RW-S1 - Fill upto formation level (SPT) for KCR TTA stage 2	28	25-Feb-23	29-Mar-23	05-May-23	07-Jun-23	54	4.00
5A-5040	RW-S1 - Construct Base Slab (Bay 6)	15	25-Feb-23	14-Mar-23	02-Sep-23	19-Sep-23	154	2.00
5A-5059	RW-S1 - Roadworks for KCR-TTA Stage 2 (temp)	8	28-Feb-23	08-Mar-23	02-Jun-23	10-Jun-23	75	6.00
5A-5061	RW-S1 - Temporary road pavement for KCR TTA Stage 2	18	28-Feb-23	20-Mar-23	02-Jun-23	23-Jun-23	75	2.00
5A-5036	RW-S1 - Construct Base Slab (Bay 7)	7	15-Mar-23	22-Mar-23	20-Sep-23	27-Sep-23	154	1.00

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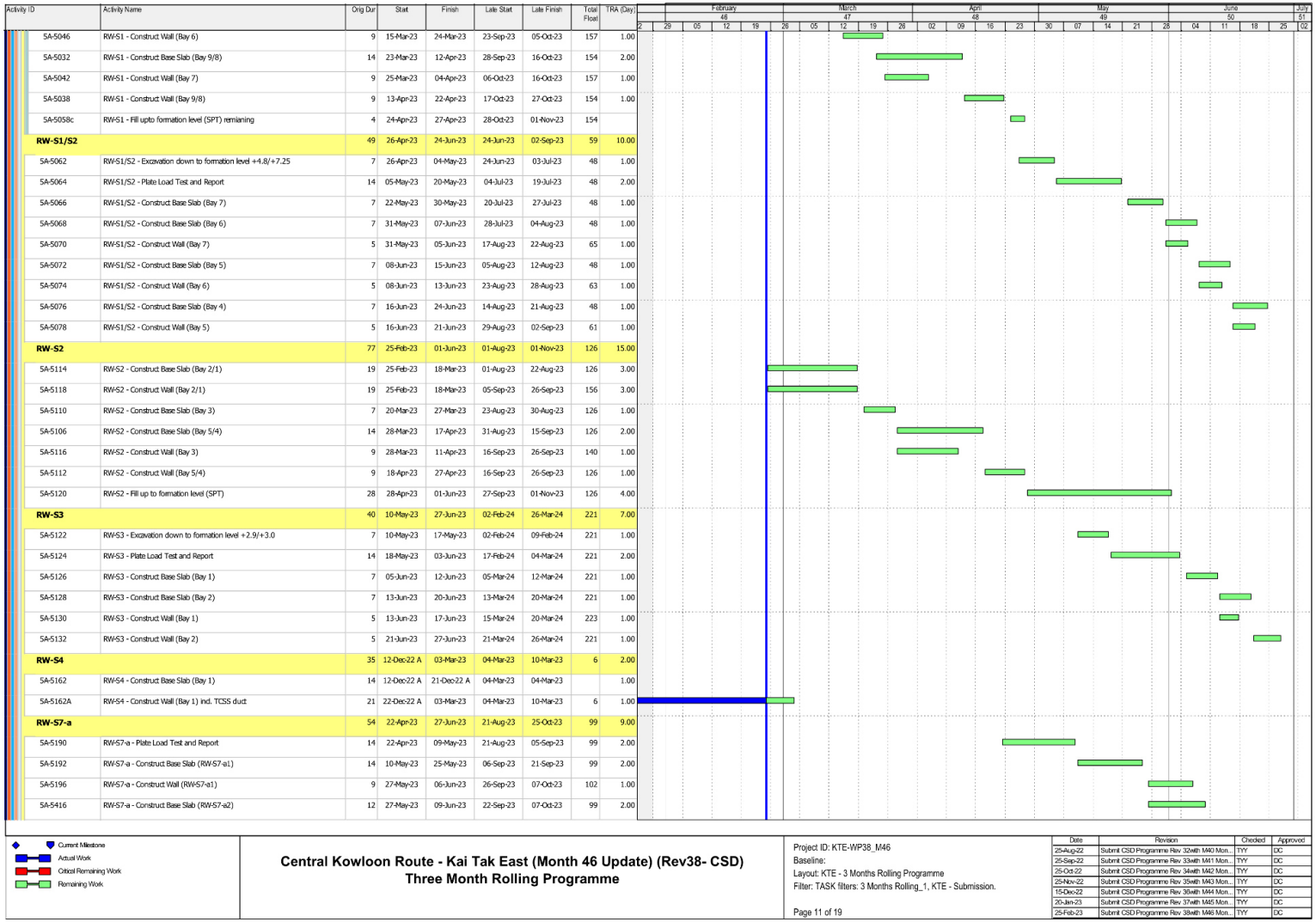

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5A-5046	RW-S1 - Construct Wall (Bay 6)	9	15-Mar-23	24-Mar-23	23-Sep-23	05-Oct-23	157	1.00
5A-5032	RW-S1 - Construct Base Slab (Bay 9/8)	14	23-Mar-23	12-Apr-23	28-Sep-23	16-Oct-23	154	2.00
5A-5042	RW-S1 - Construct Wall (Bay 7)	9	25-Mar-23	04-Apr-23	06-Oct-23	16-Oct-23	157	1.00
5A-5038	RW-S1 - Construct Wall (Bay 9/8)	9	13-Apr-23	22-Apr-23	17-Oct-23	27-Oct-23	154	1.00
5A-5058c	RW-S1 - Fill upto formation level (SPT) remianing	4	24-Apr-23	27-Apr-23	28-Oct-23	01-Nov-23	154	
RW-S1/S2		49	26-Apr-23	24-Jun-23	24-Jun-23	02-Sep-23	59	10.00
5A-5062	RW-S1/S2 - Excavation down to formation level +4.8/+7.25	7	26-Apr-23	04-May-23	24-Jun-23	03-Jul-23	48	1.00
5A-5064	RW-S1/S2 - Plate Load Test and Report	14	05-May-23	20-May-23	04-Jul-23	19-Jul-23	48	2.00
5A-5066	RW-S1/S2 - Construct Base Slab (Bay 7)	7	22-May-23	30-May-23	20-Jul-23	27-Jul-23	48	1.00
5A-5068	RW-S1/S2 - Construct Base Slab (Bay 6)	7	31-May-23	07-Jun-23	28-Jul-23	04-Aug-23	48	1.00
5A-5070	RW-S1/S2 - Construct Wall (Bay 7)	5	31-May-23	05-Jun-23	17-Aug-23	22-Aug-23	65	1.00
5A-5072	RW-S1/S2 - Construct Base Slab (Bay 5)	7	08-Jun-23	15-Jun-23	05-Aug-23	12-Aug-23	48	1.00
5A-5074	RW-S1/S2 - Construct Wall (Bay 6)	5	08-Jun-23	13-Jun-23	23-Aug-23	28-Aug-23	63	1.00
5A-5076	RW-S1/S2 - Construct Base Slab (Bay 4)	7	16-Jun-23	24-Jun-23	14-Aug-23	21-Aug-23	48	1.00
5A-5078	RW-S1/S2 - Construct Wall (Bay 5)	5	16-Jun-23	21-Jun-23	29-Aug-23	02-Sep-23	61	1.00
RW-S2		77	25-Feb-23	01-Jun-23	01-Aug-23	01-Nov-23	126	15.00
5A-5114	RW-S2 - Construct Base Slab (Bay 2/1)	19	25-Feb-23	18-Mar-23	01-Aug-23	22-Aug-23	126	3.00
5A-5118	RW-S2 - Construct Wall (Bay 2/1)	19	25-Feb-23	18-Mar-23	05-Sep-23	26-Sep-23	156	3.00
5A-5110	RW-S2 - Construct Base Slab (Bay 3)	7	20-Mar-23	27-Mar-23	23-Aug-23	30-Aug-23	126	1.00
5A-5106	RW-S2 - Construct Base Slab (Bay 5/4)	14	28-Mar-23	17-Apr-23	31-Aug-23	15-Sep-23	126	2.00
5A-5116	RW-S2 - Construct Wall (Bay 3)	9	28-Mar-23	11-Apr-23	16-Sep-23	26-Sep-23	140	1.00
5A-5112	RW-S2 - Construct Wall (Bay 5/4)	9	18-Apr-23	27-Apr-23	16-Sep-23	26-Sep-23	126	1.00
5A-5120	RW-S2 - Fill up to formation level (SPT)	28	28-Apr-23	01-Jun-23	27-Sep-23	01-Nov-23	126	4.00
RW-S3		40	10-May-23	27-Jun-23	02-Feb-24	26-Mar-24	221	7.00
5A-5122	RW-S3 - Excavation down to formation level +2.9/+3.0	7	10-May-23	17-May-23	02-Feb-24	09-Feb-24	221	1.00
5A-5124	RW-S3 - Plate Load Test and Report	14	18-May-23	03-Jun-23	17-Feb-24	04-Mar-24	221	2.00
5A-5126	RW-S3 - Construct Base Slab (Bay 1)	7	05-Jun-23	12-Jun-23	05-Mar-24	12-Mar-24	221	1.00
5A-5128	RW-S3 - Construct Base Slab (Bay 2)	7	13-Jun-23	20-Jun-23	13-Mar-24	20-Mar-24	221	1.00
5A-5130	RW-S3 - Construct Wall (Bay 1)	5	13-Jun-23	17-Jun-23	15-Mar-24	20-Mar-24	223	1.00
5A-5132	RW-S3 - Construct Wall (Bay 2)	5	21-Jun-23	27-Jun-23	21-Mar-24	26-Mar-24	221	1.00
RW-S4		35	12-Dec-22 A	03-Mar-23	04-Mar-23	10-Mar-23	6	2.00
5A-5162	RW-S4 - Construct Base Slab (Bay 1)	14	12-Dec-22 A	21-Dec-22 A	04-Mar-23	04-Mar-23		1.00
5A-5162A	RW-S4 - Construct Wall (Bay 1) incl. TCSS duct	21	22-Dec-22 A	03-Mar-23	04-Mar-23	10-Mar-23	6	1.00
RW-S7-a		54	22-Apr-23	27-Jun-23	21-Aug-23	25-Oct-23	99	9.00
5A-5190	RW-S7-a - Plate Load Test and Report	14	22-Apr-23	09-May-23	21-Aug-23	05-Sep-23	99	2.00
5A-5192	RW-S7-a - Construct Base Slab (RW-S7-a1)	14	10-May-23	25-May-23	06-Sep-23	21-Sep-23	99	2.00
5A-5196	RW-S7-a - Construct Wall (RW-S7-a1)	9	27-May-23	06-Jun-23	26-Sep-23	07-Oct-23	102	1.00
5A-5416	RW-S7-a - Construct Base Slab (RW-S7-a2)	12	27-May-23	09-Jun-23	22-Sep-23	07-Oct-23	99	2.00

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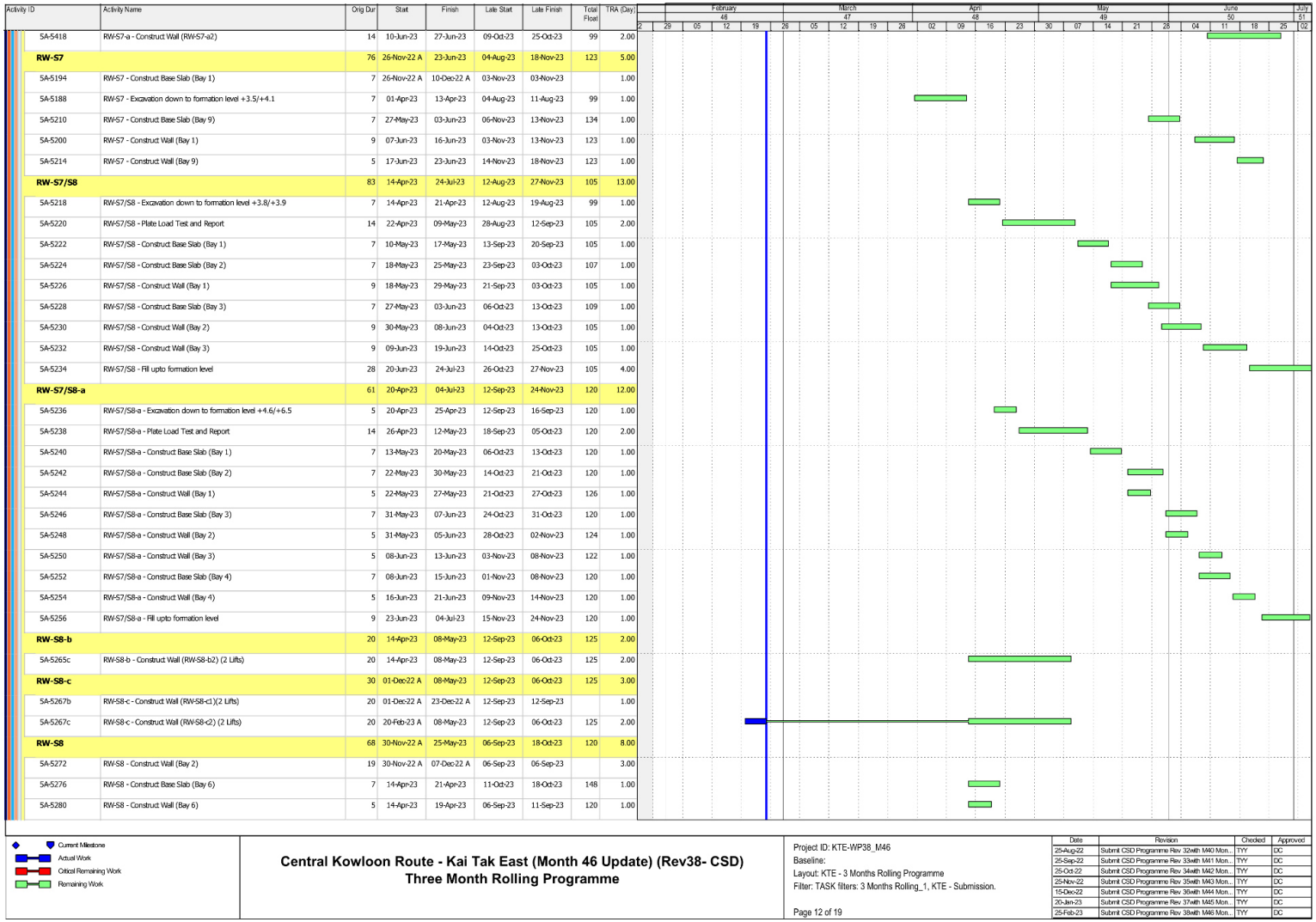

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5A-5418	RW-S7-a - Construct Wall (RW-S7-a2)	14	10-Jun-23	27-Jun-23	09-Oct-23	25-Oct-23	99	2.00
RW-S7		76	26-Nov-22 A	23-Jun-23	04-Aug-23	18-Nov-23	123	5.00
5A-5194	RW-S7 - Construct Base Slab (Bay 1)	7	26-Nov-22 A	10-Dec-22 A	03-Nov-23	03-Nov-23		1.00
5A-5188	RW-S7 - Excavation down to formation level +3.5/+4.1	7	01-Apr-23	13-Apr-23	04-Aug-23	11-Aug-23	99	1.00
5A-5210	RW-S7 - Construct Base Slab (Bay 9)	7	27-May-23	03-Jun-23	06-Nov-23	13-Nov-23	134	1.00
5A-5200	RW-S7 - Construct Wall (Bay 1)	9	07-Jun-23	16-Jun-23	03-Nov-23	13-Nov-23	123	1.00
5A-5214	RW-S7 - Construct Wall (Bay 9)	5	17-Jun-23	23-Jun-23	14-Nov-23	18-Nov-23	123	1.00
RW-S7/S8		83	14-Apr-23	24-Jul-23	12-Aug-23	27-Nov-23	105	13.00
5A-5218	RW-S7/S8 - Excavation down to formation level +3.8/+3.9	7	14-Apr-23	21-Apr-23	12-Aug-23	19-Aug-23	99	1.00
5A-5220	RW-S7/S8 - Plate Load Test and Report	14	22-Apr-23	09-May-23	28-Aug-23	12-Sep-23	105	2.00
5A-5222	RW-S7/S8 - Construct Base Slab (Bay 1)	7	10-May-23	17-May-23	13-Sep-23	20-Sep-23	105	1.00
5A-5224	RW-S7/S8 - Construct Base Slab (Bay 2)	7	18-May-23	25-May-23	23-Sep-23	03-Oct-23	107	1.00
5A-5226	RW-S7/S8 - Construct Wall (Bay 1)	9	18-May-23	29-May-23	21-Sep-23	03-Oct-23	105	1.00
5A-5228	RW-S7/S8 - Construct Base Slab (Bay 3)	7	27-May-23	03-Jun-23	06-Oct-23	13-Oct-23	109	1.00
5A-5230	RW-S7/S8 - Construct Wall (Bay 2)	9	30-May-23	08-Jun-23	04-Oct-23	13-Oct-23	105	1.00
5A-5232	RW-S7/S8 - Construct Wall (Bay 3)	9	09-Jun-23	19-Jun-23	14-Oct-23	25-Oct-23	105	1.00
5A-5234	RW-S7/S8 - Fill upto formation level	28	20-Jun-23	24-Jul-23	26-Oct-23	27-Nov-23	105	4.00
RW-S7/S8-a		61	20-Apr-23	04-Jul-23	12-Sep-23	24-Nov-23	120	12.00
5A-5236	RW-S7/S8-a - Excavation down to formation level +4.6/+6.5	5	20-Apr-23	25-Apr-23	12-Sep-23	16-Sep-23	120	1.00
5A-5238	RW-S7/S8-a - Plate Load Test and Report	14	26-Apr-23	12-May-23	18-Sep-23	05-Oct-23	120	2.00
5A-5240	RW-S7/S8-a - Construct Base Slab (Bay 1)	7	13-May-23	20-May-23	06-Oct-23	13-Oct-23	120	1.00
5A-5242	RW-S7/S8-a - Construct Base Slab (Bay 2)	7	22-May-23	30-May-23	14-Oct-23	21-Oct-23	120	1.00
5A-5244	RW-S7/S8-a - Construct Wall (Bay 1)	5	22-May-23	27-May-23	21-Oct-23	27-Oct-23	126	1.00
5A-5246	RW-S7/S8-a - Construct Base Slab (Bay 3)	7	31-May-23	07-Jun-23	24-Oct-23	31-Oct-23	120	1.00
5A-5248	RW-S7/S8-a - Construct Wall (Bay 2)	5	31-May-23	05-Jun-23	28-Oct-23	02-Nov-23	124	1.00
5A-5250	RW-S7/S8-a - Construct Wall (Bay 3)	5	08-Jun-23	13-Jun-23	03-Nov-23	08-Nov-23	122	1.00
5A-5252	RW-S7/S8-a - Construct Base Slab (Bay 4)	7	08-Jun-23	15-Jun-23	01-Nov-23	08-Nov-23	120	1.00
5A-5254	RW-S7/S8-a - Construct Wall (Bay 4)	5	16-Jun-23	21-Jun-23	09-Nov-23	14-Nov-23	120	1.00
5A-5256	RW-S7/S8-a - Fill upto formation level	9	23-Jun-23	04-Jul-23	15-Nov-23	24-Nov-23	120	1.00
RW-S8-b		20	14-Apr-23	08-May-23	12-Sep-23	06-Oct-23	125	2.00
5A-5265c	RW-S8-b - Construct Wall (RW-S8-b2) (2 Lifts)	20	14-Apr-23	08-May-23	12-Sep-23	06-Oct-23	125	2.00
RW-S8-c		30	01-Dec-22 A	08-May-23	12-Sep-23	06-Oct-23	125	3.00
5A-5267b	RW-S8-c - Construct Wall (RW-S8-c1)(2 Lifts)	20	01-Dec-22 A	23-Dec-22 A	12-Sep-23	12-Sep-23		1.00
5A-5267c	RW-S8-c - Construct Wall (RW-S8-c2) (2 Lifts)	20	20-Feb-23 A	08-May-23	12-Sep-23	06-Oct-23	125	2.00
RW-S8		68	30-Nov-22 A	25-May-23	06-Sep-23	18-Oct-23	120	8.00
5A-5272	RW-S8 - Construct Wall (Bay 2)	19	30-Nov-22 A	07-Dec-22 A	06-Sep-23	06-Sep-23		3.00
5A-5276	RW-S8 - Construct Base Slab (Bay 6)	7	14-Apr-23	21-Apr-23	11-Oct-23	18-Oct-23	148	1.00
5A-5280	RW-S8 - Construct Wall (Bay 6)	5	14-Apr-23	19-Apr-23	06-Sep-23	11-Sep-23	120	1.00

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Central Kowloon Route - Kai Tak East (Month 46 Update) (Rev38- CSD)
Three Month Rolling Programme

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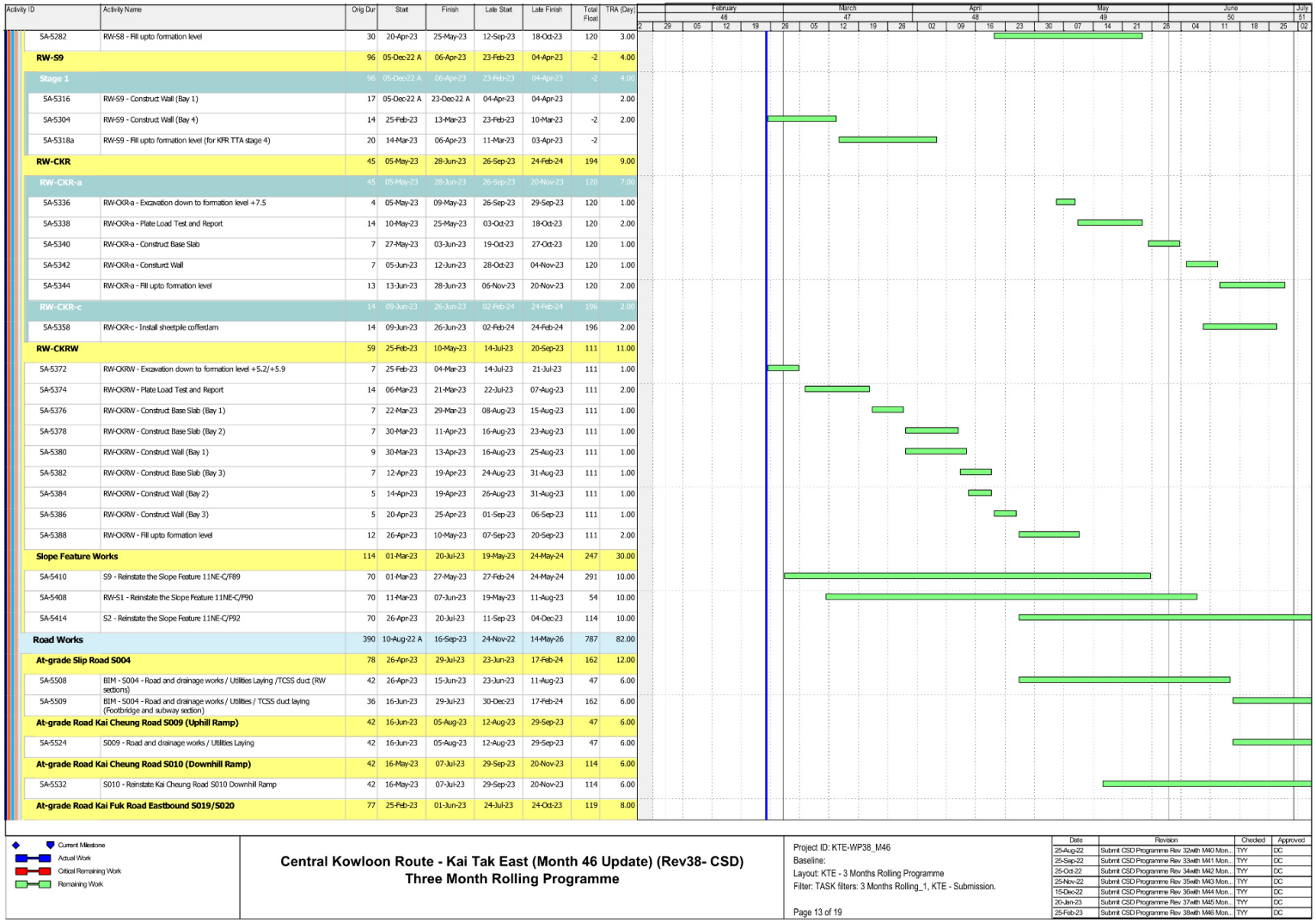
25-Nov-22	Submit CSD Programme Rev 35with M43 Mon...	TYY	DC
15-Dec-22	Submit CSD Programme Rev 36with M44 Mon...	TYY	DC
20-Jan-23	Submit CSD Programme Rev 37with M45 Mon...	TYY	DC
25-Feb-23	Submit CSD Programme Rev 38with M46 Mon...	TYY	DC


