ACUITY sustainability
Member of the Aurecon Group

aurecon

水務署
Water Supplies Department

Contract No. 21/WSD/21

Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns

Monthly Environmental and Audit Report

October 2024

ASCL	/	230168321	/	MRPT18	/	1.0
Publisher		Project Code		Sequential No.		Version

	Prepared by:	Certified by:
Name	Ophelia K.W. Chu	F. C. Tsang
Position	Environmental Team Consultant	Environmental Team Leader
Signature		
Date	6 November 2024	6 November 2024

Acuity Sustainability Consulting Limited
Unit 1608, 16/F, Tower B, Manulife Financial Centre,
223 – 231 Wai Yip Street, Wai Yip Street, Kowloon, Hong Kong
tel +852 3664 6888
fax +852 3664 6999
http www.aurecongroup.com

Content

List of Tables

List of Figure

List of Appendices

EXECUTIVE SUMMARY

This is the 19th Monthly Environment Monitoring and Audit (EM&A) Report for Relocation of Diamon Hill Fresh Water and Salt Water Service Reservoirs to Caverns (the Project). This report was prepared by Acuity Sustainability Consulting Limited under Contract No. 21/WSD/21 (hereafter called "the Contract"). This report documents the findings of EM&A works during the reporting period from 1 October 2024 to 31 October 2024.

Key Construction Works in the Reporting Period

A summary of construction activities undertaken during the reporting period is presented below:

Portion 3:

- PAB Pipe Pile Installation (Ø355)
- PAB Excavation & Tie Back Installation
- C/C Tunnel construction
- Steel work for raking strut
- Pump house E&M provision
- C/C ELS Backfill to +77mPD
- Jumbo Lifting
- Tunnel Pre-support

Portion 5:

- Open trench main laying works
- ELS for Receiving Pit
- Reinstatement works
- Backfilling works
- Trial Pit Works

Environmental Monitoring and Audit Programme

The monthly EM&A programme was undertaken by the Environmental Team in accordance with the EM&A Manual. A summary of the monitoring and audit activities during the reporting period is presented below:

Table I Summary of EM&A Activities in the Reporting Period

EM&A Activities	Date
1-hour TSP Monitoring	3, 7, 12, 18, 24 and 30 October 2024
Construction Noise Monitoring	3, 7, 18, 24 and 30 October 2024
Weekly Environmental Site Inspection	4, 10, 16 and 25 October 2024

Breaches of Action and Limit Levels

A summary of the environmental monitoring exceedance of the reporting period is tabulated in **Table II**.

Table II Summary of Exceedance in the Reporting Period

Environmental Monitoring	Parameter	No. of non-project related exceedances		Total no. of non-project related exceedances	No. of exceedances related to the project		Total no. of exceedances related to the project
		AL	LL		AL	LL	
Air Quality	1-hour TSP	0	0	0	0	0	0
Noise	$L_{eq(30\text{-min})}$	0	0	0	0	0	0

Note:
1. AL refers to Action Level and LL refers to Limit Level.

Air Quality

No exceedance of Action Level or Limit Level was recorded for 1-hour TSP monitoring during the reporting period.

Construction Noise

No Action Level exceedance was recorded for construction noise monitoring during the reporting period.

No Limit Level exceedance was recorded for construction noise monitoring during the reporting period.

Complaint Log

No environmental complaint was received in the reporting period.

Notification of Summons and Successful Prosecutions

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

Reporting Change

There was no reporting change in the reporting period.

Future Key Construction Activities

Key construction activities to be considered in the next two months included:

Portion 1:

- Prepare for Mined Tunnel Work Force and Machines
- Within shaft, install and remove some strutting

Portion 3:

- PAB Pipe Pile Installation (Ø355)
- PAB Excavation & Tie Back Installation
- C/C Tunnel construction
- Steel work for raking strut
- Pump house E&M provision
- Tunnel Pre-support

Portion 5:

- Open trench main laying works
- ELS for Receiving Pit
- Reinstatement works
- Backfilling works
- Trial Pit Works

Potential environmental impacts arising from the above construction activities are mainly associated with construction dust, construction noise, water pollution control, waste management and landscape and visual.

1. INTRODUCTION

1.1 Project Background

1.1.1 The relocated Diamond Hill Fresh Water and Salt Water Service Reservoirs (DHSRs) will be constructed in a series of caverns linked by access tunnels and adits. The relocated Diamond Hill Fresh Water Service Reservoirs (DHFWSR) and Diamond Hill Salt Water Service Reservoirs (DHSWSR) will be compartmented while the existing Diamond Hill Pumping Station (DHPS) will be split into two (2) pump houses for fresh and salt water supply when relocated.

1.1.2 Ancillary facilities to be constructed near the tunnel portal may include transformer room, switch room, emergency generator room, control room, ventilation building, and pumping station control room, which will be constructed in an above-ground building outside the tunnel.

1.1.3 The scope of the Project comprises the following:

a) Construction of the relocated DHSRs and associated pumping stations and water main laying works;

b) Construction of tunnels, adits, ventilation system and caverns for accommodating the relocated DHSRs and the associated facilities;

c) Terminating the operation of the existing DHSRs and the associated facilities; and

d) All other associated works that are incidental to and necessary for the completion of the Project.

1.1.4 The major construction activities of the Project include earthworks, drilling and blasting, construction of concrete structures, handling and transportation of excavated materials, water mains laying, installation of electrical and mechanical (E&M) equipment and material transportation. The operation of the existing DHSRs and the associated facilities will be terminated after the completion of the testing and commissioning of the relocated DHSRs. Under the Project, the existing DHSRs and associated facilities will be retained after termination of the operation. The subsequent demolition works will be carried out by other government departments/ project proponents.

1.1.5 The Project construction was commenced on 31 March 2023 and the completion date for the construction works would be on 12 April 2027.

1.1.6 The Project is a Designated Project under Item Q.2, Part I of Schedule 2 of the Environmental Impact Assessment Ordinance, "Underground Rock Caverns", which requires an environmental permit from the Environmental Protection Department (EPD) for its construction and operation.

1.1.7 Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of EPD granted the Environmental Permits (EP-602/2021) to the Water Supplies Department (WSD) for the Project.

1.1.8 Acuity Sustainability Consulting Limited (ASCL) is commissioned by Chun Wo – Sinohydro Joint Venture to undertake the role of Environmental Team under the Environmental Permit (EP) EP-602/2021, and to carry out the EM&A programme in fulfilment of the EM&A Manual, and other requirements stipulated in the associated EIA Report.

1.1.9 This is the 19th Monthly EM&A Report summarizing the key findings of the construction phase EM&A programme from 1 October to 30 October 2024 (the reporting period) and is submitted to fulfil the requirements under Condition 3.4 of EP-602/2021 and Section 13.3 of the EM&A Manual of the Project.

1.2 Construction Works Programme

1.2.1 The construction works of the Project was commenced on 31 March 2023. The construction works programme, and the location of construction works of the Project are shown in **Appendix A** and **Figure 1.1**, respectively. A summary of construction activities undertaken during the reporting period is presented below:

Portion 3:

- PAB Pipe Pile Installation (Ø355)
- PAB Excavation & Tie Back Installation
- C/C Tunnel construction
- Steel work for raking strut
- Pump house E&M provision
- C/C ELS Backfill to +77mPD
- Jumbo Lifting
- Tunnel Pre-support

Portion 5:

- Open trench main laying works
- ELS for Receiving Pit
- Reinstatement works
- Backfilling works
- Trial Pit Works

1.2.2 **Table 1.1** summarise the status of temporary traffic sections near the works sites.

Table 1.1 Status of the Temporary Traffic Arrangement (TTA) Sections

Name of TTA	Status
Section 1 – Lion Rock Road	Implemented
Section 1 - Chuk Yuen Road (Westbound) near Tin Ma Court	Implemented
Section 1 - Chuk Yuen Road (Eastbound) near Tin Wang Court	Implemented
Section 2 - Chuk Yuen Road near Pang Ching Court	Implemented
Section 2 – Chuk Yuen Road near Pang Ching Court (eastbound)	Implemented
Section 2 - Chuk Yuen Road near Chuk Yuen South Estate (westbound)	Implemented
Section 2 - Chuk Yuen Road near Chuk Yuen Estate Bus Terminus (westbound)	Implemented
Section 2 - Chuk Yuen Road near Chuk Yuen Estate Bus Terminus (eastbound)	Implemented
Section 3 - Chuk Yuen Road near Bus Terminus (eastbound)	Implemented
Section 3 - Chuk Yuen Road near Market (westbound)	Implemented
Section 3 - Shatin Pass Road Top	Removed
Section 3 - Shatin Pass Road Middle	To be implemented
Section 3 - Tsz Wan Shan Road stage 2	To be implemented
Section 3 - Lung Fung Street (Combine TTA with CSCE)	To be implemented
Section 3 – Sheung Fung Street	Implemented

1.3 Project Organization

1.3.1 Different parties with different levels of involvement in the Project organization include:

- Project Proponent: Water Supplies Department (WSD)
- Supervisor/ Engineer's Representative (ER): Binnies Hong Kong Limited

- Contractor: Chun Wo - Sinohydro Joint Venture
- Environmental Team (ET): Acuity Sustainability Consulting Limited
- Independent Environmental Checker (IEC): Umwelt Consulting Limited

1.3.2 The key personnel contact names and telephone number are presented in **Appendix B**.

1.4 License, Notification and Permits

1.4.1 A summary of the relevant permit, licences, and/ or notifications on environmental protection for this Project are presented in **Table 1.2**.

Table 1.2 Status of Environmental License, Notifications and Permits

Permit / License No.	Valid Period		Status
	From	Expired On	
Environmental Permit			
EP-602/2021	14/12/2021	-	Valid
Notification Pursuant to Section 3(1) of the Air Pollution Control (Construction Dust) Regulation			
Ref. No.: 487301	09/12/2022	-	Valid
Billing Account for Disposal of Construction Waste			
7046085	04/01/2023	-	Valid
Registration of Chemical Waste Producer			
WPN 5213-282-C4760-0	30/12/2022	-	Valid
Effluent Discharge License under Water Pollution Control Ordinance			
WT00043965-2023	31/05/2023	31/05/2028	Valid
WT10002621-2023	08/04/2024	30/04/2029	Valid
Construction Noise Permit			
GW-RE0141-24	21/02/2024	20/07/2024	Expired
GW-RE0773-24	02/07/2024	29/10/2024	Valid
GW-RE0550-24	06/05/2024	06/10/2024	Valid
GW-RE0823-24	17/07/2024	19/11/2024	Valid
GW-RE1199-24	07/10/2024	05/04/2025	Valid
GW-RE0982-24	02/11/2024	22/12/2024	To be enforced
GW-RE1223-24	14/10/2024	27/03/2025	Valid

1.4.2 The submission status of the EP and the implementation status of the mitigation measures stated in the EP had been reviewed, all submission were submitted/

deposited to the Director of Environmental Protection (DEP) on schedule, no non-compliance of EP conditions was recorded during the reporting period. The summary of submission status under Environmental Permit EP-602/2021 are summarized in **Table 1.3**.

Table 1.3 Summary of Status of Submission under EP-602/2021

EP Condition	Title of Submission	Submission Status
1.11	Commencement Date of Construction	Notified the DEP on 22 Feb 2023
2.9	Management Organization(s)	Informed the DEP on 20 Feb 2023
2.10	Environmental Permit (EP) Submission Schedule	22 Feb 2022 (1st Submission)
2.11	Construction Works Schedule and Location Plan	28 Feb 2023 (Deposited)
2.12	Construction Noise Management Plan (CNMP)	• 28 Feb 2023 (1st submission) • The EPD's comments were issued on 8 Mar 2023 • The revised CNMP was submitted to the EPD for comment on 31 Jul 2023. • The EPD issued further comments on 16 Aug 2023. • The CNMP was further revised, certified by the ET Leader, verified by the IEC, and issued to the EPD on 22 Aug 2023. • The revised CNMP was submitted to the EPD for comment on 15 Sept 2023. • The EPD had no further comment on 5 Oct 2023.
2.13	Waste Management Plan (WMP)	• 28 Feb 2023 (1st submission) • The EPD's comments were issued on 3 Apr 2023. • The revised WMP was submitted to the EPD for comment on 26 July 2023. • The WMP was further updated and submitted to the EPD on 16 Aug 2023. • The EPD had no further comment on 19 Sep 2023.

EP Condition	Title of Submission	Submission Status
2.14	Landscape and Visual Mitigation Plan (LVMP)	• 28 Feb 2022 (1st Submission) • The EPD's comments were issued on 29 Mar 2023. • The revised LVMP was certified by the ET Leader, verified by the IEC, and issued to the EPD on 22 Aug 2023. • The EPD issued further comments on 11 Sep 2023. • The revised LVMP was certified by the ET Leader, verified by the IEC, and issued to the EPD on 15 Jan 2024. • The EPD issued further comments on 31 Jan 2024. • The revised LVMP was certified by the ET Leader, verified by the IEC, and issued to the EPD on 19 Apr 2024 • The EPD had no further comment on 29 Apr 2024.
3.3	Baseline Monitoring Report	• 17 Mar 2023 (1st Submission) • 27 Apr 2023 (2nd Submission) • 1 June 2023 (3rd Submission) • 13 July 2023 (Formal submission) • 3 Aug 2023 (accepted by the EPD)
3.4	Monthly EM&A Report (September 2024)	8 October 2024
4.2	Dedicated Internet Website	2 May 2023

1.4.3 Following the EPD's comments on the Baseline Monitoring Report (Ref. No. BMR-3.1, dated 17 March 2023), updating of air quality and noise monitoring locations were proposed, including cancellation of noise monitoring station at Tower 1, Meridian Hill (NM-1), resumption of air quality and noise monitoring stations at Block 6, Tsui Chuk Garden (i.e. DM-4 and NM-4) and proposal of new noise monitoring locations at Wo Tin House, Shatin Pass Estate (NM-5) and Sheung Fung Street Customs Staff Quarter (NM-6).

1.4.4 Additional baseline monitoring for air quality monitoring station DM-4, and noise monitoring stations NM-4, NM-5 and NM-6 was carried out between 2 May and 16 May 2023. The Baseline Monitoring Report was updated with all baseline monitoring results included, certified by the ET Leader, and verified by the IEC on 30 May 2023. The updated Baseline Monitoring Report was submitted to the EPD

on 1 June 2023. A minor comment was received from the EPD on 26 June 2023. Following the advice from the EPD, the Report was formally submitted to the EPD on 13 July 2023 after amendment. The Report was accepted by the EPD on 3 August 2023.

1.5 Brief Summary of EM&A Requirements

Air Quality

1.5.1 In accordance with the EM&A Manual, the ET shall carry out impact monitoring during construction phase of the project. For 1-hour Total Suspended Particulates (TSP) monitoring, the sampling frequency of at least three times every six days should be undertaken when the highest dust impact occurs.

1.5.2 Action and Limit Levels for the 1-hour TSP monitoring works are discussed in **Section 2.4**. Should non-compliance of the criteria occur, action in accordance with the Event and Action Plan presented in **Appendix C** shall be carried out.

1.5.3 The air quality mitigation measures detailed in the EM&A Manual were recommended to be implemented during the construction phase. The implementation statuses of these measures are presented in **Appendix D**.

Noise Monitoring

1.5.4 Construction noise monitoring should be carried out at the designated monitoring stations directly affected by the construction works once every week after the commencement of construction. During construction works, one set of $L_{eq(30\text{-min})}$ measurement at each station between 0700 and 1900 hours on normal weekdays shall be taken. If construction works are extended to include works during the period between 1900 and 0700 hours, additional weekly impact monitoring shall be carried out during evening and night-time works.

1.5.5 Action and Limit Levels for the noise monitoring are discussed in **Section 3.5**. Should non-compliance of the criteria occur, action in accordance with the Event and Action Plan presented in **Appendix C** shall be carried out.

1.5.6 The noise mitigation measures detailed in the EM&A Manual are recommended to be implemented during the construction phase. The implementation statuses of these measures are presented in **Appendix D**.

Environmental Requirements in Contract Documents

1.5.7 According to *Particular Specification* (*PS*), the Contractor shall undertake environmental protection measures to reduce the environmental impacts arising from the execution of the works. The Contractor shall also observe and comply with relevant environmental protection and pollution control ordinances. The Contractor shall design, construct, operate and maintain pollution control measures to ensure compliance with the contract provisions as well as the environmental ordinances and their regulations.

1.5.8 The Contractor shall also:

- Implement air pollution and noise abatement practices as specified in *PS*;
- Minimise generation of wastewater from the Site;
- On-site sorting of Construction and Demolition (C&D) materials;
- Establish a mechanism to record the quantities of C&D materials generated each month, using the monthly summary "Waste Flow Table";
- Control the use of timbers;
- Implement a trip ticket system (TTS) for tracking the removal of C&D materials from the Site to the disposal grounds;
- Prepare an Environmental Management Plan (EMP) in accordance with GS Section 25 and *PS* for implementation on the Site to reduce environmental nuisance and C&D materials arising from Works, throughout the construction period;
- Arrange weekly environmental walk to inspect the Site, checking that the environmental performance of the Site is satisfactory and in compliance with the requirements under the contract and EMP; and
- Carry out site specific induction training about environmental management as well as safety for all staffs and workers, and provide toolbox talks for workers on environmental nuisance abatement and waste management.

2. AIR QUALITY MONITORING

2.1 Monitoring Locations

2.1.1 The air quality monitoring locations for impact monitoring during the reporting period are listed in **Table 2.1** and presented in **Figure 2.1**.

Table 2.1 Air Quality Monitoring Stations for Construction Phase

ID	Description	Coordinates	
		Northing	Easting
DM-1	Tennis Court near Tin Ma Court	822705	837047
DM-2	Chun Sing House, Tin Ma Court	822673	837143
DM-3	Grace Methodist Church Kindergarten	822782	837227
DM-4	Block 6, Tsui Chuk Garden	822926	837246
DM-4a (1)	Road pavement near Wang King House, Tin Wang Court	822854	837340

Notes:
1. An additional air quality monitoring station DM-4a was proposed by the ET and agreed by the ER, IEC and EPD.

2.2 Air Quality Monitoring Parameter, Frequency and Duration

2.2.1 **Table 2.2** summarized the monitoring parameter, duration, and frequency of impact air quality monitoring.

Table 2.2 Impact Air Quality Monitoring Parameter, Duration and Frequency

Parameter	Frequency	Duration
1-hour TSP	3 times every 6 days	Throughout the construction phase

2.3 Monitoring Equipment and Methodology and QA/ QC Procedure

Proposal of Using Portable Direct Reading Dust Meter

2.3.1 Direct reading dust meters were used for measuring 1-hour TSP levels during the impact air quality monitoring. According to Section 4.4.1 of the EM&A Manual, the proposed use of direct reading dust meters was submitted to and agreed by the IEC.

2.3.2 Sufficient number of monitoring instruments was prepared by the ET for carrying out the impact monitoring. All equipment and associated instrumentation were clearly labelled.

2.3.3 Wind data were collected from the records of Hong Kong Observatory Kai Tak Wind Station (22.30966N, 114.21336E), which is located at the south-eastern side of runway of the former Kai Tak Airport about 4.5 km south-east from the project site.

2.3.4 Equipment used in the impact air quality monitoring programme is summarised in **Table 2.3.** Calibration certificates for the impact air quality monitoring equipment are attached in **Appendix E**.

Table 2.3 Impact Air Quality Monitoring Equipment

Equipment	Brand and Model	Serial No.	Calibration Due Date
Direct Reading Dust Meter	Sibata LD-5R	0Z4545	28/11/2024
		882106	28/11/2024
		942532	28/11/2024

Maintenance and Calibration

2.3.5 Direct reading dust meters have been calibrated against high volume samplers (HVSs) annually. A 2-day, three 3-hour measurement results per day from direct reading dust meters were taken to compare with the sampling results from the HVSs. The correlation between the direct reading dust meters and the HVSs were then concluded. By accounting for the correlation factor, the direct reading dust meters are considered to achieve comparable results as that of the HVSs.

2.3.6 The 1-hour TSP measurement follows the instruction provided in the manufacturer's manual. Before initiating a measurement, zeroing the portable dust meter was carried out to ensure the accuracy of each measurement.

2.4 Action and Limit Levels

2.4.1 The action and limit levels were established in accordance with the EM&A Manual. **Table 2.4** presents the action and limits levels for 1-hour TSP monitoring. Should non-compliance of the criteria occur, action in accordance with the Event and Action Plan presented in **Appendix C** shall be carried out.

Table 2.4 Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level (µg/m^3)	Limit Level (µg/m^3)
DM-1	300.1	500
DM-2	289.0	
DM-3	289.7	
DM-4	294.9	
DM-4a	291.6	

2.5 Results and Observation

2.5.1 The impact air quality monitoring was conducted on 2, 7, 12, 18, 24 and 30 October 2024. The impact air quality monitoring schedule for the reporting period is shown in **Appendix F**.

2.5.2 The monitoring results and graphical presentation of impact air quality monitoring are shown in **Appendix G**. No action or limit levels exceedance was recorded in the reporting period.

Table 2.5 Summary of Impact 1-hour TSP Monitoring Results

Monitoring Station	TSP Concentration, µg/m³			Action Level	Limit Level
	Average	Minimum	Maximum		
DM-1	59	54	62	300.1	500
DM-2	55	43	60	289.0	
DM-3	37	23	41	289.7	
DM-4	42	37	51	294.9	
DM-4a	40	35	57	291.6	

2.5.3 During the impact air quality monitoring, the major dust sources at each monitoring stations were summarized in **Table 2.6**.

Table 2.6 Influencing Factors at/ near Air Quality Monitoring Stations

Monitoring Stations	Influencing Factors
DM-1	Not identified
DM-2	Not identified
DM-3	Not identified
DM-4	Not identified
DM-4a	Not identified

2.5.4 Weather conditions during impact monitoring are presented in **Appendix G** and extracts of wind data recorded at Kai Tak Wind Station available from the Hong Kong Observatory are presented in **Appendix H**.

3. NOISE MONITORING

3.1 Monitoring Locations

3.1.1 The monitoring locations for construction noise monitoring are listed in **Table 3.1** and shown in **Figure 3.1**.

Table 3.1 Noise Monitoring Stations during Construction Phase

ID	Description	Measurement	Coordinates	
			Northing	Easting
NM-2	Chun Sing House, Tin Ma Court	Façade	822668	837143
NM-3	Grace Methodist Church Kindergarten	Façade	822782	837227
NM-4	Block 6, Tsui Chuk Garden	Façade	822926	837246
NM-4a (1)	Road pavement near Wang King House, Tin Wang Court	Free field	822854	837340
NM-5 (2)	Wo Tin House, Shatin Pass Estate	Façade	823360	838143
NM-6 (2)	Sheung Fung Street Customs Staff Quarters	Free field	823134	838412

Notes:
The noise monitoring station proposed in the EM&A Manual (NM-1) was not available for baseline and impact monitoring. Therefore, impact monitoring at NM-1 was cancelled and agreed by the ER, IEC and EPD.
(1) An additional noise monitoring station NM-4a was proposed by the ET and agreed by the ER, IEC and EPD.
(2) Main laying works near NM-5 and NM-6 were commenced in early September 2023. Noise monitoring at NM-5 and NM-6 was commenced on 7 September 2023.

3.2 Noise Monitoring Parameter, Frequency and Duration

3.2.1 Construction noise level was measured by the ET and measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq(30\text{-min})}$ was adopted as the monitoring parameter for the construction noise monitoring.

3.2.2 As supplementary information for data auditing, statistical results such as L_{10} and L_{90} were also obtained for reference.

3.2.3 **Table 3.2** summarized the monitoring parameters, duration, and frequency of construction noise monitoring.

Table 3.2 Construction Noise Monitoring Parameter, Frequency and Duration

Parameters	Time	Frequency	Duration
$L_{eq(30\text{-min})}$	0700 and 1900 hours on normal weekdays	Once every week	Throughout the construction phase

3.3 Monitoring Equipment, Methodology and QA / QC Procedure

3.3.1 As referred to the technical memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications were used for carrying out the construction noise monitoring.

3.3.2 Noise measurements were not made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed was checked with a portable wind speed meter capable of measuring the wind speed in m/s.

3.3.3 Sufficient number of noise measuring equipment and associated instrumentation was prepared by the Environmental Team. All the equipment and associated instrumentation were clearly labelled.

3.3.4 Wind data were collected from the records of Hong Kong Observatory Kai Tak Wind Station (22.30966N, 114.21336E), which is located at the south-eastern side of runway of the former Kai Tak Airport about 4.5 km south-east from the project site.

3.3.5 The monitoring procedures are as follows:

- For façade measurement, the monitoring station was set at a point 1 m from the exterior of the sensitive receiver building façade and set at a position 1.2 m above the ground. For free-field measurement, the monitoring station was set at a position 1.2 m above ground.
- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the interval were set as follows:
  - Frequency weighting: A
  - Time weighting: Fast
  - Interval: 30 minutes ($L_{eq(30\text{-min})}$) would be determined for daytime noise by calculating the logarithmic average of six consecutive $L_{eq(5\text{-min})}$ data
- Prior to and after each noise measurement, the meter was calibrated using an acoustic calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement was considered invalid and repeat of noise measurement will be required after re-calibration or repair of the equipment.
- At the end of the monitoring period, the values of L_{eq}, L_{90} and L_{10} were recorded. In addition, noise sources were recorded on a standard record sheet.

3.3.6 **Table 3.3** summarized the noise monitoring equipment used during the construction noise monitoring. Calibration certificates for the impact noise monitoring equipment are attached in **Appendix E**.

Table 3.3 Construction Noise Monitoring Equipment

Equipment	Model (Serial Number)	Calibration Due Date
Sound Level Meter	NTi-XL2 (A2A-09696-E0)	01/03/2025
Sound Calibrator	Rion NC 74 (34615222)	26/03/2025

3.4 Maintenance and Calibration

3.4.1 Maintenance and calibration procedures are as follows:

- The microphone head of the sound level meter and calibrator were regularly cleaned with a soft cloth; and
- The sound level meter and acoustic calibrator were calibrated annually by a HOKLAS accredited laboratory or the manufacturer.

3.5 Action and Limit Levels

3.5.1 The Action and Limit Levels were established in accordance with the EM&A Manual. **Table 3.4** presents the Action and Limit Levels for construction noise. Should non-compliance of the criteria occur, action in accordance with the Event and Action Plan presented in **Appendix C** shall be carried out.

Table 3.4 Action and Limit Levels for Construction Noise Monitoring

Monitoring Stations	Action Level	Limit Level	Time Period
NM-2	When one documented complaint is received	75 dB(A)	0700 - 1900 hours on normal weekdays
NM-3		70/ 65 dB(A) *	
NM-4		75 dB(A)	
NM-4a		75 dB(A)	
NM-5		75 dB(A)	
NM-6		75 dB(A)	

Notes:
If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.
* 70 dB(A) for school and 65 dB(A) during school examination period.

3.6 Results and Observations

3.6.1 The construction noise monitoring was conducted on 2, 7, 18, 24 and 30 October 2024. The monitoring schedule is presented in **Appendix F**.

3.6.2 The construction noise monitoring results are summarized in **Table 3.5**. No Action Level or Limit Level exceedance was recorded in the reporting period. Details of the results and graphical presentation are shown in **Appendix I**.

Table 3.5 Summary of Construction Noise Monitoring Results

Monitoring Station	Noise Level, dB(A)			Limit Level
	$L_{eq(30\text{-min})}$			
	Mean	Minimum	Maximum	
NM-2	70.3	69.6	71.4	75 dB(A)
NM-3	58.3	56.2	59.2	70/ 65 dB(A) (1)
NM-4	56.0	53.8	62.8	75 dB(A)
NM-4a	71.1	69.1	72.2	75 dB(A)
NM-5 (2)	67.6	63.1	69.8	75 dB(A)
NM-6 (2)	71.3	70.8	72.2	75 dB(A)

Note:
(1) 70 dB(A) for school and 65 dB(A) during school examination period.
(2) Impact monitoring at NM-5 and NM-6 was commenced on 7 September 2023.

3.6.3 Weather conditions during impact monitoring are presented in **Appendix I** and extracts of wind data recorded at Kai Tak Wind Station available from the Hong Kong Observatory are presented in **Appendix H**.

3.6.4 During the construction noise monitoring period, the influencing factors which may affect the results are summarized in **Table 3.6**.

Table 3.6 Influencing Factors at Noise Monitoring Stations

Monitoring Stations	Influencing Factors
NM-2	Road traffic noise, construction noise from 76 Broadcast Drive project
NM-3	Road traffic noise
NM-4	Road traffic noise
NM-4a	Road traffic noise
NM-5	Road traffic noise
NM-6	Road traffic noise

4. WASTE MANAGEMENT

4.1.1 Waste generated from the Project includes inert construction and demolition (C&D) materials and non-inert C&D wastes in the reporting period. The amount of waste generated by the construction works of the Project during the reporting period is shown in **Table 4.1** and the cumulative waste flow table was presented in **Appendix J**.

Table 4.1 Summary of Waste Generated in the Reporting Period

Month	Actual Quantalities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					Actual Quantities of C&D Wastes Recycled				
	Total Quantity Generated	Broken Concrete (including rock for recycling into aggregates)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Chemical Waste	Others e.g., general refuse	Metals	Paper/ cardboard packaging	Plastics (bottles/ containers, plastic sheets/foam package material)	Yard Waste	Others
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
October 2024	1.2245	0.00000	0.2358	0.00000	0.9887	1.0876	0.00000	0.00000	0.00000	0.00000	0.0493	0.0026	0.0830	0.0004	0.00000	0.00000

4.1.2 Construction and demolition (C&D) materials sorting was carried out on site. Sufficient receptacles were provided for general refuse collection and sorting. Excavated inert C&D materials were reused to minimize the disposal of C&D waste to public fill.

4.1.3 The Contractor was advised to minimize the amount of waste through recycling or reusing. All applicable mitigation measures stipulated in the EM&A Manual and waste management plans shall be fully implemented.

5. ENVIRONMENTAL SITE INSPECTION AND AUDIT

5.1.1 Site inspections were carried out by the ET on a weekly basis to monitor the implementation of proper environmental pollution control mitigation measures for the Project. During the reporting period, site inspections were carried out on 4, 10, 16 and 25 October 2024. A joint site inspection with the ER, the Contractor and the IEC was carried out on 16 October 2024

5.1.2 During the site inspections in the reporting period, no non-conformance was identified. Key observations and reminders during the site inspections are described in **Table 5.1.**

Table 5.1 Summary of Site Inspection Observations and Recommendations

Inspection Date	Key Observations/ Reminders	Follow-up Action
4 October 2024	Portion 3 Reminder: 1. Lubricant oil applied to equipment should not be overdosed which may cause land contamination	N/A
10 October 2024	No major environmental deficiency was observed.	N/A
16 October 2024	Portion 3 & work area at Pang Ching Court Reminder: 1. Water spraying should be performed more frequently especially in dry season	N/A
25 October 2024	No major environmental deficiency was observed.	N/A

5.1.3 According to the EIA Report, EP and the EM&A Manual, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. A summary of the Project Implementation Schedule is provided in **Appendix D.**

6. ENVIRONMENTAL NON-COMPLIANCE

6.1 Summary of Exceedance

6.1.1 No Action Level or Limit Level exceedance was recorded for 1-hour TSP monitoring in the reporting period.

6.1.2 No Action Level or Limit Level exceedance was recorded for construction noise monitoring in the reporting period.

6.1.3 Should the monitoring results of the environmental monitoring parameters at any designated monitoring stations indicate that the Action/ Limit Levels are exceeded, the actions in accordance with the Event and Action Plans in **Appendix C** would be carried out.

6.2 Summary of Environmental Non-Compliance

6.2.1 No environmental non-compliance was recorded in the reporting period.

6.3 Summary of Environmental Complaint

6.3.1 No environmental complaint was received in the reporting period. The Cumulative Complaint Log is presented in **Appendix K**.

6.4 Summary of Environmental Summon and Successful Prosecution

6.4.1 There was no successful environmental prosecution or notification of summons received since the Project commencement. The Cumulative Log for environmental summon and successful prosecution is presented in **Appendix K**.

7. FUTURE KEY ISSUE

7.1 Construction Works and Potential Environmental Issues in the next Reporting Period

7.1.1 The construction programme for the Project for the next reporting period is presented in **Appendix A**.

7.1.2 Works to be undertaken in the next two months are summarized below:

Portion 1:

- Prepare for Mined Tunnel Work Force and Machines
- Within shaft, install and remove some strutting

Portion 3:

- PAB Pipe Pile Installation (Ø355)
- PAB Excavation & Tie Back Installation
- C/C Tunnel construction
- Steel work for raking strut
- Pump house E&M provision
- Tunnel Pre-support

Portion 5:

- Open trench main laying works
- ELS for Receiving Pit
- Reinstatement works
- Backfilling works
- Trial Pit Works

7.1.3 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust impact, noise impact, water quality impact, waste management and landscape and visual.

7.2 Recommendation

7.2.1 The key environmental mitigation measures for the Project in the coming reporting period associated with the above construction activities will include:

Dust

- Regular watering to reduce dust emissions from the exposed site surface;
- Stockpile of dusty materials shall be covered entirely by impervious sheeting;
- Provide vehicles washing facilities at all site exits to wash away any dusty materials from vehicle body;
- NRMM Labels should be displayed on the applicable equipment on site by the Contractor;
- All vehicle and plant should be cleaned before they leave a construction site.

Noise

- Only well-maintained plant should be operated on-site, and plant should be maintained regularly during the construction programme;
- Quality Powered Mechanical Equipment (QPME) should be adopted as far as possible.

Water Quality

- No effluent discharge would be allowed before the effluent discharge license is acquired.
- Surface run-off from construction sites should be discharged into dedicated discharge point via adequately designed sand/ silt removal facilities;
- Channels/ earth bunds/ sandbags barriers should be provided on site to properly direct stormwater to silt removal facilities;
- Silt removal facilities, channels and manholes should be maintained, and the deposited silt and grit should be removed regularly;
- Open stockpiles of construction materials on sites should be covered with tarpaulin or similar fabric during rainstorms;
- Perimeter channels should be provided on site boundaries where necessary to intercept stormwater run-off from outside the site so that it will not wash across the site;
- Bare slope should be covered completely by using canvas to reduce muddy surface runoff during typhoons and rainstorms.

Waste Management

- Provision of sufficient waste disposal points and regular collection of waste;

- Regular cleaning and maintenance programme for drainage system;
- Chemical containers shall be stored with drip tray underneath;
- Storage, handling, transport, and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published by EPD, and collected by a licensed chemical waste collector.

Ecology

- Minimize loss of habitats and associated wildlife;
- Using directional lighting to prevent excessive light spill into adjacent natural habitat and disturbance to nocturnal fauna.

Landscape and Visual

- Adequate tree protection measures shall be provided for the trees to be retained on site.

8. CONCLUSION, COMMENTS AND RECOMMENDATION

8.1 Conclusion

8.1.1 This is the 19th Monthly EM&A Report presenting the EM&A works during the reporting period from 1 October 2024 to 31 October 2024 in accordance with the EM&A Manual.

8.1.2 No Action Level or Limit Level exceedance was recorded for 1-hour TSP monitoring in the reporting period.

8.1.3 No Action Level or Limit Level exceedance was recorded for construction noise monitoring in the reporting period.

8.1.4 Environmental site inspections were conducted on 4, 10, 16 and 25 October 2024 by the ET in the reporting period.

8.1.5 No environmental complaint was received in the reporting period.

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

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

8.1.8 No change to the EM&A programme was made in this reporting period.

8.2 Comments and Recommendations

8.2.1 The proposed mitigation measures were properly implemented and were considered effective and efficient in pollution control.

8.2.2 The ET had no recommendation following the completion of EM&A in the reporting period.

Figures

Figure 1.1 Project Layout Plan

Portion 5 - TTA Status as in October 2024

Legend:

1. TTA to be implemented (6 nos.)
2. TTA Implemented (11 nos.)
3. TTA to be removed (3 nos.)

PROPOSED DIAMOND HILL S.W. S/R

PROPOSED DIAMOND HILL F.W. S/R

PROPOSED DIAMOND HILL F.W. P/S

PROPOSED DIAMOND HILL S.W. P/S

PROPOSED ACCESS TUNNEL

Tsz Wan Shan Road stage 2 Open Trench Section

Tsz Wan Shan Road stage 2 Open Trench Section

Shatin Pass Road Middle lane Trial Pit Works

Sheung Fung Street stage 3 Open Trench Section

Sheung Fung Street stage 4 Open Trench Section

Chuk Yuen Road near Pang Ching Court Pipe Pile work for pipe jacking

Chuk Yuen Road near Pang Ching Court (eastbound) Open Trench Section

Chuk Yuen Road near Chuk Yuen Estate Bus Terminus (eastbound) ELS for Receiving Pit

Chuk Yuen Road near Bus Terminus (eastbound) Open Trench Section

Chuk Yuen Road (eastbound) near Tin Wang Court Pipe Pile work for pipe jacking

Lion Rock Road

Chuk Yuen Road near Chuk Yuen South Estate (westbound) Slow lane Reinstatement Fast lane Mainlaying

Chuk Yuen Road near Chuk Yuen Estate Bus Terminus (westbound) ELS for Receiving Pit

Chuk Yuen Road near Market (westbound) Open Trench Section

Lung Fung Street (Combined TTA with CSCE) Tril Pit for Open Trench Section

Ming Fung Street Road Kerb Setback

Chuk Yuen Road (Westbound) near Tin Ma Court Pipe Pile work for pipe jacking

Lion Rock Road Footpath Trial Pit works

Chuk Yuen Road (Westbound) near Tin Ma Court Road Kerb Setback

- PAB Pipe Pile Installation (355)
- PAB Excavation & Tie Back Installation
- C/C Tunnel construction
- Steel work for raking strut
- Pump house E&M provision

PORTAL ANCILLARY BUILDING NEAR LION ROCK PARK TRANSIT NURSERY LANDSCAPE SECTION

NOTES:

COPYRIGHT RESERVED

THIS PRINT MAY NOT BE COPIED, TRACED, OR EXHIBITED WITHOUT PREMISSION OF THE WATER AUTHORITY.

1. ALL DIMENSION ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. THE BASE PLAN IS EXTRACTED FROM SURVEY SHEET NOS. 11-NE-A & 11-NW-B.

LEGEND:

- COUNTRY PARK BOUNDARY
- PROPOSED FRESH WATER MAINS
- PROPOSED SALT WATER MAINS

Revision	Date	Description			Initial
	Designed	Checked	Drawn	Checked	
Initial	KMF	YHP	SZ	YHP	
Date	03/21	03/21	03/21	03/21	

Approved

Contract No. 21/WSD/21

Project Title: RELOCATION OF DIAMOND HILL FRESH WATER AND SALT WATER SERVICE RESERVOIRS TO CAVERNS

Drawing Title: GENERAL LAYOUT OF RELOCATED DHSRS

Drawing No. 401049/B&V/AT/005

Revision J

Scale A1 1 : 2500 A3 1 : 5000

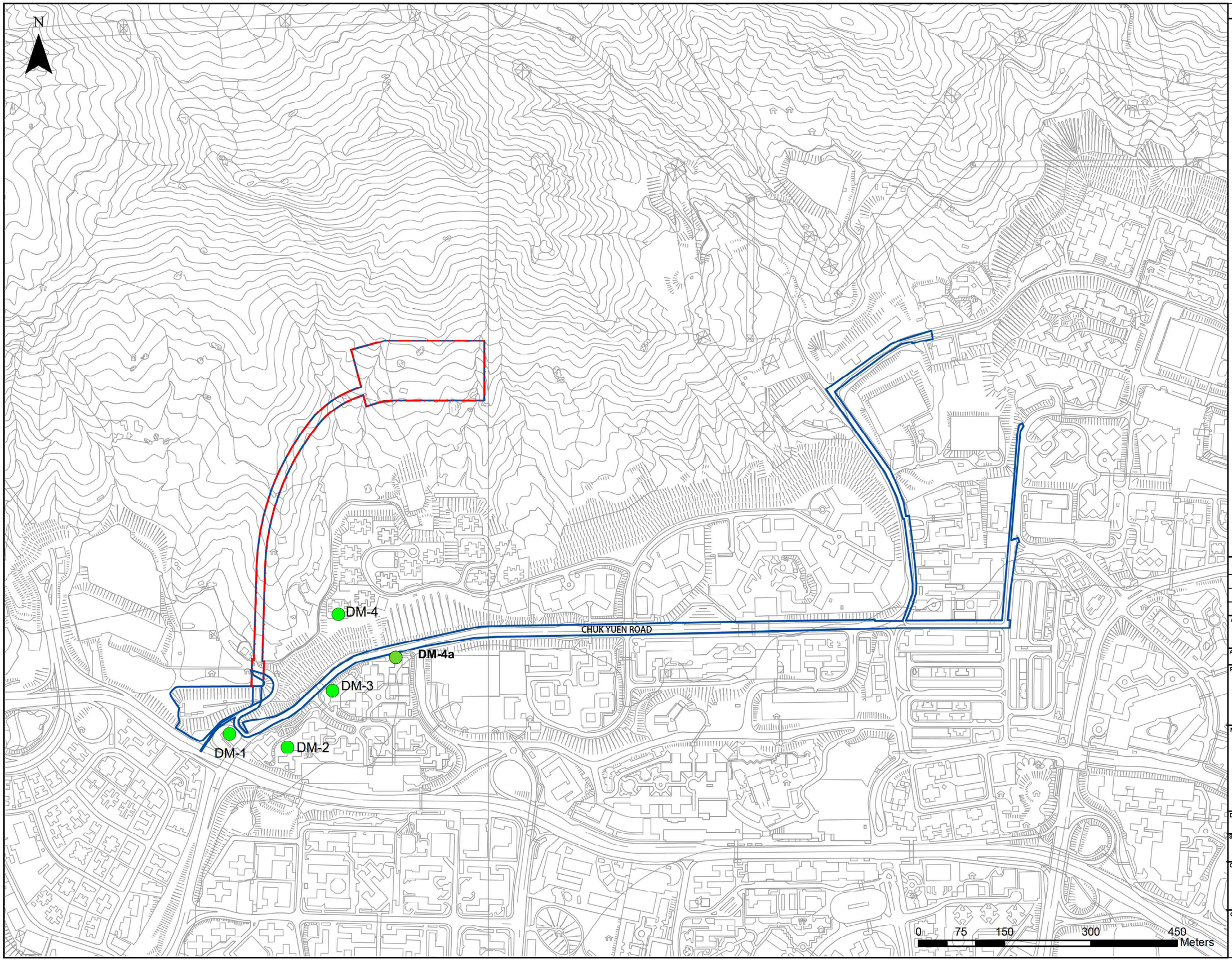
水務署 Water Supplies Department

BINNIES HONG KONG LIMITED 賓尼斯工程顧問有限公司

Plot Date : 2022/6/12 下午 06:17:32

File Name : Z:\TO Team\STO-3 Steven Tong\Diamond Hill\From Ricky\401049-B&V-AT-005_J

Figure 2.1 Air Quality Monitoring Stations



Legend

- PROJECT SITE BOUNDARY
- CAVERN AND TUNNEL (UNDERGROUND)
- CONSTRUCTION DUST MONITORING STATION

Revision	Description			
	Designed	Reviewed	Drawn	Checked
Initial	Wing	ET	Wing	ET
Date	05/21	05/21	05/21	05/21

Approved: -

Agreement No.: CE15/2018 (WS)

Project Title: **RELOCATION OF DIAMOND HILL FRESH WATER AND SALT WATER SERVICE RESERVOIRS TO CAVERNS - INVESTIGATION, DESIGN AND CONSTRUCTION**

Figure Title: Location of Air Quality Monitoring Stations

Drawing No.: Figure 2.1

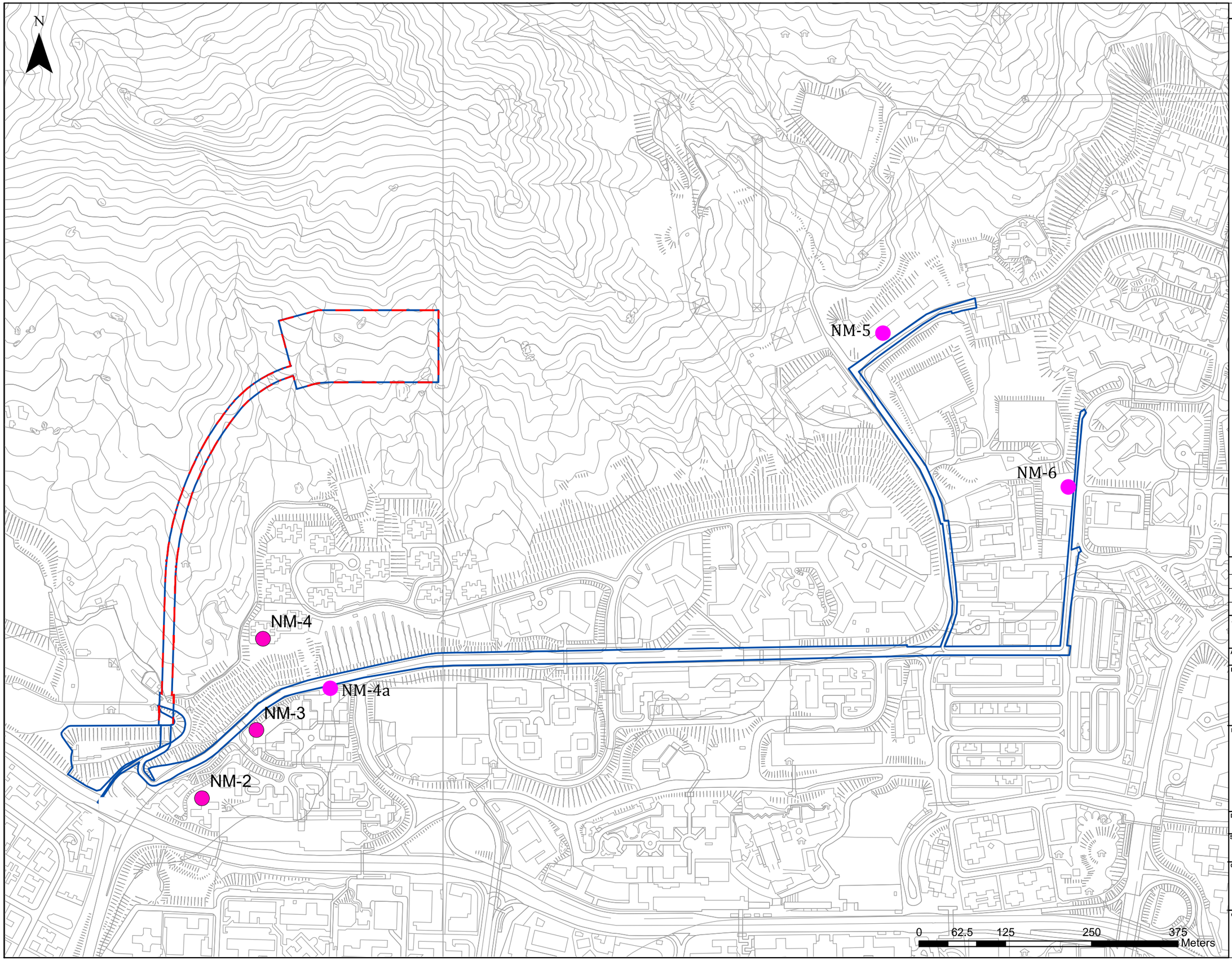
Revision: -

Scale: A3: 1:6,000

Client: 水務署 Water Supplies Department

Consultant: BINNIES HONG KONG LIMITED 賓尼斯工程顧問有限公司

Figure 3.1 Construction Noise Monitoring Stations



Legend

- PROJECT SITE BOUNDARY
- CAVERN AND TUNNEL (UNDERGROUND)
- CONSTRUCTION NOISE MONITORING STATION

Revision	Description			
	Designed	Reviewed	Drawn	Checked
Initial	Wing	ET	Wing	ET
Date	03/21	03/21	03/21	03/21

Approved: -

Agreement No.: CE15/2018 (WS)

Project Title: RELOCATION OF DIAMOND HILL FRESH WATER AND SALT WATER SERVICE RESERVOIRS TO CAVERNS - INVESTIGATION, DESIGN AND CONSTRUCTION

