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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
May 2023

ASCL	/	230168321	/	MRPT02	/	3.0
Publisher		Project Code		Sequential No.		Version

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Date	11 June 2023	11 June 2023

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Agreement No. DHSR/IEC/001

Consultancy Service of Independent Environmental Checker (IEC) for Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns under Contract No. 21/WSD/21

Monthly EM&A Report for May 2023

Dear Sir,

Pursuant to Condition 3.4 of Environmental Permit (EP) No. EP-602/2021, please note the Monthly Environmental and Audit Report May 2023, dated 11 May 2023 submitted under the EP, certified by the Environmental Team Leader on 11 May 2023, had been reviewed and is hereby verified.

Should you have any query, please feel free to contact the undersigned at 3756 9590 or ivanting@umwelt.consulting .

Your faithfully,
For and on behalf of:
Umwelt Consulting Limited

Ting Po Chung Ivan
Independent Environmental Checker

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EXECUTIVE SUMMARY

This is the second 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 May to 31 May 2023.

Key Construction Works in the Reporting Period

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

- Tree felling and site clearance at Portion 3;
- Demolition of existing shed at Portion 4;
- Relocation of transit nursery and other LCSD's facilities to Portion 4;
- Underground utilities survey; and
- Hoarding erection and site setup.

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	5, 10, 16, 22 and 27 May 2023
Construction Noise Monitoring	5, 10, 16 and 22 May 2023
Weekly Environmental Site Inspection	5, 12, 17 and 25 May 2023

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

Air Quality

No action or limit levels exceedance was recorded for 1-hour TSP monitoring during the reporting period.

Construction Noise

No action or limit levels 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 Issues

Key issues to be considered in the next three months included:

- Boulder survey;
- Open trench for mainlaying and Mainlaying;
- Pipe Jacking of trenchless;
- Hoarding erection and site setup;
- Tree transplant and site clearance;
- Trial pit excavation;
- Formation of piling platform at Zone 1 and Zone 2;
- Pipe piling for tunnel ELS wall;
- Relocation of transit nursery and other LCSD's facilities to Portion 4;

- Civil construction works, e.g. water supply;
- Trial pit excavation; and
- Pre-construction condition survey.

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 Environmental Protection Department for its construction and operation.

1.1.7 Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of Environmental Protection Department (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 second Monthly EM&A Report summarizing the key findings of the construction phase EM&A programme from 1 May to 31 May 2023 (the reporting period) and is submitted to fulfil the requirements in Conditions 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:

- Tree felling and site clearance at Portion 3;
- Demolition of existing shed at Portion 4;
- Relocation of transit nursery and other LCSD's facilities to Portion 4;
- Underground utilities survey; and
- Hoarding erection and site setup.

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 1.1**.

Table 1.1 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

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 1.2**.

Table 1.2 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 (Deposited) (Comments were issued by the EPD on 8 Mar 2023 and the CNMP is being revised.)
2.13	Waste Management Plan (WMP)	28 Feb 2023 (Deposited) (Comments were issued by the EPD on 3 Apr 2023 and the WMP is being revised.)

EP Condition	Title of Submission	Submission Status
2.14	Landscape and Visual Mitigation Plan (LVMP)	28 Feb 2022 (1st Submission) (Comment were issued by the EPD on 29 Mar 2023 and the LVMP is being revised.)
3.3	Baseline Monitoring Report	17 Mar 2023 (1st Submission) 27 Apr 2023 (2nd Submission)
3.4	Monthly EM&A Report (Apr 2023)	15 May 2023
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. Submission of the Baseline Monitoring Report is scheduled on 1 June 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 (1)	Block 6, Tsui Chuk Garden	822926	837246
DM-4a (2)	Road pavement near Wang King House, Tin Wang Court	822854	837340

Notes:
1. Following the EPD's comment on the Baseline Monitoring Report (Ref. No. BRM-3.1, dated 17 March 2023), air quality monitoring at DM-4 was resumed. Baseline monitoring for air quality monitoring station DM-4 was then carried out between 2 May and 16 May 2023. Impact monitoring at DM-4 was commenced on 22 May 2023.
2. 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 were 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	851820	15/10/2023
		882109	15/10/2023
	PC-3A(E)	JC-220710221	08/10/2023

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 5, 10, 16, 22 and 27 May 2023. 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	90	75	97	300.1	500
DM-2	78	64	91	289.0	
DM-3	66	58	73	289.7	
DM-4 (1)	66	57	72	294.9	
DM-4a	70	61	80	291.6	

Remark: (1) Impact air quality monitoring at DM-4 was commenced on 22 May 2023.

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 (2)	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	Wo Tin House, Shatin Pass Estate	Façade	823360	838143
NM-6	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) Following the EPD's comment on the Baseline Monitoring Report (Ref. No. BRM-3.1, dated 17 March 2023), noise monitoring station was resumed at NM-4. Baseline monitoring for noise monitoring station NM-4 was then carried out between 2 May and 16 May 2023. Impact monitoring at NM-4 was commenced on 22 May 2023.

3.1.2 No construction work was conducted within 300m radius of noise monitoring station NM-5 and NM-6. Thus, no construction noise monitoring was carried out at these two noise monitoring stations in the reporting period.

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 numbers of noise measuring equipment and associated instrumentation were 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 receivers 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 the 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 $L_{eq(5\text{-min})}$ 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-13548-E0)	05/02/2024
Sound Calibrator	Rion NC 75 (35124529)	08/11/2023

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.
* Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

3.6 Results and Observations

3.6.1 The construction noise monitoring was conducted on 5, 10, 16 and 22 May 2023. The monitoring schedule is presented in **Appendix F**.

3.6.2 The construction noise monitoring results are summarized in **Table 3.5**. No Action or Limit levels 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 (1)	Noise Level, dB(A) $L_{eq(30\text{-min})}$			Limit Level
	Mean	Minimum	Maximum	
NM-2	70.6	69.9	71.8	75 dB(A)
NM-3	65.3	64.8	66.2	70/ 65 dB(A) (2)
NM-4 (3)	65.1	65.1	65.1	75 dB(A)
NM-4a	72.5	71.9	73.0	75 dB(A)

Note:
(1) Construction noise monitoring at NM-4 and NM-5 will commence when construction works are undertaking near these stations.
(2) Reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.
(3) Impact monitoring at NM-4 was commenced on 22 May 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

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 / Carboard Packing	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)
May 2023	0.90365	0.00000	0.00000	0.00000	0.90365	0.00000	0.00000	0.00000	0.00000	0.00000	0.02411	0.00000	0.00000	0.00000	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 5, 12, 17 and 25 May 2023. Joint site inspection with the ER, the Contractor and the IEC was carried out on 17 May 2023.

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 Observation / Reminders	Follow-up Action
5 May 2023	No major environmental deficiency was observed.	N/A
12 May 2023	No major environmental deficiency was observed.	N/A
17 May 2023	1. At Portion 3, the Contractor was reminded to cover the temporary stockpile on site by impervious tarpaulin sheets before backfilling. (Reminder)	1. The temporary stockpile on site was covered by impervious tarpaulin sheets.
25 May 2023	1. At Portion 3, the Contractor shall water the dusty material during excavation in the site area. (Reminder)	1. Water spraying during the excavation was implemented.

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 three months are summarized below:

- Boulder survey;
- Open trench for mainlaying and Mainlaying;
- Pipe Jacking of trenchless;
- Hoarding erection and site setup;
- Tree transplant and site clearance;
- Trial pit excavation;
- Formation of piling platform at Zone 1 and Zone 2;
- Pipe piling for tunnel ELS wall;
- Relocation of transit nursery and other LCSD's facilities to Portion 4;
- Civil construction works, e.g. water supply;
- Trial pit excavation; and
- Pre-construction condition survey.

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 above construction activities will include:

Dust

- Regular watering to reduce dust emissions from 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.

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.

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

- Construction activities shall be carefully designed to minimize impact on existing retained trees;
- 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 second Monthly EM&A Report presents the EM&A works during the reporting period from 1 May 2023 to 31 May 2023 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 5, 12, 17 and 25 May 2023 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.

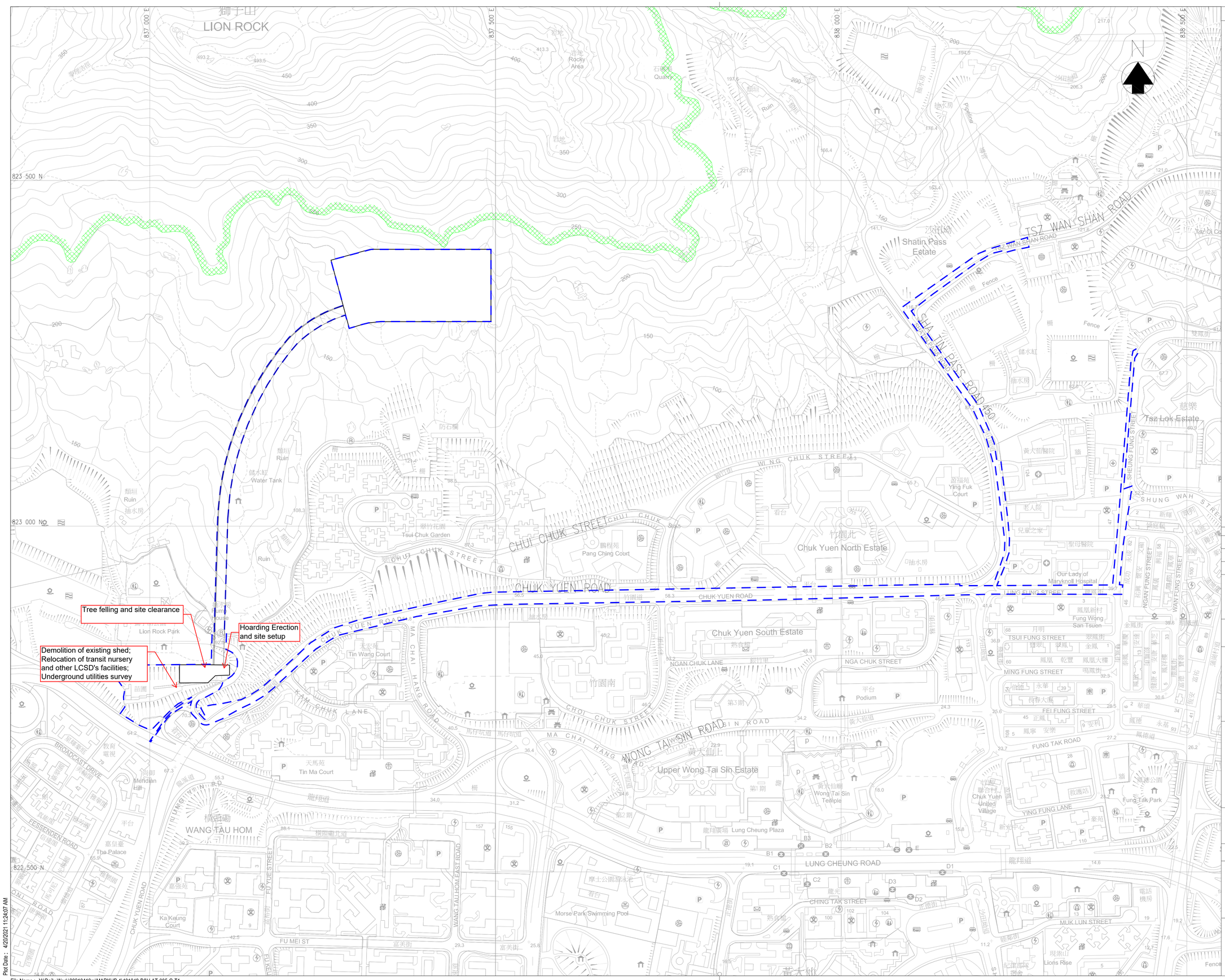
8.1.8 No change to the EM&A programme was made in this reporting period.

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



NOTES:

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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 WATER MAINS
- PROJECT BOUNDARY

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

Approved

Agreement No.
CE 15/2018 (WS)

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

Drawing Title
GENERAL LAYOUT OF RELOCATED DHSRS

Drawing No.
Figure 1.1

Revision

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

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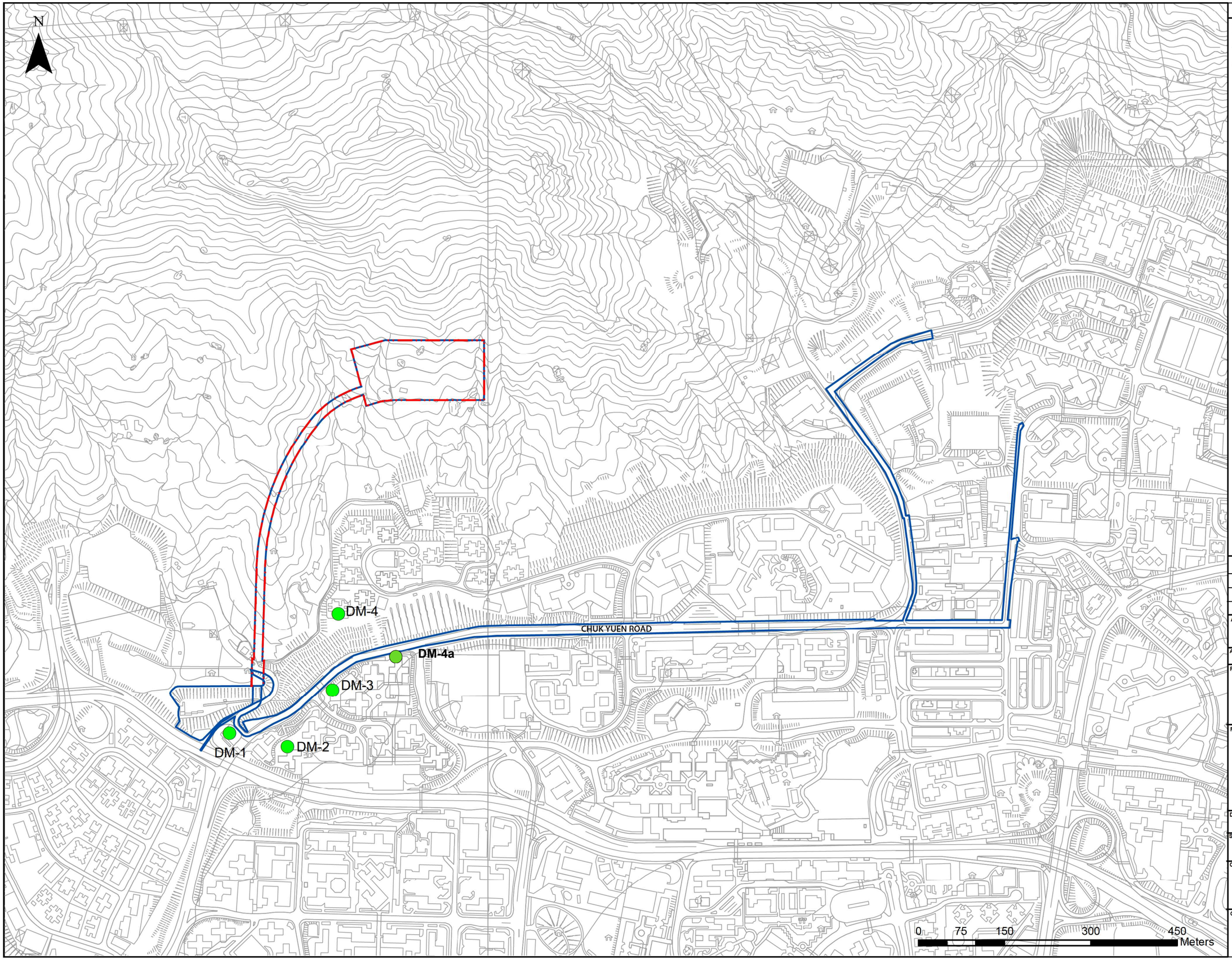