Activity ID
Activity Name
Orig Dur
Start
Finish
Late Start
Late Finish
Total Float
TRA (Day)
February
March
April
May
June
July
5A-5282 RW-S8 - Fill upto formation level 30 20-Apr-23 25-May-23 12-Sep-23 18-Oct-23 120 3.00
RW-S9 96 05-Dec-22 A 06-Apr-23 23-Feb-23 04-Apr-23 -2 4.00
Stage 1 96 05-Dec-22 A 06-Apr-23 23-Feb-23 04-Apr-23 -2 4.00
5A-5316 RW-S9 - Construct Wall (Bay 1) 17 05-Dec-22 A 23-Dec-22 A 04-Apr-23 04-Apr-23 2.00
5A-5304 RW-S9 - Construct Wall (Bay 4) 14 25-Feb-23 13-Mar-23 23-Feb-23 10-Mar-23 -2 2.00
5A-5318a RW-S9 - Fill upto formation level (for KFR TTA stage 4) 20 14-Mar-23 06-Apr-23 11-Mar-23 03-Apr-23 -2
RW-CKR 45 05-May-23 28-Jun-23 26-Sep-23 24-Feb-24 194 9.00
RW-CKR-a 45 05-May-23 28-Jun-23 26-Sep-23 20-Nov-23 120 7.00
5A-5336 RW-CKR-a - Excavation down to formation level +7.5 4 05-May-23 09-May-23 26-Sep-23 29-Sep-23 120 1.00
5A-5338 RW-CKR-a - Plate Load Test and Report 14 10-May-23 25-May-23 03-Oct-23 18-Oct-23 120 2.00
5A-5340 RW-CKR-a - Construct Base Slab 7 27-May-23 03-Jun-23 19-Oct-23 27-Oct-23 120 1.00
5A-5342 RW-CKR-a - Consturct Wall 7 05-Jun-23 12-Jun-23 28-Oct-23 04-Nov-23 120 1.00
5A-5344 RW-CKR-a - Fill upto formation level 13 13-Jun-23 28-Jun-23 06-Nov-23 20-Nov-23 120 2.00
RW-CKR-c 14 09-Jun-23 26-Jun-23 02-Feb-24 24-Feb-24 196 2.00
5A-5358 RW-CKR-c - Install sheetpile cofferdam 14 09-Jun-23 26-Jun-23 02-Feb-24 24-Feb-24 196 2.00
RW-CKRW 59 25-Feb-23 10-May-23 14-Jul-23 20-Sep-23 111 11.00
5A-5372 RW-CKRW - Excavation down to formation level +5.2/+5.9 7 25-Feb-23 04-Mar-23 14-Jul-23 21-Jul-23 111 1.00
5A-5374 RW-CKRW - Plate Load Test and Report 14 06-Mar-23 21-Mar-23 22-Jul-23 07-Aug-23 111 2.00
5A-5376 RW-CKRW - Construct Base Slab (Bay 1) 7 22-Mar-23 29-Mar-23 08-Aug-23 15-Aug-23 111 1.00
5A-5378 RW-CKRW - Construct Base Slab (Bay 2) 7 30-Mar-23 11-Apr-23 16-Aug-23 23-Aug-23 111 1.00
5A-5380 RW-CKRW - Construct Wall (Bay 1) 9 30-Mar-23 13-Apr-23 16-Aug-23 25-Aug-23 111 1.00
5A-5382 RW-CKRW - Construct Base Slab (Bay 3) 7 12-Apr-23 19-Apr-23 24-Aug-23 31-Aug-23 111 1.00
5A-5384 RW-CKRW - Construct Wall (Bay 2) 5 14-Apr-23 19-Apr-23 26-Aug-23 31-Aug-23 111 1.00
5A-5386 RW-CKRW - Construct Wall (Bay 3) 5 20-Apr-23 25-Apr-23 01-Sep-23 06-Sep-23 111 1.00
5A-5388 RW-CKRW - Fill upto formation level 12 26-Apr-23 10-May-23 07-Sep-23 20-Sep-23 111 2.00
Slope Feature Works 114 01-Mar-23 20-Jul-23 19-May-23 24-May-24 247 30.00
5A-5410 S9 - Reinstate the Slope Feature 11NE-C/F89 70 01-Mar-23 27-May-23 27-Feb-24 24-May-24 291 10.00
5A-5408 RW-S1 - Reinstate the Slope Feature 11NE-C/F90 70 11-Mar-23 07-Jun-23 19-May-23 11-Aug-23 54 10.00
5A-5414 S2 - Reinstate the Slope Feature 11NE-C/F92 70 26-Apr-23 20-Jul-23 11-Sep-23 04-Dec-23 114 10.00
Road Works 390 10-Aug-22 A 16-Sep-23 24-Nov-22 14-May-26 787 82.00
At-grade Slip Road S004 78 26-Apr-23 29-Jul-23 23-Jun-23 17-Feb-24 162 12.00
5A-5508 BIM - S004 - Road and drainage works / Utilities Laying /TCSS duct (RW sections) 42 26-Apr-23 15-Jun-23 23-Jun-23 11-Aug-23 47 6.00
5A-5509 BIM - S004 - Road and drainage works / Utilities / TCSS duct laying (Footbridge and subway section) 36 16-Jun-23 29-Jul-23 30-Dec-23 17-Feb-24 162 6.00
At-grade Road Kai Cheung Road S009 (Uphill Ramp) 42 16-Jun-23 05-Aug-23 12-Aug-23 29-Sep-23 47 6.00
5A-5524 S009 - Road and drainage works / Utilities Laying 42 16-Jun-23 05-Aug-23 12-Aug-23 29-Sep-23 47 6.00
At-grade Road Kai Cheung Road S010 (Downhill Ramp) 42 16-May-23 07-Jul-23 29-Sep-23 20-Nov-23 114 6.00
5A-5532 S010 - Reinstate Kai Cheung Road S010 Downhill Ramp 42 16-May-23 07-Jul-23 29-Sep-23 20-Nov-23 114 6.00
At-grade Road Kai Fuk Road Eastbound S019/S020 77 25-Feb-23 01-Jun-23 24-Jul-23 24-Oct-23 119 8.00
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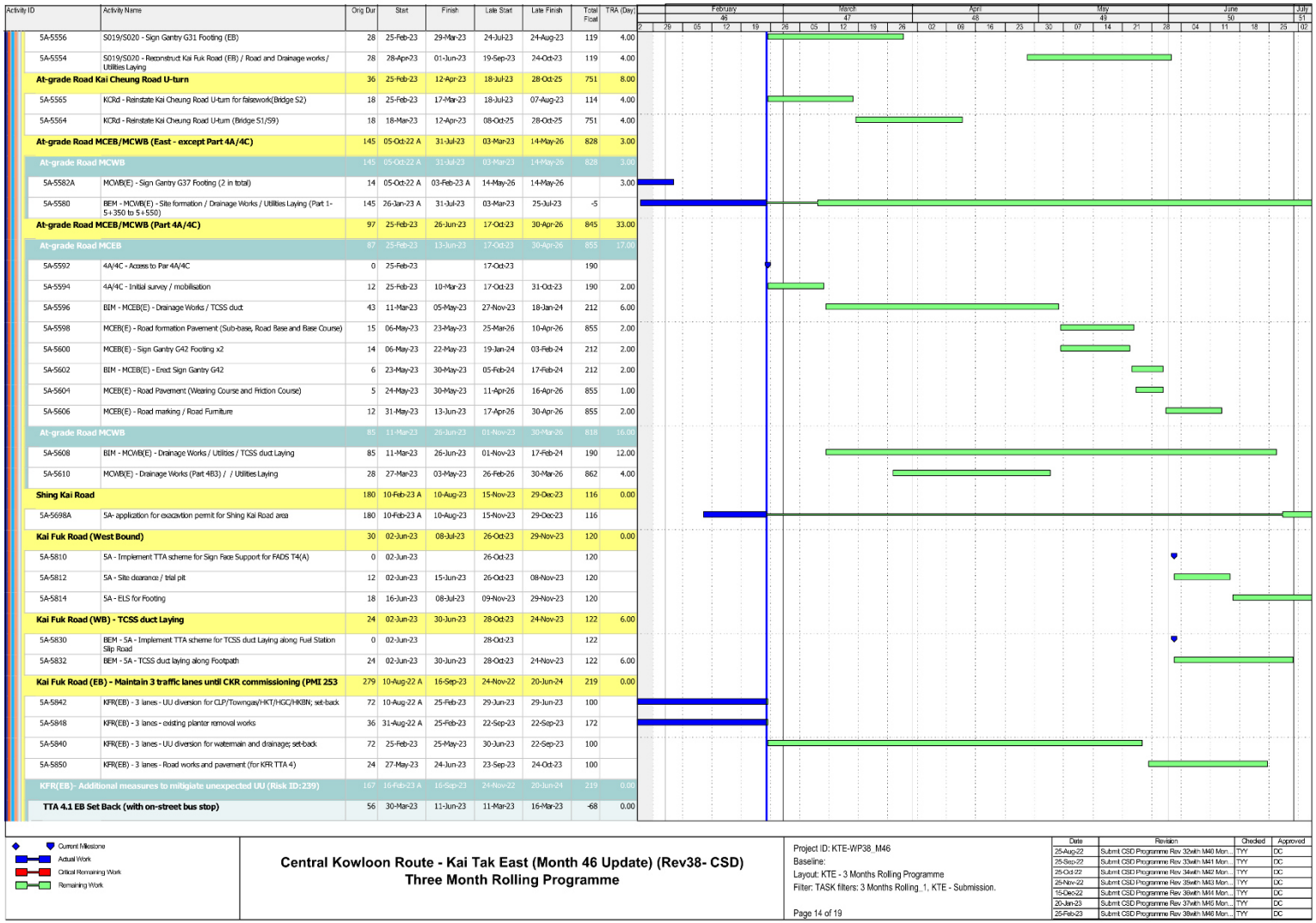

Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	TRA (Day)
5A-5556	S019/S020 - Sign Gantry G31 Footing (EB)	28	25-Feb-23	29-Mar-23	24-Jul-23	24-Aug-23	119	4.00
5A-5554	S019/S020 - Reconstruct Kai Fuk Road (EB) / Road and Drainage works / Utilities Laying	28	28-Apr-23	01-Jun-23	19-Sep-23	24-Oct-23	119	4.00
At-grade Road Kai Cheung Road U-turn		36	25-Feb-23	12-Apr-23	18-Jul-23	28-Oct-25	751	8.00
5A-5565	KCRd - Reinstate Kai Cheung Road U-turn for falsework(Bridge S2)	18	25-Feb-23	17-Mar-23	18-Jul-23	07-Aug-23	114	4.00
5A-5564	KCRd - Reinstate Kai Cheung Road U-turn (Bridge S1/S9)	18	18-Mar-23	12-Apr-23	08-Oct-25	28-Oct-25	751	4.00
At-grade Road MCEB/MCWB (East - except Part 4A/4C)		145	05-Oct-22 A	31-Jul-23	03-Mar-23	14-May-26	828	3.00
At-grade Road MCWB		145	05-Oct-22 A	31-Jul-23	03-Mar-23	14-May-26	828	3.00
5A-5582A	MCWB(E) - Sign Gantry G37 Footing (2 in total)	14	05-Oct-22 A	03-Feb-23 A	14-May-26	14-May-26		3.00
5A-5580	BIM - MCWB(E) - Site formation / Drainage Works / Utilities Laying (Part 1-5+350 to 5+550)	145	26-Jan-23 A	31-Jul-23	03-Mar-23	25-Jul-23	-5	
At-grade Road MCEB/MCWB (Part 4A/4C)		97	25-Feb-23	26-Jun-23	17-Oct-23	30-Apr-26	845	33.00
At-grade Road MCEB		87	25-Feb-23	13-Jun-23	17-Oct-23	30-Apr-26	855	17.00
5A-5592	4A/4C - Access to Par 4A/4C	0	25-Feb-23		17-Oct-23		190	
5A-5594	4A/4C - Initial survey / mobilisation	12	25-Feb-23	10-Mar-23	17-Oct-23	31-Oct-23	190	2.00
5A-5596	BIM - MCEB(E) - Drainage Works / TCSS duct	43	11-Mar-23	05-May-23	27-Nov-23	18-Jan-24	212	6.00
5A-5598	MCEB(E) - Road formation Pavement (Sub-base, Road Base and Base Course)	15	06-May-23	23-May-23	25-Mar-26	10-Apr-26	855	2.00
5A-5600	MCEB(E) - Sign Gantry G42 Footing x2	14	06-May-23	22-May-23	19-Jan-24	03-Feb-24	212	2.00
5A-5602	BIM - MCEB(E) - Erect Sign Gantry G42	6	23-May-23	30-May-23	05-Feb-24	17-Feb-24	212	2.00
5A-5604	MCEB(E) - Road Pavement (Wearing Course and Friction Course)	5	24-May-23	30-May-23	11-Apr-26	16-Apr-26	855	1.00
5A-5606	MCEB(E) - Road marking / Road Furniture	12	31-May-23	13-Jun-23	17-Apr-26	30-Apr-26	855	2.00
At-grade Road MCWB		85	11-Mar-23	26-Jun-23	01-Nov-23	30-Mar-26	818	16.00
5A-5608	BIM - MCWB(E) - Drainage Works / Utilities / TCSS duct Laying	85	11-Mar-23	26-Jun-23	01-Nov-23	17-Feb-24	190	12.00
5A-5610	MCWB(E) - Drainage Works (Part 4B3) / / Utilities Laying	28	27-Mar-23	03-May-23	26-Feb-26	30-Mar-26	862	4.00
Shing Kai Road		180	10-Feb-23 A	10-Aug-23	15-Nov-23	29-Dec-23	116	0.00
5A-5698A	5A- application for excavtion permit for Shing Kai Road area	180	10-Feb-23 A	10-Aug-23	15-Nov-23	29-Dec-23	116	
Kai Fuk Road (West Bound)		30	02-Jun-23	08-Jul-23	26-Oct-23	29-Nov-23	120	0.00
5A-5810	5A - Implement TTA scheme for Sign Face Support for FADS T4(A)	0	02-Jun-23		26-Oct-23		120	
5A-5812	5A - Site clearance / trial pit	12	02-Jun-23	15-Jun-23	26-Oct-23	08-Nov-23	120	
5A-5814	5A - ELS for Footing	18	16-Jun-23	08-Jul-23	09-Nov-23	29-Nov-23	120	
Kai Fuk Road (WB) - TCSS duct Laying		24	02-Jun-23	30-Jun-23	28-Oct-23	24-Nov-23	122	6.00
5A-5830	BIM - 5A - Implement TTA scheme for TCSS duct Laying along Fuel Station Slip Road	0	02-Jun-23		28-Oct-23		122	
5A-5832	BIM - 5A - TCSS duct laying along Footpath	24	02-Jun-23	30-Jun-23	28-Oct-23	24-Nov-23	122	6.00
Kai Fuk Road (EB) - Maintain 3 traffic lanes until CKR commissioning (PMI 253		279	10-Aug-22 A	16-Sep-23	24-Nov-22	20-Jun-24	219	0.00
5A-5842	KFR(EB) - 3 lanes - UU diversion for CLP/Towngas/HKT/HGC/HKBN; set-back	72	10-Aug-22 A	25-Feb-23	29-Jun-23	29-Jun-23	100	
5A-5848	KFR(EB) - 3 lanes - existing planter removal works	36	31-Aug-22 A	25-Feb-23	22-Sep-23	22-Sep-23	172	
5A-5840	KFR(EB) - 3 lanes - UU diversion for watermain and drainage; set-back	72	25-Feb-23	25-May-23	30-Jun-23	22-Sep-23	100	
5A-5850	KFR(EB) - 3 lanes - Road works and pavement (for KFR TTA 4)	24	27-May-23	24-Jun-23	23-Sep-23	24-Oct-23	100	
KFR(EB)- Additional measures to mitigiate unexpected UU (Risk ID:239)		167	16-Feb-23 A	16-Sep-23	24-Nov-22	20-Jun-24	219	0.00
TTA 4.1 EB Set Back (with on-street bus stop)		56	30-Mar-23	11-Jun-23	11-Mar-23	16-Mar-23	-68	0.00

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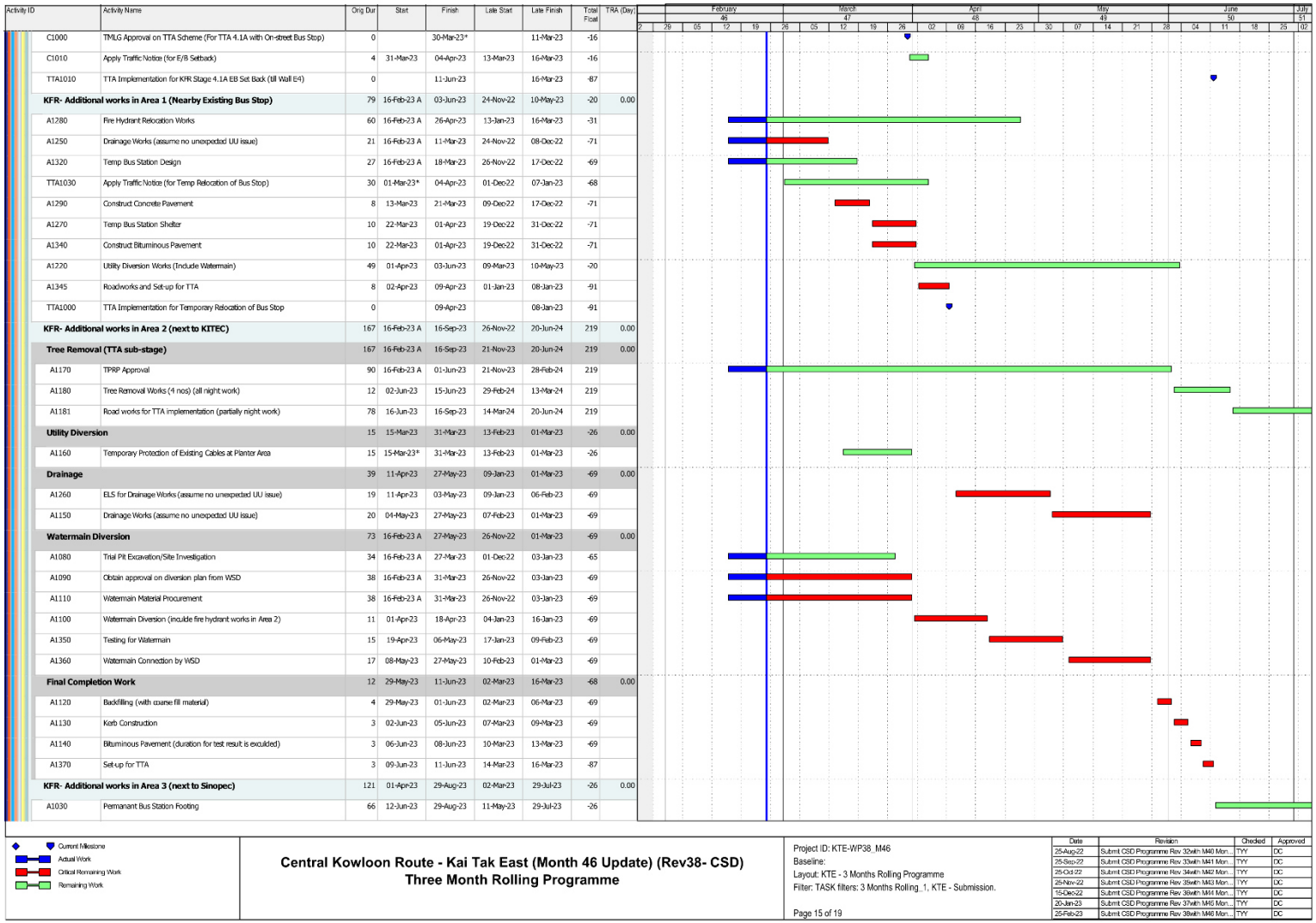

Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	TRA (Day)
C1000	TMLG Approval on TTA Scheme (For TTA 4.1A with On-street Bus Stop)	0		30-Mar-23*		11-Mar-23	-16	
C1010	Apply Traffic Notice (for E/B Setback)	4	31-Mar-23	04-Apr-23	13-Mar-23	16-Mar-23	-16	
TTA1010	TTA Implementation for KFR Stage 4.1A EB Set Back (till Wall E4)	0		11-Jun-23		16-Mar-23	-87	
KFR- Additional works in Area 1 (Nearby Existing Bus Stop)		79	16-Feb-23 A	03-Jun-23	24-Nov-22	10-May-23	-20	0.00
A1280	Fire Hydrant Relocation Works	60	16-Feb-23 A	26-Apr-23	13-Jan-23	16-Mar-23	-31	
A1250	Drainage Works (assume no unexpected UU issue)	21	16-Feb-23 A	11-Mar-23	24-Nov-22	08-Dec-22	-71	
A1320	Temp Bus Station Design	27	16-Feb-23 A	18-Mar-23	26-Nov-22	17-Dec-22	-69	
TTA1030	Apply Traffic Notice (for Temp Relocation of Bus Stop)	30	01-Mar-23*	04-Apr-23	01-Dec-22	07-Jan-23	-68	
A1290	Construct Concrete Pavement	8	13-Mar-23	21-Mar-23	09-Dec-22	17-Dec-22	-71	
A1270	Temp Bus Station Shelter	10	22-Mar-23	01-Apr-23	19-Dec-22	31-Dec-22	-71	
A1340	Construct Bituminous Pavement	10	22-Mar-23	01-Apr-23	19-Dec-22	31-Dec-22	-71	
A1220	Utility Diversion Works (Include Watermain)	49	01-Apr-23	03-Jun-23	09-Mar-23	10-May-23	-20	
A1345	Roadworks and Set-up for TTA	8	02-Apr-23	09-Apr-23	01-Jan-23	08-Jan-23	-91	
TTA1000	TTA Implementation for Temporary Relocation of Bus Stop	0		09-Apr-23		08-Jan-23	-91	
KFR- Additional works in Area 2 (next to KITEC)		167	16-Feb-23 A	16-Sep-23	26-Nov-22	20-Jun-24	219	0.00
Tree Removal (TTA sub-stage)		167	16-Feb-23 A	16-Sep-23	21-Nov-23	20-Jun-24	219	0.00
A1170	TPRP Approval	90	16-Feb-23 A	01-Jun-23	21-Nov-23	28-Feb-24	219	
A1180	Tree Removal Works (4 nos) (all night work)	12	02-Jun-23	15-Jun-23	29-Feb-24	13-Mar-24	219	
A1181	Road works for TTA implementation (partially night work)	78	16-Jun-23	16-Sep-23	14-Mar-24	20-Jun-24	219	
Utility Diversion		15	15-Mar-23	31-Mar-23	13-Feb-23	01-Mar-23	-26	0.00
A1160	Temporary Protection of Existing Cables at Planter Area	15	15-Mar-23*	31-Mar-23	13-Feb-23	01-Mar-23	-26	
Drainage		39	11-Apr-23	27-May-23	09-Jan-23	01-Mar-23	-69	0.00
A1260	ELS for Drainage Works (assume no unexpected UU issue)	19	11-Apr-23	03-May-23	09-Jan-23	06-Feb-23	-69	
A1150	Drainage Works (assume no unexpected UU issue)	20	04-May-23	27-May-23	07-Feb-23	01-Mar-23	-69	
Watermain Diversion		73	16-Feb-23 A	27-May-23	26-Nov-22	01-Mar-23	-69	0.00
A1080	Trial Pit Excavation/Site Investigation	34	16-Feb-23 A	27-Mar-23	01-Dec-22	03-Jan-23	-65	
A1090	Obtain approval on diversion plan from WSD	38	16-Feb-23 A	31-Mar-23	26-Nov-22	03-Jan-23	-69	
A1110	Watermain Material Procurement	38	16-Feb-23 A	31-Mar-23	26-Nov-22	03-Jan-23	-69	
A1100	Watermain Diversion (inculde fire hydrant works in Area 2)	11	01-Apr-23	18-Apr-23	04-Jan-23	16-Jan-23	-69	
A1350	Testing for Watermain	15	19-Apr-23	06-May-23	17-Jan-23	09-Feb-23	-69	
A1360	Watermain Connection by WSD	17	08-May-23	27-May-23	10-Feb-23	01-Mar-23	-69	
Final Completion Work		12	29-May-23	11-Jun-23	02-Mar-23	16-Mar-23	-68	0.00
A1120	Backfilling (with coarse fill material)	4	29-May-23	01-Jun-23	02-Mar-23	06-Mar-23	-69	
A1130	Kerb Construction	3	02-Jun-23	05-Jun-23	07-Mar-23	09-Mar-23	-69	
A1140	Bituminous Pavement (duration for test result is exculded)	3	06-Jun-23	08-Jun-23	10-Mar-23	13-Mar-23	-69	
A1370	Set-up for TTA	3	09-Jun-23	11-Jun-23	14-Mar-23	16-Mar-23	-87	
KFR- Additional works in Area 3 (next to Sinopec)		121	01-Apr-23	29-Aug-23	02-Mar-23	29-Jul-23	-26	0.00
A1030	Permanant Bus Station Footing	66	12-Jun-23	29-Aug-23	11-May-23	29-Jul-23	-26	

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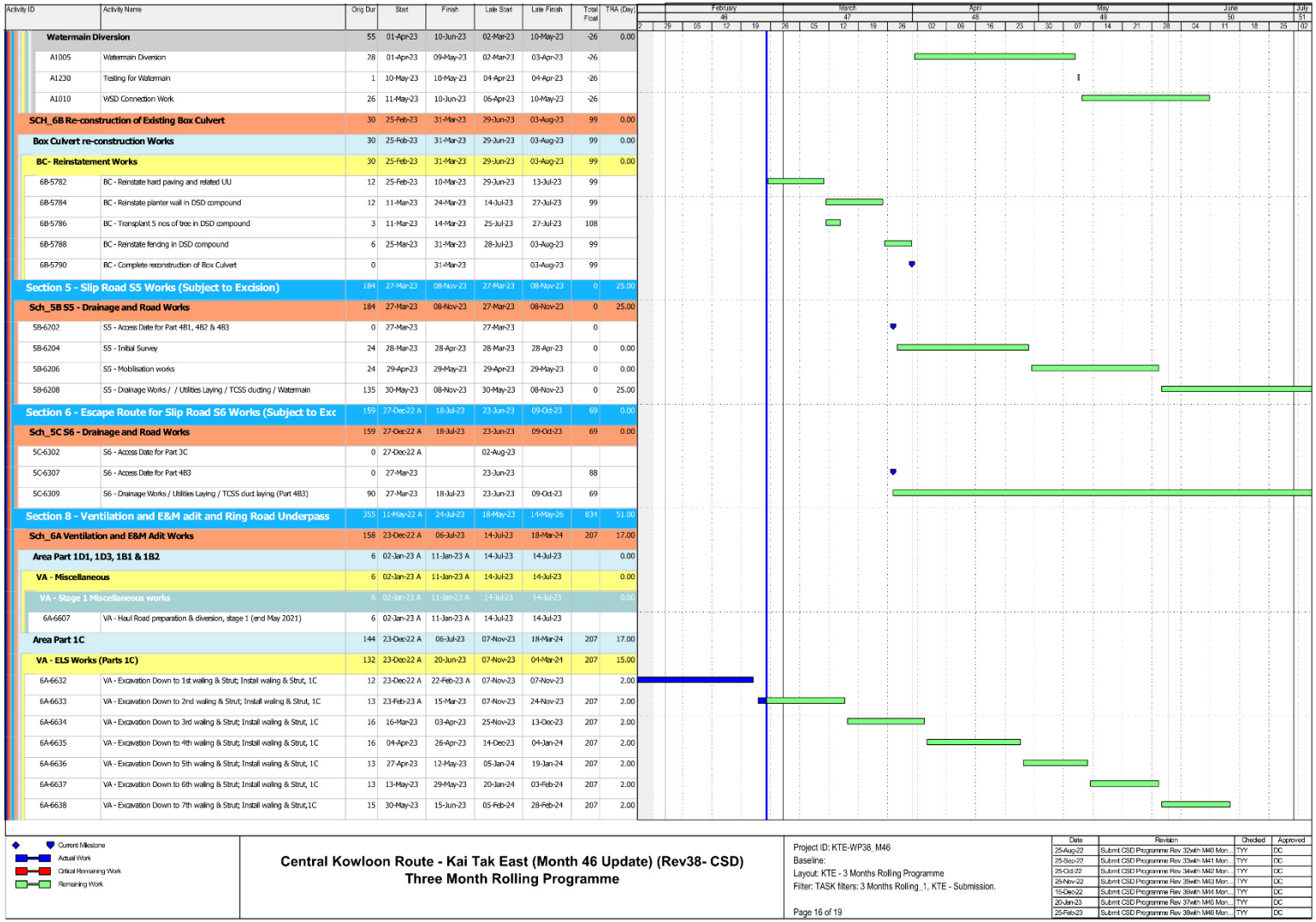
25-Aug-22	Submit CSD Programme Rev 32with M40 Mon...	TYY	DC
25-Sep-22	Submit CSD Programme Rev 33with M41 Mon...	TYY	DC
25-Oct-22	Submit CSD Programme Rev 34with M42 Mon...	TYY	DC
25-Nov-22	Submit CSD Programme Rev 35with M43 Mon...	TYY	DC
15-Dec-22	Submit CSD Programme Rev 36with M44 Mon...	TYY	DC
20-Jan-23	Submit CSD Programme Rev 37with M45 Mon...	TYY	DC
25-Feb-23	Submit CSD Programme Rev 38with M46 Mon...	TYY	DC



Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	TRA (Day)
	Watermain Diversion	55	01-Apr-23	10-Jun-23	02-Mar-23	10-May-23	-26	0.00
A1005	Watermain Diversion	28	01-Apr-23	09-May-23	02-Mar-23	03-Apr-23	-26	
A1230	Testing for Watermain	1	10-May-23	10-May-23	04-Apr-23	04-Apr-23	-26	
A1010	WSD Connection Work	26	11-May-23	10-Jun-23	06-Apr-23	10-May-23	-26	
	SCH_6B Re-construction of Existing Box Culvert	30	25-Feb-23	31-Mar-23	29-Jun-23	03-Aug-23	99	0.00
	Box Culvert re-construction Works	30	25-Feb-23	31-Mar-23	29-Jun-23	03-Aug-23	99	0.00
	BC- Reinstatement Works	30	25-Feb-23	31-Mar-23	29-Jun-23	03-Aug-23	99	0.00
6B-5782	BC - Reinstate hard paving and related UU	12	25-Feb-23	10-Mar-23	29-Jun-23	13-Jul-23	99	
6B-5784	BC - Reinstate planter wall in DSD compound	12	11-Mar-23	24-Mar-23	14-Jul-23	27-Jul-23	99	
6B-5786	BC - Transplant 5 nos of tree in DSD compound	3	11-Mar-23	14-Mar-23	25-Jul-23	27-Jul-23	108	
6B-5788	BC - Reinstate fencing in DSD compound	6	25-Mar-23	31-Mar-23	28-Jul-23	03-Aug-23	99	
6B-5790	BC - Complete reconstruction of Box Culvert	0		31-Mar-23		03-Aug-23	99	
	Section 5 - Slip Road S5 Works (Subject to Excision)	184	27-Mar-23	08-Nov-23	27-Mar-23	08-Nov-23	0	25.00
	Sch_5B S5 - Drainage and Road Works	184	27-Mar-23	08-Nov-23	27-Mar-23	08-Nov-23	0	25.00
5B-6202	S5 - Access Date for Part 4B1, 4B2 & 4B3	0	27-Mar-23		27-Mar-23		0	
5B-6204	S5 - Initial Survey	24	28-Mar-23	28-Apr-23	28-Mar-23	28-Apr-23	0	0.00
5B-6206	S5 - Mobilisation works	24	29-Apr-23	29-May-23	29-Apr-23	29-May-23	0	0.00
5B-6208	S5 - Drainage Works / / Utilities Laying / TCSS ducting / Watermain	135	30-May-23	08-Nov-23	30-May-23	08-Nov-23	0	25.00
	Section 6 - Escape Route for Slip Road S6 Works (Subject to Exc	159	27-Dec-22 A	18-Jul-23	23-Jun-23	09-Oct-23	69	0.00
	Sch_5C S6 - Drainage and Road Works	159	27-Dec-22 A	18-Jul-23	23-Jun-23	09-Oct-23	69	0.00
5C-6302	S6 - Access Date for Part 3C	0	27-Dec-22 A		02-Aug-23			
5C-6307	S6 - Access Date for Part 4B3	0	27-Mar-23		23-Jun-23		88	
5C-6309	S6 - Drainage Works / Utilities Laying / TCSS duct laying (Part 4B3)	90	27-Mar-23	18-Jul-23	23-Jun-23	09-Oct-23	69	
	Section 8 - Ventilation and E&M adit and Ring Road Underpass	355	11-May-22 A	24-Jul-23	18-May-23	14-May-26	834	51.00
	Sch_6A Ventilation and E&M Adit Works	158	23-Dec-22 A	06-Jul-23	14-Jul-23	18-Mar-24	207	17.00
	Area Part 1D1, 1D3, 1B1 & 1B2	6	02-Jan-23 A	11-Jan-23 A	14-Jul-23	14-Jul-23		0.00
	VA - Miscellaneous	6	02-Jan-23 A	11-Jan-23 A	14-Jul-23	14-Jul-23		0.00
	VA - Stage 1 Miscellaneous works	6	02-Jan-23 A	11-Jan-23 A	14-Jul-23	14-Jul-23		0.00
6A-6607	VA - Haul Road preparation & diversion, stage 1 (end May 2021)	6	02-Jan-23 A	11-Jan-23 A	14-Jul-23	14-Jul-23		
	Area Part 1C	144	23-Dec-22 A	06-Jul-23	07-Nov-23	18-Mar-24	207	17.00
	VA - ELS Works (Parts 1C)	132	23-Dec-22 A	20-Jun-23	07-Nov-23	04-Mar-24	207	15.00
6A-6632	VA - Excavation Down to 1st waling & Strut; Install waling & Strut, 1C	12	23-Dec-22 A	22-Feb-23 A	07-Nov-23	07-Nov-23		2.00
6A-6633	VA - Excavation Down to 2nd waling & Strut; Install waling & Strut, 1C	13	23-Feb-23 A	15-Mar-23	07-Nov-23	24-Nov-23	207	2.00
6A-6634	VA - Excavation Down to 3rd waling & Strut; Install waling & Strut, 1C	16	16-Mar-23	03-Apr-23	25-Nov-23	13-Dec-23	207	2.00
6A-6635	VA - Excavation Down to 4th waling & Strut; Install waling & Strut, 1C	16	04-Apr-23	26-Apr-23	14-Dec-23	04-Jan-24	207	2.00
6A-6636	VA - Excavation Down to 5th waling & Strut; Install waling & Strut, 1C	13	27-Apr-23	12-May-23	05-Jan-24	19-Jan-24	207	2.00
6A-6637	VA - Excavation Down to 6th waling & Strut; Install waling & Strut, 1C	13	13-May-23	29-May-23	20-Jan-24	03-Feb-24	207	2.00
6A-6638	VA - Excavation Down to 7th waling & Strut; Install waling & Strut,1C	15	30-May-23	15-Jun-23	05-Feb-24	28-Feb-24	207	2.00

Current Milestone
Actual Work
Critical Remaining Work
Remaining Work

Central Kowloon Route - Kai Tak East (Month 46 Update) (Rev38- CSD)
Three Month Rolling Programme

Project ID: KTE-WP38_M46
Baseline:
Layout: KTE - 3 Months Rolling Programme
Filter: TASK filters: 3 Months Rolling_1, KTE - Submission.

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25-Aug-22	Submit CSD Programme Rev 32with M40 Mon...	TYY	DC
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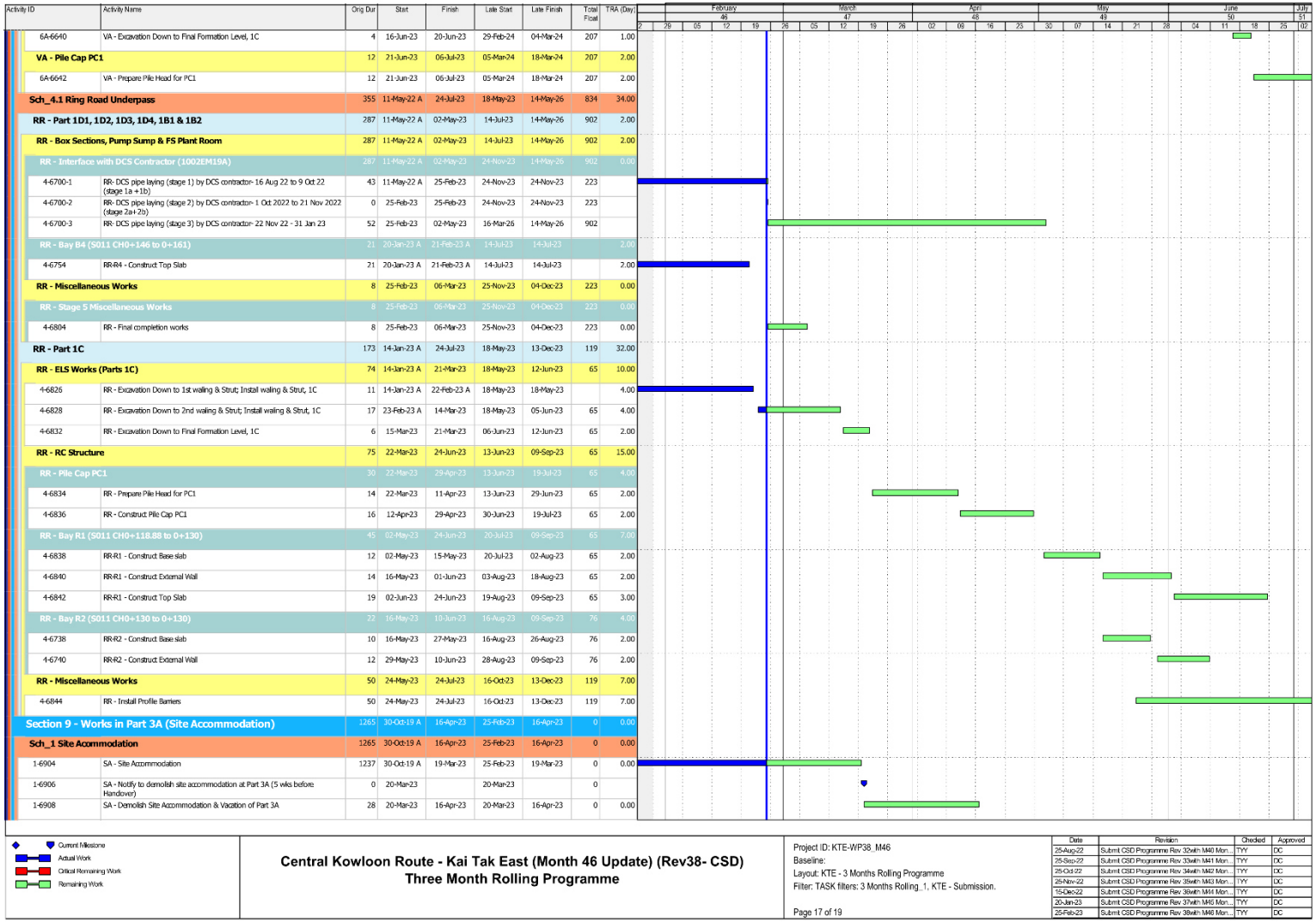
25-Feb-23	Submit CSD Programme Rev 38with M46 Mon...	TYY	DC


Central Kowloon Route - Kai Tak East (Month 46 Update) (Rev38- CSD)
Three Month Rolling Programme
Project ID: KTE-WP38_M46
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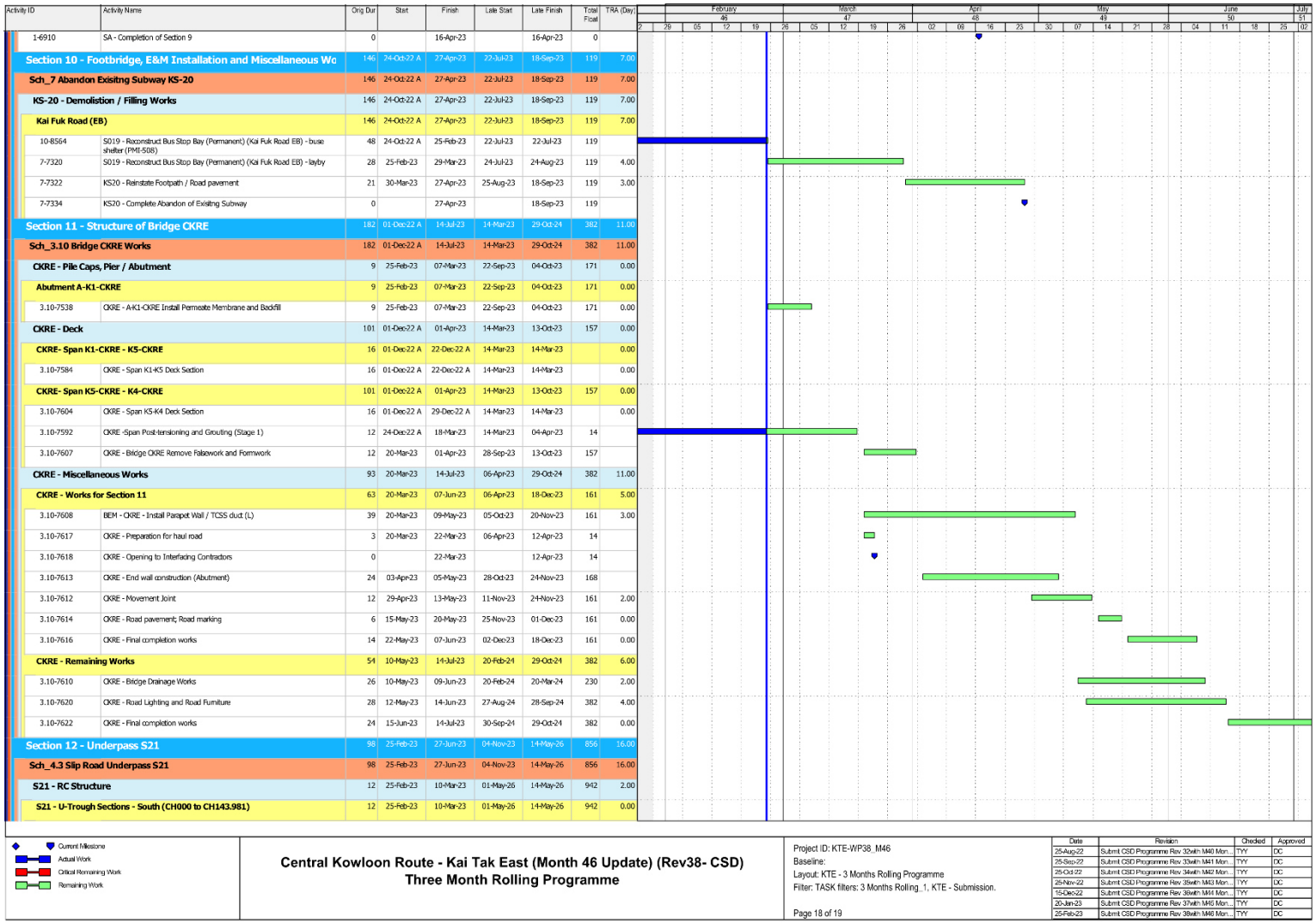
Page 17 of 19
Current Milestone
Actual Work
Critical Remaining Work
Remaining Work



Activity ID	Activity Name	Orig Dur	Start	Finish	Late Start	Late Finish	Total Float	TRA (Day)
1-6910	SA - Completion of Section 9	0		16-Apr-23		16-Apr-23	0	
Section 10 - Footbridge, E&M Installation and Miscellaneous Wo		146	24-Oct-22 A	27-Apr-23	22-Jul-23	18-Sep-23	119	7.00
Sch_7 Abandon Exisitng Subway KS-20		146	24-Oct-22 A	27-Apr-23	22-Jul-23	18-Sep-23	119	7.00
KS-20 - Demolistion / Filling Works		146	24-Oct-22 A	27-Apr-23	22-Jul-23	18-Sep-23	119	7.00
Kai Fuk Road (EB)		146	24-Oct-22 A	27-Apr-23	22-Jul-23	18-Sep-23	119	7.00
10-8564	S019 - Reconstruct Bus Stop Bay (Permanent) (Kai Fuk Road EB) - buse shelter (PMI-508)	48	24-Oct-22 A	25-Feb-23	22-Jul-23	22-Jul-23	119	
7-7320	S019 - Reconstruct Bus Stop Bay (Permanent) (Kai Fuk Road EB) - layby	28	25-Feb-23	29-Mar-23	24-Jul-23	24-Aug-23	119	4.00
7-7322	KS20 - Reinstate Footpath / Road pavement	21	30-Mar-23	27-Apr-23	25-Aug-23	18-Sep-23	119	3.00
7-7334	KS20 - Complete Abandon of Exisitng Subway	0		27-Apr-23		18-Sep-23	119	
Section 11 - Structure of Bridge CKRE		182	01-Dec-22 A	14-Jul-23	14-Mar-23	29-Oct-24	382	11.00
Sch_3.10 Bridge CKRE Works		182	01-Dec-22 A	14-Jul-23	14-Mar-23	29-Oct-24	382	11.00
CKRE - Pile Caps, Pier / Abutment		9	25-Feb-23	07-Mar-23	22-Sep-23	04-Oct-23	171	0.00
Abutment A-K1-CKRE		9	25-Feb-23	07-Mar-23	22-Sep-23	04-Oct-23	171	0.00
3.10-7538	CKRE - A-K1-CKRE Install Permeate Membrane and Backfill	9	25-Feb-23	07-Mar-23	22-Sep-23	04-Oct-23	171	0.00
CKRE - Deck		101	01-Dec-22 A	01-Apr-23	14-Mar-23	13-Oct-23	157	0.00
CKRE- Span K1-CKRE - K5-CKRE		16	01-Dec-22 A	22-Dec-22 A	14-Mar-23	14-Mar-23		0.00
3.10-7584	CKRE - Span K1-K5 Deck Section	16	01-Dec-22 A	22-Dec-22 A	14-Mar-23	14-Mar-23		0.00
CKRE- Span K5-CKRE - K4-CKRE		101	01-Dec-22 A	01-Apr-23	14-Mar-23	13-Oct-23	157	0.00
3.10-7604	CKRE - Span K5-K4 Deck Section	16	01-Dec-22 A	29-Dec-22 A	14-Mar-23	14-Mar-23		0.00
3.10-7592	CKRE -Span Post-tensioning and Grouting (Stage 1)	12	24-Dec-22 A	18-Mar-23	14-Mar-23	04-Apr-23	14	
3.10-7607	CKRE - Bridge CKRE Remove Falsework and Formwork	12	20-Mar-23	01-Apr-23	28-Sep-23	13-Oct-23	157	
CKRE - Miscellaneous Works		93	20-Mar-23	14-Jul-23	06-Apr-23	29-Oct-24	382	11.00
CKRE - Works for Section 11		63	20-Mar-23	07-Jun-23	06-Apr-23	18-Dec-23	161	5.00
3.10-7608	BEM - CKRE - Install Parapet Wall / TCSS duct (L)	39	20-Mar-23	09-May-23	05-Oct-23	20-Nov-23	161	3.00
3.10-7617	CKRE - Preparation for haul road	3	20-Mar-23	22-Mar-23	06-Apr-23	12-Apr-23	14	
3.10-7618	CKRE - Opening to Interfacing Contractors	0		22-Mar-23		12-Apr-23	14	
3.10-7613	CKRE - End wall construction (Abutment)	24	03-Apr-23	05-May-23	28-Oct-23	24-Nov-23	168	
3.10-7612	CKRE - Movement Joint	12	29-Apr-23	13-May-23	11-Nov-23	24-Nov-23	161	2.00
3.10-7614	CKRE - Road pavement; Road marking	6	15-May-23	20-May-23	25-Nov-23	01-Dec-23	161	0.00
3.10-7616	CKRE - Final completion works	14	22-May-23	07-Jun-23	02-Dec-23	18-Dec-23	161	0.00
CKRE - Remaining Works		54	10-May-23	14-Jul-23	20-Feb-24	29-Oct-24	382	6.00
3.10-7610	CKRE - Bridge Drainage Works	26	10-May-23	09-Jun-23	20-Feb-24	20-Mar-24	230	2.00
3.10-7620	CKRE - Road Lighting and Road Furniture	28	12-May-23	14-Jun-23	27-Aug-24	28-Sep-24	382	4.00
3.10-7622	CKRE - Final completion works	24	15-Jun-23	14-Jul-23	30-Sep-24	29-Oct-24	382	0.00
Section 12 - Underpass S21		98	25-Feb-23	27-Jun-23	04-Nov-23	14-May-26	856	16.00
Sch_4.3 Slip Road Underpass S21		98	25-Feb-23	27-Jun-23	04-Nov-23	14-May-26	856	16.00
S21 - RC Structure		12	25-Feb-23	10-Mar-23	01-May-26	14-May-26	942	2.00
S21 - U-Trough Sections - South (CH000 to CH143.981)		12	25-Feb-23	10-Mar-23	01-May-26	14-May-26	942	0.00

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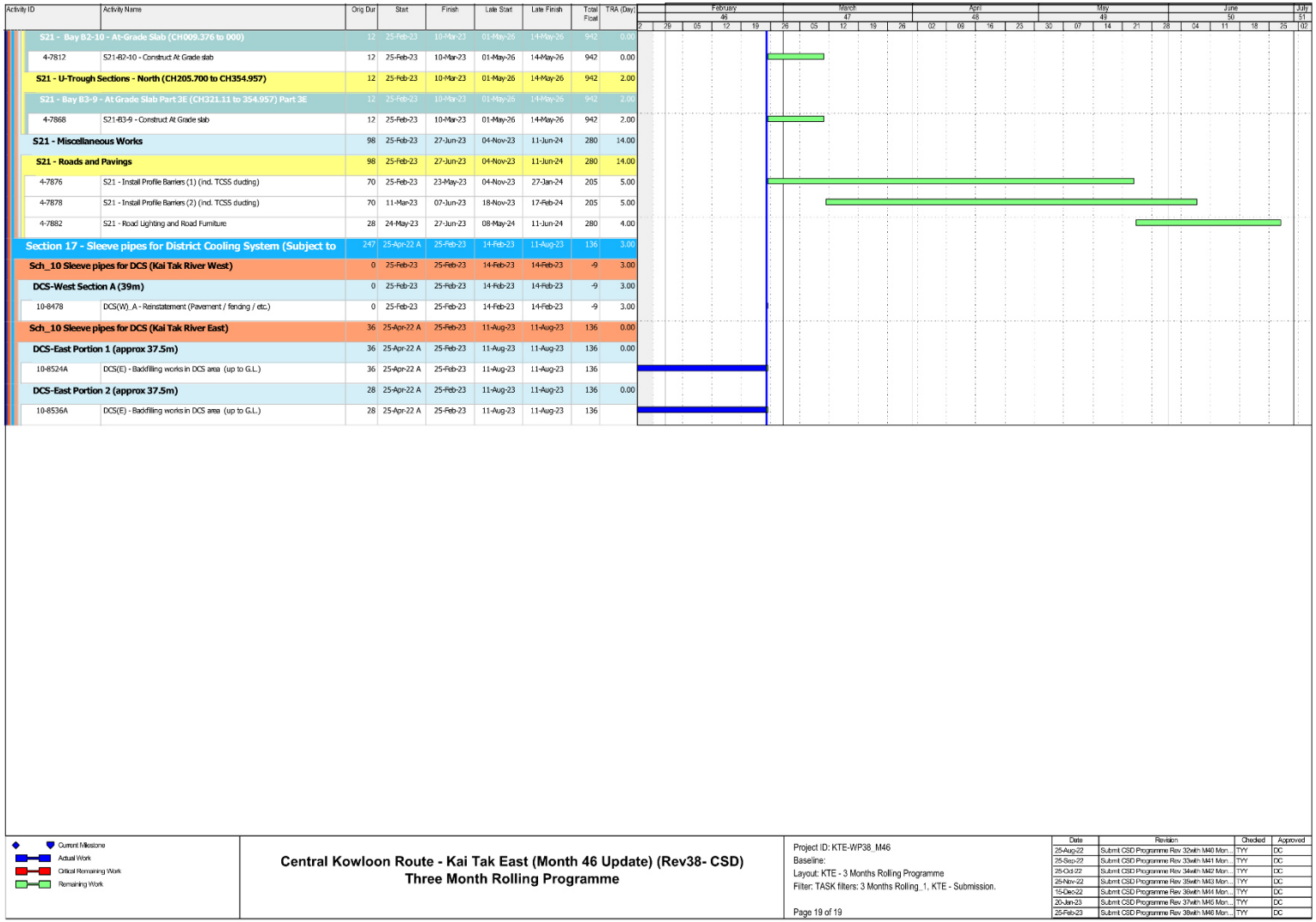
Activity ID
Activity Name
Orig Dur
Start
Finish
Late Start
Late Finish
Total Float
TRA (Day)
February
March
April
May
June
July
S21 - Bay B2-10 - At-Grade Slab (CH009.376 to 000)
4-7812 S21-B2-10 - Construct At Grade slab
S21 - U-Trough Sections - North (CH205.700 to CH354.957)
S21 - Bay B3-9 - At Grade Slab Part 3E (CH321.11 to 354.957) Part 3E
4-7868 S21-B3-9 - Construct At Grade slab
S21 - Miscellaneous Works
S21 - Roads and Pavings
4-7876 S21 - Install Profile Barriers (1) (ind. TCSS ducting)
4-7878 S21 - Install Profile Barriers (2) (ind. TCSS ducting)
4-7882 S21 - Road Lighting and Road Furniture
Section 17 - Sleeve pipes for District Cooling System (Subject to
Sch_10 Sleeve pipes for DCS (Kai Tak River West)
DCS-West Section A (39m)
10-8478 DCS(W)_A - Reinstatement (Pavement / fending / etc.)
Sch_10 Sleeve pipes for DCS (Kai Tak River East)
DCS-East Portion 1 (approx 37.5m)
10-8524A DCS(E) - Backfilling works in DCS area (up to G.L.)
DCS-East Portion 2 (approx 37.5m)
10-8536A DCS(E) - Backfilling works in DCS area (up to G.L.)
Current Milestone
Actual Work
Critical Remaining Work
Remaining Work
Central Kowloon Route - Kai Tak East (Month 46 Update) (Rev38- CSD)
Three Month Rolling Programme
Project ID: KTE-WP38_M46
Baseline:
Layout: KTE - 3 Months Rolling Programme
Filter: TASK filters: 3 Months Rolling_1, KTE - Submission.
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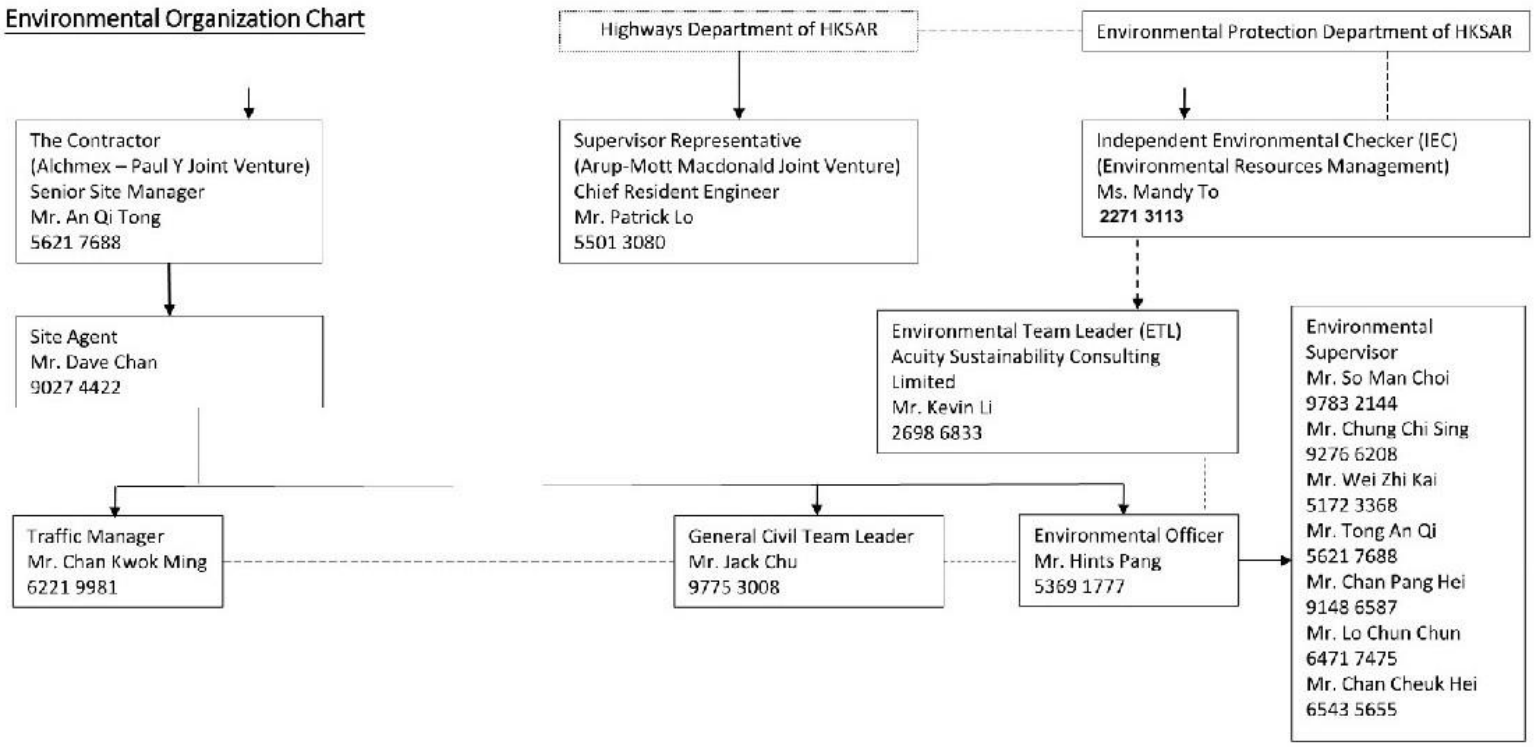
Date
Revision
Checked
Approved