Figure Title: Locations of Noise Monitoring Station

Drawing No.: Figure 3.1

Revision: B

Scale: A3: 1:5,000

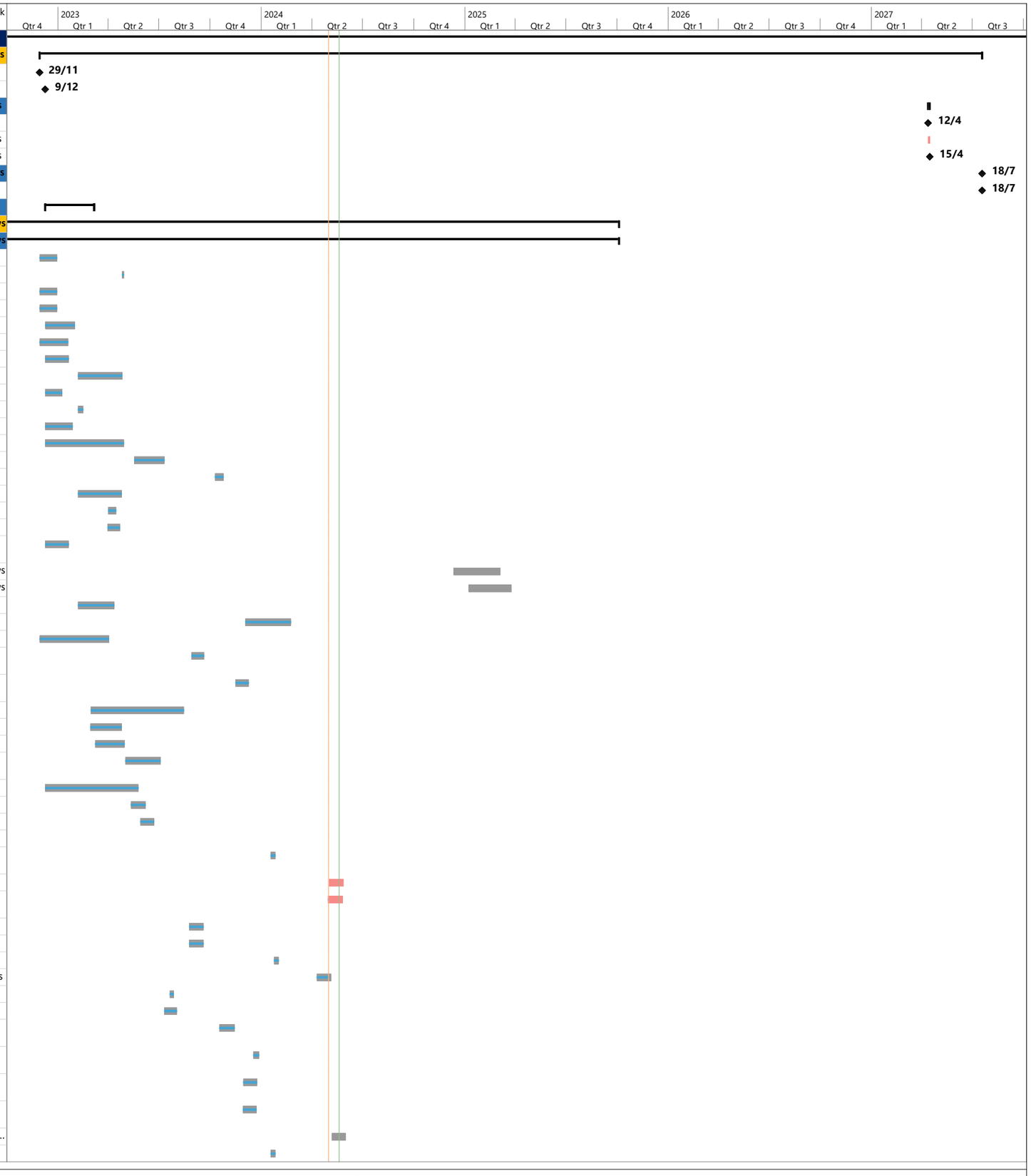
Client: 水務署 Water Supplies Department

Consultant: BINNIES HONG KONG LIMITED 賓尼斯工程顧問有限公司

Appendix A

Master Construction Programme for the Project

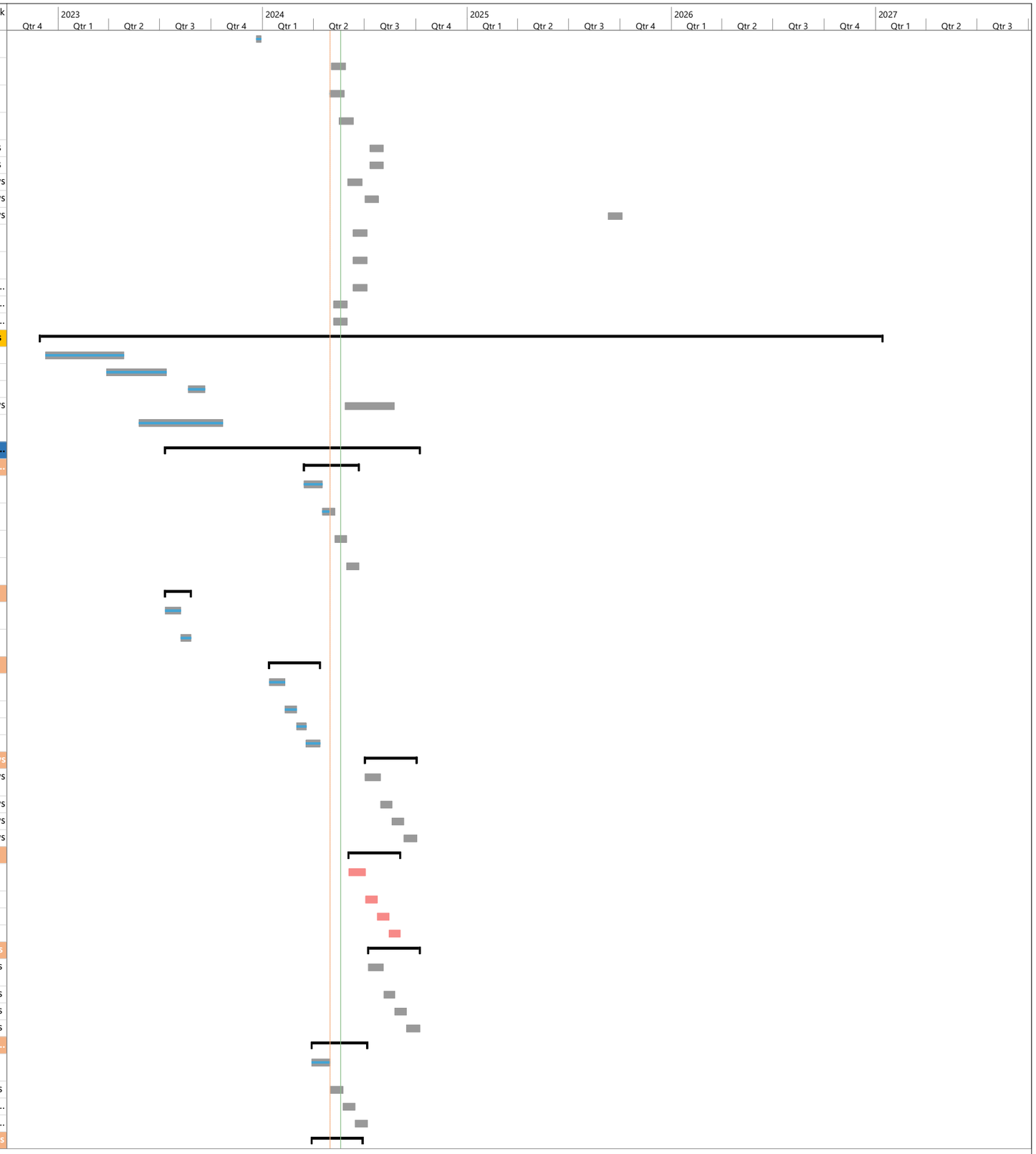
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
1		**Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cav**	**28%**	**1958 days**	**Mon 13/12/21**	**Tue 4/7/28**	**0.2 days**
2		**Contract Date**	**0%**	**1384 days**	**Tue 29/11/22**	**Sun 18/7/27**	**-76.9 days**
3	CD-1000	Contract Date (CD)	100%	0 days	Tue 29/11/22	Tue 29/11/22	0 days
4	CD-1010	Starting date (SD, within 2weeks from the CD)	100%	0 days	Fri 9/12/22	Fri 9/12/22	0 days
5		**Contract Completion Date**	**0%**	**3 days**	**Mon 12/4/27**	**Thu 15/4/27**	**-0.1 days**
6	KD-1000	Completion date for the whole of the works (1585d)	0%	0 days	Mon 12/4/27	Mon 12/4/27	0 days
7	CE-019	Delay of Work Due to Inclement Weather in May 2023	0%	3 days	Tue 13/4/27	Thu 15/4/27	-0.1 days
8	KD-1100	Completion date for the whole of the works after CE Implementation	0%	0 days	Thu 15/4/27	Thu 15/4/27	-0.1 days
9		**Anticipated Completion Date**	**0%**	**0 days**	**Sun 18/7/27**	**Sun 18/7/27**	**-79.8 days**
10	KD-2100	Planned Completion date for the whole of the works (1585d)	0%	0 days	Sun 18/7/27	Sun 18/7/27	-97 days
11		**Access Date**	**100%**	**70 days**	**Fri 9/12/22**	**Tue 7/3/23**	**0 days**
17		**Sub-letting / Procurement**	**77%**	**1137.6 days**	**Mon 13/12/21**	**Sat 4/10/25**	**820.6 days**
18		**Works Sub-letting**	**77%**	**1137.6 days**	**Mon 13/12/21**	**Sat 4/10/25**	**820.6 days**
19	21.SUB.G.100	Subletting for Initial Survey Works (WO001)	100%	26 days	Tue 29/11/22	Thu 29/12/22	0 days
20	21.SUB.G.100	Subletting for Boulder Survey Works (SC049)	100%	7 days	Fri 21/4/23	Fri 28/4/23	0 days
21	21.SUB.G.100	Subletting for Temporary Supply of Water (WO002)	100%	26 days	Tue 29/11/22	Thu 29/12/22	0 days
22	21.SUB.G.100	Subletting for Temporary Supply of Electricity (WO003)	100%	26 days	Tue 29/11/22	Thu 29/12/22	0 days
23	21.SUB.G.100	Subletting for Tree Survey Works (WO004)	100%	40 days	Fri 9/12/22	Mon 30/1/23	0 days
24	21.SUB.G.100	Subletting for Construction of New Shed and Miscellaneous Works (WO00	100%	42 days	Tue 29/11/22	Wed 18/1/23	0 days
25	21.SUB.G.100	Subletting for Traffic Consultancy Services Stage 1 (WO006)	100%	34 days	Fri 9/12/22	Thu 19/1/23	0 days
26	21.SUB.G.100	Subletting for Condition Survey & Pre-Construction Condition Survey (WO(	100%	64 days	Mon 6/2/23	Tue 25/4/23	0 days
27	21.SUB.G.100	Subletting for UU Detection Works (SC002)	100%	24 days	Fri 9/12/22	Sat 7/1/23	0 days
28	21.SUB.G.100	Subletting for ICE Consultant - Temp Works for Site Formation for PAB (WC	100%	8 days	Mon 6/2/23	Tue 14/2/23	0 days
29	21.SUB.G.100	Subletting for ICE Consultant - Portion 4 (WO007)	100%	37 days	Fri 9/12/22	Thu 26/1/23	0 days
30	21.SUB.G.101	Subletting for Design Consultant	100%	112 days	Fri 9/12/22	Fri 28/4/23	0 days
31	21.SUB.G.101	Subletting for ICE Consultant - Civil & Structure (WO019)	100%	43 days	Thu 18/5/23	Mon 10/7/23	0 days
32	21.SUB.G.101	Subletting for Ground Investigation & Monitoring Works for Tunnel (SC003	100%	12 days	Tue 10/10/23	Tue 24/10/23	0 days
33	21.SUB.G.101	Subletting for Design Services for Pemanent/CSD (SC045a)	100%	63 days	Mon 6/2/23	Mon 24/4/23	0 days
34	21.SUB.G.101	Subletting for Demolition Works (WO011)	100%	8 days	Sat 1/4/23	Fri 14/4/23	0 days
35	21.SUB.G.101	Subletting for Site Clearance (SC005)	100%	15 days	Fri 31/3/23	Fri 21/4/23	0 days
36	21.SUB.G.101	Subletting for Environmental Monitoring Works and Appointment of Environmental Team (SC001)	100%	34 days	Fri 9/12/22	Thu 19/1/23	0 days
37	21.SUB.G.101	Subletting for Drainage and Ducts for Tunneling and Caverns (SC040)	0%	66 days	Wed 11/12/24	Tue 4/3/25	325.2 days
38	21.SUB.G.101	Subletting for Landscape Softworks for Slope Works	0%	63 days	Tue 7/1/25	Mon 24/3/25	562.2 days
39	21.SUB.G.101	Subletting for Pipe Pile Wall for PAB / VAT (SC008)	100%	52 days	Mon 6/2/23	Tue 11/4/23	0 days
40	21.SUB.G.101	Subletting for ELS Earthworks, Shoring & Tie back for PAB (SC007)	100%	65 days	Mon 4/12/23	Thu 22/2/24	0 days
41	21.SUB.G.102	Subletting for Earthwork and ELS Works - Open Trench - Package 1 (SC048	100%	102 days	Tue 29/11/22	Sat 1/4/23	0 days
42	21.SUB.G.102	Subletting for Earthwork and ELS Works - Open Trench and Jacking Pits - Package 2 (SC048b)	100%	19 days	Tue 29/8/23	Tue 19/9/23	0 days
43	21.SUB.G.102	Subletting for Earthwork and ELS Works - Open Trench and Jacking Pits - Package 3 (SC048c)	100%	20 days	Thu 16/11/23	Fri 8/12/23	0 days
44	21.SUB.G.102	Subletting for Mainlaying (Open Trench) (SC047A)	100%	135 days	Wed 1/3/23	Mon 14/8/23	0 days
45	21.SUB.G.102	Subletting for Land Survey (SC014)	100%	44 days	Tue 28/2/23	Mon 24/4/23	0 days
46	21.SUB.G.102	Subletting for Traffic Consultancy Services Stage 2 (SC015)	100%	41 days	Thu 9/3/23	Sat 29/4/23	0 days
47	S-220	Subletting for Site Investigation Works incl. Borehole, Trial Trench, Manhole Survey	100%	51 days	Tue 2/5/23	Mon 3/7/23	0 days
48	S-200A	Subletting for Consultants ICE, Traffic consultant	100%	133 days	Fri 9/12/22	Wed 24/5/23	0 days
49	21.SUB.G.102	Subletting for Reinstatement of Existing Road and Paving (SC004A)	100%	21 days	Fri 12/5/23	Tue 6/6/23	0 days
50	21.SUB.G.102	Subletting for Cathodic Protection of Watermains (SC020)	100%	21 days	Mon 29/5/23	Wed 21/6/23	0 days
51	21.SUB.G.102	Subletting for Temporary Power Supply for Tunnel and Caverns (SC043)	100%	23 days	Mon 13/12/21	Mon 10/1/22	0 days
52	21.SUB.G.102	Subletting for Supply & Installation of E&M System in New Pumping Station (SC011A)	100%	7 days	Thu 18/1/24	Thu 25/1/24	0 days
53	21.SUB.G.103	Subletting for Waterproofing works for C/C Tunnel (SC0xx)	0%	21 days	Thu 2/5/24	Mon 27/5/24	-57 days
54	21.SUB.G.103	Subletting for Base Slab for Cut and Cover Tunnel and Structural Blinding (SC019)	4%	21 days	Tue 30/4/24	Sat 25/5/24	-54 days
55	21.SUB.G.103	Subletting for Excavation for C/C Tunnel (SC016)	100%	21 days	Fri 25/8/23	Mon 18/9/23	0 days
56	21.SUB.G.103	Subletting for Construction of Capping Beam for C/C Tunnel (SC016A)	100%	21 days	Fri 25/8/23	Mon 18/9/23	0 days
57	21.SUB.G.103	Subletting for Remedial Works for Boulder (SC017)	100%	7 days	Wed 24/1/24	Wed 31/1/24	0 days
58	21.SUB.G.103	Subletting for Pipe Jacking with Pipe Laying at Portion 5 (Package 1) (SC046	85%	21 days	Wed 10/4/24	Sat 4/5/24	84.4 days
59	21.SUB.G.103	Subletting for Timber Platform for Constuction of 355 DIA Pipe Pile (SC054	100%	5 days	Thu 20/7/23	Wed 26/7/23	0 days
60	21.SUB.G.103	Subletting for Provision of Tunnel Data Management System (TDMS)	100%	21 days	Sat 8/7/23	Tue 1/8/23	0 days
61	21.SUB.G.103	Subletting for Supply and Installation of 273mm dia. Pipe pile wall for PAB and VAT (SC060)	100%	22 days	Wed 18/10/23	Mon 13/11/23	0 days
62	21.SUB.G.103	Subletting for Design, Supply and Maintainance of the Tunnel Temporary Ventilation Fans (SC061)	100%	7 days	Mon 18/12/23	Wed 27/12/23	0 days
63	21.SUB.G.104	Subletting for Supply and Installation of 355mm dia. Pipe pile wall for PAB and VAT (SC065)	100%	21 days	Wed 29/11/23	Sat 23/12/23	0 days
64	21.SUB.G.104	Subletting for Supply and installation of 355mm dia. Pipe Pile for Jacking Pit (WO041)	100%	21 days	Wed 29/11/23	Fri 22/12/23	0 days
65	21.SUB.G.104	Subletting for RC work for Transformer Room (SC067a)	0%	21 days	Tue 7/5/24	Fri 31/5/24	1219.2 d...
66	21.SUB.G.104	Subletting for RC work for Pump House (SC067b)	100%	7 days	Thu 18/1/24	Thu 25/1/24	0 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

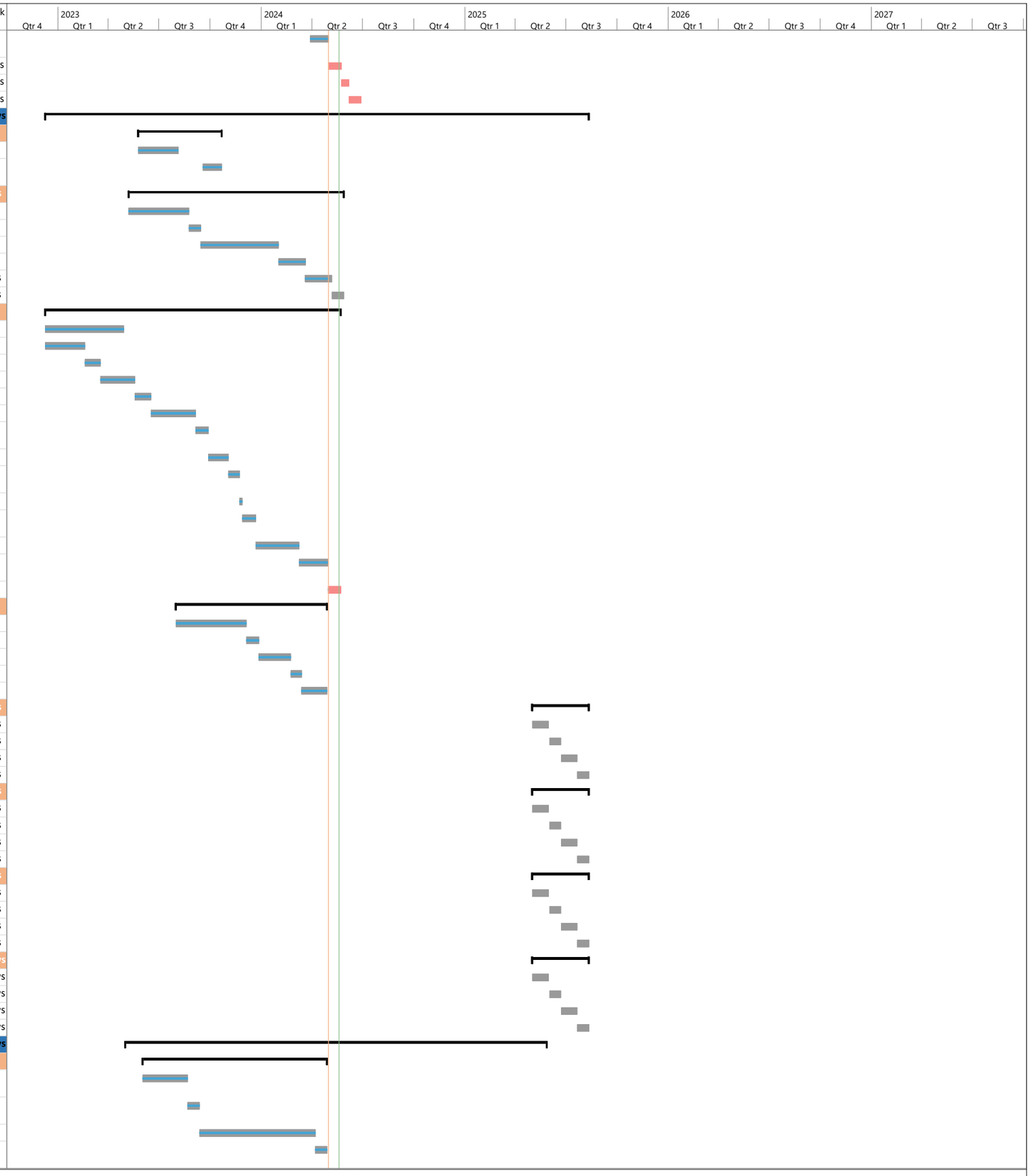
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
67	21.SUB.G.104	Subletting for Tunnel Works (Package 1a) for Modification of CnC ELS to Provide Noise Enclosure - Design (SC024a1)	100%	5 days	Thu 21/12/23	Thu 28/12/23	0 days
68	21.SUB.G.104	Subletting for Tunnel Works (Package 1a) for Modification of CnC ELS to Provide Noise Enclosure - Supply and Construct (SC024a2)	0%	21 days	Fri 3/5/24	Tue 28/5/24	1222.2 days
69	21.SUB.G.104	Subletting for Tunnel Works (Package 1b) for Pre-Support Works prior to Mined Tunnel Excavation(SC024b)	4%	21 days	Tue 30/4/24	Sat 25/5/24	1231.4 days
70	21.SUB.G.104	Subletting for Tunnel Works (Package 2) for Ch024 to Ch645 and Caverns (SC025)	0%	21 days	Fri 17/5/24	Tue 11/6/24	66 days
71	21.SUB.G.104	Subletting for E&M for PAB, Tunnel and Caverns (Other than Pumpset) (SC	0%	21 days	Thu 11/7/24	Sat 3/8/24	672 days
72	21.SUB.G.105	Subletting for E&M for Tunnel and Caverns (Pumping System) (SC032)	0%	21 days	Thu 11/7/24	Sat 3/8/24	672 days
73	21.SUB.G.105	Subletting for RC work for Portal Ancillary Building (SC018)	0%	21 days	Sat 1/6/24	Wed 26/6/24	330.2 days
74	21.SUB.G.105	Subletting for RC work for Retaining Wall (SC023)	0%	21 days	Tue 2/7/24	Thu 25/7/24	351.2 days
75	21.SUB.G.105	Subletting for Architectural works for Portal Ancillary Building (SC036)	0%	21 days	Wed 10/9/25	Sat 4/10/25	813.4 days
76	21.SUB.G.105	Subletting for Waterproofing works for Fresh Water & Salt Water Service Reservoirs (SC030)	0%	21 days	Tue 11/6/24	Fri 5/7/24	1190.4 days
77	21.SUB.G.105	Subletting for Drainage and Ducts for Fresh Water & Salt Water Service Reservoirs (SC027)	0%	21 days	Tue 11/6/24	Fri 5/7/24	1190.4 days
78	21.SUB.G.105	Subletting for RC work for Fresh Water & Salt Water Service Reservoirs (SC	0%	21 days	Tue 11/6/24	Fri 5/7/24	1190.4 d...
79	21.SUB.G.105	Subletting for E&M work for transformer room (SC043b)	0%	21 days	Tue 7/5/24	Fri 31/5/24	1219.2 d...
80	21.SUB.G.105	Subletting for Instrumentation to MTR Zone (SC033)	0%	21 days	Tue 7/5/24	Fri 31/5/24	1219.2 d...
81		**Contractor's Design**	**64%**	**1234 days**	**Tue 29/11/22**	**Wed 13/1/27**	**438 days**
82	21.DES.PAB.1	Design submission and Approval for Hoarding at PAB	100%	111 days	Fri 9/12/22	Thu 27/4/23	0 days
83	D-1130	Design submission and Approval for Ground and Vibration Monitoring	100%	84 days	Tue 28/3/23	Wed 12/7/23	0 days
84	D-1100	Design submission and Approval for Cathodic Protection of Watermains	100%	26 days	Mon 21/8/23	Tue 19/9/23	0 days
85	D-1050	Design submission and Approval for Architectual Works	0%	75 days	Mon 27/5/24	Fri 23/8/24	688.2 days
86	D-1040	Design submission and Approval for E&M systems incl. ventilation, lighting, electrical, FS for Tunnel	100%	124 days	Thu 25/5/23	Sat 21/10/23	0 days
87		**Design for Mainlaying Works**	**34%**	**374.7 days**	**Mon 10/7/23**	**Tue 8/10/24**	**1118.4 d...**
88		**Design for Pipe Jacking Alignment for Drive 1 & 2**	**46%**	**78 days**	**Fri 15/3/24**	**Fri 21/6/24**	**1209.2 d...**
89	21.DES.WM.1	Prepare and Submit Pipe Jacking Alignment Design for Mainlaying Works to Binnies for Acceptance	100%	24 days	Fri 15/3/24	Tue 16/4/24	0 days
90	21.DES.WM.1	Binnies Review Design and Comment on Pipe Jacking Alignment Design for Mainlaying Works	66%	18 days	Wed 17/4/24	Wed 8/5/24	1209.4 days
91	21.DES.WM.1	Revise and Resubmit the Pipe Jacking Alignment Design for Mainlaying Works	0%	18 days	Thu 9/5/24	Thu 30/5/24	1209.4 days
92	21.DES.WM.1	Binnies Review and Accept the Pipe Jacking Alignment Design for Mainlaying Works	0%	18 days	Thu 30/5/24	Fri 21/6/24	1202.2 days
93		**Temporary Work Design for Trench Excavation**	**100%**	**40 days**	**Mon 10/7/23**	**Fri 25/8/23**	**0 days**
94	21.DES.WM.2	Prepare and Submit Trench Excavation Design for Mainlaying Works to Binnies for Acceptance	100%	24 days	Mon 10/7/23	Mon 7/8/23	0 days
95	21.DES.WM.2	Binnies Review Design and Accept on Trench Excavation Design for Mainlaying Works	100%	16 days	Mon 7/8/23	Fri 25/8/23	0 days
96		**Temporary Work Design for Pit 6**	**100%**	**72.8 days**	**Fri 12/1/24**	**Fri 12/4/24**	**0 days**
97	21.DES.WM.3	Prepare and Submit Temporary Work Design for Pit 6 to Binnies for Acceptance	100%	24 days	Fri 12/1/24	Fri 9/2/24	0 days
98	21.DES.WM.3	Binnies Review Design and Comment on Temporary Work Design for Pit	100%	16 days	Fri 9/2/24	Fri 1/3/24	0 days
99	21.DES.WM.3	Revise and Resubmit the Temporary Work Design for Pit 6	100%	15 days	Fri 1/3/24	Tue 19/3/24	0 days
100	21.DES.WM.3	Binnies Review and Accept the Temporary Work Design for Pit 6	100%	18 days	Mon 18/3/24	Fri 12/4/24	0 days
101		**Temporary Work Design for Pit 2**	**0%**	**78 days**	**Tue 2/7/24**	**Wed 2/10/24**	**124.6 days**
102	21.DES.WM.4	Prepare and Submit Temporary Work Design for Pit 2 to Binnies for Acceptance	0%	24 days	Tue 2/7/24	Mon 29/7/24	124.6 days
103	21.DES.WM.4	Binnies Review Design and Comment on Temporary Work Design for Pit	0%	18 days	Tue 30/7/24	Mon 19/8/24	124.6 days
104	21.DES.WM.4	Revise and Resubmit the Temporary Work Design for Pit 2	0%	18 days	Mon 19/8/24	Mon 9/9/24	124.6 days
105	21.DES.WM.4	Binnies Review and Accept the Temporary Work Design for Pit 2	0%	18 days	Mon 9/9/24	Wed 2/10/24	124.6 days
106		**Temporary Work Design for Pit 3**	**0%**	**78 days**	**Mon 3/6/24**	**Tue 3/9/24**	**0.6 days**
107	21.DES.WM.5	Prepare and Submit Temporary Work Design for Pit 3 to Binnies for Acceptance	0%	24 days	Mon 3/6/24	Tue 2/7/24	0.6 days
108	21.DES.WM.5	Binnies Review Design and Comment on Temporary Work Design for Pit	0%	18 days	Wed 3/7/24	Tue 23/7/24	0.6 days
109	21.DES.WM.5	Revise and Resubmit the Temporary Work Design for Pit 3	0%	18 days	Wed 24/7/24	Tue 13/8/24	0.6 days
110	21.DES.WM.5	Binnies Review and Accept the Temporary Work Design for Pit 3	0%	18 days	Wed 14/8/24	Tue 3/9/24	0.6 days
111		**Temporary Work Design for Pit 5**	**0%**	**78 days**	**Mon 8/7/24**	**Tue 8/10/24**	**46.6 days**
112	21.DES.WM.6	Prepare and Submit Temporary Work Design for Pit 5 to Binnies for Acceptance	0%	24 days	Mon 8/7/24	Sat 3/8/24	46.6 days
113	21.DES.WM.6	Binnies Review Design and Comment on Temporary Work Design for Pit	0%	18 days	Mon 5/8/24	Sat 24/8/24	46.6 days
114	21.DES.WM.6	Revise and Resubmit the Temporary Work Design for Pit 5	0%	18 days	Sat 24/8/24	Sat 14/9/24	46.6 days
115	21.DES.WM.6	Binnies Review and Accept the Temporary Work Design for Pit 5	0%	18 days	Sat 14/9/24	Tue 8/10/24	46.6 days
116		**Temporary Work Design for Pit 7**	**31%**	**78 days**	**Thu 28/3/24**	**Sat 6/7/24**	**1197.3 d...**
117	21.DES.WM.7	Prepare and Submit Temporary Work Design for Pit 7 to Binnies for Acceptance	100%	24 days	Thu 28/3/24	Tue 30/4/24	0 days
118	21.DES.WM.7	Binnies Review Design and Comment on Temporary Work Design for Pit	0%	18 days	Tue 30/4/24	Thu 23/5/24	73.3 days
119	21.DES.WM.7	Revise and Resubmit the Temporary Work Design for Pit 7	0%	18 days	Thu 23/5/24	Fri 14/6/24	1190.3 d...
120	21.DES.WM.7	Binnies Review and Accept the Temporary Work Design for Pit 7	0%	18 days	Fri 14/6/24	Sat 6/7/24	1190.3 d...
121		**Temporary Work Design for Pit 8**	**33%**	**72 days**	**Thu 28/3/24**	**Fri 28/6/24**	**-19.5 days**



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

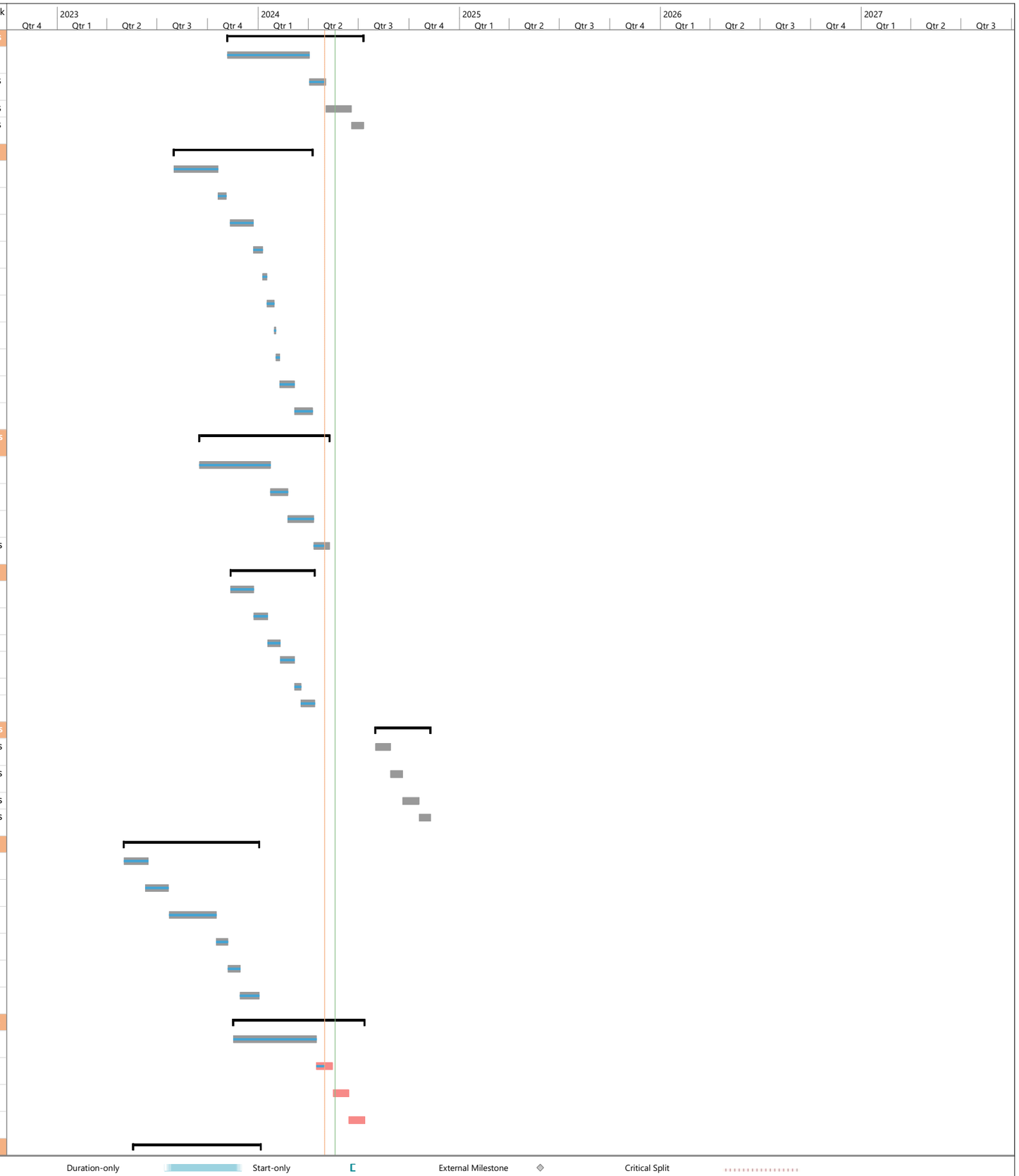
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
122	21.DES.WM.8	Prepare and Submit Temporary Work Design for Pit 8 to Binnies for Acceptance	100%	24 days	Thu 28/3/24	Tue 30/4/24	0 days
123	21.DES.WM.8	Binnies Review Design and Comment on Temporary Work Design for Pit	0%	18 days	Tue 30/4/24	Thu 23/5/24	-19.5 days
124	21.DES.WM.8	Revise and Resubmit the Temporary Work Design for Pit 8	0%	12 days	Thu 23/5/24	Thu 6/6/24	-19.5 days
125	21.DES.WM.8	Binnies Review and Accept the Temporary Work Design for Pit 8	0%	18 days	Thu 6/6/24	Fri 28/6/24	-19.5 days
126		**Contractor's Design - Portal Ancillary Building (PAB) and Cut and Cover Tunn**	**75%**	**795.8 days**	**Fri 9/12/22**	**Mon 11/8/25**	**867.2 days**
127		**Reprovision of Structures**	**100%**	**124 days**	**Thu 25/5/23**	**Sat 21/10/23**	**0 days**
128	D-S1000	Prepare & Submit Design Works for Reprovision of Structures at PAB	100%	59 days	Thu 25/5/23	Fri 4/8/23	0 days
129	D-S1020	Binnies include LCSD, EMSD and ASD Review and Accept Design for Reprovision of Structures at PAB	100%	28 days	Mon 18/9/23	Sat 21/10/23	0 days
130		**Temporary Work Design for PAB ELS Works**	**93%**	**315.8 days**	**Mon 8/5/23**	**Tue 28/5/24**	**430 days**
131	21.DES.PAB.1	Prepare and Submit PAB ELS Design to Binnies for Acceptance	100%	90 days	Mon 8/5/23	Wed 23/8/23	0 days
132	21.DES.PAB.1	Binnies Review Design and Comment on PAB ELS Design	100%	18 days	Thu 24/8/23	Wed 13/9/23	0 days
133	21.DES.PAB.1	Revise and Resubmit the PAB ELS Design	100%	114 days	Thu 14/9/23	Wed 31/1/24	0 days
134	21.DES.PAB.1	Binnies Review and Comment the PAB ELS Design	100%	40 days	Thu 1/2/24	Wed 20/3/24	0 days
135	21.DES.PAB.1	Revise and Resubmit the PAB ELS Design	89%	36 days	Wed 20/3/24	Mon 6/5/24	430 days
136	21.DES.PAB.1	Binnies Review and Accept the PAB ELS Design	0%	18 days	Tue 7/5/24	Tue 28/5/24	430 days
137		**Temporary Work Design for Cut and Cover Tunnel ELS Works**	**97%**	**428.8 days**	**Fri 9/12/22**	**Wed 22/5/24**	**0 days**
138	21.DES.PAB.1	Preperation of Cut and Cover Tunnel ELS Works	100%	112 days	Fri 9/12/22	Fri 28/4/23	0 days
139	21.DES.PAB.1	ICE Check on Cut and Cover Tunnel ELS Works	100%	56 days	Fri 9/12/22	Fri 17/2/23	0 days
140	21.DES.PAB.1	PM Comment on Cut and Cover Tunnel ELS Works	100%	24 days	Sat 18/2/23	Fri 17/3/23	0 days
141	21.DES.PAB.1	Incorporate PM Comment on Cut and Cover Tunnel ELS Works	100%	48 days	Sat 18/3/23	Thu 18/5/23	0 days
142	21.DES.PAB.1	Prepare & Submit to GEO & Binnies Cut and Cover Tunnel ELS Works	100%	24 days	Fri 19/5/23	Fri 16/6/23	0 days
143	21.DES.PAB.1	Review & Comments from GEO & Binnies on Cut and Cover Tunnel ELS V	100%	80 days	Sat 17/6/23	Mon 4/9/23	0 days
144	21.DES.PAB.1	Prepare & Resubmit to GEO & Binnies Cut and Cover Tunnel ELS Works (1st Amendment)	100%	20 days	Tue 5/9/23	Wed 27/9/23	0 days
145	21.DES.PAB.1	Review & Comments from GEO & Binnies on Cut and Cover Tunnel ELS V	100%	28 days	Thu 28/9/23	Thu 2/11/23	0 days
146	21.DES.PAB.1	Revise & Submit to GEO & Binnies Cut and Cover Tunnel ELS Works 2nd Amendment)	100%	17 days	Fri 3/11/23	Wed 22/11/23	0 days
147	21.DES.PAB.1	Review & Comments from GEO & Binnies on Cut and Cover Tunnel ELS V	100%	4 days	Thu 23/11/23	Mon 27/11/23	0 days
148	21.DES.PAB.1	Revise & Submit to GEO & Binnies Cut and Cover Tunnel ELS Works (3rd Amendment)	100%	21 days	Tue 28/11/23	Thu 21/12/23	0 days
149	21.DES.PAB.1	Review & Comments from GEO & Binnies on Cut and Cover Tunnel ELS V	100%	78 days	Fri 22/12/23	Fri 8/3/24	0 days
150	21.DES.PAB.1	Revise & Submit to GEO & Binnies Cut and Cover Tunnel ELS Works (4th Amendment)	100%	40 days	Sat 9/3/24	Mon 29/4/24	0 days
151	21.DES.PAB.1	Review & Comments from GEO & Binnies on Cut and Cover Tunnel ELS V	5%	18 days	Tue 30/4/24	Wed 22/5/24	-51 days
152		**Design for PAB Raft Footing**	**100%**	**221.8 days**	**Tue 1/8/23**	**Sat 27/4/24**	**0 days**
153	21.DES.PAB.1	Prepare and Submit PAB Raft Footing Design to Binnies for Acceptance	100%	105 days	Tue 1/8/23	Mon 4/12/23	0 days
154	21.DES.PAB.1	Binnies Review Design and Comment on PAB Raft Footing Design	100%	18 days	Tue 5/12/23	Wed 27/12/23	0 days
155	21.DES.PAB.1	Revise and Resubmit the PAB Raft Footing Design	100%	46 days	Thu 28/12/23	Thu 22/2/24	0 days
156	21.DES.PAB.1	Binnies Review and Comment the PAB Raft Footing Design	100%	17 days	Fri 23/2/24	Wed 13/3/24	0 days
157	21.DES.PAB.1	Revise and Resubmit the PAB Raft Footing Design	100%	36 days	Wed 13/3/24	Sat 27/4/24	0 days
158		**Design Submission for E&M Works**	**0%**	**84 days**	**Fri 2/5/25**	**Mon 11/8/25**	**271 days**
159	21.DES.PAB.1	Prepare and Submit for Acceptance	0%	24 days	Fri 2/5/25	Fri 30/5/25	271 days
160	21.DES.PAB.1	Binnies Review Design and Comment	0%	18 days	Mon 2/6/25	Sat 21/6/25	271 days
161	21.DES.PAB.1	Revise and Resubmit	0%	24 days	Mon 23/6/25	Mon 21/7/25	271 days
162	21.DES.PAB.1	Binnies Review and Accept	0%	18 days	Mon 21/7/25	Mon 11/8/25	271 days
163		**Design Submission for Fire Engineering Report**	**0%**	**84 days**	**Fri 2/5/25**	**Mon 11/8/25**	**271 days**
164	21.DES.PAB.1	Prepare and Submit for Acceptance	0%	24 days	Fri 2/5/25	Fri 30/5/25	271 days
165	21.DES.PAB.1	Binnies Review Design and Comment	0%	18 days	Mon 2/6/25	Sat 21/6/25	271 days
166	21.DES.PAB.1	Revise and Resubmit	0%	24 days	Mon 23/6/25	Mon 21/7/25	271 days
167	21.DES.PAB.1	Binnies Review and Accept	0%	18 days	Mon 21/7/25	Mon 11/8/25	271 days
168		**Design Submission for Plumbing**	**0%**	**84 days**	**Fri 2/5/25**	**Mon 11/8/25**	**271 days**
169	21.DES.PAB.1	Prepare and Submit for Acceptance	0%	24 days	Fri 2/5/25	Fri 30/5/25	271 days
170	21.DES.PAB.1	Binnies Review Design and Comment	0%	18 days	Mon 2/6/25	Sat 21/6/25	271 days
171	21.DES.PAB.1	Revise and Resubmit	0%	24 days	Mon 23/6/25	Mon 21/7/25	271 days
172	21.DES.PAB.1	Binnies Review and Accept	0%	18 days	Mon 21/7/25	Mon 11/8/25	271 days
173		**Design Submission for Ventilation**	**0%**	**84 days**	**Fri 2/5/25**	**Mon 11/8/25**	**867.2 days**
174	21.DES.PAB.1	Prepare and Submit for Acceptance	0%	24 days	Fri 2/5/25	Fri 30/5/25	860.2 days
175	21.DES.PAB.1	Binnies Review Design and Comment	0%	18 days	Mon 2/6/25	Sat 21/6/25	860.2 days
176	21.DES.PAB.1	Revise and Resubmit	0%	24 days	Mon 23/6/25	Mon 21/7/25	860.2 days
177	21.DES.PAB.1	Binnies Review and Accept	0%	18 days	Mon 21/7/25	Mon 11/8/25	860.2 days
178		**Contractor's Design - Tunnel & Cavern Design**	**53%**	**619.8 days**	**Tue 2/5/23**	**Tue 27/5/25**	**258.4 days**
179		**Construction Impact Assessment Report - Tunnel**	**100%**	**270.7 days**	**Fri 2/6/23**	**Sat 27/4/24**	**0 days**
180	21.DES.TC.10	Prepare and Submit Construction Impact Assessment Report - Tunnel to GEO & Binnies for Acceptance	100%	67 days	Fri 2/6/23	Mon 21/8/23	0 days
181	21.DES.TC.10	GEO & Binnies Review and Comment on Construction Impact Assessment Report - Tunnel	100%	18 days	Tue 22/8/23	Mon 11/9/23	0 days
182	21.DES.TC.10	Revise and Resubmit the Construction Impact Assessment Report - Tunr	100%	167.7 days	Tue 12/9/23	Sat 6/4/24	0 days
183	21.DES.TC.10	GEO & Binnies Review and Accept the Construction Impact Assessment Report - Tunnel	100%	18 days	Sat 6/4/24	Sat 27/4/24	0 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task | Summary | Inactive Milestone | Duration-only | Start-only | External Milestone | Critical Split
Split | Project Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Deadline | Progress
Milestone | Inactive Task | Manual Task | Manual Summary | External Tasks | Critical | Manual Progress

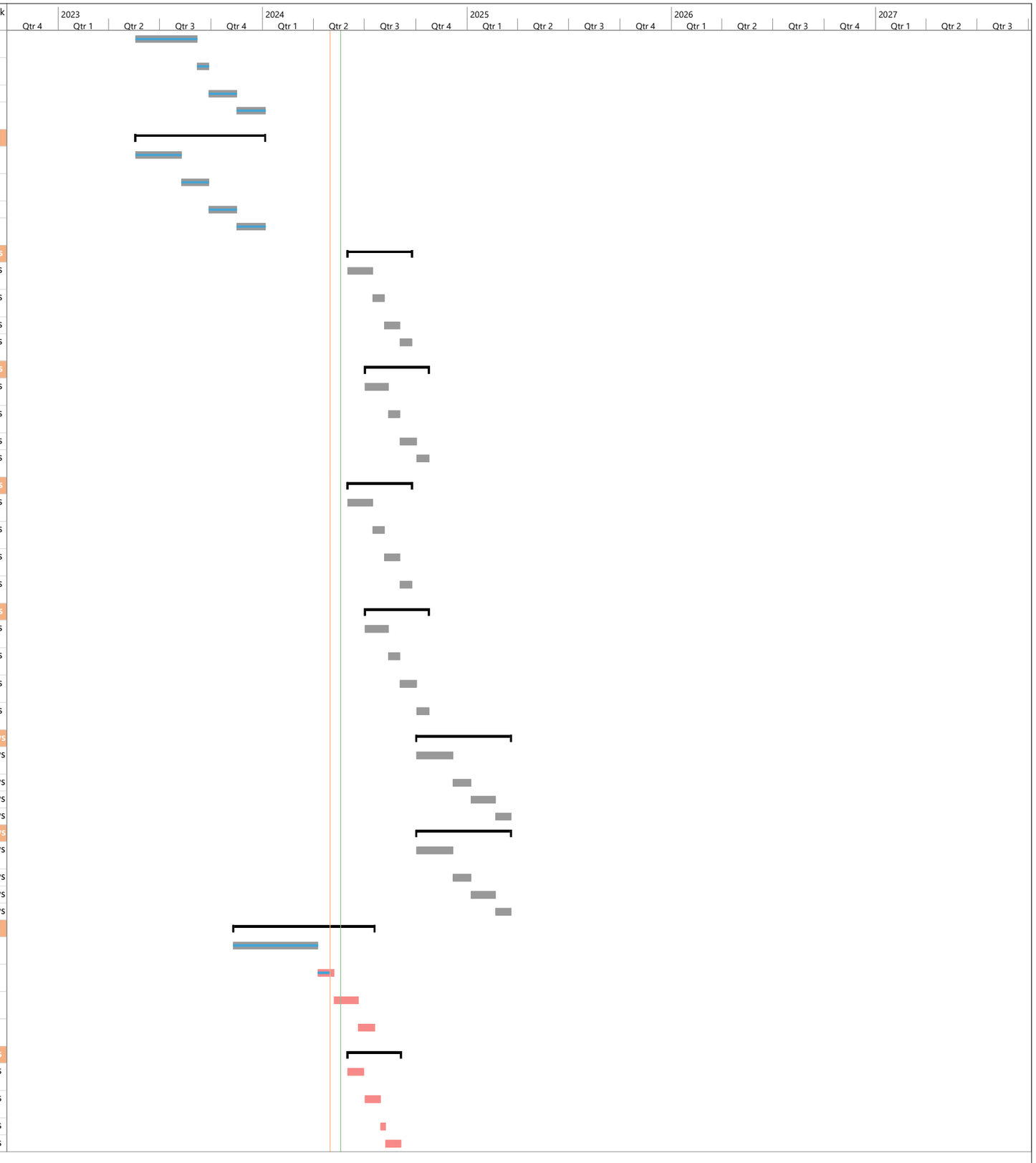
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
184		**Construction Impact Assessment Report - Caverns**	**72%**	**200.8 days**	**Mon 6/11/23**	**Wed 10/7/24**	**381 days**
185	21.DES.TC.10	Prepare and Submit Construction Impact Assessment Report - Caverns to GEO & Binnies for Acceptance	100%	120.8 days	Mon 6/11/23	Tue 2/4/24	0 days
186	21.DES.TC.10	GEO & Binnies Review and Comment on Construction Impact Assessment Report - Caverns	95%	24 days	Wed 3/4/24	Thu 2/5/24	381 days
187	21.DES.TC.10	Revise and Resubmit the Construction Impact Assessment Report - Cave	0%	38 days	Fri 3/5/24	Tue 18/6/24	381 days
188	21.DES.TC.10	GEO & Binnies Review and Accept the Construction Impact Assessment Report - Caverns	0%	18 days	Tue 18/6/24	Wed 10/7/24	381 days
189		**Soft Ground Tunnel (Type 1) Temporary Support and Sequence (CH24 to**	**100%**	**204.7 days**	**Tue 1/8/23**	**Mon 8/4/24**	**0 days**
190	21.DES.TC.10	Prepare and Submit Soft Ground Tunnel (Type 1) Temporary Support and Sequence to GEO & Binnies for Acceptance	100%	67 days	Tue 1/8/23	Thu 19/10/23	0 days
191	21.DES.TC.10	GEO & Binnies Review Design and Comment on Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	12 days	Thu 19/10/23	Fri 3/11/23	0 days
192	21.DES.TC.10	Revise and Resubmit the Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	36 days	Fri 10/11/23	Fri 22/12/23	0 days
193	21.DES.TC.10	GEO & Binnies Review and Comment the Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	11 days	Fri 22/12/23	Mon 8/1/24	0 days
194	21.DES.TC.10	Revise and Resubmit the Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	7 days	Mon 8/1/24	Tue 16/1/24	0 days
195	21.DES.TC.10	GEO & Binnies Review and Comment the Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	11 days	Tue 16/1/24	Mon 29/1/24	0 days
196	21.DES.TC.10	Revise and Resubmit the Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	3 days	Mon 29/1/24	Thu 1/2/24	0 days
197	21.DES.TC.10	GEO & Binnies Review and Comment the Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	6 days	Thu 1/2/24	Thu 8/2/24	0 days
198	21.DES.TC.10	Revise and Resubmit the Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	21.8 days	Thu 8/2/24	Wed 6/3/24	0 days
199	21.DES.TC.10	GEO & Binnies Review and Comment the Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	24 days	Wed 6/3/24	Mon 8/4/24	0 days
200		**Soft Ground Tunnel (Type 1) Temporary Support and Sequence (CH75 to CH276 + CH337.15 to CH415.19)**	**96%**	**190.7 days**	**Sat 16/9/23**	**Thu 9/5/24**	**92.1 days**
201	21.DES.TC.10	Prepare and Submit Soft Ground Tunnel (Type 1) Temporary Support and Sequence to GEO & Binnies for Acceptance	100%	103.9 days	Sat 16/9/23	Mon 22/1/24	0 days
202	21.DES.TC.10	GEO & Binnies Review Design and Comment on Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	26 days	Mon 22/1/24	Fri 23/2/24	0 days
203	21.DES.TC.10	Revise and Resubmit the Soft Ground Tunnel (Type 1) Temporary Support and Sequence	100%	36.8 days	Fri 23/2/24	Wed 10/4/24	0 days
204	21.DES.TC.10	GEO & Binnies Review and Accept the Soft Ground Tunnel (Type 1) Temporary Support and Sequence	71%	24 days	Wed 10/4/24	Thu 9/5/24	92.1 days
205		**Soft Ground Tunnel (Type 1) Permanent Lining**	**100%**	**122.9 days**	**Sat 11/11/23**	**Fri 12/4/24**	**0 days**
206	21.DES.TC.10	Prepare and Submit Soft Ground Tunnel (Type 1) Permanent Lining to GEO & Binnies for Acceptance	100%	36 days	Sat 11/11/23	Sat 23/12/23	0 days
207	21.DES.TC.10	GEO & Binnies Review Design and Comment Soft Ground Tunnel (Type 1) Permanent Lining	100%	18 days	Sat 23/12/23	Wed 17/1/24	0 days
208	21.DES.TC.10	Revise and Resubmit the Soft Ground Tunnel (Type 1) Permanent Lining	100%	20 days	Wed 17/1/24	Fri 9/2/24	0 days
209	21.DES.TC.10	GEO & Binnies Review and Comment the Soft Ground Tunnel (Type 1) Permanent Lining	100%	20.8 days	Sat 10/2/24	Wed 6/3/24	0 days
210	21.DES.TC.10	Revise and Resubmit the Soft Ground Tunnel (Type 1) Permanent Lining	100%	10 days	Thu 7/3/24	Mon 18/3/24	0 days
211	21.DES.TC.10	GEO & Binnies Review and Accept the Soft Ground Tunnel (Type 1) Permanent Lining	100%	18 days	Tue 19/3/24	Fri 12/4/24	0 days
212		**Temporary Blast Door & Blast Curtain Design**	**0%**	**84 days**	**Thu 1/8/24**	**Sat 9/11/24**	**82.2 days**
213	21.DES.TC.10	Prepare and Submit Temporary Blast Door & Blast Curtain Design to GEO & Binnies for Acceptance	0%	24 days	Thu 1/8/24	Wed 28/8/24	82.2 days
214	21.DES.TC.10	GEO & Binnies Review Design and Comment on Temporary Blast Door & Blast Curtain Design	0%	18 days	Wed 28/8/24	Thu 19/9/24	82.2 days
215	21.DES.TC.10	Revise and Resubmit the Temporary Blast Door & Blast Curtain Design	0%	24 days	Thu 19/9/24	Sat 19/10/24	82.2 days
216	21.DES.TC.10	GEO & Binnies Review and Accept the Temporary Blast Door & Blast Curtain Design	0%	18 days	Sat 19/10/24	Sat 9/11/24	82.2 days
217		**Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - A**	**100%**	**202 days**	**Tue 2/5/23**	**Tue 2/1/24**	**0 days**
218	21.DES.TC.10	Prepare and Submit Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - Draft to GEO & Binnies for Acceptance	100%	37 days	Tue 2/5/23	Wed 14/6/23	0 days
219	21.DES.TC.10	GEO & Binnies Review Design and Comment on Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - Draft	100%	34 days	Sat 10/6/23	Fri 21/7/23	0 days
220	21.DES.TC.10	Revise and Resubmit the Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - Draft	100%	72 days	Sat 22/7/23	Mon 16/10/23	0 days
221	21.DES.TC.10	GEO & Binnies Review and Accept Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - Draft	100%	17 days	Tue 17/10/23	Mon 6/11/23	0 days
222	21.DES.TC.10	Revise and Resubmit the Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - Draft	100%	19 days	Tue 7/11/23	Tue 28/11/23	0 days
223	21.DES.TC.10	GEO & Binnies Review and Accept Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - Draft	100%	27 days	Wed 29/11/23	Tue 2/1/24	0 days
224		**Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - I**	**69%**	**192.8 days**	**Fri 17/11/23**	**Fri 12/7/24**	**-13 days**
225	21.DES.TC.10	Prepare and Submit Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - DDA to GEO & Binnies for Acceptance	100%	120.8 days	Fri 17/11/23	Mon 15/4/24	0 days
226	21.DES.TC.10	GEO & Binnies Review Design and Comment on Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - DDA	54%	24 days	Tue 16/4/24	Tue 14/5/24	-13 days
227	21.DES.TC.10	Revise and Resubmit the Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - DDA	0%	24 days	Thu 16/5/24	Thu 13/6/24	-13 days
228	21.DES.TC.10	GEO & Binnies Review and Accept the Cavern Layout and Tunnel Alignment for 4 Finger Cavern Arrangement - DDA	0%	24 days	Thu 13/6/24	Fri 12/7/24	-13 days
229		**Temporary Rock Support System for Tunnel Type T2**	**100%**	**190 days**	**Fri 19/5/23**	**Fri 5/1/24**	**0 days**