Legend

- 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

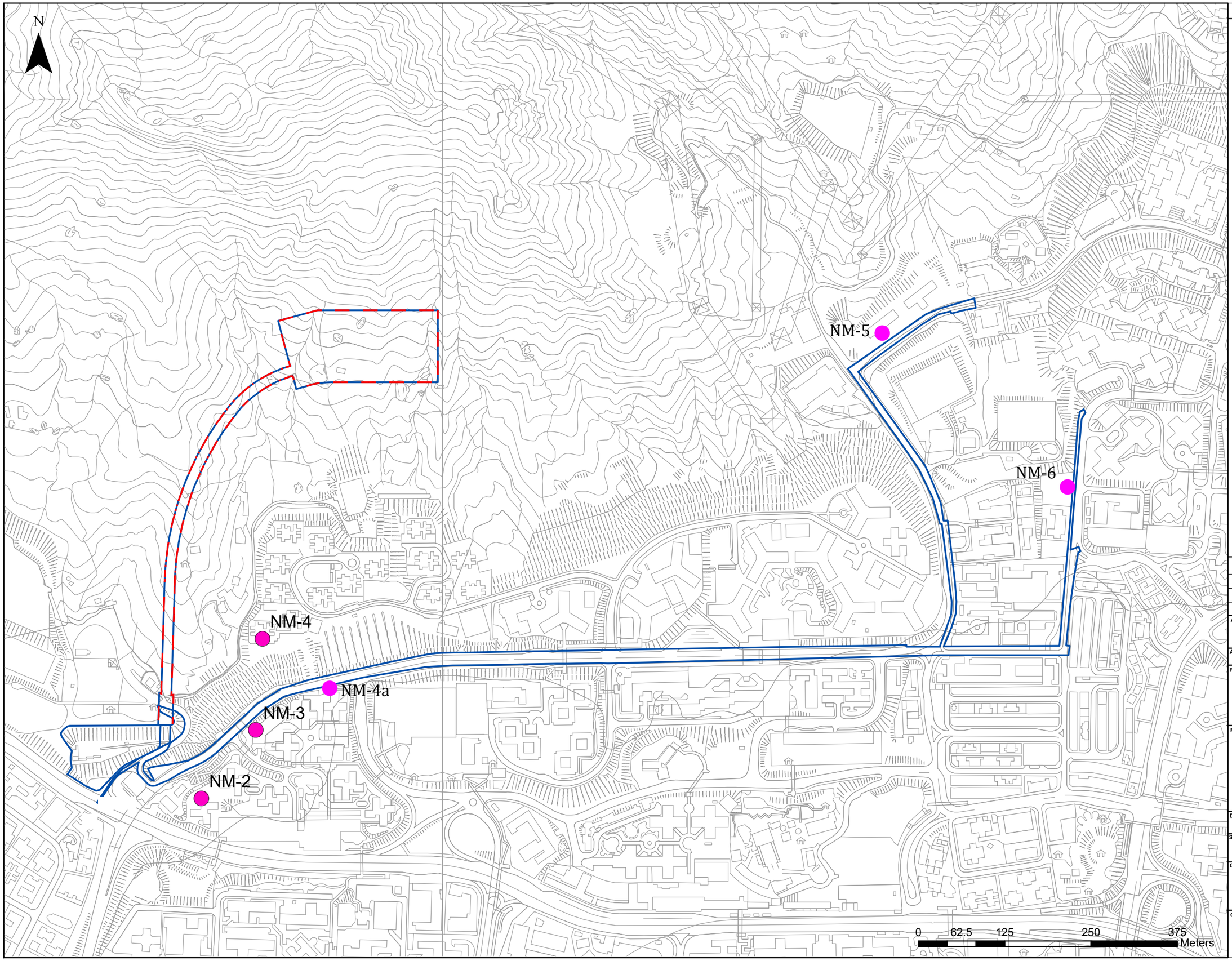
Drawing No.: Figure 2.1

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



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

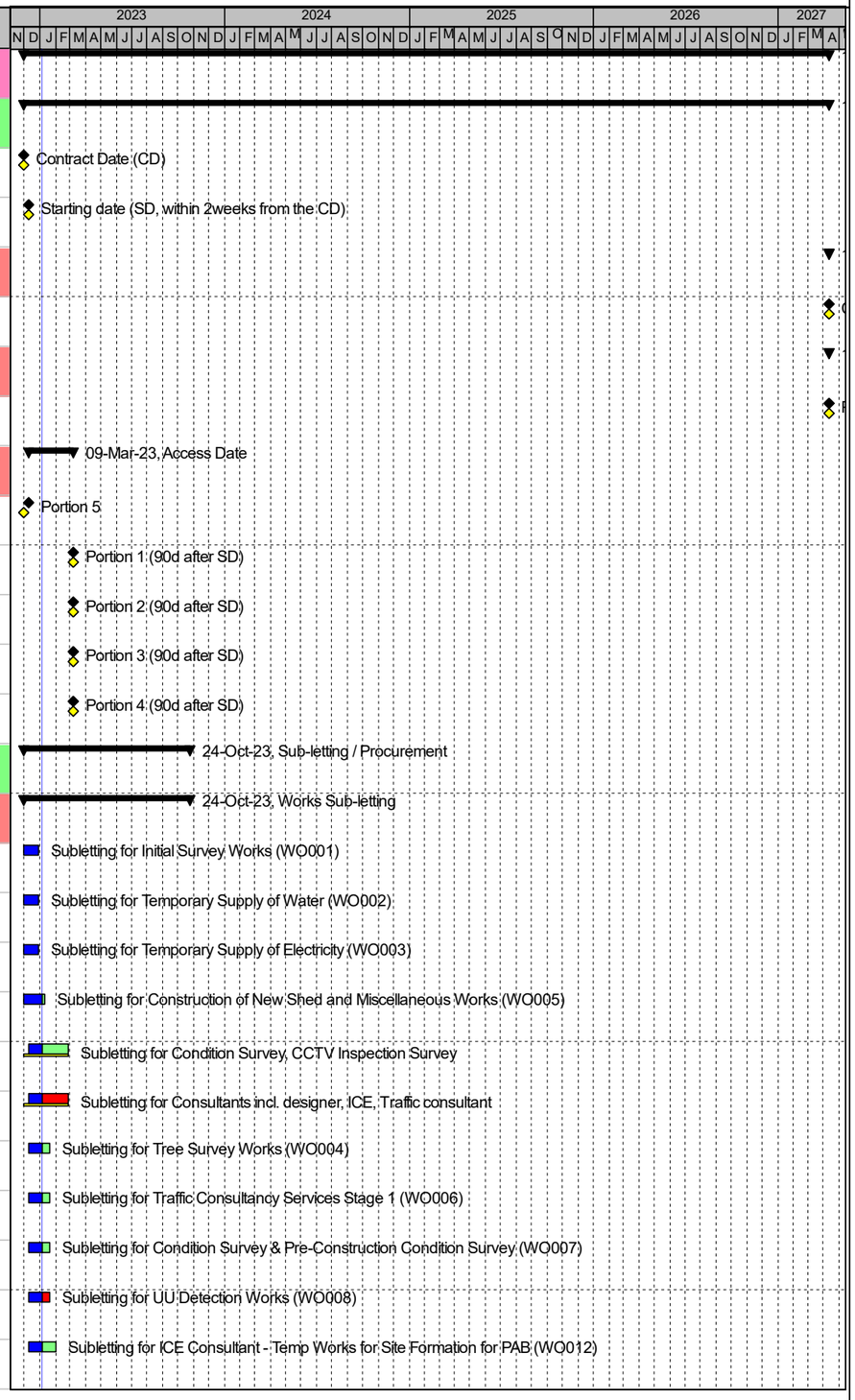
Appendix A

Master Construction Pogramme for the Project

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns - January'23 Upd			1293	1293	29-Nov-22	12-Apr-27	29-Nov-22 A	12-Apr-27	0
Contract Date			1596	1596	29-Nov-22	12-Apr-27	29-Nov-22 A	12-Apr-27	0
CD-1000	Contract Date (CD)	100%	0	0	29-Nov-22		29-Nov-22 A		
CD-1010	Starting date (SD, within 2weeks from the CD)	100%	0	0	09-Dec-22		09-Dec-22 A		
Contract Completion Date			0	0	12-Apr-27	12-Apr-27	12-Apr-27	12-Apr-27	0
KD-1000	Completion date for the whole of the works (1585d)	0%	0	0		12-Apr-27		12-Apr-27*	0
Anticipated Completion Date			0	0	11-Apr-27	11-Apr-27	11-Apr-27	11-Apr-27	1
KD-2100	Planned Completion date for the whole of the works (1585d)	0%	0	0		11-Apr-27		11-Apr-27	1
Access Date			90	100	09-Dec-22	09-Mar-23	09-Dec-22 A	09-Mar-23	1316
AD-1040	Portion 5	100%	0	0	09-Dec-22		09-Dec-22 A		
AD-1000	Portion 1 (90d after SD)	0%	0	0	09-Mar-23		09-Mar-23		15
AD-1010	Portion 2 (90d after SD)	0%	0	0	09-Mar-23		09-Mar-23		1316
AD-1020	Portion 3 (90d after SD)	0%	0	0	09-Mar-23		09-Mar-23		1
AD-1030	Portion 4 (90d after SD)	0%	0	0	09-Mar-23		09-Mar-23		43
Sub-letting / Procurement			267	267	29-Nov-22	24-Oct-23	29-Nov-22 A	24-Oct-23	1026
Works Sub-letting			267	267	29-Nov-22	24-Oct-23	29-Nov-22 A	24-Oct-23	1026
21.SUB.G.10000	Subletting for Initial Survey Works (WO001)	100%	0	18			29-Nov-22 A	30-Dec-22 A	
21.SUB.G.10010	Subletting for Temporary Supply of Water (WO002)	100%	0	18			29-Nov-22 A	30-Dec-22 A	
21.SUB.G.10020	Subletting for Temporary Supply of Electricity (WO003)	100%	0	18			29-Nov-22 A	30-Dec-22 A	
21.SUB.G.10040	Subletting for Construction of New Shed and Miscellaneous Works (WO005)	70%	0	18			29-Nov-22 A	11-Jan-23	124
S-240	Subletting for Condition Survey, CCTV Inspection Survey	41.11%	90	90	29-Nov-22	26-Feb-23	09-Dec-22 A	26-Feb-23	66
S-200A	Subletting for Consultants incl. designer, ICE, Traffic consultant	41.11%	90	90	29-Nov-22	26-Feb-23	09-Dec-22 A	26-Feb-23	0
21.SUB.G.10030	Subletting for Tree Survey Works (WO004)	58.33%	0	36			09-Dec-22 A	21-Jan-23	24
21.SUB.G.10050	Subletting for Traffic Consultancy Services Stage 1 (WO006)	58.33%	0	36			09-Dec-22 A	21-Jan-23	385
21.SUB.G.10060	Subletting for Condition Survey & Pre-Construction Condition Survey (WO007)	58.33%	0	36			09-Dec-22 A	21-Jan-23	281
21.SUB.G.10070	Subletting for UU Detection Works (WO008)	58.33%	0	36			09-Dec-22 A	21-Jan-23	9
21.SUB.G.10080	Subletting for ICE Consultant - Temp Works for Site Formation for PAB (WO012)	50%	0	42			09-Dec-22 A	01-Feb-23	1242



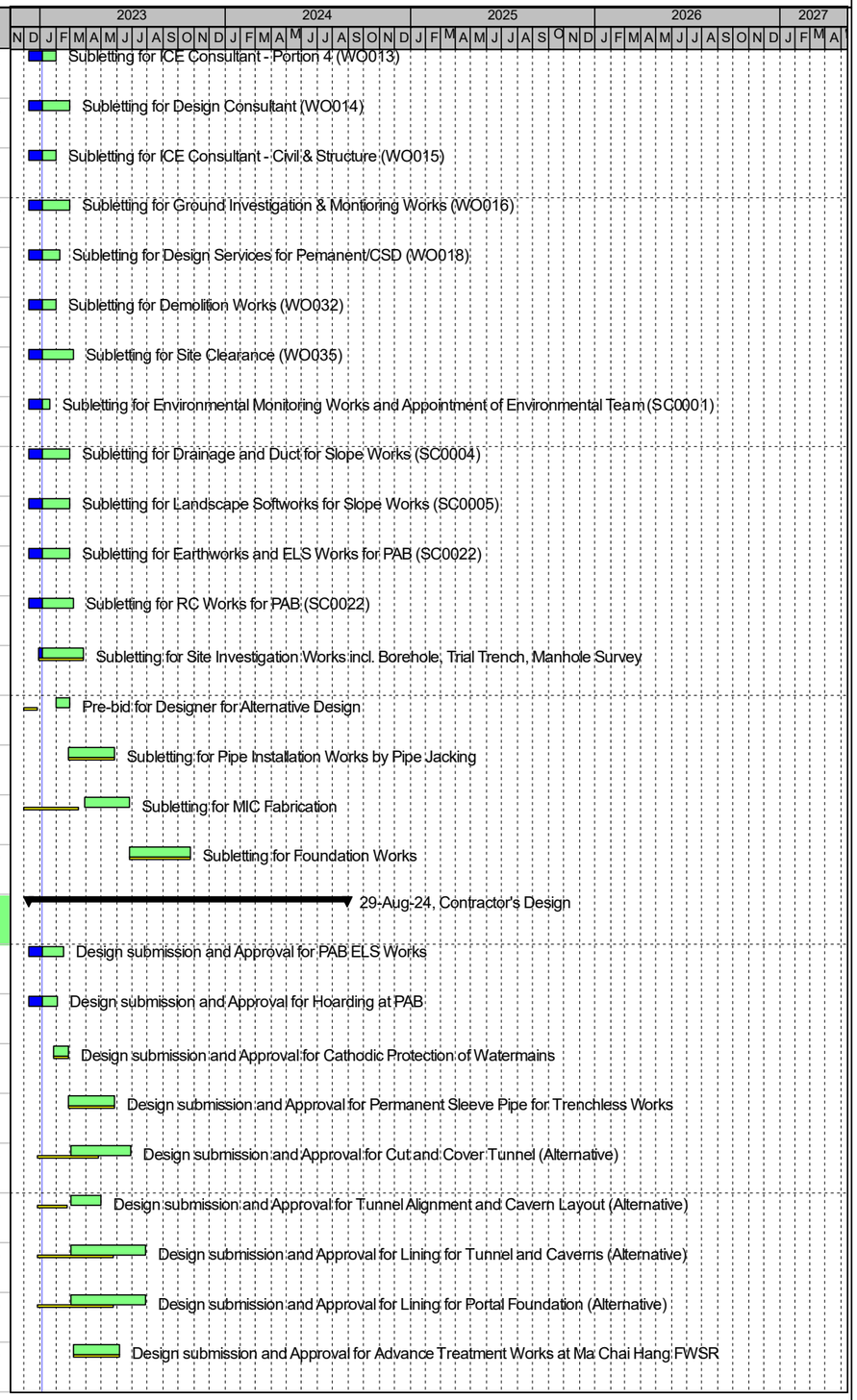
1st Programme Baseline
Actual Work
Remaining Work
Critical Remaining Work
1st Programme Baseline Milestone
Milestone
Summary

Date	Revision	Checked	Approved
12-Dec-22	First Programme		
12-Jan-23	Monthly Programme January 2023		

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
21.SUB.G.10090	Subletting for ICE Consultant - Portion 4 (WO013)	50%	0	42			09-Dec-22 A	01-Feb-23	1242
21.SUB.G.10100	Subletting for Design Consultant (WO014)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218
21.SUB.G.10110	Subletting for ICE Consultant - Civil & Structure (WO015)	50%	0	42			09-Dec-22 A	01-Feb-23	1101
21.SUB.G.10120	Subletting for Ground Investigation & Montioring Works (WO016)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218
21.SUB.G.10130	Subletting for Design Services for Pemanent/CSD (WO018)	43.75%	0	48			09-Dec-22 A	08-Feb-23	1236
21.SUB.G.10140	Subletting for Demolition Works (WO032)	50%	0	42			09-Dec-22 A	01-Feb-23	1242
21.SUB.G.10150	Subletting for Site Clearance (WO035)	29.17%	0	72			09-Dec-22 A	08-Mar-23	35
21.SUB.G.10160	Subletting for Environmental Monitoring Works and Appointment of Environmental Team (SC0001)	58.33%	0	36			09-Dec-22 A	21-Jan-23	1248
21.SUB.G.10170	Subletting for Drainage and Duct for Slope Works (SC0004)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218
21.SUB.G.10180	Subletting for Landscape Softworks for Slope Works (SC0005)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218
21.SUB.G.10190	Subletting for Earthworks and ELS Works for PAB (SC0022)	31.82%	0	66			09-Dec-22 A	01-Mar-23	373
21.SUB.G.10200	Subletting for RC Works for PAB (SC0022)	29.17%	0	72			09-Dec-22 A	08-Mar-23	110
S-220	Subletting for Site Investigation Works incl. Borehole, Trial Trench, Manhole Survey	7.78%	90	90	29-Dec-22	28-Mar-23	29-Dec-22 A	28-Mar-23	316
S-110	Pre-bid for Designer for Alternative Design	0%	28	28	29-Nov-22	26-Dec-22	02-Feb-23	01-Mar-23	1353
S-260	Subletting for Pipe Installation Works by Pipe Jacking	0%	90	90	27-Feb-23	27-May-23	27-Feb-23	27-May-23	143
S-290	Subletting for MIC Fabrication	0%	110	90	29-Nov-22	18-Mar-23	29-Mar-23	26-Jun-23	1386
S-280	Subletting for Foundation Works	0%	120	120	27-Jun-23	24-Oct-23	27-Jun-23	24-Oct-23	1266
Contractor's Design			497	490	27-Dec-22	29-Aug-24	09-Dec-22 A	29-Aug-24	773
21.DES.PAB.10000	Design submission and Approval for PAB ELS Works	38.89%	0	54			09-Dec-22 A	15-Feb-23	474
21.DES.PAB.10010	Design submission and Approval for Hoarding at PAB	55.56%	0	54			09-Dec-22 A	04-Feb-23	53
D-1100	Design submission and Approval for Cathodic Protection of Watermains	0%	30	30	28-Jan-23	26-Feb-23	28-Jan-23	26-Feb-23	66
D-1080	Design submission and Approval for Permanent Sleeve Pipe for Trenchless Works	0%	90	90	27-Feb-23	27-May-23	27-Feb-23	27-May-23	143
D-1000	Design submission and Approval for Cut and Cover Tunnel (Alternative)	0%	120	120	27-Dec-22	25-Apr-23	02-Mar-23	29-Jun-23	1383
D-1010	Design submission and Approval for Tunnel Alignment and Cavern Layout (Alternative)	0%	60	60	27-Dec-22	24-Feb-23	02-Mar-23	30-Apr-23	1443
D-1020	Design submission and Approval for Lining for Tunnel and Caverns (Alternative)	0%	150	150	27-Dec-22	25-May-23	02-Mar-23	29-Jul-23	1353
D-1030	Design submission and Approval for Lining for Portal Foundation (Alternative)	0%	150	150	27-Dec-22	25-May-23	02-Mar-23	29-Jul-23	1353
D-1090	Design submission and Approval for Advance Treatment Works at Ma Chai Hang FWSR	0%	90	90	09-Mar-23	06-Jun-23	09-Mar-23	06-Jun-23	1226



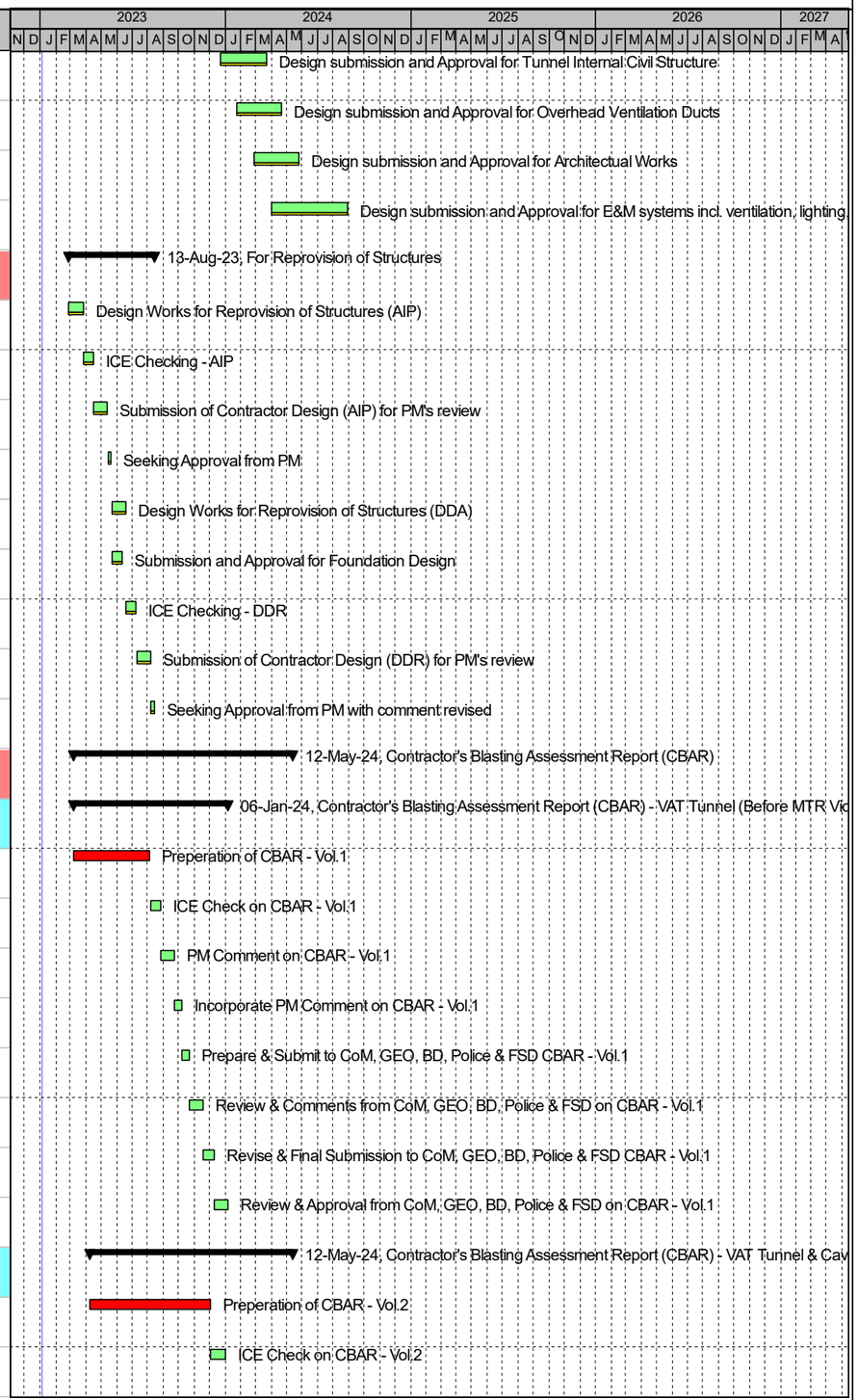
1st Programme Baseline
Actual Work
Remaining Work
Critical Remaining Work
1st Programme Baseline Milestone
Milestone
Summary

Date	Revision	Checked	Approved
12-Dec-22	First Programme		
12-Jan-23	Monthly Programme January 2023		