Appendix C
Project Organization Chart

Environmental Organization Chart



愛銘－保華聯營
Alchmex - Paul Y Joint Venture

Appendix D
Dust Event-Action Plan (EAP) (Air Quality Monitoring)

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3.Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	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.
Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3.Advise the ER on the effectiveness of the proposed remedial measures; 4.Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6.Discuss with IEC and Contractor on remedial actions required; 7.If exceedance continues, arrange meeting with IEC and ER; 8.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 ET on the effectiveness of the proposed remedial measures; 5.Supervise Implementation of remedial measures.	1.Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3.Ensure remedial measures properly implemented.	1.Submit proposals for remedial to ER within 3 working days of notification; 2.Implement the agreed proposals; 3.Amend proposal if appropriate.
LIMIT LEVEL				
Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD;	1.Check monitoring data submitted by ET; 2.Check Contractor's working method; 3. Discuss with ET and	1.Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3.Ensure remedial measures	1.Take immediate action to avoid further exceedance; 2.Submit proposals for remedial actions to IEC within 3 working days

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	3.Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5.Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	Contractor on possible remedial measures; 4.Advise the ER on the effectiveness of the proposed remedial measures; 5.Supervise implementation of remedial measures.	properly implemented.	of notification; Implement the agreed proposals; 4.Amend proposal if appropriate.
Exceedance for two or more consecutive samples	1.Notify IEC, ER, Contractor and EPD; 2. Identify source; 3.Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5.Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7.Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1.Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2.Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3.Supervise the implementation of remedial measures.	1.Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4.Ensure remedial measures properly implemented; 5.If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1.Take immediate action to avoid further exceedance; 2.Submit proposals for remedial actions to IEC within 3 working days of notification; 3.Implement the agreed proposals; 4.Resubmit proposals if problem still not under control; 5.Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Note:

ET – Environmental Team ER – Engineer's Representative IEC – Independent Environmental Checker

Appendix E
Noise Event-Action Plan (EAP) (Noise Monitoring)

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action Level	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Notify IEC and Contractor; 3.Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1.Review the analysed results submitted by the ET; 2.Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1.Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3.Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented	1.Submit noise mitigation proposals to IEC; 2.Implement noise mitigation proposals.

Note:

ET – Environmental Team

IEC – Independent Environmental Checker

ER – Engineer's Representative

Appendix F
Environmental Mitigation Implementation Schedule (EMIS)

Environmental Mitigation Implementation Schedule – Contract No.: HY/2018/02 (Kai Tak East)

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
Construction Dust Impact								
S4.3.10	D1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation and Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation.	Minimize dust impact and adverse health effects at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	• APCO • To control the dust impact to meet HKAQO and TM-EIA criteria	Implemented
S4.3.10	D2	• Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road should be conducted to achieve dust removal efficiencies of 91.7%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.3 L/m^2 to achieve the dust removal efficiency.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	• APCO • To control the dust impact to meet HKAQO and TM-EIA criteria	Implemented
xS4.3.10	D3	• Proper watering at exposed spoil should be undertaken throughout the construction phase; • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones;	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	• APCO • To control the dust impact to meet HKAQO and TM-EIA criteria	Implemented after observation

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		• The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle. • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided and properly maintained as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Any skip hoist for material transport should be totally enclosed by impervious sheeting;						

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		• Every stock of more than 20 bags of cement or dry-pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilizer within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.						
S4.3.10	D6	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected rep. dust monitoring station	Construction stage	• TM-EIA	Implemented
Construction Noise (Airborne)								
S5.4.1	N1	Implement the following good site practices: • Only well-maintained plant should be operated on-site, and plant should be serviced regularly during the construction programme; • Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;	Control construction airborne noise	Contractor	All construction sites	Construction stage	• Annex 5, TM-EIAO	Implemented after reminder

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		• Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • Mobile plant should be sited as far away from NSRs as possible and practicable; • Material stockpiles, mobile container site office and other structures should be effectively utilized, where practicable, to screen noise from on-site construction activities.						
S5.4.1	N2	Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening	Contractor	All construction sites	Construction stage	• Annex 5, TM-EIAO	Implemented
S5.4.1	N3	Install movable noise barriers (typical design is wooden framed barrier with a small-cantilevered on a skid footing with 25mm thick internal sound absorptive lining), acoustic mat or full enclosure, screen the noisy plants including air compressors, generators and handheld breakers, etc.	Sreen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction stage	• Annex 5, TM-EIAO	Implemented
S5.4.1	N4	Use 'Quiet plant'	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction stage	• Annex 5, TM-EIAO	Implemented
S5.4.1	N5	Loading/ unloading activities should be carried out inside the full enclosure of mucking out points.	Reduce the noise levels of loading/ unloading activities	Contractor	Mucking out locations	Construction stage	• Annex 5, TM-EIAO	Implemented
S5.4.1	N6	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to	Contractor	All construction sites where practicable	Construction stage	• Annex 5, TM-EIAO	Implemented

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			reduce the construction airborne noise					
S5.4.1	N7	Implement a noise monitoring programme under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected rep. noise monitoring station	Construction stage	• TM-EIAO	Implemented
Water Quality (Construction Phase)								
S6.9.1.1	W1	In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following: <u>Construction Runoff</u> • At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sandbag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction; • The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt/ sediment trap. The sediment/ silt traps should be	To minimize water quality impact from the construction site runoff and general construction activities	Contractor	All construction sites where practicable	Construction stage	• Water Pollution Control Ordinance • ProPECC PN 1/94 • TM-EIAO • TM-DSS	Implemented

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		incorporated in the permanent drainage channels 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, which states that the retention time for silt/ sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1 m3/s a sedimentation basin of 30 m3 would be required and for a flow rate of 0.5 m3/s the basin would be 150 m3. The detailed design of the sand/ silt traps shall be undertaken by the contractor prior to the commencement of construction; • All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means; • The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows; • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas;						

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		• Measures should be taken to minimize the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities; • Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m3 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; • Manholes 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; • Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes; • 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 site wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of						

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		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; • Oil interceptors should be provided in the drainage system downstream of any oil/ fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain; • Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts; • All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby; • Adopt best management practices; • All earth works should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.						
S6.9.1.2	W2	<u>Tunneling Works and Underground Works</u> • Cut-&-cover tunneling work should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable. • Uncontaminated discharge should pass through sedimentation tanks prior to off-site discharge;	To minimize construction water quality impact from tunneling works	Contractor	All tunneling portion	Construction stage	• Water Pollution Control Ordinance • ProPECC PN 1/94 • TM-DSS • TM-EIAO	N/A

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		• The wastewater with a high concentration of SS should be treated (e.g. by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater; • Direct discharge of the bentonite slurry (as a result of D-wall) is not allowed. It should be reconditioned and reused wherever practicable. Temporary storage locations (typically a properly closed warehouse) should be provided on site for any unused bentonite that needs to be transported away after all the related construction activities area completed. The requirements in ProPECC PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.						
S6.9.1.3	W3	Sewage Effluent • Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	To minimize water quality from sewage effluent	Contractor	All construction sites where practicable	Construction stage	• Water Pollution Control Ordinance • TM-DSS	Implemented
S6.9.1.5	W4	Groundwater from Potential Contaminated Area: • No direct discharge of groundwater from contaminated areas should be adopted. • A discharge license under the WPCO through the Regional Office of EPD for groundwater discharge should be applied. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed during the process of discharge license application. The	To minimize groundwater quality impact from contaminated area	Contractor	Excavation areas where contamination is found	Construction stage	• Water Pollution Control Ordinance • TM-DSS • TM-EIAO	Implemented

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		compliance to the Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters (TM-DSS) and the existence of prohibited substance should be confirmed. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated in compliance with the requirements of the TM-DSS or properly recharged into the ground. • If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. TPH) to undetectable range. All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be discharged into the foul sewers. • If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Section 2.3 of TM-DSS. The baseline groundwater quality shall be determined prior to the selection of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge,						

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		any prohibited substances such as TPH products should be removed as necessary by installing the petrol interceptor.						
S6.9.1.6	W6	<u>Accidental Spillage</u> In order to prevent accidental spillage of chemicals, the following is recommended: • All the tanks, containers, storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and stormwater drains; • The Contractor should register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities should be stored with suitable labels and warnings. Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste Disposal (Chemical Waste) (General) Regulation.	To minimize water quality impact from accidental spillage	Contractor	All construction site where practicable	Construction stage	• Water Pollution Control Ordinance • ProPECC PN 1/94 • TM-EIAO • TM-DSS	Implemented
Waste Management (Construction Waste)								
S7.4.1	WM1	<u>On-site sorting of C&D material</u> • Geological assessment should be carried out by competent persons on site during excavation to identify materials which are not suitable to use as aggregate in structural concrete (e.g. volcanic rock, Aplite dyke rock, etc.). Volcanic rock and Aplite dyke rock should be separated at the source sites as far as practicable and stored at designated stockpile area preventing them from delivering to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from ending up at concrete batching plants and	Separation of unsuitable rock from ending up at concrete batching plants and be turned into concrete for structural use	Contractor	All construction sites	Construction stage	• DEVB (W) No. 6/2010	N/A

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		be turned into concrete for structural use. Details regarding control measures at source site and crushing facilities should be submitted by the Contractor for the Engineer to review and agree. In addition, site records should also be kept for the types of rock materials excavated and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced by site supervisory staff as stipulated under DEVB TC(W) No. 6/2010 for tracking of the correct delivery to the rock crushing facilities for processing into aggregates. Alternative disposal option for the reuse of volcanic rock and Aplite Dyke rock, etc. should be explored.						
S7.5.1	WM2	Construction and Demolition Material • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement; • Carry out on-site sorting; • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • Adopt 'selective demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible; • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified; and • Implement an enhanced Waste Management Plan similar to ETWBTC (Works) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	• Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETWB TCW No. 19/2005	Implemented

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S7.5.1	WM3	C&D Waste • Standard formwork or pre-fabrication should be used as far as practicable in order to minimize the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage; • The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	• Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETWB TCW No. 19/2005	Implemented
S7.5.1	WM4	Excavated Contaminated Soils • Details of the mitigation measures on handling of the contaminated soil shall be referred to Section on Land Contamination below.	The contaminated soil will be excavated for on-site reuse	Contractor	PBH4	Prior to commencement of construction works within the contaminated area	• Practice Guide (PG) for Investigation and Remediation of Contaminated Land • GN/GM for land contamination	Implemented

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S7.5.1	WM5	Land-based Sediment • All construction plant and equipment shall be designed and maintained to minimize the risk of silt, sediments, contaminants or other pollutants being released into the water column or deposited in the locations other than designated location; • All vessels shall be sized such that adequate draft is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; • Before moving the vessels which are used for transporting dredged material, excess material shall be cleaned from the decks and exposed fittings of vessels and the excess materials shall never be dumped into the sea except at the approved locations; • Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action. • The Contractors shall monitor all vessels transporting material to ensure that no dumping outside the approved location takes place. The Contractor shall keep and produce logs and other records to demonstrate compliance and that journeys are consistent with designated locations and copies of such records shall be submitted to the engineers; • The Contractors shall comply with the conditions in the dumping license. • All bottom dumping vessels (Hopper barges) shall be fitted with tight fittings seals to their bottom openings to prevent leakage of material; • The material shall be placed into the disposal pit by bottom dumping;	To control pollution due to marine sediment	Contractor	Along CKR alignment	Construction stage	• ETWB TCW No. 34/2002	Implemented

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		• Contaminated marine mud shall be transported by spit barge of not less than 750m3 capacity and capable of rapid opening and discharge at the disposal site; • Discharge shall be undertaken rapidly, and the hoppers shall be closed immediately. Material adhering to the sides of the hopper shall not be washed out of the hopper and the hopper shall remain closed until the barge returns to the disposal site. • For Type 3 special disposal treatment, sealing of contaminant with geosynthetic containment before dropping designated mud pit would be a possible arrangement. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping at the disposal site, thereby fulfilling the requirements for fully confined mud disposal.						
S7.5.1	WM6	Chemical Waste • Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes; • Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed, have a capacity of less than 450 L unless the specification has been approved by EPD, and display a label in English and	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction stage	• Waste Disposal (Chemical Waste) (General) Regulation • Code of Practice on the Packaging, Labelling and Storage of Chemical Waste	Implemented after observation

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		Chinese in accordance with instructions prescribed in Schedule 2 of the regulation; • The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste, enclosed on at least 3 sides, have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest, have adequate ventilation, covered to prevent rainfall entering, and arranged so that incompatible materials are adequately separated; • Disposal of chemical waste should be via a licensed waste collector, be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers, or be to a reuser of the waste, under approval from EPD.						
S7.5.1	WM7	<u>General Refuse</u> • General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes; • A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. • Aluminum cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible;	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance	Implemented

<table>
<tr><th>EIA Ref.</th><th>EM&A Log Ref.</th><th>Recommended Mitigation Measures</th><th>Objectives of the Recommended Measures & Main Concerns to address</th><th>Implementation Agent</th><th>Location / Timing</th><th>Implementation Stage</th><th>Requirements and/ or standards to be achieved</th><th>Implementation Status</th></tr>
<tr><td></td><td></td><td>• Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor.</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="9">Land Contamination</td></tr>
<tr><td>S8.9 & Appendix 8.4</td><td>LC2</td><td><u>Excavation of the Contaminated Soil</u>
• Prior to commencement of the excavation works at the contamination zone, the zone should be clearly marked out on site and the surface levels recorded. Excavation of contaminated material should be undertaken using dedicated earth-moving plant.
• The excavated contaminated soils would be stockpiled at designated area on site and covered by sheet to prevent dispersion of contamination during stockpiling.
• The Contractor should pay attention to the selection of suitable groundwater lowering schemes and discharge points if the groundwater table is higher than the contaminated soils during excavation. The Contractor should also obtain a valid Water Pollution Control Ordinance (WPCO) discharge licence from EPD where applicable.</td><td>The contaminated soil will be excavated for on-site reuse</td><td>Contractor</td><td>PBH4</td><td>Prior to commencement of construction works within the contaminated area</td><td>• Practice Guide (PG) for Investigation and Remediation of Contaminated Land
• Guidance Notes for Contaminated Land Assessment and Remediation
• Guidance Manual for Use of Risk-Based Remediation Goals (RBRGs) for Contaminated Land Management</td><td>N/A</td></tr>
<tr><td>S8.9 & Appendix 8.4</td><td>LC3</td><td>• Following completion of the excavation to the specified depth, at least one sample from the base of the excavation and four samples evenly distributed along the boundary of the excavation shall be taken for a closure assessment testing. The acceptance criterion is shown below:
<table><tr><th>Locations</th><th>Testing requirement</th><th>Acceptance Criteria</th></tr><tr><td>PBH4</td><td>PCBs</td><td>RBRGs (Public Park)</td></tr></table></td><td></td><td></td><td></td><td></td><td></td><td>N/A</td></tr>
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		• If the results of analysis below the RBRGs (Public Park), no further excavation will be required. If the analysis indicates presence of contamination (i.e. noncompliance of the acceptance criteria), further excavation shall be carried out in 0.5m increment vertically and/or horizontally depending on the location(s) of the sample(s) which has exceeded the acceptance criteria. Further sampling shall also be conducted for compliance testing. The process of excavation, sampling and compliance testing should continue until all contaminated materials are removed and should be supervised by a Land Contamination Specialist.						
Appendix 8.4	LC4	A Remediation Report (RR) to demonstrate adequate clean-up shall be prepared and submitted to EPD for endorsement prior to the commencement of any construction/development works within the sites. No construction/development works shall be carried out prior to the endorsement of the RR by EPD.						N/A
Hazard to Life								
S9.18	H8	The driver and his assistant should be physically healthy, experienced and have good safe driving records. The driver should hold a proper driving licence for the approved transport truck. Dedicated training programme and regular road safety briefing sessions/ workshops should be provided to enhance their safe driving attitude and practice. Smoking should be strictly prohibited.	To reduce the risk during explosives transport	Contractor	Works areas at which explosives would be used	Construction stage	-	N/A
S9.18	H9	Emergency response plans in case of road accident should be prepared and implemented. The driver and his assistant should be familiar with the emergency procedures including evacuation, and proper communication/ fire-fighting equipment should be provided to the driver and his assistant.	To reduce the risk during explosives transport	Contractor	Works areas at which explosives would be used	Construction stage	-	N/A

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Landscape & Visual								
S10.10.1 Table 10.11	LV3	Good Site Management • Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance. • Construction plant and building material shall be orderly and carefully stored in order to create a neat and tidy visual appearance.	Minimize visual impact	Contractor	Within Project site	Construction stage	-	Implemented
S10.10.1 Table 10.11	LV4	Screen Hoarding • Decorative screen hoarding should be erected to screen the public from the construction area. It should be designed to be compatible with the existing urban context.	Minimize visual impact	Contractor	Within Project site	Construction stage	-	Implemented
S10.10.1 Table 10.11	LV5	Lighting Control during Construction • All lighting in the construction site shall be carefully controlled to minimize light pollution and night-time glare to nearby residencies and GIC. The Contractor shall consider other security measures, which shall minimize the visual impacts.	Minimize visual impact	Contractor	Within Project site	Construction stage	-	Implemented
S10.10.1 Table 10.11	LV6	Erosion Control • The potential for soil erosion shall be reduced by minimizing the extent of vegetation disturbance on site and by providing a protective cover over newly exposed soil.	Minimize landscape impact	Contractor	Within Project site	Construction stage	-	Implemented
S10.10.1 Table 10.11	LV7	Tree Protection & Preservation • Carefully protected during construction. Tree protection measures will be detailed at the Tree Removal Application stage and plans submitted to the relevant Government Department for approval in due course in accordance with ETWB TC no. 3/2006.	Minimize landscape and visual impact	Contractor	Within Project site	Construction stage	• 'Guidelines for Tree Risk Management and Assessment Arrangement on an Area	Implemented

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							Basis and on a Tree Basis', Greening, Landscape and Tree Management (GLTM) Section, DEVB • Latest recommended horticultural practices from GLTM Section, DEVB	
S10.10.1 Table 10.11	LV8	Tree Transplantation • For trees unavoidably affected by the Project that have to be removed, where practical transplantation will be chosen as the top priority method of removal. If this is not possible or practical compensatory planting will be provided for trees unavoidably felled (See LV10). For trees unavoidably affected by the Project works that are transplanted, transplantation must be carried out in accordance with ETWB TCW 2/2004 and 3/2006.	Minimize landscape and visual impact	Contractor	Within Project site and designated off-site locations	Prior to Construction stage	• ETWB TCW 3/2006 • Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DEVB • ETWB TCW 2/2004	N/A
S10.10.1 Table 10.11	LV9	Compensatory Planting • For trees unavoidably affected by the Project that have to be removed, where practical transportation will be chosen as the top priority method of removal but if this is not possible or practical compensatory planting will be provided for trees unavoidably	Minimize visual impact and also enhance landscape	Contractor	Within Project site	Construction stage	• ETWB TCW 3/2006 • Latest recommended horticultural practices from	N/A

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		felled. All felled trees shall be compensated for by planting trees to the satisfaction of relevant Government projects. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006. • Compensatory tree planting may be incorporated into public open spaces and along roadside amenity areas affected by the construction works and therefore be part of the bigger wider planting plans. Onsite compensation planting is preferred but if necessary, additional receptor sites outside the Works Area shall be agreed separately with Government during the Tree Felling Application process.					Greening, Landscape and Tree Management (GLTM) Section, DEVB • ETWB TCW 2/2004	
S10.10.1 Table 10.11	LV10	<u>Screen Planting</u> • Tall screen/buffer trees, shrubs and climbers should be planted, in so far as is possible, to soften and screen proposed structures such as roads and central strip, vertical edges and buildings and to enhance streetscape greening effect where appropriate. Indiscriminate use of trees for screening must be avoided and the principle of 'right tree for the right place' must be followed. This detail will be provided at the Detailed Design stage. This measure may additionally form part of the compensatory planting and will improve and create a pleasant pedestrian environment.	Minimize visual impact and also enhance landscape.	Contractor	Within Project Site	Construction Phase	• Guidelines on Greening of Noise Barriers, issued April 2012, GLTMS, DevB • ETWB TCW 2/2004	N/A
S10.10.1 Table 10.11	LV12	<u>Reinstatement</u> • All works areas, excavated areas and disturbed areas for tunnel construction and temporary road diversion or any other proposed works shall be reinstated to former conditions or better, with reasonable landscape treatment and to the satisfaction of the	Minimize landscape impact	Contractor	Within Project Site	Construction Phase	• N/A	N/A

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		relevant Government departments. (Specific mitigation for disturbance to public open space is detailed separately under LV14)						
Cultural Heritage Impact (Construction Phase)								
S11.4.4	CH1	The contractor should be alerted during the construction on the possibility of locating archaeological remains and as a precautionary measure, AMO shall be informed immediately in case of discovery of antiquities or supposed antiquities in the subject sites.	To preserve any cultural heritage items which may be removed and damaged by the excavation	Contractor	During construction works for cut and cover tunnels	Construction stage	• AMOs requirements	Implemented
EM&A Project								
S13.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual	Control EM&A Performance	Highways Department	All construction sites	Construction stage	• EIAO Guidance Note No. 4/2010 • TM-EIAO	Implemented
S13.2-13.4	EM2	• An Environmental Team needs to be employed as per the EM&A Manual; • Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures; • An environmental impact monitoring needs to be implemented by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	Perform environmental monitoring & auditing	Highways Department/ Contractor	All construction sites	Construction stage	• EIAO Guidance Note No. 4/2010 • TM-EIAO	Implemented

Appendix G
Monitoring Schedule of the Reporting Month

Contract No.: HY/2018/02
Central Kowloon Route Section of Kai Take East

Environmental Monitoring Schedule (March 2023)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	1	2	3	4 Impact Dust Monitoring (E-A1)
5	6	7	8	9	10 Impact Dust Monitoring (E-A1)	11
12	13	14	15	16 Impact Dust Monitoring (E-A1)	17	18
19	20	21	22 Impact Dust Monitoring (E-A1)	23	24	25
26	27	28 Impact Dust Monitoring (E-A1)	29	30	31	1

Appendix H
Calibration Certificates
(Air Monitoring)

ACUITY SUSTAINABILITY CONSULTING LIMITED

Website: www.acuityhk.com
Unit C, 11/F, Ford Glory Plaza, Nos. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon.
Tel. : (852) 2698 6833
Fax.: (852) 2698 9383

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

Verification Test Date:	9-Oct-22	to	16-Oct-22
Next Verification Test Date:	17-Oct-23		
Unit-under-Test- Model No.	Sibata LD-5R		
Unit-under-Test Serial No.	882110		
Our Report Refrence No.	RPT-22-HVS-0017		

Standard Equipment Information			
Verification Equipment Type		Tisch's TSP HVS	Tish HVS Calibrator
Standard Equipment Model No.		TE-5170X	TE-5025A
Equipment serial no.	MFC	1049	3465
Last Calibration Date		28-Sep-22	28-Jun-22
Next Calibration Date		28-Nov-22	29-Jun-23

Verification Test No.	Date	Time			K-Factor	Counts/ Minute (R)	Total Counts (TC)	TSP Sample ID No.	Dust Concentration (ug/m3), (C)
		Start-time	End-time	Elapsed Time (in min)	K-Factor (K=C/R)	x-axis			y axis
1	9/10/2022	6210.34	6213.34	180.00	0.00087	39.33	7080	R221670/1	34
2	9/10/2022	6213.34	6216.36	181.20	0.00103	63.67	11536	R221670/2	66
3	9/10/2022	6216.36	6221.78	325.20	0.00097	106.33	34580	R221670/3	103
4	16/10/2022	6249.91	6252.92	180.60	0.00103	52.33	9451.4	R221671/1	54
5	16/10/2022	6252.92	6255.92	180.00	0.00113	78.00	14040	R221671/2	88
6	16/10/2022	6255.92	6261.94	361.20	0.00118	70.00	25284	R221671/3	83
					0.00104				

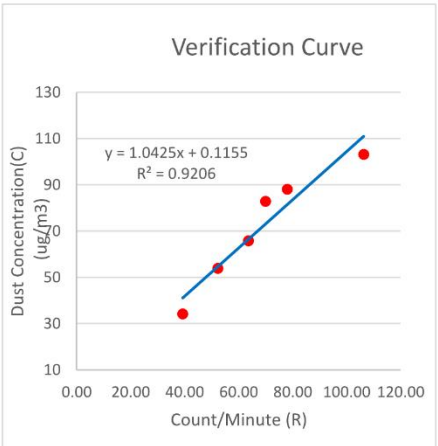
K-Factor to be inputted in LD-5R (corrected 1 decimal point): 1.0

By Linear Regression of y on x:

slope, mh= 1.0425
intercept,ch= 0.1155
*Correlation Coefficient,R= 0.9595

Verification Test Result: Strong Correlation, Results were accepted.

* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.



Verified By: _____ Date: 19-10-2022
Field Supervisor

TISCH Environmental

RECALIBRATION DUE DATE:
June 28, 2023

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	June 28, 2022	**Rootsmeter S/N:** 438320	**Ta:** 296	°K
Operator:	Jim Tisch		**Pa:** 755.1	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **3465**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4290	3.2	2.00
2	3	4	1	1.0130	6.4	4.00
3	5	6	1	0.9050	7.9	5.00
4	7	8	1	0.8590	8.8	5.50
5	9	10	1	0.7110	12.8	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)
0.9961	0.6970	1.4144	0.9958	0.6968	0.8854
0.9918	0.9791	2.0003	0.9915	0.9788	1.2522
0.9899	1.0938	2.2364	0.9895	1.0934	1.4000
0.9887	1.1509	2.3456	0.9883	1.1506	1.4683
0.9834	1.3831	2.8289	0.9830	1.3826	1.7708
QSTD	**m=**	**2.05924**	**QA**	**m=**	**1.28946**
	b=	**-0.01929**		**b=**	**-0.01207**
	r=	**0.99998**		**r=**	**0.99998**

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

ACUITY sustainability
Member of the Aurecon Group

aurecon

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	**EMAX**	**Site ID:**	**EA-1**	**Date:**	**03-Mar-2023**
Serial No:	**1049**	**Model:**	**TE-5170X**	**Operator:**	**Andy Li**

Ambient Condition

Actual Pressure during Calibration (P_a) (mm Hg):	768.7	**Actual Temperature during Calibration (T_a) (deg K):**	291.8

Calibration Orifice

Model:	TE-5025A	**Slope (m_c):**	2.05924
Serial No.:	3465	**Intercept (b_c):**	-0.01929
Calibration Due Date:	28-Jun-23	**Corr. Coeff:**	0.99998

Calibration Data

Plate or Test #	ΔH_2O (in)	Qa, X-Axis (m^3/min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	1.5	0.614	30	30.49
2	2.1	0.725	32	32.53
3	2.5	0.790	33	33.54
4	2.8	0.835	34	34.56
5	3.6	0.946	36	36.59

Sampler Calibtation Relationship (Qa on x-axis, IC on y-axis)

m= 18.3459 b= 19.1971 Corr. Coeff= 0.9994

Sampler Set Point Flow Rate (SFR)= 1.0975 Sampler Chart Set Point (SSP)= 40

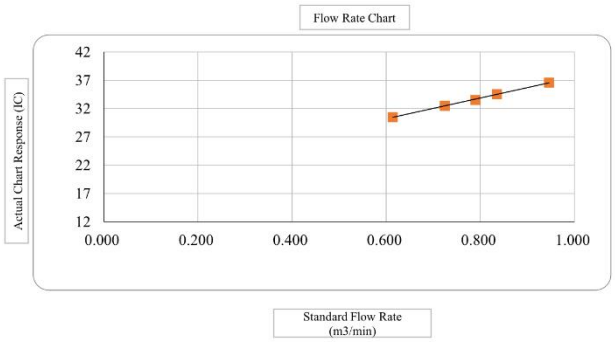
Calculations

$Qa = 1/m_c * [Sqrt (\Delta H_2O * (P_a/P_{Std}) * (T_{Std}/T_a)) - b_c]$
$IC = I * (Sqrt (P_a/P_{Std}) * (T_{Std}/T_a))$

$SFR = 1.13 (P_{Std} / P_a) (T_a / T_{Std})$
$SSP = (m*SFR+b) (Sqrt (P_a / P_{Std})(T_{Std} / T_a))$

Qa = actual flow rate
IC = corrected chart response
I = actual chart response
m_c = calibrator slope
b_c = calibrator intercept
T_a = actual temperature during calibration (deg K)
P_a = actual pressure during calibration (mm Hg)

m = sampler slope
b = sampler intercept
T_{Std} = 298 deg K
P_{Std} = 760 mm Hg
T_a = actual temperature during calibration (deg K)
P_a = actual pressure during calibration (mm Hg)
Where 1.13 is the designed sampling flow rae of PM10 samplers, m^3/min



Checked by: Tandy Tse
Senior Consultant, Environmental

Date: 03-Mar-2023

HIVOL SAMPLER CALIBRATION DATA SHEET (TSP)

Site Information

Location:	**EMAX**	**Site ID:**	**EA-1**	**Date:**	**17-Mar-2023**
Serial No:	**1049**	**Model:**	**TE-5170X**	**Operator:**	**Andy Li**

Ambient Condition

Actual Pressure during Calibration (P_a) (mm Hg):	762.7	**Actual Temperature during Calibration (T_a) (deg K):**	294.9

Calibration Orifice

Model:	TE-5025A	**Slope (m_c):**	2.05924
Serial No.:	3465	**Intercept (b_c):**	-0.01929
Calibration Due Date:	28-Jun-23	**Corr. Coeff:**	0.99998

Calibration Data

Plate or Test #	ΔH_2O (in)	Qa, X-Axis (m^3/min)	I, CFM (chart)	IC, Y-Axis (corrected)
1	1.6	0.628	31	31.52
2	2.1	0.718	33	33.23
3	2.5	0.783	34	34.24
4	2.9	0.842	35	35.35
5	3.3	0.898	36	36.25

Sampler Calibtation Relationship (Qa on x-axis, IC on y-axis)

m= 17.4862 b= 20.5892 Corr. Coeff= 0.9995

Sampler Set Point Flow Rate (SFR)= 1.1180 Sampler Chart Set Point (SSP)= 40

Calculations

$Qa = 1/m_c * [Sqrt (\Delta H_2O * (P_a/P_{Std}) * (T_{Std}/T_a)) - b_c]$

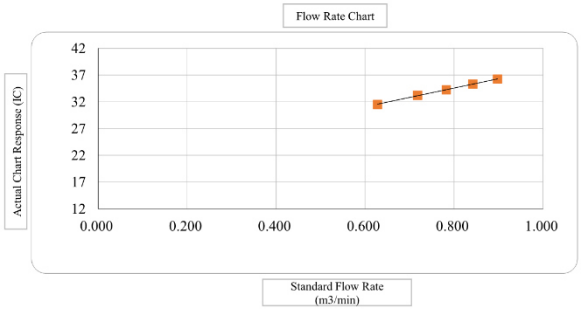
$IC = I * (Sqrt (P_a/P_{Std}) * (T_{Std}/T_a))$

$SFR = 1.13 (P_{Std} / P_a) (T_a / T_{Std})$

$SSP = (m*SFR+b) (Sqrt (P_a / P_{Std})(T_{Std} / T_a))$

Qa = actual flow rate
IC = corrected chart response
I = actual chart response
m_c = calibrator slope
b_c = calibrator intercept
T_a = actual temperature during calibration (deg K)
P_a = actual pressure during calibration (mm Hg)

m = sampler slope
b = sampler intercept
T_{Std} = 298 deg K
P_{Std} = 760 mm Hg
T_a = actual temperature during calibration (deg K)
P_a = actual pressure during calibration (mm Hg)
Where 1.13 is the designed sampling flow rae of PM10 samplers, m^3/min



Checked by: Tandy Tse Date: 17-Mar-2023
Senior Consultant, Environmental

Appendix I
The Certification of Laboratory with HOKLAS Accredited Analytical Tests

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ACUMEN LABORATORY AND TESTING LIMITED
浩科檢測中心有限公司

Lot 12, Tam Kon Shan Road, North Tsing Yi, New Territories, Hong Kong
香港新界青衣北担杆山路12路段

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

Environmental Testing
環境測試

This accreditation to ISO/IEC 17025:2017 demonstrates technical competence for a defined scope and the implementation of a management system relevant to laboratory operation (see joint IAF-ILAC-ISO Communiqué).
此項 ISO/IEC 17025:2017 的認可資格證明此實驗所具備指定範疇內所須的技術能力並實施一套與實驗所運作相關的管理體系。
(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

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

SHUM Wai-leung, Executive Administrator
執行幹事 沈偉良
Issue Date : 2 December 2019
簽發日期：二零一九年十二月二日

Registration Number : HOKLAS 241
註冊號碼：

Date of First Registration : 16 July 2014
首次註冊日期：二零一四年七月十六日

This certificate is issued subject to the terms and conditions laid down by HKAS
本證書按照香港認可處訂立的條款及條件發出

L001875

Appendix J
Location Plan of Air Quality Monitoring Station

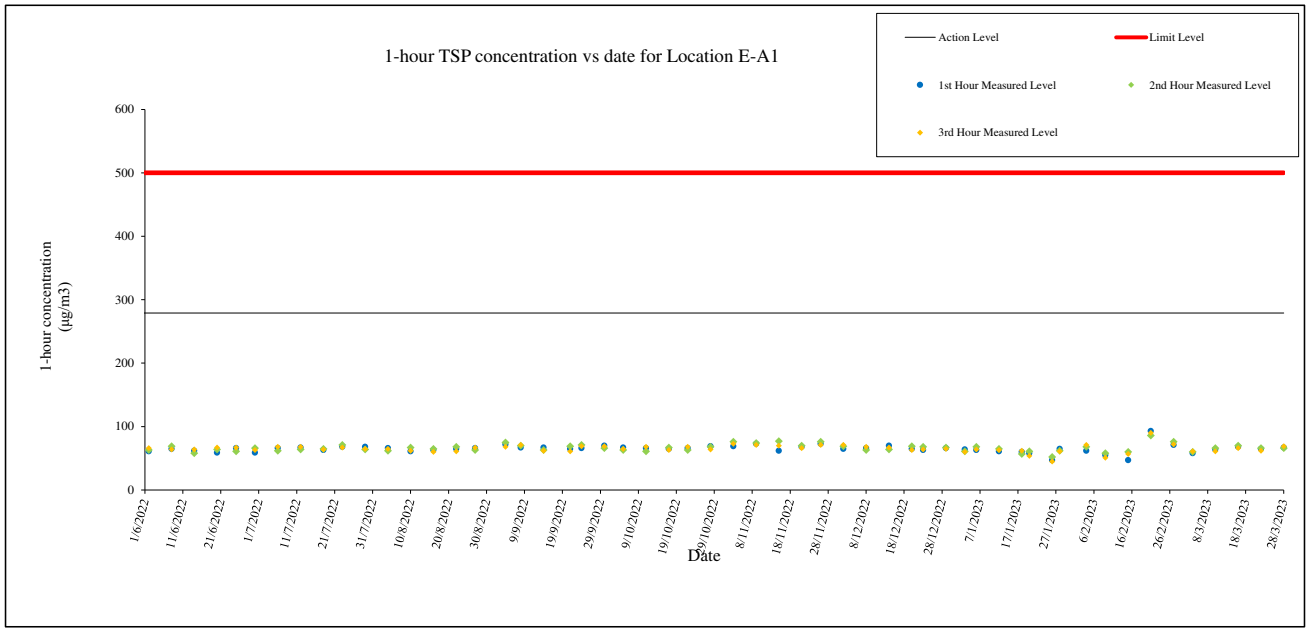

N
E-A1
Date: 19-Aug-2019
Scale 1: 4000(A3)

Appendix K
Monitoring Data (Air Monitoring)

Location: Hong Kong International Trade and Exhibition Centre (E-A1)
Monitoring date: 4, 10, 16, 22 and 28 March 2023
Parameter: 1-hour TSP
Other Factors: Nearby traffic

Date	1-hour TSP (µg/m^3)				
	Weather	Start Time	1st hour (µg/m^3)	2nd hour (µg/m^3)	3rd hour (µg/m^3)
04/03/2023	Fine	14:15	58	60	61
10/03/2023	Fine	12:30	64	66	61
16/03/2023	Fine	12:26	68	70	66
22/03/2023	Fine	12:33	65	66	62
28/03/2023	Fine	12:29	67	66	69

Figure 1: Graphical Illustration of Measured 1-hour TSP (µg/m^3) Levels at E-A1

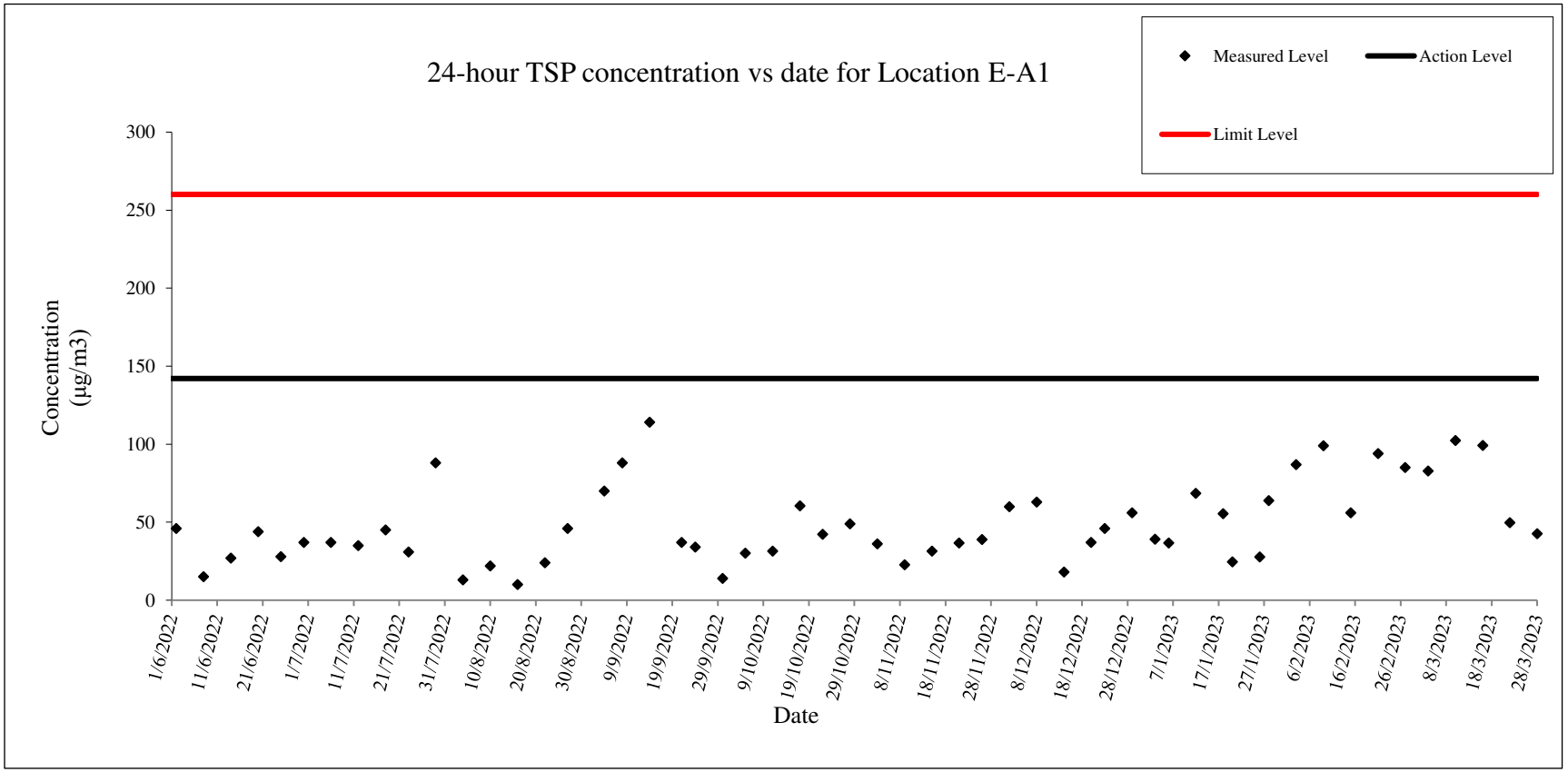


Location: Hong Kong International Trade and Exhibition Centre (E-A1)
Monitoring date: 4, 10, 16, 22 and 28 March 2023
Parameter: 24-hour TSP
Other Factors: Nearby traffic

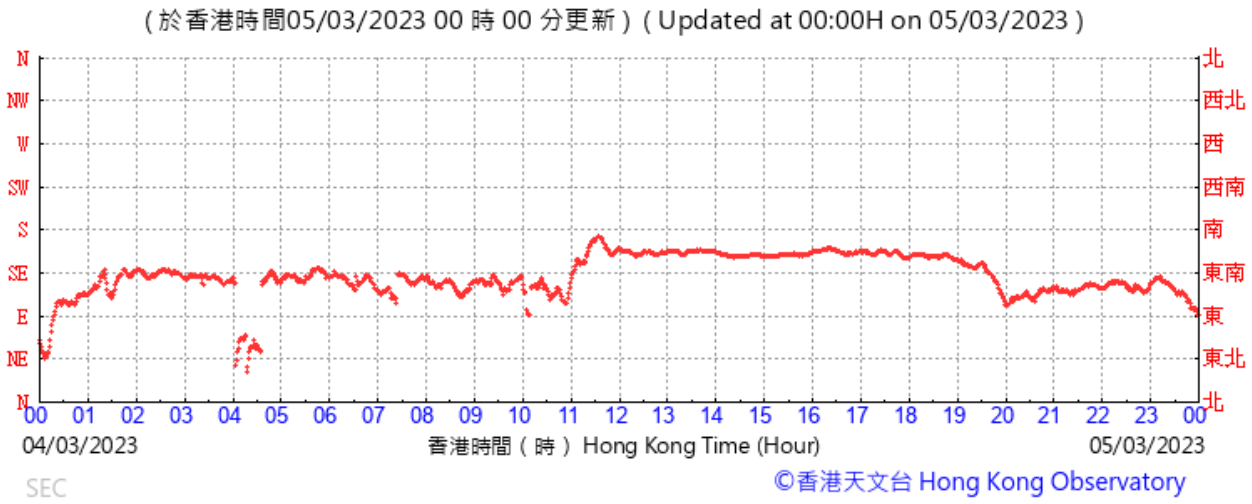
Date of Calibration:	3-Mar-23	Slope =	18.3459
Calibration due date:	17-Mar-23	Intercept =	19.1971
Date of Calibration:	17-Mar-23	Slope =	17.4862
Calibration due date:	31-Mar-23	Intercept =	20.5892

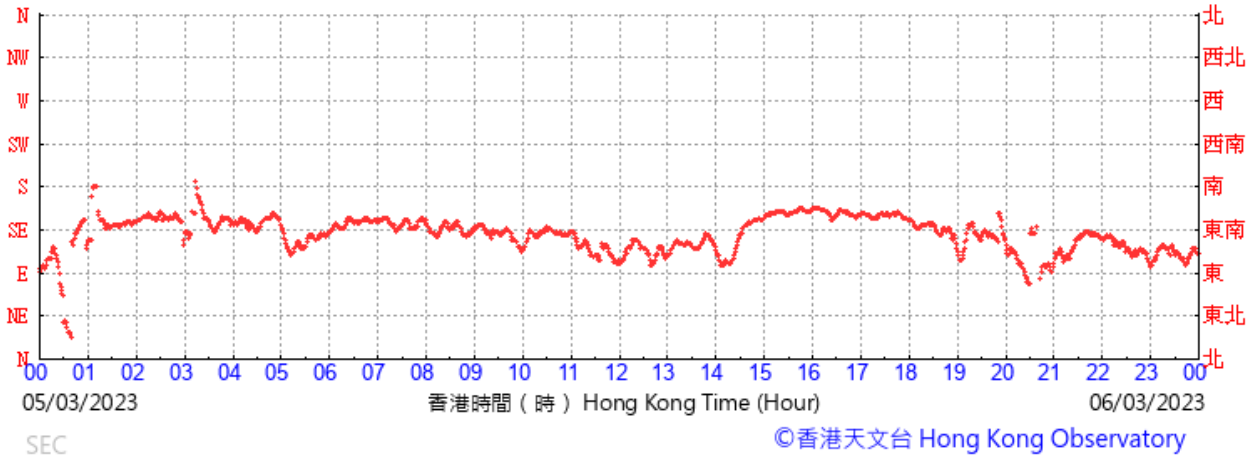
Start Date	Weather Condition	Elapse Time			Chart Reading			Avg Air Temp	Avg Atmospheric Pressure	Flow Rate	Standard Air Volume	Filter Weight (g)		Particulate weight	Conc.
		Initial	Final	Actual (min)	Min	Max	Avg	(°C)	(mm hPa)	(m^3/min)	(m^3)	Initial	Final	(g)	(µg/m^3)
04/03/2023	Fine	6844.77	6868.77	1440.00	39	40	39.5	19.1	1024.7	1.15	1658	2.7742	2.9116	0.1374	83
10/03/2023	Fine	6868.77	6892.77	1440.00	38	39	38.5	22.3	1018.0	1.07	1541	2.7676	2.9253	0.1577	102
16/03/2023	Fine	6892.77	6916.77	1440.00	38	40	39.0	21.9	1017.6	1.10	1582	2.7716	2.9286	0.1570	99
22/03/2023	Fine	6916.77	6940.77	1440.00	39	39	39.0	24.9	1008.3	1.04	1499	2.6911	2.7656	0.0745	50
28/03/2023	Fine	6940.77	6964.77	1440.00	39	39	39.0	19.3	1016.5	1.08	1555	2.6813	2.7477	0.0664	43
														Min	43
														Max	102
														Average	75

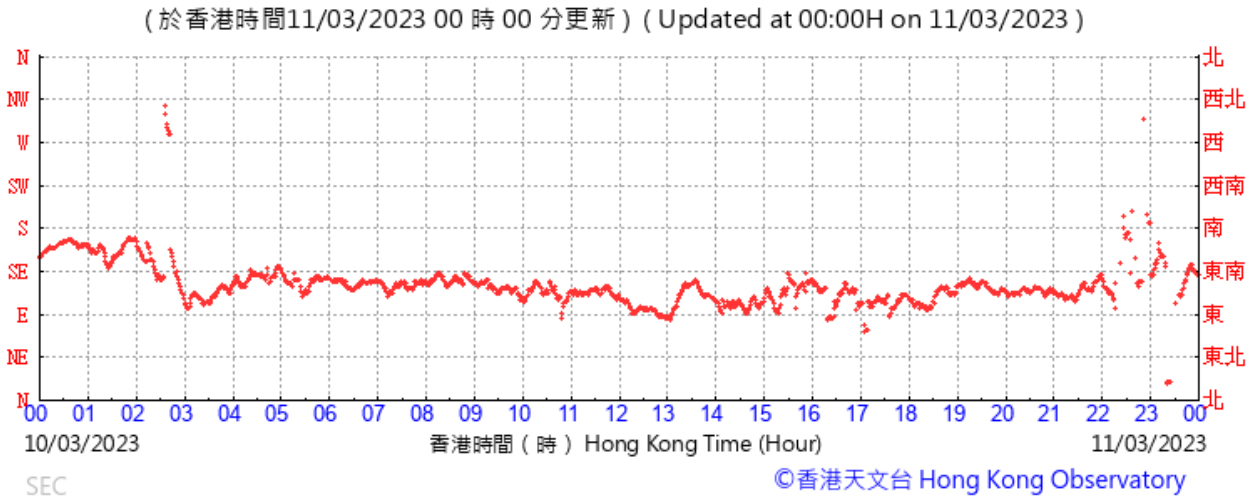
Figure 2: Graphical Illustration of Measured 24-hour TSP (μg/m^3) Levels at E-A1