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

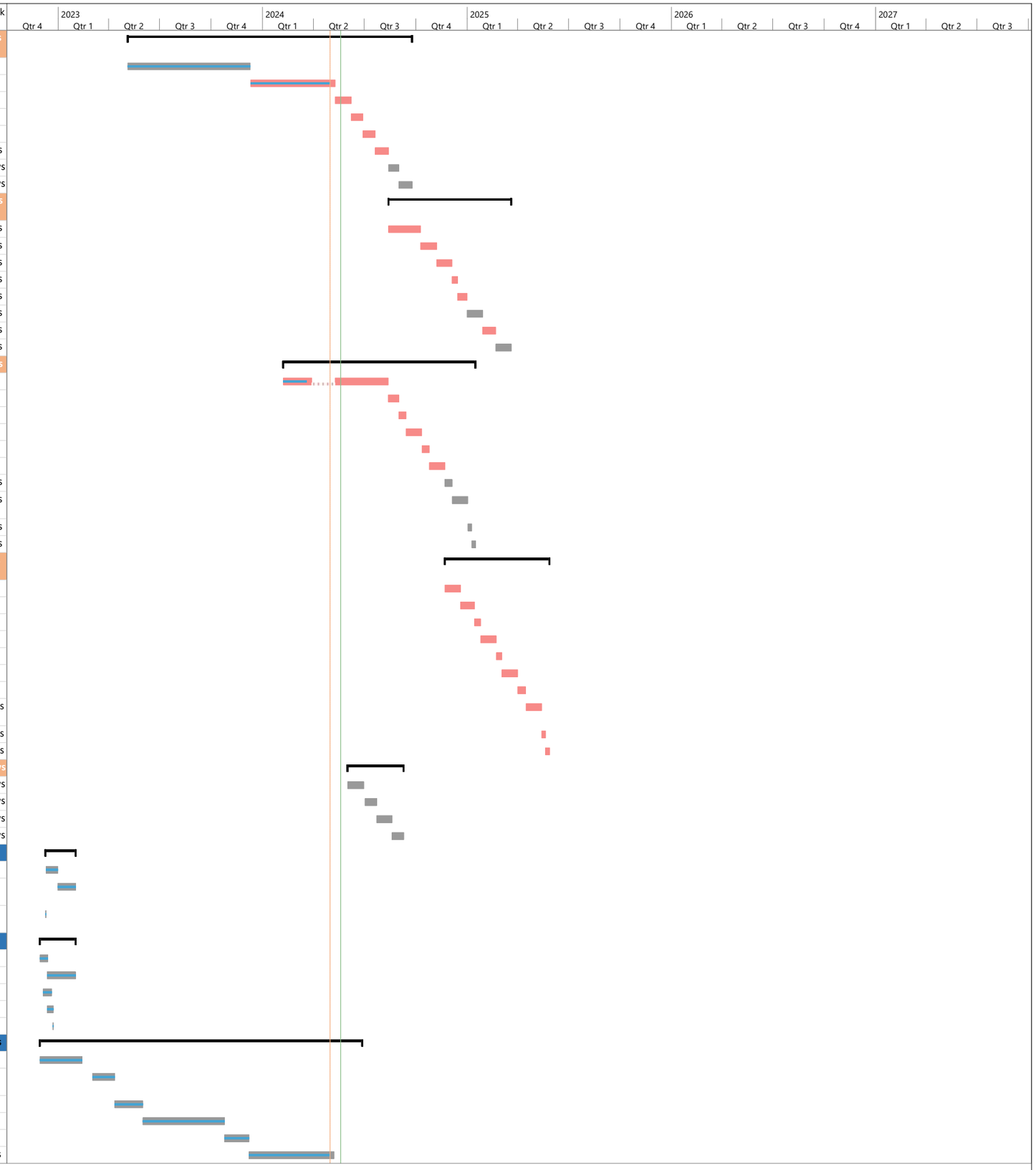
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
230	21.DES.TC.10	Prepare and Submit Temporary Rock Support System for Tunnel to GEO & Binnies for Acceptance	100%	91 days	Fri 19/5/23	Tue 5/9/23	0 days
231	21.DES.TC.10	GEO & Binnies Review Design and Comment on Temporary Rock Support System for Tunnel Type T2	100%	18 days	Wed 6/9/23	Tue 26/9/23	0 days
232	21.DES.TC.10	Revise and Resubmit the Temporary Rock Support System for Tunnel	100%	40 days	Wed 27/9/23	Wed 15/11/23	0 days
233	21.DES.TC.10	GEO & Binnies Review and Accept the Temporary Rock Support System for Tunnel Type T2	100%	41 days	Thu 16/11/23	Fri 5/1/24	0 days
234		**Permanent Rock Support System for Tunnel Type T2**	**100%**	**190 days**	**Fri 19/5/23**	**Fri 5/1/24**	**0 days**
235	21.DES.TC.10	Prepare and Submit Permanent Rock Support System for Tunnel to GEO & Binnies for Acceptance	100%	67 days	Fri 19/5/23	Tue 8/8/23	0 days
236	21.DES.TC.10	GEO & Binnies Review Design and Comment on Permanent Rock Support System for Tunnel Type T2	100%	42 days	Wed 9/8/23	Tue 26/9/23	0 days
237	21.DES.TC.10	Revise and Resubmit the Permanent Rock Support System for Tunnel	100%	40 days	Wed 27/9/23	Wed 15/11/23	0 days
238	21.DES.TC.10	GEO & Binnies Review and Accept the Permanent Rock Support System for Tunnel Type T2	100%	41 days	Thu 16/11/23	Fri 5/1/24	0 days
239		**Temporary Rock Support System for Caverns**	**0%**	**96 days**	**Sat 1/6/24**	**Tue 24/9/24**	**80.6 days**
240	21.DES.TC.10	Prepare and Submit Temporary Rock Support System for Caverns to GEO & Binnies for Acceptance	0%	36 days	Sat 1/6/24	Mon 15/7/24	80.6 days
241	21.DES.TC.10	GEO & Binnies Review Design and Comment on Temporary Rock Support System for Caverns	0%	18 days	Tue 16/7/24	Mon 5/8/24	80.6 days
242	21.DES.TC.10	Revise and Resubmit the Temporary Rock Support System for Caverns	0%	24 days	Tue 6/8/24	Mon 2/9/24	80.6 days
243	21.DES.TC.10	GEO & Binnies Review and Accept the Temporary Rock Support System for Caverns	0%	18 days	Mon 2/9/24	Tue 24/9/24	80.6 days
244		**Permanent Rock Support System for Caverns**	**0%**	**96 days**	**Tue 2/7/24**	**Thu 24/10/24**	**56.6 days**
245	21.DES.TC.10	Prepare and Submit Permanent Rock Support System for Caverns to GEO & Binnies for Acceptance	0%	36 days	Tue 2/7/24	Mon 12/8/24	56.6 days
246	21.DES.TC.10	GEO & Binnies Review Design and Comment on Permanent Rock Support System for Caverns	0%	18 days	Tue 13/8/24	Mon 2/9/24	56.6 days
247	21.DES.TC.10	Revise and Resubmit the Permanent Rock Support System for Caverns	0%	24 days	Mon 2/9/24	Wed 2/10/24	56.6 days
248	21.DES.TC.10	GEO & Binnies Review and Accept the Permanent Rock Support System for Caverns	0%	18 days	Wed 2/10/24	Thu 24/10/24	56.6 days
249		**Temporary Rock Support System for Junction between Caverns and Tunr**	**0%**	**96 days**	**Sat 1/6/24**	**Tue 24/9/24**	**80.6 days**
250	21.DES.TC.10	Prepare and Submit Temporary Rock Support System for Junction between Caverns and Tunnel to GEO & Binnies for Acceptance	0%	36 days	Sat 1/6/24	Mon 15/7/24	80.6 days
251	21.DES.TC.10	GEO & Binnies Review Design and Comment on Temporary Rock Support System for Junction between Caverns and Tunnel	0%	18 days	Tue 16/7/24	Mon 5/8/24	80.6 days
252	21.DES.TC.10	Revise and Resubmit the Temporary Rock Support System for Junction between Caverns and Tunnel	0%	24 days	Tue 6/8/24	Mon 2/9/24	80.6 days
253	21.DES.TC.10	GEO & Binnies Review and Accept the Temporary Rock Support System for Junction between Caverns and Tunnel	0%	18 days	Mon 2/9/24	Tue 24/9/24	80.6 days
254		**Permanent Rock Support System for Junction between Caverns and Tunr**	**0%**	**96 days**	**Tue 2/7/24**	**Thu 24/10/24**	**56.6 days**
255	21.DES.TC.10	Prepare and Submit Permanent Rock Support System for Junction between Caverns and Tunnel to GEO & Binnies for Acceptance	0%	36 days	Tue 2/7/24	Mon 12/8/24	56.6 days
256	21.DES.TC.10	GEO & Binnies Review Design and Comment on Permanent Rock Support System for Junction between Caverns and Tunnel	0%	18 days	Tue 13/8/24	Mon 2/9/24	56.6 days
257	21.DES.TC.10	Revise and Resubmit the Permanent Rock Support System for Junction between Caverns and Tunnel	0%	24 days	Mon 2/9/24	Wed 2/10/24	56.6 days
258	21.DES.TC.10	GEO & Binnies Review and Accept the Permanent Rock Support System for Junction between Caverns and Tunnel	0%	18 days	Wed 2/10/24	Thu 24/10/24	56.6 days
259		**Internal Structures - Tunnels**	**0%**	**140 days**	**Wed 2/10/24**	**Thu 20/3/25**	**311.8 days**
260	21.DES.TC.10	Prepare and Submit Internal Structures - Tunnels to GEO & Binnies for Acceptance	0%	56 days	Wed 2/10/24	Fri 6/12/24	311.8 days
261	21.DES.TC.10	GEO & Binnies Review Design and Comment on Internal Structures - Tur	0%	24 days	Fri 6/12/24	Tue 7/1/25	311.8 days
262	21.DES.TC.10	Revise and Resubmit the Internal Structures - Tunnels	0%	36 days	Tue 7/1/25	Thu 20/2/25	311.8 days
263	21.DES.TC.10	GEO & Binnies Review and Accept the Internal Structures - Tunnels	0%	24 days	Thu 20/2/25	Thu 20/3/25	311.8 days
264		**Internal Structures - Caverns**	**0%**	**140 days**	**Wed 2/10/24**	**Thu 20/3/25**	**255.4 days**
265	21.DES.TC.10	Prepare and Submit Internal Structures - Caverns Design to GEO & Binnies for Acceptance	0%	56 days	Wed 2/10/24	Fri 6/12/24	255.4 days
266	21.DES.TC.10	GEO & Binnies Review Design and Comment on Internal Structures - Cav	0%	24 days	Fri 6/12/24	Tue 7/1/25	255.4 days
267	21.DES.TC.10	Revise and Resubmit the Internal Structures - Caverns	0%	36 days	Tue 7/1/25	Thu 20/2/25	255.4 days
268	21.DES.TC.10	GEO & Binnies Review and Accept the Internal Structures - Caverns	0%	24 days	Thu 20/2/25	Thu 20/3/25	255.4 days
269		**Temporary Ventilation for Tunnel and Cavern Construction**	**68%**	**204.8 days**	**Fri 10/11/23**	**Fri 19/7/24**	**-19 days**
270	21.DES.TC.10	Prepare and Submit Temporary Ventilation Design for Tunnel and Cavern Construction to Binnies for Acceptance	100%	120.8 days	Fri 10/11/23	Mon 8/4/24	0 days
271	21.DES.TC.10	Binnies Review Design and Comment on Temporary Ventilation for Tunnel and Cavern Construction	79%	24 days	Tue 9/4/24	Tue 7/5/24	-19 days
272	21.DES.TC.10	Revise and Resubmit the Temporary Ventilation for Tunnel and Cavern Construction	0%	36 days	Wed 8/5/24	Thu 20/6/24	-19 days
273	21.DES.TC.10	GEO & Binnies Review and Accept the Temporary Ventilation for Tunnel and Cavern Construction	0%	24 days	Thu 20/6/24	Fri 19/7/24	-19 days
274		**Tunnel Temporary Drainage Plan**	**0%**	**80 days**	**Sat 1/6/24**	**Wed 4/9/24**	**-6.8 days**
275	21.DES.TC.10	Prepare and Submit Tunnel Temporary Drainage Plan to GEO & Binnies for Acceptance	0%	24 days	Sat 1/6/24	Sat 29/6/24	-6.8 days
276	21.DES.TC.10	GEO & Binnies Review Design and Comment on Tunnel Temporary Drainage Plan	0%	24 days	Tue 2/7/24	Mon 29/7/24	-6.8 days
277	21.DES.TC.10	Revise and Resubmit the Tunnel Temporary Drainage Plan	0%	8 days	Tue 30/7/24	Wed 7/8/24	-6.8 days
278	21.DES.TC.10	GEO & Binnies Review and Accept the Tunnel Temporary Drainage Plan	0%	24 days	Thu 8/8/24	Wed 4/9/24	-6.8 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

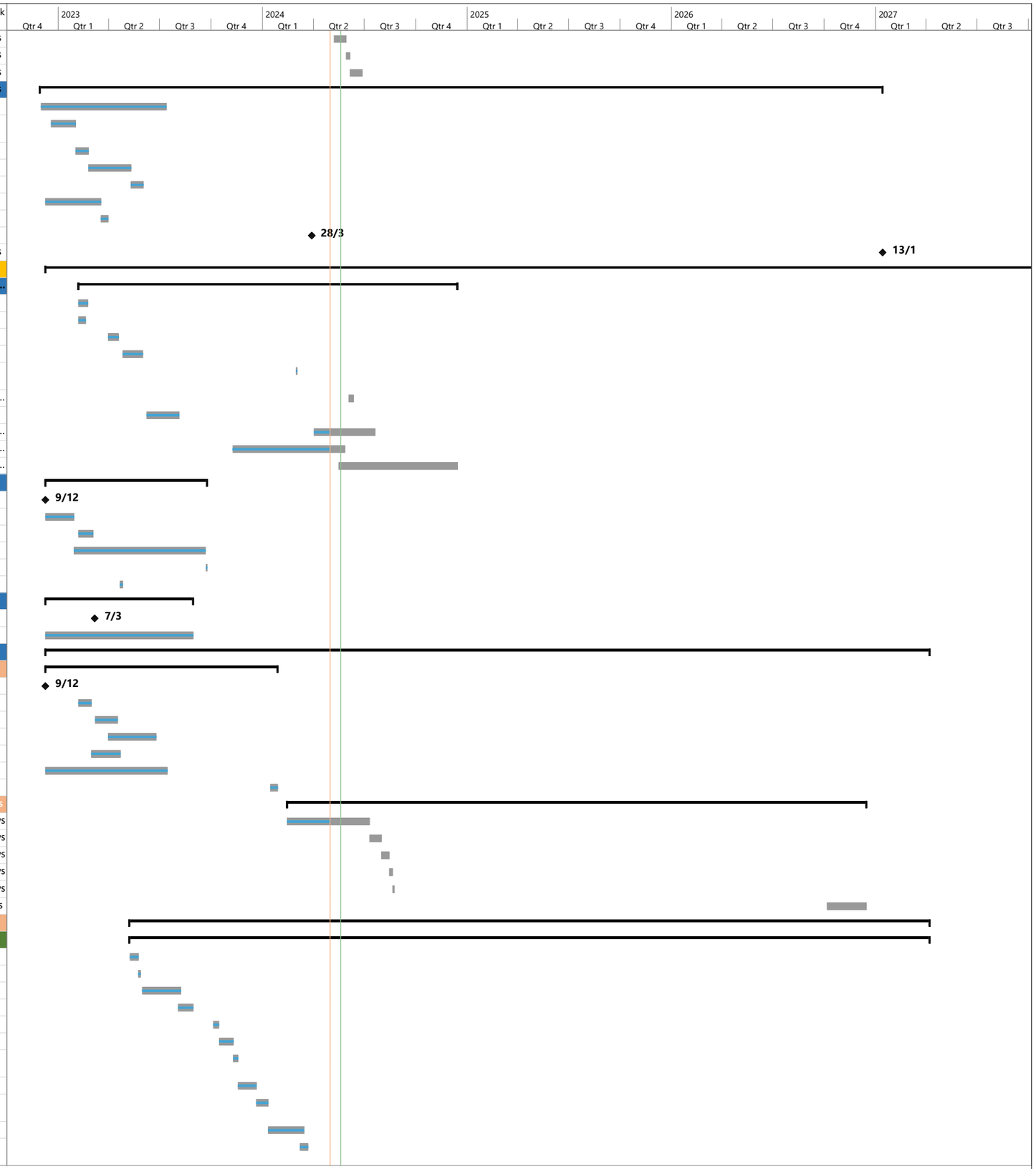
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
279		**Contractor's Blasting Assessment Report (CBAR) - VAT Tunnel (Before MTR Vicinity) Vol.1**	**69%**	**417.8 days**	**Fri 5/5/23**	**Tue 24/9/24**	**109 days**
280	21.CBA.VAT.1	Preperation of CBAR - Vol.1	100%	182 days	Fri 5/5/23	Sat 9/12/23	0 days
281	21.CBA.VAT.1	PM Comment on CBAR - Vol.1	94%	120.8 days	Mon 11/12/23	Thu 9/5/24	0 days
282	21.CBA.VAT.1	Incorporate PM Comment on CBAR - Vol.1	0%	24 days	Fri 10/5/24	Fri 7/6/24	0 days
283	21.CBA.VAT.1	ICE Check on CBAR - Vol.1	0%	17 days	Fri 7/6/24	Fri 28/6/24	9.6 days
284	21.CBA.VAT.1	Prepare & Submit to GEO & Binnies CBAR - Vol.1	0%	18 days	Fri 28/6/24	Sat 20/7/24	9.6 days
285	21.CBA.VAT.1	Review & Comments from GEO & Binnies on CBAR - Vol.1	0%	24 days	Sat 20/7/24	Tue 13/8/24	11.6 days
286	21.CBA.VAT.1	Revise & Final Submission to GEO & Binnies CBAR - Vol.1	0%	17 days	Tue 13/8/24	Sat 31/8/24	109.4 days
287	21.CBA.VAT.1	Review & Approval from GEO & Binnies on CBAR - Vol.1	0%	24 days	Sat 31/8/24	Tue 24/9/24	134.4 days
288		**Contractor's Blasting Assessment Report (CBAR) - VAT Tunnel & Caverns (From MTR Vicinity) Vol.2**	**0%**	**182 days**	**Tue 13/8/24**	**Thu 20/3/25**	**10.2 days**
289	21.CBA.VAT.1	Preperation of CBAR - Vol.2	0%	48 days	Tue 13/8/24	Wed 9/10/24	11.4 days
290	21.CBA.VAT.1	ICE Check on CBAR - Vol.2	0%	24 days	Wed 9/10/24	Thu 7/11/24	11.4 days
291	21.CBA.VAT.1	PM Comment on CBAR - Vol.2	0%	24 days	Thu 7/11/24	Wed 4/12/24	11.4 days
292	21.CBA.VAT.1	Incorporate PM Comment on CBAR - Vol.2	0%	9 days	Wed 4/12/24	Sat 14/12/24	11.4 days
293	21.CBA.VAT.1	Prepare & Submit to GEO & Binnies CBAR - Vol.2	0%	12 days	Sat 14/12/24	Tue 31/12/24	11.4 days
294	21.CBA.VAT.1	Review & Comments from GEO & Binnies on CBAR - Vol.2	0%	28 days	Tue 31/12/24	Tue 28/1/25	14.4 days
295	21.CBA.VAT.1	Revise & Final Submission to GEO & Binnies CBAR - Vol.2	0%	18 days	Tue 28/1/25	Thu 20/2/25	10.2 days
296	21.CBA.VAT.1	Review & Approval from GEO & Binnies on CBAR - Vol.2	0%	28 days	Thu 20/2/25	Thu 20/3/25	12.2 days
297		**Blasting Method Statement (BMS) - VAT Tunnel (Before MTR Vicinity) Vo**	**14%**	**282.2 days**	**Wed 7/2/24**	**Wed 15/1/25**	**62.6 days**
298	21.BMS.VAT.1	Prepare & Submit to GEO & Binnies BMS Vol.1	28%	151.8 days	Wed 7/2/24	Mon 12/8/24	1.6 days
299	21.BMS.VAT.1	GEO & Binnies Review & Comment on BMS Vol.1	0%	18 days	Mon 12/8/24	Sat 31/8/24	1.6 days
300	21.BMS.VAT.1	Incorporate GEO & Binnies comments & Submit BMS Vol.1	0%	11 days	Sat 31/8/24	Fri 13/9/24	1.6 days
301	21.BMS.VAT.1	Review & Comments from GEO & Binnies on BMS Vol.1	0%	28 days	Fri 13/9/24	Fri 11/10/24	2.6 days
302	21.BMS.VAT.1	Revise & Final Submission to GEO & Binnies BMS Vol.1	0%	11 days	Sat 12/10/24	Thu 24/10/24	1 day
303	21.BMS.VAT.1	Review & Acceptance from GEO & Binnies on BMS Vol.1	0%	28 days	Fri 25/10/24	Thu 21/11/24	1 day
304	21.BMS.VAT.1	Blasting Permit Application - VAT Tunnel (Before MTR Vicinity)	0%	11 days	Fri 22/11/24	Wed 4/12/24	59.6 days
305	21.BMS.VAT.1	Comments from GEO on Blasting Permit Application - VAT Tunnel (Before MTR Vicinity)	0%	28 days	Thu 5/12/24	Wed 1/1/25	75.8 days
306	21.BMS.VAT.1	Site Inspection by GEO - VAT Tunnel (Before MTR Vicinity)	0%	7 days	Thu 2/1/25	Wed 8/1/25	75.8 days
307	21.BMS.VAT.1	Issue of Blasting Permit - VAT Tunnel (Before MTR Vicinity)	0%	7 days	Thu 9/1/25	Wed 15/1/25	75.8 days
308		**Blasting Method Statement (BMS) - VAT Tunnel & Caverns (From MTR Vicinity) Vol.2**	**0%**	**149.6 days**	**Fri 22/11/24**	**Tue 27/5/25**	**-12 days**
309	21.BMS.VAT.2	Prepare & Submit to GEO & Binnies BMS Vol.2	0%	24 days	Fri 22/11/24	Thu 19/12/24	1 day
310	21.BMS.VAT.2	GEO & Binnies Review & Comment on BMS Vol.2	0%	18 days	Fri 20/12/24	Mon 13/1/25	1 day
311	21.BMS.VAT.2	Incorporate GEO & Binnies comments & Resubmit BMS Vol.2	0%	10 days	Tue 14/1/25	Fri 24/1/25	1 day
312	21.BMS.VAT.2	Review & Comments from GEO & Binnies on BMS Vol.2	0%	28 days	Sat 25/1/25	Fri 21/2/25	2 days
313	21.BMS.VAT.2	Revise & Final Submission to GEO & Binnies BMS Vol.2	0%	8 days	Sat 22/2/25	Mon 3/3/25	1 day
314	21.BMS.VAT.2	Review & Acceptance from GEO & Binnies on BMS Vol.2	0%	28 days	Tue 4/3/25	Mon 31/3/25	1 day
315	21.BMS.VAT.2	Blasting Permit Application - VAT Tunnel & Caverns (From MTR Vicinity)	0%	11 days	Tue 1/4/25	Mon 14/4/25	1 day
316	21.BMS.VAT.2	Comments from GEO on Blasting Permit Application - VAT Tunnel & Caverns (From MTR Vicinity)	0%	28 days	Wed 16/4/25	Tue 13/5/25	-56.2 days
317	21.BMS.VAT.2	Site Inspection by GEO - VAT Tunnel & Caverns (From MTR Vicinity)	0%	7 days	Wed 14/5/25	Tue 20/5/25	-56.2 days
318	21.BMS.VAT.2	Issue of Blasting Permit - VAT Tunnel & Caverns (From MTR Vicinity)	0%	7 days	Wed 21/5/25	Tue 27/5/25	-56.2 days
319		**Design of DfMA**	**0%**	**84 days**	**Sat 1/6/24**	**Mon 9/9/24**	**445.6 days**
320	21.DES.DMA.1	Prepare and Submit DfMA Design for Acceptance	0%	24 days	Sat 1/6/24	Sat 29/6/24	445.6 days
321	21.DES.DMA.2	GEO & Binnies Review Design and Comment on DfMA Design	0%	18 days	Tue 2/7/24	Mon 22/7/24	445.6 days
322	21.DES.DMA.3	Revise and Resubmit the DfMA Design	0%	24 days	Tue 23/7/24	Mon 19/8/24	445.6 days
323	21.DES.DMA.4	GEO & Binnies Review and Accept the DfMA Design	0%	18 days	Mon 19/8/24	Mon 9/9/24	445.6 days
324		**Construction Waste Disposal Billing Account Application**	**100%**	**41 days**	**Fri 9/12/22**	**Tue 31/1/23**	**0 days**
325	21.ENV.G.100	Approval of Billing Account for Disposal of Construction Waste by EPD	100%	21 days	Sat 10/12/22	Fri 30/12/22	0 days
326	21.ENV.G.100	Obtain Approval Letter from EPD for Billing Account for Disposal of Construction Waste	100%	32 days	Sat 31/12/22	Tue 31/1/23	0 days
327	21.ENV.G.100	Submit Application to EPD for Billing Account for Disposal of Construction Waste	100%	1 day	Fri 9/12/22	Fri 9/12/22	0 days
328		**Health and Safety Submissions**	**100%**	**50 days**	**Tue 29/11/22**	**Tue 31/1/23**	**0 days**
329	21.HS.G.1000	Prepare and Submit 3 Copies of Draft Safety Plan to The Supervisor	100%	12 days	Tue 29/11/22	Mon 12/12/22	0 days
330	21.HS.G.1003	Prepare and Submit 6 Copies of Safety Plan to The Supervisor	100%	39 days	Mon 12/12/22	Tue 31/1/23	0 days
331	21.HS.G.1004	Submit SO's and SS's Particulars to PM for Acceptance	100%	13 days	Mon 5/12/22	Mon 19/12/22	0 days
332	21.HS.G.1001	Review and Comment of Safety Plan by The Supervisor	100%	10 days	Mon 12/12/22	Thu 22/12/22	0 days
333	21.HS.G.1002	Hold Adhoc Meeting with The Supervisor to discuss the Draft Safety Plan	100%	1 day	Thu 22/12/22	Thu 22/12/22	0 days
334		**BIM Submissions**	**90%**	**467.8 days**	**Tue 29/11/22**	**Thu 27/6/24**	**446 days**
335	21.BIM.10030	Propose and establish BIM team	100%	60 days	Tue 29/11/22	Sat 11/2/23	0 days
336	21.BIM.10040	Prepare and submit the construction stage BIM Execution Plan for PM's acceptance	100%	30 days	Fri 3/3/23	Tue 11/4/23	0 days
337	21.BIM.10050	Review and comment on BIM Execution Plan by PM	100%	41 days	Wed 12/4/23	Wed 31/5/23	0 days
338	21.BIM.10060	Revise and Re-submit BIM Execution Plan for acceptance	100%	120 days	Thu 1/6/23	Tue 24/10/23	0 days
339	21.BIM.10065	Review and Acceptance on BIM Execution Plan by PM	100%	38 days	Wed 25/10/23	Thu 7/12/23	0 days
340	21.BIM.10000	Submit CDE back-up proposal to PM for acceptance	96%	120.8 days	Fri 8/12/23	Tue 7/5/24	446 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

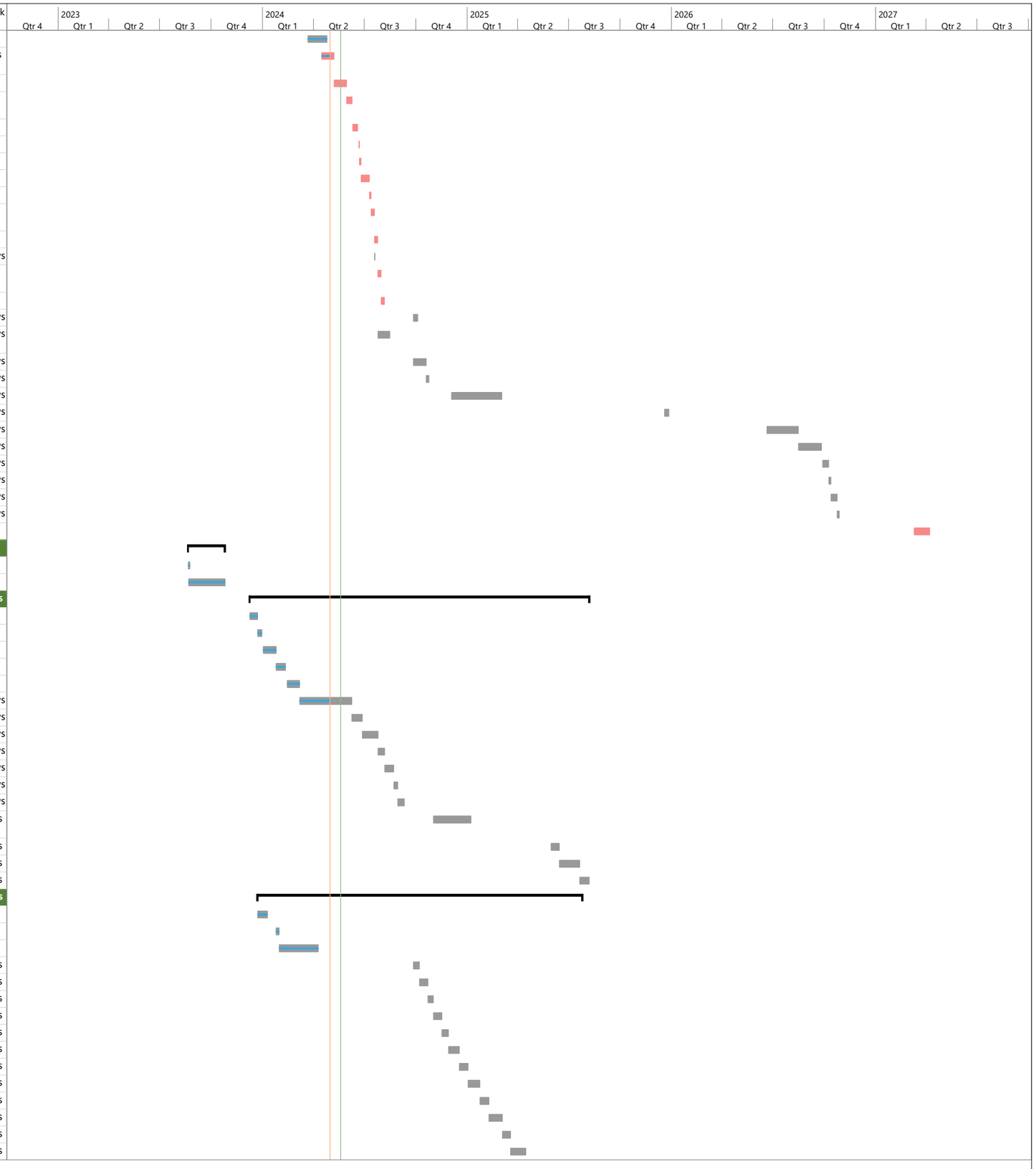
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
341	21.BIM.1001(	Review and comment on CDE back-up proposal by PM	0%	18 days	Wed 8/5/24	Wed 29/5/24	446 days
342	21.BIM.1002(	Prepare and submit final CDE back-up proposal to PM for acceptance	0%	6 days	Wed 29/5/24	Wed 5/6/24	446 days
343	21.BIM.1002!	Review and Acceptance on final CDE back-up proposal by PM	0%	18 days	Wed 5/6/24	Thu 27/6/24	446 days
344		**BEAM Plus and Environmental Management Plan Submissions**	**99%**	**1234 days**	**Tue 29/11/22**	**Wed 13/1/27**	**438 days**
345	21.BEAM.100	Submit BEAM Plus consultant's particulars to the PM for acceptance	100%	181 days	Tue 29/11/22	Wed 12/7/23	0 days
346	21.BEAM.100	Prepare and submit Environmental Management Plan (EMP) to PM for acceptance	100%	33 days	Mon 19/12/22	Tue 31/1/23	0 days
347	21.BEAM.100	Review of Environmental Management Plan (EMP) by PM	100%	20 days	Wed 1/2/23	Thu 23/2/23	0 days
348	21.BEAM.100	Revise and resubmit final EMP to PM for acceptance	100%	60 days	Fri 24/2/23	Wed 10/5/23	0 days
349	21.BEAM.100	Review & Acceptance of Environmental Management Plan (EMP) by PM	100%	18 days	Thu 11/5/23	Thu 1/6/23	0 days
350	21.BEAM.100	Prepare and submit the Method Statement of Baseline Monitoring	100%	80 days	Fri 9/12/22	Fri 17/3/23	0 days
351	21.BEAM.100	Review & Acceptance on the Method Statement of Baseline Monitoring by	100%	10.9 days	Sat 18/3/23	Thu 30/3/23	0 days
352	21.BEAM.100	Submit BEAM Plus Provisional Assessment	100%	1 day	Wed 27/3/24	Thu 28/3/24	0 days
353	21.BEAM.100	Submit BEAM Plus Final Assessment	0%	1 day	Tue 12/1/27	Wed 13/1/27	438 days
354		**Site Works**	**15%**	**1663 days**	**Fri 9/12/22**	**Tue 4/7/28**	**0.2 days**
355		**Site Wide Pre-Works**	**50%**	**557.8 days**	**Mon 6/2/23**	**Sat 14/12/24**	**1060.4 d...**
356	21.PRW.G.10(	Tree Survey at PAB Area	100%	15 days	Mon 6/2/23	Wed 22/2/23	0 days
357	21.PRW.G.10(	Topographic Survey at PAB Area	100%	12 days	Mon 6/2/23	Sat 18/2/23	0 days
358	21.PRW.G.10(	UU Detection at PAB & Portion 5	100%	12 days	Fri 31/3/23	Tue 18/4/23	0 days
359	21.PRW.G.10(	Pre-Condition Survey Site Wide	100%	29 days	Wed 26/4/23	Wed 31/5/23	0 days
360	21.PRW.G.10(	TTA Implementation for the exposed work of dia. 1400mm pipe at Lion Rock Road	100%	2 days	Fri 1/3/24	Sat 2/3/24	0 days
361	21.PRW.G.10(	Trial pit to exposed work of dia. 1400mm pipe at Lion Rock Road	0%	12 days	Mon 3/6/24	Mon 17/6/24	1205.4 d...
362	21.PRW.G.10(	Boulder Survey	100%	48 days	Thu 8/6/23	Fri 4/8/23	0 days
363	21.PRW.G.10(	Hazardous Boulder Removal Works	27%	90 days	Tue 2/4/24	Sat 20/7/24	1185.4 d...
364	21.PRW.G.10(	Additional GI Work	87%	162.5 days	Thu 9/11/23	Mon 27/5/24	1229.7 d...
365	21.PRW.G.10(	CLP Transformer Room Construction	0%	180 days	Thu 16/5/24	Sat 14/12/24	1053.2 d...
366		**Relocation of Transit Nursey**	**100%**	**235 days**	**Fri 9/12/22**	**Sat 23/9/23**	**0 days**
367	SW-RTN-102(	Access to Portion 4	100%	0 days	Fri 9/12/22	Fri 9/12/22	0 days
368	SW-RTN-101(	Liase with LCSD for facilities relocation arrangement	100%	51 days	Fri 9/12/22	Sat 28/1/23	0 days
369	SW-RTN-105(	Relocation of Transit Nursery and other LCSD's facilties to Portion 4	100%	26 days	Mon 6/2/23	Fri 3/3/23	0 days
370	SW-RTN-104(	Civil construction works, e.g. water supply, in Portion 4	100%	235 days	Sun 29/1/23	Wed 20/9/23	0 days
371	SW-RTN-106(	Test and Commissioning of water supply and LCSD's facilities	100%	2 days	Fri 22/9/23	Sat 23/9/23	0 days
372	SW-RTN-107(	Handover Portion 4 to LCSD for its management	100%	5 days	Fri 21/4/23	Tue 25/4/23	0 days
373		**Ma Chai Hang Fresh Water Service Reservoir (MCHFWSR)**	**100%**	**213 days**	**Fri 9/12/22**	**Tue 29/8/23**	**0 days**
374	SW-P2-1010	Access to Portion 2	100%	0 days	Tue 7/3/23	Tue 7/3/23	0 days
375	SW-P2-1000	Liase with WSD for works arrangement in MCHFWSR	100%	264 days	Fri 9/12/22	Tue 29/8/23	0 days
376		**Portal Ancillary Building (PAB)**	**20%**	**290.6 days**	**Fri 9/12/22**	**Wed 7/4/27**	**4.6 days**
377		**Preparation Works & Site Clearance**	**100%**	**337 days**	**Fri 9/12/22**	**Sat 27/1/24**	**0 days**
378	SW-PAB1010	Access to Portion 3	100%	0 days	Fri 9/12/22	Fri 9/12/22	0 days
379	SW-PAB1020	Tree Survey at Portion 3	100%	23 days	Mon 6/2/23	Tue 28/2/23	0 days
380	SW-PAB1050	Survey, Trial pit, UU detection, Condition survey	100%	40 days	Wed 8/3/23	Sun 16/4/23	0 days
381	SW-PAB1040	Tree Treatment and Site Clearance	100%	86 days	Fri 31/3/23	Sat 24/6/23	0 days
382	SW-PAB1060	Tree Protection Works	100%	52 days	Wed 1/3/23	Fri 21/4/23	0 days
383	SW-PAB1030	Hoarding Erection and Site Setup	100%	218 days	Fri 9/12/22	Fri 14/7/23	0 days
384	SW-PAB1070	Erection of metal scaffold on slope feature 11NW-B/FR 65	100%	12 days	Mon 15/1/24	Sat 27/1/24	0 days
385		**Reprovision Works (Relocate Pumping Station & Pipes)**	**29%**	**853.6 days**	**Wed 14/2/24**	**Tue 15/12/26**	**92.6 days**
386	21.RW.CON.1	Construct New Pumping Station	52%	120 days	Wed 14/2/24	Wed 10/7/24	127.8 days
387	21.RW.CON.1	Relocation of Existing Drain Pipes and Cable Duct	0%	18 days	Wed 10/7/24	Wed 31/7/24	127.8 days
388	21.RW.CON.1	Relocate pump & control panel	0%	12 days	Wed 31/7/24	Wed 14/8/24	127.8 days
389	21.RW.CON.1	Testing and Commissioning of New Pumping Station	0%	6 days	Wed 14/8/24	Tue 20/8/24	127.8 days
390	21.RW.CON.1	Demolition of Existing Pumping Station	0%	3 days	Tue 20/8/24	Fri 23/8/24	127.8 days
391	21.RW.CON.1	Tree compensation	0%	60 days	Tue 6/10/26	Tue 15/12/26	92.6 days
392		**Foundation, Sub-Structure and Retaining Structure**	**37%**	**1172.6 days**	**Mon 8/5/23**	**Wed 7/4/27**	**4.6 days**
393		**Cut & Cover Tunnel ELS**	**46%**	**1172.6 days**	**Mon 8/5/23**	**Wed 7/4/27**	**4.6 days**
394	SW-PAB-2005	Formation of Piling Platform at +90.0 mPD	100%	14 days	Mon 8/5/23	Tue 23/5/23	0 days
395	SW-PAB-904(	Site Setup & Mobilisation of plants	100%	3 days	Wed 24/5/23	Sat 27/5/23	0 days
396	SW-PAB-905(	Driving of pipe pile (610 dia)(Total 77 nos.)(PR=1 piles/day/rig)	100%	57 days	Wed 31/5/23	Mon 7/8/23	0 days
397	SW-PAB-330(	TTA implementation for Soil Platform and UU Support at North Side	100%	23 days	Thu 3/8/23	Tue 29/8/23	0 days
398	SW-PAB-333(	Erection of Hoarding/Gate/Concrete Block	100%	9 days	Thu 5/10/23	Sat 14/10/23	0 days
399	SW-PAB-334(	Construction of Capping Beam	100%	21 days	Mon 16/10/23	Thu 9/11/23	0 days
400	SW-PAB-320(	Soil Excavation to +89.0mPD (approx. 770m3) and Lagging Wall Construction	100%	7 days	Fri 10/11/23	Fri 17/11/23	0 days
401	SW-PAB-321(	Installation of 1st Layer of Strut at +90.0mPD	100%	28 days	Sat 18/11/23	Wed 20/12/23	0 days
402	SW-PAB-323(	Soil Excavation from +89.0mPD to +85.0mPD (approx. 2060m3) and Lagging Wall Construction	100%	15 days	Thu 21/12/23	Wed 10/1/24	0 days
403	SW-PAB-324(	Installation of 2nd Layer of Strut at +86.0mPD	100%	55 days	Thu 11/1/24	Sat 16/3/24	0 days
404	SW-PAB-325(	Soil Excavation from +85.0mPD to +79.0mPD (approx. 3080m3) and Lagging Wall Construction	100%	12 days	Fri 8/3/24	Thu 21/3/24	0 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task | Split | Milestone | Summary | Project Summary | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | External Tasks | External Milestone | Deadline | Critical | Critical Split | Progress | Manual Progress

ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
405	SW-PAB-326C	Installation of 3rd Layer of Strut at +80.75mPD and Portal Frame	100%	33.9 days	Fri 22/3/24	Wed 24/4/24	0 days
406	SW-PAB-327C	Soil Excavation from +79.0mPD to +75.0mPD (approx. 2052m3) and Lagging Wall Construction	68%	22 days	Tue 16/4/24	Tue 7/5/24	-7.1 days
407	SW-PAB-328C	Installation of 4th Layer of Strut at +76.25mPD and Portal Frame	0%	22 days	Wed 8/5/24	Wed 29/5/24	-99 days
408	SW-PAB-329C	Soil Excavation from +75.0mPD to +71.1mPD F.E.L. (approx. 1590m3) and Lagging Wall Construction	0%	11 days	Thu 30/5/24	Sun 9/6/24	-99 days
409	SW-PAB-3295	Installation of 5th Layer of Strut at +71.5mPD (northern side only)	0%	11 days	Mon 10/6/24	Thu 20/6/24	-99 days
410	SW-PAB-330C	Casting of blinding	0%	1 day	Fri 21/6/24	Fri 21/6/24	-99 days
411	SW-PAB-3302	Installation of Waterproof Membrane underneath Base Slab	0%	3 days	Sat 22/6/24	Mon 24/6/24	-99 days
412	SW-PAB-3304	Construction of Base Slab and Wing Slab	0%	15 days	Tue 25/6/24	Tue 9/7/24	-99 days
413	SW-PAB-3305	Construction of Corbels	0%	3 days	Wed 10/7/24	Fri 12/7/24	-99 days
414	SW-PAB-330E	Installation of vertical post of supporting frame of Noise Enclosure and Ventilation Fan onto Base Slab	0%	6 days	Sat 13/7/24	Thu 18/7/24	-99 days
415	SW-PAB-3311	Installation of King Posts and Raking Struts and Bracings	0%	6 days	Fri 19/7/24	Wed 24/7/24	-99 days
416	SW-PAB-331C	Casting of lean concrete at the northern side of the Base Slab	0%	1 day	Fri 19/7/24	Fri 19/7/24	817.6 days
417	SW-PAB-3312	Construction of mass concrete at eastern and western side of the Base Slab	0%	6 days	Thu 25/7/24	Tue 30/7/24	-99 days
418	SW-PAB-332C	Backfilling on Base Slab to +77.0mPD (approx. 4m high)	0%	6 days	Wed 31/7/24	Mon 5/8/24	-99 days
419	SW-PAB-334C	Installation of Flying Struts	0%	6 days	Thu 26/9/24	Fri 4/10/24	637.6 days
420	SW-PAB-3341	Installation of sheet pile wall at the south of Cut & Cover Tunnel ELS to form access road	0%	18 days	Thu 25/7/24	Thu 15/8/24	661.2 days
421	SW-PAB-3342	Excavation down to +77mPD to form access road	0%	18 days	Thu 26/9/24	Sat 19/10/24	625.6 days
422	SW-PAB-335C	Cutting of Southern Pipe Pile Walls for Opening	0%	4 days	Sat 19/10/24	Thu 24/10/24	625.6 days
423	SW-PAB-336C	Construction of Noise Enclosure and Installation of Ventilation Fans	0%	72 days	Tue 3/12/24	Mon 3/3/25	630.6 days
424	SW-PAB-339C	Completely Remove the Compacted Soil down to +73.10mPD	0%	5 days	Fri 19/12/25	Sat 27/12/25	276.6 days
425	SW-PAB-340C	Construction of Structural Wall	0%	48 days	Sat 20/6/26	Sat 15/8/26	134.6 days
426	SW-PAB-341C	Construction of Roof Slab	0%	36 days	Sat 15/8/26	Fri 25/9/26	134.6 days
427	SW-PAB-342C	Backfilling to +86.0mPD	0%	9 days	Mon 28/9/26	Thu 8/10/26	134.6 days
428	SW-PAB-343C	Removal of 2nd Layer of Struts	0%	3 days	Fri 9/10/26	Mon 12/10/26	134.6 days
429	SW-PAB-344C	Backfilling to +88.50mPD	0%	9 days	Tue 13/10/26	Fri 23/10/26	134.6 days
430	SW-PAB-345C	Removal of 1st Layer of Struts	0%	3 days	Sat 24/10/26	Tue 27/10/26	134.6 days
431	SW-PAB-346C	Construction of Internal Wall	0%	20 days	Wed 10/3/27	Wed 7/4/27	4.6 days
432		**Northern Side of PAB**	**100%**	**54 days**	**Mon 21/8/23**	**Wed 25/10/23**	**0 days**
433	SW-PAB-906C	Site Setup & Mobilisation of Plants	100%	3 days	Mon 21/8/23	Wed 23/8/23	0 days
434	SW-PAB-907C	Driving of Pipe Pile (610 DIA) (Total: 53 nos.)(PR=2 piles/day/rig)	100%	53 days	Tue 22/8/23	Wed 25/10/23	0 days
435		**Western Side of PAB (Zone A)**	**34%**	**495.6 days**	**Sat 9/12/23**	**Wed 6/8/25**	**71.2 days**
436	SW-PAB-425C	Erection of Timber Platform for Western Pipe Pile	100%	12 days	Sat 9/12/23	Fri 22/12/23	0 days
437	SW-PAB-426C	Site Setup & Mobilisation of Plants	100%	5 days	Sat 23/12/23	Sat 30/12/23	0 days
438	SW-PAB-427C	Driving of Pipe Pile (273 DIA) (Total 36 nos, PR=1pp/day/rig)	100%	20 days	Tue 2/1/24	Wed 24/1/24	0 days
439	SW-PAB-428C	Installation of inclinometers	100%	15 days	Thu 25/1/24	Sat 10/2/24	0 days
440	SW-PAB-437C	Excavation to +87.5mPD and Lagging Wall Construction	100%	20 days	Wed 14/2/24	Thu 7/3/24	0 days
441	SW-PAB-438C	Installation of 1st Layer of Tie-back at +88.0mPD	57%	75 days	Thu 7/3/24	Sat 8/6/24	112.8 days
442	SW-PAB-439C	Excavation to +85.0mPD and Lagging Wall Construction	0%	15 days	Sat 8/6/24	Thu 27/6/24	112.8 days
443	SW-PAB-440C	Installation of 2nd Layer of Tie-back at +85.5mPD	0%	23 days	Thu 27/6/24	Thu 25/7/24	112.8 days
444	SW-PAB-441C	Excavation to +81.5mPD and Lagging Wall Construction	0%	10 days	Thu 25/7/24	Tue 6/8/24	112.8 days
445	SW-PAB-442C	Installation of 3rd Tie-back at +82.0mPD	0%	15 days	Tue 6/8/24	Thu 22/8/24	112.8 days
446	SW-PAB-443C	Excavation to +78.0mPD and Lagging Wall Construction	0%	6 days	Thu 22/8/24	Thu 29/8/24	112.8 days
447	SW-PAB-444C	Installation of 4th Layer Tie-back at +78.5mPD	0%	10 days	Thu 29/8/24	Tue 10/9/24	112.8 days
448	SW-PAB-4445	Excavation of the remaining soilmass to +78.0mPD with lateral support to faciliate the opening of southern side of Cut & Cover	0%	55 days	Fri 1/11/24	Tue 7/1/25	71.2 days
449	SW-PAB-445C	Excavation to +74.5 mPD (FEL) and Lagging Wall Construction	0%	12 days	Fri 30/5/25	Sat 14/6/25	71.2 days
450	SW-PAB-446C	Installation of 5th Layer Tie-back at +75.0mPD	0%	30 days	Sat 14/6/25	Sun 20/7/25	71.2 days
451	SW-PAB-447C	Excavation to +73.4 mPD (FEL), Blinding and Lagging Wall Constructic	0%	15 days	Mon 21/7/25	Wed 6/8/25	71.2 days
452		**Eastern Side of PAB (Zone B)**	**22%**	**473.6 days**	**Sat 23/12/23**	**Fri 25/7/25**	**81.2 days**
453	SW-PAB-422C	Formation of soil platform for Eastern Pipe Pile	100%	12 days	Sat 23/12/23	Tue 9/1/24	0 days
454	SW-PAB-423C	Site Setup & Mobilisation of Plants	100%	5 days	Thu 25/1/24	Tue 30/1/24	0 days
455	SW-PAB-424C	Driving of Pipe Pile (355 DIA) (Total 27 nos, PR= 1pp/day/rig)	100%	54 days	Wed 31/1/24	Tue 9/4/24	0 days
456	SW-PAB-428C	Excavation to +87.5mPD and Lagging Wall Construction	0%	8 days	Thu 26/9/24	Mon 7/10/24	71.2 days
457	SW-PAB-429C	Installation of 1st Layer of Tie-back at +88.0mPD	0%	12 days	Mon 7/10/24	Tue 22/10/24	71.2 days
458	SW-PAB-430C	Excavation to +85.5mPD and Lagging Wall Construction	0%	9 days	Tue 22/10/24	Fri 1/11/24	71.2 days
459	SW-PAB-431C	Installation of 2nd Layout of Tie-back at +86.0mPD	0%	14 days	Fri 1/11/24	Sat 16/11/24	81.2 days
460	SW-PAB-432C	Excavation to +83.5mPD and Lagging Wall Construction	0%	10 days	Sat 16/11/24	Thu 28/11/24	81.2 days
461	SW-PAB-433C	Installation of 3rd Layer of Wailing and Strut at +84mPD	0%	16 days	Thu 28/11/24	Tue 17/12/24	81.2 days
462	SW-PAB-434C	Excavation to +81.9 mPD and Lagging Wall Construction	0%	11 days	Tue 17/12/24	Thu 2/1/25	81.2 days
463	SW-PAB-435C	Installation of 4th Layer of Tie-back at +82.4mPD	0%	18 days	Thu 2/1/25	Thu 23/1/25	81.2 days
464	SW-PAB-436C	Excavation to +79.75 mPD and Lagging Wall Construction	0%	12 days	Thu 23/1/25	Sat 8/2/25	81.2 days
465	SW-PAB-437C	Installation of 5th Layer of Wailing and Strut at +80.25mPD	0%	20 days	Sat 8/2/25	Tue 4/3/25	81.2 days
466	SW-PAB-438C	Excavation to +77.75 mPD and Lagging Wall Construction	0%	13 days	Tue 4/3/25	Wed 19/3/25	81.2 days
467	SW-PAB-439C	Installation of 6th Layer of Tie-back at +78.25mPD	0%	22 days	Wed 19/3/25	Tue 15/4/25	81.2 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