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
D-1070	Design submission and Approval for Tunnel Internal Civil Structure	0%	90	90	24-Dec-23	22-Mar-24	24-Dec-23	22-Mar-24	438
D-1060	Design submission and Approval for Overhead Ventilation Ducts	0%	90	90	23-Jan-24	21-Apr-24	23-Jan-24	21-Apr-24	906
D-1050	Design submission and Approval for Architectual Works	0%	90	90	27-Feb-24	26-May-24	27-Feb-24	26-May-24	931
D-1040	Design submission and Approval for E&M systems incl. ventilation, lighting, electrical, FS for Tunnel	0%	150	150	02-Apr-24	29-Aug-24	02-Apr-24	29-Aug-24	956
For Reprovision of Structures			168	168	27-Feb-23	13-Aug-23	27-Feb-23	13-Aug-23	1338
D-S1000	Design Works for Reprovision of Structures (AIP)	0%	28	28	27-Feb-23	26-Mar-23	27-Feb-23	26-Mar-23	1338
D-S1010	ICE Checking - AIP	0%	21	21	27-Mar-23	16-Apr-23	27-Mar-23	16-Apr-23	1338
D-S1020	Submission of Contractor Design (AIP) for PM's review	0%	28	28	17-Apr-23	14-May-23	17-Apr-23	14-May-23	1338
D-S1030	Seeking Approval from PM	0%	7	7	15-May-23	21-May-23	15-May-23	21-May-23	1338
D-S1040	Design Works for Reprovision of Structures (DDA)	0%	28	28	22-May-23	18-Jun-23	22-May-23	18-Jun-23	1338
D-S1080	Submission and Approval for Foundation Design	0%	21	21	22-May-23	11-Jun-23	22-May-23	11-Jun-23	1401
D-S1050	ICE Checking - DDR	0%	21	21	19-Jun-23	09-Jul-23	19-Jun-23	09-Jul-23	1338
D-S1060	Submission of Contractor Design (DDR) for PM's review	0%	28	28	10-Jul-23	06-Aug-23	10-Jul-23	06-Aug-23	1338
D-S1070	Seeking Approval from PM with comment revised	0%	7	7	07-Aug-23	13-Aug-23	07-Aug-23	13-Aug-23	1338
Contractor's Blasting Assessment Report (CBAR)			0	431			09-Mar-23	12-May-24	36
Contractor's Blasting Assessment Report (CBAR) - VAT Tunnel (Before MTR Vicinity) Vol.1			0	304			09-Mar-23	06-Jan-24	12
21.CBA.VAT.10000	Preperation of CBAR - Vol.1	0%	0	150			09-Mar-23	05-Aug-23	1
21.CBA.VAT.10010	ICE Check on CBAR - Vol.1	0%	0	21			06-Aug-23	26-Aug-23	12
21.CBA.VAT.10020	PM Comment on CBAR - Vol.1	0%	0	28			27-Aug-23	23-Sep-23	12
21.CBA.VAT.10030	Incorporate PM Comment on CBAR - Vol.1	0%	0	14			24-Sep-23	07-Oct-23	12
21.CBA.VAT.10040	Prepare & Submit to CoM, GEO, BD, Police & FSD CBAR - Vol.1	0%	0	14			08-Oct-23	21-Oct-23	12
21.CBA.VAT.10050	Review & Comments from CoM, GEO, BD, Police & FSD on CBAR - Vol.1	0%	0	28			22-Oct-23	18-Nov-23	12
21.CBA.VAT.10060	Revise & Final Submission to CoM, GEO, BD, Police & FSD CBAR - Vol.1	0%	0	21			19-Nov-23	09-Dec-23	12
21.CBA.VAT.10070	Review & Approval from CoM, GEO, BD, Police & FSD on CBAR - Vol.1	0%	0	28			10-Dec-23	06-Jan-24	12
Contractor's Blasting Assessment Report (CBAR) - VAT Tunnel & Caverns (From MTR Vicinity) Vol.2			0	401			08-Apr-23	12-May-24	36
21.CBA.VAT.10080	Preperation of CBAR - Vol.2	0%	0	240			08-Apr-23	03-Dec-23	2
21.CBA.VAT.10090	ICE Check on CBAR - Vol.2	0%	0	28			04-Dec-23	31-Dec-23	36



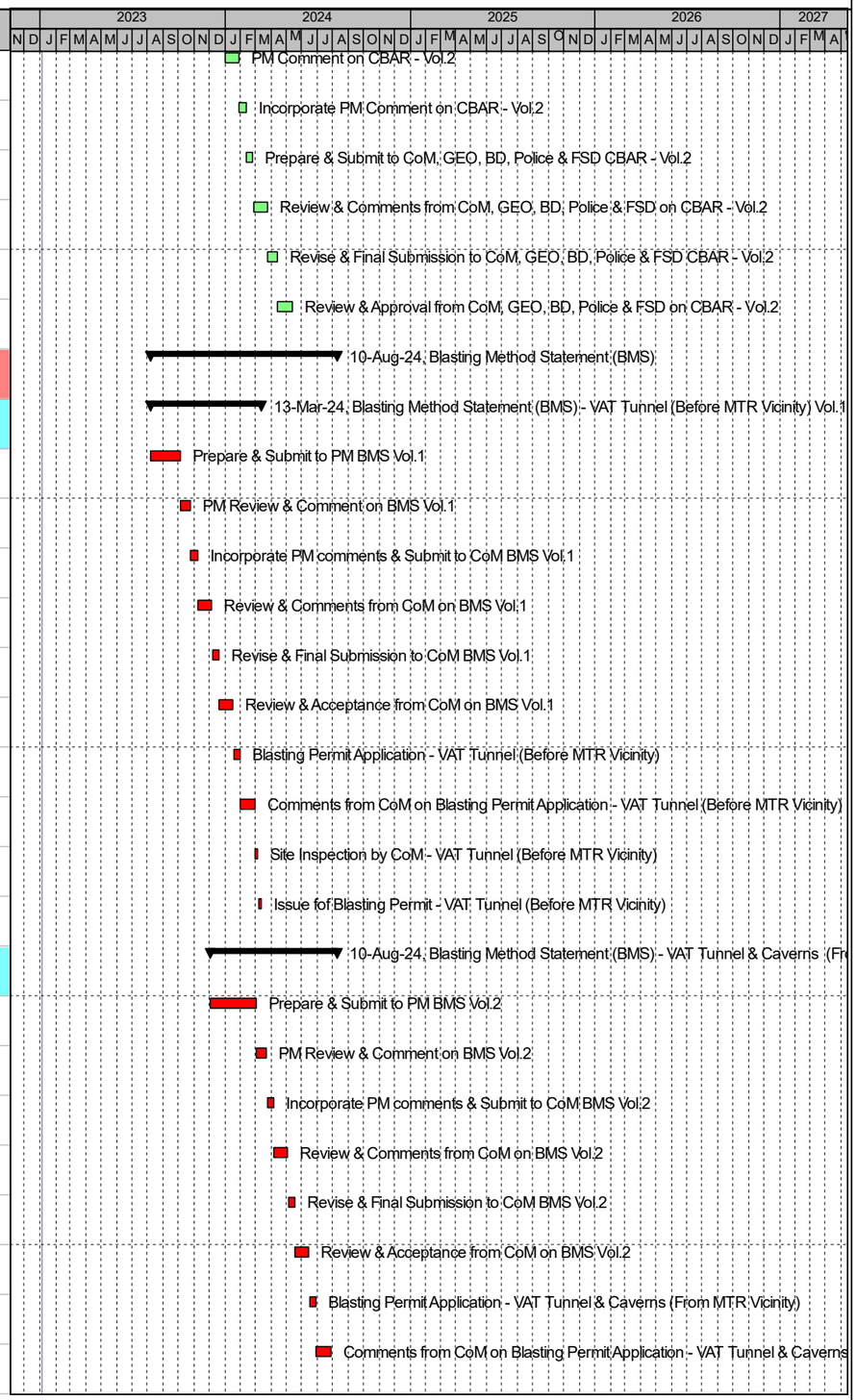
1st Programme Baseline
Actual Work
Remaining Work
Critical Remaining Work
1st Programme Baseline Milestone
Milestone
Summary

Date	Revision	Checked	Approved
12-Dec-22	First Programme		
12-Jan-23	Monthly Programme January 2023		

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
21.CBA.VAT.10100	PM Comment on CBAR - Vol.2	0%	0	28			01-Jan-24	28-Jan-24	36
21.CBA.VAT.10110	Incorporate PM Comment on CBAR - Vol.2	0%	0	14			29-Jan-24	11-Feb-24	36
21.CBA.VAT.10120	Prepare & Submit to CoM, GEO, BD, Police & FSD CBAR - Vol.2	0%	0	14			12-Feb-24	25-Feb-24	36
21.CBA.VAT.10130	Review & Comments from CoM, GEO, BD, Police & FSD on CBAR - Vol.2	0%	0	28			26-Feb-24	24-Mar-24	36
21.CBA.VAT.10140	Revise & Final Submission to CoM, GEO, BD, Police & FSD CBAR - Vol.2	0%	0	21			25-Mar-24	14-Apr-24	36
21.CBA.VAT.10150	Review & Approval from CoM, GEO, BD, Police & FSD on CBAR - Vol.2	0%	0	28			15-Apr-24	12-May-24	36
Blasting Method Statement (BMS)			0	371			06-Aug-23	10-Aug-24	2
Blasting Method Statement (BMS) - VAT Tunnel (Before MTR Vicinity) Vol.1			0	221			06-Aug-23	13-Mar-24	1
21.BMS.VAT.10000	Prepare & Submit to PM BMS Vol.1	0%	0	60			06-Aug-23	04-Oct-23	1
21.BMS.VAT.10010	PM Review & Comment on BMS Vol.1	0%	0	21			05-Oct-23	25-Oct-23	1
21.BMS.VAT.10020	Incorporate PM comments & Submit to CoM BMS Vol.1	0%	0	14			26-Oct-23	08-Nov-23	1
21.BMS.VAT.10030	Review & Comments from CoM on BMS Vol.1	0%	0	28			09-Nov-23	06-Dec-23	1
21.BMS.VAT.10040	Revise & Final Submission to CoM BMS Vol.1	0%	0	14			07-Dec-23	20-Dec-23	1
21.BMS.VAT.10050	Review & Acceptance from CoM on BMS Vol.1	0%	0	28			21-Dec-23	17-Jan-24	1
21.BMS.VAT.10060	Blasting Permit Application - VAT Tunnel (Before MTR Vicinity)	0%	0	14			18-Jan-24	31-Jan-24	1
21.BMS.VAT.10070	Comments from CoM on Blasting Permit Application - VAT Tunnel (Before MTR Vicinity)	0%	0	28			01-Feb-24	28-Feb-24	1
21.BMS.VAT.10080	Site Inspection by CoM - VAT Tunnel (Before MTR Vicinity)	0%	0	7			29-Feb-24	06-Mar-24	1
21.BMS.VAT.10090	Issue fof Blasting Permit - VAT Tunnel (Before MTR Vicinity)	0%	0	7			07-Mar-24	13-Mar-24	1
Blasting Method Statement (BMS) - VAT Tunnel & Caverns (From MTR Vicinity) Vol.2			0	251			04-Dec-23	10-Aug-24	2
21.BMS.VAT.10100	Prepare & Submit to PM BMS Vol.2	0%	0	90			04-Dec-23	02-Mar-24	2
21.BMS.VAT.10110	PM Review & Comment on BMS Vol.2	0%	0	21			03-Mar-24	23-Mar-24	2
21.BMS.VAT.10120	Incorporate PM comments & Submit to CoM BMS Vol.2	0%	0	14			24-Mar-24	06-Apr-24	2
21.BMS.VAT.10130	Review & Comments from CoM on BMS Vol.2	0%	0	28			07-Apr-24	04-May-24	2
21.BMS.VAT.10140	Revise & Final Submission to CoM BMS Vol.2	0%	0	14			05-May-24	18-May-24	2
21.BMS.VAT.10150	Review & Acceptance from CoM on BMS Vol.2	0%	0	28			19-May-24	15-Jun-24	2
21.BMS.VAT.10160	Blasting Permit Application - VAT Tunnel & Caverns (From MTR Vicinity)	0%	0	14			16-Jun-24	29-Jun-24	2
21.BMS.VAT.10170	Comments from CoM on Blasting Permit Application - VAT Tunnel & Caverns (From MTR Vicinity)	0%	0	28			30-Jun-24	27-Jul-24	2



1st Programme Baseline
Actual Work
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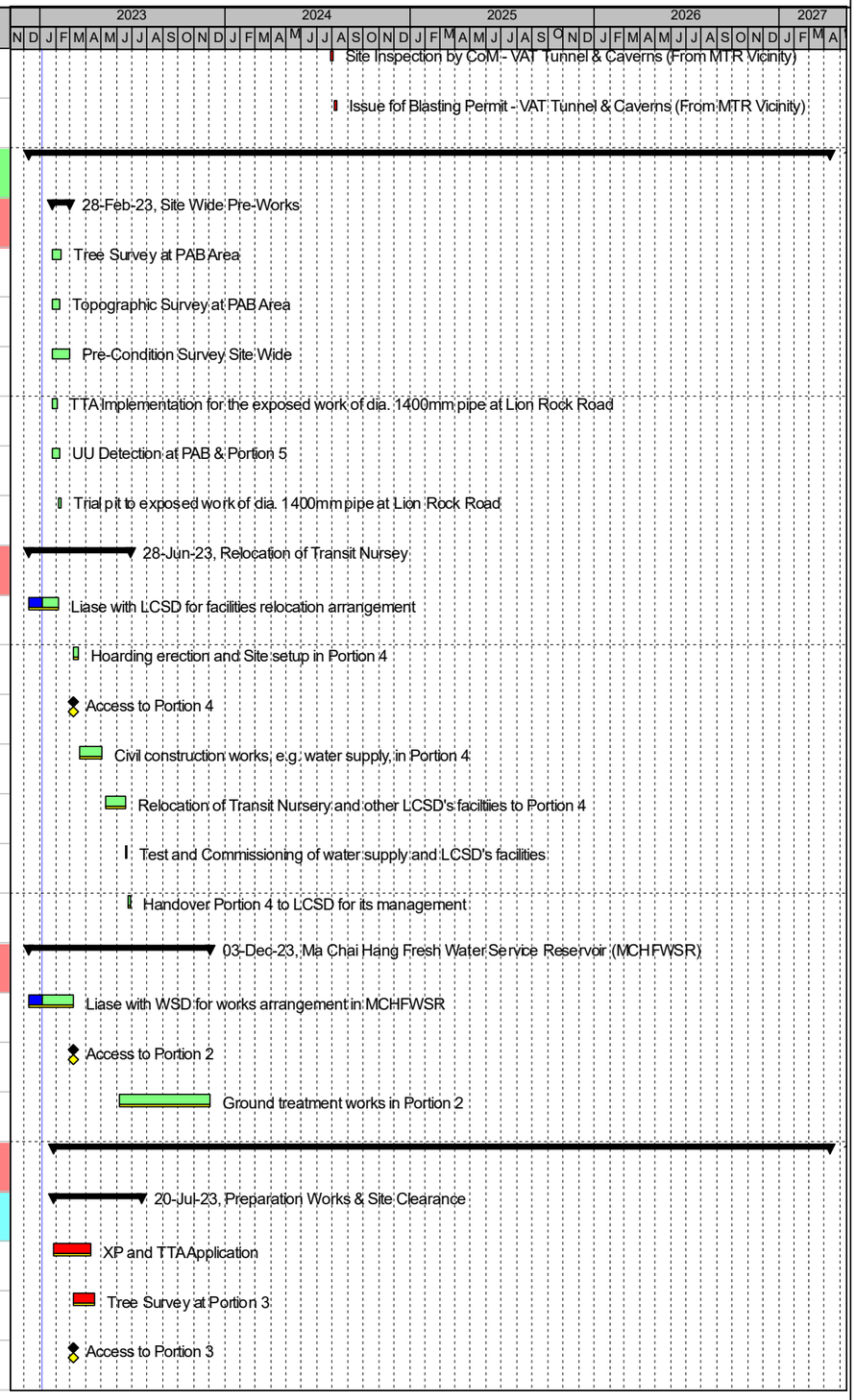
Critical Remaining Work
1st Programme Baseline Milestone
Milestone
Summary

Date	Revision	Checked	Approved
12-Dec-22	First Programme		
12-Jan-23	Monthly Programme January 2023		

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
21.BMS.VAT.10180	Site Inspection by CoM - VAT Tunnel & Caverns (From MTR Vicinity)	0%	0	7			28-Jul-24	03-Aug-24	2
21.BMS.VAT.10190	Issue fof Blasting Permit - VAT Tunnel & Caverns (From MTR Vicinity)	0%	0	7			04-Aug-24	10-Aug-24	2
Site Works			1283	1262	09-Dec-22	11-Apr-27	09-Dec-22 A	11-Apr-27	1
Site Wide Pre-Works			0	29			26-Jan-23	28-Feb-23	1191
21.PRW.G.10000	Tree Survey at PAB Area	0%	0	15			26-Jan-23	11-Feb-23	24
21.PRW.G.10010	Topographic Survey at PAB Area	0%	0	12			26-Jan-23	08-Feb-23	298
21.PRW.G.10020	Pre-Condition Survey Site Wide	0%	0	29			26-Jan-23	28-Feb-23	281
21.PRW.G.10030	TTA Implementation for the exposed work of dia. 1400mm pipe at Lion Rock Road	0%	0	9			26-Jan-23	04-Feb-23	385
21.PRW.G.10050	UU Detection at PAB & Portion 5	0%	0	12			26-Jan-23	08-Feb-23	1208
21.PRW.G.10040	Trial pit to exposed work of dia. 1400mm pipe at Lion Rock Road	0%	0	6			06-Feb-23	11-Feb-23	385
Relocation of Transit Nursey			202	175	09-Dec-22	28-Jun-23	09-Dec-22 A	28-Jun-23	1384
SW-RTN-1010	Liase with LCSD for facilities relocation arrangement	45%	60	60	09-Dec-22	06-Feb-23	09-Dec-22 A	06-Feb-23	73
SW-RTN-1030	Hoarding erection and Site setup in Portion 4	0%	10	10	09-Mar-23	18-Mar-23	09-Mar-23	18-Mar-23	43
SW-RTN-1020	Access to Portion 4	0%	0	0	09-Mar-23		09-Mar-23		43
SW-RTN-1040	Civil construction works, e.g. water supply, in Portion 4	0%	45	45	19-Mar-23	02-May-23	19-Mar-23	02-May-23	43
SW-RTN-1050	Relocation of Transit Nursery and other LCSD's facilties to Portion 4	0%	40	40	11-May-23	19-Jun-23	11-May-23	19-Jun-23	35
SW-RTN-1060	Test and Commissioning of water supply and LCSD's facilities	0%	3	3	20-Jun-23	22-Jun-23	20-Jun-23	22-Jun-23	1384
SW-RTN-1070	Handover Portion 4 to LCSD for its management	0%	6	6	23-Jun-23	28-Jun-23	23-Jun-23	28-Jun-23	1384
Ma Chai Hang Fresh Water Service Reservoir (MCHFWSR)			360	333	09-Dec-22	03-Dec-23	09-Dec-22 A	03-Dec-23	1226
SW-P2-1000	Liase with WSD for works arrangement in MCHFWSR	30%	90	90	09-Dec-22	08-Mar-23	09-Dec-22 A	08-Mar-23	1226
SW-P2-1010	Access to Portion 2	0%	0	0	09-Mar-23		09-Mar-23		1316
SW-P2-1020	Ground treatment works in Portion 2	0%	180	180	07-Jun-23	03-Dec-23	07-Jun-23	03-Dec-23	1226
Portal Ancillary Building			1245	1245	28-Jan-23	11-Apr-27	28-Jan-23	11-Apr-27	1
Preparation Works & Site Clearance			174	174	28-Jan-23	20-Jul-23	28-Jan-23	20-Jul-23	242
SW-PAB1000	XP and TTA Application	0%	75	75	28-Jan-23	12-Apr-23	28-Jan-23	12-Apr-23	0
SW-PAB1020	Tree Survey at Portion 3	0%	42	42	09-Mar-23	19-Apr-23	09-Mar-23	19-Apr-23	3
SW-PAB1010	Access to Portion 3	0%	0	0	09-Mar-23		09-Mar-23		3



1st Programme Baseline
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Summary