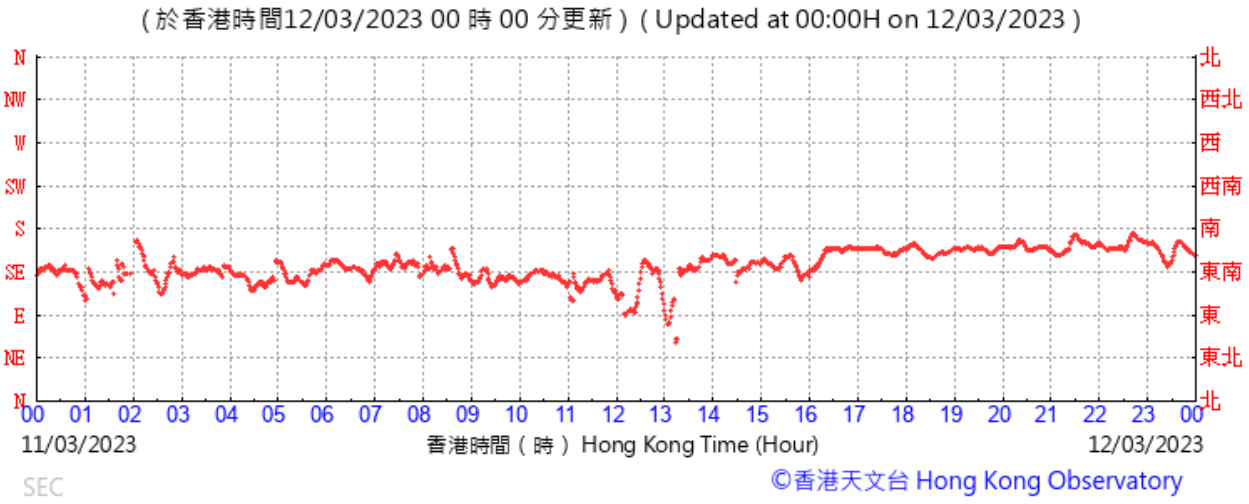


WIND DIRECTION DATA FOR 4, 5, 10, 11, 16, 17, 22, 23, 28 and 29 Mar 2023





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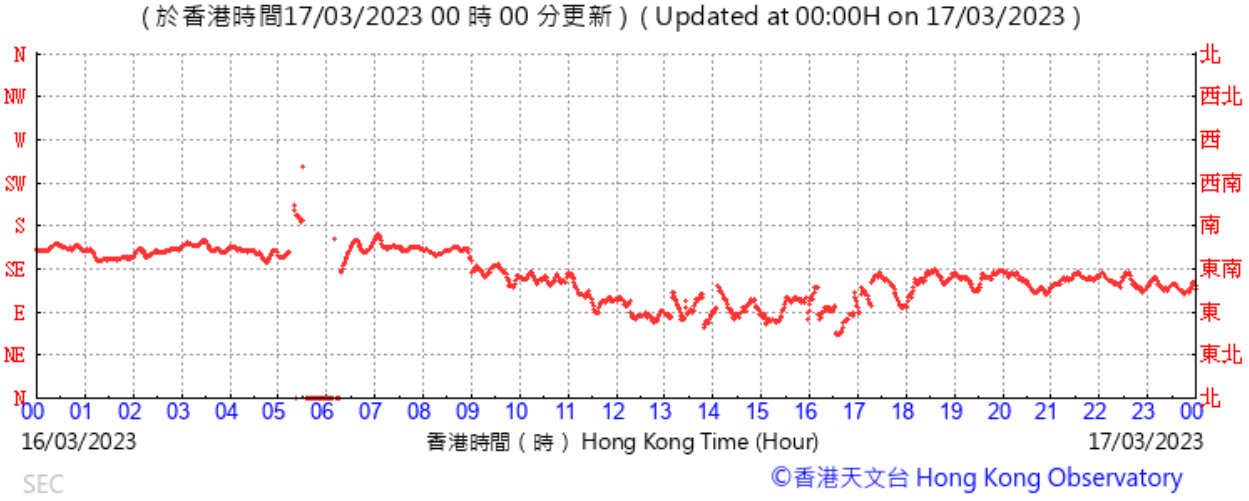
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 00
11/03/2023
香港時間 (時) Hong Kong Time (Hour)
12/03/2023
SEC
©香港天文台 Hong Kong Observatory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16/03/2023
香港時間 (時) Hong Kong Time (Hour)
17/03/2023
SEC
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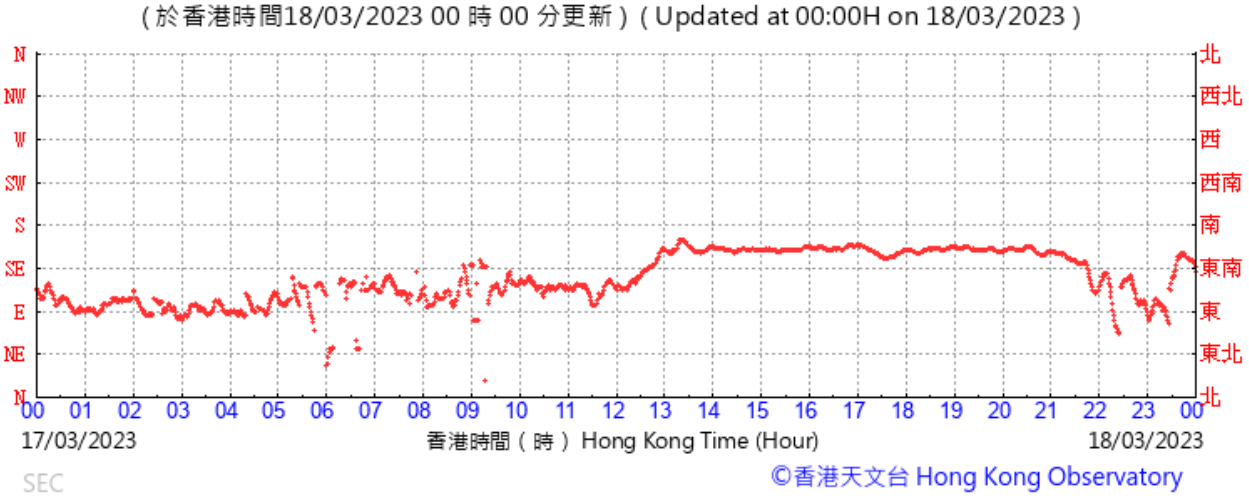
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17/03/2023
香港時間 (時) Hong Kong Time (Hour)
18/03/2023
SEC
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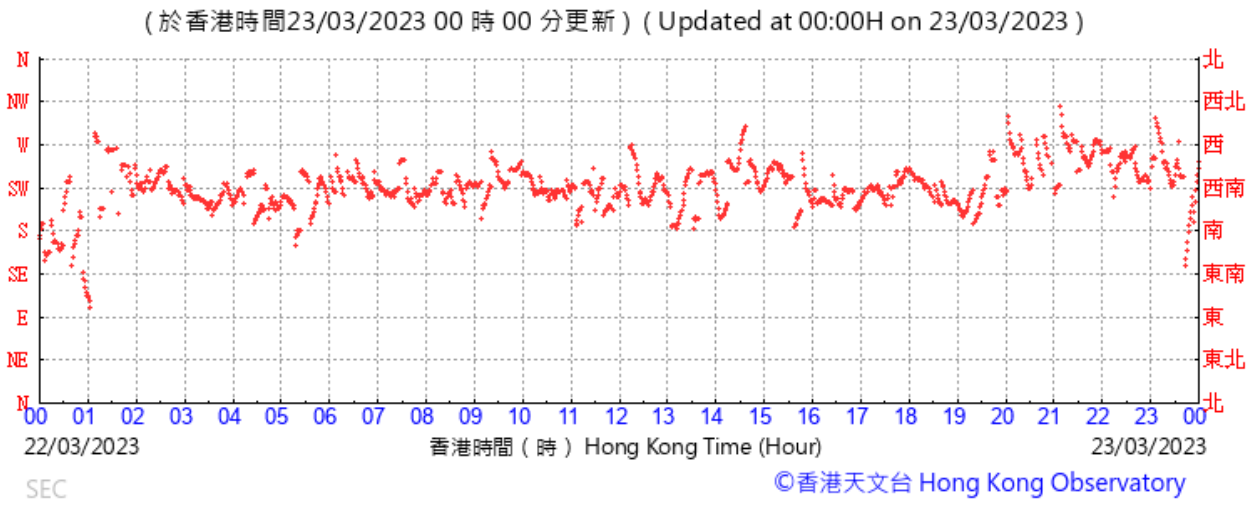
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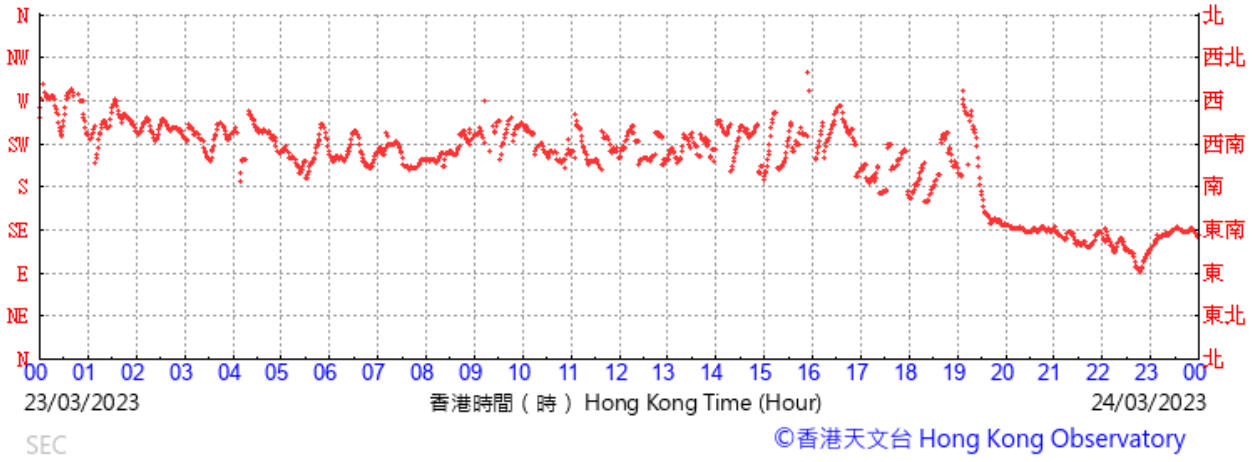
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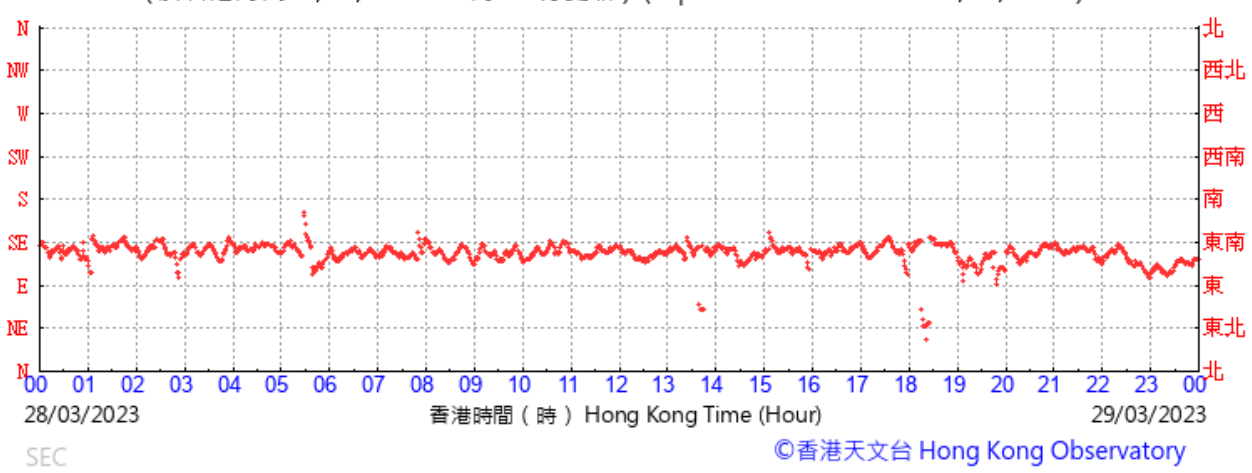
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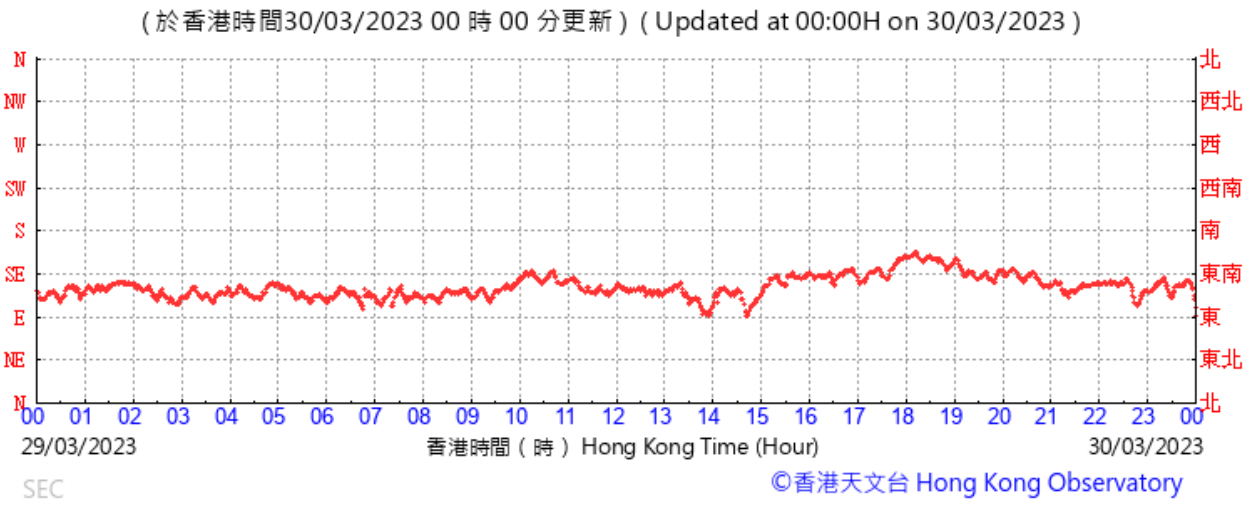
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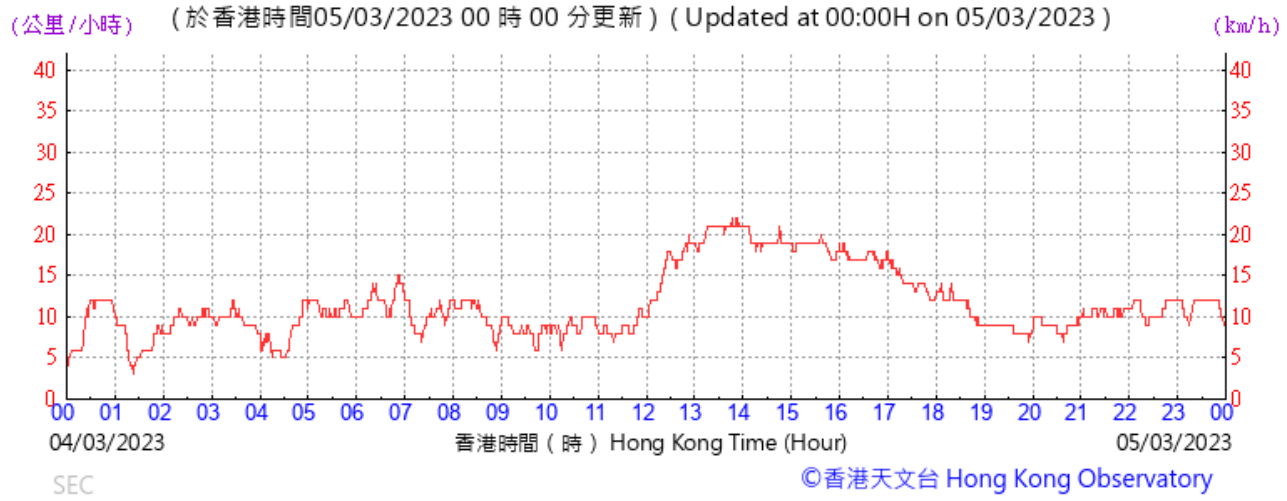

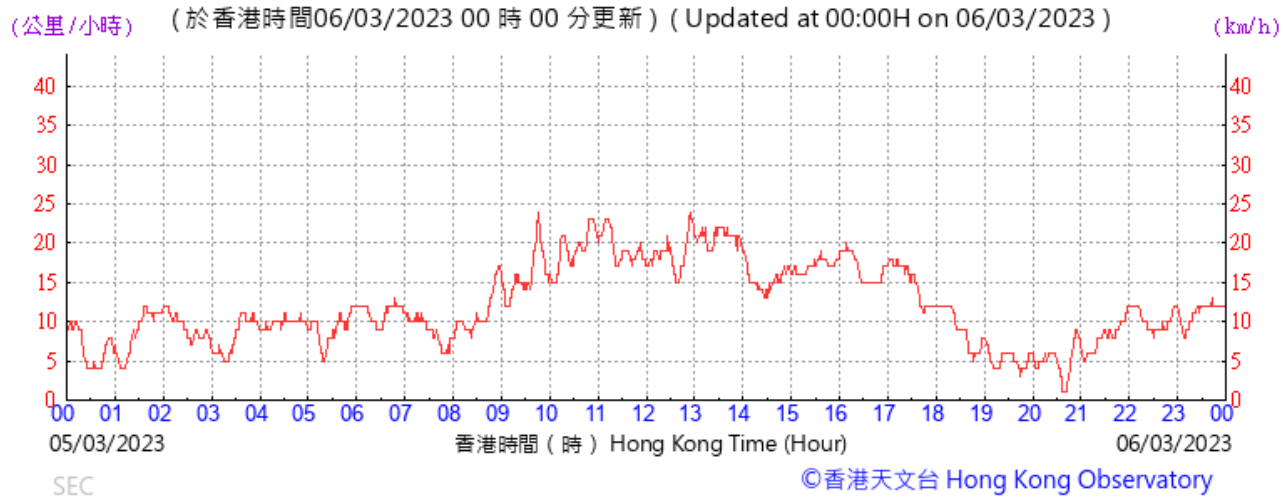

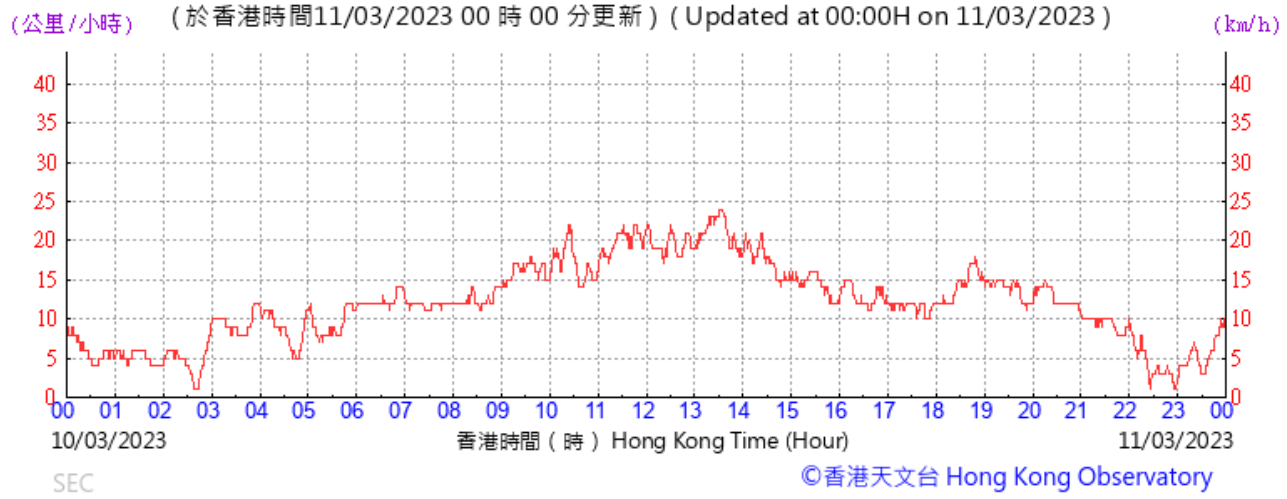

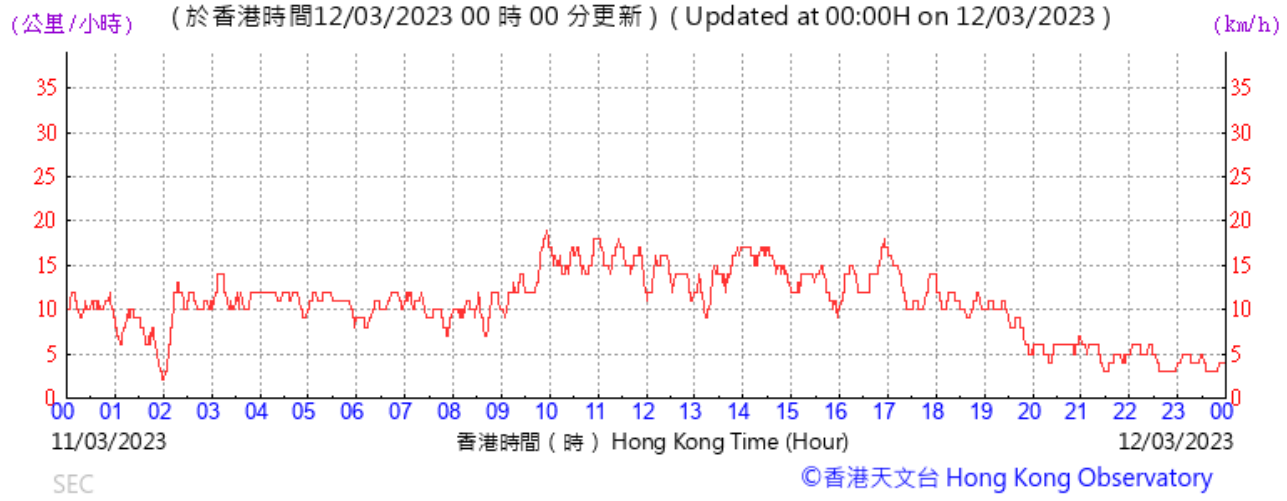
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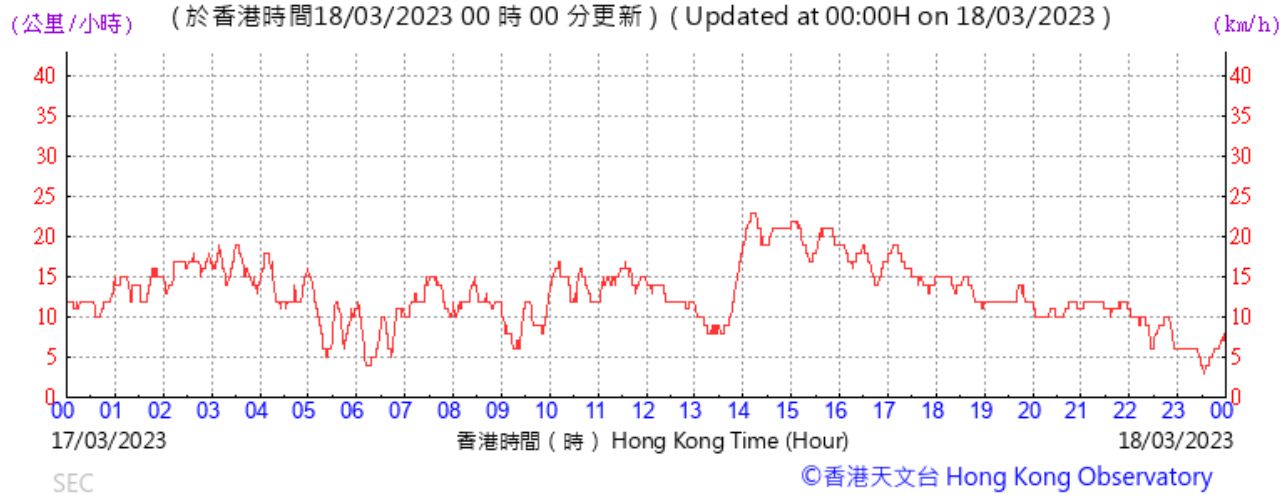
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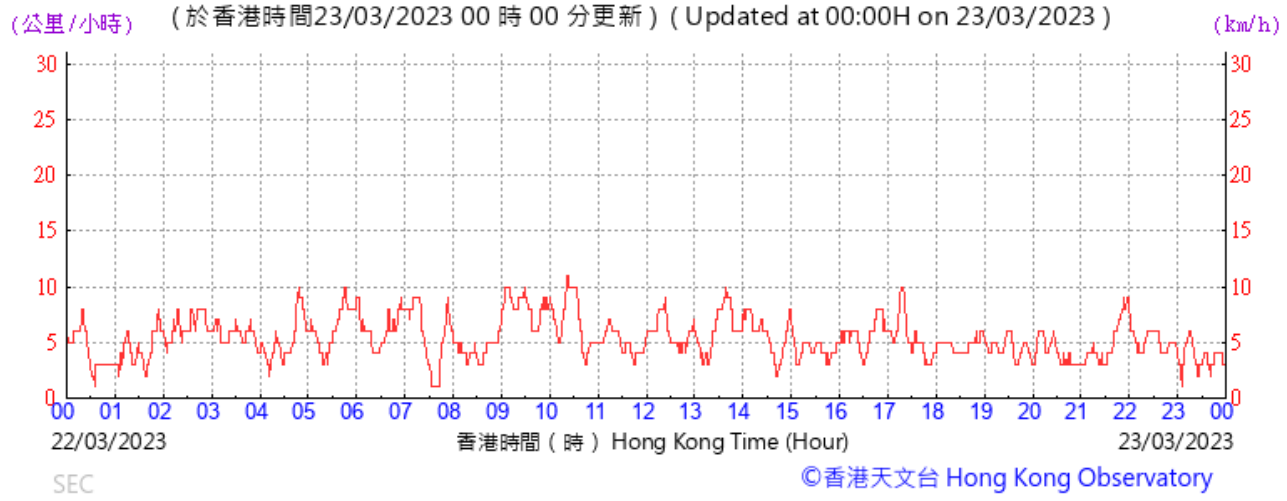
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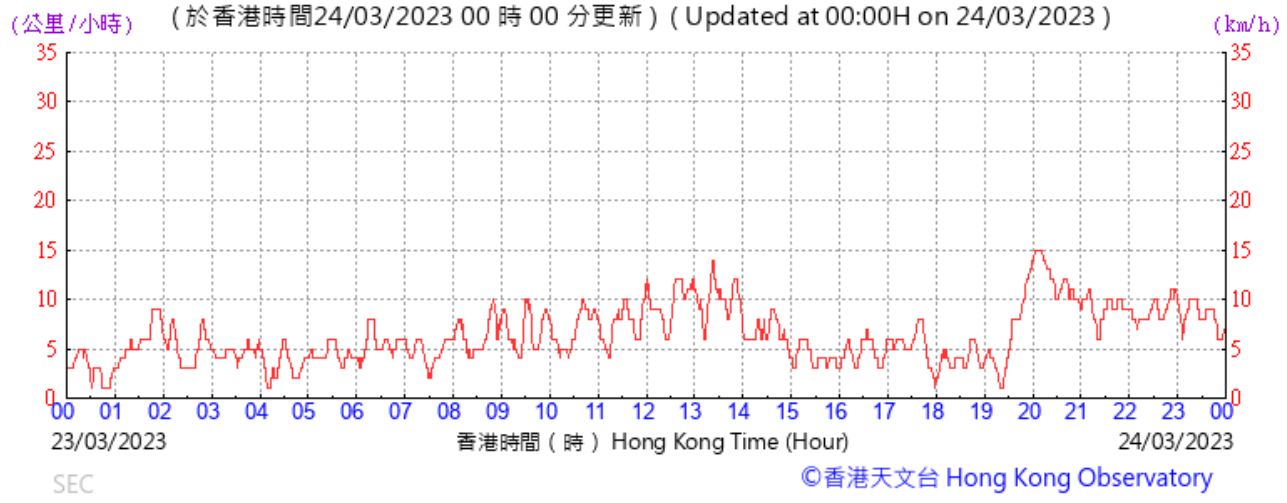
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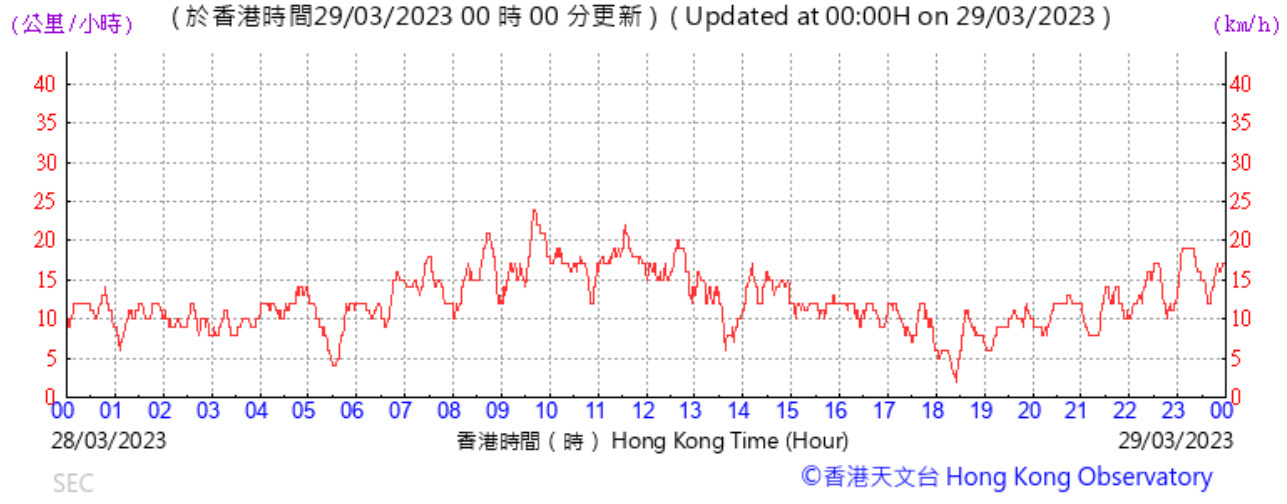
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Appendix L
Waste Flow Table