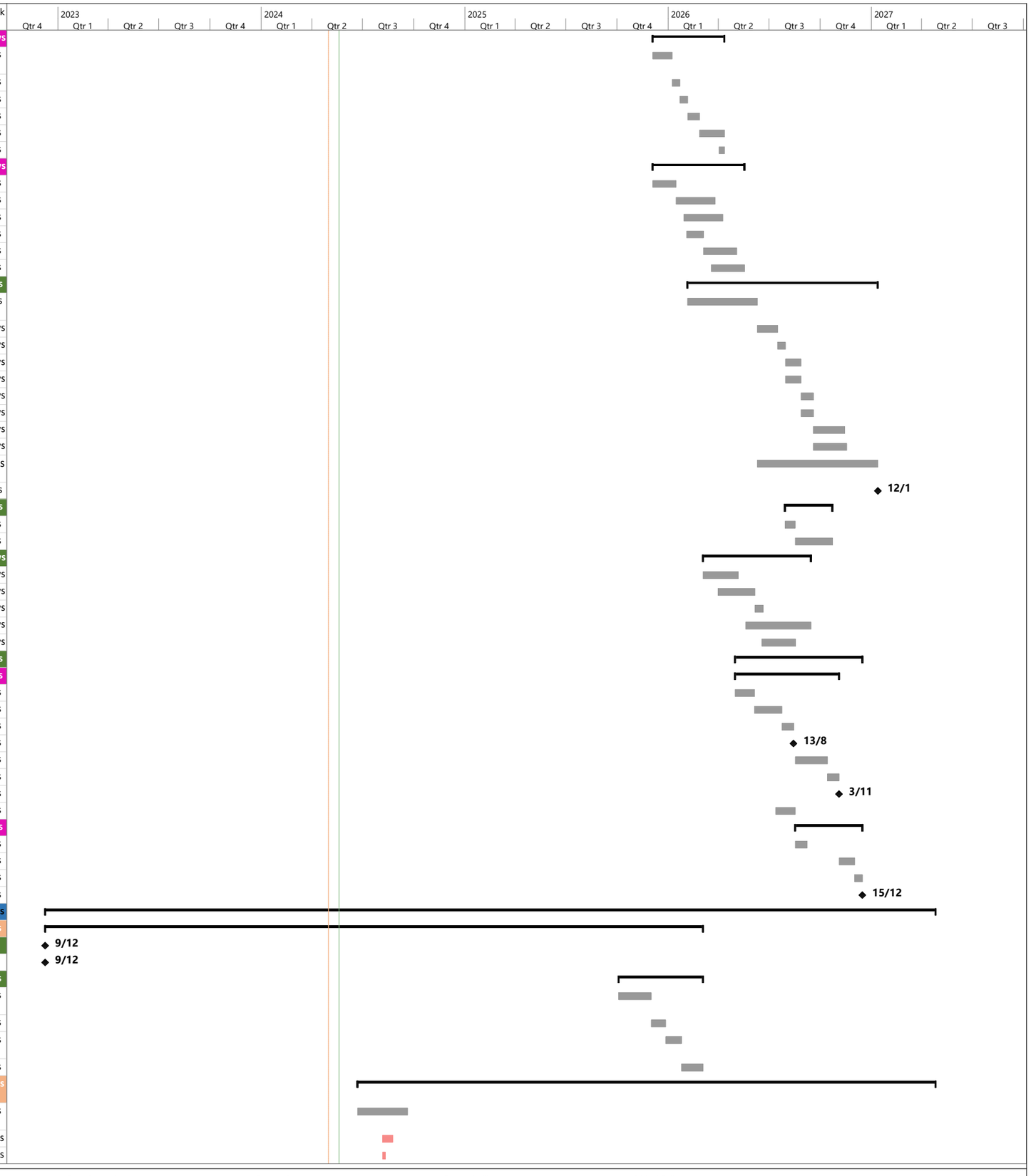
Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
468	SW-PAB-4394	Site Setup & Mobilisation of Plants	0%	3 days	Tue 15/4/25	Tue 22/4/25	81.2 days
469	SW-PAB-4395	Driving of Pipe Pile (355 DIA) (Total: 28 nos.)(PR=1 piles/day/rig)	0%	28 days	Tue 22/4/25	Mon 26/5/25	81.2 days
470	SW-PAB-4400	Soil Excavation to +75.75 mPD and Lagging Wall Construction	0%	12 days	Mon 26/5/25	Tue 10/6/25	81.2 days
471	SW-PAB-4410	Installation of 7th Layer of Wailing and Strut at +76.25mPD	0%	24 days	Tue 10/6/25	Wed 9/7/25	81.2 days
472	SW-PAB-4420	Soil Excavation to +73.4 mPD (FEL), Blinding and Lagging Wall Construction	0%	15 days	Wed 9/7/25	Fri 25/7/25	81.2 days
473		**Southern Side of PAB (Zone C)**	**0%**	**98 days**	**Tue 7/1/25**	**Fri 9/5/25**	**71.2 days**
474		Site Setup & Mobilisation of plants	0%	5 days	Tue 7/1/25	Mon 13/1/25	71.2 days
475	SW-PAB-4050	Driving of Pipe Pile (610 DIA) (Total: 75 nos.)(PR=1 piles/day/rig)	0%	75 days	Mon 13/1/25	Mon 14/4/25	71.2 days
476	SW-PAB-4060	Excavation to +73.4 mPD (FEL), Blinding and Lagging Wall Constructic	0%	18 days	Mon 14/4/25	Fri 9/5/25	71.2 days
477		**Structure Works**	**0%**	**309.4 days**	**Fri 9/5/25**	**Tue 19/5/26**	**71.2 days**
478		**Foundation Works**	**0%**	**111 days**	**Fri 9/5/25**	**Wed 17/9/25**	**71.2 days**
479	SW-PAB-4270	Construction of Raft Footing Slab (Southern) (Zone C)	0%	18 days	Fri 9/5/25	Fri 30/5/25	71.2 days
480	SW-PAB-4280	Construction of Retaining Wall RW1 and RW2	0%	30 days	Fri 30/5/25	Mon 7/7/25	98.2 days
481	SW-PAB-4290	Construction of Raft Footing Slab (Western) (Zone A)	0%	36 days	Thu 7/8/25	Wed 17/9/25	71.2 days
482	SW-PAB-4300	Construction of Raft Footing Slab (Eastern) (Zone B)	0%	30 days	Sat 26/7/25	Fri 29/8/25	81.2 days
483		**Building Structure - Grid No. U - BB (Western)**	**0%**	**198.4 days**	**Thu 18/9/25**	**Tue 19/5/26**	**71.2 days**
484	SW-PAB-S300	Commencement of Building Superstructure	0%	0 days	Tue 23/9/25	Tue 23/9/25	85.4 days
485	SW-PAB-S200	Installation of Tower Crane	0%	5 days	Thu 18/9/25	Tue 23/9/25	71.2 days
486	SW-PAB-S301	Column, Beam & Floor Slab @ Ground Floor +78mPD (from Pile Cap @ +75mPD) incl. scaffold erection	0%	35 days	Wed 24/9/25	Tue 28/10/25	85.4 days
487	SW-PAB-S302	RC Column and RC Wall @ above Ground Floor	0%	26 days	Wed 29/10/25	Sun 23/11/25	85.4 days
488	SW-PAB-S303	RC Beam & Floor Slab @ First Floor +84.25mPD incl. scaffold erection	0%	35 days	Mon 24/11/25	Sun 28/12/25	85.4 days
489	SW-PAB-S304	RC Column and RC Wall @ above First Floor	0%	26 days	Mon 29/12/25	Fri 23/1/26	85.4 days
490	SW-PAB-S305	RC Beam & Floor Slab @ Roof +91.5mPD incl. scaffold erection	0%	35 days	Sat 24/1/26	Fri 27/2/26	85.4 days
491	SW-PAB-S306	RC Column and RC Wall @ above Roof	0%	14 days	Sat 28/2/26	Fri 13/3/26	85.4 days
492	SW-PAB-S308	RC Stairs	0%	21 days	Sat 28/2/26	Fri 20/3/26	145.4 days
493	SW-PAB-S307	Roof Canopy @ +95.8mPD incl. scaffold erection	0%	21 days	Sat 14/3/26	Fri 3/4/26	85.4 days
494	SW-PAB-S309	Waterproofing works on roof	0%	18 days	Sat 2/5/26	Tue 19/5/26	85.4 days
495		**Building Structure - Grid No. BB - EE (Eastern)**	**0%**	**214.4 days**	**Sat 30/8/25**	**Tue 19/5/26**	**71.2 days**
496	SW-PAB-S400	Column, Beam & Floor Slab @ Ground Floor +78mPD (from Pile Cap @ +75mPD) incl. scaffold erection	0%	35 days	Sat 30/8/25	Fri 3/10/25	97.4 days
497	SW-PAB-S401	RC Column and RC Wall @ above Ground Floor	0%	26 days	Sat 4/10/25	Wed 29/10/25	97.4 days
498	SW-PAB-S402	RC Beam & Floor Slab @ First Floor +84.25mPD incl. scaffold erection	0%	35 days	Thu 30/10/25	Wed 3/12/25	97.4 days
499	SW-PAB-S403	RC Column and RC Wall @ above First Floor	0%	26 days	Thu 4/12/25	Mon 29/12/25	97.4 days
500	SW-PAB-S404	RC Beam & Floor Slab @ Roof +91.5mPD incl. scaffold erection	0%	35 days	Tue 30/12/25	Mon 2/2/26	97.4 days
501	SW-PAB-S405	RC Column and RC Wall @ above Roof	0%	14 days	Tue 3/2/26	Mon 16/2/26	97.4 days
502	SW-PAB-S407	RC Stairs	0%	21 days	Tue 3/2/26	Mon 23/2/26	170.4 days
503	SW-PAB-S406	Roof Canopy @ +95.8mPD incl. scaffold erection	0%	21 days	Thu 12/2/26	Wed 4/3/26	97.4 days
504	SW-PAB-S408	Installation of Photovoltaic Panel	0%	18 days	Thu 2/4/26	Sun 19/4/26	97.4 days
505	SW-PAB-S409	Waterproofing works on roof	0%	18 days	Mon 20/4/26	Thu 7/5/26	97.4 days
506	SW-PAB-S410	Complete RC Structure	0%	0 days	Tue 19/5/26	Tue 19/5/26	85.4 days
507		**ABWF/ MEP/ FS/ Fitout Works**	**0%**	**331.6 days**	**Thu 4/12/25**	**Tue 12/1/27**	**71.2 days**
508		**For Grid No. U - BB**	**0%**	**174.4 days**	**Mon 29/12/25**	**Wed 29/7/26**	**115.6 days**
509		**G/F - Transformer Room & LV Switch Room**	**0%**	**153.4 days**	**Mon 29/12/25**	**Sun 5/7/26**	**115.6 days**
510	SW-PAB-A501	TR &LVSR - Falsework Removal/ Preparation for ABWF & MEP Wo	0%	35 days	Mon 29/12/25	Sun 1/2/26	142 days
511	SW-PAB-A502	TR &LVSR - ABWF Deg1 - Deg3	0%	38 days	Mon 2/2/26	Wed 11/3/26	142 days
512	SW-PAB-A503	TR &LVSR - BS 1st Fix - 3rd Fix	0%	38 days	Mon 16/2/26	Wed 25/3/26	142 days
513	SW-PAB-A504	TR &LVSR - CLP Inspection and Defect Rectification	0%	12 days	Thu 26/3/26	Mon 6/4/26	142 days
514	SW-PAB-A505	TR &LVSR - Installation of Transformer and T&C by CLP	0%	90 days	Tue 7/4/26	Sun 5/7/26	142 days
515	SW-PAB-A506	TR &LVSR - Completion of CLP Cable Laying Leading to PAB	0%	30 days	Wed 18/2/26	Fri 20/3/26	249.6 days
516	SW-PAB-A507	TR &LVSR - Power-on Date	0%	0 days	Sun 5/7/26	Sun 5/7/26	142 days
517		**1/F - Genset Room**	**0%**	**124.6 days**	**Sat 28/2/26**	**Wed 29/7/26**	**96.6 days**
518	SW-PAB-A511	Genset Rm - Falsework Removal/ Preparation for ABWF & MEP W	0%	35 days	Sat 28/2/26	Fri 3/4/26	118 days
519	SW-PAB-A512	Genset Rm - Concrete Plinth, Waterproofing & Test	0%	12 days	Sat 4/4/26	Wed 15/4/26	118 days
520	SW-PAB-A513	Floor Screeding, Wall Plastering & Doors & Wall Lining	0%	28 days	Thu 16/4/26	Wed 13/5/26	118 days
521	SW-PAB-A514	MEP Works	0%	28 days	Thu 14/5/26	Wed 10/6/26	118 days
522	SW-PAB-A515	Move-In Generator Equipments	0%	7 days	Thu 11/6/26	Wed 17/6/26	118 days
523	SW-PAB-A516	Final Coat to Wall & Sealer to Floor	0%	14 days	Thu 18/6/26	Wed 1/7/26	118 days
524	SW-PAB-A517	Install Generator Equipments & Testing	0%	28 days	Thu 2/7/26	Wed 29/7/26	118 days
525		**Other Rooms**	**0%**	**152.4 days**	**Mon 29/12/25**	**Fri 3/7/26**	**147.6 days**
526	SW-PAB-A521	G/F - Falsework Removal/ Preparation for ABWF & MEP Works	0%	42 days	Mon 29/12/25	Sun 8/2/26	235 days
527	SW-PAB-A522	G/F - ABWF Deg1 - Deg3	0%	70 days	Mon 9/2/26	Sun 19/4/26	235 days
528	SW-PAB-A523	G/F - BS 1st Fix - 3rd Fix	0%	70 days	Mon 23/2/26	Sun 3/5/26	235 days
529	SW-PAB-A524	1/F - Falsework Removal/ Preparation for ABWF & MEP Works	0%	42 days	Sat 28/2/26	Fri 10/4/26	174 days
530	SW-PAB-A525	1/F - ABWF Deg1 - Deg3	0%	70 days	Sat 11/4/26	Fri 19/6/26	174 days
531	SW-PAB-A526	1/F - BS 1st Fix - 3rd Fix	0%	70 days	Sat 25/4/26	Fri 3/7/26	174 days
532		**For Grid No. BB - EE**	**0%**	**132.6 days**	**Thu 4/12/25**	**Sun 17/5/26**	**184.4 days**

Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task | Summary | Inactive Milestone | Duration-only | Start-only | External Milestone | Critical Split
Split | Project Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Deadline | Progress
Milestone | Inactive Task | Manual Task | Manual Summary | External Tasks | Critical | Manual Progress

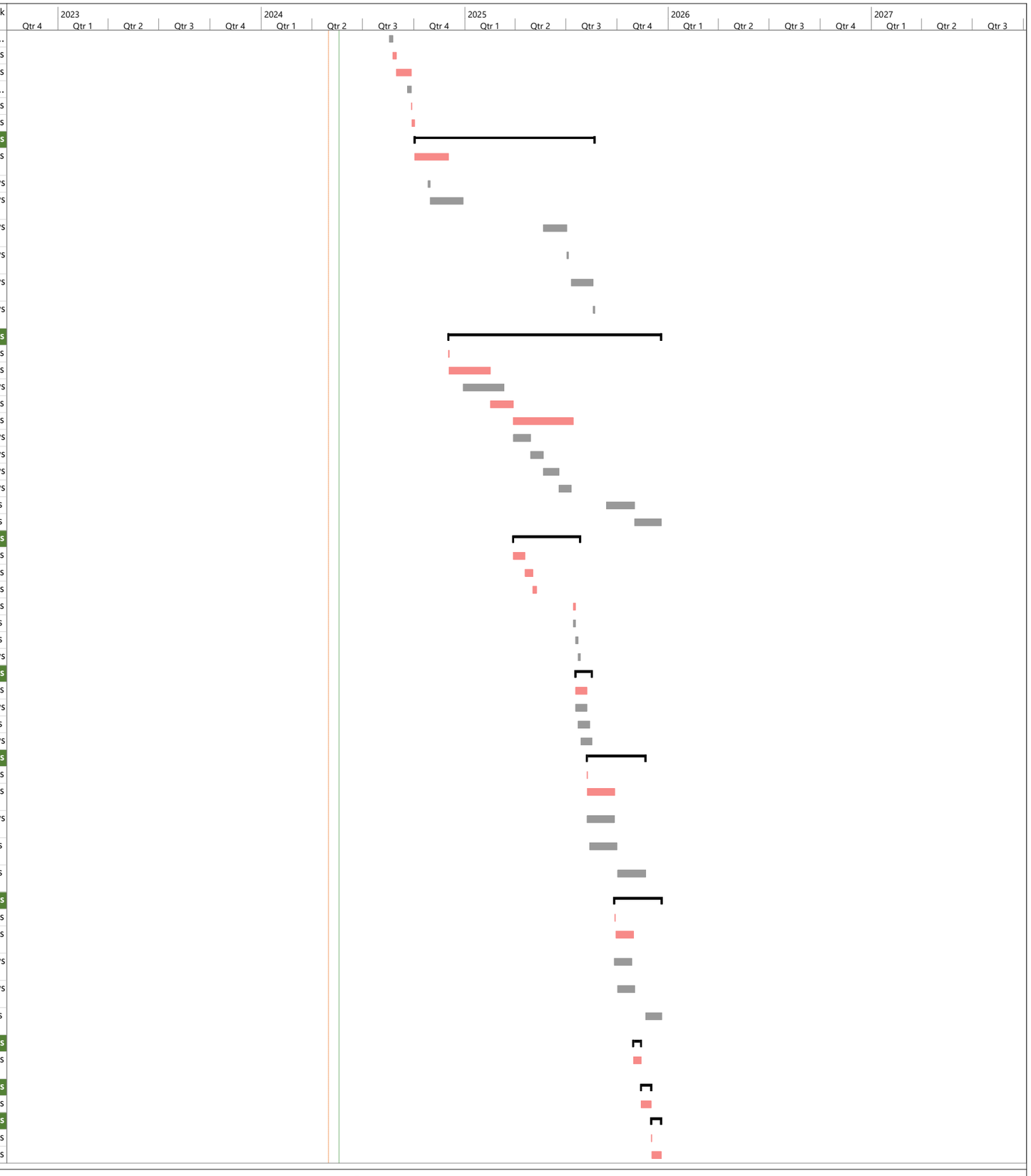
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
533		**G/F - FS Water Tank & FS Pump Room**	**0%**	**103.6 days**	**Thu 4/12/25**	**Sat 11/4/26**	**184.4 days**
534	SW-PAB-A601	FS Water Tank & Pump Rm - Falsework Removal/ Preparation for ABWF & MEP Works	0%	35 days	Thu 4/12/25	Wed 7/1/26	227 days
535	SW-PAB-A602	FS Water Tank & Pump Rm - Waterproofing & Testing	0%	14 days	Thu 8/1/26	Wed 21/1/26	227 days
536	SW-PAB-A603	FS Water Tank & Pump Rm - Plastering Works Inside Tank	0%	14 days	Thu 22/1/26	Wed 4/2/26	227 days
537	SW-PAB-A604	FS Water Tank & Pump Rm - Wall and Floor Tiling Works	0%	21 days	Thu 5/2/26	Wed 25/2/26	227 days
538	SW-PAB-A605	FS Water Tank & Pump Rm - Install Equipment	0%	45 days	Thu 26/2/26	Sat 11/4/26	227 days
539	SW-PAB-A606	FS Water Tank & Pump Rm - Install Cat Ladder & Hatch Cover	0%	10 days	Thu 2/4/26	Sat 11/4/26	227 days
540		**Other Rooms**	**0%**	**132.6 days**	**Thu 4/12/25**	**Sun 17/5/26**	**186.4 days**
541	SW-PAB-A611	G/F - Falsework Removal/ Preparation for ABWF & MEP Works	0%	42 days	Thu 4/12/25	Wed 14/1/26	260 days
542	SW-PAB-A612	G/F - ABWF Deg1 - Deg3	0%	70 days	Thu 15/1/26	Wed 25/3/26	260 days
543	SW-PAB-A613	G/F - BS 1st Fix - 3rd Fix	0%	70 days	Thu 29/1/26	Wed 8/4/26	260 days
544	SW-PAB-A614	1/F - Falsework Removal/ Preparation for ABWF & MEP Works	0%	30 days	Tue 3/2/26	Wed 4/3/26	221 days
545	SW-PAB-A615	1/F - ABWF Deg1 - Deg3	0%	60 days	Thu 5/3/26	Sun 3/5/26	221 days
546	SW-PAB-A616	1/F - BS 1st Fix - 3rd Fix	0%	60 days	Thu 19/3/26	Sun 17/5/26	221 days
547		**External Works**	**0%**	**280 days**	**Wed 4/2/26**	**Tue 12/1/27**	**71.2 days**
548	SW-PAB-E100	Underground Utilities Works, Drainage Works, Watermain Works & Testing at the Periphery of PAB	0%	100 days	Wed 4/2/26	Tue 9/6/26	71.2 days
549	SW-PAB-E101	Backfilling to Ground Level	0%	30 days	Wed 10/6/26	Thu 16/7/26	117.2 days
550	SW-PAB-E102	Site preparation and erect external falsework around building	0%	12 days	Thu 16/7/26	Thu 30/7/26	117.2 days
551	SW-PAB-E103	Extenal wall plastering/ painting works	0%	24 days	Thu 30/7/26	Thu 27/8/26	165.2 days
552	SW-PAB-E104	Extenral wall tiles	0%	24 days	Thu 30/7/26	Thu 27/8/26	117.2 days
553	SW-PAB-E105	Install Metal Doors, Roller Shutter, Cat-Ladder and Metal Railings	0%	20 days	Thu 27/8/26	Fri 18/9/26	165.2 days
554	SW-PAB-E106	Install Steel Claddings, Ventilation Louvres, External Ceiling	0%	20 days	Thu 27/8/26	Fri 18/9/26	117.2 days
555	SW-PAB-E107	Construction of vehicular road	0%	45 days	Fri 18/9/26	Fri 13/11/26	120.2 days
556	SW-PAB-E108	Install Bi-folding gate, security fenece, footpath, boundary wall	0%	48 days	Fri 18/9/26	Tue 17/11/26	117.2 days
557	SW-PAB-E109	Underground Utilities Works, Drainage Works, Watermain Works & Testing along Lion Rock Park Access Road	0%	180 days	Wed 10/6/26	Tue 12/1/27	71.2 days
558	SW-PAB-E110	Complete External Works	0%	0 days	Tue 12/1/27	Tue 12/1/27	71.2 days
559		**Testing and Commisioning**	**0%**	**70.8 days**	**Thu 30/7/26**	**Thu 22/10/26**	**98.8 days**
560	SW-PAB-T100	1A - West Fire Sta - Testing and Commissioning (FS - Related)	0%	18 days	Thu 30/7/26	Sun 16/8/26	118 days
561	SW-PAB-T200	1A - West Fire Sta - Testing and Commissioning (Non FS - Related)	0%	67 days	Mon 17/8/26	Thu 22/10/26	130 days
562		**Landscaping and Architectural Roof**	**0%**	**161.4 days**	**Wed 4/3/26**	**Mon 14/9/26**	**169.2 days**
563	A1000	Construction of Gabion Wall	0%	51 days	Wed 4/3/26	Wed 6/5/26	242.6 days
564	A1030	Tree Transplant near Gabion Wall	0%	52 days	Tue 31/3/26	Fri 5/6/26	242.6 days
565	A1040	Installation of Landscape Fence	0%	12 days	Fri 5/6/26	Sat 20/6/26	242.6 days
566	A1050	Architectural Roof hardwork	0%	99 days	Wed 20/5/26	Mon 14/9/26	169.2 days
567	A1060	Architectural Roof softwork and Tree transplant	0%	50 days	Thu 18/6/26	Mon 17/8/26	194.2 days
568		**Statutory Approval & Inspection**	**0%**	**191.4 days**	**Fri 1/5/26**	**Tue 15/12/26**	**91.8 days**
569		**WSD Inspection**	**0%**	**154.6 days**	**Fri 1/5/26**	**Tue 3/11/26**	**96.6 days**
570	SW-PAB-8000	Submit WWO 46 Part IV (PD) and Wait for Inspection by WSD	0%	35 days	Fri 1/5/26	Thu 4/6/26	200 days
571	SW-PAB-8010	Inspection and Re-inspection by WSD (PD) (including water test)	0%	49 days	Fri 5/6/26	Thu 23/7/26	200 days
572	SW-PAB-8020	Issuance Period of WWO 46 Part V (PD)	0%	21 days	Fri 24/7/26	Thu 13/8/26	200 days
573	SW-PAB-8030	Obtain WWO 46 Part V (PD) by WSD	0%	0 days	Thu 13/8/26	Thu 13/8/26	200 days
574	SW-PAB-7010	Inspection and Re-inspection by WSD (FS)	0%	58 days	Mon 17/8/26	Tue 13/10/26	118 days
575	SW-PAB-7020	Issuance Period of WWO 46 Part V (FS)	0%	21 days	Wed 14/10/26	Tue 3/11/26	118 days
576	SW-PAB-7030	Obtain WWO 46 Part V (FS) by WSD	0%	0 days	Tue 3/11/26	Tue 3/11/26	118 days
577	SW-PAB-7000	Submit WWO 46 Part IV (FS) and Wait for Inspection by WSD	0%	35 days	Mon 13/7/26	Sun 16/8/26	118 days
578		**FSD and OP Inspection**	**0%**	**102.6 days**	**Mon 17/8/26**	**Tue 15/12/26**	**91.8 days**
579	SW-PAB-9000	Submit Form 314 / FSI501 and Wait for Inspection by FSD	0%	21 days	Mon 17/8/26	Sun 6/9/26	176 days
580	SW-PAB-9010	FS Inspection and Re-inspection	0%	28 days	Wed 4/11/26	Tue 1/12/26	118 days
581	SW-PAB-9020	Issue Fire Certificate (FS172)	0%	14 days	Wed 2/12/26	Tue 15/12/26	118 days
582	SW-PAB-9030	Obtain Fire Certificate (FS172) by FSD	0%	0 days	Tue 15/12/26	Tue 15/12/26	118 days
583		**Vehicular Access Tunnel**	**0%**	**1306.6 days**	**Fri 9/12/22**	**Mon 26/4/27**	**-11.4 days**
584		**Tunnel Works CH 0 - 24 by Cut and Cover Method**	**0%**	**964.6 days**	**Fri 9/12/22**	**Wed 4/3/26**	**206 days**
585		**Preliminary Works**	**100%**	**0 days**	**Fri 9/12/22**	**Fri 9/12/22**	**0 days**
586	SW-VAT-1000	Access to Portion 1	100%	0 days	Fri 9/12/22	Fri 9/12/22	0 days
587		**Structure Works**	**0%**	**123 days**	**Sat 4/10/25**	**Wed 4/3/26**	**206 days**
588	SW-VAT-1510	Construction of temporary wall, waterproofing layer and wall (Total: 960m3, 8bays (10x10), PR= 12d/bay)	0%	48 days	Sat 4/10/25	Mon 1/12/25	206 days
589	SW-VAT-1520	Erection of working platform	0%	21 days	Mon 1/12/25	Sat 27/12/25	206 days
590	SW-VAT-1530	Construction of top slab (Total: 792m3, 4bays(10x16.5), PR = 12d/bay, 2workfront)	0%	24 days	Sat 27/12/25	Sat 24/1/26	206 days
591	SW-VAT-1540	Backfilling to existing level	0%	30 days	Sat 24/1/26	Wed 4/3/26	206 days
592		**Tunnel Works CH 24 - 697.8 & Caverns (5no.) by Mechanical Break & Drill & Blast Method**	**0%**	**852 days**	**Sat 22/6/24**	**Mon 26/4/27**	**-44.8 days**
593	SW-VAT-2060	Application of CNP to extend working hours (7 work days/week) in Tunnel & Cavern	0%	90 days	Sat 22/6/24	Thu 19/9/24	935 days
594	SW-VAT-2001	Pre-excavation grouting (with Dextra self-drilling piping system)	0%	17 days	Tue 6/8/24	Sat 24/8/24	-81.8 days
595	SW-VAT-2002	Installation of Face Nail Support in Top Heading	0%	5 days	Tue 6/8/24	Sat 10/8/24	-69.8 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task | Summary | Inactive Milestone | Duration-only | Start-only | External Milestone | Critical Split
Split | Project Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Deadline | Progress
Milestone | Inactive Task | Manual Task | Manual Summary | External Tasks | Critical | Manual Progress

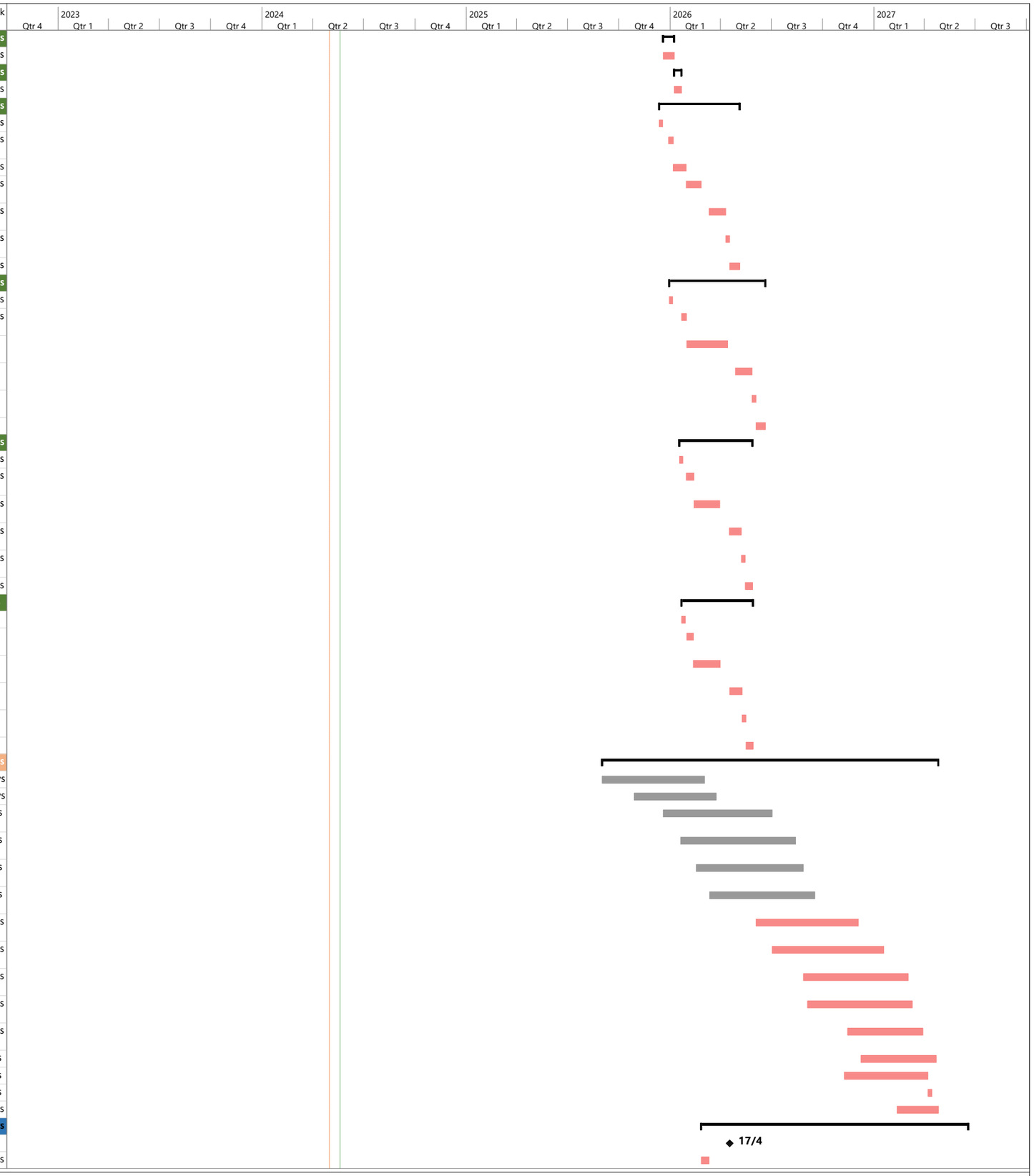
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
596	SW-VAT-200	Installation of remaining raking struts	0%	6 days	Sun 18/8/24	Sat 24/8/24	786.6 d...
597	SW-VAT-2003	Flame Cut Slots in Pipe Piles for Canopy Tube Installation	0%	5 days	Sat 24/8/24	Fri 30/8/24	-81.8 days
598	SW-VAT-2004	Double Layer Canopy Tube (18m length) Installation & Grouting	0%	22 days	Fri 30/8/24	Thu 26/9/24	-81.8 days
599	SW-VAT-200	Removal of 3rd Layer of Struts	0%	6 days	Thu 19/9/24	Thu 26/9/24	759.6 d...
600	SW-VAT-2005	Installation of Portal Frame	0%	1 day	Thu 26/9/24	Fri 27/9/24	-81.8 days
601	SW-VAT-200	Part Removal of Pipe Piles for TL & Shotcreting for Quadrant 1	0%	3 days	Fri 27/9/24	Wed 2/10/24	-81.8 days
602		**Tunnel Works CH24 to CH74 by Initial Mechanical Excavation**	**0%**	**266 days**	**Wed 2/10/24**	**Thu 21/8/25**	**-81.8 days**
603	SW-VAT-3200	Initial Mechanical Excavation - Top Heading Left - CH24 to CH74 (1m/day) (incl. 2d for Double Layer Canopy Tube (6m) Installation at	0%	52 days	Wed 2/10/24	Mon 2/12/24	-81.8 days
604	SW-VAT-3205	Part Removal of Pipe Piles for TL & Shotcreting for Quadrant 2	0%	3 days	Sat 26/10/24	Wed 30/10/24	623.6 days
605	SW-VAT-3210	Initial Mechanical Excavation - Top Heading Right - CH24 to CH74 (1m/day)	0%	50 days	Wed 30/10/24	Sat 28/12/24	623.6 days
606	SW-VAT-3220	Excavation of Backfill Material inside the Cut and Cover Tunnel Cofferdam - Bottom Bench Left	0%	34 days	Wed 21/5/25	Wed 2/7/25	530.6 days
607	SW-VAT-3215	Excavation of Backfill Material inside the Cut and Cover Tunnel Cofferdam - Bottom Bench Left	0%	3 days	Wed 2/7/25	Sat 5/7/25	530.6 days
608	SW-VAT-3230	Initial Mechanical Excavation - Bottom Bench Right - CH74 to CH24 (1.5m/day)	0%	34 days	Thu 10/7/25	Mon 18/8/25	489.6 days
609	SW-VAT-3225	Excavation of Backfill Material inside the Cut and Cover Tunnel Cofferdam - Bottom Bench Right	0%	3 days	Tue 19/8/25	Thu 21/8/25	489.6 days
610		**Tunnel Works CH74 to CH276 by Mechanical Excavation & Drill & Blast**	**0%**	**314 days**	**Mon 2/12/24**	**Fri 19/12/25**	**-81.8 days**
611	SW-VAT-3235	Pre-excavation Grouting at CH74 to CH104	0%	1 day	Mon 2/12/24	Tue 3/12/24	-81.8 days
612	SW-VAT-3240	Mechanical Excavation - Top Heading Left - CH74 to CH133 (1m/day)	0%	59 days	Tue 3/12/24	Sat 15/2/25	-81.8 days
613	SW-VAT-3250	Mechanical Excavation - Top Heading Right - CH74 to CH133 (1m/day	0%	59 days	Sat 28/12/24	Tue 11/3/25	623.6 days
614	SW-VAT-3900	Mechanical Excavation - Full Heading - CH133 to CH175 (1.2m/day)	0%	35 days	Sat 15/2/25	Fri 28/3/25	-81.8 days
615	SW-VAT-3910	Mechanical Excavation - Full Heading - CH175 to CH276 (1.2m/day)	0%	85 days	Fri 28/3/25	Mon 14/7/25	-81.8 days
616	SW-VAT-3260	Mechanical Excavation - Bottom Bench Left - CH133 to CH110 (1m/da	0%	23 days	Fri 28/3/25	Mon 28/4/25	489.6 days
617	SW-VAT-3270	Mechanical Excavation - Bottom Bench Left - CH110 to CH74 (2m/day	0%	18 days	Mon 28/4/25	Wed 21/5/25	489.6 days
618	SW-VAT-3280	Mechanical Excavation - Bottom Bench Right - CH133 to CH110 (1m/	0%	23 days	Wed 21/5/25	Wed 18/6/25	489.6 days
619	SW-VAT-3290	Mechanical Excavation - Bottom Bench Right - CH110 to CH74 (2m/da	0%	18 days	Wed 18/6/25	Thu 10/7/25	489.6 days
620	SW-VAT-3920	D&B Excavation - Bottom Bench Left - CH276 to CH133 (3.5m/day)	0%	41 days	Fri 12/9/25	Sat 1/11/25	85.6 days
621	SW-VAT-3930	D&B Excavation - Bottom Bench Right - CH276 to CH133 (3.5m/day)	0%	41 days	Sat 1/11/25	Fri 19/12/25	85.6 days
622		**Tunnel Works CH276 to CH286 by Drill & Blast Excavation (Initial)**	**0%**	**97 days**	**Fri 28/3/25**	**Sat 26/7/25**	**-32.8 days**
623	SW-VAT-3080	Blast Door - Erect Steel Frame	0%	21 days	Fri 28/3/25	Fri 18/4/25	-37.8 days
624	SW-VAT-3090	Blast Door - Install Blast Door	0%	14 days	Fri 18/4/25	Fri 2/5/25	-37.8 days
625	SW-VAT-3100	Blast Door - Inspection by Mines Dept.	0%	7 days	Fri 2/5/25	Fri 9/5/25	-37.8 days
626	SW-VAT-3280	D&B Excavation - Top Heading Left - CH276 to CH286 (3m/day)	0%	4 days	Mon 14/7/25	Fri 18/7/25	-81.8 days
627	SW-VAT-3290	D&B Excavation - Top Heading Right - CH276 to CH286 (3m/day)	0%	4 days	Mon 14/7/25	Fri 18/7/25	85.6 days
628	SW-VAT-3300	D&B Excavation - Bottom Bench Left - CH276 to CH286 (3m/day)	0%	4 days	Fri 18/7/25	Tue 22/7/25	85.6 days
629	SW-VAT-3310	D&B Excavation - Bottom Bench Right - CH276 to CH286 (3m/day)	0%	4 days	Wed 23/7/25	Sat 26/7/25	137.6 days
630		**Tunnel Works CH286 to CH337.15 by Drill & Blast Excavation**	**0%**	**26 days**	**Fri 18/7/25**	**Sat 16/8/25**	**-81.8 days**
631	SW-VAT-3320	D&B Excavation - Top Heading Left - CH286 to CH337.15 (3m/day)	0%	18 days	Fri 18/7/25	Thu 7/8/25	-81.8 days
632	SW-VAT-3330	D&B Excavation - Top Heading Right - CH286 to CH337.15 (3m/day)	0%	18 days	Fri 18/7/25	Thu 7/8/25	145.6 days
633	SW-VAT-3340	D&B Excavation - Bottom Bench Left - CH286 to CH337.15 (3m/day	0%	18 days	Wed 23/7/25	Tue 12/8/25	99.6 days
634	SW-VAT-3350	D&B Excavation - Bottom Bench Right - CH286 to CH337.15 (3m/da	0%	18 days	Mon 28/7/25	Sat 16/8/25	137.6 days
635		**Tunnel Works CH337.15 to CH387.15 by Mechanical Excavation**	**0%**	**88 days**	**Fri 8/8/25**	**Fri 21/11/25**	**-81.8 days**
636	SW-VAT-3355	Pre-excavation Grouting at CH360 to CH390	0%	1 day	Fri 8/8/25	Fri 8/8/25	-81.8 days
637	SW-VAT-3360	Mechanical Excavation - Top Heading Left - CH337.15 to CH387.15 (1.2m/day)	0%	42 days	Sat 9/8/25	Fri 26/9/25	-81.8 days
638	SW-VAT-3370	Mechanical Excavation - Top Heading Right - CH337.15 to CH387.15 (1.2m/day)	0%	42 days	Fri 8/8/25	Thu 25/9/25	145.6 days
639	SW-VAT-3380	Mechanical Excavation - Bottom Bench Left - CH337.15 to CH387.15 (1.2m/day)	0%	42 days	Wed 13/8/25	Tue 30/9/25	99.6 days
640	SW-VAT-3390	Mechanical Excavation - Bottom Bench Right - CH337.15 to CH387.15 (1.2m/day)	0%	42 days	Thu 2/10/25	Fri 21/11/25	99.6 days
641		**Tunnel Works CH387.15 to CH416 by Mechanical Excavation**	**0%**	**71 days**	**Fri 26/9/25**	**Sat 20/12/25**	**-80.8 days**
642	SW-VAT-3395	Pre-excavation Grouting at CH410 to CH440	0%	1 day	Sat 27/9/25	Sat 27/9/25	-81.8 days
643	SW-VAT-3400	Mechanical Excavation - Top Heading Left - CH387.15 to CH416 (1.2m/day)	0%	25 days	Mon 29/9/25	Thu 30/10/25	-81.8 days
644	SW-VAT-3410	Mechanical Excavation - Top Heading Right - CH387.15 to CH416 (1.2m/day)	0%	25 days	Fri 26/9/25	Mon 27/10/25	145.6 days
645	SW-VAT-3420	Mechanical Excavation - Bottom Bench Left - CH387.15 to CH416 (1.2m/day)	0%	25 days	Thu 2/10/25	Sat 1/11/25	141.6 days
646	SW-VAT-3430	Mechanical Excavation - Bottom Bench Right - CH387.15 to CH416 (1.2m/day)	0%	25 days	Fri 21/11/25	Sat 20/12/25	99.6 days
647		**Tunnel Works CH416 to CH456 by Drill & Blast Excavation**	**0%**	**12 days**	**Thu 30/10/25**	**Thu 13/11/25**	**-81.8 days**
648	SW-VAT-3440	D&B Excavation - Top Heading Expanding to Full Width and Height - CH416 to CH456 (3.5m/day)	0%	12 days	Thu 30/10/25	Thu 13/11/25	-81.8 days
649		**Tunnel Works CH456 to CH506 by Drill & Blast Excavation**	**0%**	**15 days**	**Thu 13/11/25**	**Mon 1/12/25**	**-81.8 days**
650	SW-VAT-3470	D&B Excavation - Full Width and Height - CH456 to CH506 (3.5m/day	0%	15 days	Thu 13/11/25	Mon 1/12/25	-81.8 days
651		**Tunnel Works CH506 to CH557 by Drill & Blast Excavation**	**0%**	**16 days**	**Mon 1/12/25**	**Fri 19/12/25**	**-81.8 days**
652	SW-VAT-3475	Pre-excavation Grouting at CH510 to CH540	0%	1 day	Mon 1/12/25	Tue 2/12/25	-81.8 days
653	SW-VAT-3490	D&B Excavation - Full Width and Height - CH506 to CH557 (3.5m/day	0%	15 days	Tue 2/12/25	Fri 19/12/25	-81.8 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