Date	Revision	Checked	Approved
12-Dec-22	First Programme		
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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
SW-PAB1030	Hoarding Erection and Site Setup	0%	10	10	13-Apr-23	22-Apr-23	13-Apr-23	22-Apr-23	0
SW-PAB1040	Tree Treatment and Site Clearance	0%	49	49	23-Apr-23	10-Jun-23	23-Apr-23	10-Jun-23	0
SW-PAB1050	Survey, Trial pit, UU detection, Condition survey	0%	40	40	11-Jun-23	20-Jul-23	11-Jun-23	20-Jul-23	242
Foundation, Sub-Structure and Retaining Structure			579	579	07-Jun-23	20-May-25	07-Jun-23	20-May-25	246
Northern Side of PAB (RHS) (Zone 2)			356	356	07-Jun-23	15-Aug-24	07-Jun-23	15-Aug-24	469
SW-PAB-2110	Implement TTA to shift Lion Rock Road traffic westward to provide sufficent space for pipe pile installation	0%	2	2	07-Jun-23	08-Jun-23	07-Jun-23	08-Jun-23	293
SW-PAB-2120	Removal of road pavement and site clearance, surveying, UU detection, diversion (if any)	0%	20	20	09-Jun-23	28-Jun-23	09-Jun-23	28-Jun-23	361
SW-PAB-2000	Construction of Concrete Block Wall and Forma Working Platform at +85mPD (7d+3d) (start after 8no pipe pile by 1rig)	0%	10	10	20-Jun-23	03-Jul-23	20-Jun-23	03-Jul-23	28
SW-PAB-2010	Soil Excavation for Southern Ramp (Total: 2689m3) (PR=180m3/d)	0%	15	15	20-Jun-23	08-Jul-23	20-Jun-23	08-Jul-23	285
SW-PAB-2150	Iinstallation of Pipe Plile (273dia) along Lion Rock Road (Total: 53no.) (PR=1d/pile/rig) (2rigs) plus 1 wk for grouting	0%	33	33	10-Jul-23	16-Aug-23	10-Jul-23	16-Aug-23	285
SW-PAB-2020	Installation of King Post (Total: 3no) (PR=2.5d/pile/rig) (2 rigs)	0%	5	5	24-Jul-23	28-Jul-23	24-Jul-23	28-Jul-23	11
SW-PAB-2030	Installation of PIpe Pile at RHS of Portal (Total: 15no) (PR=2.5d/pile/rig) (2 rigs) + 3d remobilization	0%	22	22	29-Jul-23	23-Aug-23	29-Jul-23	23-Aug-23	11
SW-PAB-2040	Erection of Steel Platform for Bored Pile Construction	0%	22	22	24-Aug-23	18-Sep-23	24-Aug-23	18-Sep-23	279
SW-PAB-2050	Plant mobilization and Installation of Bored Pile on Steel Platform (Total: 4no) (PR=22d/pile/rig) (1 rigs)	0%	88	88	27-Dec-23	15-Apr-24	27-Dec-23	15-Apr-24	199
SW-PAB-2060	Plant Demobilization and Removal of Steel Platform	0%	7	7	16-Apr-24	23-Apr-24	16-Apr-24	23-Apr-24	473
SW-PAB-2070	Soil Excavation to Formation Level and ELS Installation (Total: 2217m3) (PR=200m3/d) +8d ELS	0%	19	19	24-Apr-24	17-May-24	24-Apr-24	17-May-24	473
SW-PAB-2080	Pile Test @ Grid BB-EE (Total: 4no.)	0%	30	30	18-May-24	16-Jun-24	18-May-24	16-Jun-24	578
SW-PAB-2100	Construction of Retainig Wall RW3 and Backfill work	0%	90	90	18-May-24	15-Aug-24	18-May-24	15-Aug-24	578
SW-PAB-2090	Trim Pile Head, Construction of Pile Cap @ Grid BB-EE, 3m thk	0%	60	60	17-Jun-24	15-Aug-24	17-Jun-24	15-Aug-24	578
Northern Side of PAB (LHS) (Zone 1)			570	570	17-Jun-23	20-May-25	17-Jun-23	20-May-25	201
SW-PAB-3000	Installation of mini-pile for support steel platform (Total: 22no) (PR=1.5d/pile/rig) (1rigs)	0%	33	33	17-Jun-23	27-Jul-23	17-Jun-23	27-Jul-23	376
SW-PAB-3010	Construction of RC footing on mini-pile	0%	24	24	14-Jul-23	10-Aug-23	14-Jul-23	10-Aug-23	376
SW-PAB-3020	Installation of Sheet Pile (Total: 10m, 240m2) (PR=40m2/d/piler) (1 piler)	0%	6	6	21-Jul-23	27-Jul-23	21-Jul-23	27-Jul-23	199
SW-PAB-3040	Installation of Sheet Pile (Total: 15m, 360m2) (PR=40m2/d/piler) (1 piler)	0%	9	9	28-Jul-23	07-Aug-23	28-Jul-23	07-Aug-23	199
SW-PAB-3030	Soil Excavation to reach 1:8 fall for King Post Installation	0%	6	6	28-Jul-23	03-Aug-23	28-Jul-23	03-Aug-23	296
SW-PAB-3050	Soil Excavation and ELS installation - Stage 1 (Total: 2700m3) (PR=180m3/d) + 8d ELS	0%	23	23	29-Aug-23	23-Sep-23	29-Aug-23	23-Sep-23	338
SW-PAB-3100	Installation of Remaining Sheet Pile (Total: 42m, 930m2) (PR=40m2/d/piler) (1 piler)	0%	24	24	29-Aug-23	25-Sep-23	29-Aug-23	25-Sep-23	555

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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
SW-PAB-3060	Erection of Steel Platform for Bored Pile Construction	0%	24	24	25-Sep-23	25-Oct-23	25-Sep-23	25-Oct-23	338
SW-PAB-3070	Installation of Bored Pile on Steel Platform (Total: 7no) (PR=22d/pile/rig) (1 rigs)	0%	154	154	16-Apr-24	19-Oct-24	16-Apr-24	19-Oct-24	199
SW-PAB-3070a	Pile Test @ Grid U-BB (Total: 7no.)	0%	66	66	17-Sep-24	21-Nov-24	17-Sep-24	21-Nov-24	249
SW-PAB-3080	Removal of Steel Platform	0%	12	12	22-Nov-24	05-Dec-24	22-Nov-24	05-Dec-24	199
SW-PAB-3110	Soil Excavation to Formation Level and ELS Installation (Total: 5000m3) (PR=300m3/d) + 8d ELS	0%	25	25	06-Dec-24	07-Jan-25	06-Dec-24	07-Jan-25	199
SW-PAB-3130	Trim Pile Head, Construction of Pile Cap @ Grid U-BB, 3m thk from FL 77.83mPD	0%	90	90	20-Feb-25	20-May-25	20-Feb-25	20-May-25	244
Southern Side of PAB			499	499	08-Aug-23	10-Apr-25	08-Aug-23	10-Apr-25	242
SW-PAB-4000	Installation of Sheet Pile (Total: 60m, 720m2) (PR=40m2/d/piler)	0%	18	18	08-Aug-23	28-Aug-23	08-Aug-23	28-Aug-23	199
SW-PAB-4010	Construction of Concrete Block Wall and Form a Working Platform at +84mPD (26d + 6d)	0%	32	32	29-Aug-23	06-Oct-23	29-Aug-23	06-Oct-23	199
SW-PAB-4020	Installation of Bored Pile on Workingl Platform (Total: 3no) (PR=22d/pile/rig) (1 rigs)	0%	66	66	07-Oct-23	23-Dec-23	07-Oct-23	23-Dec-23	199
SW-PAB-4030	Pile Test @ Grid U-BB (Total: 3no.)	0%	50	50	11-Dec-23	29-Jan-24	11-Dec-23	29-Jan-24	619
SW-PAB-4040	Removal of Platform and Concrete Block	0%	21	21	30-Jan-24	24-Feb-24	30-Jan-24	24-Feb-24	502
SW-PAB-4050	Construction of Retaining Wall RW1 and RW2 by Open Cut Method	0%	90	90	25-Feb-24	24-May-24	25-Feb-24	24-May-24	619
SW-PAB-4060	Installation of Bored Pile on ground at FEL (Total: 3no) (PR=22d/pile/rig) (1 rigs)	0%	66	66	14-Dec-24	07-Mar-25	14-Dec-24	07-Mar-25	199
SW-PAB-4070	Pile Test @ Grid U-BB (Total: 3no.)	0%	50	50	20-Feb-25	10-Apr-25	20-Feb-25	10-Apr-25	244
Structure Works			986	986	04-Aug-23	26-Nov-26	04-Aug-23	26-Nov-26	1
Building Structure - Grid No. U - BB			727	727	04-Aug-23	13-Jan-26	04-Aug-23	13-Jan-26	260
SW-PAB-S2000	Installation of Tower Crane	0%	5	5	04-Aug-23	09-Aug-23	04-Aug-23	09-Aug-23	354
SW-PAB-S3000	Commencement of Building Structure	0%	0	0	21-May-25		21-May-25		244
SW-PAB-S3010	Column, Beam & Floor Slab @ Ground Floor +78mPD (from Pile Cap @ +75mPD) incl. scaffold erection	0%	35	35	21-May-25	24-Jun-25	21-May-25	24-Jun-25	244
SW-PAB-S3020	RC Column and RC Wall @ above Ground Floor	0%	26	26	25-Jun-25	20-Jul-25	25-Jun-25	20-Jul-25	244
SW-PAB-S3030	RC Beam & Floor Slab @ First Floor +84.25mPD incl. scaffold erection	0%	35	35	21-Jul-25	24-Aug-25	21-Jul-25	24-Aug-25	244
SW-PAB-S3040	RC Column and RC Wall @ above First Floor	0%	26	26	25-Aug-25	19-Sep-25	25-Aug-25	19-Sep-25	244
SW-PAB-S3050	RC Beam & Floor Slab @ Roof +91.5mPD incl. scaffold erection	0%	35	35	20-Sep-25	24-Oct-25	20-Sep-25	24-Oct-25	244
SW-PAB-S3060	RC Column and RC Wall @ above Roof	0%	14	14	25-Oct-25	07-Nov-25	25-Oct-25	07-Nov-25	318
SW-PAB-S3080	RC Stairs	0%	21	21	25-Oct-25	14-Nov-25	25-Oct-25	14-Nov-25	378
SW-PAB-S3070	Roof Canopy @ +95.8mPD incl. scaffold erection	0%	21	21	08-Nov-25	28-Nov-25	08-Nov-25	28-Nov-25	318

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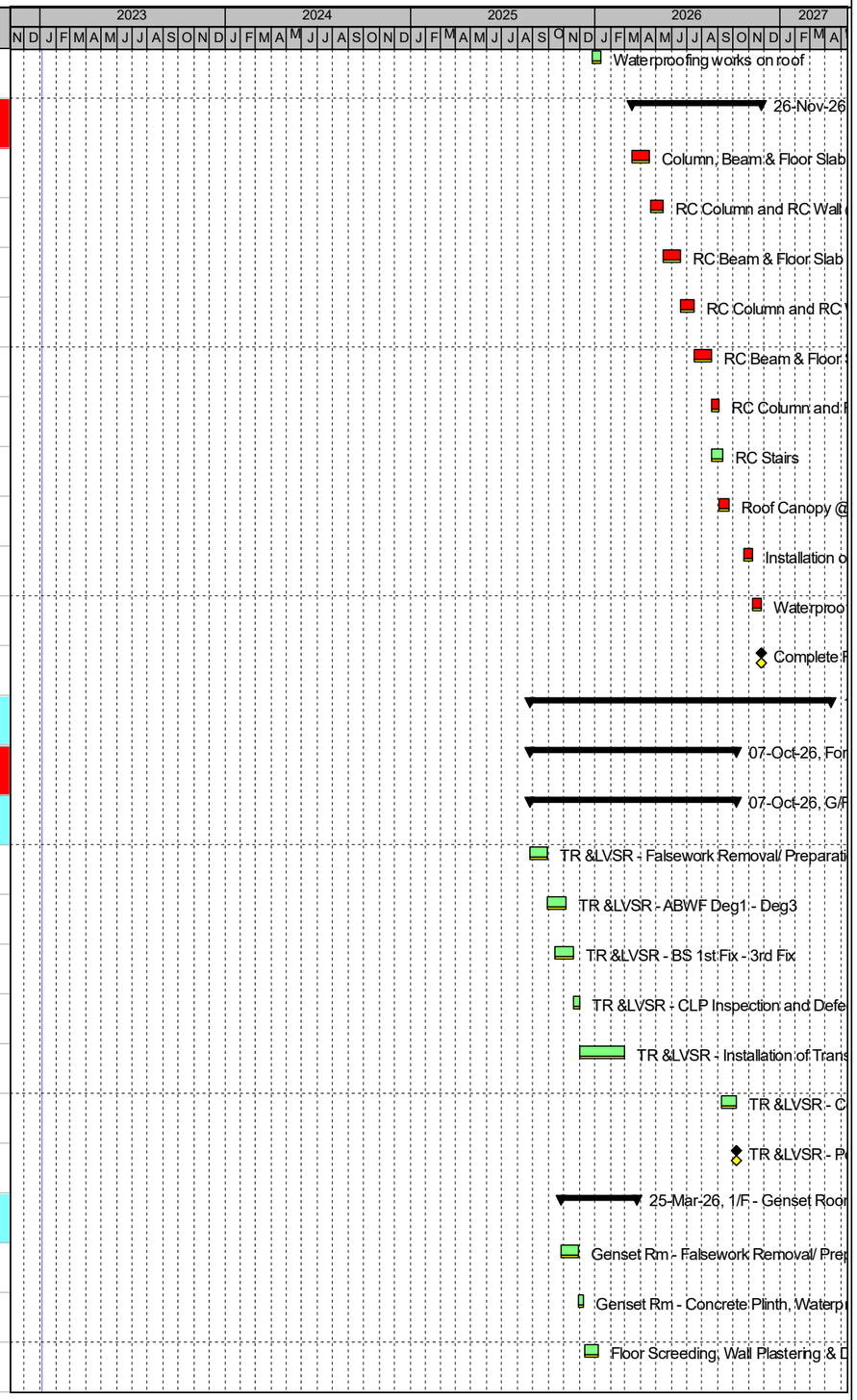
21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
SW-PAB-S3090	Waterproofing works on roof	0%	18	18	27-Dec-25	13-Jan-26	27-Dec-25	13-Jan-26	318
Building Structure - Grid No. BB - EE			256	256	16-Mar-26	26-Nov-26	16-Mar-26	26-Nov-26	1
SW-PAB-S4000	Column, Beam & Floor Slab @ Ground Floor +78mPD (from Pile Cap @ +75mPD) incl. scaffold erection	0%	35	35	16-Mar-26	19-Apr-26	16-Mar-26	19-Apr-26	1
SW-PAB-S4010	RC Column and RC Wall @ above Ground Floor	0%	26	26	20-Apr-26	15-May-26	20-Apr-26	15-May-26	1
SW-PAB-S4020	RC Beam & Floor Slab @ First Floor +84.25mPD incl. scaffold erection	0%	35	35	16-May-26	19-Jun-26	16-May-26	19-Jun-26	1
SW-PAB-S4030	RC Column and RC Wall @ above First Floor	0%	26	26	20-Jun-26	15-Jul-26	20-Jun-26	15-Jul-26	1
SW-PAB-S4040	RC Beam & Floor Slab @ Roof +91.5mPD incl. scaffold erection	0%	35	35	16-Jul-26	19-Aug-26	16-Jul-26	19-Aug-26	1
SW-PAB-S4050	RC Column and RC Wall @ above Roof	0%	14	14	20-Aug-26	02-Sep-26	20-Aug-26	02-Sep-26	1
SW-PAB-S4070	RC Stairs	0%	21	21	20-Aug-26	09-Sep-26	20-Aug-26	09-Sep-26	79
SW-PAB-S4060	Roof Canopy @ +95.8mPD incl. scaffold erection	0%	21	21	03-Sep-26	23-Sep-26	03-Sep-26	23-Sep-26	1
SW-PAB-S4080	Installation of Photovoltaic Panel	0%	18	18	22-Oct-26	08-Nov-26	22-Oct-26	08-Nov-26	1
SW-PAB-S4090	Waterproofing works on roof	0%	18	18	09-Nov-26	26-Nov-26	09-Nov-26	26-Nov-26	1
SW-PAB-S4100	Complete RC Structure	0%	0	0		26-Nov-26		26-Nov-26	1
ABWF/ MEP/ FS/ Fitout Works			595	595	25-Aug-25	11-Apr-27	25-Aug-25	11-Apr-27	1
For Grid No. U - BB			409	409	25-Aug-25	07-Oct-26	25-Aug-25	07-Oct-26	78
G/F - Transformer Room & LV Switch Room			409	409	25-Aug-25	07-Oct-26	25-Aug-25	07-Oct-26	48
SW-PAB-A5010	TR &LVSR - Falsework Removal/ Preparation for ABWF & MEP Works	0%	35	35	25-Aug-25	28-Sep-25	25-Aug-25	28-Sep-25	268
SW-PAB-A5020	TR &LVSR - ABWF Deg1 - Deg3	0%	38	38	29-Sep-25	05-Nov-25	29-Sep-25	05-Nov-25	268
SW-PAB-A5030	TR &LVSR - BS 1st Fix - 3rd Fix	0%	38	38	13-Oct-25	19-Nov-25	13-Oct-25	19-Nov-25	268
SW-PAB-A5040	TR &LVSR - CLP Inspection and Defect Rectification	0%	12	12	20-Nov-25	01-Dec-25	20-Nov-25	01-Dec-25	268
SW-PAB-A5050	TR &LVSR - Installation of Transformer and T&C by CLP	0%	90	90	02-Dec-25	01-Mar-26	02-Dec-25	01-Mar-26	268
SW-PAB-A5060	TR &LVSR - Completion of CLP Cable Laying Leading to PAB	0%	30	30	08-Sep-26	07-Oct-26	08-Sep-26	07-Oct-26	48
SW-PAB-A5070	TR &LVSR - Power-on Date	0%	0	0		07-Oct-26		07-Oct-26	48
1/F - Genset Room			152	152	25-Oct-25	25-Mar-26	25-Oct-25	25-Mar-26	244
SW-PAB-A5110	Genset Rm - Falsework Removal/ Preparation for ABWF & MEP Works	0%	35	35	25-Oct-25	28-Nov-25	25-Oct-25	28-Nov-25	244
SW-PAB-A5120	Genset Rm - Concrete Plinth, Waterproofing & Test	0%	12	12	29-Nov-25	10-Dec-25	29-Nov-25	10-Dec-25	244
SW-PAB-A5130	Floor Screeding, Wall Plastering & Doors & Wall Lining	0%	28	28	11-Dec-25	07-Jan-26	11-Dec-25	07-Jan-26	244