Monthly Summary Waste Flow Table - Mar 2023

Month	Actual Quantities of Inert C&D Material Generated Monthly													Actual Quantities of C&D Waste Generated Monthly						
	Total Qty Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects (KSZHJV)	Reused in other Projects (SFK)	Reused in other Projects (CWB)	Reused in other Projects (TKO-LTT)	Reused in other Projects (KTW)	Reused in other Projects (SFK-DH)	Reused in other Projects (Tapbo)	Disposal at Sorting Facility	Disposed as Public Fill	Imported Fill	Metals (Steel)	Metals (Aluminum)	Metals (Copper)	Paper/cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in '000tonne)	(in 'kg)	(in 'kg)	(in 'kg)	(in 'kg)	(in 'kg)	(in 'kg)	(in 'kg)
2019	**7.12**	**0.34**	**0.14**	**NIL**	**NIL**	**NIL**	**NIL**	**0.00**	**NIL**	**NIL**	**NIL**	**7.88**	**0.00**	**22,570.00**	**0.00**	**0.00**	**50.00**	**0.00**	**0.00**	**500,000.00**
2020	**142.34**	**0.00**	**0.14**	**NIL**	**4.40**	**19.47**		**10.50**			**0.62**	**104.95**	**1.11**	**207,420.00**	**48.00**	**0.00**	**1,284.00**	**0.00**	**0.00**	**419,060.00**
2021	**98.11**	**0.00**	**0.10**	**2.28**	**0.00**	**13.42**	**0.17**	**2.32**	**1.63**	**20.50**	**0.00**	**57.79**	**0.00**	**1028670.00**	**0.00**	**0.00**	**525.00**	**0.00**	**0.00**	**1100340.00**
2022	**13.34**	**0.00**	**1.35**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**11.99**	**0.00**	**141.03**	**0.00**	**0.00**	**715.00**	**0.00**	**80.00**	**1328300.00**
Jan	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	20.00	0.00	0.00	109020.00
Feb	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	100.00	0.00	0.00	131770.00
Mar	**0.30**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.44**	**0.00**	**0.00**	**0.00**	**0.00**	**100.00**	**0.00**	**0.00**	**134850.00**
Total	**261.31**	**0.34**	**1.73**	**2.28**	**4.40**	**32.89**	**0.17**	**12.83**	**1.63**	**20.50**	**0.62**	**184.00**	**1.11**	**1,258,801.03**	**48.00**	**0.00**	**2,794.00**	**0.00**	**80.00**	**3,723,340.00**

Appendix M
Statistics on Complaint, Notifications of Summons and Successful Prosecutions

Statistical Summary of Exceedances

Air Quality			
Location	**Action Level**	**Limit Level**	**Total**
E-A1	0	0	0

Statistical Summary of Environmental Complaints

Reporting Period	**Environmental Complaint Statistics**		
	Frequency	**Cumulative**	**Complaint Nature**
1 March 2023 - 31 March 2023	0	2	N/A

Statistical Summary of Environmental Non-compliance

Reporting Period	**Environmental Non-compliance Statistics**		
	Frequency	**Cumulative**	**Details**
1 March 2023 - 31 March 2023	0	0	N/A

Statistical Summary of Environmental Summons

Reporting Period	**Environmental Summons Statistics**		
	Frequency	**Cumulative**	**Details**
1 March 2023 - 31 March 2023	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	**Environmental Prosecution Statistics**		
	Frequency	**Cumulative**	**Details**
1 March 2023 - 31 March 2023	0	0	N/A

Appendix N
Monitoring Schedule of the Coming Month

Contract No.: HY/2018/02
Central Kowloon Route Section of Kai Take East

Tentative Environmental Monitoring Schedule (April 2023)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3 Impact Dust Monitoring (E-A1)	4	5	6 Impact Dust Monitoring (E-A1)	7	8
9	10	11	12 Impact Dust Monitoring (E-A1)	13	14	15 Impact Dust Monitoring (E-A1)
16	17	18	19	20	21 Impact Dust Monitoring (E-A1)	22
23	24	25	26	27 Impact Dust Monitoring (E-A1)	28	29
30	1	2	3	4	5	6

Central Kowloon Route

Buildings, Electrical and Mechanical Works

Contract No. HY/2019/13

(Kai Tak East Area)

Gammon Construction Limited

Contract No. HY/2019/13
Central Kowloon Route – Buildings, Electrical and Mechanical Works

Monthly EM&A Report No. 30
(March 2023)

Version 1.0

Date of Report: 11 April 2023

Certified By	
	(Environmental Team Leader: Ms. Betty Choi)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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Shatin, NT, Hong Kong
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Email: info@cinotech.com.hk

路政署
HIGHWAYS DEPARTMENT
主要工程管理處
MAJOR WORKS PROJECT MANAGEMENT OFFICE

ERM

Environmental Permit No. EP-457/2013/D

Central Kowloon Route

Independent Environmental Checker Verification

Works Contract:	**Buildings, Electrical and Mechanical Works (HY/2019/13)**

Reference Document/Plan

~~Document~~/Plan to be ~~Certified~~/ Verified:	Monthly EM&A Report No.30
Date of Report:	6 April 2023 (Version 1.0)
Date received by IEC:	6 April 2023

Reference EP Condition

Environmental Permit Condition: 3.4

Submission of Monthly EM&A Report of the Project

3.4 Four hard copies and one electronic copy of monthly EM&A Report shall be submitted to the Director within 2 weeks after the end of each reporting month throughout the entire construction period. The EM&A Reports shall include a summary of all non-compliance. The submissions shall be certified by the ET Leader and verified by the IEC as complying with the requirements as set out in the EM&A Manual before submission to the Director. Additional copies of the submission shall be provided to the Director upon request by the Director.

IEC Verification

I hereby verify that the above referenced ~~document~~/plan complies with the above referenced condition of EP-457/2013/D.

Ms Mandy To Date: 7 April 2023

Independent Environmental Checker

Our ref: 0436942_IEC Verification Cert_BEM_Monthly EM&A Rpt No.30_20230407.docx

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LIST OF APPENDICES

EXECUTIVE SUMMARY

Introduction

1. This is the 30th Monthly Environmental Monitoring and Audit (EM&A) Report prepared by the Environmental Team (ET), Cinotech Consultants Ltd., for Contract No. HY/2019/13 "Central Kowloon Route – Buildings, Electrical and Mechanical Works". This report summarized the monitoring results and audit findings of the EM&A programme under the issued EP No. EP-457/2013/D, and in accordance with the EM&A programme in Kai Tak East Area during the reporting period from 1st March 2023 – 31st March 2023.

2. The major site activities undertaken in Kai Tak East Area in the reporting month included:
   - Excavation & sub-structure works.

Environmental Monitoring Works

3. Environmental monitoring for the Project was performed in accordance with the EM&A Manual and the monitoring results were checked and reviewed. Joint weekly site inspections with the representative of ET, Engineer Representative and the Contractor were conducted on 7, 14, 21, 28 March 2023, whereas joint site inspection with the representative of IEC was conducted on 14 March 2023. The implementation of the environmental mitigation measures, Event and Action Plans and environmental complaint handling procedures were also checked.

4. A summary of the non-compliance (exceedance) during the reporting month (March 2023) and the investigation results and/or follow-up actions is provided below:

Air Quality Monitoring
- No Action/Limit Level exceedance for 1-hour TSP was recorded.
- No Action/Limit Level exceedance for 24-hour TSP was recorded.

Landscape and Visual Monitoring
- No non-conformity for landscape and visual was recorded.

Complaint Handling, Prosecution and Public Engagement

5. Summary of complaint/summons/prosecution in the reporting month is tabulated in **Table I**.

Table I Summary of Complaint/Summons/Prosecution in the Reporting Month

Event	Event Details		Follow-up/ Remedial Actions	Status/ Remarks
	Number	Brief Description		
Complaints Received	0	-	-	-
Notification of Summons and Prosecutions Received	0	-	-	-

Reporting Changes

6. There were no reporting changes during the reporting month.

Future Key Issues

7. The key works or activities will be anticipated in the coming two months are as follows:
   - Excavation & sub-structure works.

1 INTRODUCTION

Background

1.1 Central Kowloon Route (CKR) is a 4.7km long dual 3-lane trunk road across Central Kowloon linking Yau Ma Tei Interchange in West Kowloon and the road network at Kai Tak Development and Kowloon Bay in East Kowloon. The underground tunnel section will be about 3.9km long. In particular, an underground tunnel of about 370m long in Kowloon Bay to the north of To Kwa Wan Typhoon Shelter will be constructed.

1.2 The Environmental Impact Assessment Report for Central Kowloon Route – Design and Construction (Register No.: AEIAR-171/2013) was approved under the Environmental Impact Assessment Ordinance (EIAO) on 11 July 2013. An Environmental Permit (EP No.: EP-457/2013) was issued on 9 August 2013. Variations of Environmental Permit (VEP) was subsequently applied and an EP (EP No. EP-457/2013/C) was issued on 16 January 2017. The latest EP (EP No. EP-457/2013/D) was issued by Environmental Protection Department (EPD) on 15 June 2021.

1.3 The construction of the CKR had been divided into different sections. This Contract No. HY/2019/13 – Central Kowloon Route – Buildings, Electrical and Mechanical Works ("The Project") will include the architectural, civil and structural construction works of Yau Ma Tei Ventilation Building (YVB), Ho Man Tin Ventilation Building (HVB), Kai Tak Ventilation Building (KVB) and Central Kowloon Route Administration Building (ADB) for the CKR. The landscaping and electrical and mechanical (E&M) works within the building sites will be involved as well.

1.4 Cinotech Consultants Limited was assigned as the Environmental Team (ET) to undertake the EM&A works for the Project. The construction of this Contract was commenced on 12th December 2020.

Purpose of the Report

1.5 This is the 30th Monthly EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme in Kai Tak East Area during the reporting period from 1st March 2023 – 31st March 2023. The Kai Tak East Area site layout plan for the Project is shown in **Figure 1.1**.

Project Organizations

1.6 Different Parties with different levels of involvement in the project organization include:

- Project Proponent – Highways Department (HyD)
- Engineer Representative (ER) – Arup – Mott MacDonald Joint Venture (AMMJV)
- Environmental Team (ET) – Cinotech Consultants Limited (Cinotech)
- Independent Environmental Checker (IEC) – Environmental Resources Management – Hong Kong Limited (ERM)
- Contractor – Gammon Construction Limited (GCL)

1.7 The key contacts of the Project are shown in **Table 1.1**.

Table 1.1 Key Project Contacts

Party	Role	Contact Person	Phone No.
AMMJV	Engineer Representative	Mr. Dennis Yu	3695 0419
Cinotech	Environmental Team	Ms. Betty Choi	2151 2072
ERM	Independent Environmental Checker	Ms. Mandy To	2271 3113
GCL	Contractor	Mr. Harry Lam	9353 6141

1.8 The Organizational Structure for Environmental Management is shown in **Figure 1.2**.

Construction Activities undertaken during the Reporting Month

1.9 The construction programme is presented in **Appendix A**.

1.10 The major site activities undertaken in the reporting month included:

- Excavation & sub-structure works.

Summary of EM&A Requirements

1.11 The EM&A programme requires air quality monitoring, landscape and visual monitoring and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- Environmental requirements and mitigation measures, as recommended in the EM&A Manual under the EP.

1.12 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 6 of this report.

Statues of Environmental Licensing and Permitting

1.13 All permits/licenses obtained for the Project are summarized in **Table 1.2**.

Table 1.2 Summary of Environmental Licensing and Permit Status

Permit / License No.	Valid Period		Status
	From	To	
Environmental Permit (EP)			
EP-457/2013/D	15 Jun 2021	N/A	Valid
Notification of Construction Works under Air Pollution Control Ordinance (APCO)			
457346	19 Jun 2020	End of Project	Valid
Billing Account for Construction Waste Disposal			
7037679	26 Jun 2020	N/A	Valid
Registration of Chemical Waste Producer – Kai Tak			
5211-286-G2347-54	15 Jul 2020	N/A	Valid
Wastewater Discharge Licence - Kai Tak			
WT00037178-2020	18 Dec 2020	31 Dec 2025	Valid
Construction Noise Permit - Kai Tak Site (General Works [grouting, piling])			
GW-RE0968-22	30 Sep 2022	29 Mar 2023	Valid until 29 Mar 2023
GW-RE0271-23	30 Mar 2023	31 Aug 2023	Valid
Construction Noise Permit for Works at 2nd office			
GW-RE1014-22	3 Oct 2022	1 Apr 2023	Valid
Wastewater Discharge Licence at Kai Tak Site office			
WT00041796-2022	20 Sep 2022	30 Sep 2027	Valid

2 AIR QUALITY

Monitoring Requirements

2.1 As all of the air quality (1-hour TSP and 24-hour TSP) monitoring works in Kai Tak East Area are currently covered under the Contract No. HY/2018/02 (Central Kowloon Route - Kai Tak East), the corresponding monitoring parameters, equipment, methodology, results and established Action and Limit Levels could be referred to Section 3 of the EM&A report for Contract No. HY/2018/02 during this reporting month.

Observations

2.2 No Action/Limit Level exceedance was recorded for all 1-hour TSP and 24-hour TSP monitoring in the reporting month.

2.3 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of air quality mitigation measures within the site boundaries of this Project. The summary of site audits is shown in **Table 6.1** of this report.

3 NOISE

Monitoring Requirements

3.1 As no Noise Sensitive Receiver (NSR) is located within 300m from the boundary of Kai Tak East Area, no construction noise monitoring is required in Kai Tak East Area for this Project.

Observations

3.2 Site audits were carried out on a weekly basis to monitor and audit the timely implementation of construction noise mitigation measures within the site boundaries of this Project. The summary of site audits is shown in **Table 6.1** of this report.

4 WASTE MANAGEMENT

Monitoring Requirements

4.1 Waste generated from this Project includes inert construction and demolition (C&D) materials and non-inert C&D materials. Inert C&D waste includes soil, broken rock, broken concrete and building debris, while non-inert C&D materials are made up of C&D waste which cannot be reused or recycled and has to be disposed of at the designated landfill sites.

Results and Observations

4.2 The quantities of different types of waste generated in the reporting month are summarised in **Table 4.1**. Details of the amount of wastes generated by the major site activities of this Project during the reporting month is shown in **Appendix B**.

Table 4.1 Quantities of Waste Generated from the Project

Quantity							
	Inert C&D Materials		Non-inert C&D Materials				
Reporting Period	Total Quantity Generated (in '000m^3)	Disposed as Public Fill (in '000m^3)	Others, e.g. general refuse (in '000m^3)	Metals (in '000kg)	Paper/cardboard Packaging (in '000kg)	Plastics (in '000kg)	Chemical waste (in '000kg)
Mar 2023	12.409	12.409	0.135	0	0	0	0

4.3 Site audits were carried out on a weekly basis to monitor and audit to ensure that proper storage, transportation, and disposal practices of waste materials generated during construction activities, such as construction and demolition (C&D) materials and general refuse are being implemented. The summary of site audits is shown in **Table 6.1** of this report**.** The implementation status of the waste/chemical management measures in the reporting period are summarized in **Appendix C**.

5 LANDSCAPE AND VISUAL

Monitoring Requirements

5.1 According to the EM&A Manual, site audits would be undertaken during the construction phase of the Project to check that the proposed landscape and visual mitigation measures are properly implemented and maintained as per their intended objectives. Site inspections of the implementation of landscape and visual mitigation measures would be undertaken at least once every two weeks during the construction period.

Results and Observations

5.2 Bi-weekly inspection of the implementation of landscape and visual mitigation measures within the site boundaries of this Project was conducted on 14 & 28 March 2023. The implementation status of the landscape and visual mitigation measures in the reporting period are summarized in **Appendix C**. The summary of observations and recommendations made for landscape and visual mitigation measures during site audits are shown in **Table 6.1** of this report.

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

6 ENVIRONMENTAL AUDIT

Site Audits

6.1 Site audits 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 audits were conducted on 7, 14, 21 & 28 March 2023 in the reporting month. Joint site inspection with the representative of IEC was conducted on 14 March 2023. No non-compliance was observed during the site audit.

Implementation Status of Environmental Mitigation Measures

6.3 According to Environmental Permit, the approved EIA Report (Register No.: AEIAR-171/2013), and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix C**.

6.4 The ET weekly site inspections were carried out during the reporting month and the observations and follow-up actions in Kai Tak East Area are summarized in **Table 6.1**.

Table 6.1 Observations and Recommendations of Site Inspections

Parameters	Date	Observations	Follow-up Actions
Water Quality	7 Mar 2023	Ponding water has been found.	Ponding water has been removed.
Air Quality	N/A	No environmental deficiency was identified in the reporting period.	N/A
Noise	N/A	No environmental deficiency was identified in the reporting period.	N/A
Waste / Chemical Management	14 & 28 Mar 2023	General refuse should be removed.	General refuse has been removed.
Land Contamination	21 Mar 2023	Oil and grease are found	Oil and grease have been removed
Landscape and Visual	N/A	No environmental deficiency was identified in the reporting period.	N/A
Permits /Licences	N/A	No environmental deficiency was identified in the reporting period.	N/A

Implementation Status of Event and Action Plans

6.5 The Event and Action Plans for noise could be referred to **Appendix D** of the EM&A report in Contract No. HY/2018/02.

Air Quality Monitoring

- No Action/Limit Level exceedance for 1-hour TSP was recorded.
- No Action/Limit Level exceedance for 24-hour TSP was recorded.

Landscape and Visual Monitoring

- No non-conformity for landscape and visual was recorded.

Summary of Complaint, Warning, Notification of any Summons and Successful Prosecution

6.6 No environmental complaint and no warning, notifications of summons and successful prosecutions was received in the reporting month. The summary of environmental complaint, warning, summon and notification of successful prosecution for the Project is presented in **Appendix D**.

Status of Required Submission under Environmental Permit

6.7 Status of required submission under EP-457/2013/D during the reporting period are summarized in **Table 6.2**.

Table 6.2 Status of Required Submission under Environmental Permit

EP Condition (EP-457/2013/D)	Submission	Submission Date
Condition 3.4	Monthly EM&A Report (February 2023)	16 March 2023

7 FUTURE KEY ISSUES

7.1 Major site activities undertaken for the coming two months include:

- Excavation & Sub-structure Works.

7.2 Key environmental issues in the coming two months include:

- Stockpile accumulation on-site;
- Water spraying for dust generating activities and on haul road;
- Wastewater and runoff discharge from site;
- Coverage of open manholes to avoid dirty runoff to drainage system;
- Noise from operation of the equipment, especially for excavation works and machinery onsite;
- Accumulation of general refuse and construction waste on-site;
- Proper storage of construction materials on-site; and
- Storage of chemicals/fuel and chemical waste/waste oil on-site.

8 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

8.1 This is the 30th Monthly EM&A Report which presents the EM&A works undertaken in Kai Tak East Area during the reporting month from 1st March 2023 – 31st March 2023 in accordance with the EM&A Manual and the requirements under the EP.

Air Quality Monitoring

8.2 No Action/Limit Level exceedance was recorded for all 1-hour and 24-hour TSP monitoring in the reporting month.

Landscape and visual

8.3 No non-compliance was recorded in the reporting month.

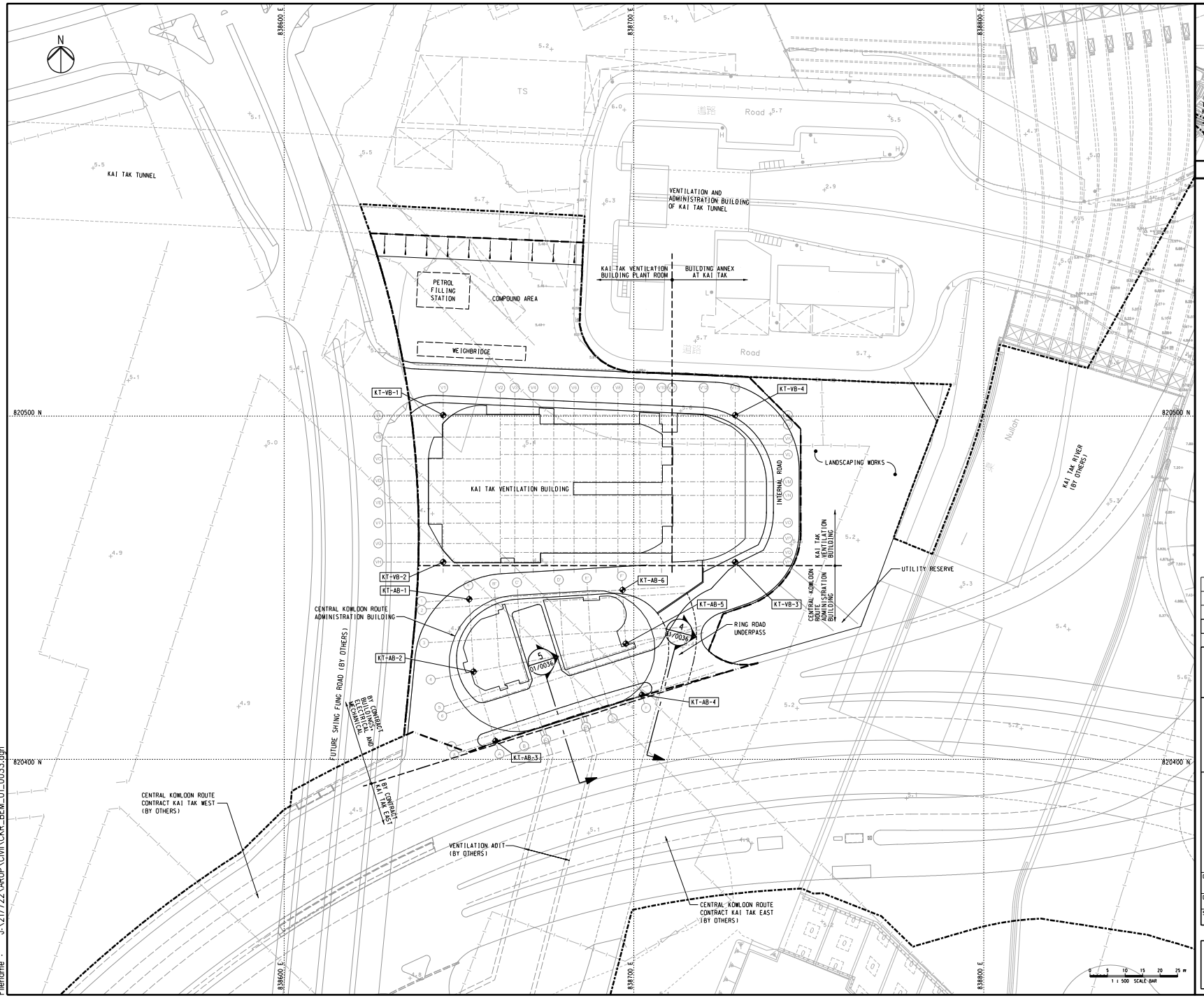
Site Audit

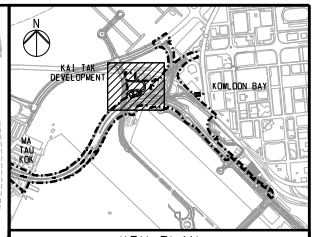
8.4 4 ET joint weekly environmental site inspections were conducted in the reporting month. Joint weekly site inspections with the representative of ET, Engineer Representative and the Contractor were conducted on 7, 14, 21 & 28 March 2023, whereas joint site inspection with the representative of IEC was conducted on 14 March 2023. All environmental deficiencies observed during site inspections were rectified by the Contractor.

Complaint, Notification of Summons and Successful Prosecution

8.5 No environmental complaint and no notifications of summons and successful prosecutions were received in the reporting month.