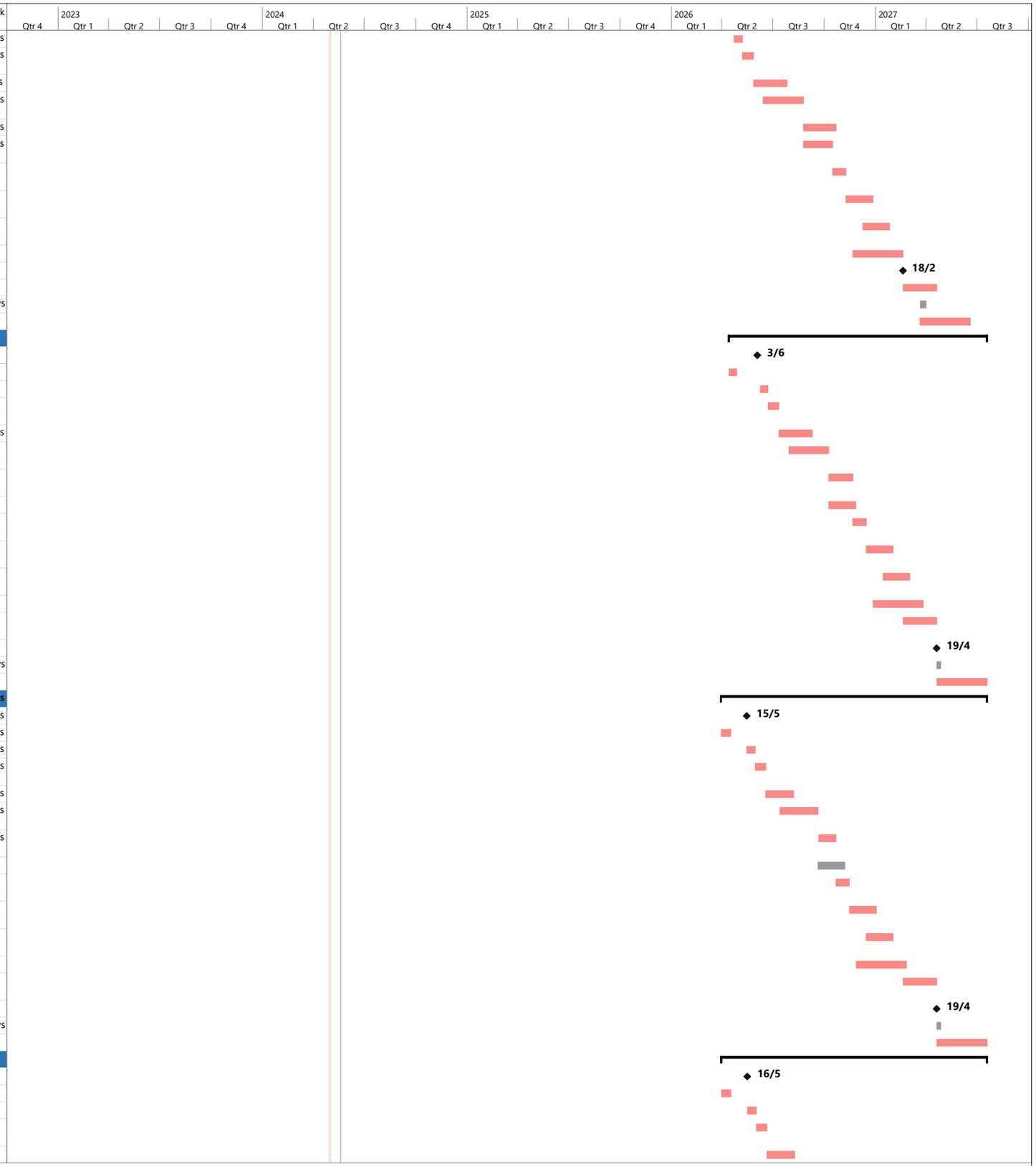
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
654		**Tunnel Works CH557 to CH607 by Drill & Blast Excavation**	**0%**	**15 days**	**Fri 19/12/25**	**Thu 8/1/26**	**-81.8 days**
655	SW-VAT-3510	D&B Excavation - Full Width and Height - CH557 to CH607 (3.5m/day	0%	15 days	Fri 19/12/25	Thu 8/1/26	-81.8 days
656		**Tunnel Works CH607 to CH645 by Drill & Blast Excavation**	**0%**	**11 days**	**Thu 8/1/26**	**Wed 21/1/26**	**-81.8 days**
657	SW-VAT-3530	D&B Excavation - Full Width and Height - CH607 to CH645 (3.5m/day	0%	11 days	Thu 8/1/26	Wed 21/1/26	-81.8 days
658		**Tunnel Works Cavern A (SWSR1) by Drill & Blast Excavation (CH527.03**	**0%**	**115 days**	**Fri 12/12/25**	**Tue 5/5/26**	**-81.8 days**
659	SW-VAT-3800	Junction Pre-support	0%	5 days	Fri 12/12/25	Thu 18/12/25	-42.8 days
660	SW-VAT-3570	D&B Excavation - Cavern A Top Heading - CHA00 to CHA22 (3.5m/day) (J2, Drained)	0%	7 days	Mon 29/12/25	Tue 6/1/26	-49.8 days
661	SW-VAT-3580	D&B Excavation - Cavern A Top Heading - CHA22.0 to CHA92.0 (3.5m	0%	20 days	Tue 6/1/26	Thu 29/1/26	-49.8 days
662	SW-VAT-3585	D&B Excavation - Cavern A Top Heading - CHA92.0 to CHA125.428 (3.5m/2 day cycle)	0%	20 days	Thu 29/1/26	Wed 25/2/26	-81.8 days
663	SW-VAT-3600	D&B Excavation - Cavern A Bottom Bench - CHA22 to CHA125.428 (25m/3 day cycle)	0%	24 days	Wed 11/3/26	Fri 10/4/26	-81.8 days
664	SW-VAT-3610	D&B Excavation - Cavern A Bottom Bench - CHA6.774 to CHA22 (25m/3 day cycle) (J2, Drained)	0%	6 days	Fri 10/4/26	Fri 17/4/26	-81.8 days
665	SW-VAT-3615	Mucking Out	0%	14 days	Fri 17/4/26	Tue 5/5/26	-81.8 days
666		**Tunnel Works Cavern B (SWSR2) by Drill & Blast Excavation (CH567.52**	**0%**	**140 days**	**Tue 30/12/25**	**Sat 20/6/26**	**-67.8 days**
667	SW-VAT-3810	Junction Pre-support	0%	5 days	Tue 30/12/25	Mon 5/1/26	-67.8 days
668	SW-VAT-3630	D&B Excavation - Cavern B Top Heading - CHB00 to CHB23 (3.5m/day) (J2, Drained)	0%	7 days	Wed 21/1/26	Thu 29/1/26	-81.8 days
669	SW-VAT-3640	D&B Excavation - Cavern B Top Heading - CHB23 to CHB121.595 (3.5m/2 day cycle)	0%	57 days	Fri 30/1/26	Mon 13/4/26	-51 days
670	SW-VAT-3650	D&B Excavation - Cavern B Bottom Bench - CHB23 to CHB121.595 (25m/3 day cycle)	0%	24 days	Mon 27/4/26	Wed 27/5/26	-51 days
671	SW-VAT-3660	D&B Excavation - Cavern B Bottom Bench - CHB8.057 to CHB23 (25m/3 day cycle) (J2, Drained)	0%	6 days	Wed 27/5/26	Wed 3/6/26	-51 days
672	SW-VAT-3665	Mucking Out	0%	14 days	Wed 3/6/26	Sat 20/6/26	-51 days
673		**Tunnel Works Cavern C (FWSR1) by Drill & Blast Excavation (CH620.61**	**0%**	**105 days**	**Sat 17/1/26**	**Thu 28/5/26**	**-34.8 days**
674	SW-VAT-3820	Junction Pre-support	0%	5 days	Sat 17/1/26	Fri 23/1/26	-29.8 days
675	SW-VAT-3710	D&B Excavation - Cavern C Top Heading - CHC00 to CHC21 (3.5m/2 day cycle) (J2, Drained)	0%	12 days	Thu 29/1/26	Thu 12/2/26	-34.8 days
676	SW-VAT-3720	D&B Excavation - Cavern C Top Heading - CHC21 to CHC85.453 (3.5m/2 day cycle)	0%	37 days	Thu 12/2/26	Mon 30/3/26	-34.8 days
677	SW-VAT-3730	D&B Excavation - Cavern C Bottom Bench - CHC21 to CHC85.453 (20m/3 day cycle)	0%	18 days	Thu 16/4/26	Fri 8/5/26	-34.8 days
678	SW-VAT-3740	D&B Excavation - Cavern C Bottom Bench - CHC6.680 to CHC21 (20m/3 day cycle) (J2, Drained)	0%	6 days	Fri 8/5/26	Fri 15/5/26	-34.8 days
679	SW-VAT-3745	Mucking Out	0%	10 days	Fri 15/5/26	Thu 28/5/26	-34.8 days
680		**Tunnel Works Cavern D (FWSR2) by Drill & Blast Excavation (CH645)**	**0%**	**103 days**	**Wed 21/1/26**	**Fri 29/5/26**	**-48 days**
681	SW-VAT-3830	Junction Pre-support	0%	5 days	Wed 21/1/26	Tue 27/1/26	-45 days
682	SW-VAT-3750	D&B Excavation - Cavern D Top Heading - CHD00 to CHD16 (3.5m/2 day cycle) (J2, Drained)	0%	10 days	Fri 30/1/26	Wed 11/2/26	-48 days
683	SW-VAT-3760	D&B Excavation - Cavern D Top Heading - CHD16 to CHD82.750 (3.5m/2 day cycle)	0%	39 days	Wed 11/2/26	Tue 31/3/26	-48 days
684	SW-VAT-3770	D&B Excavation - Cavern D Bottom Bench - CHD16 to CHD82.750 (20m/3 day cycle)	0%	18 days	Fri 17/4/26	Sat 9/5/26	-48 days
685	SW-VAT-3780	D&B Excavation - Cavern D Bottom Bench - CHD00 to CHD16 (20m/3 day cycle) (J2, Drained)	0%	6 days	Sat 9/5/26	Sat 16/5/26	-48 days
686	SW-VAT-3785	Mucking Out	0%	10 days	Sat 16/5/26	Fri 29/5/26	-48 days
687		**Remaining Works**	**0%**	**493 days**	**Mon 1/9/25**	**Mon 26/4/27**	**-11.4 days**
688	SW-VAT-3000	Manufacture of DfMA for compartment construction	0%	150 days	Mon 1/9/25	Tue 3/3/26	153.6 days
689	SW-VAT-3001	Delivery of DfMA for compartment construction	0%	120 days	Tue 28/10/25	Tue 24/3/26	153.6 days
690	SW-VAT-3010	[CH24-337.15] Construction of drainage layer, base slab, lower part (276m from exc.) 313.15m, PR=12m/wk (157d)	0%	157 days	Fri 19/12/25	Thu 2/7/26	85.6 days
691	SW-VAT-3020	[CH24-337.15] Construction of RC Lining (min 24m from base slab + 2wk erection) 313.15m, PR=2m/d	0%	169 days	Mon 19/1/26	Thu 13/8/26	85.6 days
692	SW-VAT-3030	[CH24-337.15] Construction of compartment RHS (min 24m from Lining), 313.15m, PR=2m/d	0%	157 days	Mon 16/2/26	Thu 27/8/26	85.6 days
693	SW-VAT-3035	[CH24-337.15] Construction of compartment LHS (min 24m from RHS Lining), 313.15m, PR=2m/d	0%	157 days	Thu 12/3/26	Wed 16/9/26	85.6 days
694	SW-VAT-3010	[CH337.15-644.3] Construction of drainage layer, base slab, lower part (after all excavation) 307.15m, PR=12m/wk (154d)	0%	154 days	Wed 3/6/26	Thu 3/12/26	-32.4 days
695	SW-VAT-3020	[CH337.15-644.3] Construction of RC Lining (min 24m from base slab + 2wk erection) 307.153m, PR=2m/d	0%	166 days	Thu 2/7/26	Mon 18/1/27	-32.4 days
696	SW-VAT-3035	[CH337.15-644.3] Construction of compartment RHS (min 24m from Lining), 307.153, PR=2m/d	0%	154 days	Thu 27/8/26	Wed 3/3/27	-32.4 days
697	SW-VAT-3030	[CH337.15-644.3] Construction of compartment LHS (min 24m from Lining), 307.15m, PR=2m/d	0%	154 days	Thu 3/9/26	Wed 10/3/27	-32.4 days
698	SW-VAT-3040	Installation of pipeworks below proposed road level (Total: 3726m) PR=36m/d incl. 1M for Pressure Test (135d)	0%	135 days	Sat 14/11/26	Mon 29/3/27	-15.8 days
699	SW-VAT-3070	Construction of OHVD, 620.3m, PR=12d/50m	0%	135 days	Tue 8/12/26	Thu 22/4/27	-9.8 days
700	SW-VAT-3080	Installation of FS and E&M along VAT	0%	120 days	Mon 9/11/26	Wed 7/4/27	-1.4 days
701	SW-VAT-3090	FS Inspection for VAT	0%	6 days	Wed 7/4/27	Wed 14/4/27	-1.4 days
702	SW-VAT-3060	Installation of CLP power cable along VAT	0%	60 days	Thu 11/2/27	Mon 26/4/27	-32.4 days
703		**Caverns A - Salt Water Service Reservoir No.1 (CH527.03)**	**0%**	**392.4 days**	**Wed 25/2/26**	**Fri 18/6/27**	**-81.8 days**
704	SW-C1-1000	Caverns A - Completion of Tunnel Works	0%	0 days	Fri 17/4/26	Fri 17/4/26	-83 days
705	SW-C1-1010	Caverns A - Construction of Permanent Shotcrete Lining (Top Heading)	0%	12 days	Wed 25/2/26	Wed 11/3/26	-81.8 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

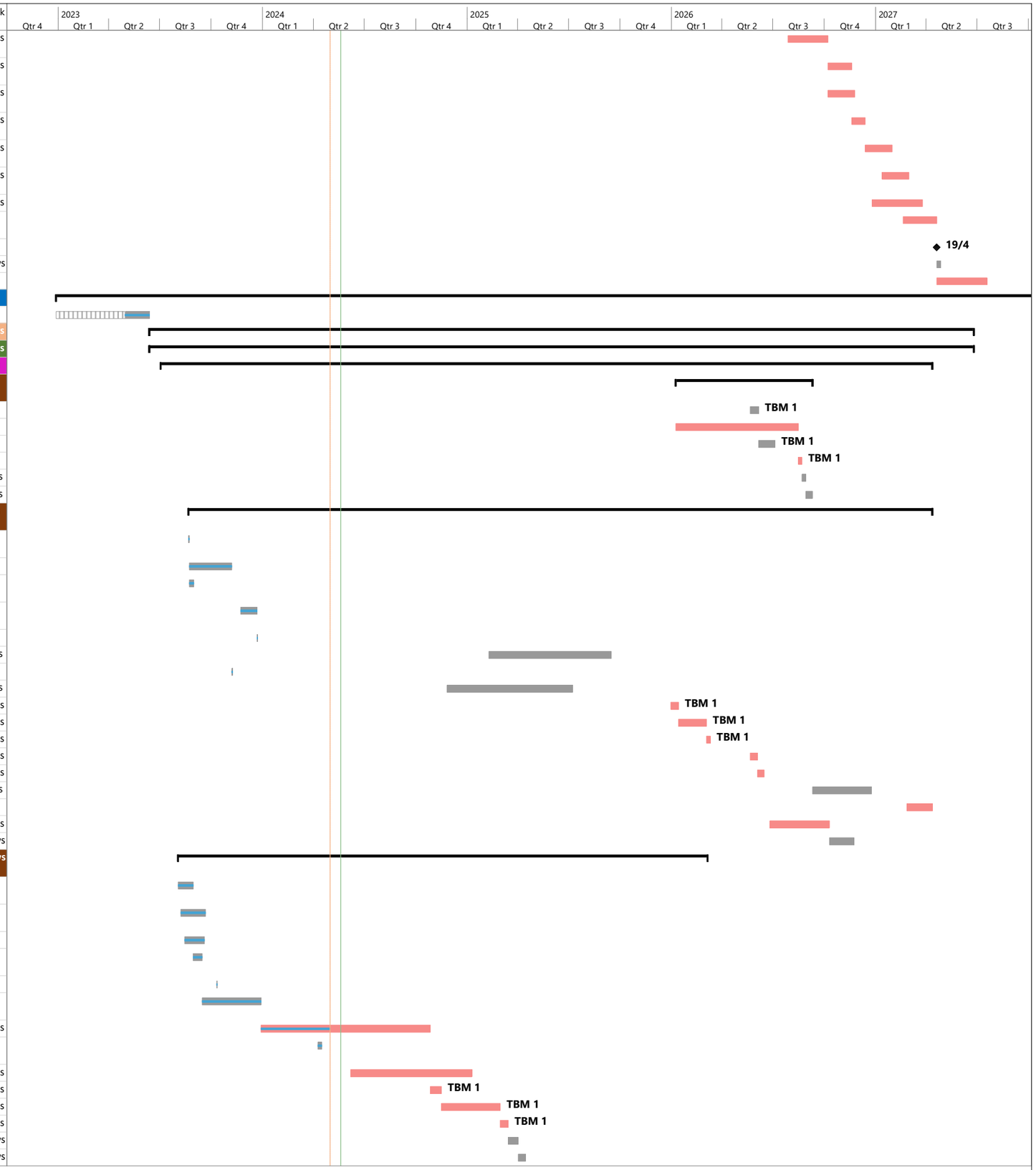
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
706	SW-C1-1011	Caverns A - Construction of Permanent Shotcrete Lining (Bottom Bench)	0%	12 days	Wed 22/4/26	Thu 7/5/26	-81.8 days
707	SW-C1-1020	Caverns A - Construction of Cavern Lining (Total: 5m long, PR=12m/9d + 2wk for erection)	0%	16 days	Thu 7/5/26	Wed 27/5/26	-81.8 days
708	SW-C1-1030	Caverns A - Waterproofing system and protection layer to Wall and Slab	0%	60 days	Wed 27/5/26	Sun 26/7/26	-104 days
709	SW-C1-1040	Caverns A - Construction of Slab 1.6m thk for water tank area (Total: 1939m3, 12bays(11x9), PR= 15d/bay, 3workfronts)	0%	60 days	Sat 13/6/26	Mon 24/8/26	-81.8 days
710	SW-C1-1050	Caverns A - Construction of wall, beam & slab up to 91.35mPD for water ta	0%	48 days	Mon 24/8/26	Wed 21/10/26	-54.8 days
711	SW-C1-1060	Caverns A - Construction of Slab 1.0m thk for pump/plant room area (Total:1200m3, 11bays(12x9), PR=12d/bay, 3 workfront)	0%	44 days	Mon 24/8/26	Thu 15/10/26	-81.8 days
712	SW-C1-1070	Caverns A - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area	0%	24 days	Fri 16/10/26	Sun 8/11/26	-97 days
713	SW-C1-1080	Caverns A - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	48 days	Mon 9/11/26	Sat 26/12/26	-97 days
714	SW-C1-1090	Caverns A - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	48 days	Wed 9/12/26	Mon 25/1/27	-97 days
715	SW-C1-1100	Caverns A - FS, BS, E&M works and ABWF	0%	90 days	Sat 21/11/26	Thu 18/2/27	-97 days
716	SW-C1-1110	Caverns A - Completion of BS and ABWF works and Handover to CLP	0%	0 days	Thu 18/2/27	Thu 18/2/27	-97 days
717	SW-C1-1120	Caverns A - CLP installation works in Transformer Room and Switcboard Rc	0%	60 days	Fri 19/2/27	Mon 19/4/27	-97 days
718	SW-C1-1125	Caverns A - FS Inspection	0%	6 days	Mon 22/3/27	Wed 31/3/27	376.8 days
719	SW-C1-1130	Caverns A - Testing and Commissioning	0%	90 days	Sun 21/3/27	Fri 18/6/27	-67 days
720		**Caverns B - Salt Water Service Reservoir No.2 (CH567.527)**	**0%**	**378.4 days**	**Mon 13/4/26**	**Sun 18/7/27**	**-51 days**
721	SW-C2-1000	Caverns B - Completion of Tunnel Works	0%	0 days	Wed 3/6/26	Wed 3/6/26	-43 days
722	SW-C2-1010	Caverns B - Construction of Permanent Shotcrete Lining (Top Heading)	0%	12 days	Mon 13/4/26	Mon 27/4/26	-51 days
723	SW-C2-1011	Caverns B - Construction of Permanent Shotcrete Lining (Bottom Bench)	0%	12 days	Mon 8/6/26	Mon 22/6/26	-51 days
724	SW-C2-1020	Caverns B - Construction of Cavern Lining (Total: 5m long, PR=12m/9d + 2wk for erection)	0%	16 days	Mon 22/6/26	Sat 11/7/26	-51 days
725	SW-C2-1030	Caverns B - Waterproofing system and protection layer to Wall and Slab	0%	60 days	Sat 11/7/26	Wed 9/9/26	-61.2 days
726	SW-C2-1040	Caverns B - Construction of Slab 1.6m thk for water tank area (Total: 1880m3, 15bays (11x7), PR= 15d/bay, 3workfronts)	0%	60 days	Wed 29/7/26	Thu 8/10/26	-51 days
727	SW-C2-1060	Caverns B - Construction of Slab 1.0m thk for pump/plant room area (Total:597m3, 7bays(11x7.5), PR=12d/bay, 3 workfront)	0%	36 days	Fri 9/10/26	Fri 20/11/26	-51 days
728	SW-C2-1050	Caverns B - Construction of wall, beam & slab up to 91.35mPD for water ta	0%	48 days	Fri 9/10/26	Wed 25/11/26	-32 days
729	SW-C2-1070	Caverns B - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area	0%	24 days	Sat 21/11/26	Mon 14/12/26	-63 days
730	SW-C2-1080	Caverns B - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	48 days	Tue 15/12/26	Sun 31/1/27	-63 days
731	SW-C2-1090	Caverns B - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	48 days	Thu 14/1/27	Tue 2/3/27	-63 days
732	SW-C2-1100	Caverns B - FS, BS, E&M works and ABWF	0%	90 days	Sun 27/12/26	Fri 26/3/27	-63 days
733	SW-C2-1110	Caverns B - Connect power cable from SWSR1 Transformer Room & Switcboard Room to SWSR2	0%	60 days	Fri 19/2/27	Mon 19/4/27	-97 days
734	SW-C2-1120	Caverns B - Energization of SWSR2	0%	0 days	Mon 19/4/27	Mon 19/4/27	-97 days
735	SW-C2-1125	Caverns B - FS Inspection	0%	6 days	Tue 20/4/27	Mon 26/4/27	355.8 days
736	SW-C2-1130	Caverns B - Testing and Commissioning	0%	90 days	Tue 20/4/27	Sun 18/7/27	-97 days
737		**Caverns C - Fresh Water Service Reservoir No.1 (CH620.61)**	**0%**	**387.4 days**	**Mon 30/3/26**	**Sun 18/7/27**	**-34.8 days**
738	SW-C4-1000	Caverns C - Completion of Tunnel Works	0%	0 days	Fri 15/5/26	Fri 15/5/26	-27.8 days
739	SW-C4-1010	Caverns C - Construction of Permanent Shotcrete Lining (Top Heading)	0%	12 days	Mon 30/3/26	Thu 16/4/26	-34.8 days
740	SW-C4-1011	Caverns C - Construction of Permanent Shotcrete Lining (Bottom Bench)	0%	12 days	Fri 15/5/26	Sat 30/5/26	-34.8 days
741	SW-C4-1020	Caverns C - Construction of Cavern Lining (Total: 5m long, PR=12m/9d + 2wk for erection)	0%	16 days	Sat 30/5/26	Thu 18/6/26	-34.8 days
742	SW-C4-1030	Caverns C - Waterproofing system and protection layer to Wall and Slab	0%	50 days	Thu 18/6/26	Fri 7/8/26	-41.8 days
743	SW-C4-1040	Caverns C - Construction of Slab 1.6m thk for water tank area (Total: 2482m3, 15bays (11x9), PR= 15d/bay, 3workfronts)	0%	60 days	Mon 13/7/26	Sat 19/9/26	-34.8 days
744	SW-C4-1060	Caverns C - Construction of Slab 1.0m thk for pump/plant room area (Total:553m3, 6bays (11x9), PR=12d/bay, 3 workfront)	0%	24 days	Mon 21/9/26	Wed 21/10/26	-34.8 days
745	SW-C4-1050	Caverns C - Construction of wall, beam & slab up to 91.35mPD for water ta	0%	48 days	Sun 20/9/26	Fri 6/11/26	25 days
746	SW-C4-1070	Caverns C - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area	0%	24 days	Thu 22/10/26	Sat 14/11/26	-43 days
747	SW-C4-1080	Caverns C - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	48 days	Sun 15/11/26	Fri 1/1/27	-43 days
748	SW-C4-1090	Caverns C - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	48 days	Tue 15/12/26	Sun 31/1/27	-43 days
749	SW-C4-1100	Caverns C - FS, BS, E&M works and ABWF	0%	90 days	Fri 27/11/26	Wed 24/2/27	-43 days
750	SW-C4-1110	Caverns C - Connect power cable from SWSR1 Transformer Room & Switcboard Room to FWSR1	0%	60 days	Fri 19/2/27	Mon 19/4/27	-97 days
751	SW-C4-1120	Caverns C - Energization of FWSR1	0%	0 days	Mon 19/4/27	Mon 19/4/27	-97 days
752	SW-C4-1125	Caverns C - FS Inspection	0%	6 days	Tue 20/4/27	Mon 26/4/27	355.8 days
753	SW-C4-1130	Caverns C - Testing and Commissioning	0%	90 days	Tue 20/4/27	Sun 18/7/27	-97 days
754		**Caverns D - Fresh Water Service Reservoir No.2 (CH645)**	**0%**	**386.4 days**	**Tue 31/3/26**	**Sun 18/7/27**	**-48 days**
755	SW-C5-1000	Caverns D - Completion of Tunnel Works	0%	0 days	Sat 16/5/26	Sat 16/5/26	-46 days
756	SW-C5-1010	Caverns D - Construction of Permanent Shotcrete Lining (Top Heading)	0%	12 days	Tue 31/3/26	Fri 17/4/26	-48 days
757	SW-C5-1011	Caverns D - Construction of Permanent Shotcrete Lining (Bottom Bench)	0%	12 days	Sat 16/5/26	Mon 1/6/26	-48 days
758	SW-C5-1020	Caverns D - Construction of Cavern Lining (Total: 5m long, PR=12m/9d + 2wk for erection)	0%	16 days	Mon 1/6/26	Sat 20/6/26	-48 days
759	SW-C5-1030	Caverns D - Waterproofing system and protection layer to Wall and Slab	0%	50 days	Sat 20/6/26	Sun 9/8/26	-59 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

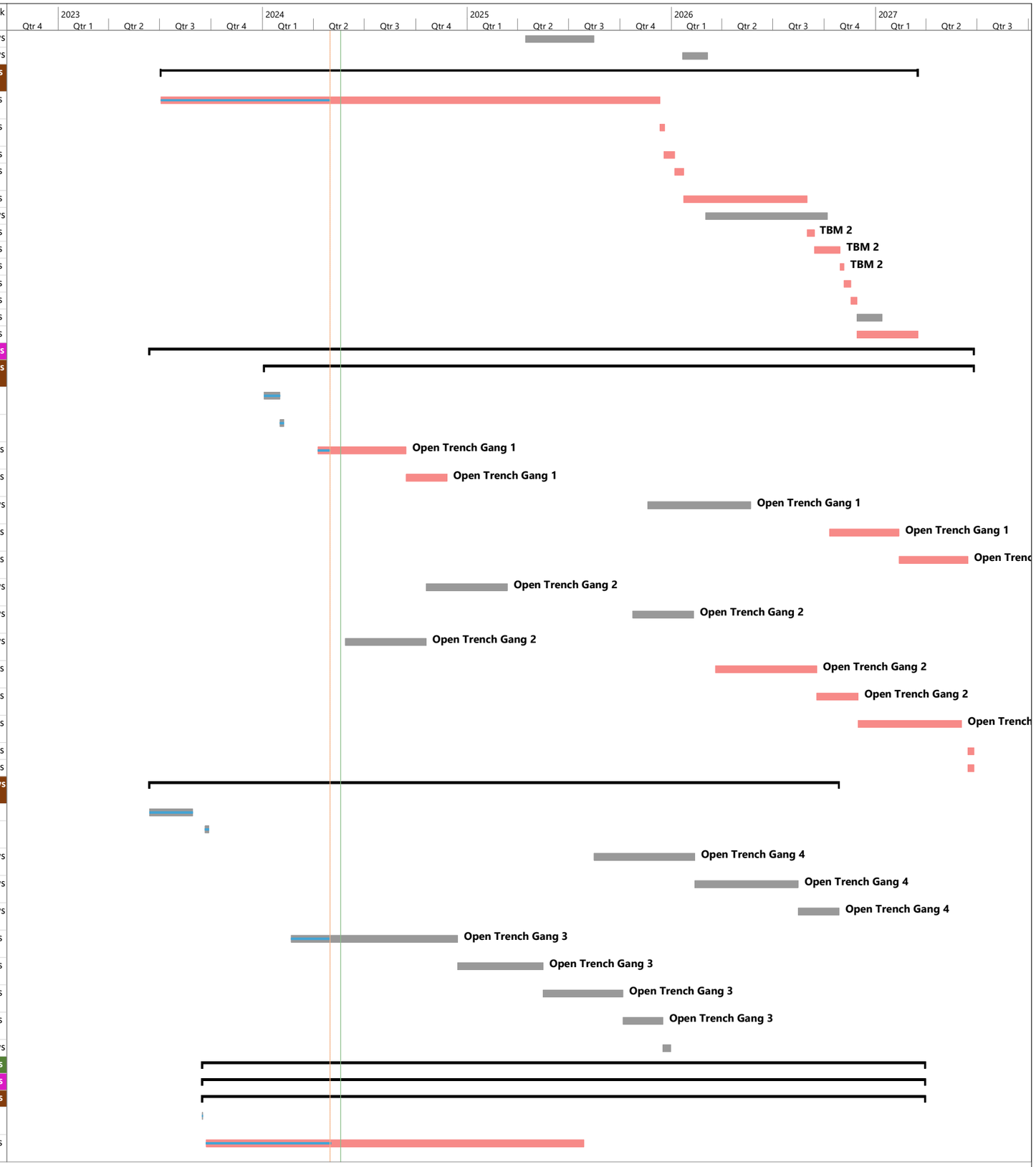
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
760	SW-C5-1040	Caverns D - Construction of Slab 1.6m thk for water tank area (Total: 1961m3, 12bays (11x9), PR= 15d/bay, 3workfronts)	0%	60 days	Tue 28/7/26	Wed 7/10/26	-49.2 days
761	SW-C5-1060	Caverns D - Construction of Slab 1.0m thk for pump/plant room area (Total:986m3, 9bays (11x9), PR=12d/bay, 3 workfront)	0%	36 days	Wed 7/10/26	Thu 19/11/26	-49.2 days
762	SW-C5-1050	Caverns D - Construction of wall, beam & slab up to 91.35mPD for water tank area	0%	48 days	Wed 7/10/26	Tue 24/11/26	-30.2 days
763	SW-C5-1070	Caverns D - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area	0%	24 days	Thu 19/11/26	Sun 13/12/26	-61.2 days
764	SW-C5-1080	Caverns D - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	48 days	Sun 13/12/26	Sat 30/1/27	-61.2 days
765	SW-C5-1090	Caverns D - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	48 days	Tue 12/1/27	Mon 1/3/27	-61.2 days
766	SW-C5-1100	Caverns D - FS, BS, E&M works and ABWF	0%	90 days	Fri 25/12/26	Thu 25/3/27	-61.2 days
767	SW-C5-1110	Caverns D - Connect power cable from SWSR1 Transformer Room & Switchboard Room to FWSR2	0%	60 days	Fri 19/2/27	Mon 19/4/27	-97 days
768	SW-C5-1120	Caverns D - Energization of FWSR2	0%	0 days	Mon 19/4/27	Mon 19/4/27	-97 days
769	SW-C5-1125	Caverns D - FS Inspection	0%	6 days	Tue 20/4/27	Mon 26/4/27	355.8 days
770	SW-C5-1130	Caverns D - Testing and Commissioning	0%	90 days	Tue 20/4/27	Sun 18/7/27	-97 days
771		**Revised Watermain Works @ Portion 5**	**14%**	**1648 days**	**Wed 28/12/22**	**Tue 4/7/28**	**0 days**
772	A1070	XP Application	100%	167 days	Wed 28/12/22	Mon 12/6/23	0 days
773		**Alignment A**	**15%**	**1208.8 days**	**Tue 13/6/23**	**Fri 25/6/27**	**-61.6 days**
774		**Alignment A - Chuk Yuen Road**	**15%**	**1208.8 days**	**Tue 13/6/23**	**Fri 25/6/27**	**-61.6 days**
775		**Alignment A - Chuk Yuen Road - Trenchless**	**20%**	**1131.8 days**	**Mon 3/7/23**	**Mon 12/4/27**	**0.4 days**
776		**Alignment A - Chuk Yuen Road - Trenchless A1 (CHA70 Pit 2 to CHA0) - 7th Drive**	**0%**	**201 days**	**Thu 8/1/26**	**Wed 9/9/26**	**0 days**
777	SW-JPA-1080	Plant mobilization and set-up at Launching pit 2 (CHA70)	0%	12 days	Thu 21/5/26	Fri 5/6/26	36 days
778	SW-JPA-1085	Construction of Receiving Pit 0 at PAB	0%	180 days	Thu 8/1/26	Sat 15/8/26	0 days
779	SW-JPA-1090	Excavation (70m) by Pipe Jacking method, PR=3m/d (7th drive)	0%	24 days	Fri 5/6/26	Sat 4/7/26	36 days
780	SW-JPA-1110	Plant demobilisation	0%	6 days	Sun 16/8/26	Fri 21/8/26	0.4 days
781	SW-JPA-1120	Pipe Installation (70m x 3nos.) (12m/d for pipe)	0%	6 days	Sat 22/8/26	Fri 28/8/26	48.4 days
782	SW-JPA-5200	Pressure Test (70m x 3nos.) Trenchless A1	0%	10 days	Sat 29/8/26	Wed 9/9/26	48.4 days
783		**Alignment A - Chuk Yuen Road - Trenchless A2 (CHA70 Pit 2 to CHA190 Pit 3) - 5th Drive**	**12%**	**1088.8 days**	**Tue 22/8/23**	**Mon 12/4/27**	**0.4 days**
784	SW-JPA-2000	TTA implementation at CHA190, site clearance, road modification and site setup	100%	1 day	Tue 22/8/23	Tue 22/8/23	0 days
785	SW-JPA-5290	UU Detection, Trial Pit at CHA190	100%	62 days	Wed 23/8/23	Mon 6/11/23	0 days
786	SW-JPA-2040	Installation of instrumentation and monitoring device and condition survey	100%	7 days	Wed 23/8/23	Wed 30/8/23	0 days
787	SW-JPA-2045	TTA implementation at CH70, site clearance, road modification and site setup and UU Detection	100%	25 days	Wed 22/11/23	Thu 21/12/23	0 days
788	SW-JPA-2046	Trial sheet piling work to verify the obstruction by boulders at F	100%	1 day	Thu 21/12/23	Fri 22/12/23	0 days
789	SW-JPA-2050	Construction of launching pit 2 (CHA70) (Common pit with B2)	0%	180 days	Sat 8/2/25	Mon 15/9/25	18.4 days
790	SW-JPA-2051	Trial sheet piling work to verify the obstruction by boulders at F	100%	1 day	Tue 7/11/23	Tue 7/11/23	0 days
791	SW-JPA-2060	Construction of receiving pit 3 (CHA190) (Common pit with B2)	0%	180 days	Mon 25/11/24	Mon 7/7/25	18.4 days
792	SW-JPA-2080	Plant mobilization and set-up at Launching pit 2 (CHA70)	0%	12 days	Tue 30/12/25	Tue 13/1/26	-68.6 days
793	SW-JPA-2090	Excavation (120m) by Pipe Jacking method, PR=3m/d (5th drive	0%	40 days	Tue 13/1/26	Wed 4/3/26	-68.6 days
794	SW-JPA-2110	Plant demobilization	0%	6 days	Wed 4/3/26	Wed 11/3/26	-68.6 days
795	SW-JPA-2120	Pipe Installation (120m x 3nos.; 12m/d for pipe)	0%	10 days	Thu 21/5/26	Wed 3/6/26	-59.6 days
796	SW-JPA-5240	Pressure Test (120m) Trenchless A2	0%	10 days	Wed 3/6/26	Mon 15/6/26	-59.6 days
797	SW-JPA-5210	Construction of Valve Chamber 2 (CHA70) - Alignment A	0%	89 days	Thu 10/9/26	Thu 24/12/26	48.4 days
798	SW-JPA-2130	Reinstatement of Jacking Pit (CHA70)	0%	36 days	Thu 25/2/27	Mon 12/4/27	0.4 days
799	SW-JPA-5230	Construction of Valve Chamber 3 (CHA190) after Trenchless B2	0%	89 days	Fri 26/6/26	Sat 10/10/26	-68.6 days
800	SW-JPA-1130	Reinstatement of Receiving Pit (CHA190) after Trenchless B2	0%	36 days	Sat 10/10/26	Mon 23/11/26	112.4 days
801		**Alignment A - Chuk Yuen Road - Trenchless A3 (CHA610 Pit 6 to CHA780 Pit 8) - 1st Drive**	**33%**	**777 days**	**Thu 3/8/23**	**Fri 6/3/26**	**328.2 days**
802	SW-JPB-4000	TTA implementation at CHA610, site clearance, road modification and site setup	100%	23 days	Thu 3/8/23	Tue 29/8/23	0 days
803	SW-CCEN-206	Delay due to KMB Company's requirement on bus shelter removal (EWN-0010)	100%	38 days	Tue 8/8/23	Wed 20/9/23	0 days
804	SW-JPA-5330	UU Detection, Trial Pit	100%	30 days	Tue 15/8/23	Mon 18/9/23	0 days
805	SW-JPB-4040	Installation of instrumentation and monitoring device and condition survey	100%	14 days	Wed 30/8/23	Thu 14/9/23	0 days
806	SW-JPB-4041	Trial sheet piling work to verify the obstruction by boulders at F	100%	1 day	Wed 11/10/23	Wed 11/10/23	0 days
807	SW-CCEN-207	Delay due to encountering boulder (unable to drive sheetpile, design amendment to suit)	100%	85 days	Fri 15/9/23	Thu 28/12/23	0 days
808	SW-JPB-4060	Construction of launching pit 6 (CHA610)	40%	248 days	Fri 29/12/23	Sat 26/10/24	-60.8 days
809	SW-JPA-3040	TTA implementation at CHA780 (Pit 8), site clearance, road modification and site setup	100%	6 days	Tue 9/4/24	Mon 15/4/24	0 days
810	SW-JPA-3050	Construction of receiving pit 8 (CHA780)	0%	180 days	Thu 6/6/24	Thu 9/1/25	-19.5 days
811	SW-JPA-3080	Plant mobilization and set-up at Launching pit 6 (CHA610)	0%	18 days	Sat 26/10/24	Fri 15/11/24	-60.8 days
812	SW-JPA-3090	Excavation (170m) by Pipe Jacking method, PR=2m/d (1st drive	0%	85 days	Fri 15/11/24	Fri 28/2/25	-60.8 days
813	SW-JPA-3110	Plant demobilization	0%	12 days	Sat 1/3/25	Fri 14/3/25	-60.8 days
814	SW-JPA-3120	Pipe Installation (170m x 3nos.) (12m/d for pipe)	0%	15 days	Sat 15/3/25	Tue 1/4/25	135.2 days
815	SW-JPA-5220	Pressure Test (170m x 3nos.) Trenchless A3	0%	10 days	Wed 2/4/25	Mon 14/4/25	135.2 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task, Split, Milestone, Summary, Project Summary, Inactive Task, Inactive Milestone, Inactive Summary, Manual Task, Duration-only, Manual Summary Rollup, Manual Summary, Start-only, Finish-only, External Tasks, External Milestone, Deadline, Critical, Critical Split, Progress, Manual Progress

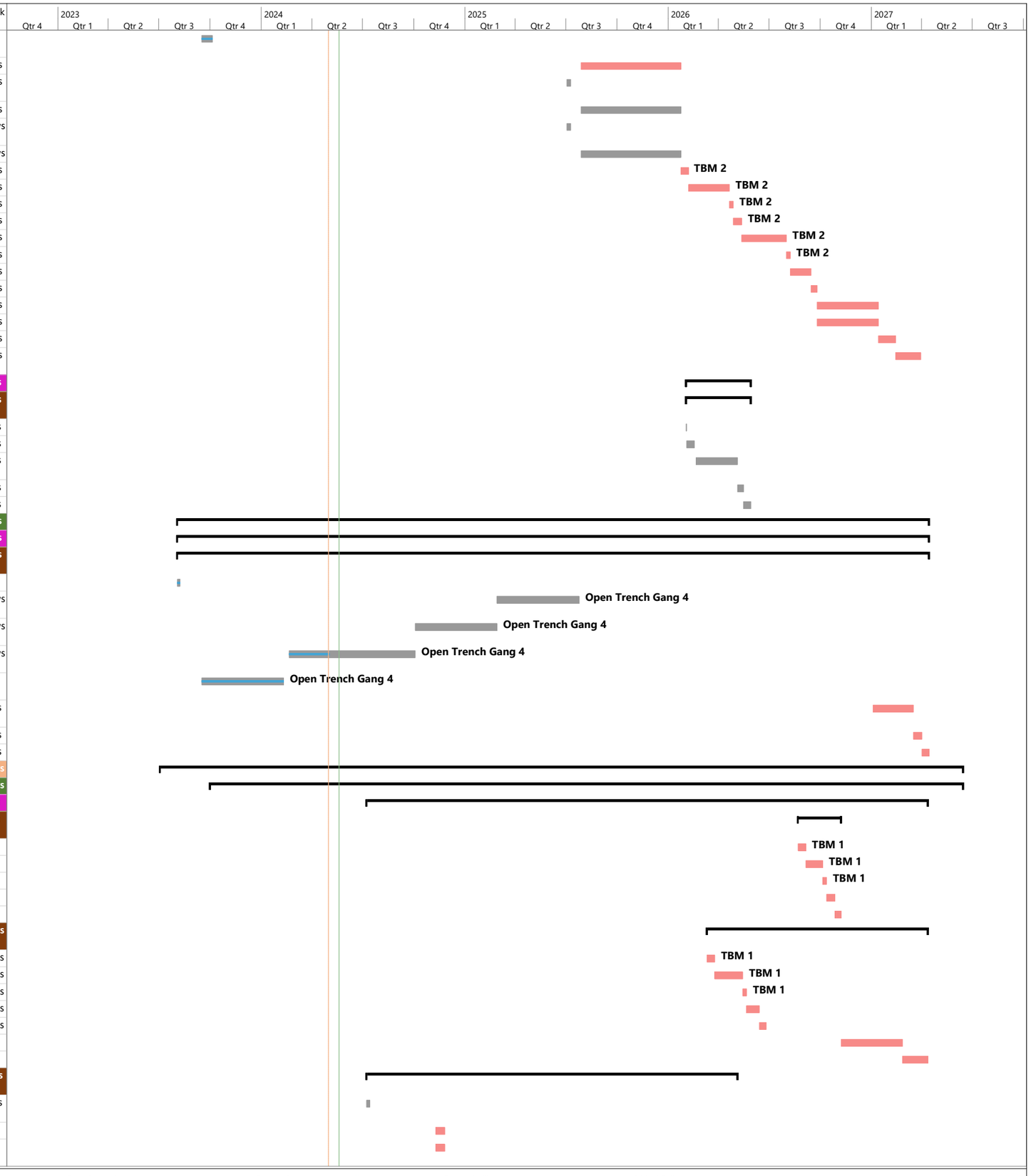
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
816	SW-JPA-5230	Construction of Valve Chamber 8 (CHA780)	0%	100 days	Tue 15/4/25	Fri 15/8/25	135.2 days
817	SW-JPA-3130	Reinstatement of Receiving Pit (CHA780)	0%	36 days	Tue 20/1/26	Fri 6/3/26	328.2 days
818		**Alignment A - Chuk Yuen Road - Trenchless A4 (CHA1080 Pit 10 to CHA1190 Pit 11) - 9th Drive**	**19%**	**1114 days**	**Mon 3/7/23**	**Wed 17/3/27**	**18.2 days**
819		Time allowed for CLP cable diversion at Chuk Yuen Road / Shatin Pass Road	34%	736 days	Mon 3/7/23	Thu 11/12/25	11.2 days
820	SW-JPA-4000	TTA implementation at CHA1080, site clearance, road modification and site setup	0%	7 days	Thu 11/12/25	Fri 19/12/25	11.2 days
821	SW-JPA-5300	UU Detection, Trial Pit	0%	14 days	Thu 18/12/25	Tue 6/1/26	11.2 days
822	SW-JPA-4040	Installation of instrumentation and monitoring device and condition survey	0%	14 days	Tue 6/1/26	Thu 22/1/26	11.2 days
823	SW-JPA-4060	Construction of launching pit 10 (CHA1080)	0%	180 days	Thu 22/1/26	Mon 31/8/26	11.2 days
824	SW-JPA-4070	Construction of receiving pit 11 (CHA1190)	0%	180 days	Mon 2/3/26	Tue 6/10/26	152.2 days
825	SW-JPA-4080	Plant mobilization and set-up at launching pit	0%	12 days	Mon 31/8/26	Sun 13/9/26	11.2 days
826	SW-JPA-4090	Excavation (110m) by Pipe Jacking method, PR=3m/d (9th drive	0%	37 days	Sun 13/9/26	Thu 29/10/26	11.2 days
827	SW-JPA-4110	Plant demobilization	0%	6 days	Thu 29/10/26	Thu 5/11/26	11.2 days
828	SW-JPA-4120	Pipe Installation (110m x 3nos.; 12m/d for pipe)	0%	10 days	Thu 5/11/26	Tue 17/11/26	11.2 days
829	SW-JPA-5260	Pressure Test (110m x 3nos.) Trenchless A4	0%	10 days	Tue 17/11/26	Sat 28/11/26	11.2 days
830	SW-JPA-5130	Reinstatement of Receiving Pit (CHA1190)	0%	36 days	Sat 28/11/26	Tue 12/1/27	71.2 days
831	SW-JPA-5270	Construction of Valve Chamber 11 (CHA1080)	0%	89 days	Sat 28/11/26	Wed 17/3/27	11.2 days
832		**Alignment A - Chuk Yuen Road - Open Trench**	**8%**	**1208.8 days**	**Tue 13/6/23**	**Fri 25/6/27**	**-61.6 days**
833		**Alignment A - Chuk Yuen Road - Open Trench between A2 and A3 (CHA200 to CHA610)**	**4%**	**1040.8 days**	**Thu 4/1/24**	**Fri 25/6/27**	**-61.6 days**
834	21.PRW.PO5.	Coordination with SLG, ULG, Stakeholders and Obtain Approval	100%	24 days	Thu 4/1/24	Wed 31/1/24	0 days
835	SW-OTA-2000	TTA implementation, site clearance, road modification and site setup	100%	6 days	Thu 1/2/24	Wed 7/2/24	0 days
836	SW-OTA-2190	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CHA190 to CHA230	14%	133 days	Tue 9/4/24	Fri 13/9/24	-68.6 days
837	SW-OTA-2180	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (20m long)~CHA230 to CHA250	0%	60 days	Fri 13/9/24	Mon 25/11/24	-68.6 days
838	SW-OTA-2170	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (50m long)~CHA250 to CHA300	0%	150 days	Wed 19/11/25	Fri 22/5/26	265.4 days
839	SW-OTA-2160	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CHA300 to CHA340	0%	100 days	Sat 10/10/26	Thu 11/2/27	-68.6 days
840	SW-OTA-2150	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CHA340 to CHA380	0%	100 days	Thu 11/2/27	Mon 14/6/27	-68.6 days
841	SW-OTA-2140	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CHA380 to CHA420	0%	120 days	Sat 19/10/24	Thu 13/3/25	621.6 days
842	SW-OTA-2145	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (30m long)~CHA420 to CHA450	0%	90 days	Thu 23/10/25	Mon 9/2/26	347.4 days
843	SW-OTA-2130	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CHA450 to CHA490	0%	120 days	Tue 28/5/24	Sat 19/10/24	621.6 days
844	SW-OTA-2120	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (50m long)~CHA490 to CHA540	0%	150 days	Fri 20/3/26	Thu 17/9/26	-60.6 days
845	SW-OTA-2110	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (20m long)~CHA540 to CHA560	0%	60 days	Thu 17/9/26	Mon 30/11/26	-60.6 days
846	SW-OTA-2100	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (50m long)~CHA560 to CHA610	0%	150 days	Mon 30/11/26	Thu 3/6/27	-60.6 days
847	SW-OTA-6200	Pressure Test (400m) Open Trench A2 to A3	0%	10 days	Mon 14/6/27	Fri 25/6/27	-68.6 days
848	SW-OTA-6300	Pressure Test (300m) Open Trench A3 to A4	0%	10 days	Mon 14/6/27	Fri 25/6/27	-68.6 days
849		**Alignment A - Chuk Yuen Road - Open Trench between A3 and A4 (CHA780 to CHA1060)**	**13%**	**1012 days**	**Tue 13/6/23**	**Tue 27/10/26**	**135.2 days**
850	21.PRW.PO5.	Coordination with SLG, ULG, Stakeholders and Obtain Approval	100%	64 days	Tue 13/6/23	Mon 28/8/23	0 days
851	SW-OTA-1020	TTA implementation, site clearance, road modification and site setup	100%	6 days	Wed 20/9/23	Tue 26/9/23	0 days
852	SW-OTA-3080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (50m long)~CHA780 to CHA830	0%	150 days	Fri 15/8/25	Wed 11/2/26	135.2 days
853	SW-OTA-3070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (50m long)~CHA830 to CHA880	0%	150 days	Wed 11/2/26	Sat 15/8/26	135.2 days
854	SW-OTA-3060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (20m long)~CHA880 to CHA900	0%	60 days	Sat 15/8/26	Tue 27/10/26	135.2 days
855	SW-OTA-3050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (80m long)~CH900 to CH980	23%	248 days	Wed 21/2/24	Sat 14/12/24	41.2 days
856	SW-OTA-3030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CH980 to CH1020	0%	120 days	Sat 14/12/24	Fri 16/5/25	41.2 days
857	SW-OTA-3020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CH1020 to CH1060	0%	120 days	Fri 16/5/25	Mon 6/10/25	41.2 days
858	SW-OTA-3010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (20m long)~CH1060 to CH1080	0%	60 days	Mon 6/10/25	Tue 16/12/25	41.2 days
859	SW-OTA-3000	Pressure Test (180m) Open Trench A3 to A4	0%	10 days	Tue 16/12/25	Tue 30/12/25	375.2 days
860		**Alignment A - Shatin Pass Road**	**12%**	**1057.8 days**	**Fri 15/9/23**	**Tue 30/3/27**	**10.4 days**
861		**Alignment A - Shatin Pass Road - Trenchless**	**13%**	**1057.8 days**	**Fri 15/9/23**	**Tue 30/3/27**	**10.4 days**
862		**Alignment A - Shatin Pass Road - Trenchless C1 (CH1210 to CH16**	**13%**	**1057.8 days**	**Fri 15/9/23**	**Tue 30/3/27**	**10.4 days**
863	SW-JPA-5000	TTA implementation at CH1210, site clearance, road modification and site setup	100%	1 day	Fri 15/9/23	Fri 15/9/23	0 days
864	SW-JPA-5310	Maximum allowed time for CLP's Cable diversion at junction of Shatin Pass Road / Chuk Yuen Road	32%	550.8 days	Fri 22/9/23	Mon 28/7/25	10.4 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task · Split · Milestone · Summary · Project Summary · Inactive Task · Inactive Milestone · Inactive Summary · Manual Task · Duration-only · Manual Summary Rollup · Manual Summary · Start-only · Finish-only · External Tasks · External Milestone · Deadline · Critical · Critical Split · Progress · Manual Progress