1st Programme Baseline
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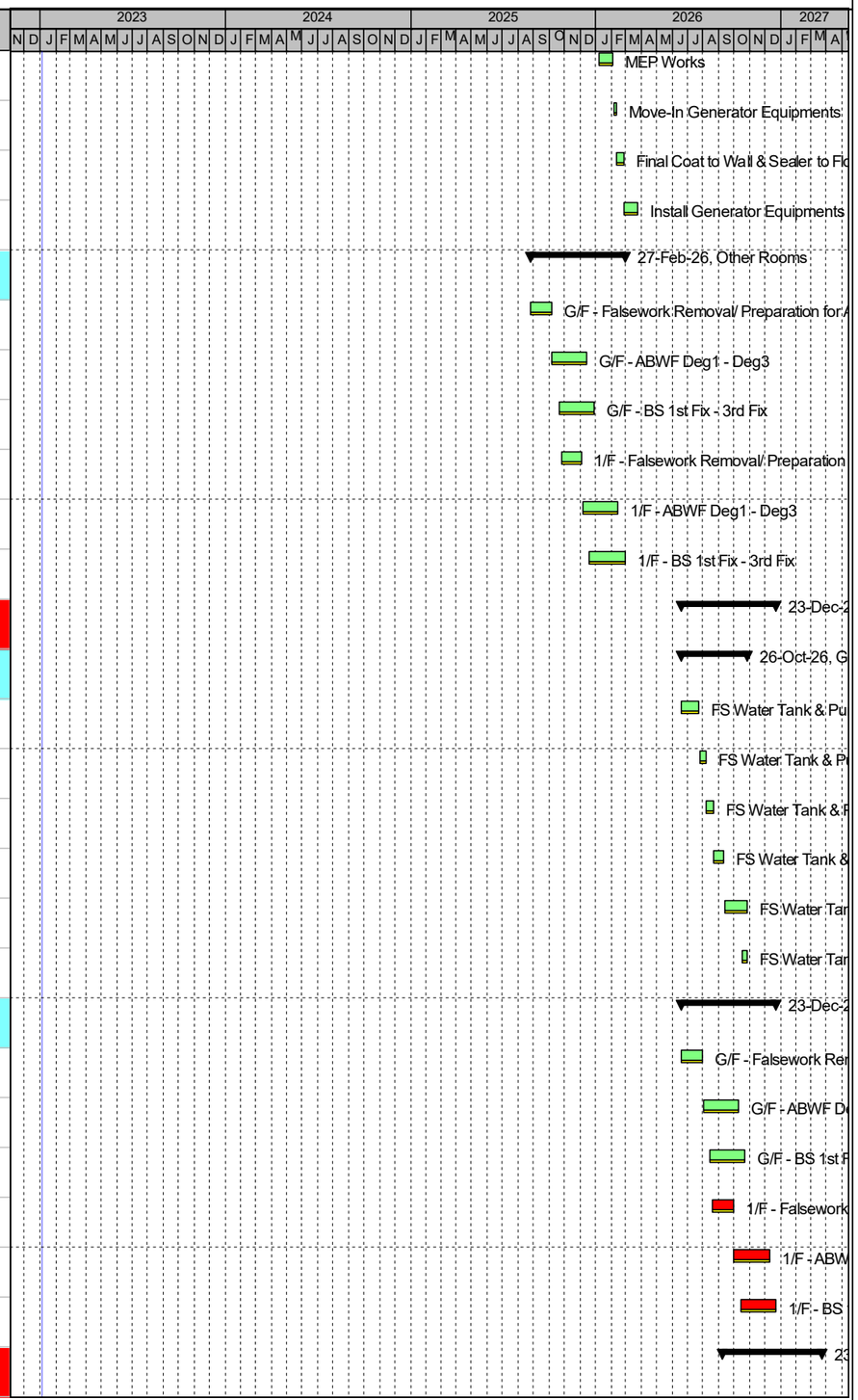
Date	Revision	Checked	Approved
12-Dec-22	First Programme		
12-Jan-23	Monthly Programme January 2023		

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
SW-PAB-A5140	MEP Works	0%	28	28	08-Jan-26	04-Feb-26	08-Jan-26	04-Feb-26	244
SW-PAB-A5150	Move-In Generator Equipments	0%	7	7	05-Feb-26	11-Feb-26	05-Feb-26	11-Feb-26	244
SW-PAB-A5160	Final Coat to Wall & Sealer to Floor	0%	14	14	12-Feb-26	25-Feb-26	12-Feb-26	25-Feb-26	244
SW-PAB-A5170	Install Generator Equipments & Testing	0%	28	28	26-Feb-26	25-Mar-26	26-Feb-26	25-Mar-26	244
Other Rooms			187	187	25-Aug-25	27-Feb-26	25-Aug-25	27-Feb-26	300
SW-PAB-A5210	G/F - Falsework Removal/ Preparation for ABWF & MEP Works	0%	42	42	25-Aug-25	05-Oct-25	25-Aug-25	05-Oct-25	361
SW-PAB-A5220	G/F - ABWF Deg1 - Deg3	0%	70	70	06-Oct-25	14-Dec-25	06-Oct-25	14-Dec-25	361
SW-PAB-A5230	G/F - BS 1st Fix - 3rd Fix	0%	70	70	20-Oct-25	28-Dec-25	20-Oct-25	28-Dec-25	361
SW-PAB-A5240	1/F - Falsework Removal/ Preparation for ABWF & MEP Works	0%	42	42	25-Oct-25	05-Dec-25	25-Oct-25	05-Dec-25	300
SW-PAB-A5250	1/F - ABWF Deg1 - Deg3	0%	70	70	06-Dec-25	13-Feb-26	06-Dec-25	13-Feb-26	300
SW-PAB-A5260	1/F - BS 1st Fix - 3rd Fix	0%	70	70	20-Dec-25	27-Feb-26	20-Dec-25	27-Feb-26	300
For Grid No. BB - EE			187	187	20-Jun-26	23-Dec-26	20-Jun-26	23-Dec-26	1
G/F - FS Water Tank & FS Pump Room			129	129	20-Jun-26	26-Oct-26	20-Jun-26	26-Oct-26	29
SW-PAB-A6010	FS Water Tank & Pump Rm - Falsework Removal/ Preparation for ABWF & MEP Works	0%	35	35	20-Jun-26	24-Jul-26	20-Jun-26	24-Jul-26	29
SW-PAB-A6020	FS Water Tank & Pump Rm - Waterproofing & Testing	0%	14	14	25-Jul-26	07-Aug-26	25-Jul-26	07-Aug-26	29
SW-PAB-A6030	FS Water Tank & Pump Rm - Plastering Works Inside Tank	0%	14	14	08-Aug-26	21-Aug-26	08-Aug-26	21-Aug-26	29
SW-PAB-A6040	FS Water Tank & Pump Rm - Wall and Floor Tiling Works	0%	21	21	22-Aug-26	11-Sep-26	22-Aug-26	11-Sep-26	29
SW-PAB-A6050	FS Water Tank & Pump Rm - Install Equipment	0%	45	45	12-Sep-26	26-Oct-26	12-Sep-26	26-Oct-26	29
SW-PAB-A6060	FS Water Tank & Pump Rm - Install Cat Ladder & Hatch Cover	0%	10	10	17-Oct-26	26-Oct-26	17-Oct-26	26-Oct-26	29
Other Rooms			187	187	20-Jun-26	23-Dec-26	20-Jun-26	23-Dec-26	1
SW-PAB-A6110	G/F - Falsework Removal/ Preparation for ABWF & MEP Works	0%	42	42	20-Jun-26	31-Jul-26	20-Jun-26	31-Jul-26	62
SW-PAB-A6120	G/F - ABWF Deg1 - Deg3	0%	70	70	01-Aug-26	09-Oct-26	01-Aug-26	09-Oct-26	62
SW-PAB-A6130	G/F - BS 1st Fix - 3rd Fix	0%	70	70	15-Aug-26	23-Oct-26	15-Aug-26	23-Oct-26	62
SW-PAB-A6140	1/F - Falsework Removal/ Preparation for ABWF & MEP Works	0%	42	42	20-Aug-26	30-Sep-26	20-Aug-26	30-Sep-26	1
SW-PAB-A6150	1/F - ABWF Deg1 - Deg3	0%	70	70	01-Oct-26	09-Dec-26	01-Oct-26	09-Dec-26	1
SW-PAB-A6160	1/F - BS 1st Fix - 3rd Fix	0%	70	70	15-Oct-26	23-Dec-26	15-Oct-26	23-Dec-26	1
External Works			197	197	08-Sep-26	23-Mar-27	08-Sep-26	23-Mar-27	20



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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

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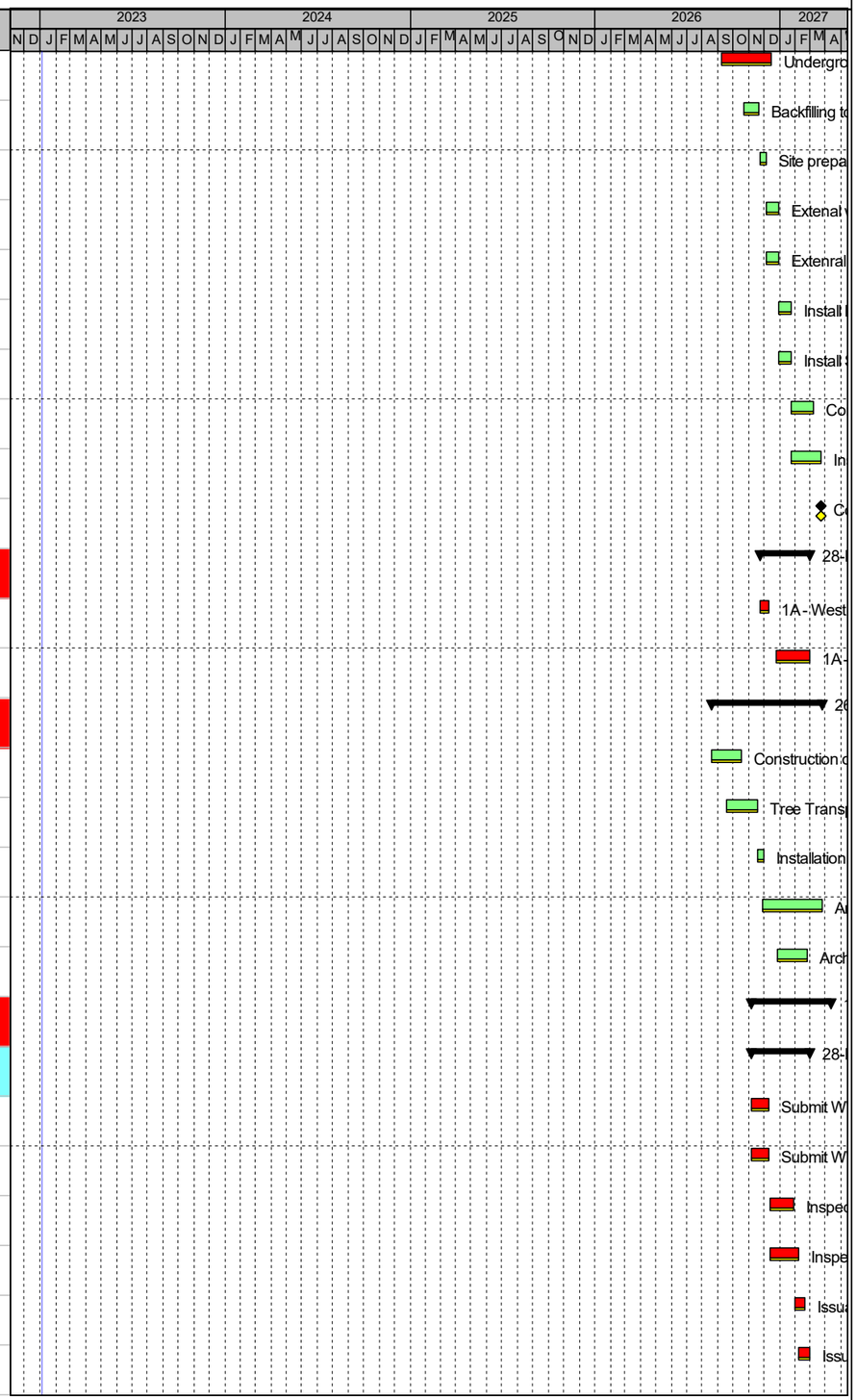
SW-PAB-E1000	Underground Utilities Works, Drainage Works & Testing	0%	100	100	08-Sep-26	16-Dec-26	08-Sep-26	16-Dec-26	1
SW-PAB-E1010	Backfilling to Ground Level	0%	30	30	23-Oct-26	21-Nov-26	23-Oct-26	21-Nov-26	20
SW-PAB-E1020	Site preparation and erect external falsework around building	0%	14	14	22-Nov-26	05-Dec-26	22-Nov-26	05-Dec-26	20
SW-PAB-E1030	Extenal wall plastering/ painting works	0%	24	24	06-Dec-26	29-Dec-26	06-Dec-26	29-Dec-26	80
SW-PAB-E1040	Extenral wall tiles	0%	24	24	06-Dec-26	29-Dec-26	06-Dec-26	29-Dec-26	20
SW-PAB-E1050	Install Metal Doors, Roller Shutter, Cat-Ladder and Metal Railings	0%	24	24	30-Dec-26	22-Jan-27	30-Dec-26	22-Jan-27	80
SW-PAB-E1060	Install Steel Claddings, Ventilation Louvres, External Ceiling	0%	24	24	30-Dec-26	22-Jan-27	30-Dec-26	22-Jan-27	20
SW-PAB-E1070	Construction of vehicular road	0%	45	45	23-Jan-27	08-Mar-27	23-Jan-27	08-Mar-27	35
SW-PAB-E1080	Install Bi-folding gate, security fenece, footpath, boundary wall	0%	60	60	23-Jan-27	23-Mar-27	23-Jan-27	23-Mar-27	20
SW-PAB-E1100	Complete External Works	0%	0	0		23-Mar-27		23-Mar-27	20
Testing and Commisioning			97	97	24-Nov-26	28-Feb-27	24-Nov-26	28-Feb-27	1
SW-PAB-T1000	1A - West Fire Sta - Testing and Commissioning (FS - Related)	0%	18	18	24-Nov-26	11-Dec-26	24-Nov-26	11-Dec-26	1
SW-PAB-T2000	1A - West Fire Sta - Testing and Commissioning (Non FS - Related)	0%	67	67	24-Dec-26	28-Feb-27	24-Dec-26	28-Feb-27	1
Landscaping and Architectural Roof			219	219	20-Aug-26	26-Mar-27	20-Aug-26	26-Mar-27	17
A1000	Construction of Gabion Wall	0%	60	60	20-Aug-26	18-Oct-26	20-Aug-26	18-Oct-26	132
A1030	Tree Transplant near Gabion Wall	0%	60	60	19-Sep-26	17-Nov-26	19-Sep-26	17-Nov-26	132
A1040	Installation of Landscape Fence	0%	14	14	18-Nov-26	01-Dec-26	18-Nov-26	01-Dec-26	132
A1050	Architectural Roof hardwork	0%	120	120	27-Nov-26	26-Mar-27	27-Nov-26	26-Mar-27	17
A1060	Architectural Roof softwork and Tree transplant	0%	60	60	27-Dec-26	24-Feb-27	27-Dec-26	24-Feb-27	47
Statutory Approval & Inspection			156	156	07-Nov-26	11-Apr-27	07-Nov-26	11-Apr-27	1
WSD Inspection			114	114	07-Nov-26	28-Feb-27	07-Nov-26	28-Feb-27	1
SW-PAB-8000	Submit WWO 46 Part IV (PD) and Wait for Inspection by WSD	0%	35	35	07-Nov-26	11-Dec-26	07-Nov-26	11-Dec-26	10
SW-PAB-7000	Submit WWO 46 Part IV (FS) and Wait for Inspection by WSD	0%	35	35	07-Nov-26	11-Dec-26	07-Nov-26	11-Dec-26	1
SW-PAB-8010	Inspection and Re-inspection by WSD (PD) (including water test)	0%	49	49	12-Dec-26	29-Jan-27	12-Dec-26	29-Jan-27	10
SW-PAB-7010	Inspection and Re-inspection by WSD (FS)	0%	58	58	12-Dec-26	07-Feb-27	12-Dec-26	07-Feb-27	1
SW-PAB-8020	Issuance Period of WWO 46 Part V (PD)	0%	21	21	30-Jan-27	19-Feb-27	30-Jan-27	19-Feb-27	10
SW-PAB-7020	Issuance Period of WWO 46 Part V (FS)	0%	21	21	08-Feb-27	28-Feb-27	08-Feb-27	28-Feb-27	1



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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

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SW-PAB-8030	Obtain WWO 46 Part V (PD) by WSD	0%	0	0		19-Feb-27		19-Feb-27	10
SW-PAB-7030	Obtain WWO 46 Part V (FS) by WSD	0%	0	0		28-Feb-27		28-Feb-27	1
FSD and OP Inspection			121	121	12-Dec-26	11-Apr-27	12-Dec-26	11-Apr-27	1
SW-PAB-9000	Submit Form 314 / FSI501 and Wait for Inspection by FSD	0%	21	21	12-Dec-26	01-Jan-27	12-Dec-26	01-Jan-27	59
SW-PAB-9010	FS Inspection and Re-inspection	0%	28	28	01-Mar-27	28-Mar-27	01-Mar-27	28-Mar-27	1
SW-PAB-9020	Issue Fire Certificate (FS172)	0%	14	14	29-Mar-27	11-Apr-27	29-Mar-27	11-Apr-27	1
SW-PAB-9030	Obtain Fire Certificate (FS172) by FSD	0%	0	0		11-Apr-27		11-Apr-27	1
Vehicular Access Tunnel			1145	1145	09-Mar-23	15-Jan-27	09-Mar-23	15-Jan-27	67
Tunnel Works CH 3 - 40 by Cut and Cover Method			476	476	09-Mar-23	15-Oct-24	09-Mar-23	15-Oct-24	655
Preliminary Works			77	77	09-Mar-23	24-May-23	09-Mar-23	24-May-23	0
SW-VAT-1000	Access to Portion 1	0%	0	0	09-Mar-23		09-Mar-23		15
SW-VAT-1010	Tree Survey at Portion 1	0%	30	30	09-Mar-23	07-Apr-23	09-Mar-23	07-Apr-23	15
SW-VAT-1020	Hoarding Erection and Site Setup	0%	10	10	13-Apr-23	22-Apr-23	13-Apr-23	22-Apr-23	0
SW-VAT-1030	Tree Treatment and Site Clearance	0%	28	28	23-Apr-23	20-May-23	23-Apr-23	20-May-23	0
SW-VAT-1040	Survey, Trial pit, UU detection, Condition survey	0%	14	14	11-May-23	24-May-23	11-May-23	24-May-23	0
Stage 1 & 2 - ELS works, CH3 -27, at Zone0 (up to existing kerb line of Lion Rock Road)			141	141	25-May-23	11-Nov-23	25-May-23	11-Nov-23	49
SW-VAT-1100	Installation of Pipe Pile (Total: 34no) (PR=2.5d/pile/rig) (2 rigs)	0%	43	43	25-May-23	17-Jul-23	25-May-23	17-Jul-23	0
SW-VAT-1110	Installation of King Post (Total: 4no) (PR=2.5d/pile/rig) (2 rigs)	0%	5	5	18-Jul-23	22-Jul-23	18-Jul-23	22-Jul-23	0
SW-VAT-1130	Soil Excavation for Temporary Steel Platform (Total:878m3) (PR=180m3/d)	0%	5	5	24-Jul-23	28-Jul-23	24-Jul-23	28-Jul-23	0
SW-VAT-1140	Erection of Temporary Steel Platform for Traffic Diversion	0%	18	18	29-Jul-23	18-Aug-23	29-Jul-23	18-Aug-23	0
SW-VAT-1150	Erection of Temporary Steel Platform for Bored Pile Construction support with King Post	0%	18	18	19-Aug-23	08-Sep-23	19-Aug-23	08-Sep-23	49
SW-VAT-1160	Soil Excavation for C&C Tunnel (Total: 6460m3) (PR=180m3/d)	0%	52	52	09-Sep-23	11-Nov-23	09-Sep-23	11-Nov-23	49
Stage 3 - ELS works, CH27 -40, at ZoneA			67	67	19-Aug-23	08-Nov-23	19-Aug-23	08-Nov-23	0
SW-VAT-1200	Divert the Traffic onto the Temporary Steel Platform to maintain access to Lion Rock Park and DSD - TTA1	0%	3	3	19-Aug-23	22-Aug-23	19-Aug-23	22-Aug-23	0
SW-VAT-1210	Construction of Concrete Block Wall and Form Working Platform at +89mPD (3d+3d)	0%	6	6	23-Aug-23	29-Aug-23	23-Aug-23	29-Aug-23	6
SW-VAT-1220	Trial Trench, UU detection and diversion	0%	12	12	23-Aug-23	05-Sep-23	23-Aug-23	05-Sep-23	0
SW-VAT-1230	Installation of Pipe Pile (Total: 15no) (PR=2.5d/pile/rig) (1 rigs)	0%	38	38	06-Sep-23	21-Oct-23	06-Sep-23	21-Oct-23	0