FIGURES





KEY PLAN

NOTES

1. FOR NOTES AND LEGEND, REFER TO DRAWING NO. CKR/BEM/01/0011.

LEGEND

BOUNDARIES OF THE SITE

BUILDING SITE BOUNDARY

SETTING OUT TABLE OF BUILDING GRID LINES

SETTING OUT POINT	CO-ORDINATES	
	EASTING	NORTHING
KT-VB-1	838645.490	820500.230
KT-VB-2	838645.490	820458.230
KT-VB-3	838728.940	820458.230
KT-VB-4	838728.940	820500.230
KT-AB-1	838652.940	820447.607
KT-AB-2	838654.192	820426.883
KT-AB-3	838660.424	820407.065
KT-AB-4	838702.302	820420.233
KT-AB-5	838697.687	820434.911
KT-AB-6	838696.760	820450.255

Rev. 修訂	Description 內容摘要	By 改訂	Date 日期
00	ISSUE FOR TENDER	LFM	09/19

ARUP MOTT MACDONALD

Arup-Mott MacDonald Joint Venture

Project title 工程名稱

Contract No. HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical

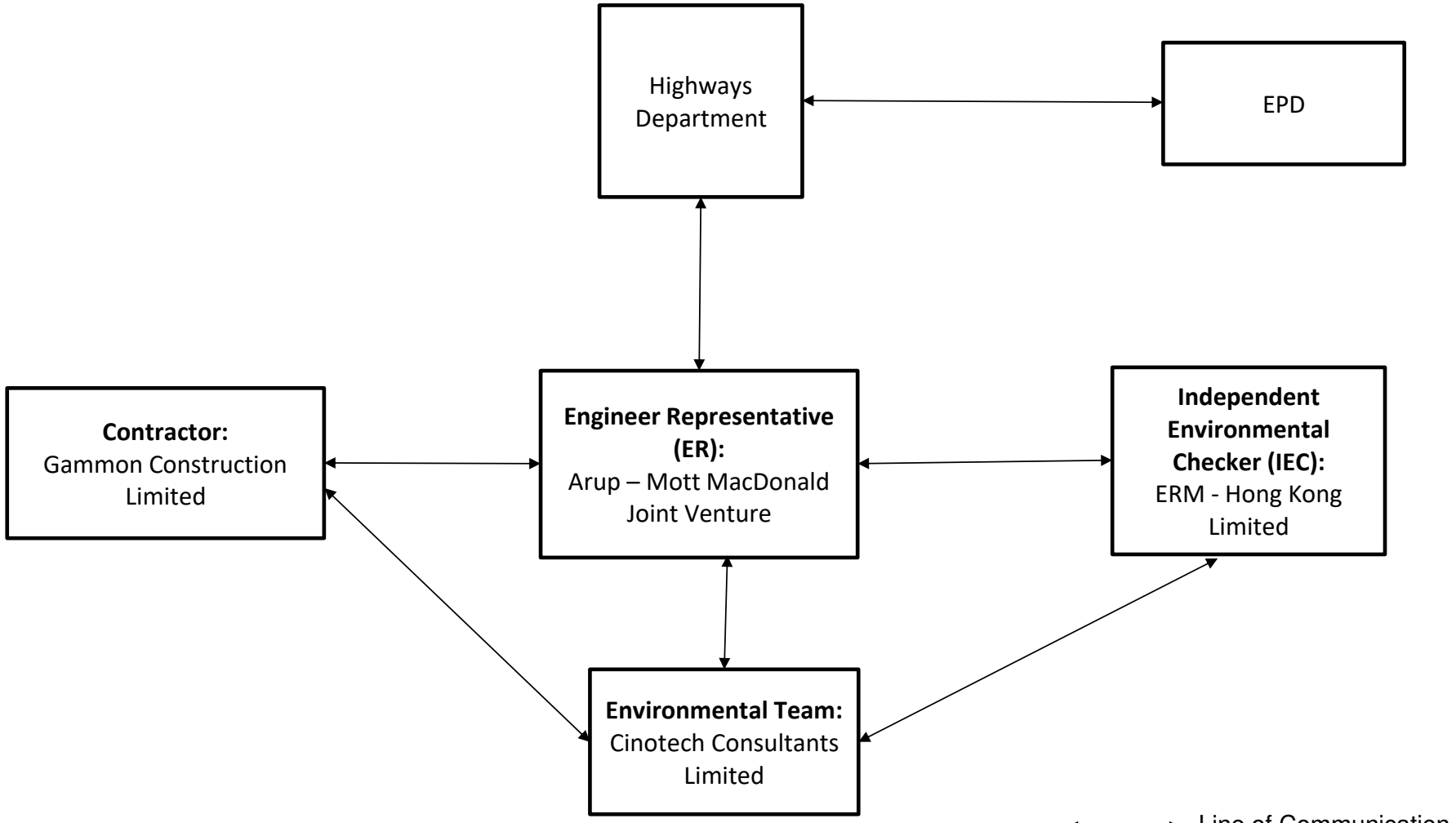
Drawing title 圖紙名稱

GENERAL LAYOUT PLAN
KAI TAK VENTILATION BUILDING AND CENTRAL KOWLOON ROUTE ADMINISTRATION BUILDING

Drawing no. 圖紙編號	1.1	Rev. 修訂	00
Drawn By 繪圖	RY	Checked By 核對	KKC
Approved By 批准人	EC		
Scale 比例	1:500 @ A1	Status 階段	TENDER

路政署 HIGHWAYS DEPARTMENT
主要工程管理處 MAJOR WORKS PROJECT MANAGEMENT OFFICE

Printed by : 10/2/2019
Filename : J:\217722\ARUP\Civil\CKR_BEM_01_0033.dgn



CINOTECH

Contract No. HY/2019/13
Central Kowloon Route – Buildings, Electrical and Mechanical Works

Project Organisation For Environmental Monitoring and Audit

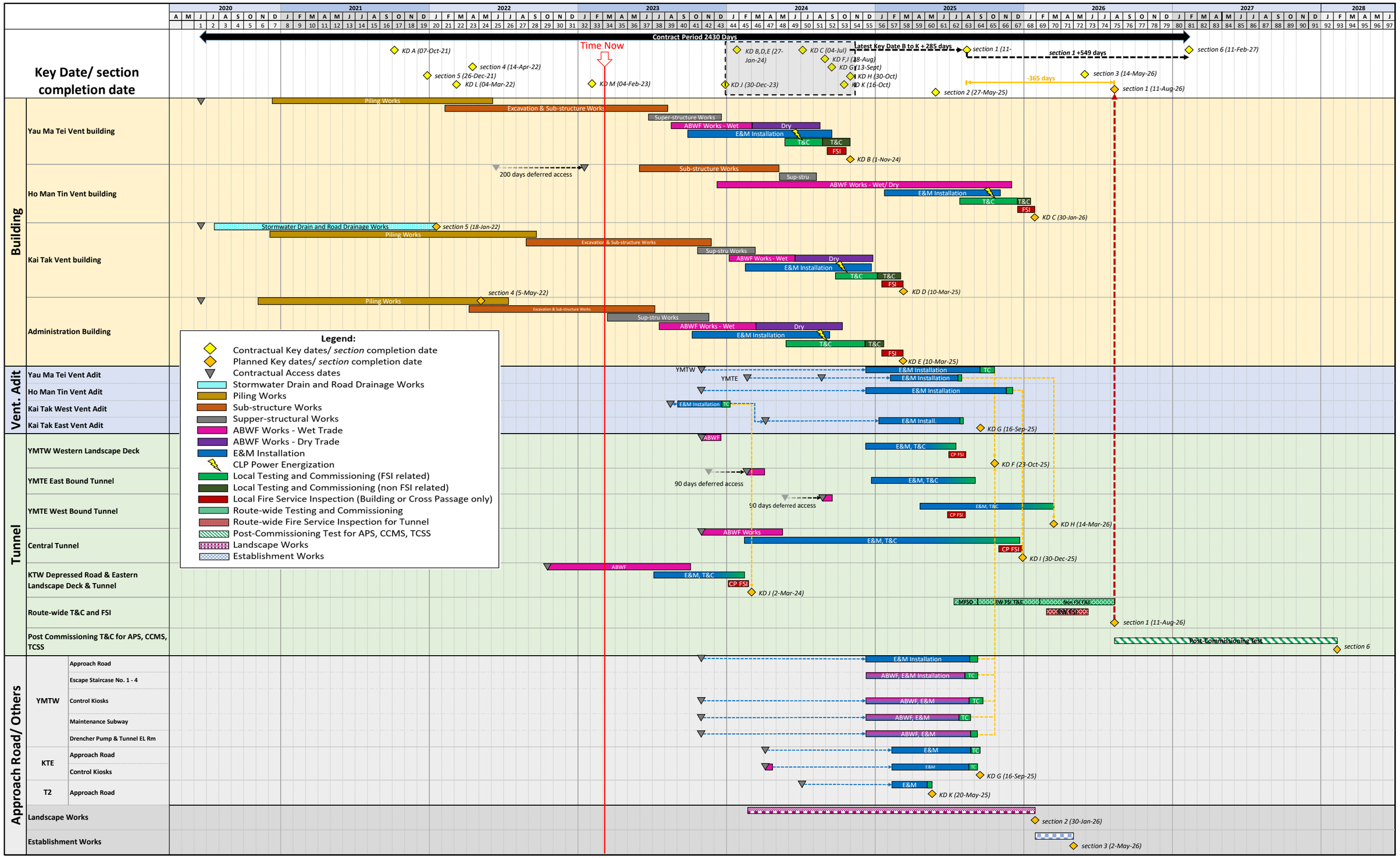
SCALE	N.T.S.	**DATE**	Nov 2020
CHECK	BC	**DRAWN**	EH
JOB NO.	MA20024	**FIGURE NO.**	1.2

APPENDIX A
CONSTRUCTION PROGRAMME

Gammon

Contract No. HY/2019/13
Central Kowloon Route – Buildings, Electrical and Mechanical Works
Summary Programme

路政署 HIGHWAYS DEPARTMENT 主要工程管理處 MAJOR WORKS PROJECT MANAGEMENT OFFICE



APPENDIX B
SUMMARY OF WASTE GENERATION AND DISPOSAL RECORDS

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Kai Tak Site Area

Monthly Summary Waste Flow Table for 2023 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
Month	Total Quantity Generated (in '000m3)	Hard Rock and Large Broken Concrete (see Note 5) (in '000m3)	Reused in the Contract (see Note 5) (in '000m3)	Reused in other Projects (see Note 5) (in '000m3)	Disposed as Public Fill (see Note 5) (in '000m3)	Imported Fill (see Note 5) (in '000m3)	Metals (in '000kg)	Paper / cardboard packaging (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (see Note 5) (in '000kg)	Marine Sediment (see Note 7) (in '000m3)	Others, e.g. general refuse (see Note 5) (in '000m3)
Jan	1.576	0.000	0.000	0.000	1.576	0.000	0.000	0.000	0.000	0.000	0.000	0.087
Feb	10.209	0.000	0.000	0.000	10.209	0.000	0.000	0.000	0.000	0.000	0.000	0.066
Mar	12.409	0.000	0.000	0.000	12.409	0.000	0.000	0.000	0.000	0.000	0.000	0.135
Apr												
May												
Jun												
Sub-Total	**24.194**	**0.000**	**0.000**	**0.000**	**24.194**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.289**
Jul												
Aug												
Sep												
Oct												
Nov												
Dec												
Total (2023)	**24.194**	**0.000**	**0.000**	**0.000**	**24.194**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.289**
Total (whole)	**93.132**	**0.000**	**0.782**	**2.615**	**89.735**	**0.000**	**0.000**	**0.000**	**0.000**	**1.080**	**0.000**	**1.086**

Note:

(1) The performance targets are given in PS Clause 25.24

(2) The waste flow table shall also include C&D materails that are specified in the Contract to be imported for use at the Sites.

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

APPENDIX C
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
Construction Dust Impact								
S4.3.10	D1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	- APCO - To control the dust impact to meet HKAQO and TM-EIA criteria	^
S4.3.10	D2	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road should be conducted to achieve dust removal efficiencies of 91.7%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.3 L/m2 to achieve the dust removal efficiency.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	- APCO - To control the dust impact to meet HKAQO and TM-EIA criteria	^
S4.3.10	D3	Proper watering at exposed spoil should be undertaken throughout the construction phase.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	- APCO - To control the dust impact to meet HKAQO and TM-EIA criteria	^
		Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading.						^
		Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads.						^
		A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones.						^
		The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle.						^
		Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.						^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided and properly maintained as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period.						^
		The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials.						^
		Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously.						^
		Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet						^
		Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding.						N/A
		Any skip hoist for material transport should be totally enclosed by impervious sheeting.						^
		Every stock of more than 20 bags of cement or dry-pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides						^
		Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed.						N/A
		Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system.						N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilizer within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.						N/A
S4.3.10	D6	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected rep. dust monitoring station	Construction stage	- TM-EIA	^
Construction Noise (Airborne)								
S5.4.1	N1	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme.	Control construction airborne noise	Contractor	All construction sites	Construction stage	- Annex 5, TM-EIAO	^
		Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.						^
		Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs.						^
		Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works.						^
		Mobile plant should be sited as far away from NSRs as possible and practicable.						^
		Material stockpiles, mobile container site office and other structures should be effectively utilized, where practicable, to screen noise from on-site construction activities.						N/A
S5.4.1	N2	Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening	Contractor	All construction sites	Construction stage	- Annex 5, TM-EIAO	^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S5.4.1	N3	Install movable noise barriers (typical design is wooden framed barrier with a small-cantilevered on a skid footing with 25mm thick internal sound absorptive lining), acoustic mat or full enclosure, screen the noisy plants including air compressors, generators and handheld breakers, etc.	Sreen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction stage	- Annex 5, TM-EIAO	N/A
S5.4.1	N4	Use 'Quiet plants'	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction stage	- Annex 5, TM-EIAO	^
S5.4.1	N5	Loading/ unloading activities should be carried out inside the full enclosure of mucking out points.	Reduce the noise levels of loading/ unloading activities	Contractor	Mucking out locations	Construction stage	- Annex 5, TM-EIAO	^
S5.4.1	N6	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction stage	- Annex 5, TM-EIAO	^
S5.4.1	N7	Implement a noise monitoring programme under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected rep. noise monitoring station	Construction stage	- TM-EIAO	N/A
Water Quality (Construction Phase)								
S6.9.1.1	W1	<u>Construction Runoff</u> At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction.	To minimize water quality impact from the construction site runoff and general construction activities	Contractor	All construction sites where practicable	Construction stage	- Water Pollution Control Ordinance - ProPECC PN 1/94 - TM-EIAO - TM-DSS	^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt/ sediment trap. The sediment/ silt traps should be incorporated in the permanent drainage channels 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, which states that the retention time for silt/ sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1 m3/s a sedimentation basin of 30 m3 would be required and for a flow rate of 0.5 m3/s the basin would be 150 m3. The detailed design of the sand/ silt traps shall be undertaken by the contractor prior to the commencement of construction.						^
		All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means.						N/A
		The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows.						N/A
		All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.						*
		Measures should be taken to minimize the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.						^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m3 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.						^
		Manholes 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.						^
		Precautions be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.						^
		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 site wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel 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.						^
		Oil interceptors should be provided in the drainage system downstream of any oil/ fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain.						^
		Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.						^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby.						^
		Adopt best management practices.						^
		All earth works should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.						^
S6.9.1.2	W2	<u>Tunneling Works and Underground Works</u> Cut-&-cover tunneling work should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.	To minimize construction water quality impact from tunneling works	Contractor	All tunneling portion	Construction stage	- Water Pollution Control Ordinance - ProPECC PN 1/94 - TM-EIAO - TM-DSS	N/A
		Uncontaminated discharge should pass through sedimentation tanks prior to off-site discharge.						N/A
		The wastewater with a high concentration of SS should be treated (e.g. by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater.						N/A
		Direct discharge of the bentonite slurry (as a result of D-wall) is not allowed. It should be reconditioned and reused wherever practicable. Temporary storage locations (typically a properly closed warehouse) should be provided on site for any unused bentonite that needs to be transported away after all the related construction activities area completed. The requirements in ProPECC PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.						N/A
S6.9.1.3	W3	<u>Sewage Effluent</u> Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	To minimize water quality from sewage effluent	Contractor	All construction sites where practicable	Construction stage	- Water Pollution Control Ordinance - TM-DSS	^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S6.9.1.5	W4	Groundwater from Potential Contaminated Area: No direct discharge of groundwater from contaminated areas should be adopted.	To minimize groundwater quality impact from contaminated area	Contractor	Excavation areas where contamination is found	Construction stage	- Water Pollution Control Ordinance - TM-EIAO - TM-DSS	^
		A discharge license under the WPCO through the Regional Office of EPD for groundwater discharge should be applied. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed during the process of discharge license application. The compliance to the Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters (TM-DSS) and the existence of prohibited substance should be confirmed. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated in compliance with the requirements of the TM-DSS or properly recharged into the ground.						^
		If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. TPH) to undetectable range. All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be discharged into the foul sewers.						^
		If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Section 2.3 of TM-DSS. The baseline groundwater quality shall be determined prior to the selection of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as TPH products should be removed as necessary by installing the petrol interceptor.						N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S6.9.1.6	W6	Accidental Spillage All the tanks, containers, storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and stormwater drains.	To minimize water quality impact from accidental spillage	Contractor	All construction site where practicable	Construction stage	- Water Pollution Control Ordinance - ProPECC PN 1/94 - TM-EIAO - TM-DSS	^
		The Contractor should register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities should be stored with suitable labels and warnings.						^
		Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste Disposal (Chemical Waste) (General) Regulation.						^
Waste Management (Construction Waste)								
S7.4.1	WM1	On-site sorting of C&D material Geological assessment should be carried out by competent persons on site during excavation to identify materials which are not suitable to use as aggregate in structural concrete (e.g. volcanic rock, Aplite dyke rock, etc.). Volcanic rock and Aplite dyke rock should be separated at the source sites as far as practicable and stored at designated stockpile area preventing them from delivering to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from ending up at concrete batching plants and be turned into concrete for structural use. Details regarding control measures at source site and crushing facilities should be submitted by the Contractor for the Engineer to review and agree. In addition, site records should also be kept for the types of rock materials excavated and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced by site supervisory staff as stipulated under DEVB TC(W) No. 6/2010 for tracking of the correct delivery to the rock crushing facilities for processing into aggregates. Alternative disposal option for the reuse of volcanic rock and Aplite Dyke rock, etc. should be explored.	Separation of unsuitable rock from ending up at concrete batching plants and be turned into concrete for structural use	Contractor	All construction sites	Construction stage	· DEVB (W) No. 6/2010	^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S7.5.1	WM2	Construction and Demolition Material Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	· Land (Miscellaneous Provisions) Ordinance · Waste Disposal Ordinance · ETWB TCW No. 19/2005	^
		Carry out on-site sorting.						^
		Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate						^
		Adopt 'selective demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible.						N/A
		Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified.						^
		Implement an enhanced Waste Management Plan similar to ETWBTC (Works) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction.						^
S7.5.1	WM3	C&D Waste Standard formwork or pre-fabrication should be used as far as practicable in order to minimize the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	· Land (Miscellaneous Provisions) Ordinance · Waste Disposal Ordinance · ETWB TCW No. 19/2005	^
		The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.						N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S7.5.1	WM4	Excavated Contaminated Soils Details of the mitigation measures on handling of the contaminated soil shall be referred to Section on Land Contamination below.	The contaminated soil will be excavated for on-site reuse	Contractor	PBH4	Prior to commencement of construction works within the contaminated	· Practice Guide (PG) for Investigation and Remediation of Contaminated Land · GN/GM for land contamination	^
S7.5.1	WM5	Land-based and Marine-based Sediment All construction plant and equipment shall be designed and maintained to minimize the risk of silt, sediments, contaminants or other pollutants being released into the water column or deposited in the locations other than designated location.	To control pollution due to marine sediment	Contractor	Along CKR alignment	Construction stage	· ETWB TCW No. 34/2002	^
		All vessels shall be sized such that adequate draft is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.						N/A
		Before moving the vessels which are used for transporting dredged material, excess material shall be cleaned from the decks and exposed fittings of vessels and the excess materials shall never be dumped into the sea except at the approved locations.						N/A
		Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.						N/A
		The Contractors shall monitor all vessels transporting material to ensure that no dumping outside the approved location takes place. The Contractor shall keep and produce logs and other records to demonstrate compliance and that journeys are consistent with designated locations and copies of such records shall be submitted to the engineers.						N/A
		The Contractors shall comply with the conditions in the dumping licence.						^
		All bottom dumping vessels (Hopper barges) shall be fitted with tight fittings seals to their bottom openings to prevent leakage of material.						N/A
		The material shall be placed into the disposal pit by bottom dumping.						N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		Contaminated marine mud shall be transported by spit barge of not less than 750m3 capacity and capable of rapid opening and discharge at the disposal site.						N/A
		Discharge shall be undertaken rapidly and the hoppers shall be closed immediately. Material adhering to the sides of the hopper shall not be washed out of the hopper and the hopper shall remain closed until the barge returns to the disposal site.						N/A
		For Type 3 special disposal treatment, sealing of contaminant with geosynthetic containment before dropping designated mud pit would be a possible arrangement. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping at the disposal site, thereby fulfilling the requirements for fully confined mud disposal.						N/A
S7.5.1	WM6	Chemical Waste Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction stage	· Waste Disposal (Chemical Waste) (General) Regulation · Code of Practice on the Packaging, Labelling and Storage of Chemical Waste	*
		Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed, have a capacity of less than 450 L unless the specification has been approved by EPD, and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation.						^
		The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste, enclosed on at least 3 sides, have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest, have adequate ventilation, covered to prevent rainfall entering, and arranged so that incompatible materials are adequately separated.						^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		Disposal of chemical waste should be via a licensed waste collector, be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers, or be to a reuser of the waste, under approval from EPD.						^
S7.5.1	WM7	General Refuse General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	· Waste Disposal Ordinance	*
		A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law.						^
		Aluminum cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible.						^
		Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor.						^
Land Contamination								
S8.9 & Appendix 8.4	LC2	Excavation of the Contaminated Soil Prior to commencement of the excavation works at the contamination zone, the zone should be clearly marked out on site and the surface levels recorded. Excavation of contaminated material should be undertaken using dedicated earth-moving plant.	The contaminated soil will be excavated for on-site reuse	Contractor	PBH4	Prior to commencement of construction works within the contaminated area	· Practice Guide (PG) for Investigation and Remediation of Contaminated Land - Guidance Notes for Contaminated Land Assessment and Remediation · Guidance Manual for Use of Risk-Based Remediation Goals (RBRGs) for Contaminated Land Management	N/A
		The excavated contaminated soils would be stockpiled at designated area on site and covered by sheet to prevent dispersion of contamination during stockpiling.						N/A
		The Contractor should pay attention to the selection of suitable groundwater lowering schemes and discharge points if the groundwater table is higher than the contaminated soils during excavation. The Contractor should also obtain a valid Water Pollution Control Ordinance (WPCO) discharge licence from EPD where applicable.						N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
Hazard to Life								
S9.18	H8	The driver and his assistant should be physically healthy, experienced and have good safe driving records. The driver should hold a proper driving licence for the approved transport truck. Dedicated training programme and regular road safety briefing sessions/ workshops should be provided to enhance their safe driving attitude and practice. Smoking should be strictly prohibited.	To reduce the risk during explosives transport	Contractor	Works areas at which explosives would be used	Construction stage	/	^
S9.18	H9	Emergency response plans in case of road accident should be prepared and implemented. The driver and his assistant should be familiar with the emergency procedures including evacuation, and proper communication/ fire-fighting equipment should be provided to the driver and his assistant.	To reduce the risk during explosives transport	Contractor	Works areas at which explosives would be used	Construction stage	/	^
Landscape and Visual								
S10.10.1 Table 10.11	LV3	<u>Good Site Management</u> Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance.	Minimize visual impact	Contractor	Within Project site	Construction Phase	/	^
		Construction plant and building material shall be orderly and carefully stored in order to create a neat and tidy visual appearance.						^
S10.10.1 Table 10.11	LV4	<u>Screen Hoarding</u> Decorative screen hoarding should be erected to screen the public from the construction area. It should be designed to be compatible with the existing urban context.	Minimize visual impact	Contractor	Within Project site	Construction Phase	/	^
S10.10.1 Table 10.11	LV5	<u>Lighting Control during Construction</u> All lighting in the construction site shall be carefully controlled to minimize light pollution and night-time glare to nearby residencies and GIC. The Contractor shall consider other security measures, which shall minimize the visual impacts.	Minimize visual impact	Contractor	Within Project site	Construction Phase	/	^
S10.10.1 Table 10.11	LV6	<u>Erosion Control</u> The potential for soil erosion shall be reduced by minimizing the extent of vegetation disturbance on site and by providing a protective cover over newly exposed soil.	Minimize landscape impact	Contractor	Within Project site	Construction Phase	/	^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S10.10.1 Table 10.11	LV7	Tree Protection & Preservation Carefully protected during construction. Tree protection measures will be detailed at the Tree Removal Application stage and plans submitted to the relevant Government Department for approval in due course in accordance with ETWB TC no. 3/2006.	Minimize landscape and visual impact	Contractor	Within Project site	Construction Phase	· 'Guidelines for Tree Risk Management and Assessment Arrangement on an Area Basis and on a Tree Basis', Greening, Landscape and Tree Management (GLTM) Section, DEVB · Latest recommended horticultural practices from GLTM Section, DEVB	N/A
S10.10.1 Table 10.11	LV8	Tree Transplantation For trees unavoidably affected by the Project that have to be removed, where practical transplantation will be chosen as the top priority method of removal. If this is not possible or practical compensatory planting will be provided for trees unavoidably felled (See LV10). For trees unavoidably affected by the Project works that are transplanted, transplantation must be carried out in accordance with ETWB TCW 2/2004 and 3/2006.	Minimize landscape and visual impact	Contractor	Within Project site and designated off-site locations	Prior to Construction Phase	· ETWB TCW 3/2006 · Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DEVB · ETWB TCW 2/2004	N/A
S10.10.1 Table 10.11	LV9	Compensatory Planting For trees unavoidably affected by the Project that have to be removed, where practical transportation will be chosen as the top priority method of removal but if this is not possible or practical compensatory planting will be provided for trees unavoidably felled. All felled trees shall be compensated for by planting trees to the satisfaction of relevant Government projects. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006.	Minimize visual impact and also enhance landscape	Contractor	Within Project site	Construction Phase	· ETWB TCW 3/2006 · Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DEVB · ETWB TCW 2/2004	N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S10.10.1 Table 10.11	LV10	Screen Planting Tall screen/buffer trees, shrubs and climbers should be planted, in so far as is possible, to soften and screen proposed structures such as roads and central strip, vertical edges and buildings and to enhance streetscape greening effect where appropriate. Indiscriminate use of trees for screening must be avoided and the principle of 'right tree for the right place' must be followed. This detail will be provided at the Detailed Design stage. This measure may additionally form part of the compensatory planting and will improve and create a pleasant pedestrian environment.	Minimize visual impact and also enhance landscape	Contractor	Within Project site	Construction Phase	· Guidelines on Greening of Noise Barriers, issued April 2012, GLTMS, DevB · ETWB TCW 2/2004	N/A
S10.10.1 Table 10.11	LV11	Green Roof Roof greening will be established on ventilation and administration buildings to reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels.	Minimize landscape and visual impact	Contractor	Within Project site	Construction Phase	/	N/A
S10.10.1 Table 10.11	LV12	Reinstatement All works areas, excavated areas and disturbed areas for tunnel construction and temporary road diversion or any other proposed works shall be reinstated to former conditions or better, with reasonable landscape treatment and to the satisfaction of the relevant Government departments. (Specific mitigation for disturbance to public open space is detailed separately under LV14)	Minimize landscape impact	Contractor	Within Project site	Construction Phase	/	N/A
S10.10.1 Table 10.11	LV13	Reprovising of Public Open Space All areas of public open space affected by the Project will be reprovisioned either at the same location following the completion of temporary works, or at a separate site, as agreed with relevant Government departments. Open space should be re-provisioned in an enhanced manner.	Minimize landscape impact	Contractor	Within Project site	Construction Phase	Open space should be re-provided in an enhanced manner.	N/A
Cultural Heritage Impact (Construction Phase)								
S11.4.4	CH1	The contractor should be alerted during the construction on the possibility of locating archaeological remains and as a precautionary measure, AMO shall be informed immediately in case of discovery of antiquities or supposed antiquities in the subject sites.	To preserve any cultural heritage items which may be removed and damaged by the excavation	Contractor	During construction works for cut and cover tunnels	During the Construction Phase	· AMOs requirements	N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
EM&A Project								
S13.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual	Control EM&A Performance	Highways Department	All construction sites	Construction stage	· EIAO Guidance Note No. 4/2010 · TM-EIAO	^
S13.2-13.4	EM2	An Environmental Team needs to be employed as per the EM&A Manual.	Perform environmental monitoring & auditing	Highways Department/ Contractor	All construction sites	Construction stage	· EIAO Guidance Note No. 4/2010 · TM-EIAO	^
		Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures;						^
		An environmental impact monitoring needs to be implemented by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.						^

Remarks: EM&A Programme under EP-457/2013/D	
^	Compliance of mitigation measure;
N/A N/A(1)	Not applicable at this stage; Not observed;
*	Recommendation was made during site audit but improved/retified by the contractor;
#	Recommendation was made during site audit but not yet improved/retified by the contractor;
X	Non-compliance of mitigation measure;
●	Non-compliance but rectified by the contractor.

APPENDIX D
SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION

Contract No. HY/2019/13
Central Kowloon Route – Buildings, Electrical and Mechanical Works

Appendix D – Summary of Environmental Complaint, Warning, Summon and Notification of Successful Prosecution

Reporting Month: March 2023

Log Ref.	Location	Received Date	Details of Complaint/ warning/ summon and prosecution	Investigation/ Mitigation Action	Status
N/A	N/A	N/A	N/A	N/A	N/A

Remarks: No environmental complaint and warning/summon and prosecution was received in the reporting period.