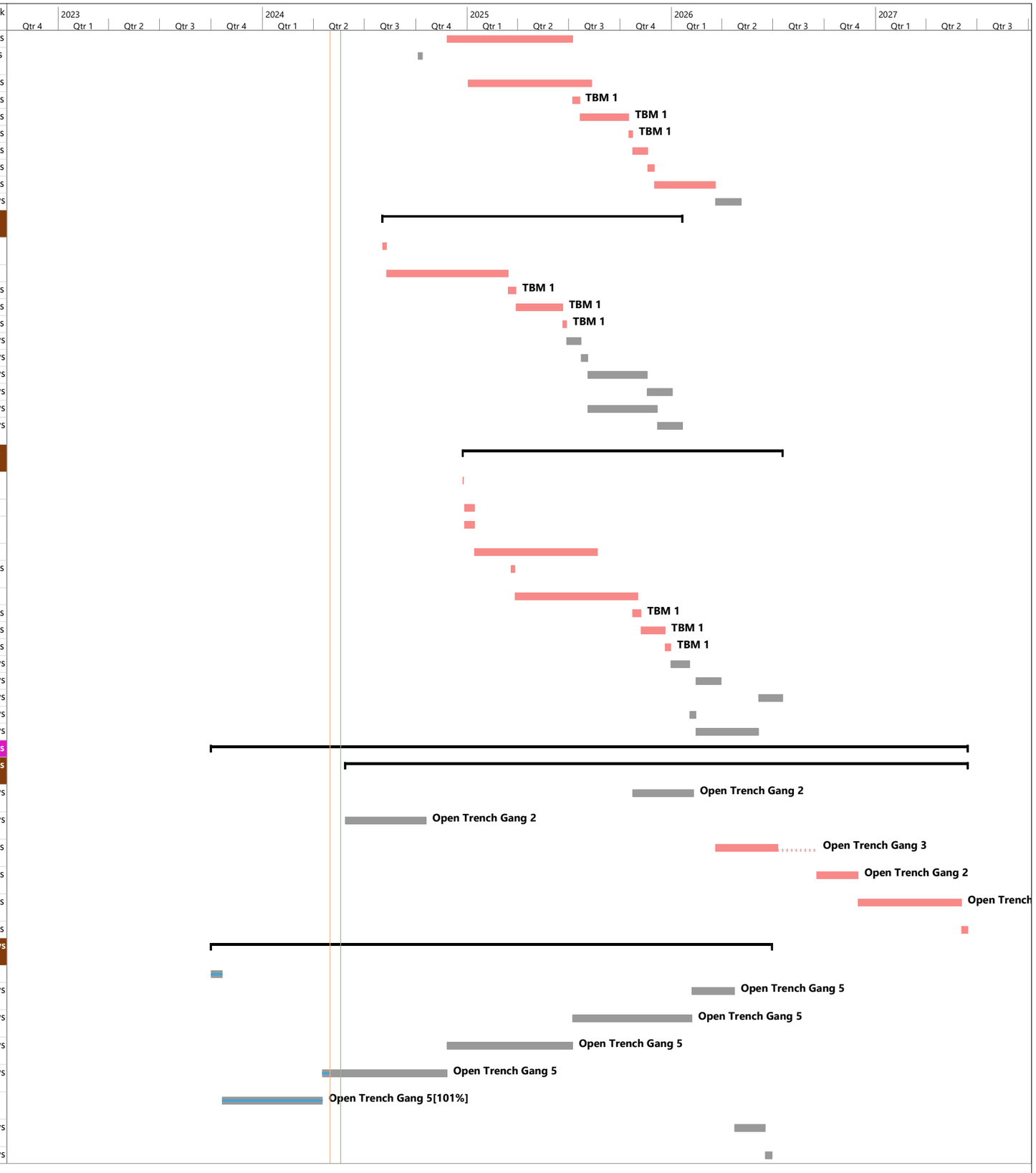
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
865	SW-JPA-5040	Installation of instrumentation and monitoring device and condition survey	100%	14 days	Sat 16/9/23	Wed 4/10/23	0 days
866	SW-JPA-5050	Construction of launching pit (CHB1210)	0%	150 days	Mon 28/7/25	Fri 23/1/26	10.4 days
867	SW-JPA-5055	TTA implementation at CH1390, site clearance, road modification and site setup	0%	6 days	Thu 3/7/25	Wed 9/7/25	95.4 days
868	SW-JPA-5060	Construction of intermediate pit (CHB1390)	0%	150 days	Mon 28/7/25	Fri 23/1/26	79.4 days
869	SW-JPA-5065	TTA implementation at CH1600, site clearance, road modification and site setup	0%	6 days	Thu 3/7/25	Wed 9/7/25	180.4 days
870	SW-JPA-5070	Construction of receiving pit (CHB1600)	0%	150 days	Mon 28/7/25	Fri 23/1/26	164.4 days
871	SW-JPA-5080	Plant mobilization and set-up at Launching pit (CH1210) (TBM 2	0%	12 days	Fri 23/1/26	Fri 6/2/26	10.4 days
872	SW-JPA-5090	Excavation (170m) by Pipe Jacking method 1st Section, PR=3m/	0%	57 days	Fri 6/2/26	Mon 20/4/26	10.4 days
873	SW-JPA-5110	Plant demobilization	0%	6 days	Mon 20/4/26	Mon 27/4/26	10.4 days
874	SW-JPA-5115	Plant mobilization and set-up at Intermediate pit (CH1390)	0%	12 days	Mon 27/4/26	Tue 12/5/26	10.4 days
875	SW-JPA-5135	Excavation (200m) by Pipe Jacking method 2nd Section, PR=3m	0%	67 days	Tue 12/5/26	Fri 31/7/26	10.4 days
876	SW-JPA-5110	Plant demobilization	0%	6 days	Sat 1/8/26	Fri 7/8/26	10.4 days
877	SW-JPA-5120	Pipe Installation (380m x 2nos.; 12m/d for pipe)	0%	32 days	Sat 8/8/26	Mon 14/9/26	10.4 days
878	SW-JPA-5250	Pressure Test (380m) Trenchless C1	0%	10 days	Mon 14/9/26	Fri 25/9/26	10.4 days
879	SW-JPA-5280	Construction of Valve Chamber (CH1210)	0%	89 days	Fri 25/9/26	Wed 13/1/27	10.4 days
880	SW-JPA-5285	Construction of Valve Chamber (CH1600)	0%	89 days	Fri 25/9/26	Wed 13/1/27	10.4 days
881	SW-JPA-5360	Connection Works	0%	24 days	Wed 13/1/27	Sat 13/2/27	10.4 days
882	SW-JPA-5190	Reinstatement of Launching Pit (CH1210), intermediate pit (CH1390) and receiving pit (CH1600)	0%	36 days	Sat 13/2/27	Tue 30/3/27	10.4 days
883		**Alignment A - Shatin Pass Road - Open Trench**	**0%**	**93 days**	**Mon 2/2/26**	**Fri 29/5/26**	**261 days**
884		**Alignment A - Shatin Pass Road - Open Trench A4 to C1 (CH1190 to CH1210) to CP**	**0%**	**93 days**	**Mon 2/2/26**	**Fri 29/5/26**	**261 days**
885	21.PRW.PO5.	Implementation of TTA	0%	1 day	Mon 2/2/26	Mon 2/2/26	261 days
886	SW-OTA-100(	Trial Pit works at CH1190 and CH1210	0%	12 days	Tue 3/2/26	Mon 16/2/26	261 days
887	SW-OTA-500(	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (20m long)~CH1190 to CH1210	0%	60 days	Fri 20/2/26	Tue 5/5/26	261 days
888	SW-OTA-617(	Pressure Test (20m) Open Trench A4 to C1	0%	10 days	Tue 5/5/26	Sat 16/5/26	261 days
889	SW-OTA-618(	Backfilling & Road Reinstatement A4 to C1	0%	10 days	Sat 16/5/26	Fri 29/5/26	261 days
890		**Alignment A - Tsz Wan Shan Road**	**29%**	**1106.4 days**	**Thu 3/8/23**	**Wed 14/4/27**	**-1.2 days**
891		**Alignment A - Tsz Wan Shan Road - Open Trench**	**29%**	**1106.4 days**	**Thu 3/8/23**	**Wed 14/4/27**	**-1.2 days**
892		**Alignment A - Tsz Wan Shan Road - Open Trench C1 to CP (CH1610 to CH1800)**	**29%**	**1106.4 days**	**Thu 3/8/23**	**Wed 14/4/27**	**-1.2 days**
893	21.PRW.PO5.	Coordinate with SLG, ULG, Stakeholders and Obtain Approval	100%	4 days	Thu 3/8/23	Mon 7/8/23	0 days
894	SW-OTA-608(	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CH1610 to CH1650	0%	120 days	Thu 27/2/25	Thu 24/7/25	434.2 days
895	SW-OTA-607(	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CH1650 to CH1690	0%	120 days	Thu 3/10/24	Wed 26/2/25	434.2 days
896	SW-OTA-606(	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (68m long)~CH1690 to CH1758	31%	187 days	Tue 20/2/24	Thu 3/10/24	434.2 days
897	SW-OTA-605(	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (24m long)~CH1758 to CH1782	100%	120 days	Fri 15/9/23	Fri 9/2/24	0 days
898	SW-OTA-609(	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (18m long)~CH1782 to CH1800 & CP	0%	60 days	Mon 4/1/27	Wed 17/3/27	-1.2 days
899	SW-OTA-617(	Pressure Test (190m) Open Trench C1 to CP	0%	10 days	Wed 17/3/27	Thu 1/4/27	-1.2 days
900	SW-OTA-618(	Backfilling & Road Reinstatement C1 to CP	0%	10 days	Thu 1/4/27	Wed 14/4/27	-1.2 days
901		**Alignment B**	**12%**	**1183.8 days**	**Mon 3/7/23**	**Mon 14/6/27**	**-51.6 days**
902		**Alignment B - Chuk Yuen Road**	**5%**	**1106.8 days**	**Sun 1/10/23**	**Mon 14/6/27**	**-51.6 days**
903		**Alignment B - Chuk Yuen Road - Trenchless**	**0%**	**828.2 days**	**Mon 8/7/24**	**Mon 12/4/27**	**0.4 days**
904		**Alignment B - Chuk Yuen Road - Trenchless B1 (CHB70 Pit 2 to CHB0) - 8th Drive**	**0%**	**64 days**	**Sat 22/8/26**	**Sat 7/11/26**	**0.4 days**
905	SW-JPB-1080	Plant mobilization and set-up at Launching pit 2 (CHB70)	0%	12 days	Sat 22/8/26	Fri 4/9/26	0.4 days
906	SW-JPB-1090	Excavation (70m) by Pipe Jacking method, PR=3m/d (8th drive)	0%	24 days	Sat 5/9/26	Mon 5/10/26	0.4 days
907	SW-JPB-1110	Plant demobilization	0%	6 days	Mon 5/10/26	Mon 12/10/26	0.4 days
908	SW-JPB-1120	Pipe Installation (70m) (6m/d for pipe)	0%	12 days	Mon 12/10/26	Tue 27/10/26	0.4 days
909	SW-JPB-6160	Pressure Test (80m) Trenchless B1	0%	10 days	Tue 27/10/26	Sat 7/11/26	0.4 days
910		**Alignment B - Chuk Yuen Road - Trenchless B2 (CHB70 Pit 2 to CHB190 Pit 3) - 6th Drive**	**0%**	**324 days**	**Wed 11/3/26**	**Mon 12/4/27**	**-68.6 days**
911	SW-JPB-2080	Plant mobilization and set-up at Launching pit 2 (CHB70)	0%	12 days	Wed 11/3/26	Wed 25/3/26	-68.6 days
912	SW-JPB-2090	Excavation (120m) by Pipe Jacking method, PR=3m/d (6th drive	0%	40 days	Wed 25/3/26	Thu 14/5/26	-68.6 days
913	SW-JPB-2110	Plant demobilization	0%	6 days	Thu 14/5/26	Thu 21/5/26	-68.6 days
914	SW-JPB-2120	Pipe Installation (110m; 6m/d for pipe)	0%	19 days	Thu 21/5/26	Sat 13/6/26	-68.6 days
915	SW-JPB-2130	Pressure Test (110m) Trenchless B2	0%	10 days	Sat 13/6/26	Thu 25/6/26	-68.6 days
916	SW-JPB-6170	Construction of Valve Chamber 2A (CH70) Alignment B	0%	89 days	Sat 7/11/26	Thu 25/2/27	0.4 days
917	SW-JPB-1130	Reinstatement of Receiving Pit (CH190)	0%	36 days	Thu 25/2/27	Mon 12/4/27	0.4 days
918		**Alignment B - Chuk Yuen Road - Trenchless B3 (CHB190 Pit 3 to CHB420 Pit 5) - 3rd Drive**	**0%**	**548.2 days**	**Mon 8/7/24**	**Tue 5/5/26**	**50.6 days**
919	SW-JPB-3000	TTA implementation at CH190, site clearance, road modification and site setup	0%	6 days	Mon 8/7/24	Sat 13/7/24	92.2 days
920	SW-JPA-5320	UU Detection, Trial Pit	0%	14 days	Sat 9/11/24	Mon 25/11/24	0 days
921	SW-JPB-3040	Installation of instrumentation and monitoring device and condition survey	0%	14 days	Sat 9/11/24	Mon 25/11/24	0 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task | Summary | Inactive Milestone | Duration-only | Start-only | External Milestone | Critical Split
Split | Project Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Deadline | Progress
Milestone | Inactive Task | Manual Task | Manual Summary | External Tasks | Critical | Manual Progress

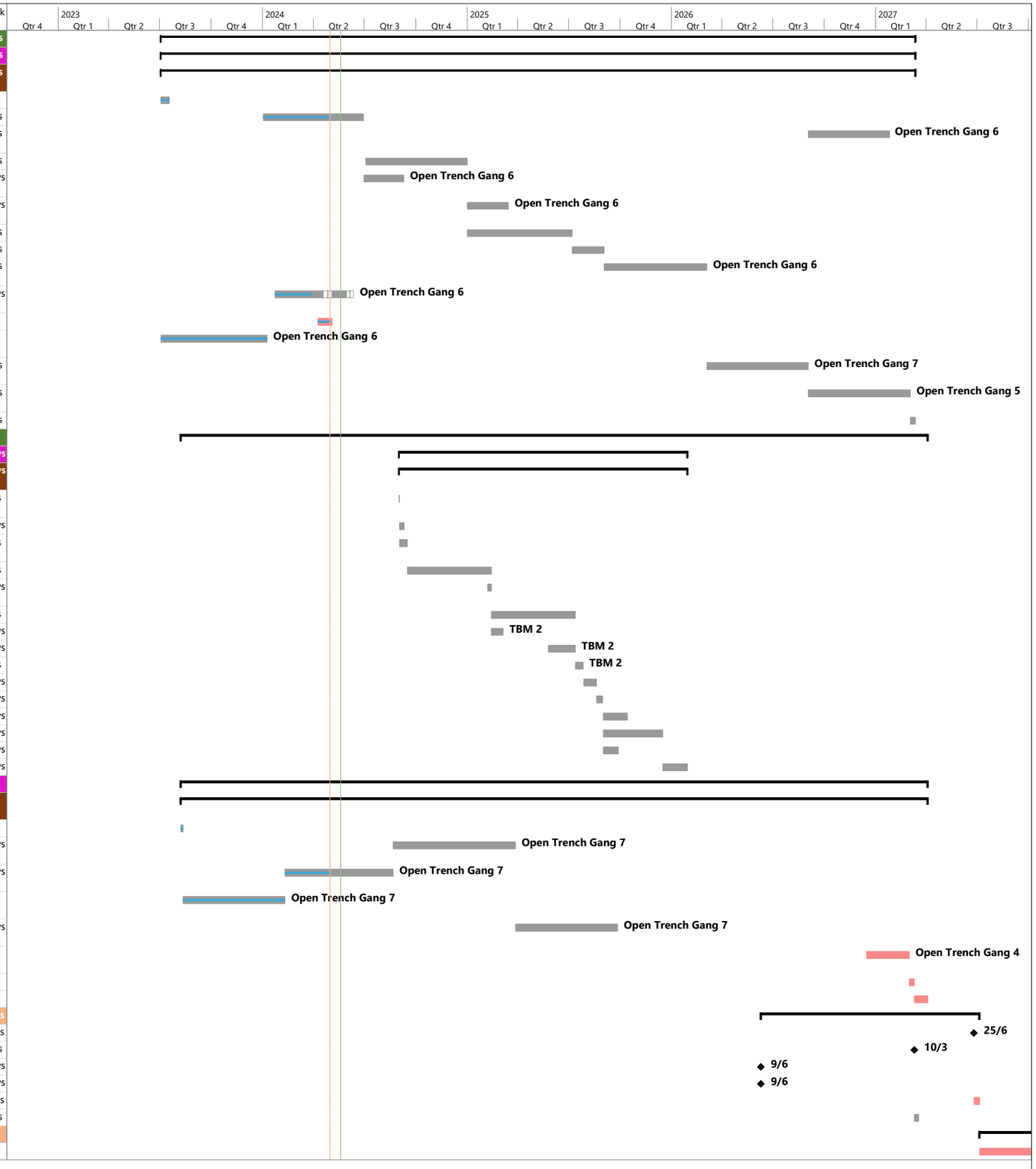
ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
922	SW-JPB-3060	Construction of launching pit 3 (CH190)	0%	180 days	Mon 25/11/24	Mon 7/7/25	-68.6 days
923	SW-JPB-3055	TTA implementation at CH420, site clearance, road modification and site setup	0%	6 days	Sat 5/10/24	Sat 12/10/24	42.8 days
924	SW-JPB-3050	Construction of receiving pit 5 (CH410)	0%	180 days	Thu 2/1/25	Mon 11/8/25	-24.6 days
925	SW-JPB-3080	Plant mobilization and set-up at Launching pit 3	0%	12 days	Tue 8/7/25	Mon 21/7/25	-68.6 days
926	SW-JPB-3090	Excavation (220m) by Pipe Jacking method, PR=3m/d (3rd drive	0%	74 days	Mon 21/7/25	Thu 16/10/25	-68.6 days
927	SW-JPB-3110	Plant demobilization	0%	6 days	Thu 16/10/25	Thu 23/10/25	-68.6 days
928	SW-JPB-3120	Pipe Installation (130m) (6m/d for pipe)	0%	22 days	Thu 23/10/25	Wed 19/11/25	-60.6 days
929	SW-JPB-6180	Pressure Test (130m)	0%	10 days	Wed 19/11/25	Mon 1/12/25	-60.6 days
930	SW-JPB-6240	Construction of Valve Chamber 5 (CH410)	0%	89 days	Mon 1/12/25	Fri 20/3/26	-60.6 days
931	SW-JPB-3130	Reinstatement of Receiving Pit & Launching Pit	0%	36 days	Fri 20/3/26	Tue 5/5/26	273.4 days
932		**Alignment B - Chuk Yuen Road - Trenchless B4 (CHB610 Pit 6 to CHB740 Pit 7) - 2nd Drive**	**0%**	**442 days**	**Fri 2/8/24**	**Tue 20/1/26**	**0 days**
933	SW-JPB-4040	TTA implementation at CH760, site clearance, road modification and site setup	0%	6 days	Fri 2/8/24	Fri 9/8/24	0 days
934	SW-JPB-4050	Construction of receiving pit 7 (CHB760)	0%	180 days	Fri 9/8/24	Fri 14/3/25	0 days
935	SW-JPB-4070	Plant mobilization and set-up at Launching pit 6 (CHB610)	0%	12 days	Sat 15/3/25	Fri 28/3/25	-60.8 days
936	SW-JPB-4080	Excavation (130m) by Pipe Jacking method, PR=3m/d (2nd drive	0%	65 days	Sat 29/3/25	Fri 20/6/25	-60.8 days
937	SW-JPB-4100	Plant demobilization	0%	6 days	Fri 20/6/25	Fri 27/6/25	-60.8 days
938	SW-JPB-4110	Pipe Installation (130m x 2nos.) (6m/d for pipe)	0%	22 days	Fri 27/6/25	Wed 23/7/25	328.2 days
939	SW-JPB-6190	Pressure Test (130m)	0%	10 days	Wed 23/7/25	Mon 4/8/25	328.2 days
940	SW-JPB-6195	Construction of Air Valve Chamber 7 (CHB760)	0%	89 days	Mon 4/8/25	Tue 18/11/25	380.2 days
941	SW-JPB-4120	Reinstatement of Receiving Pit (CHB760)	0%	36 days	Tue 18/11/25	Fri 2/1/26	380.2 days
942	SW-JPB-6200	Construction of Valve Chamber 6 (CHB610)	0%	105 days	Mon 4/8/25	Sat 6/12/25	328.2 days
943	SW-JPB-6140	Reinstatement of Launching Pit (CH610) after Pipe Installation at Alignment A Trenchless A3	0%	36 days	Sat 6/12/25	Tue 20/1/26	328.2 days
944		**Alignment B - Chuk Yuen Road - Trenchless B5 (CHB990 Pit 9 to CHB1100 Pit 11) - 4th Drive**	**0%**	**466.6 days**	**Tue 24/12/24**	**Sat 18/7/26**	**-27 days**
945	SW-JPB-5000	TTA implementation at CHB990, site clearance, road modification and site setup	0%	1 day	Tue 24/12/24	Tue 24/12/24	-27 days
946	SW-JPA-5340	UU Detection, Trial Pit	0%	14 days	Fri 27/12/24	Mon 13/1/25	-27 days
947	SW-JPB-5040	Installation of instrumentation and monitoring device and condition survey	0%	14 days	Fri 27/12/24	Mon 13/1/25	-27 days
948	SW-JPB-5060	Construction of launching pit 9 (CHB990)	0%	180 days	Tue 14/1/25	Thu 21/8/25	-27 days
949	SW-JPB-5045	TTA implementation at CH1180, site clearance, road modification and site setup	0%	6 days	Thu 20/3/25	Wed 26/3/25	-26.8 days
950	SW-JPB-5050	Construction of receiving pit 11 (CHB1180)	0%	180 days	Thu 27/3/25	Sat 1/11/25	-27 days
951	SW-JPB-5080	Plant mobilization and set-up at Launching pit 9	0%	12 days	Thu 23/10/25	Fri 7/11/25	-68.6 days
952	SW-JPB-5090	Excavation (110m) by Pipe Jacking method, PR=3m/d (4th drive	0%	37 days	Fri 7/11/25	Sat 20/12/25	-68.6 days
953	SW-JPB-5110	Plant demobilization	0%	6 days	Sat 20/12/25	Tue 30/12/25	-68.6 days
954	SW-JPB-5120	Pipe Installation (110m x 2nos.; 6m/d for pipe)	0%	29 days	Tue 30/12/25	Mon 2/2/26	218.4 days
955	SW-JPB-5130	Reinstatement of Receiving Pit (CHB1170)	0%	36 days	Fri 13/2/26	Mon 30/3/26	271.4 days
956	SW-JPB-6150	Reinstatement of Launching Pit (CHB990)	0%	36 days	Fri 5/6/26	Sat 18/7/26	218.4 days
957	SW-JPB-6210	Pressure Test (110m) Trenchless B5	0%	10 days	Mon 2/2/26	Fri 13/2/26	218.4 days
958	SW-JPB-6220	Construction of Valve Chamber 9 (CHB990)	0%	89 days	Fri 13/2/26	Fri 5/6/26	218.4 days
959		**Alignment B - Chuk Yuen Road - Open Trench**	**12%**	**1106.8 days**	**Sun 1/10/23**	**Mon 14/6/27**	**-51.6 days**
960		**Alignment B - Chuk Yuen Road - Open Trench between B3 and B4 (CH420 to CH610)**	**0%**	**913.2 days**	**Tue 28/5/24**	**Mon 14/6/27**	**-51.6 days**
961	SW-OTB-3090	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (30m long)~CHB420 to CHB450	0%	90 days	Thu 23/10/25	Mon 9/2/26	347.4 days
962	SW-OTB-3080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CHB450 to CHB490	0%	120 days	Tue 28/5/24	Sat 19/10/24	741.6 days
963	SW-OTB-3070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (50m long)~CHB490 to CHB540	0%	150 days	Fri 20/3/26	Thu 17/9/26	-51.6 days
964	SW-OTB-3010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (20m long)~CHB540 to CHB560	0%	60 days	Thu 17/9/26	Mon 30/11/26	-51.6 days
965	SW-OTB-3020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (50m long)~CHB560 to CHB610	0%	150 days	Mon 30/11/26	Thu 3/6/27	-51.6 days
966	SW-OTB-8110	Pressure Test (190m) Open Trench B3 to B4	0%	8 days	Thu 3/6/27	Mon 14/6/27	-51.6 days
967		**Alignment B - Chuk Yuen Road - Open Trench B4 to B5 (CH770 to CH990)**	**21%**	**820.8 days**	**Sun 1/10/23**	**Mon 29/6/26**	**227.4 days**
968	21.PRW.PO5.	TTA implementation	100%	16 days	Sun 1/10/23	Fri 20/10/23	0 days
969	SW-OTB-4110	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (20m long)~CH770 to CH790	0%	60 days	Fri 6/2/26	Thu 23/4/26	227.4 days
970	SW-OTB-4100	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (60m long)~CH790 to CH850	0%	180 days	Tue 8/7/25	Fri 6/2/26	227.4 days
971	SW-OTB-4090	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (60m long)~CH850 to CH910	0%	180 days	Mon 25/11/24	Mon 7/7/25	227.4 days
972	SW-OTB-4080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (48m long)~CH910 to CH958	6%	186 days	Wed 17/4/24	Mon 25/11/24	227.4 days
973	SW-OTB-4070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (15m long)~CH958 to CH973	100%	143.8 days	Sat 21/10/23	Tue 16/4/24	0 days
974	SW-OTB-4060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (15m long)~CH973 to CH990	0%	45 days	Thu 23/4/26	Wed 17/6/26	227.4 days
975	SW-OTB-8130	Pressure Test (220m) Open Trench B4 to B5	0%	10 days	Wed 17/6/26	Mon 29/6/26	227.4 days



Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

ID	Activity ID	Task Name	% Complete	Duration	Start	Finish	Total Slack
976		**Alignment B - Lung Fung Street**	**24%**	**1110.1 days**	**Mon 3/7/23**	**Fri 12/3/27**	**22.1 days**
977		**Alignment B - Lung Fung Street - Open Trench**	**24%**	**1110.1 days**	**Mon 3/7/23**	**Fri 12/3/27**	**22.1 days**
978		**Alignment B - Lung Fung Street - Open Trench B5 to D1 (CH1180 to CH1410)**	**24%**	**1110.1 days**	**Mon 3/7/23**	**Fri 12/3/27**	**22.1 days**
979	21.PRW.PO5.	TTA implementation	100%	13 days	Mon 3/7/23	Mon 17/7/23	0 days
980	SW-CCEN-201	Work area occupied by CSCE stage 1a	66%	147.5 days	Tue 2/1/24	Sat 29/6/24	23.7 days
981	SW-OTB-5010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (40m long)~CH1180 to CH1200	0%	120 days	Wed 2/9/26	Mon 25/1/27	60.1 days
982	SW-CCEN-202	Work area occupied by CSCE stage 1b	0%	152 days	Wed 3/7/24	Tue 31/12/24	22.1 days
983	SW-OTB-5015	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (20m long)~CH1200 to CH1230	0%	60 days	Sat 29/6/24	Mon 9/9/24	205.7 days
984	SW-OTB-5020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (20m long)~CH1230 to CH1250	0%	60 days	Tue 31/12/24	Sat 15/3/25	112.1 days
985	SW-CCEN-203	Work area occupied by CSCE stage 2	0%	150 days	Tue 31/12/24	Mon 7/7/25	22.1 days
986	SW-CCEN-204	Work area occupied by CSCE stage 3	0%	50 days	Mon 7/7/25	Tue 2/9/25	22.1 days
987	SW-OTB-5030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (30m long)~CH1250 to CH1280	0%	150 days	Tue 2/9/25	Wed 4/3/26	22.1 days
988	SW-OTB-5000	Sheet piling, excavationg, Exc., ELS, Pipe Laying, Backfilling & Road reinstatement, (20m long)~CHB1280 to CHB1300	61%	113 days	Tue 23/1/24	Tue 11/6/24	850.2 days
989	SW-OTB-5010	WSD's removal of AC pipes (CHB1280 - CHB1300)	90%	21 days	Tue 9/4/24	Fri 3/5/24	0 days
990	SW-OTB-5040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (12m long)~CH1300 to CH1312	100%	157 days	Mon 3/7/23	Mon 8/1/24	0 days
991	SW-OTB-5045	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (48m long)~CH1312 to CH1360	0%	150 days	Wed 4/3/26	Wed 2/9/26	22.1 days
992	SW-OTB-5050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement, (52m long)~CH1360 to CH1412	0%	150 days	Wed 2/9/26	Wed 3/3/27	22.1 days
993	SW-OTB-8190	Pressure Test (230m) Open Trench B5 to D1	0%	8 days	Wed 3/3/27	Fri 12/3/27	22.1 days
994		**Alignment B - Sheung Fung Street**	**16%**	**1095.1 days**	**Tue 8/8/23**	**Sat 3/4/27**	**6.1 days**
995		**Alignment B - Sheung Fung Street - Trenchless**	**0%**	**423.2 days**	**Sun 1/9/24**	**Thu 29/1/26**	**157.6 days**
996		**Alignment B - Sheung Fung Street - Trenchless D1 (CH1410 to CH1550) to CP**	**0%**	**423.2 days**	**Sun 1/9/24**	**Thu 29/1/26**	**157.6 days**
997	SW-JPB-6000	TTA implementation at CH1410, site clearance, road modification and site setup	0%	1 day	Sun 1/9/24	Sun 1/9/24	193 days
998	SW-JPA-5350	UU Detection, Trial Pit	0%	7 days	Mon 2/9/24	Mon 9/9/24	163.6 days
999	SW-JPB-6040	Installation of instrumentation and monitoring device and condition survey	0%	14 days	Mon 2/9/24	Sun 15/9/24	193 days
1000	SW-JPB-6050	Construction of launching pit (CH1410)	0%	150 days	Mon 16/9/24	Wed 12/2/25	193 days
1001	SW-JPB-6060	TTA implementation at CH1550, site clearance, road modification and site setup	0%	6 days	Thu 6/2/25	Wed 12/2/25	158.6 days
1002	SW-JPB-6070	Construction of receiving pit (CH1540)	0%	150 days	Thu 13/2/25	Sat 12/7/25	193 days
1003	SW-JPB-6080	Plant mobilization and set-up at Launching pit (TBM 2)	0%	21 days	Thu 13/2/25	Wed 5/3/25	272.8 days
1004	SW-JPB-6090	Excavation (120m) by Pipe Jacking method, PR=3m/d	0%	40 days	Mon 26/5/25	Sat 12/7/25	161.4 days
1005	SW-JPB-6110	Plant demobilization	0%	14 days	Sun 13/7/25	Sat 26/7/25	193 days
1006	SW-JPB-6120	Pipe Installation (120m) (6m/d for pipe)	0%	20 days	Mon 28/7/25	Tue 19/8/25	356.6 days
1007	SW-JPB-6230	Pressure Test (120m) Trenchless D1	0%	10 days	Wed 20/8/25	Sat 30/8/25	356.6 days
1008	SW-JPB-6250	Reinstatement of Launching Pit (CH1410)	0%	36 days	Mon 1/9/25	Tue 14/10/25	445.6 days
1009	SW-JPB-6260	Construction of Valve Chamber (CH1540)	0%	89 days	Mon 1/9/25	Tue 16/12/25	356.6 days
1010	SW-JPB-6270	Connection Works	0%	24 days	Mon 1/9/25	Sat 27/9/25	421.6 days
1011	SW-JPB-6130	Reinstatement of Receiving Pit (CH1540)	0%	36 days	Tue 16/12/25	Thu 29/1/26	356.6 days
1012		**Alignment B - Sheung Fung Street - Open Trench**	**30%**	**1095.1 days**	**Tue 8/8/23**	**Sat 3/4/27**	**6.1 days**
1013		**Alignment B - Sheung Fung Street - Open Trench D1 to CP (CH1550 to CH1730)**	**30%**	**1095.1 days**	**Tue 8/8/23**	**Sat 3/4/27**	**6.1 days**
1014	21.PRW.PO5.	Coordination with SLG, ULG, Stakeholders and Obtain Approva	100%	4 days	Tue 8/8/23	Fri 11/8/23	0 days
1015	SW-OTB-8050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatement (60m long)~CH1550 to CH1610	0%	180 days	Wed 21/8/24	Thu 27/3/25	459.2 days
1016	SW-OTB-8060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatementt, (50m long)~CH1610 to CH1662	40%	158 days	Sat 10/2/24	Wed 21/8/24	459.2 days
1017	SW-OTB-8170	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatementt, (50m long)~CH1662 to CH1674	100%	150 days	Sat 12/8/23	Fri 9/2/24	0 days
1018	SW-OTB-8175	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatementt, (50m long)~CH1674 to CH1710	0%	150 days	Fri 28/3/25	Fri 26/9/25	459.2 days
1019	SW-OTB-8080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatementt, (20m long)~CH1710 to CH1730	0%	60 days	Tue 15/12/26	Mon 1/3/27	6.1 days
1020	SW-OTB-8170	Pressure Test (180m) Open Trench D1 to CP	0%	8 days	Mon 1/3/27	Wed 10/3/27	6.1 days
1021	SW-OTB-8180	Backfilling and Road Reinstatement D1 to CP	0%	18 days	Wed 10/3/27	Sat 3/4/27	6.1 days
1022		**Test & Commissioning and Connection**	**0%**	**319.8 days**	**Tue 9/6/26**	**Mon 5/7/27**	**-68.6 days**
1023	SW-CPA-2080	Alignment A Ready for Connection with PAB	0%	0 days	Fri 25/6/27	Fri 25/6/27	-68.6 days
1024	SW-CPB-2090	Alignment B Ready for Connection with PAB	0%	0 days	Wed 10/3/27	Wed 10/3/27	17.1 days
1025	SW-CPA-2090	PAB Water Main Ready for Connection with Alignment A	0%	0 days	Tue 9/6/26	Tue 9/6/26	244.2 days
1026	SW-CPB-2100	PAB Water Main Ready for Connection with Alignment B	0%	0 days	Tue 9/6/26	Tue 9/6/26	244.2 days
1027	SW-TC-2060	Swabbing & Pressure Test for Alignment A	0%	7 days	Fri 25/6/27	Mon 5/7/27	-68.6 days
1028	SW-TC-2070	Swabbing & Pressure Test for Alignment B	0%	7 days	Wed 10/3/27	Thu 18/3/27	17.1 days
1029		**Establishment Period**	**0%**	**299.2 days**	**Mon 5/7/27**	**Tue 4/7/28**	**0 days**
1030	21.EST.GEN.1	Establishment Works	0%	365 days	Mon 5/7/27	Tue 4/7/28	0 days



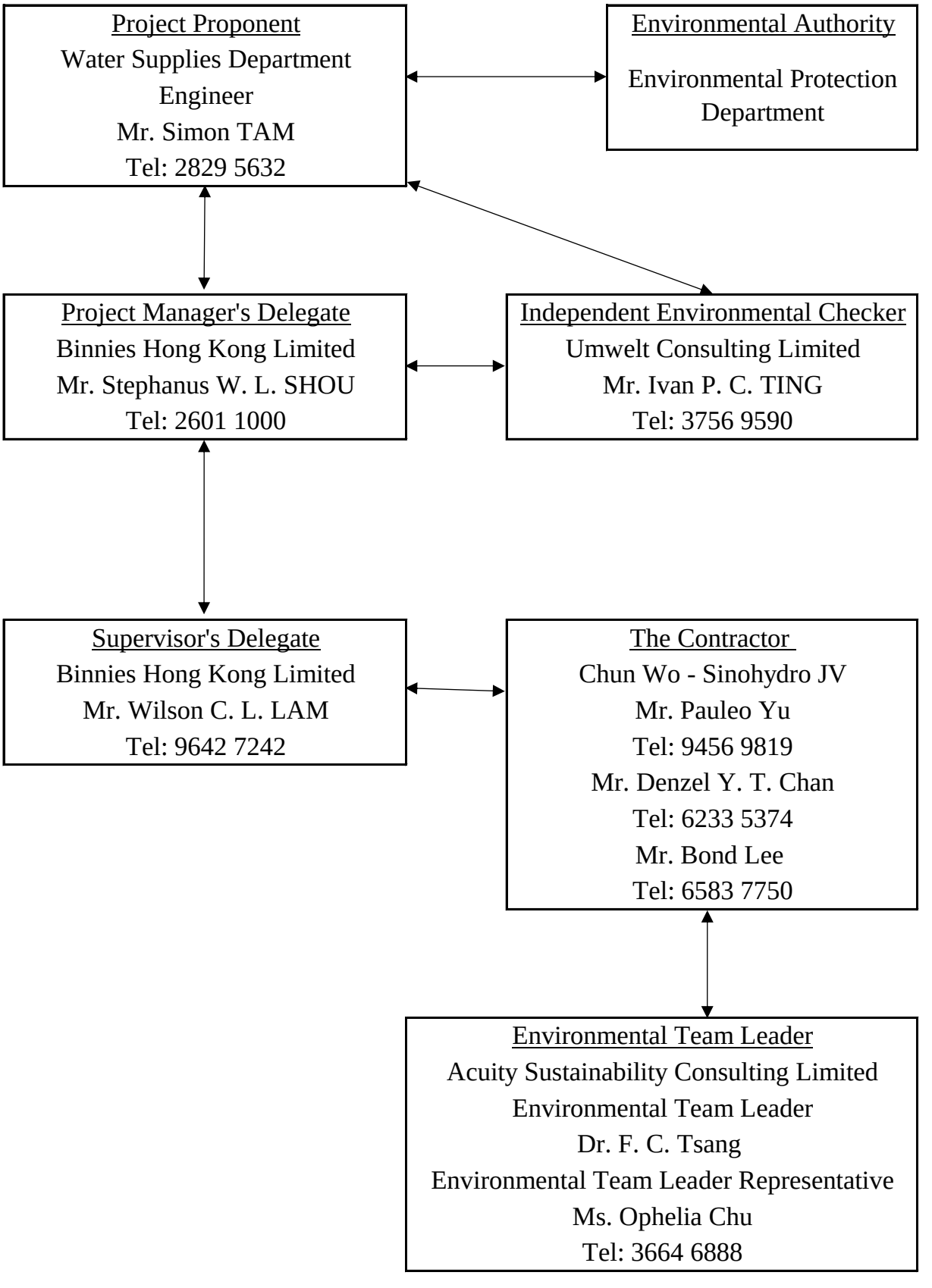
Project: 21/WSD/21
Revised Programme (Apr 2024)
Date: 1 May 2024

Task | Split | Milestone | Summary | Project Summary | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | External Tasks | External Milestone | Deadline | Critical | Critical Split | Progress | Manual Progress

Appendix B

Project Organization Chart and Key Personnel Contact

Project Organization Chart



Appendix C

Event and Action Plans

Table C1 Event and Action Plan for Air Quality (Dust)

Event	Action			
	ET Leader	IEC	ER	Contractor
Action Level exceedance for one sample	• Identify source, investigate the causes of exceedance and propose remedial measures; • Inform IEC and ER; • Repeat measurement to confirm finding; • Increase monitoring frequency to daily.	• Check monitoring data submitted by ET; • Check contractor's working method.	• Notify Contractor.	• Rectify any unacceptable practice; • Amend working methods if appropriate.
Action level exceedance for two or more consecutive samples	• Identify source; • Inform IEC and ER; • Advise the ER on the effectiveness of the proposed remedial measures; • Repeat measurements to confirm findings; • Increase monitoring frequency to daily; • Discuss with IEC and Contractor on remedial actions required; • If exceedance continues, arrange meeting with IEC and ER; • If exceedance stops, cease additional monitoring.	• Check monitoring data submitted by ET; • Check Contractor's working method; • Discuss with ET and Contractor on possible remedial measures; • Advise the ET on the effectiveness of the proposed remedial measures; • Supervise Implementation of remedial measures.	• Confirm receipt of notification of failure in writing; • Notify Contractor; • Ensure remedial measures properly implemented.	• Submit proposals for remedial actions to ER within 3 working days of notification; • Implement the agreed proposals; • Amend proposal if appropriate.
Limit level exceedance for one sample	• Identify source, investigate the causes of exceedance and propose remedial measures;	• Check monitoring data submitted by ET;	• Confirm receipt of notification of failure in writing;	• Take immediate action to avoid further exceedance;

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

Table C2 Event/Action Plan for Construction Noise

Event	Action			
	ET	IEC	ER	Contractor
Action Level Exceedance	1. Notify IEC, ER and Contractor; 2. Carry out investigation; 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 and ER; 2. Implement noise mitigation proposals.
Limit Level Exceedance	1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 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 Contractors 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. Require Contractor to propose remedial measures for the analysed noise problem; 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 the IEC within three working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Table C3 Event/Action Plan for Landscape and Visual

Event	Action			
	ET	IEC	ER	Contractor
Action Level Exceedance	1. Inform the IEC, ER and the Contractor; 2. Discuss remedial actions with IEC, ER and Contractor; and 3. Monitor remedial actions until rectification has been completed.	1. Check inspection report; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise ER on effective of proposed remedial measures; and 5. Check implementation of remedial measures.	1. Confirm receipt of notification of non-conformity in writing; 2. Review and agree on the remedial measures proposed by the Contractor; and 3. Ensure remedial measures are properly implemented.	1. Identify source and investigate the non-conformity; 2. Amend working methods agreed with ER as appropriate; and 3. Rectify damage and undertake any necessary replacement.
Limit Level Exceedance	1. Identify sources; 2. Inform the Contractor, IEC and ER; 3. Discuss inspection frequency; 4. Discuss remedial actions with IEC, ER and Contractor; 5. Monitor remedial actions until rectification has been completed; and 6. If non-conformity stops, cease additional monitoring.	1. Check inspection report; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; and 4. Advise ER on effectiveness of proposed remedial measures.	1. Notify the Contractor; 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; and 3. Supervise implementation of remedial measures.	1. Identify source and investigate the non-conformity; 2. Implement remedial measures; 3. Amend working methods agreed with ER as appropriate; 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by ER until the non-conformity is abated.

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

Appendix D

Project Implementation Schedule

Environmental Mitigation Implementation Schedule (EMIS)

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
Air Quality							
D1	Dust suppression measures, including watering once per hour, will be incorporated in accordance with the requirements of the Air Pollution Control (Construction Dust) Regulation. Dust filter shall be installed at the ventilation system of the emission source at the tunnel portal chimney. The proposed dust control measures presented in Table 3.11 of the EIA report shall be followed.	Minimize dust impact at the nearby sensitive receivers	Contractor	Tunnel Portal	Construction Phase	• Air Pollution Control Ordinance • To control the dust impact to meet HKAQO and EIAO-TM criteria	Implemented
D2	The following dust suppression measures should be incorporated into contract document. The standard dust suppression measures as stipulated in the Air Pollution Control (Construction Dust) Regulation to control the dust nuisance shall be implemented throughout the construction phase: • The contractor shall observe and comply with Air Pollution Control (Construction Dust) Regulation and implement all the required mitigation measures. • The contractor shall undertake precautions at all times to prevent dust nuisance and smoke as a result of his activities. • The contractor shall ensure a highly efficient dust filter (at least 80% efficiency) to be installed at the ventilation exhaust to treat the exhausting air from cavern. • The contractor shall frequently clean and water the site to minimize fugitive dust emissions. • The contractor shall ensure that there will be adequate water supply/storage for dust suppression.	Minimize dust impact at the nearby sensitive receivers	Contractor	All Construction sites	Construction Stage	• Air Pollution Control Ordinance • To control the dust impact to meet HKAQO and EIAO-TM criteria	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	• The working area of any pavement breaking, excavation or earth moving operation should be sprayed with water immediately before, during and after the operation to avoid dust generation. • Any stockpile of dusty material should be properly covered by tarpaulin or other impervious sheeting. • Vehicles leaving a site loaded with dusty materials should be covered by tarpaulin or other impervious sheeting. • Wheel washing facilities shall be installed and used by all vehicles leaving the site. No earth, mud, debris, dust and the like shall be deposited on public roads. Water in the wheel cleaning facility shall be changed at frequent intervals and sediments shall be removed regularly. The contractor shall submit details of proposals for the wheel cleaning facility. Such wheel washing facilities shall be usable prior to any earthworks excavating activity on the site. The Contractor shall also provide a hard-surfaced road between any washing facility and the public road. • Any materials dropped on paved roads shall be cleaned up immediately to prevent dust nuisance. • The contractor shall devise, arrange methods of working and carrying out the works in such a manner so as to minimize dust impacts on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these methods are implemented.						
D3	The contractor shall also implement specific dust mitigation measures for excavation, drilling and blasting activities during the construction of tunnel portal. These include the use of blast nets / canvas covers and ensure portal door is properly closed.	Minimize dust impact at the nearby sensitive receivers	Contractor	All Construction sites	Construction Stage	• Air Pollution Control Ordinance • To control the dust impact to meet	To be Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
						HKAQO and EIAO-TM criteria	
D4	Before the commencement of any works, the Engineer may require the contractor to submit the methods of working, construction plant or equipment and air pollution control measures to be used on the site to be made available for inspection and approval.	Minimize dust impact at the nearby sensitive receivers	Contractor	All Construction sites	Construction Stage	• Air Pollution Control Ordinance • To control the dust impact to meet HKAQO and EIAO-TM criteria	Implemented
D5	The following precautionary measures shall be incorporated into contract document and implemented throughout the construction. • The contractor shall ensure the use of electricity power equipment is connected to the main electricity supply for better emission estimation. • The contractor shall avoid the use of diesel power machines and generators as far as practicable. • The contractor shall avoid the use of non-road mobile machineries which exempt by the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, and seek the ones with proper label issued by EPD. • The contractor shall observe the requirement of DEVB TC(W) No. 13/2020, to apply a temporary electricity and water supply with a target that the necessary cables/water mains laying works could be completed before the commencement of the works contract.	Avoid burdening the surrounding NO_2 concentration	Contractor	All Construction sites	Construction Stage	• Air Pollution Control Ordinance • To control the dust impact to meet HKAQO and EIAO-TM criteria • DEVB TC(W) No. 13/2020	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
Construction Noise							
N1	The contractor should limit the pipe section to be constructed by open cut method in a length of no more than 30 m at any one time when works are in close proximity to NSRs. Each work front along the proposed watermain laying should be separated by a clearance distance of at least 60 m.	Control construction noise impacts	Contractor	All construction area for watermain laying works	Construction stage	• EIAO-TM	To be implemented
N2	Use of quiet PME is considered to be a practicable means to mitigate the construction noise impact. Quiet plant is defined as a PME having actual SWL lower than the value specified in the GW-TM.	Control construction noise impacts	Contractor	All construction area for watermain laying works	Construction stage	• EIAO-TM • A Practical Guile for the Reduction of Noise from construction works	Implemented
N3	The use of noise barrier for certain PME could generally provide a 5 dB(A) reduction for movable PME and 10 dB(A) for stationary PME. The barrier material shall have a superficial surface density of not less than 10 kg/m^2 and have no opening or gaps. Sound absorbent lining inside the enclosure should be at least 25 mm thick.	Control construction noise impacts	Contractor	All construction area for watermain laying works	Construction stage	• EIAO-TM	Implemented
N4	Provision of movable noise barriers of 3m or above in height and with a short-cantilevered section on the top with skid footing should be used and located within a few metres of stationary plant and mobile plant such that the line of sight to the NSR is blocked by the barriers.	Control construction noise impacts	Contractor	All construction area for watermain laying works	Construction stage	• EIAO-TM	To be implemented
N5	Noise enclosure lined with absorptive materials shall be provided at the tunnel portal to mitigate the noise from tunnel/cavern construction. The enclosure is a gap free enclosure with acoustic doors for vehicular access purpose. The acoustic doors shall remain closed throughout the construction period. The sheet material mass of the noise enclosure should be at least 10 kg/m^2 and sound-absorbent lining inside the enclosure should be at least 25 mm thick.	Control construction noise impacts	Contractor	Tunnel Portal	Construction stage	• EIAO-TM • A Practical Guile for the Reduction of Noise from construction works	To be implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
N6	Noise barrier/enclosure should be inspected and maintained regularly. The contractor should design and provide details of the temporary noise barriers and noise enclosure to the Engineer for approval.	Control construction noise impacts	Contractor	All Construction sites	Construction stage	• EIAO-TM	Implemented
N7	For NSR5, NSR14, NSR19 and NSR 22, the construction works of Fresh Water/Salt Water Mainlaying (Reinstatement Works) shall be arranged and carried out during School Holidays (i.e., the section of the mainlaying alignment is 20m measured from the school site boundary).	Control construction noise impacts	Contractor	All Construction area for watermain laying works	Construction stage	• EIAO-TM	To be Implemented
N8	During examination period, no mainlaying works will be carried out within 30m (for NSR 14, NSR 19 and NSR 22) or 50m (for NSR 5) from the school site boundary.	Control construction noise impacts	Contractor	All Construction area for watermain laying works	Construction stage	• EIAO-TM	To be Implemented
N9	For NSR13, NSR20 and P1, the concrete lorry mixer shall be located 10 m away from the residential site boundary during the construction works of Fresh Water/Salt Water Mainlaying (Reinstatement Works).	Control construction noise impacts	Contractor	All Construction area for watermain laying works	Construction stage	• EIAO-TM	To be Implemented
N10	Good Site Management Practices • Only well-maintained plant should be operated on-site, and plant will be serviced regularly during the construction phase; • Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction phase; • Mobile plant, if any, should be sited away from NSRs; • Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or will be throttled down to a minimum; • Plant known to emit noise strongly in one direction should be orientated so that the noise is directed away from the nearby NSRs;	Control construction noise impacts	Contractor	All Construction sites	Construction stage	• EIAO-TM	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	• Material stockpiles and other structures should be effectively utilised in screening noise from on-site construction activities; • The contractor should devise, arrange methods of working and carrying out the works in such manner as to minimise noise impacts on the surrounding environment, and should provide experience personnel with suitable training to ensure that all these measures are implemented properly; and; • The contractor should minimise construction noise exposure to the school (especially during examination periods) as much as possible. The contractor should liaise with the school and Examination Authority to ascertain the exact dates and times of all examination periods during the course of the contract and to avoid noisy activities during these periods.						
Operation Noise							
N11	• Choose quieter plant; • Include noise levels specification when ordering new mechanical equipment such as pumps and ventilation systems; • Locate fixed plant, louvres or openings away from NSRs; • Locate fixed plant in walled plant rooms or in specially designed enclosures; • Ensure pump room doors and tunnel • portal doors are kept closed; • Silencers, acoustic louvres or acoustic doors should be used where necessary; and • Develop and implement a regularly scheduled plant maintenance programme so that equipment is properly	Reduce the operation noise	Project Proponent	Tunnel Portal / Ancillary building / SRs in carven	Prior to operation of the Project for planned NSRs	• EIAO-TM	To be implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	operated and serviced in order to maintain controlled level of noise. The programme should be implemented by properly trained personnel.						
Water Quality (Construction Phase)							
W1	**General Construction Site Practice** The Contractor should observe and comply with the Water Pollution Control Ordinance and its subsidiary regulations and obtain a discharge license under the Ordinance for discharge of effluent from the construction site. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. The Contractor should carry out the Project works in such a manner as to minimise adverse impacts on the water quality during execution of the works. In particular, the Contractor should arrange the working method to minimise the effects on the water quality within and outside the Project Site and on the transport routes. In addition, the management of construction site drainage from the Project will follow guidelines provided in ProPECC PN 1/94 – "Construction Site Drainage". The mitigation measures described in ETWB TC(W) No. 5/2005 shall also be followed where necessary for construction activities in close vicinity to inland watercourses.	To minimise water quality impact from construction site runoff and general construction activities	Contractor	All construction sites where applicable	Construction stage	• Water Pollution Control Ordinance • ProPECC PN1/94 • ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	Implemented
W2	Construction Site Runoff and General Construction Activities Proper site management measures should be implemented to control site runoff and drainage, and thereby prevent high sediment loadings from reaching	To minimize water quality impact from construction site runoff and general	Contractor	All construction sites where applicable	Construction stage	• Water Pollution Control Ordinance • ProPECC PN1/94 • ETWB TC(W) No. 5/2005 • EIAO-TM	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	downstream sections of the river/stream. The mitigation measures shall include the following practices: • Provision of perimeter channels to intercept storm-runoff from outside the site. These should be constructed in advance of the construction works. • Temporary ditches such as channels, earth bunds or sandbag barriers should be included to facilitate runoff discharge into the stormwater drain, via a sand/silt basin/trap. • Works programme should be designed to minimise works areas at any one time, thus minimizing exposed soil areas and reducing the potential for increased siltation and site runoff. • Sand/silt removal facilities such as sand traps, silt traps and sediment basins should be provided to remove the sand/silt particles from run-off where necessary. These facilities should be properly and regularly cleaned and maintained. These facilities should be carefully planned to ensure that they would be installed at appropriate locations to capture all surface water generated on site. • Careful programming of the works to avoid excavation works during the rainy season (April to September). • Temporary access roads (if any) should be protected by crushed gravel and exposed slope surfaces shall be protected (e.g. by tarpaulin) when rainstorms are likely; • Open stockpiles of construction materials on-site should be covered with tarpaulin or similar fabric during rainstorms to prevent erosion. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system	construction activities				• TM-DSS	

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	• Earthwork final surfaces should be well compacted, and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary. • Measures should be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • Manholes should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system. • Water used in ground boring and drilling for site investigation or rock/soil anchoring should as far as practicable be recirculated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities. • All vehicles and plant should be cleaned before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. A wheel washing bay should be provided at every site if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be						