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SW-VAT-1240	Construction of Temporary Steel Platform at Zone A for Traffic Diversion	0%	14	14	24-Oct-23	08-Nov-23	24-Oct-23	08-Nov-23	0
Stage 4 & 5 - ELS works, CH27 -40, at ZoneB			110	110	09-Nov-23	21-Mar-24	09-Nov-23	21-Mar-24	0
SW-VAT-1300	Divert the Traffic onto the Temporary Steel Platform to maintain access to Lion Rock Park and DSD - TTA2	0%	3	3	09-Nov-23	11-Nov-23	09-Nov-23	11-Nov-23	0
SW-VAT-1300a	Trial Trench, UU detection and diversion	0%	6	6	13-Nov-23	18-Nov-23	13-Nov-23	18-Nov-23	0
SW-VAT-1310	Installation of Pipe Pile (Total: 12no) (PR=2.5d/pile/rig) (1 rigs)	0%	30	30	20-Nov-23	23-Dec-23	20-Nov-23	23-Dec-23	0
SW-VAT-1320	Construction of Temporary Steel Platform at Zone B for Traffic Diversion	0%	10	10	27-Dec-23	08-Jan-24	27-Dec-23	08-Jan-24	0
SW-VAT-1330	Divert the Traffic onto the Temporary Steel Platform to maintain access to Lion Rock Park and DSD - TTA3	0%	3	3	09-Jan-24	11-Jan-24	09-Jan-24	11-Jan-24	0
SW-VAT-1340	Remaining Soil Excavation for C&C Tunnel (Total: 5870m3) (PR=200m3/d) + 28d ELS with 4 strut & tie-back	0%	58	58	12-Jan-24	21-Mar-24	12-Jan-24	21-Mar-24	0
Structure Works			167	167	22-Mar-24	15-Oct-24	22-Mar-24	15-Oct-24	655
SW-VAT-1500	Construction of blinding, waterproofing layer and base slab (Total: 792m3, 8bays(10x16.5), PR=12d/bay)	0%	24	24	22-Mar-24	23-Apr-24	22-Mar-24	23-Apr-24	639
SW-VAT-1510	Construction of temporary wall, waterproofing layer and wall (Total: 960m3, 8bays (10x10), PR= 12d/bay)	0%	48	48	24-Apr-24	21-Jun-24	24-Apr-24	21-Jun-24	639
SW-VAT-1520	Erection of working platform	0%	21	21	22-Jun-24	17-Jul-24	22-Jun-24	17-Jul-24	639
SW-VAT-1530	Construction of top slab (Total: 792m3, 4bays(10x16.5), PR = 12d/bay, 2workfront)	0%	24	24	18-Jul-24	14-Aug-24	18-Jul-24	14-Aug-24	639
SW-VAT-1540	Backfilling to existing level	0%	30	30	15-Aug-24	13-Sep-24	15-Aug-24	13-Sep-24	786
SW-VAT-1550	Removal of temporary steel platform (staged TTA)	0%	18	18	14-Sep-24	01-Oct-24	14-Sep-24	01-Oct-24	805
SW-VAT-1560	Reinstatement of road (staged TTA)	0%	32	32	14-Sep-24	15-Oct-24	14-Sep-24	15-Oct-24	805
Tunnel Works CH 40 - 775.8 & Caverns (5no.) by Mechanical Break & Drill & Blast Method			745	745	01-Mar-24	15-Mar-26	01-Mar-24	15-Mar-26	1
SW-VAT-2000	Opening of Pipe Plle Wall, Portal construction and site setup	0%	50	50	01-Mar-24	19-Apr-24	01-Mar-24	19-Apr-24	0
SW-VAT-2010	Tunnelling works for vehicular access tunnel, T1-I by mech. break (236m) (7day work)	0%	241	241	15-Mar-24	10-Nov-24	15-Mar-24	10-Nov-24	0
SW-VAT-2020	Tunnelling works for vehicular access tunnel, T2-III by Drill & Blast (61.15m) (5Blast/wk)	0%	116	116	13-Aug-24	06-Dec-24	13-Aug-24	06-Dec-24	0
SW-VAT-2030	Tunnelling works for vehicular access tunnel, T1-II by mech. break (78.8m) (7day work)	0%	116	116	03-Sep-24	27-Dec-24	03-Sep-24	27-Dec-24	0
SW-VAT-2040	Tunnelling works for vehicular access tunnel, T2-III by Drill & Blast (155.45m) (5Blast/wk)	0%	240	240	29-Oct-24	25-Jun-25	29-Oct-24	25-Jun-25	0
SW-VAT-2050	Tunnelling works for vehicular access tunnel, J1-III by Drill & Blast (204.4m) (5Blast/wk)	0%	304	304	09-Jan-25	08-Nov-25	09-Jan-25	08-Nov-25	0
SW-VAT-2110	Tunnelling works for Caverns 1 by Drill & Blast (93.1m) (5Blast/wk)	0%	172	172	30-Apr-25	18-Oct-25	30-Apr-25	18-Oct-25	0
SW-VAT-2130	Tunnelling works for Caverns 3 by Drill & Blast (87.4m) (5Blast/wk)	0%	150	150	03-Jul-25	29-Nov-25	03-Jul-25	29-Nov-25	1
SW-VAT-2150	Tunnelling works for Caverns 5 by Drill & Blast (83.0m) (5Blast/wk)	0%	129	129	06-Sep-25	12-Jan-26	06-Sep-25	12-Jan-26	1
SW-VAT-2120	Tunnelling works for Caverns 2 by Drill & Blast (80.7m) (5Blast/wk)	0%	118	118	24-Sep-25	19-Jan-26	24-Sep-25	19-Jan-26	2

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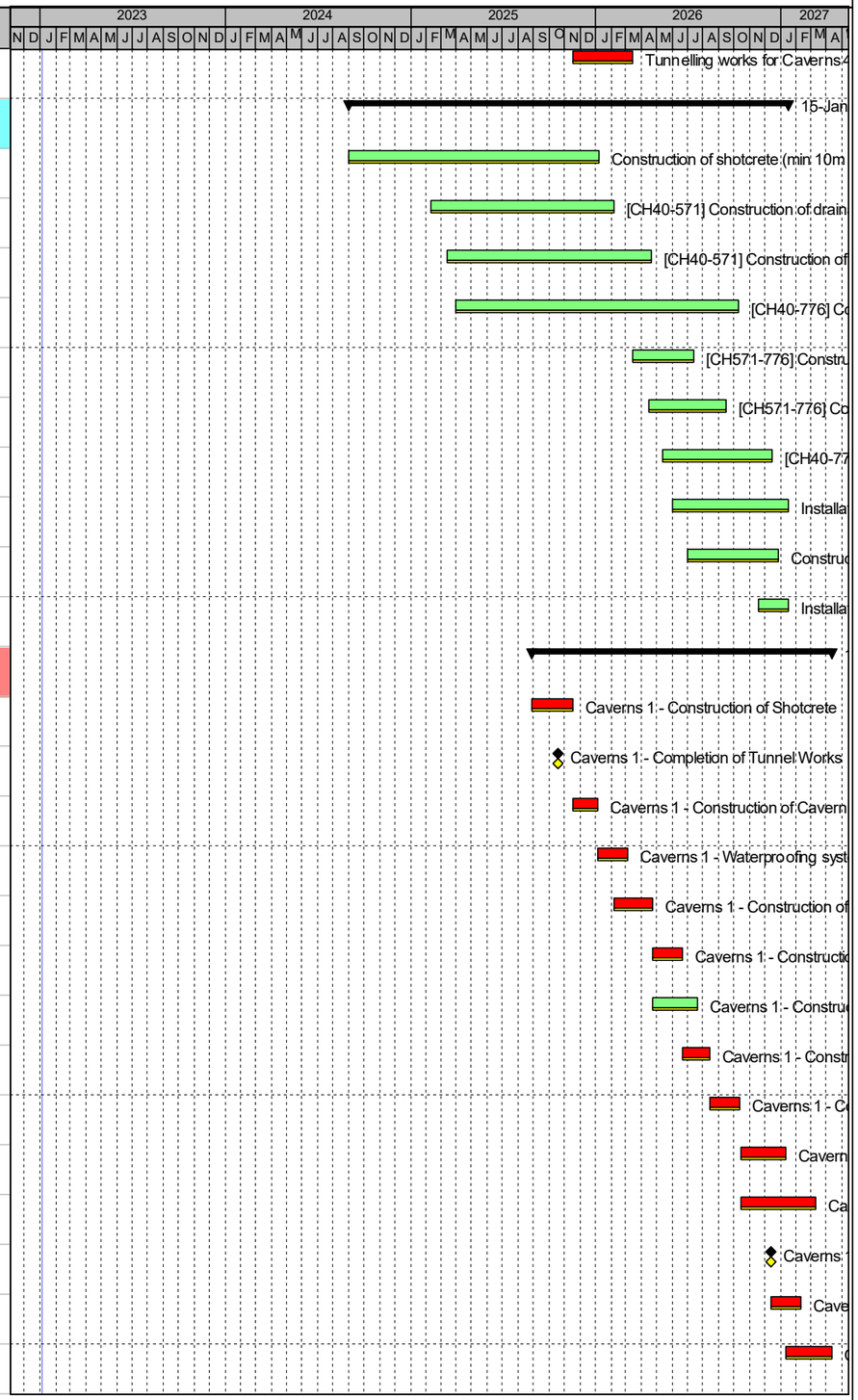
SW-VAT-2140	Tunnelling works for Caverns 4 by Drill & Blast (78.3m) (5Blast/wk) [140]	0%	120	120	16-Nov-25	15-Mar-26	16-Nov-25	15-Mar-26	1
Remaining Works			868	868	31-Aug-24	15-Jan-27	31-Aug-24	15-Jan-27	87
SW-VAT-3000	Construction of shotcrete (min 10m away from exc. face, SS+12, FF+60) 736m, PR=12m/wk (434d)	0%	495	495	31-Aug-24	07-Jan-26	31-Aug-24	07-Jan-26	65
SW-VAT-3010a	[CH40-571] Construction of drainage layer, base slab, lower part (200m from exca, SS+176;FF+30) 532m, PR=12m/wk (315d)	0%	361	361	11-Feb-25	06-Feb-26	11-Feb-25	06-Feb-26	65
SW-VAT-3020a	[CH40-571] Construction of RC Lining (min 24m from base slab + 2wk erection, SS+30) 532m, PR=12m/9d (405d)	0%	405	405	13-Mar-25	21-Apr-26	13-Mar-25	21-Apr-26	65
SW-VAT-3030a	[CH40-776] Construction of compartment RHS (min 24m from Lining, SS+18), 736m, PR=12m/9d [558d]	0%	558	558	31-Mar-25	09-Oct-26	31-Mar-25	09-Oct-26	65
SW-VAT-3010b	[CH571-776] Construction of drainage layer, base slab, lower part (after all excavation) 204m, PR=12m/wk (119d)	0%	119	119	16-Mar-26	12-Jul-26	16-Mar-26	12-Jul-26	57
SW-VAT-3020b	[CH571-776] Construction of RC Lining (min 24m from base slab + 2wk erection, SS+30) 204m, PR=12m/9d (153d)	0%	153	153	15-Apr-26	14-Sep-26	15-Apr-26	14-Sep-26	68
SW-VAT-3030b	[CH40-776] Construction of compartment LHS (min 24m from Lining, SS+18), 736m, PR=24m/wk [217d]	0%	217	217	14-May-26	16-Dec-26	14-May-26	16-Dec-26	57
SW-VAT-3040	Installation of pipeworks below proposed road level (Total: 4416m) PR=36m/d incl. 1M for Pressure Test (150d)	0%	229	229	01-Jun-26	15-Jan-27	01-Jun-26	15-Jan-27	57
SW-VAT-3070	Construction of OHVD, 736m, PR=12d/50m	0%	180	180	01-Jul-26	27-Dec-26	01-Jul-26	27-Dec-26	106
SW-VAT-3060	Installation of CLP power cable along VAT	0%	60	60	17-Nov-26	15-Jan-27	17-Nov-26	15-Jan-27	57
Caverns 1 - Salt Water Service Reservoir No.1			478	478	28-Aug-25	11-Apr-27	28-Aug-25	11-Apr-27	1
SW-C1-1010	Caverns 1 - Construction of Shotcrete	0%	67	67	28-Aug-25	17-Nov-25	28-Aug-25	17-Nov-25	0
SW-C1-1000	Caverns 1 - Completion of Tunnel Works	0%	0	0		18-Oct-25		18-Oct-25	0
SW-C1-1020	Caverns 1 - Construction of Cavern Lining (Total: 28.5m long, PR=12m/9d + 2wk for erection)	0%	39	39	18-Nov-25	05-Jan-26	18-Nov-25	05-Jan-26	0
SW-C1-1030	Caverns 1 - Waterproofing system and protection layer to Wall and Slab	0%	60	60	06-Jan-26	06-Mar-26	06-Jan-26	06-Mar-26	0
SW-C1-1040	Caverns 1 - Construction of Slab 1.6m thk for water tank area (Total: 1939m3, 12bays(11x9), PR= 15d/bay, 3workfronts)	0%	60	60	05-Feb-26	22-Apr-26	05-Feb-26	22-Apr-26	0
SW-C1-1060	Caverns 1 - Construction of Slab 1.0m thk for pump/plant room area (Total:1200m3, 11bays(12x9), PR=12d/bay, 3 workfront)	0%	48	48	23-Apr-26	20-Jun-26	23-Apr-26	20-Jun-26	0
SW-C1-1050	Caverns 1 - Construction of wall, beam & slab up to 91.35mPD for water tank area	0%	90	90	23-Apr-26	21-Jul-26	23-Apr-26	21-Jul-26	85
SW-C1-1070	Caverns 1 - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area	0%	55	55	21-Jun-26	14-Aug-26	21-Jun-26	14-Aug-26	1
SW-C1-1080	Caverns 1 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	60	60	15-Aug-26	13-Oct-26	15-Aug-26	13-Oct-26	1
SW-C1-1090	Caverns 1 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	90	90	14-Oct-26	11-Jan-27	14-Oct-26	11-Jan-27	1
SW-C1-1100	Caverns 1 - BS, E&M works and ABWF	0%	150	150	14-Oct-26	12-Mar-27	14-Oct-26	12-Mar-27	1
SW-C1-1110	Caverns 1 - Completion of BS and ABWF works for Transformer Room and Switchboard Room	0%	0	0		12-Dec-26		12-Dec-26	1
SW-C1-1120	Caverns 1 - CLP installation works in Transformer Room and Switchboard Room	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	1
SW-C1-1130	Caverns 1 - Testing and Commissioning	0%	90	90	12-Jan-27	11-Apr-27	12-Jan-27	11-Apr-27	1



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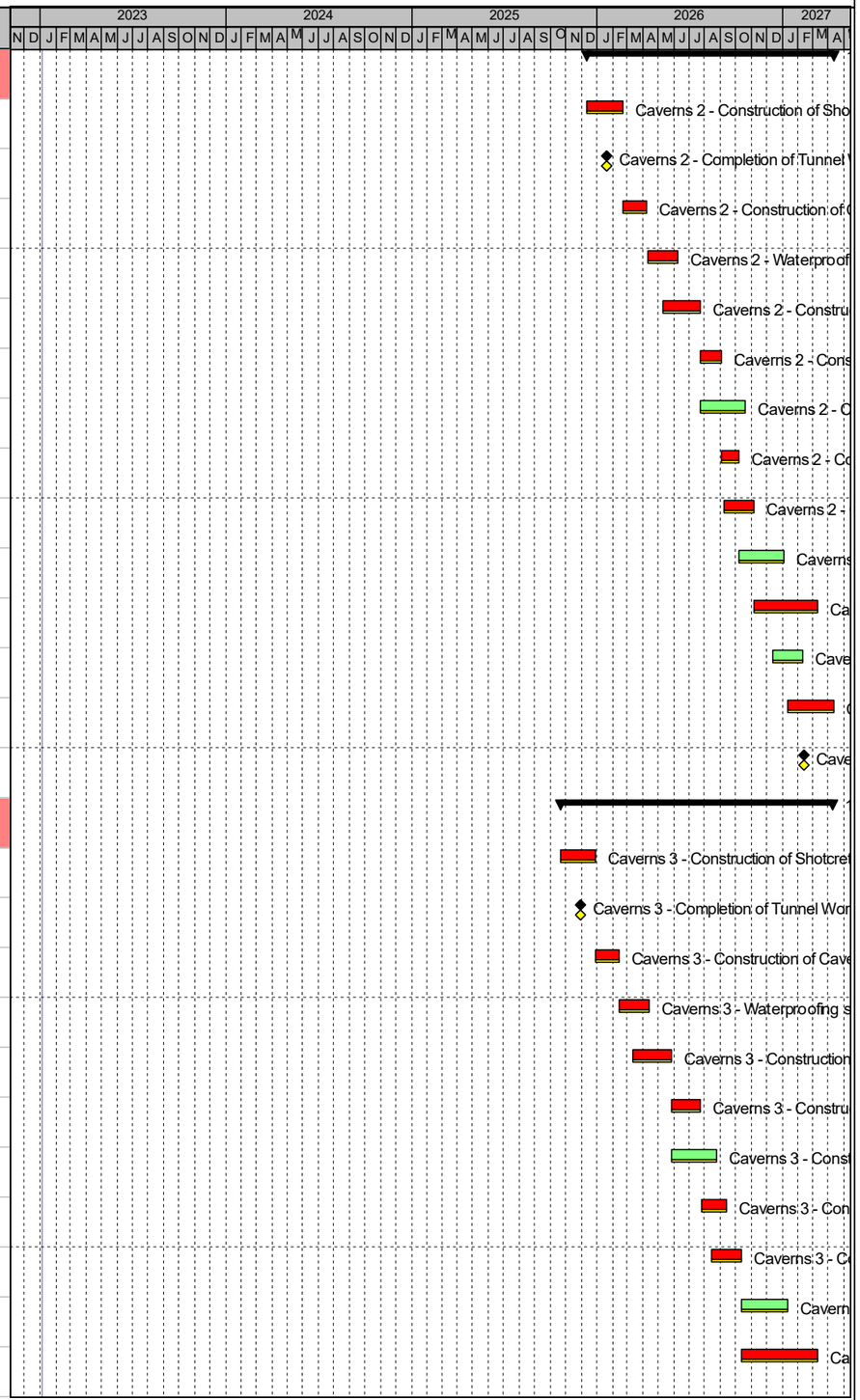
21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
Caverns 2 - Salt Water Service Reservoir No.2			390	390	12-Dec-25	11-Apr-27	12-Dec-25	11-Apr-27	1
SW-C2-1010	Caverns 2 - Construction of Shotcrete	0%	54	54	12-Dec-25	20-Feb-26	12-Dec-25	20-Feb-26	2
SW-C2-1000	Caverns 2 - Completion of Tunnel Works	0%	0	0		19-Jan-26		19-Jan-26	2
SW-C2-1020	Caverns 2 - Construction of Cavern Lining (Total: 33.2m long, PR=12m/9d + 2wk for erection)	0%	39	39	20-Feb-26	09-Apr-26	20-Feb-26	09-Apr-26	2
SW-C2-1030	Caverns 2 - Waterproofing system and protection layer to Wall and Slab	0%	60	60	10-Apr-26	08-Jun-26	10-Apr-26	08-Jun-26	2
SW-C2-1040	Caverns 2 - Construction of Slab 1.6m thk for water tank area (Total: 1880m3, 15bays (11x7), PR= 15d/bay, 3workfronts)	0%	60	60	11-May-26	22-Jul-26	11-May-26	22-Jul-26	1
SW-C2-1060	Caverns 2 - Construction of Slab 1.0m thk for pump/plant room area (Total:597m3, 7bays(11x7.5), PR=12d/bay, 3 workfront)	0%	36	36	23-Jul-26	02-Sep-26	23-Jul-26	02-Sep-26	1
SW-C2-1050	Caverns 2 - Construction of wall, beam & slab up to 91.35mPD for water tank area	0%	90	90	23-Jul-26	20-Oct-26	23-Jul-26	20-Oct-26	17
SW-C2-1070	Caverns 2 - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area	0%	34	34	03-Sep-26	06-Oct-26	03-Sep-26	06-Oct-26	1
SW-C2-1080	Caverns 2 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	60	60	07-Sep-26	05-Nov-26	07-Sep-26	05-Nov-26	1
SW-C2-1090	Caverns 2 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	90	90	07-Oct-26	04-Jan-27	07-Oct-26	04-Jan-27	68
SW-C2-1100	Caverns 2 - BS, E&M works and ABWF	0%	127	127	06-Nov-26	12-Mar-27	06-Nov-26	12-Mar-27	1
SW-C2-1110	Caverns 2 - Connect power cable from SWSR1 Transformer Room & Switchboard Room to SWSR2	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31
SW-C2-1130	Caverns 2 - Testing and Commissioning	0%	90	90	12-Jan-27	11-Apr-27	12-Jan-27	11-Apr-27	1
SW-C2-1120	Caverns 2 - Energization of SWSR2	0%	0	0	11-Feb-27		11-Feb-27		31
Caverns 3 - Salt Water Service Reservoir No.3			434	434	21-Oct-25	10-Apr-27	21-Oct-25	10-Apr-27	1
SW-C3-1010	Caverns 3 - Construction of Shotcrete	0%	57	57	21-Oct-25	29-Dec-25	21-Oct-25	29-Dec-25	1
SW-C3-1000	Caverns 3 - Completion of Tunnel Works	0%	0	0		29-Nov-25		29-Nov-25	1
SW-C3-1020	Caverns 3 - Construction of Cavern Lining (Total: 28.3m long, PR=12m/9d + 2wk for erection)	0%	39	39	30-Dec-25	13-Feb-26	30-Dec-25	13-Feb-26	1
SW-C3-1030	Caverns 3 - Waterproofing system and protection layer to Wall and Slab	0%	60	60	14-Feb-26	14-Apr-26	14-Feb-26	14-Apr-26	1
SW-C3-1040	Caverns 3 - Construction of Slab 1.6m thk for water tank area (Total: 1961m3, 12bays (11x9), PR= 15d/bay, 3workfronts)	0%	60	60	13-Mar-26	27-May-26	13-Mar-26	27-May-26	1
SW-C3-1060	Caverns 3 - Construction of Slab 1.0m thk for pump/plant room area (Total:597m3, 11bays (11x9), PR=12d/bay, 3 workfront)	0%	48	48	28-May-26	24-Jul-26	28-May-26	24-Jul-26	1
SW-C3-1050	Caverns 3 - Construction of wall, beam & slab up to 91.35mPD for water tank area	0%	90	90	28-May-26	25-Aug-26	28-May-26	25-Aug-26	50
SW-C3-1070	Caverns 3 - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area	0%	50	50	25-Jul-26	12-Sep-26	25-Jul-26	12-Sep-26	2
SW-C3-1080	Caverns 3 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	60	60	14-Aug-26	12-Oct-26	14-Aug-26	12-Oct-26	2
SW-C3-1090	Caverns 3 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	90	90	13-Oct-26	10-Jan-27	13-Oct-26	10-Jan-27	62
SW-C3-1100	Caverns 3 - BS, E&M works and ABWF	0%	150	150	13-Oct-26	11-Mar-27	13-Oct-26	11-Mar-27	2



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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

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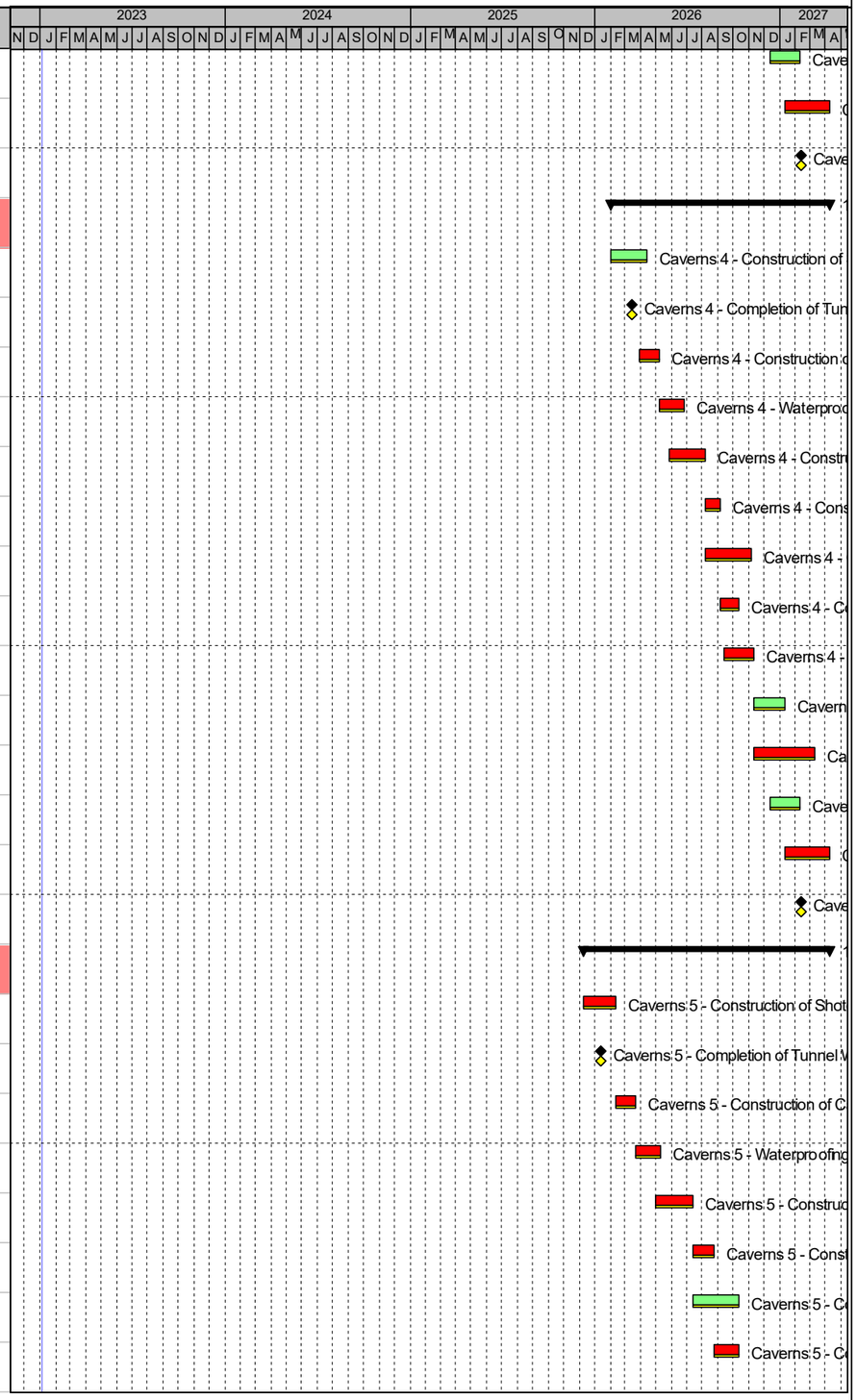
SW-C3-1110	Caverns 3 - Connect power cable from SWSR1 Transformer Room & Switchboard Room to SWSR3	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31
SW-C3-1130	Caverns 3 - Testing and Commissioning	0%	90	90	11-Jan-27	10-Apr-27	11-Jan-27	10-Apr-27	2
SW-C3-1120	Caverns 3 - Energization of SWSR3	0%	0	0	11-Feb-27		11-Feb-27		31
Caverns 4 - Fresh Water Service Reservoir No.1			349	349	02-Feb-26	10-Apr-27	02-Feb-26	10-Apr-27	1
SW-C4-1010	Caverns 4 - Construction of Shotcrete	0%	56	56	02-Feb-26	14-Apr-26	02-Feb-26	14-Apr-26	20
SW-C4-1000	Caverns 4 - Completion of Tunnel Works	0%	0	0		15-Mar-26		15-Mar-26	1
SW-C4-1020	Caverns 4 - Construction of Cavern Lining (Total: 20.3m long, PR=12m/9d + 2wk for erection)	0%	30	30	30-Mar-26	07-May-26	30-Mar-26	07-May-26	1
SW-C4-1030	Caverns 4 - Waterproofing system and protection layer to Wall and Slab	0%	50	50	08-May-26	26-Jun-26	08-May-26	26-Jun-26	1
SW-C4-1040	Caverns 4 - Construction of Slab 1.6m thk for water tank area (Total: 2482m3, 15bays (11x9), PR= 15d/bay, 3workfronts)	0%	60	60	28-May-26	07-Aug-26	28-May-26	07-Aug-26	1
SW-C4-1060	Caverns 4 - Construction of Slab 1.0m thk for pump/plant room area (Total:553m3, 6bays (11x9), PR=12d/bay, 3 workfront)	0%	24	24	08-Aug-26	04-Sep-26	08-Aug-26	04-Sep-26	1
SW-C4-1050	Caverns 4 - Construction of wall, beam & slab up to 91.35mPD for water tank area	0%	90	90	08-Aug-26	05-Nov-26	08-Aug-26	05-Nov-26	8
SW-C4-1070	Caverns 4 - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area	0%	38	38	05-Sep-26	12-Oct-26	05-Sep-26	12-Oct-26	2
SW-C4-1080	Caverns 4 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	60	60	13-Sep-26	11-Nov-26	13-Sep-26	11-Nov-26	2
SW-C4-1090	Caverns 4 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	60	60	12-Nov-26	10-Jan-27	12-Nov-26	10-Jan-27	62
SW-C4-1100	Caverns 4 - BS, E&M works and ABWF	0%	120	120	12-Nov-26	11-Mar-27	12-Nov-26	11-Mar-27	2
SW-C4-1110	Caverns 4 - Connect power cable from SWSR1 Transformer Room & Switchboard Room to SWSR4	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31
SW-C4-1130	Caverns 4 - Testing and Commissioning	0%	90	90	11-Jan-27	10-Apr-27	11-Jan-27	10-Apr-27	2
SW-C4-1120	Caverns 4 - Energization of SWSR4	0%	0	0	11-Feb-27		11-Feb-27		31
Caverns 5 - Fresh Water Service Reservoir No.2			392	392	10-Dec-25	10-Apr-27	10-Dec-25	10-Apr-27	1
SW-C5-1010	Caverns 5 - Construction of Shotcrete	0%	52	52	10-Dec-25	11-Feb-26	10-Dec-25	11-Feb-26	3
SW-C5-1000	Caverns 5 - Completion of Tunnel Works	0%	0	0		12-Jan-26		12-Jan-26	3
SW-C5-1020	Caverns 5 - Construction of Cavern Lining (Total: 22.5m long, PR=12m/9d + 2wk for erection)	0%	30	30	12-Feb-26	21-Mar-26	12-Feb-26	21-Mar-26	3
SW-C5-1030	Caverns 5 - Waterproofing system and protection layer to Wall and Slab	0%	50	50	22-Mar-26	10-May-26	22-Mar-26	10-May-26	4
SW-C5-1040	Caverns 5 - Construction of Slab 1.6m thk for water tank area (Total: 1961m3, 12bays (11x9), PR= 15d/bay, 3workfronts)	0%	60	60	30-Apr-26	13-Jul-26	30-Apr-26	13-Jul-26	2
SW-C5-1060	Caverns 5 - Construction of Slab 1.0m thk for pump/plant room area (Total:986m3, 9bays (11x9), PR=12d/bay, 3 workfront)	0%	36	36	14-Jul-26	24-Aug-26	14-Jul-26	24-Aug-26	2
SW-C5-1050	Caverns 5 - Construction of wall, beam & slab up to 91.35mPD for water tank area	0%	90	90	14-Jul-26	11-Oct-26	14-Jul-26	11-Oct-26	33
SW-C5-1070	Caverns 5 - Construction of soil filling, pipeworks and at-grade slab for pump/ plant room area	0%	49	49	25-Aug-26	12-Oct-26	25-Aug-26	12-Oct-26	2



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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

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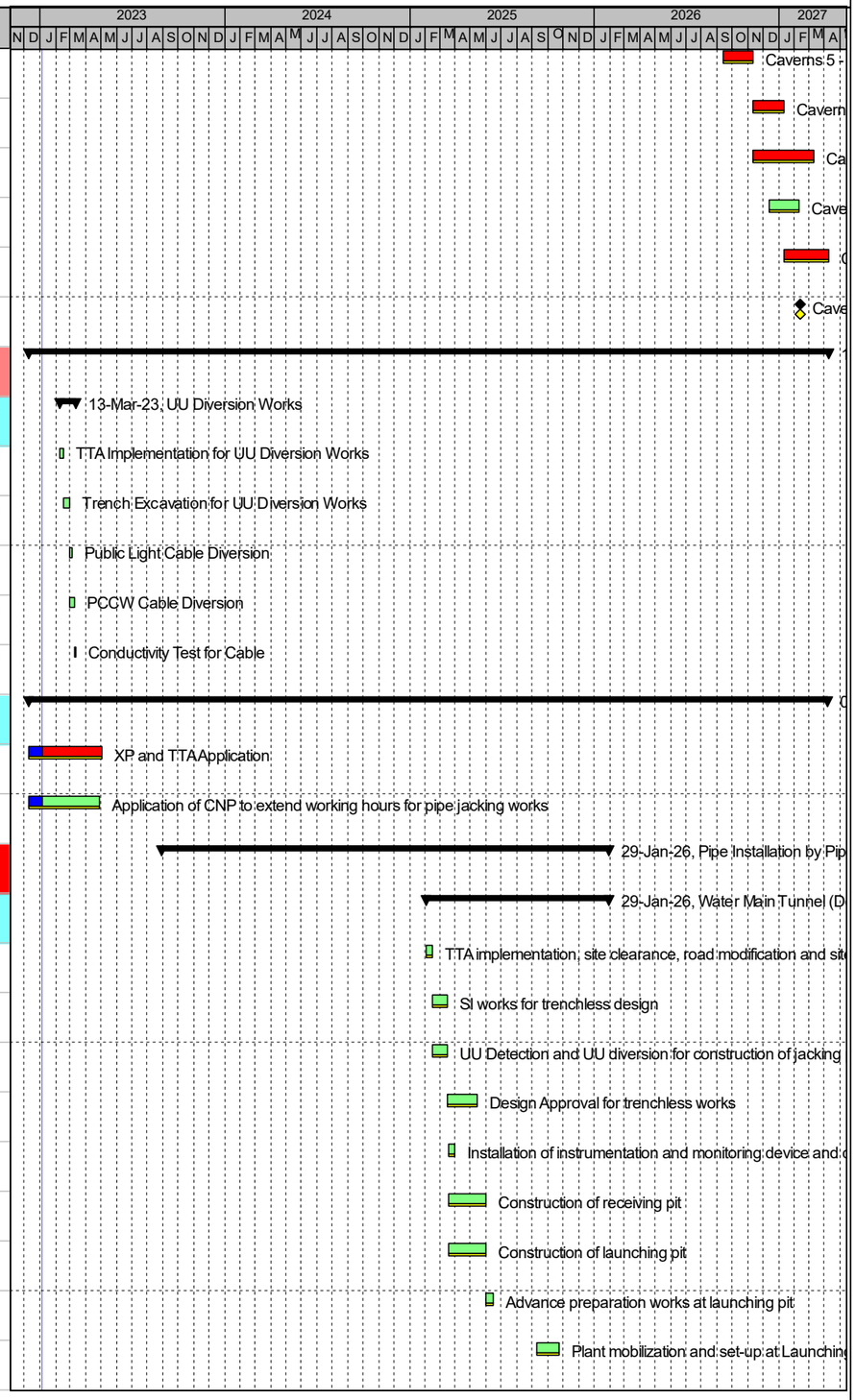
SW-C5-1080	Caverns 5 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	60	60	13-Sep-26	11-Nov-26	13-Sep-26	11-Nov-26	2
SW-C5-1090	Caverns 5 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	60	60	12-Nov-26	10-Jan-27	12-Nov-26	10-Jan-27	2
SW-C5-1100	Caverns 5 - BS, E&M works and ABWF	0%	120	120	12-Nov-26	11-Mar-27	12-Nov-26	11-Mar-27	2
SW-C5-1110	Caverns 5 - Connect power cable from SWSR1 Transformer Room & Switchboard Room to SWSR5	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31
SW-C5-1130	Caverns 5 - Testing and Commissioning	0%	90	90	11-Jan-27	10-Apr-27	11-Jan-27	10-Apr-27	2
SW-C5-1120	Caverns 5 - Energization of SWSR4	0%	0	0	11-Feb-27		11-Feb-27		31
Water Mains Installation Works in Portion 5			1283	1262	09-Dec-22	10-Apr-27	09-Dec-22 A	10-Apr-27	1
UU Diversion Works			0	28			09-Feb-23	13-Mar-23	1208
21.PRW.PO5.10000	TTA Implementation for UU Diversion Works	0%	0	6			09-Feb-23	15-Feb-23	1208
21.PRW.PO5.10010	Trench Excavation for UU Diversion Works	0%	0	11			16-Feb-23	28-Feb-23	1208
21.PRW.PO5.10020	Public Light Cable Diversion	0%	0	5			01-Mar-23	06-Mar-23	1212
21.PRW.PO5.10030	PCCW Cable Diversion	0%	0	9			01-Mar-23	10-Mar-23	1208
21.PRW.PO5.10040	Conductivity Test for Cable	0%	0	2			11-Mar-23	13-Mar-23	1208
DN600 and DN450 Fresh Water Mains & DN450 Salt Water Mains			1280	1259	09-Dec-22	07-Apr-27	09-Dec-22 A	07-Apr-27	4
A1070	XP and TTA Application	18.62%	145	145	09-Dec-22	02-May-23	09-Dec-22 A	02-May-23	1
A1080	Application of CNP to extend working hours for pipe jacking works	19.01%	142	142	09-Dec-22	29-Apr-23	09-Dec-22 A	29-Apr-23	171
Pipe Installation by Pipe Jacking Method			719	719	30-Aug-23	29-Jan-26	30-Aug-23	29-Jan-26	289
Water Main Tunnel (Detail A), CH 0-59 (59m) along Chuk Yuen Road - Section A1			296	296	02-Feb-25	29-Jan-26	02-Feb-25	29-Jan-26	283
SW-JPA-1000	TTA implementation, site clearance, road modification and site setup	0%	14	14	02-Feb-25	15-Feb-25	02-Feb-25	15-Feb-25	226
SW-JPA-1010	SI works for trenchless design	0%	28	28	16-Feb-25	15-Mar-25	16-Feb-25	15-Mar-25	302
SW-JPA-1020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	16-Feb-25	17-Mar-25	16-Feb-25	17-Mar-25	226
SW-JPA-1030	Design Approval for trenchless works	0%	60	60	16-Mar-25	14-May-25	16-Mar-25	14-May-25	302
SW-JPA-1040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	18-Mar-25	31-Mar-25	18-Mar-25	31-Mar-25	346
SW-JPA-1050	Construction of receiving pit	0%	75	75	18-Mar-25	31-May-25	18-Mar-25	31-May-25	285
SW-JPA-1060	Construction of launching pit	0%	75	75	18-Mar-25	31-May-25	18-Mar-25	31-May-25	226
SW-JPA-1070	Advance preparation works at launching pit	0%	14	14	01-Jun-25	14-Jun-25	01-Jun-25	14-Jun-25	226
SW-JPA-1080	Plant mobilization and set-up at Launching pit	0%	45	45	10-Sep-25	24-Oct-25	10-Sep-25	24-Oct-25	139