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	paved with backfall to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.						
W3	Reuse of treated site runoff shall be considered as far as practicable for onsite activities such as dust suppression, wheel washing and general cleaning, etc.	To minimize water quality impact from construction site runoff and general construction activities	Contractor	All construction sites where applicable	Construction stage	• Water Pollution Control Ordinance • ProPECC PN1/94 • ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	N/A
W4	Sewage Generated by Construction Workforce No discharge of sewage to the storm drains and inland watercourse will be allowed. Domestic sewage /wastewater generated by workforce on-site should be collected in a suitable storage facility such as portable chemical toilets. An adequate number of portable toilets will be provided during the construction phase, with a licensed collector employed to clean the chemical toilets on a regular basis and be responsible for collection and disposal of the sewage. According to the Reference Materials on Construction Site Welfare, Health and Safety Measures that issued by the Construction Industry Council, the number of toilet facilities provided on site shall be at a ratio of not less than one for every 25 workers. These toilets should be maintained in a state that will not deter the workers from using them.	To minimise water quality impact from sewage effluent in construction phase	Contractor	All construction sites where applicable	Construction stage	• Water Pollution Control Ordinance • ProPECC PN1/94 • ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	Implemented
W5	Accidental Spillage of Chemicals The following mitigation measures should be implemented to avoid adverse impacts of chemical spillage:	To prevent water quality impact due to chemical spillage	Contractor	All construction sites where applicable	Construction stage	• Water Pollution Control Ordinance • Waste Disposal (Chemical Waste) (General) Regulation • ProPECC PN1/94	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	• Waste streams classifiable as chemical wastes should be properly stored, collected and treated for compliance with the requirements set out in the Waste Disposal Ordinance and its subsidiary Waste Disposal (Chemical Waste) (General) Regulation. • All fuel tanks and chemical storage areas should be provided with locks and be sited on paved areas. • The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters. • Waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance. • Vehicle and plant servicing areas, vehicle wash bays and lubrication bays should, as far as possible, be located within roofed areas. The drainage in these covered areas should be connected to foul sewers via a petrol interceptor.					• ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	
W6	<u>Groundwater infiltration and Groundwater Drawdown</u> To minimize the groundwater infiltration, the following groundwater control measures are recommended: • The Contractor shall undertake rigorous probing of the ground ahead of excavation works to identify zones of significant water inflow that could occur as a result of discrete, permeable features. In such zones of significant water inflow, the overall inflow would be reduced by means of cut-off grouting executed ahead of the tunnel/cavern advance. • Where water inflow quantities are excessive, pre-grouting will be required to reduce the water inflow into the tunnel/cavern.	To minimise water quality impact from groundwater infiltration	Contractor	All construction sites where applicable	Construction stage	• Water Pollution Control Ordinance • ProPECC PN1/94 • ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	To be Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	• In case of excessive infiltration being observed as a result of the tunnelling or excavation works even after pre- • grouting measures, post-grouting should be applied as far as practicable. • Waterproof lining will be installed after the formation of the tunnels and caverns. • In the event of seepage of groundwater occurs, groundwater should be pumped out from works areas and discharged to the storm drains via silt removal facilities. The discharges during construction phase shall comply with WPCO requirements						
W7	Construction Works in Close Proximity of Inland Watercourses The mitigation measures proposed for "General Construction Site Practice" and "Construction Site Runoff and General Construction Activities" in Sections 5.8.2 and 5.8.3 of the EIA report shall be implemented properly to minimize the water quality impacts during to the construction works in close proximity of inland watercourse.	To minimise water quality impact from construction site near watercourses	Contractor	All construction sites where applicable	Construction stage	• Water Pollution Control Ordinance • ProPECC PN1/94 • ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	To be Implemented
W8	The practices outlined in ETWB TC(W) No. 5/2005 shall also be adopted where applicable to minimise the water quality impacts upon any natural streams or other inland watercourses. Relevant mitigation measures are listed below: • The use of less or smaller construction plants may be specified in areas close to the inland watercourses to reduce the disturbance to the surface water. • Temporary storage of materials (e.g. equipment, chemicals and fuel) and temporary stockpile of	To minimise water quality impact from construction site near watercourses	Contractor	The relocated DHSRs	Construction stage	• Water Pollution Control Ordinance • ProPECC PN1/94 • ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	construction debris and spoil should be located well away from any watercourses. • Stockpiling of construction materials and dusty materials should be covered and located away from any watercourses. • Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby inland watercourses. • Adequate lateral support may need to be erected in order to prevent soil/mud from slipping into the watercourses. • Construction works close to the inland watercourses should be carried out in dry season as far as practicable where the flow in the surface channel or stream is low.						
W9	Cleansing Effluent Generated from Washing of Interior of Structures The cleaning effluent containing SS and residual chlorine should be settled out through the sedimentation tank and dechlorinated by the de-chlorination plant. The discharge quality of the cleansing effluent generated from washing of interior of structures after the construction shall meet the requirements specified in the discharge licence and the cleaning effluent should be treated properly so that it satisfies all the standards listed in the TM-DSS	To minimise water quality impact from construction site effluent	Contractor	The relocated DHSRs	Construction stage	• Water Pollution Control Ordinance • ProPECC PN1/94 • ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	To be Implemented
Water Quality (Operation Phase)							
W10	The ProPECC PN 5/93 "Drainage Plans subject to Comments by Environmental Protection Department" provides guidelines and practices for handling, treatment and disposal of various effluent discharges to stormwater drains and foul sewers. The design of site drainage and disposal of various site effluents generated within the	To control operational site effluents	Further Operator	The relocated DHSRs	Operation stage	• Water Pollution Control Ordinance • ProPECC PN5/93	To be Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	development area should follow the relevant guidelines and practices as given in the ProPECC PN 5/93.						
W11	Effluents from Cleaning of Service Reservoir Treatment and disposal of cleansing water during annual cleaning and maintenance of the service reservoirs shall follow the WSD's current normal practice with reference to Sections 23.24 – 23.25 of the General Specification for Civil Engineering Works. Portable water incorporated with a mixture of sterilizing chemicals shall be used for washing water retaining structures. The cleansing effluent shall be settled out through the sedimentation task and dechlorinated by a dechlorination unit before being discharged to drainage system. Agreement of DSD and discharge license from EPD shall be obtained before commencing any of the discharges during operation phase	To control operational site effluents	Further Operator	The relocated DHSRs	Operation stage	• Water Pollution Control Ordinance • Sections 23.23-23.24 of the General Specification for Civil Engineering Works • TM-DSS	To be Implemented
W12	Non-point Source Surface Runoff Best Management Practices (BMPs) to reduce non-point source surface water pollution are proposed as follows: • Exposed surface shall be avoided within access road and portal/ancillary building areas to minimise soil erosion. The access road and the portal/ancillary building areas shall be either hard paved or covered by landscaping area where appropriate. • Screening facilities such as standard gully grating and trash grille, with spacing which is capable of screening off large substances such as fallen leaves and rubbish should be provided at the inlet of drainage system. • Road gullies with standard design and silt traps should be provided to remove particles present in stormwater runoff, where appropriate. • Good management measures such as regular cleaning and sweeping of road surface/ open areas are suggested. The road surface/ open area cleaning	To minimize water quality impact from non-point source surface run-off	Further Operator	The relocated DHSRs	Design and Operation stages	• Water Pollution Control Ordinance • ProPECC PN5/93	To be Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	should also be carried out prior to occurrence of rainstorm. • Manholes, as well as storm water gullies, ditches provided at the Project site should be regularly inspected and cleaned (e.g. monthly). Additional inspection and cleansing should be carried out before forecast heavy rainfall.						
Waste Management (Construction Phase)							
WM1	The waste management hierarchy shall apply to the construction waste management (i.e. in order of desirability: avoidance, minimization, recycling, treatment and safe disposal of waste).	Minimize waste generation during construction	Contractor	All construction sites	Design and Construction stages	• Waste Disposal Ordinance • EIAO	Implemented
WM2	The contractor should develop and provide toolbox talk for on-site sorting of C&D materials to enhance workers' awareness in handling, sorting, reuse and recycling of C&D materials. Requirements for staff training should be included in the contractor's Environmental Management Plan (EMP). The EMP shall be submitted to the Architect/Engineer for approval before construction works in accordance with ETWB TC(W) No.19/2005.	Minimize waste generation during construction	Contractor	All construction sites	Construction stages	• Waste Disposal Ordinance • EIAO • ETWB TC(W) No. 19/2005 • DEVB TC(W) No. 6/2010	Implemented
WM3	Good planning and site management practice should be employed to eliminate over-ordering or mixing of construction materials to reduce wastage. Proper storage and site practices will minimise the damage or contamination of construction materials.	Ensure proper waste management system throughout the construction	Contractor	All construction sites	Construction stages	• Waste Disposal Ordinance • EIAO • ETWB TC(W) No. 19/2005 • DEVB TC(W) No. 6/2010	Implemented
WM4	Where waste generation is unavoidable, the potential for recycling or reuse should be rigorously explored. If waste cannot be recycled, disposal routes described in the EMP should be followed. A recording system for the amount of wastes generated, recycled and disposed (including the	Reduce waste generation	Contractor	All Construction sites	Construction stage	• Waste Disposal Ordinance • EIAO • ETWB TC(W) No. 19/2005	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	disposal sites) should be implemented. In order to monitor the disposal of C&D material and solid wastes at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be included. One may make reference to DEVB TC(W) No. 6/2010 for details.					• DEVB TC(W) • No. 6/2010	
WM5	Regular cleaning and maintenance of the waste storage area should be provided.	Avoid odour, pest, and litter impacts	Contractor	All construction sites	Construction stage	• DEVB TC(W) No.8/2010 • ETWB TC(W) No. 19/2005	Implemented after observation
WM6	Best Management Practice • An on-site environmental co-ordinator should be identified at the outset of the works. The co-ordinator shall prepare an Environmental Management Plan (EMP) incorporating waste management in accordance with the requirements set out in the ETWB TCW No. 19/2005, Environmental Management on Construction Sites. The EMP shall include monthly and yearly Waste Flow Tables (WFT) that indicate the amounts of waste generated, recycled and disposed of (including final disposal site), and which should be regularly updated. WFT will be provided in the WMP which will form part of the EMP in accordance with ETWB TCW No.19/2005; • The reuse/recycling of all materials on site shall be investigated prior to treatment/ disposal off- site; • Good site practices shall be adopted from the commencement of works to avoid the generation of waste, reduce cross contamination of waste and to promote waste minimisation; • All waste materials shall be sorted onsite into inert and non-inert C&D materials, and where the materials can be recycled or reused, they shall be further segregated.	Ensure proper waste management system throughout the construction	Contractor	All construction sites	• Construction stage	• EIAO • Waste Disposal Ordinance • ETWB TCW No. 19/2005, Environmental Management on Construction Sites • DEVB TCW No.6/2010 • DEVB TCW No. 8/2010 • WBTC No.12/2000	Implemented after reminder

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	• The contractor shall be responsible for identifying what materials can be recycled/ reused, whether on-site or offsite. In the event of the latter, the contractor shall make arrangements for the collection of the recyclable materials. Any remaining non-inert C&D materials shall be collected and disposed of to the landfills whilst any inert C&D materials shall be re-used on site as far as possible. Alternatively, if inert C&D materials cannot be reused on-site, the materials would be delivered to public fill reception facilities for beneficial reuse after obtaining the appropriate licence; • With reference to DEVB TCW No.6/2010, Trip-ticket System for Disposal of Construction and Demolition Material, a trip ticket system should be established at the outset of the construction to monitor the disposal of C&D materials and solid wastes from the site to public filling facilities and landfills; • Under the Waste Disposal (Chemical Waste) (General) Regulation, the Contractor shall register as a Chemical Waste Producer if chemical wastes such as spent lubricants and paints are generated on site. Only licensed chemical waste collectors shall be employed to collect any chemical waste generated at site. The handling, storage, transportation and disposal of chemical wastes shall be conducted in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme both published by EPD; • A sufficient number of covered bins shall be provided on site for the containment of general refuse. These bins shall be cleared daily and the collected waste disposed of to the refuse transfer station. Further to the						

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	issue of DEVB TCW No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness, the contractor is required to maintain a clean and hygienic site throughout the Project works; • Tool-box talks should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse, and recycling; and • The contractor shall comply with all relevant statutory requirements and guidelines and their updated versions that may be issued during the course of Project construction.						
WM7	On-site Sorting, Reuse and Recycling All waste materials should be segregated into categories covering: • Inert C&D materials suitable for reuse • on-site; • Inert C&D materials suitable for public • fill reception facilities; • Recyclable C&D materials for recycling; • Remaining C&D materials for landfill; • Chemical waste; and • General refuse for landfill.	Reduce waste generation	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance • ETWB TCW No. 19/2005, Environmental Management on Construction Sites	Implemented
WM8	Proper segregation and disposal of construction waste should be implemented. Separate containers should be provided for inert and non-inert materials.	Reduce waste generation	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance • ETWB TCW No. 19/2005, Environmental Management on Construction Sites	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
WM9	Specific area should be allocated for on-site sorting of C&D materials and to provide a temporary storage area for those sorted materials. If area is limited, all C&D materials should at least be sorted on-site into inert and non-inert components. Non-inert C&D materials such as bamboo, timber, vegetation, packaging waste and other organic materials should be reused and recycled to local recycler wherever possible and disposed to the designated landfill only as a last resort. Inert C&D materials such as concrete, stone, clay, brick, soil, asphalt and the like should be separated and reused in this or other projects (subject to approval by the relevant parties in accordance with the DEVB TC(W) No. 6/2010) before disposed of at a public filling facility operated by CEDD. Steel and other metals should be recovered from demolition waste stream and recycled	Ensure proper waste management system throughout the construction in order to reduce waste generation	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance • ETWB TCW No. 19/2005, Environmental Management on Construction Sites • DEVB TCW No.6/2010 • DEVB TCW No.8/2010	Implemented
WM10	The reuse of inert C&D materials such as soil, rock and broken concrete should be maximised. Waste should be separated into fine, soft and hard materials. With the use of a crusher. coarse materials can be crushed to make it suitable for use as fill materials where fill is required in the works. This minimises the use of imported materials and maximises the use of the C&D materials produced. Approval from CEDD and EPD shall be obtained for the use of site crusher in accordance with WBTC No. 11/2002.	Ensure proper waste management system throughout the construction in order to reduce waste generation	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance • WBTC No. 11/2002	Implemented
WM11	Excavated Materials Excavated materials should be temporarily stored on-site for use as backfill as far as possible. It should be properly covered with tarpaulin or similar impervious sheeting to prevent dust nuisance and site runoff. Surplus excavated materials should be disposed of to public fill reception facilities.	Minimize dust, site runoff and waste impacts from excavated and C&D materials	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance • Air Pollution Control Ordinance • To control the dust impact to meet HKAQO and EIAO-TM criteria	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
WM12	Control measures for temporary stockpiles on-site should be taken, which include: • Surface of stockpiled soil should be regularly wetted with water especially during dry season; • Disturbance of stockpiled soil should be minimized; • Stockpiled soil should be properly covered with tarpaulin especially when heavy rainstorms are predicted; • Stockpiling areas should be enclosed where space is available; • Stockpiling location should be away from the water bodies; and • An independent surface water drainage system equipped with silt traps should be installed at the stockpiling area.	Minimize the noise, generation of dust, pollution of water and visual impact from excavated and C&D materials	Contractor	All construction sites	Construction stage	• Waste Disposal Ordinance • Air Pollution Control Ordinance • To control the dust impact to meet HKAQO and EIAO-TM criteria. • ETWB TC(W) No.19/2005	Implemented
WM13	The Public Fill Committee of CEDD should be consulted for disposal of inert C&D materials to public fill reception facilities while EPD should be consulted for disposal of non-inert C&D materials to landfill. Disposal of C&D waste to landfill must not have more than 50% (by weight) inert material. The C&D waste delivered for landfill disposal should contain no free water and the liquid content should not exceed 70% by weight.	Minimise waste impacts from C&D materials	Contractor	All construction sites	Design and Construction stages	• Waste Disposal Ordinance • ETWB TCW No. 19/2005, Environmental Management on Construction Sites • DEVB TCW No.6/2010 • DEVB TCW No.8/2010	Implemented
WM14	In order to avoid dust impacts, any vehicle leaving a works area carrying C&D waste or public fill should have their load covered up before leaving the construction site.	Minimize the dust impact from transferring C&D materials	Contractor	All construction sites	Construction stages	• Air Pollution Control Ordinance • ETWB TCW No. 19/2005, Environmental Management on Construction Sites	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
						• DEVB TCW No.6/2010 • DEVB TCW No.8/2010	
WM15	C&D materials should be disposed of at designated public fill reception facilities or landfills. Disposal of these materials for the use at other construction projects is subject to the approval of the Engineer and/or other relevant reception authorities. Furthermore, unauthorised disposal of C&D materials in particular on private agricultural land is prohibited and may be subject to relevant enforcement and regulating actions. The disposal of public fill and C&D materials will be controlled through trip-ticket system in accordance with DEVB TC(W) No. 6/2010.	Minimise waste impacts from C&D materials	Contractor	All construction sites	Construction stages	• Waste Disposal Ordinance • ETWB TCW No. 19/2005, Environmental Management on Construction Sites • DEVB TCW No.6/2010 • DEVB TCW No.8/2010	Implemented
WM16	Chemical Waste Where the construction processes produce chemical waste, the contractor must register with EPD as a chemical waste producer. Wastes classified as chemical wastes are listed in the Waste Disposal (Chemical Waste) (General) Regulation. These wastes are subject to stringent disposal routes. EPD requires information on the particulars of the waste generation processes including the types of waste produced, their location, quantities and generation rates. A nominated contact person must be registered with EPD. An updated list of licensed chemical waste collector can be obtained from EPD.	Proper waste management for chemical waste	Contractor / Relevant Operators	All construction sites	Construction stages	• Waste Disposal (Chemical Waste) (General) Regulation • Code of Practice on the Packaging Labelling and Storage of Chemical Waste	Implemented
WM17	Storage, handling, transport, and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published by EPD, and collected by a licensed chemical waste collector.	Proper waste management for chemical waste	Contractor / Relevant Operators	All construction sites	Construction stages	• Waste Disposal (Chemical Waste) (General) Regulation • Code of Practice on the Packaging Labelling and	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
						Storage of Chemical Waste	
WM18	Suitable containers should be used for specific types of chemical wastes. The containers should be properly labelled (in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations), resistance to corrosion, stored safely and closely secured. Stored volume should not be kept more than 450 liters unless the specification has been approved by the EPD. Storage area should be enclosed by three sides by a wall, partition of fence that is at least 2 m height or height of tallest container with adequate ventilation and space.	Proper waste management for chemical waste	Contractor / Relevant Operators	All construction sites	Construction stages	• Waste Disposal (Chemical Waste) (General) Regulation • Code of Practice on the Packaging Labelling and Storage of Chemical Waste	Implemented
WM19	Hard standing, impermeable surfaces draining via oil interceptors should be provided in works area compounds. Interceptors should be regularly emptied to prevent release of oils and grease into the surface water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. Oil and fuel bunkers should be bunded and/or enclosed on three sides to prevent discharge due to accidental spillages or breaches of tanks. Bunding should be of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste, whichever is largest. Waste collected from any oil interceptors should be collected and disposed of by a licensed collector.	Proper waste management for chemical waste	Contractor / Relevant Operators	All construction sites	Construction stages	• Waste Disposal Ordinance • ETWB TCW No. 19/2005, Environmental Management on Construction Sites • Waste Disposal (Chemical Waste) (General) Regulation • EIAO-TM criteria	Implemented
WM20	Lubricants, waste oils and other chemical wastes are likely to be generated during the maintenance of vehicles and mechanical equipment. Used lubricants should be collected and stored in individual containers which are fully labelled in English and Chinese and stored in a	Proper waste management for chemical waste	Contractor / Relevant Operators	All construction sites	Construction stages	• Waste Disposal (Chemical Waste) (General) Regulation • Code of Practice on the Packaging	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	designated secure place. The chemical waste shall be collected by licensed chemical waste collectors.					Labelling and Storage of Chemical Waste	
WM21	The registered chemical waste producer (i.e. the contractor) has to arrange for the chemical waste to be collected by licensed collectors. The licensed collector should regularly take chemical waste to a licensed chemical waste treatment facility (such as the CWTC in Tsing Yi). A trip ticket system operates to control the movement of chemical wastes.	Proper waste management for chemical waste	Contractor / Relevant Operators	All construction sites	Construction stages	• Waste Disposal (Chemical Waste) (General) Regulation	Implemented
WM22	No lubricants, oils, solvents or paint products should be allowed to discharge into water courses, either by direct discharge, or as contaminants carried in surface water runoff from the construction site.	Proper waste management for chemical waste	Contractor / Relevant Operators	All construction sites	Construction stages	• Waste Disposal (Chemical Waste) (General) Regulation	Implemented
WM23	General Refuse General refuse should be disposed of to landfill as designated by EPD only after recyclable materials (e.g. paper, metals, aluminium cans, etc.) have been sorted out.	Minimise production of the general refuse and avoid odour, pest and litter impacts	Contractors	All construction sites	Construction stage	• Waste Disposal Ordinance • Public Health and Municipal Services Ordinance (Cap.132)	Implemented
WM24	The contractor should nominate approved site personnel to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site. Training of site personnel about site cleanliness, proper waste management and chemical handling procedures should be provided. Recyclable materials such as papers and aluminium cans should be separated and delivered to the local recyclers. An adequate number of waste containers should be provided to avoid spillage of waste.	Minimise production of the general refuse and avoid odour, pest and litter impacts	Contractors	All construction sites	Construction stage	• Waste Disposal Ordinance • Public Health and Municipal Services Ordinance (Cap.132)	Implemented
WM25	General refuse generated on-site should be stored in enclosed bins or skips and collected separately from other construction and chemical wastes and disposed of at	Minimise production of the general refuse and	Contractors	All construction sites	Construction stage	• Waste Disposal Ordinance	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	designated landfills by reputable waste collectors. The removal of waste from the site should be arranged on a daily basis or at least on every second day by the contractor to minimise any potential odour impacts, minimise the presence of pests, vermin and other scavengers and prevent unsightly accumulation of waste.	avoid odour, pest and litter impacts				• Public Health and Municipal Services Ordinance (Cap.132)	
Waste Management (Operation Phase)							
WM26	The general refuse and chemical waste generated during the operation phase would follow the same handling procedures and disposal method presented in Sections 6.6.16 to 6.6.25 of the EIA report. It is expected that there would be limited quantities of general refuse and chemical waste to be generated from the operation of the Project and will be properly handled by licensed chemical waste collectors and reputable waste collector. Waste monitoring and audit programme for the operation phase of the Project would not be required.	Minimise production of the general refuse and avoid odour, pest and litter impacts	Relevant Operators	All construction sites	Operation Stage	• Waste Disposal Ordinance • Waste Disposal (Chemical Waste) (General) Regulation • Code of Practice on the Packaging Labelling and Storage of Chemical Waste • Public Health and Municipal Services Ordinance (Cap.132)	To be implemented
Ecology							
E1	Direct impact to the recognised site of conservation importance (Lion Rock Country Park)/habitats with high ecological values (e.g. watercourse, woodland, species of conservation interest shall be avoided.	Avoid any direct impacts to these sites of conservation importance /habitats with high ecological value	Detailed Design Consultant	Sites of conservation importance/ habitats with high ecological value	Design Stage	TM-EIAO	To be implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
E2	To minimise habitat loss to the nearby habitats and associated wildlife, the following mitigation measures should be implemented: • Confining the works within the Project Boundary; • Controlling access of site staff to avoid damage to the vegetation in surrounding areas; and • Placement of equipment or stockpile in the existing disturbed / urbanised area within the Project Boundary of the Project to minimise disturbance to vegetated area.	Minimise habitat loss to the nearby habitats and associated wildlife	Contractor	All construction sites	Construction Stage	TM-EIAO	Implemented
E3	Reinstatement and enhancement of temporarily affected habitats. Minor ecological impacts may arise from the temporary loss of plantation and developed area during construction phase. In general, replanting would be implemented upon the completion of the construction works to reinstate the temporarily affected areas to condition similar to original status.	Enhance the temporarily affected habitats	Contractor	All construction sites	Construction stage	TM-EIAO	To be implemented
E4	Minimizing Disturbance from Construction Activities Mitigation measures including, but not limited to, erection of site hoarding, use of Quality Powered Mechanical Equipment (QPME), noise and dust reduction tarpaulin sheeting and good site practices throughout construction phase are shown as followings: • Site hoarding would be established around the proposed tunnel portal and E&M building prior to the commencement of construction works to prevent construction activities from encroaching adjacent habitats as well as prevent unnecessary human activities in the surrounding habitats; • QPME, noise and dust reduction tarpaulin sheeting could be used during construction phase to reduce noise disturbance and dust emission. Temporary	To minimise disturbance from construction activities	Contractor	All construction sites	Construction stage	TM-EIAO	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	barriers such as movable noise barrier, temporary noise screening structures and site hoardings could further reduce the noise impact; • Good site practices such as regular water spraying at dusty operation, provision of waste skips and timely collection of general refuse and construction waste are also recommended.						
E5	Reduction of lighting can be achieved using directional lighting to prevent excessive light spill into adjacent natural habitat and disturbance to nocturnal fauna. .	To minimize disturbance from construction activities	Contractor	All construction sites	Construction stage	TM-EIAO	Implemented
E6	<u>Control of Site Runoff</u> Best management practices should be implemented on site in accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94) as far as practicable to control site runoff and drainage at all work sites during construction phase, so that the treated runoff will be discharged to public drainage system in compliance with the WPCO. Construction effluent, site run-off and sewage should be properly collected and/or treated. Wastewater from a construction site should be managed. Proper locations for discharge outlets of wastewater treatment facilities well away from the natural watercourses should be identified. Effluent monitoring should be incorporated to make sure that the discharged effluent from construction sites meets the effluent discharge guidelines. The practices outlined in ETWB TC (Works) No. 5/2005 “Protection of natural streams/rivers from adverse impacts arising from construction works” should also be adopted where applicable to minimise the water quality impacts upon the channalised/semi-natural	To control site runoff and drainage at all work sites, thus, the aquatic ecosystem is protected.	Contractor	All construction sites	Construction stage	• Water Pollution Control Ordinance • ProPECC PN. 1/94	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	watercourses, in order to better protect the aquatic ecosystem.						
E7	Control of Groundwater Infiltration In order to minimise groundwater infiltration or avoid potential impacts on watercourses, water table and groundwater drawdown, minimization approach was adopted during design stage and would be adopted during construction and operation phase.	To minimize groundwater infiltration / avoid potential impacts on watercourses	Contractor	Works area at Cavern and tunnel portal	Design stage / Construction stage / Operation Stage	EIAO-TM	To be implemented
E8	The proposed cavern would be constructed under the measured groundwater table. Water inflow would be controlled to an acceptable level by implementing pre-grouting and post-grouting measures, thus the impact of the proposed cavern on the groundwater table is considered to be limited.	To minimize groundwater infiltration / avoid potential impacts on watercourses	Contractor	Works area at Cavern and tunnel portal	Design stage / Construction stage / Operation Stage	EIAO-TM	To be implemented
E9	The permanent tunnel structure of the proposed access tunnel would be designed as drained type at the locations with adequate rock cover and designed as undrained type at locations with mix ground conditions. The water inflow would also be controlled to an acceptable level with pre-grouting and postgrouting measures.	To minimize groundwater infiltration / avoid potential impacts on watercourses	Contractor	Works area at Cavern and tunnel portal	Design stage / Construction stage / Operation Stage	EIAO-TM	To be implemented
E10	During operation phase, waterproof lining would be installed to prevent water seepage and water droplets (if any) would be discharged into the sewage system	To minimize groundwater infiltration / avoid potential impacts on watercourses	Contractor	Works area at Cavern and tunnel portal	Design stage / Construction stage / Operation Stage	EIAO-TM	To be implemented
E11	All the mitigation measures regarding potential groundwater infiltration concern that has been proposed in Section 5.8.7 shall be followed.	To minimize groundwater infiltration / avoid potential impacts on watercourses	Contractor	Works area at Cavern and tunnel portal	Design stage / Construction stage / Operation Stage	EIAO-TM	To be implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
Landscape and Visual (Construction Phase)							
CM1	Careful Site Planning and Management • The site layout and works area including temporary access road(s), stockpiling area(s), temporary construction storage shall be carefully planned to preserve existing landscape resources and trees as far as practicable. • Good site practices shall be enforced to eliminate eyesores from unappealing stockpiling/ storage areas and/or construction activities.	To minimize site clearance, tree removal and disturbance to existing Landscape Resources, and visual obstruction to VSRs	Project Proponent (via Contractor)	All construction areas	Construction stage	N/A	Implemented
CM2	Careful Design of Slope Works • Slope stabilization methods (i.e., insertion of soil nails and establishment of grillage, etc.) shall be carefully formulated to minimise the loss of tree and landscape cover as far as practicable.	To minimize tree removal and to create a slope surface better blending with the surrounding environment	Project Proponent (via Contractor)	Works area at Cavern and tunnel portal	Construction stage	N/A	Implemented
CM3	Tree Preservation • In accordance with DEVB TC (W) No.4/2020 – Tree Preservation or its latest version, existing vegetation shall be retained on site as far as practicable. • Adequate tree protection measures shall be provided for the Trees to be retained on site. Relevant guidelines on tree care and protection promulgated by Greening, Landscape and Tree Management Section of Development Bureau shall be observed and followed.	To minimize tree removal	Project Proponent (via Contractor)	All construction areas	Construction stage	N/A	Implemented after observation
CM4	Tree Transplanting/ Compensatory Tree Planting • Trees unavoidably affected by the project shall be transplanted as far as practicable in accordance with DEVB TC (W) No.4/2020 – Tree Preservation or its latest version and the latest guidelines promulgated by	To minimize the loss of trees To compensate for the loss of tree	Project Proponent (via Contractor)	All construction areas	Construction stage	DEVB TC(W) No. 4/2020- Tree Reservation	Implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	Greening, Landscape and Tree Management Section of Development Bureau. • Affected trees that are not suitable for transplantation and to be felled shall be compensated in not less than 1:1 in quantity and in accordance with DEVB TC (W) No.4/2020 – Tree Preservation or its latest version. • Onsite compensation has been prioritized. However, due to land status issues, area of onsite compensatory planting locations are insufficient to compensate for the loss of trees and near site compensatory locations managed by WSD are adopted, as shown in Figure 9.9, Figure 9.10A, Figure 9.10B and Figure 9.11 of the EIA report. • Tree species selected shall be compatible with surrounding existing vegetation.	To provide quality and sustainable landscape that is compatible with the site context					
CM5	Inspection of Tree Works • Regular site inspection shall be conducted by tree specialist.	To closely monitor the site activities in order to avoid or minimize any possible adverse impact to the retained trees	Project Proponent (via Contractor)	All construction areas	Construction stage	N/A	Implemented
CM6	Minimization of Light Impact • Lighting at construction sites shall be carefully controlled at night	To avoid disturbance to nearby VSRs	Project Proponent (via Contractor)	All construction areas and temporary works areas	Construction stage	N/A	Implemented
CM7	Erection of Decorative Site Hoarding • Decorative hoarding that is compatible with the surrounding environment shall be erected during construction.	To enhance the visual amenity of construction hoarding	Project Proponent (via Contractor)	All construction areas and temporary work areas	Construction stage	N/A	To be implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
CM8	Reinstatement of Temporarily Disturbed Areas • Temporarily disturbed landscape areas shall be reinstated.	To reinstate the disturbed landscape	Project Proponent (via Contractor)	All construction areas and temporary work areas	Construction stage	N/A	To be implemented
Landscape and Visual (Operation Phase)							
OM1	Landscape Planting • Landscape planting shall be provided in accordance with DEVB TCW No.3/2012 – Site Coverage of Greenery for Government Building Projects or its latest version. • Planting species shall be compatible with the nearby existing vegetation cover as far as practicable. • Not less than 12-month establishment after completion shall be provided for the landscape planting.	To soften the hard edges of the structure and make it more compatible with the surrounding environment	Project Proponent (via Contractor)	Ancillary building	Operation stage	DEVB TCW No.3/2012	To be implemented
OM2	Rooftop Greening Rooftop greening shall be implemented with reference to the references on skyrise greenery provided by the Greening, Landscape & Tree Management Section, Development Bureau.	To make the ancillary facilities more compatible with the surrounding woodland landscape and to mitigate the potential adverse visual impact on adjacent residential VSRs viewing from an elevated vantage point	Project Proponent (via Contractor)	Ancillary building	Operation stage	N/A	To be implemented
OM3	Vertical Greening Vertical greening shall be provided.	To enhance the visual amenity of the ancillary	Project Proponent	Ancillary building	Operation stage	N/A	To be implemented

EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
		facilities and to blend in with the surrounding landscape	(via Contractor)				
OM4	Careful Design of Ancillary Facilities • The orientation and location of the ancillary facilities shall be carefully designed. Its finish shall be non-reflective and dull in colour. • The ancillary facilities are unmanned structures that merely require minimal security services during daytime. There shall be nobody and no lighting illuminating from the buildings at night, except essential street lighting for the portal access road.	To avoid glare impact to surrounding VSRs	Project Proponent (via Contractor)	Ancillary building	Operation stage	N/A	To be implemented

Appendix E

Air Quality and Noise Monitoring Equipment Calibration Certification

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

Information of Calibrated Equipement

Verification Test Date:	**28-Nov-23**	to	**30-Nov-23**	Next Verification Test Date:	**28-Nov-24**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	0Z4545				
Our Report Refrence No.:	RPT-23-HVS-0065				
Calibration Location:	AM2, location near the Leachate Treatment Works within the NENTX Landfill				

Standard Equipment Information

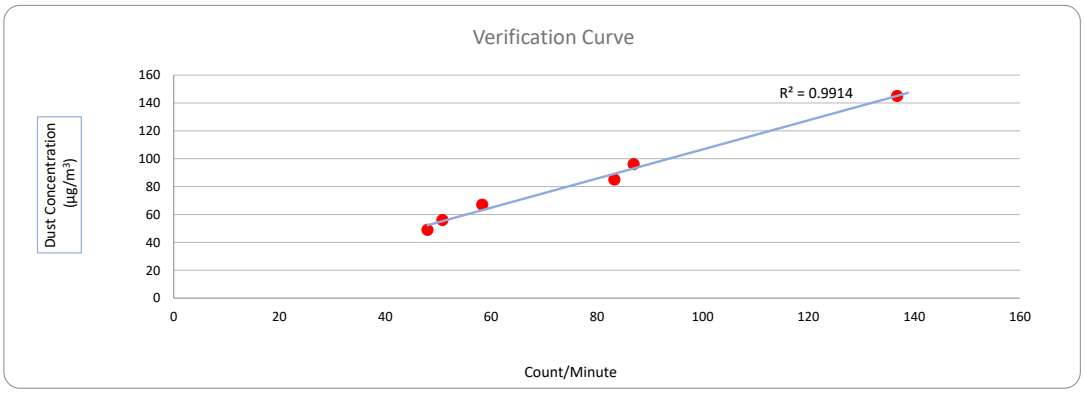
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1106	4166
Last Calibration Date:	4-Nov-23	19-Jun-23
Next Calibration Date:	3-Jan-24	19-Jun-24

Equipement Vertification Result

Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	28/11/2023	8789.68	8792.68	180.00	15648	87	96
2	28/11/2023	8792.68	8795.68	180.00	14993	83	85
3	28/11/2023	8795.68	8798.68	180.00	8635	48	49
4	30/11/2023	8798.68	8801.68	180.00	10501	58	67
5	30/11/2023	8801.68	8804.68	180.00	24622	137	145
6	30/11/2023	8804.68	8807.68	180.00	9145	51	56

Linear Regression of y on x

Slope, K factor:	**1.0451**	Intercept:	**2.1545**	*Correlation Coefficient,R:	**0.9957**
Verification Test Result:	Strong Correlation, Results were accepted.			* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.	



Operated By: Andy Li — Date: 30-11-2023
Project Technician, Environmental

Checked By: Tandy Tse — Date: 30-11-2023
Senior Consultant, Environmental

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

Information of Calibrated Equipement

Verification Test Date:	**28-Nov-23**	to	**30-Nov-24**	Next Verification Test Date:	**28-Nov-24**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	882106				
Our Report Refrence No.:	RPT-23-HVS-0068				
Calibration Location:	AM2, location near the Leachate Treatment Works within the NENTX Landfill				

Standard Equipment Information

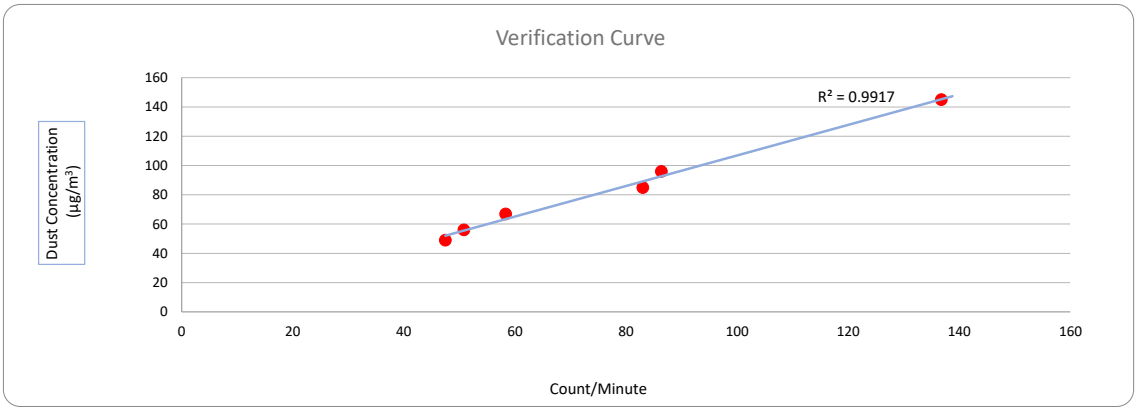
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1106	4166
Last Calibration Date:	4-Nov-23	19-Jun-23
Next Calibration Date:	3-Jan-24	19-Jun-24

Equipement Vertification Result

Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	28/11/2023	8789.68	8792.68	180.00	15546	86	96
2	28/11/2023	8792.68	8795.68	180.00	14944	83	85
3	28/11/2023	8795.68	8798.68	180.00	8543	47	49
4	30/11/2023	8798.68	8801.68	180.00	10499	58	67
5	30/11/2023	8801.68	8804.68	180.00	24622	137	145
6	30/11/2023	8804.68	8807.68	180.00	9145	51	56

Linear Regression of y on x

Slope, K factor:	**1.0437**	Intercept:	**2.4993**	*Correlation Coefficient,R:	**0.9958**
Verification Test Result:	Strong Correlation, Results were accepted.			* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.	



Operated By: Andy Li — Date: 30-11-2023
Project Technician, Environmental

Checked By: Tandy Tse — Date: 30-11-2023
Senior Consultant, Environmental

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

Information of Calibrated Equipement

Verification Test Date:	**28-Nov-23**	to	**30-Nov-23**	Next Verification Test Date:	**28-Nov-24**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	942532				
Our Report Refrence No.:	RPT-23-HVS-0071				
Calibration Location:	AM2, location near the Leachate Treatment Works within the NENTX Landfill				

Standard Equipment Information

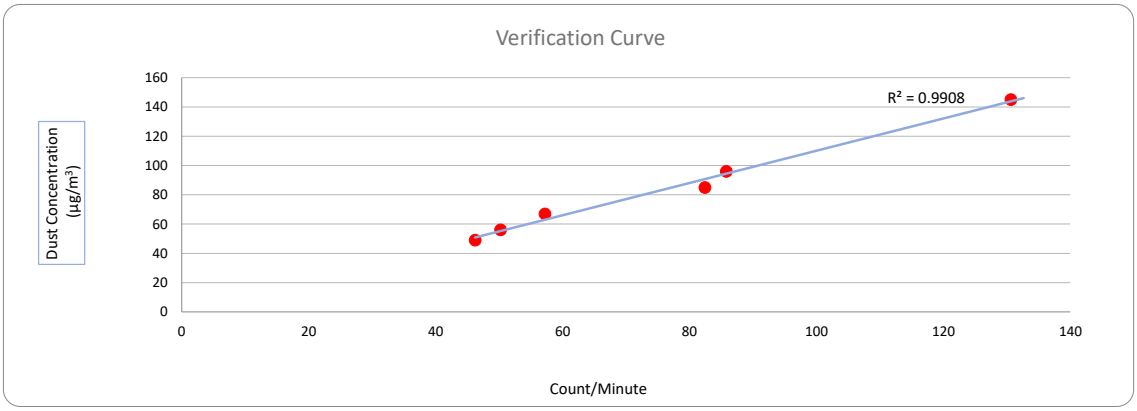
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1106	4166
Last Calibration Date:	4-Nov-23	19-Jun-23
Next Calibration Date:	3-Jan-24	19-Jun-24

Equipement Vertification Result

Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	28/11/2023	8789.68	8792.68	180.00	15446	86	96
2	28/11/2023	8792.68	8795.68	180.00	14835	82	85
3	28/11/2023	8795.68	8798.68	180.00	8320	46	49
4	30/11/2023	8798.68	8801.68	180.00	10303	57	67
5	30/11/2023	8801.68	8804.68	180.00	23517	131	145
6	30/11/2023	8804.68	8807.68	180.00	9043	50	56

Linear Regression of y on x

Slope, K factor:	**1.1020**	Intercept:	**-0.1223**	*Correlation Coefficient,R:	**0.9954**
Verification Test Result:	Strong Correlation, Results were accepted.			* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.	



Operated By: Andy Li — Date: 30-11-2023
Project Technician, Environmental

Checked By: Tandy Tse — Date: 30-11-2023
Senior Consultant, Environmental

Certificate of Calibration

for

Description:	***Sound Level Calibrator***
Manufacturer:	***RION***
Type No.:	***NC-74***
Serial No.:	***34615222***

Submitted by:

Customer:	*Aurecon Hong Kong Limited*
Address:	*Unit 1608, 16/F, Tower B, Manulife Financial Centre,*
	223-231 Wai Yip Street, Kwun Tong,
	Kowloon, Hong Kong

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

☑ **Within**
☐ **Outside**

the allowable tolerance.

The test equipments used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 21 March 2024

Date of calibration: 27 March 2024

Date of NEXT calibration: 26 March 2025

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **27 March 2024**

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A)*L

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precautions:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Specifications:*

Calibration check

3. *Calibration Conditions:*

Air Temperature:	22.5 °C
Air Pressure:	1005 hPa
Relative Humidity:	69.8 %

4. *Calibration Equipment:*

Test Equipment	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV220061	HOKLAS
Sound Level Meter	RION NA-28	30721812	AV220120	HOKLAS

5. *Calibration Results*

5.1 Sound Pressure Level

Nominal value dB	Accept lower level dB	Accept upper level dB	Measured value dB
94.0	93.6	94.4	94.2

Note:
The values given in this certification only related to the values measured at the time of the calibration.

ACOUSTICS AND AIR TESTING LABORATORY CO LTD. (A+A)*L

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***NTi Audio***
Type No.:	***XL2 (Serial No.: A2A-09696-E0)***
Microphone:	***ACO 7052 (Serial No.:73780)***
Preamplifier:	***NTi Audio MA220 (Serial No.:6282)***

Submitted by:

Customer:	*Aurecon Hong Kong Limited*
Address:	*Unit 1608, 16/F, Tower B,*
	Manulife Financial Centre,
	223-231 Wai Yip Street, Kwun Tong,
	Kowloon, Hong Kong.

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

☑ **Within (31.5Hz – 8kHz)**
☐ **Outside**
the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 28 February 2024

Date of calibration: 02 March 2024

Date of NEXT calibration: 01 March 2025

Calibrated by: _____ ***Certified by:*** _____

Calibration Technician ***Mr. Ng Yan Wa***
Laboratory Manager

Date of issue: **02 March 2024**

Certificate No.: APJ23-146-CC003

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precaution:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Conditions:*

Air Temperature: 22.9 °C
Air Pressure: 1005 hPa
Relative Humidity: 61.2 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV220061	HOKLAS

4. *Calibration Results*

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	Ref
			104		104.1	±0.3
			114		114.1	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.1	Ref
		Slow			94.1	±0.3

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dB SPL	Fast	94	31.5	94.0	±2.0
				63	94.1	±1.5
				125	94.1	±1.5
				250	94.1	±1.4
				500	94.1	±1.4
				1000	94.1	Ref
				2000	94.4	±1.6
				4000	95.2	±1.6
				8000	94.5	+2.1; -3.1

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	31.5	54.6	-39.4 ±2.0
				63	67.9	-26.2 ±1.5
				125	78.0	-16.1 ±1.5
				250	85.4	-8.6 ±1.4
				500	90.9	-3.2 ±1.4
				1000	94.1	Ref
				2000	95.6	+1.2 ±1.6
				4000	96.2	+1.0 ±1.6
				8000	93.4	-1.1+2.1; -3.1

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBC SPL	Fast	94	31.5	91.0	-3.0 ±2.0
				63	93.3	-0.8 ±1.5
				125	93.9	-0.2 ±1.5
				250	94.1	-0.0 ±1.4
				500	94.2	-0.0 ±1.4
				1000	94.1	Ref
				2000	94.2	-0.2 ±1.6
				4000	94.4	-0.8 ±1.6
				8000	91.5	–3.0 +2.1: –3.1

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

5. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.10
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:
The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Appendix F

Environmental Monitoring Schedule

Contract No. 21/WSD/21

Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns

Tentative Impact Environmental Monitoring Schedule

October 2024

Sun	Mon	Tue	Wed	Thur	Fri	Sat
		1	2 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	3	4 Site inspection	5
6	7 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	8	9	10 Site inspection	11	12 Impact Air Quality Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)
13	14	15	16	17	18 Site inspection Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	19
20	21	22	23	24 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	25 Site inspection	26
27	28	29	30 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	31		

The schedule may be changed due to unforeseen circumstances (e.g. adverse weather, etc.)

Air Quality Monitoring Stations:
DM-1 - Tennis Court near Tin Ma Court
DM-2 - Chun Sing House, Tin Ma Court
DM-3 - Grace Methodist Church Kindergarten
DM-4 - Block 6, Tsui Chuk Garden
DM-4a - Road pavement near Wang King House, Tin Wang Court

Noise Monitoring Stations:
NM-2 - Chun Sing House, Tin Ma Court
NM-3 - Grace Methodist Church Kindergarten
NM-4 - Block 6, Tsui Chuk Garden
NM-4a - Road pavement near Wang King House, Tin Wang Court
NM-5 - Wo Tin House, Shatin Pass Estate
NM-6 - Sheung Fung Street Customs Staff Quarters

Appendix G

Air Quality Monitoring Results and Graphical Presentation

Appendix G - 1-hour TSP Monitoring Results

DM-1 - Tennis Court near Tin Ma Court			
Date	Time	Weather	Particulate Concentration (µg/m^3)
2 Oct 2024	8:00	Fine	60
	9:00		59
	10:00		62
7 Oct 2024	8:05	Fine	58
	9:05		60
	10:05		62
12 Oct 2024	8:00	Fine	58
	9:00		60
	10:00		62
18 Oct 2024	8:10	Fine	57
	9:10		58
	10:10		58
24 Oct 2024	8:03	Fine	57
	9:03		60
	10:03		59
30 Oct 2024	8:00	Fine	58
	9:00		56
	10:00		54
		Minimum	54
		Maximum	62
		Average	59

DM-2 - Chun Sing House, Tin Ma Court			
Date	Time	Weather	Particulate Concentration (µg/m^3)
2 Oct 2024	8:30	Fine	58
	9:30		56
	10:30		57
7 Oct 2024	8:35	Fine	55
	9:35		57
	10:35		59
12 Oct 2024	8:20	Fine	59
	9:20		57
	10:20		58
18 Oct 2024	8:35	Fine	60
	9:35		57
	10:35		59
24 Oct 2024	8:23	Fine	56
	9:23		57
	10:23		57
30 Oct 2024	8:30	Fine	43
	9:30		45
	10:30		47
		Minimum	43
		Maximum	60
		Average	55

Appendix G - 1-hour TSP Monitoring Results

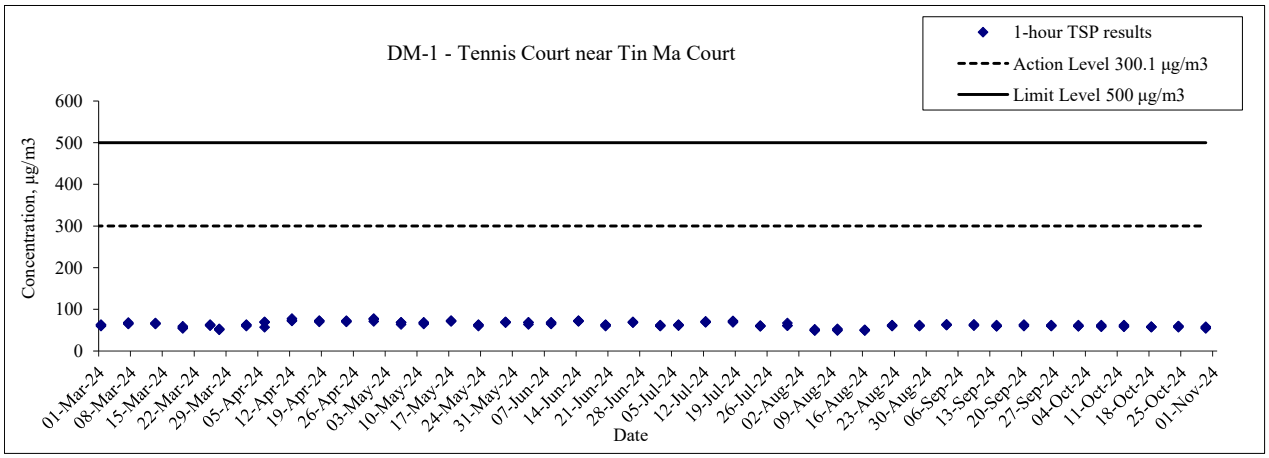
DM-3 - Grace Methodist Church Kindergarten			
Date	Time	Weather	Particulate Concentration (µg/m^3)
2 Oct 2024	9:00	Fine	40
	10:00		39
	11:00		38
7 Oct 2024	9:00	Fine	38
	10:00		40
	11:00		40
12 Oct 2024	8:50	Fine	39
	9:50		39
	10:50		40
18 Oct 2024	9:02	Fine	40
	10:02		41
	11:02		39
24 Oct 2024	8:45	Fine	38
	9:45		38
	10:45		39
30 Oct 2024	8:45	Fine	23
	9:45		28
	10:45		30
		Minimum	23
		Maximum	41
		Average	37

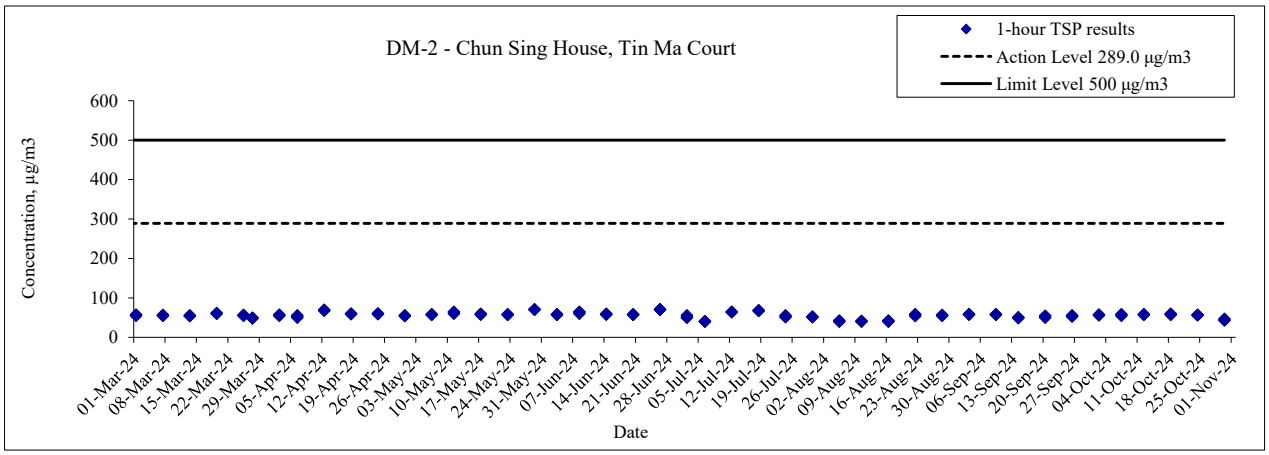
DM-4 - Block 6, Tsui Chuk Garden			
Date	Time	Weather	Particulate Concentration (µg/m^3)
2 Oct 2024	13:00	Fine	41
	14:00		42
	15:00		39
7 Oct 2024	13:00	Fine	43
	14:00		38
	15:00		39
12 Oct 2024	13:05	Fine	42
	14:05		45
	15:05		39
18 Oct 2024	13:11	Fine	40
	14:11		41
	15:11		40
24 Oct 2024	13:00	Fine	41
	14:00		43
	15:00		37
30 Oct 2024	13:00	Fine	51
	14:00		48
	15:00		46
		Minimum	37
		Maximum	51
		Average	42

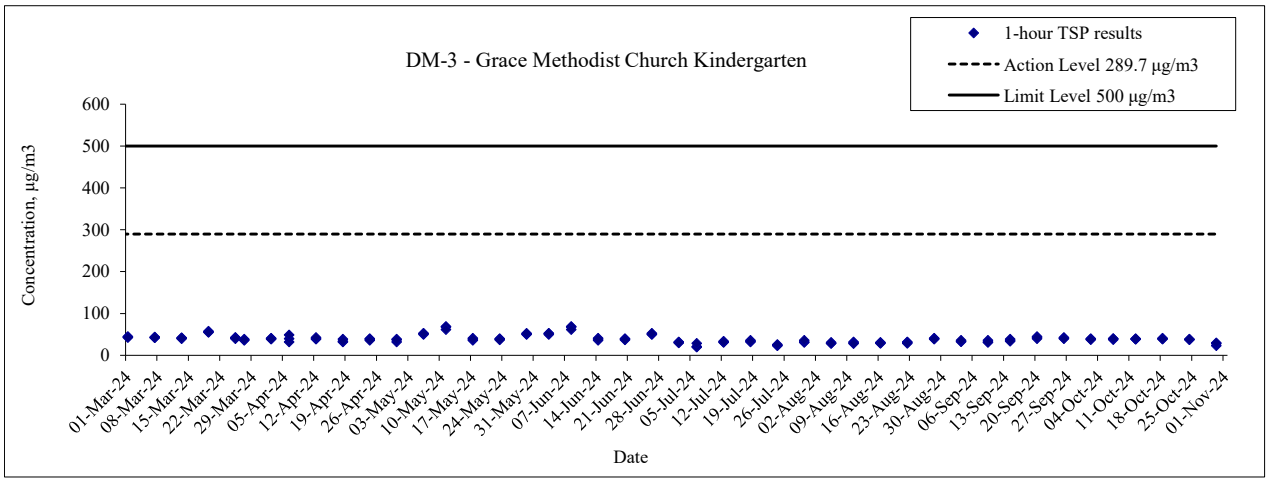
Appendix G - 1-hour TSP Monitoring Results

DM-4a - Road pavement near Wang King House, Tin Wang Court			
Date	Time	Weather	Particulate Concentration (μg/m³)
2 Oct 2024	13:20	Fine	37
	14:20		39
	15:20		36
7 Oct 2024	13:25	Fine	36
	14:25		38
	15:25		36
12 Oct 2024	13:15	Fine	37
	14:15		38
	15:15		38
18 Oct 2024	13:30	Fine	35
	14:30		36
	15:30		36
24 Oct 2024	13:20	Fine	39
	14:20		36
	15:20		39
30 Oct 2024	13:15	Fine	57
	14:15		56
	15:15		53
		Minimum	35
		Maximum	57
		Average	40

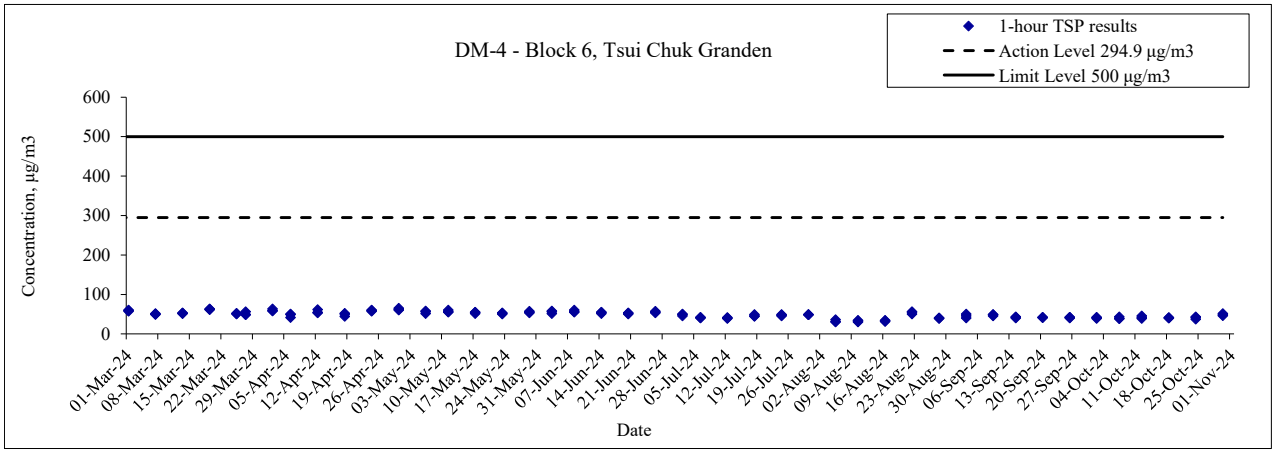
1-hour TSP Concentration Level

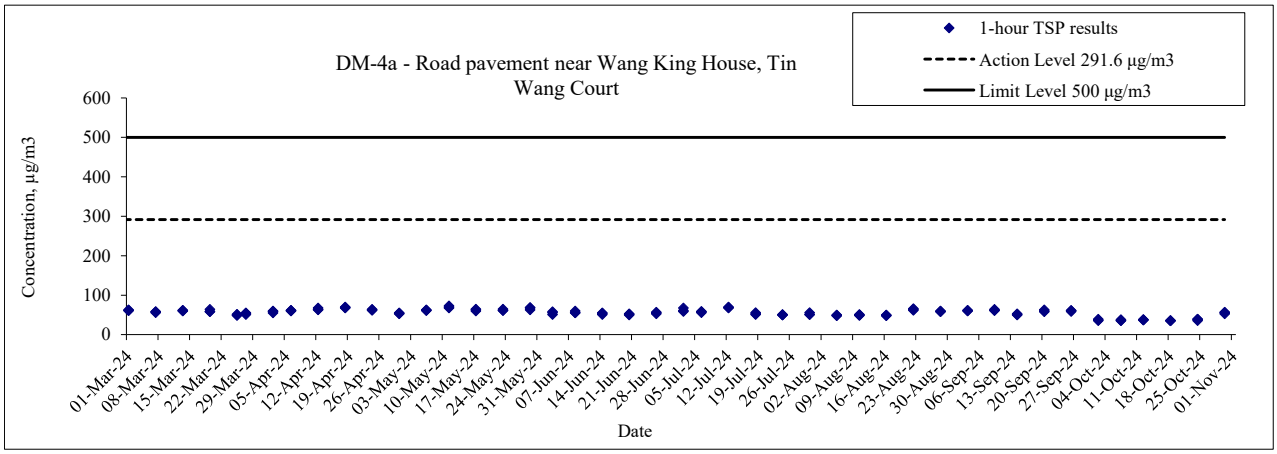






1-hour TSP Concentration Level



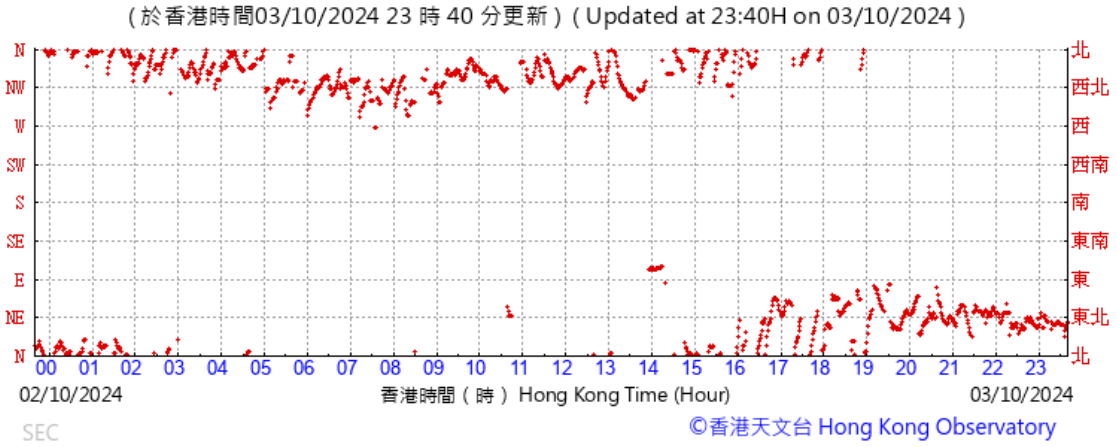


Appendix H

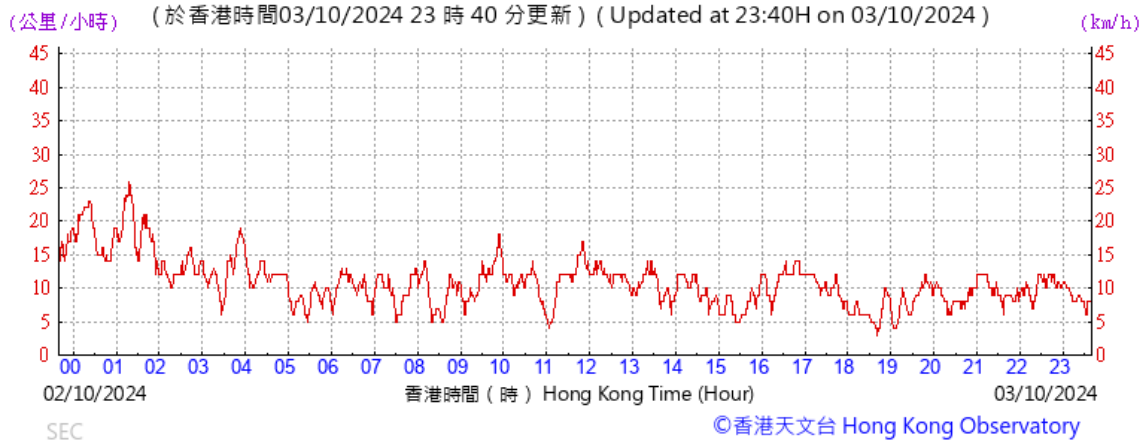
Extract of Meteorological Observations for Hong Kong (Kai Tak)

Appendix H - Extract of Meteorological Observations for Hong Kong (Kai Tak Wind Station)

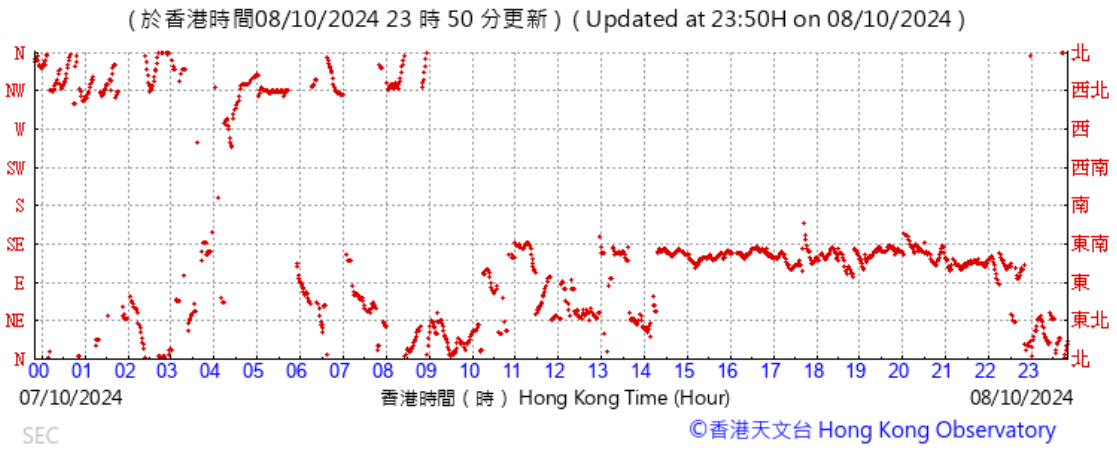
Wind Direction



Wind Speed

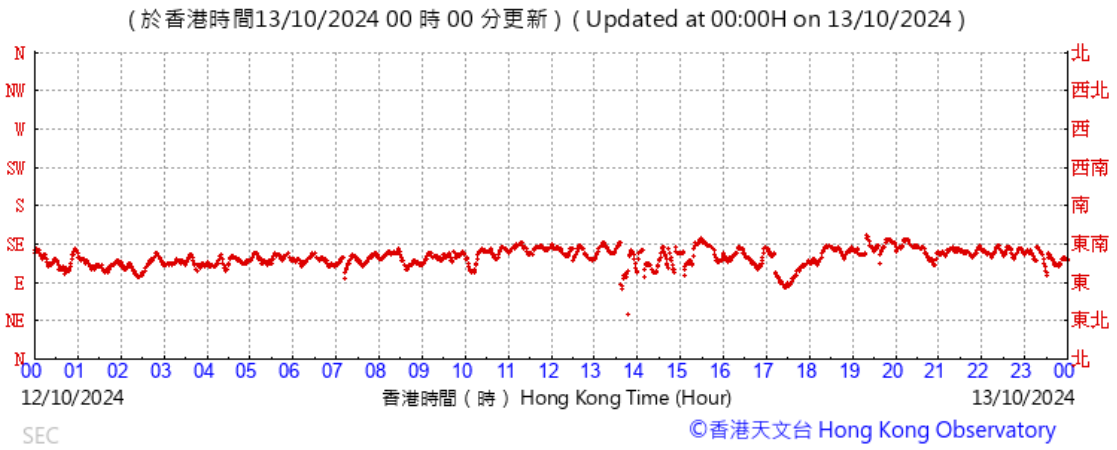


Wind Direction



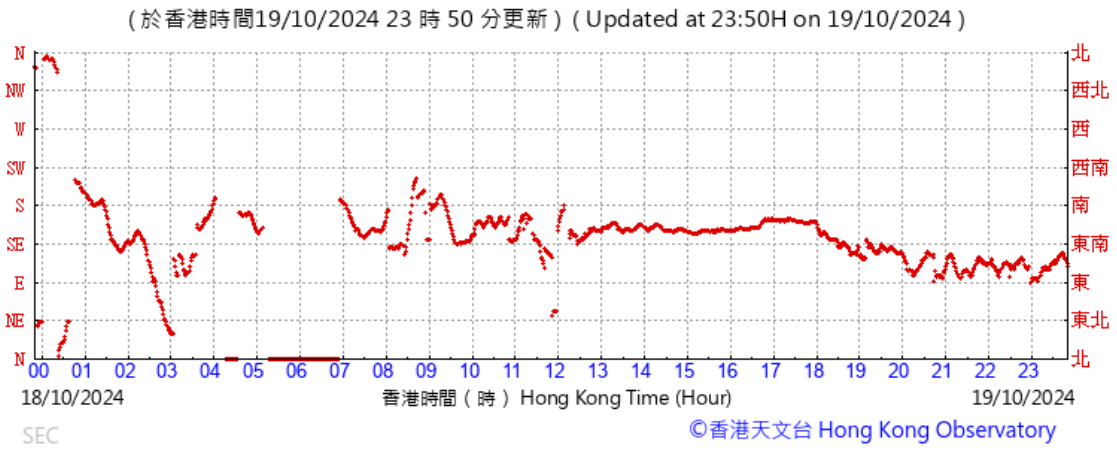
Wind Speed

Wind Direction

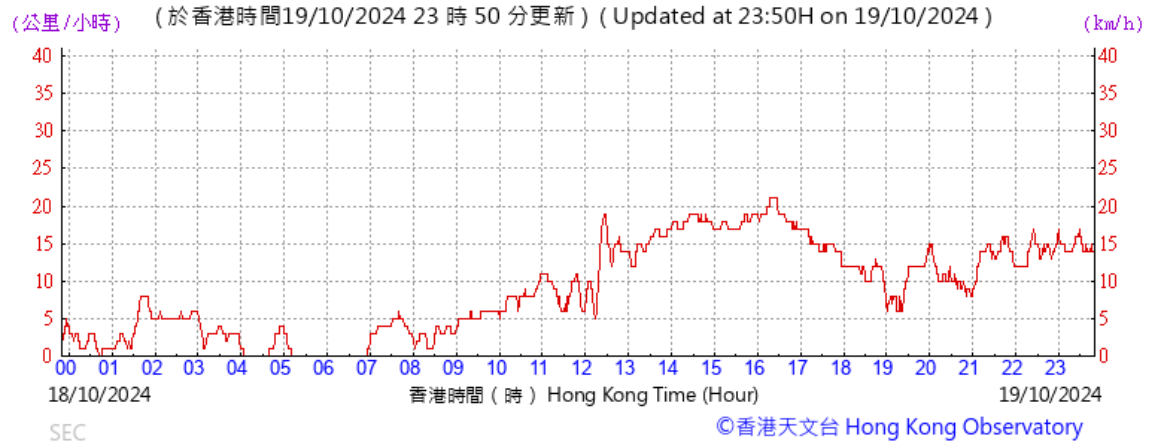


Weed Speed

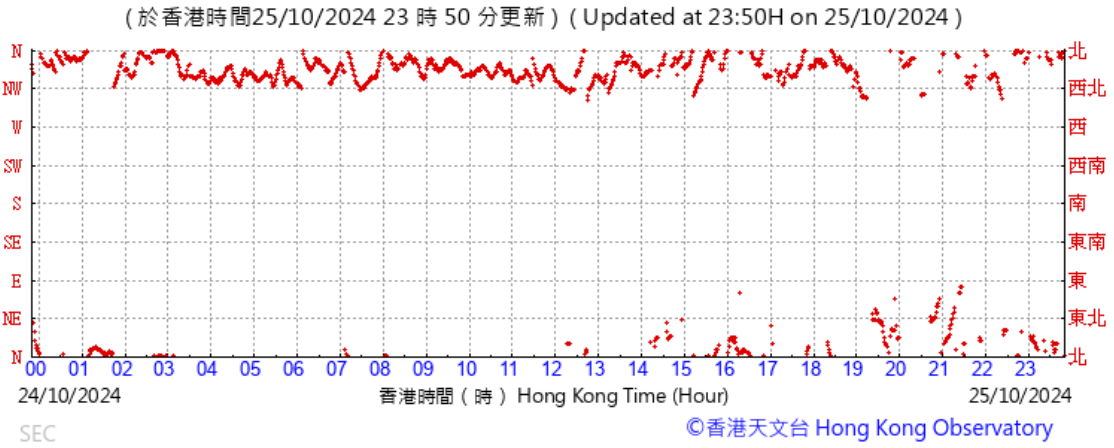
Wind Direction



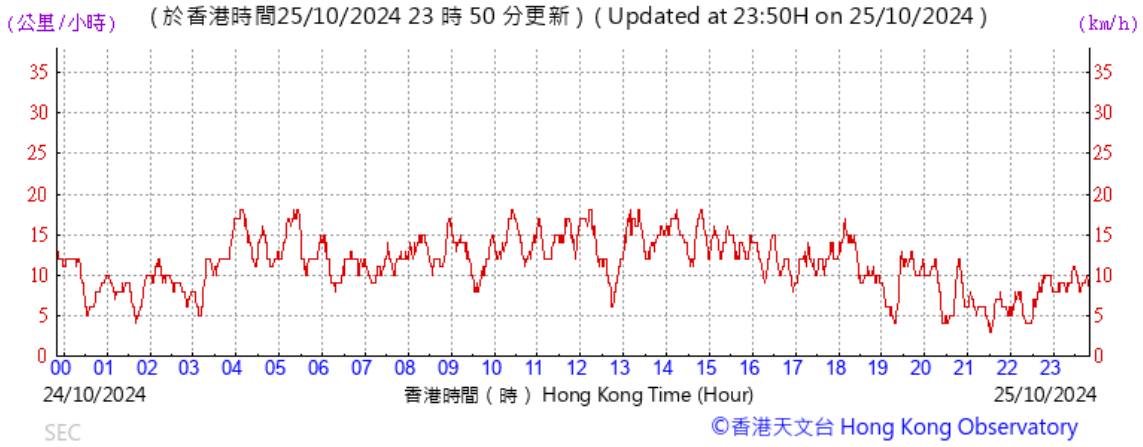
Wind Speed



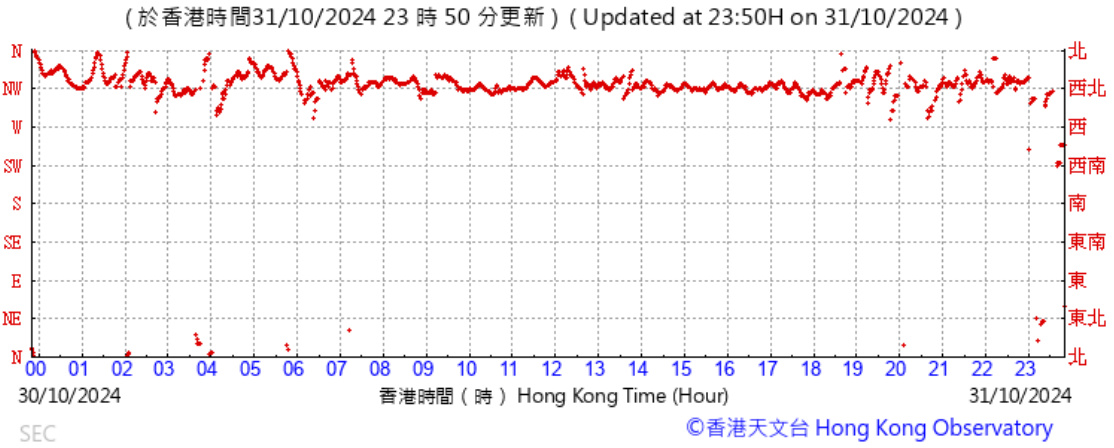
Wind Direction



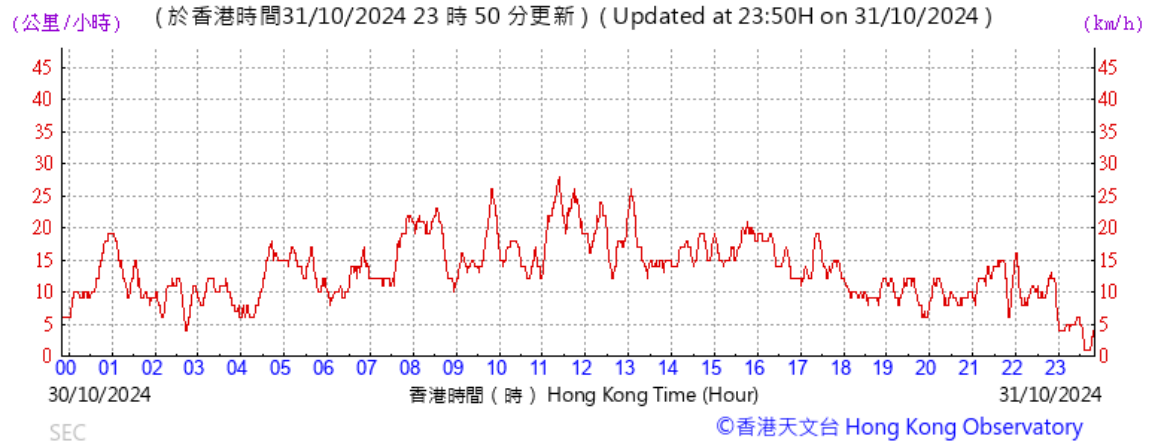
Wind Speed



Wind Direction



Wind Speed



Appendix I

Noise Monitoring Results and Graphical Presentation

Appendix I - Construction Noise Monitoring Results

Construction Noise Monitoring Stations: Chun Sing House, Tin Ma Court (NM-2)

Date	Weather	Start Time	dB(A)			
			Leq	L10	L90	Leq(30min)
2 Oct 2024	Fine	15:00	70.5	71.1	69.0	69.6
		15:05	70.1	71.6	68.6	
		15:10	69.8	71.3	68.3	
		15:15	69.5	71.0	68.0	
		15:20	68.7	70.2	67.2	
		15:25	69.0	70.5	67.5	
7 Oct 2024	Fine	15:05	71.3	72.8	70.8	70.3
		15:10	69.5	71.0	68.0	
		15:15	70.5	72.0	69.0	
		15:20	69.8	70.3	68.3	
		15:25	70.9	71.4	69.4	
		15:30	69.1	70.6	68.6	
18 Oct 2024	Fine	14:25	71.9	73.4	70.4	70.5
		14:30	71.8	73.3	70.3	
		14:35	70.5	72.0	68.0	
		14:40	69.5	71.0	67.0	
		14:45	69.8	71.3	68.3	
		14:50	68.5	71.0	66.0	
24 Oct 2024	Fine	13:30	72.0	73.5	70.5	71.4
		13:35	71.8	73.3	70.3	
		13:40	71.6	73.1	70.1	
		13:45	70.9	72.4	69.4	
		13:50	70.5	73.0	69.0	
		13:55	71.7	73.2	70.2	
30 Oct 2024	Fine	14:00	69.2	70.2	68.3	69.7
		14:05	70.1	71.3	69.2	
		14:10	68.9	69.4	67.1	
		14:15	70.2	71.6	69.1	
		14:20	70.0	71.0	68.2	
		14:25	69.9	70.2	68.1	
					Min:	69.6
					Max:	71.4
					Average:	70.3

Construction Noise Monitoring Stations: Grace Methodist Church Kindergarten (NM-3)

Date	Weather	Start Time	dB(A)			
			Leq	L10	L90	Leq(30min)
2 Oct 2024	Fine	14:15	58.3	59.8	56.8	59.0
		14:20	59.6	61.1	58.1	
		14:25	59.2	60.7	57.7	
		14:30	58.5	60.0	57.0	
		14:35	58.6	60.1	57.1	
		14:40	59.7	61.2	58.2	
7 Oct 2024	Fine	14:25	57.9	59.4	56.4	58.2
		14:30	58.3	59.8	56.8	
		14:35	58.6	59.1	57.1	
		14:40	57.8	58.3	56.3	
		14:45	58.5	59.0	57.0	
		14:50	57.9	59.4	56.4	
18 Oct 2024	Fine	13:40	58.5	60.0	56.0	59.2
		13:45	59.5	61.0	57.0	
		13:50	58.7	60.2	57.2	
		13:55	59.6	61.1	58.1	
		14:00	58.9	60.4	57.4	
		14:05	59.7	61.2	58.2	
24 Oct 2024	Fine	14:16	59.5	61.0	58.0	59.0
		14:21	58.9	60.4	57.4	
		14:26	59.6	61.1	58.1	
		14:31	58.7	60.2	57.2	
		14:36	59.5	61.0	57.0	
		14:41	57.5	59.0	56.0	
30 Oct 2024	Fine	14:56	57.8	58.8	56.7	56.2
		15:01	58.1	59.4	57.1	
		15:06	55.2	56.2	54.2	
		15:11	55.1	56.3	54.2	
		15:16	54.1	55.4	53.1	
		15:21	55.0	56.5	54.2	
					Min:	56.2
					Max:	59.2
					Average:	58.3

Appendix I - Construction Noise Monitoring Results

Construction Noise Monitoring Stations: Block 6, Tsui Chuk Garden (NM-4)

Date	Weather	Start Time	dB(A)			
			Leq	L10	L90	Leq(30min)
2 Oct 2024	Fine	11:00	53.1	54.6	51.6	53.8
		11:05	53.5	55.0	52.0	
		11:10	54.6	56.1	53.1	
		11:15	53.5	55.0	52.0	
		11:20	54.0	55.5	52.5	
		11:25	54.1	55.6	52.6	
7 Oct 2024	Fine	10:35	54.6	56.1	53.1	54.4
		10:40	53.5	55.0	52.0	
		10:45	54.5	56.0	53.0	
		10:50	54.9	56.4	53.4	
		10:55	54.6	56.1	53.1	
		11:00	54.4	55.9	52.9	
18 Oct 2024	Fine	10:45	54.9	56.4	53.4	54.5
		10:50	54.5	56.0	52.0	
		10:55	53.9	55.4	52.4	
		11:00	54.9	56.4	53.4	
		11:05	53.6	55.1	52.1	
		11:10	54.9	56.4	53.4	
24 Oct 2024	Fine	10:30	54.6	56.1	53.1	54.3
		10:35	54.7	56.2	53.2	
		10:40	54.9	56.4	53.4	
		10:45	53.8	55.3	52.3	
		10:50	53.1	54.6	51.6	
		10:55	54.6	56.1	53.1	
30 Oct 2024	Sunny	10:45	62.5	64.1	61.5	62.8
		10:50	63.5	65.5	62.1	
		10:55	63.0	65.9	62.0	
		11:00	64.1	67.6	63.2	
		11:05	62.5	64.5	61.1	
		11:10	60.0	62.6	58.1	
					Min:	53.8
					Max:	62.8
					Average:	56.0

Construction Noise Monitoring Stations: Road pavement near Wang King House, Tin Wang Court (NM-4a)

Date	Weather	Start Time	dB(A)				
			Leq	L10	L90	Leq(30min)	With Free-Field Correction
2 Oct 2024	Fine	13:25	67.3	68.8	65.8	67.6	70.6
		13:30	66.9	68.4	65.3		
		13:35	67.5	69.0	66.0		
		13:40	68.7	70.2	67.2		
		13:45	66.8	68.0	65.2		
		13:50	67.9	69.4	66.4		
7 Oct 2024	Fine	13:35	67.8	69.3	66.3	68.6	71.6
		13:40	68.8	70.3	67.3		
		13:45	69.8	71.3	68.3		
		13:50	68.5	70.0	67.0		
		13:55	67.5	69.0	66.0		
		14:00	68.9	70.4	67.4		
18 Oct 2024	Fine	12:45	69.5	71.0	68.0	68.9	71.9
		12:50	68.5	70.0	67.0		
		12:55	67.8	69.3	66.3		
		13:00	68.9	70.4	67.4		
		13:05	69.6	71.1	68.1		
		13:10	68.7	70.2	67.2		
24 Oct 2024	Fine	11:30	70.5	73.0	69.0	69.2	72.2
		11:35	69.8	71.3	68.3		
		11:40	68.1	69.6	66.6		
		11:45	68.5	70.0	67.0		
		11:50	69.5	71.0	68.0		
		11:55	68.3	69.8	66.8		
30 Oct 2024	Fine	11:30	66.5	68.5	64.5	66.1	69.1
		11:35	67.1	69.4	65.4		
		11:40	65.5	67.6	65.0		
		11:45	65.1	67.9	64.1		
		11:50	66.3	68.9	64.5		
		11:55	66.0	68.0	64.2		
					Min:	66.1	69.1
					Max:	69.2	72.2
					Average:	68.1	71.1

Appendix I - Construction Noise Monitoring Results

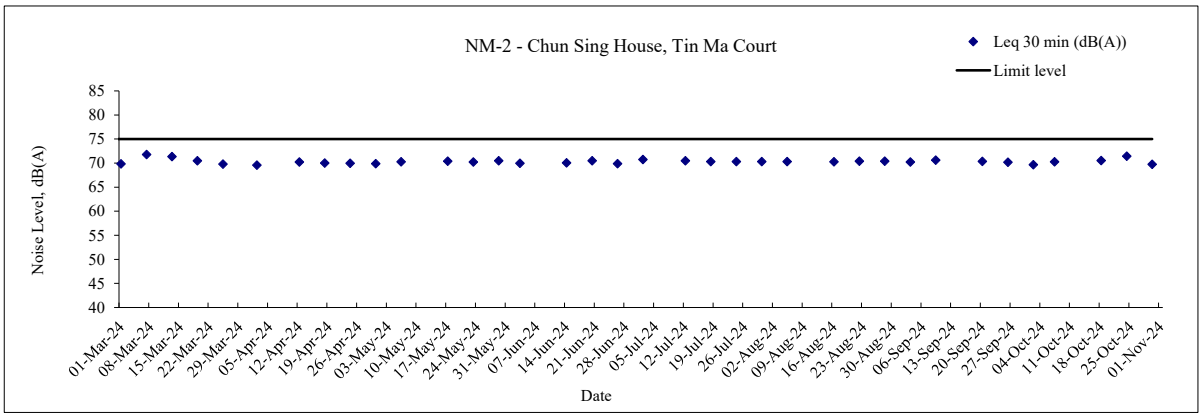
Construction Noise Monitoring Stations: Wo Tin House, Shatin Pass Estate (NM-5)

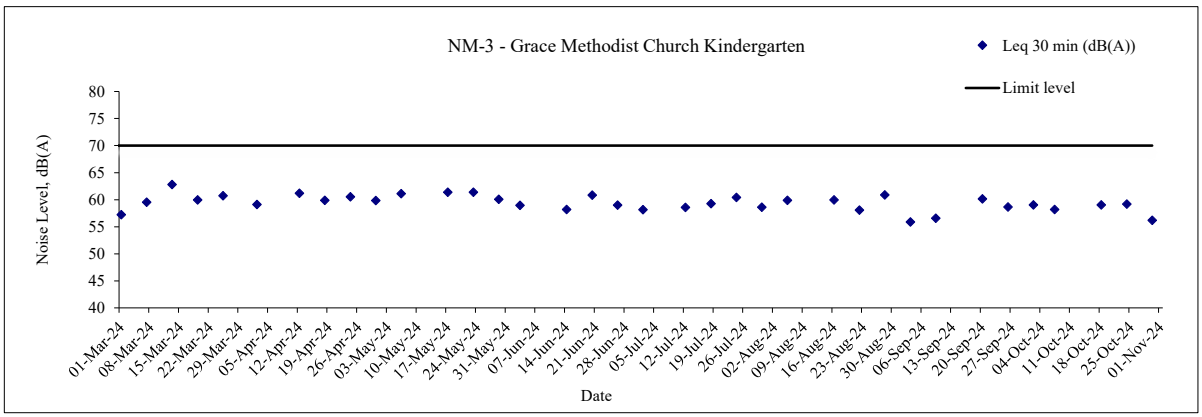
Date	Weather	Start Time	dB(A)			
			Leq	L10	L90	Leq(30min)
2 Oct 2024	Fine	9:20	67.5	69.0	66.0	67.9
		9:25	68.9	69.4	67.4	
		9:30	67.3	68.8	66.8	
		9:35	68.4	69.9	67.9	
		9:40	67.7	68.3	66.2	
		9:45	67.6	68.1	66.1	
7 Oct 2024	Fine	9:15	69.5	71.0	68.0	68.7
		9:20	68.9	70.4	67.4	
		9:25	68.6	70.1	67.7	
		9:30	67.8	69.3	66.3	
		9:35	69.0	70.5	67.5	
		9:40	68.5	70.0	67.0	
18 Oct 2024	Fine	9:15	69.7	71.2	68.2	69.8
		9:20	68.9	70.4	67.3	
		9:25	69.2	70.4	67.7	
		9:30	69.5	71.0	67.0	
		9:35	70.2	71.7	68.7	
		9:40	70.9	72.4	69.4	
24 Oct 2024	Fine	9:00	68.7	70.2	67.2	68.6
		9:05	68.3	69.8	66.8	
		9:10	68.5	70.0	67.0	
		9:15	69.3	70.8	67.8	
		9:20	68.7	70.2	67.2	
		9:25	68.2	69.7	66.7	
30 Oct 2024	0 Jan 1900	9:00	64.5	66.0	63.1	63.1
		9:05	63.1	64.6	62.4	
		9:10	62.1	63.4	60.1	
		9:15	62.2	64.1	61.2	
		9:20	64.1	66.2	63.2	
		9:25	62.1	64.2	60.1	
					Min:	63.1
					Max:	69.8
					Average:	67.6

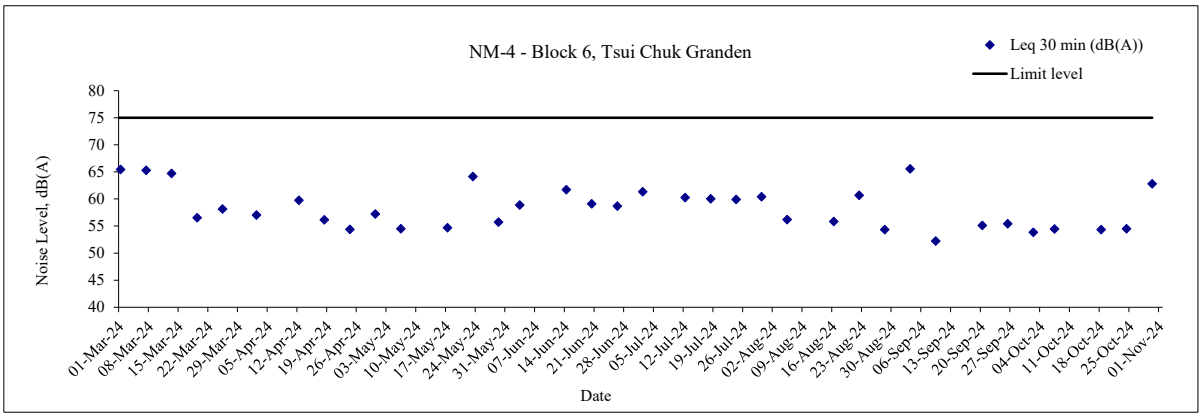
Construction Noise Monitoring Stations: Sheung Fung Street Customs Staff Quarters (NM-6)

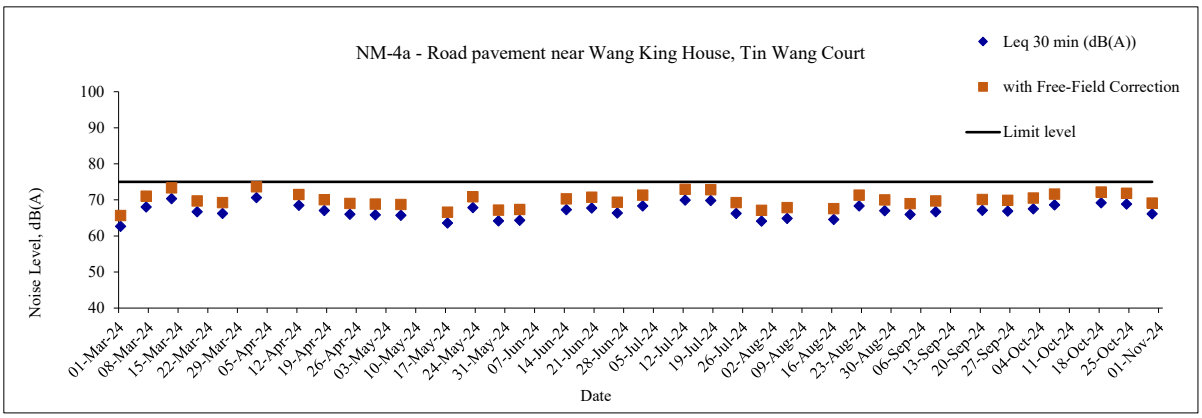
Date	Weather	Start Time	dB(A)				
			Leq	L10	L90	Leq(30min)	With Free-Field Correction
2 Oct 2024	Fine	10:05	67.0	68.5	66.5	68.0	71.0
		10:10	68.5	70.0	67.0		
		10:15	67.9	68.4	66.4		
		10:20	67.7	68.3	66.2		
		10:25	68.2	69.7	67.8		
		10:30	68.3	69.8	67.9		
7 Oct 2024	Fine	9:45	70.6	72.1	69.1	69.2	72.2
		9:50	69.6	71.1	68.1		
		9:55	69.1	70.6	67.6		
		10:00	68.7	70.2	67.2		
		10:05	68.5	70.0	67.0		
		10:10	67.9	69.4	66.4		
18 Oct 2024	Fine	10:00	67.8	69.2	66.3	68.3	71.3
		10:05	67.9	69.4	66.4		
		10:10	68.1	69.6	66.6		
		10:15	68.5	70.0	67.0		
		10:20	68.5	70.0	67.0		
		10:25	68.9	71.4	67.4		
24 Oct 2024	Fine	9:45	67.3	68.8	65.8	67.8	70.8
		9:50	67.5	69.0	66.0		
		9:55	67.9	69.4	66.4		
		10:00	68.5	70.0	67.0		
		10:05	67.1	68.6	65.6		
		10:10	68.2	69.7	66.7		
30 Oct 2024	Fine	9:45	67.9	69.1	65.9	68.2	71.2
		9:50	68.1	70.1	66.4		
		9:55	69.1	72.1	67.1		
		10:00	67.8	69.3	65.4		
		10:05	68.2	70.5	66.5		
		10:10	68.0	70.6	66.8		
					Min:	67.8	70.8
					Max:	69.2	72.2
					Average:	68.3	71.3

Construction Noise Monitoring Results

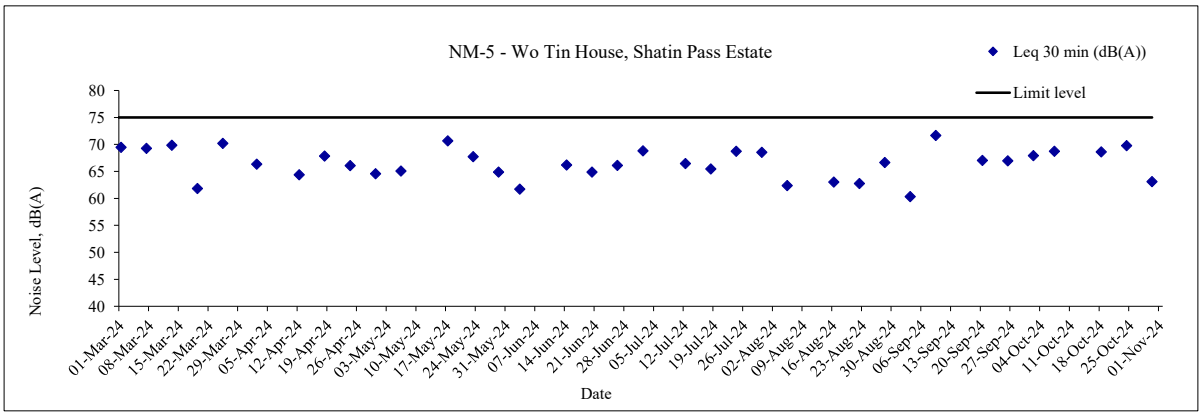


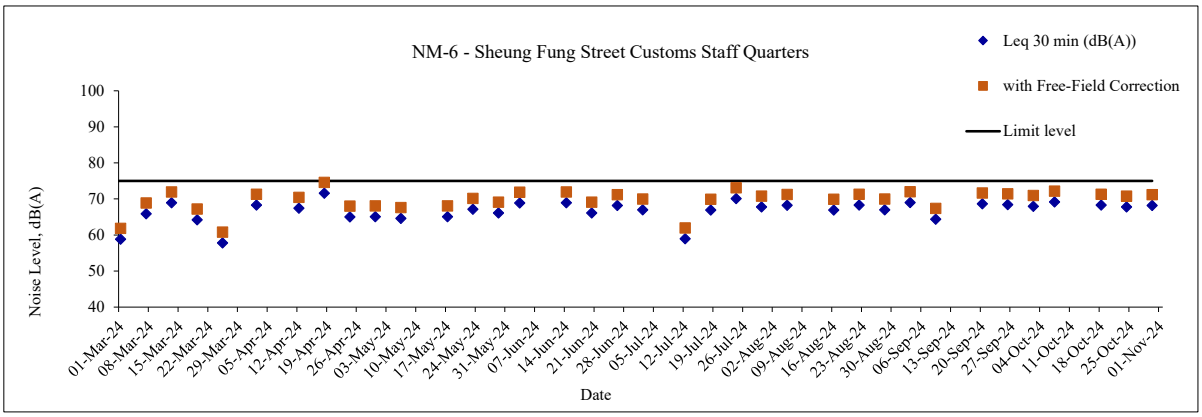






Construction Noise Monitoring Results





Appendix J

Waste Generation in the Reporting Month

Monthly Summary Waste Flow Table for 2023

Contract No.: 21/WSD/21 **Contract Title:** **Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns**

Month	Actual Quantities of Inert C&D Materials Generated / Imported (in '000m3)						Actual Quantities of C&D Wastes Generated					Actual Quantities of C&D Wastes Recycled				
	Total Quantity Generated	Broken Concrete (including rock for recycling into aggregates)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported C&D Material	Metals	Paper/ cardboard packaging	Plastics (bottles/containers,plastic sheets/foam package material)	Chemical Waste	Others, e.g. general refuse	Metals	Paper/ cardboard packaging	Plastics (bottles/containers,plastic sheets/foam package material)	Yard Waste	Others
	(a+b+c+d)	(a)	(b)	(c)	(d)		(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)	(in '000m^3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)	(in '000m^3)
Jan-23	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Feb-23	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mar-23	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Apr-23	0.0571	0.0000	0.0000	0.0000	0.0571	0.0000	0.0000	0.0000	0.0000	0.0000	0.2006	0.0000	0.0000	0.0000	0.0069	0.0000
May-23	0.9598	0.0000	0.0000	0.0000	0.9598	0.0000	0.0000	0.0000	0.0000	0.0000	0.0241	0.0000	0.0000	0.0000	0.0000	0.0000
Jun-23	0.1485	0.0000	0.0000	0.0000	0.1485	0.0000	0.0000	0.0000	0.0000	0.0000	0.0380	0.0000	0.0000	0.0000	0.0000	0.0000
Sub-total	1.1655	0.0000	0.0000	0.0000	1.1655	0.0000	0.0000	0.0000	0.0000	0.0000	0.2628	0.0000	0.0000	0.0000	0.0069	0.0000
Jul-23	0.0672	0.0000	0.0000	0.0000	0.0672	0.0000	0.0000	0.0000	0.0000	0.0000	0.0062	0.0072	0.0034	0.0098	0.0000	0.0000
Aug-23	0.1859	0.0000	0.0000	0.0000	0.1859	0.0000	0.0000	0.0000	0.0000	0.0000	0.0166	0.0058	0.0258	0.0055	0.0000	0.0000
Sep-23	0.2556	0.0000	0.0077	0.0000	0.2479	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140	0.0054	0.0092	0.0042	0.0000	0.0000
Oct-23	0.1288	0.0000	0.0559	0.0000	0.0729	0.0000	0.0000	0.0000	0.0000	0.0000	0.0109	0.0057	0.0175	0.0096	0.0000	0.0000
Nov-23	0.7188	0.0000	0.1095	0.5769	0.0324	0.0000	0.0000	0.0000	0.0000	0.0000	0.0067	0.0010	0.0043	0.0089	0.0000	0.0000
Dec-23	1.4268	0.0000	0.0655	0.8576	0.5037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0067	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.9486	0.0000	0.2386	1.4344	2.2755	0.0000	0.0000	0.0000	0.0000	0.0000	0.3238	0.0251	0.0601	0.0380	0.0069	0.0000
Jan-24	0.6490	0.0000	0.0182	0.2782	0.3526	0.0000	0.0000	0.0000	0.0000	0.0000	0.0042	0.0000	0.0000	0.0000	0.0000	0.0000
Feb-24	0.2876	0.0000	0.0655	0.1308	0.0913	0.0000	0.0000	0.0000	0.0000	0.0000	0.0233	0.0000	0.0000	0.0000	0.0000	0.0000
Mar-24	2.2947	0.0000	0.0585	0.9391	1.2971	0.0000	0.0000	0.0000	0.0000	0.0000	0.0126	0.0000	0.0000	0.0000	0.0000	0.0000
Apr-24	1.0091	0.0000	0.0182	0.6731	0.3178	0.0000	0.0000	0.0000	0.0000	0.0000	0.0141	0.0000	0.0000	0.0000	0.0000	0.0000
May-24	2.0728	0.0000	0.2505	0.5572	1.2651	0.0000	0.0000	0.0000	0.0000	0.0000	0.0226	0.0002	0.0111	0.0009	0.0000	0.0000
Jun-24	1.7085	0.0000	0.6745	0.6509	0.3831	0.0000	0.0000	0.0000	0.0000	0.0000	0.0166	0.0032	0.0208	0.0011	0.0000	0.0000
Jul-24	0.6157	0.0000	0.0821	0.3131	0.2205	0.0000	0.0000	0.0000	0.0000	0.0000	0.0116	0.0012	0.0146	0.0016	0.0000	0.0000
Aug-24	0.5297	0.0000	0.1241	0.1820	0.2236	0.0000	0.0000	0.0000	0.0000	0.0000	0.0281	0.0023	0.0160	0.0017	0.0000	0.0000
Sep-24	0.8956	0.0000	0.0169	0.2998	0.5789	0.0000	0.0000	0.0000	0.0000	0.0000	0.0229	0.0032	0.0133	0.0008	0.0000	0.0000
Oct-24	1.2245	0.0000	0.2358	0.0000	0.9887	1.0876	0.0000	0.0000	0.0000	0.0000	0.0493	0.0026	0.0830	0.0004	0.0000	0.0000
Nov-24																
Dec-24																
Total	11.2871	0.0000	1.5442	4.0242	5.7187	1.0876	0.0000	0.0000	0.0000	0.0000	0.2052	0.0127	0.1588	0.0065	0.0000	0.0000

Note: 1. Assume the density of soil fill is 2 ton/m3.

2. Assume the density of rock and broken concrete is 2.5 ton/m3.

3. Assume the density of non-inert C&D waste is 0.9 ton/m^3.

Appendix K

Summary of Complaint, Notification of Summons and Prosecution and Cumulative Complaint Log

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 September 2024 – 30 September 2024	0	0	N/A
1 October 2024 – 31 October 2024	0	0	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Details
1 September 2024 – 30 September 2024	0	0	N/A
1 October 2024 – 31 October 2024	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
1 September 2024 – 30 September 2024	0	0	N/A
1 October 2024 – 31 October 2024	0	0	N/A

Cumulative statistics on Non-compliance (exceedances)

Reporting Period	Environmental Monitoring	Parameter	No. of non-project related exceedances		Total no. of non-project related exceedances	No. of exceedances related to the project		Total no. of exceedances related to the project
			AL	LL		AL	LL	
This Reporting Period (1 – 30 September 2024)	Air Quality	1-hour TSP	0	0	0	0	0	0
	Noise	$L_{eq(30\text{-min})}$	0	0	0	0	0	0
Total no. recorded since project commencement	Air Quality	1-hour TSP	0	0	0	0	0	0
	Noise	$L_{eq(30\text{-min})}$	0	1	1	0	0	0

Cumulative Complaint Log

EPD Complaint Ref No.	Date of Complaint	Complaint Location	Complaint Details	Investigation / Mitigation Action	Status
-	-	-	-	-	-