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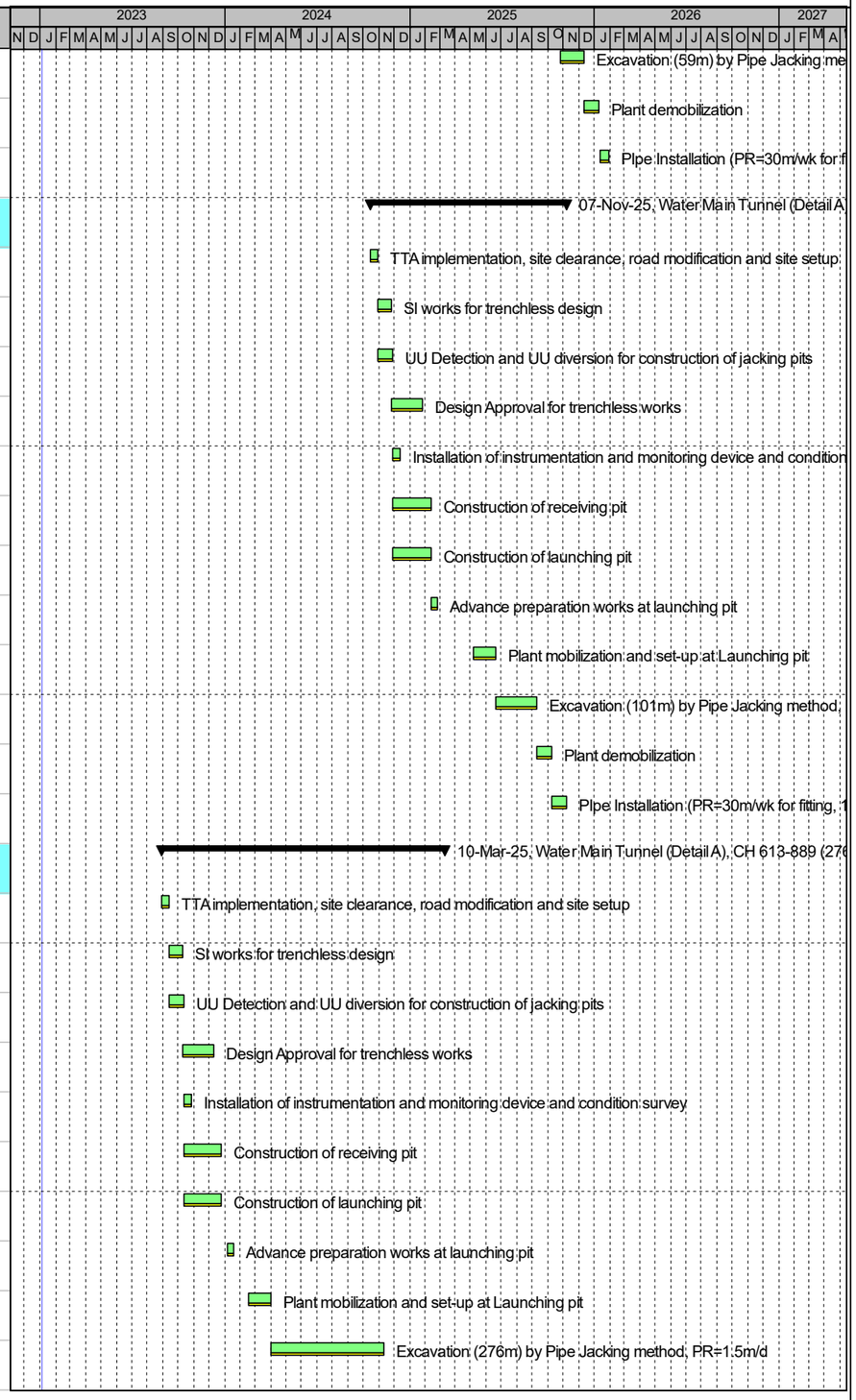
SW-JPA-1090	Excavation (59m) by Pipe Jacking method, PR=1.5m/d	0%	40	40	25-Oct-25	11-Dec-25	25-Oct-25	11-Dec-25	112
SW-JPA-1110	Plant demobilization	0%	30	30	12-Dec-25	10-Jan-26	12-Dec-25	10-Jan-26	142
SW-JPA-1120	PIpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	16	16	12-Jan-26	29-Jan-26	12-Jan-26	29-Jan-26	283
Water Main Tunnel (Detail A), CH 71-172 (101m) along Chuk Yuen Road - Section A2			316	316	16-Oct-24	07-Nov-25	16-Oct-24	07-Nov-25	351
SW-JPA-2000	TTA implementation, site clearance, road modification and site setup	0%	14	14	16-Oct-24	29-Oct-24	16-Oct-24	29-Oct-24	207
SW-JPA-2010	SI works for trenchless design	0%	28	28	30-Oct-24	26-Nov-24	30-Oct-24	26-Nov-24	283
SW-JPA-2020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	30-Oct-24	28-Nov-24	30-Oct-24	28-Nov-24	207
SW-JPA-2030	Design Approval for trenchless works	0%	60	60	27-Nov-24	25-Jan-25	27-Nov-24	25-Jan-25	283
SW-JPA-2040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	29-Nov-24	12-Dec-24	29-Nov-24	12-Dec-24	327
SW-JPA-2050	Construction of receiving pit	0%	75	75	29-Nov-24	11-Feb-25	29-Nov-24	11-Feb-25	266
SW-JPA-2060	Construction of launching pit	0%	75	75	29-Nov-24	11-Feb-25	29-Nov-24	11-Feb-25	207
SW-JPA-2070	Advance preparation works at launching pit	0%	14	14	12-Feb-25	25-Feb-25	12-Feb-25	25-Feb-25	207
SW-JPA-2080	Plant mobilization and set-up at Launching pit	0%	45	45	07-May-25	20-Jun-25	07-May-25	20-Jun-25	137
SW-JPA-2090	Excavation (101m) by Pipe Jacking method, PR=1.5m/d	0%	68	68	21-Jun-25	09-Sep-25	21-Jun-25	09-Sep-25	113
SW-JPA-2110	Plant demobilization	0%	30	30	10-Sep-25	09-Oct-25	10-Sep-25	09-Oct-25	139
SW-JPA-2120	PIpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	24	24	10-Oct-25	07-Nov-25	10-Oct-25	07-Nov-25	351
Water Main Tunnel (Detail A), CH 613-889 (276m) along Chuk Yuen Road - Section A3			454	454	30-Aug-23	10-Mar-25	30-Aug-23	10-Mar-25	548
SW-JPA-3000	TTA implementation, site clearance, road modification and site setup	0%	14	14	30-Aug-23	12-Sep-23	30-Aug-23	12-Sep-23	172
SW-JPA-3010	SI works for trenchless design	0%	28	28	13-Sep-23	10-Oct-23	13-Sep-23	10-Oct-23	258
SW-JPA-3020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	13-Sep-23	12-Oct-23	13-Sep-23	12-Oct-23	172
SW-JPA-3030	Design Approval for trenchless works	0%	60	60	11-Oct-23	09-Dec-23	11-Oct-23	09-Dec-23	258
SW-JPA-3040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	13-Oct-23	26-Oct-23	13-Oct-23	26-Oct-23	302
SW-JPA-3050	Construction of receiving pit	0%	75	75	13-Oct-23	26-Dec-23	13-Oct-23	26-Dec-23	195
SW-JPA-3060	Construction of launching pit	0%	75	75	13-Oct-23	26-Dec-23	13-Oct-23	26-Dec-23	172
SW-JPA-3070	Advance preparation works at launching pit	0%	14	14	06-Jan-24	19-Jan-24	06-Jan-24	19-Jan-24	172
SW-JPA-3080	Plant mobilization and set-up at Launching pit	0%	45	45	17-Feb-24	01-Apr-24	17-Feb-24	01-Apr-24	144
SW-JPA-3090	Excavation (276m) by Pipe Jacking method, PR=1.5m/d	0%	184	184	02-Apr-24	11-Nov-24	02-Apr-24	11-Nov-24	119



1st Programme Baseline
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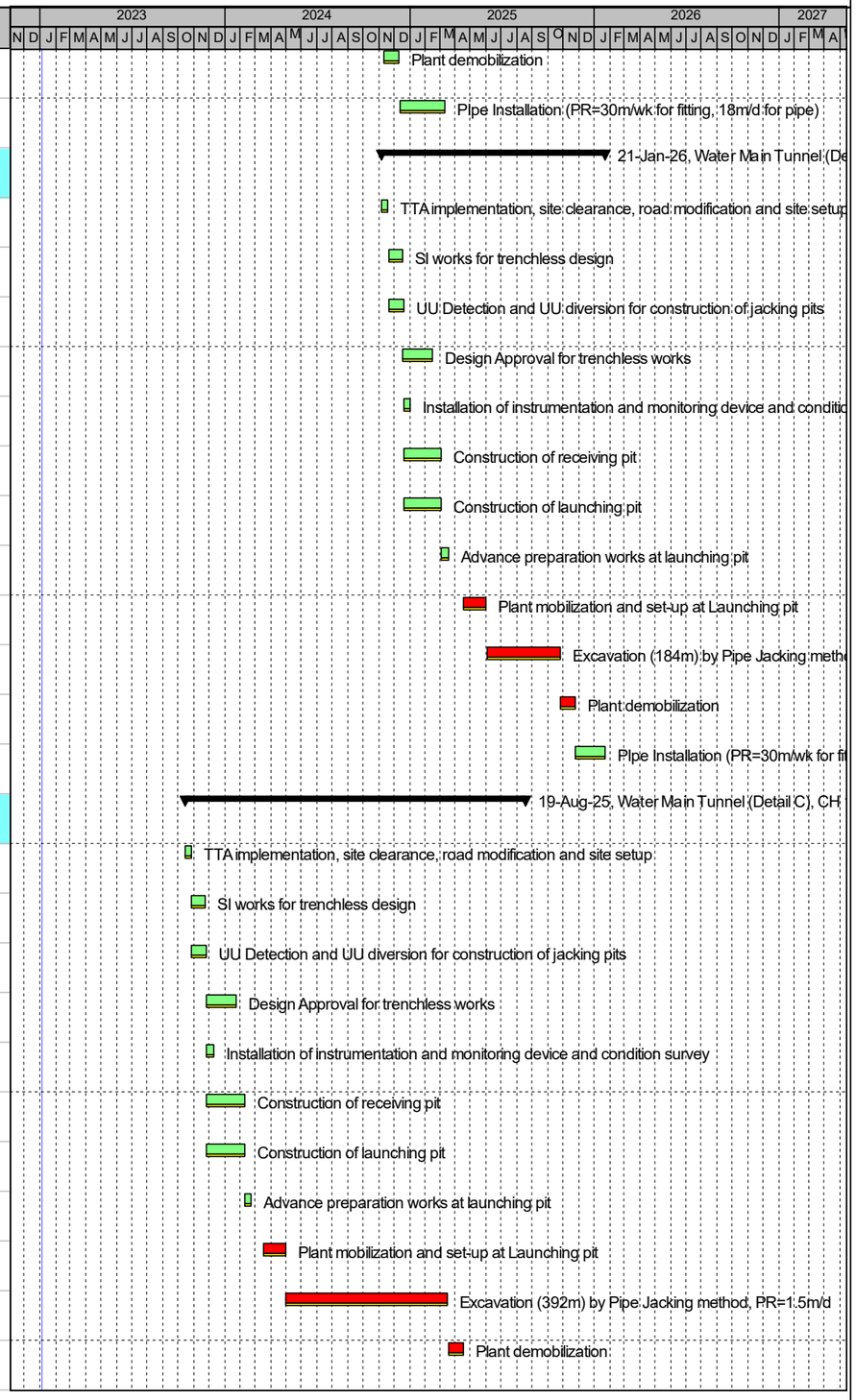
12-Dec-22	First Programme		
12-Jan-23	Monthly Programme January 2023		

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
SW-JPA-3110	Plant demobilization	0%	30	30	12-Nov-24	11-Dec-24	12-Nov-24	11-Dec-24	147
SW-JPA-3120	PIpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	70	70	12-Dec-24	10-Mar-25	12-Dec-24	10-Mar-25	548
Water Main Tunnel (Detail A), CH 1000-1184 (184m) along Chuk Yuen Road - Section A4			359	359	06-Nov-24	21-Jan-26	06-Nov-24	21-Jan-26	290
SW-JPA-4000	TTA implementation, site clearance, road modification and site setup	0%	14	14	06-Nov-24	19-Nov-24	06-Nov-24	19-Nov-24	32
SW-JPA-4010	SI works for trenchless design	0%	28	28	20-Nov-24	17-Dec-24	20-Nov-24	17-Dec-24	108
SW-JPA-4020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	20-Nov-24	19-Dec-24	20-Nov-24	19-Dec-24	32
SW-JPA-4030	Design Approval for trenchless works	0%	60	60	18-Dec-24	15-Feb-25	18-Dec-24	15-Feb-25	108
SW-JPA-4040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	20-Dec-24	02-Jan-25	20-Dec-24	02-Jan-25	152
SW-JPA-4050	Construction of receiving pit	0%	75	75	20-Dec-24	04-Mar-25	20-Dec-24	04-Mar-25	35
SW-JPA-4060	Construction of launching pit	0%	75	75	20-Dec-24	04-Mar-25	20-Dec-24	04-Mar-25	32
SW-JPA-4070	Advance preparation works at launching pit	0%	14	14	05-Mar-25	18-Mar-25	05-Mar-25	18-Mar-25	32
SW-JPA-4080	Plant mobilization and set-up at Launching pit	0%	45	45	17-Apr-25	31-May-25	17-Apr-25	31-May-25	3
SW-JPA-4090	Excavation (184m) by Pipe Jacking method, PR=1.5m/d	0%	123	123	02-Jun-25	25-Oct-25	02-Jun-25	25-Oct-25	2
SW-JPA-4110	Plant demobilization	0%	30	30	26-Oct-25	24-Nov-25	26-Oct-25	24-Nov-25	3
SW-JPA-4120	PIpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	47	47	25-Nov-25	21-Jan-26	25-Nov-25	21-Jan-26	290
Water Main Tunnel (Detail C), CH 1209-1600 (392m) along Sha Tin Pass Road - Section C1			548	548	14-Oct-23	19-Aug-25	14-Oct-23	19-Aug-25	423
SW-JPA-5000	TTA implementation, site clearance, road modification and site setup	0%	14	14	14-Oct-23	27-Oct-23	14-Oct-23	27-Oct-23	27
SW-JPA-5010	SI works for trenchless design	0%	28	28	28-Oct-23	24-Nov-23	28-Oct-23	24-Nov-23	103
SW-JPA-5020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	28-Oct-23	26-Nov-23	28-Oct-23	26-Nov-23	27
SW-JPA-5030	Design Approval for trenchless works	0%	60	60	25-Nov-23	23-Jan-24	25-Nov-23	23-Jan-24	103
SW-JPA-5040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	27-Nov-23	10-Dec-23	27-Nov-23	10-Dec-23	147
SW-JPA-5050	Construction of receiving pit	0%	75	75	27-Nov-23	09-Feb-24	27-Nov-23	09-Feb-24	32
SW-JPA-5060	Construction of launching pit	0%	75	75	27-Nov-23	09-Feb-24	27-Nov-23	09-Feb-24	27
SW-JPA-5070	Advance preparation works at launching pit	0%	14	14	10-Feb-24	23-Feb-24	10-Feb-24	23-Feb-24	27
SW-JPA-5080	Plant mobilization and set-up at Launching pit	0%	45	45	18-Mar-24	01-May-24	18-Mar-24	01-May-24	4
SW-JPA-5090	Excavation (392m) by Pipe Jacking method, PR=1.5m/d	0%	262	262	02-May-24	17-Mar-25	02-May-24	17-Mar-25	3
SW-JPA-5110	Plant demobilization	0%	30	30	18-Mar-25	16-Apr-25	18-Mar-25	16-Apr-25	3



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12-Dec-22	First Programme		
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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
SW-JPA-5120	PIpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	100	100	17-Apr-25	19-Aug-25	17-Apr-25	19-Aug-25	423
Pipe Installation by Open Trench Method			1097	1175	03-May-23	08-Jan-27	26-Jan-23	08-Jan-27	4
Combined Trench for FW DN600, DN450 & SW DN450 along Chuk Yuen Road, from A1 to A2			65	160	07-Nov-25	24-Jan-26	16-Jul-25	24-Jan-26	4
21.PRW.PO5.10100	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A1)	0%	0	72			16-Jul-25	09-Oct-25	20
SW-OTA-1000	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A1 (15m long)	0%	65	65	07-Nov-25	24-Jan-26	07-Nov-25	24-Jan-26	4
Combined Trench for FW DN600, DN450 & SW DN450 along Chuk Yuen Road, from A2 to A3			749	827	03-May-23	06-Nov-25	26-Jan-23	06-Nov-25	4
21.PRW.PO5.10050	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A23 to TTA-A19)	0%	0	72			26-Jan-23	24-Apr-23	9
SW-OTA-2210	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A23 (21m long)	0%	31	31	03-May-23	08-Jun-23	03-May-23	08-Jun-23	4
SW-OTA-2200	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A22 (21m long)	0%	65	65	09-Jun-23	25-Aug-23	09-Jun-23	25-Aug-23	4
SW-OTA-2190	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A21 (21m long)	0%	31	31	26-Aug-23	03-Oct-23	26-Aug-23	03-Oct-23	4
21.PRW.PO5.10060	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A18 to TTA-A14)	0%	0	72			26-Aug-23	21-Nov-23	25
SW-OTA-2180	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A20 (20m long)	0%	31	31	04-Oct-23	09-Nov-23	04-Oct-23	09-Nov-23	4
SW-OTA-2170	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A19 (20m long)	0%	31	31	10-Nov-23	15-Dec-23	10-Nov-23	15-Dec-23	4
SW-OTA-2160	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A18 (20m long)	0%	31	31	16-Dec-23	24-Jan-24	16-Dec-23	24-Jan-24	4
SW-OTA-2150	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A17 (20m long)	0%	31	31	25-Jan-24	02-Mar-24	25-Jan-24	02-Mar-24	4
SW-OTA-2140	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)	0%	31	31	04-Mar-24	12-Apr-24	04-Mar-24	12-Apr-24	4
21.PRW.PO5.10070	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A13 to TTA-A9)	0%	0	72			04-Mar-24	01-Jun-24	25
SW-OTA-2130	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A15 (20m long)	0%	31	31	13-Apr-24	21-May-24	13-Apr-24	21-May-24	4
SW-OTA-2120	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A14 (20m long)	0%	31	31	22-May-24	27-Jun-24	22-May-24	27-Jun-24	4
SW-OTA-2110	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A13 (20m long)	0%	31	31	28-Jun-24	03-Aug-24	28-Jun-24	03-Aug-24	4
SW-OTA-2100	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A12 (20m long)	0%	31	31	05-Aug-24	09-Sep-24	05-Aug-24	09-Sep-24	4
SW-OTA-2090	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A11 (20m long)	0%	31	31	10-Sep-24	18-Oct-24	10-Sep-24	18-Oct-24	4
21.PRW.PO5.10080	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A8 to TTA-A5)	0%	0	72			10-Sep-24	05-Dec-24	25
SW-OTA-2080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A10 (20m long)	0%	31	31	19-Oct-24	23-Nov-24	19-Oct-24	23-Nov-24	4
SW-OTA-2070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A9 (20m long)	0%	31	31	25-Nov-24	02-Jan-25	25-Nov-24	02-Jan-25	4
SW-OTA-2060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A8 (20m long)	0%	31	31	03-Jan-25	11-Feb-25	03-Jan-25	11-Feb-25	4
SW-OTA-2050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A7 (20m long)	0%	31	31	12-Feb-25	19-Mar-25	12-Feb-25	19-Mar-25	4

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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

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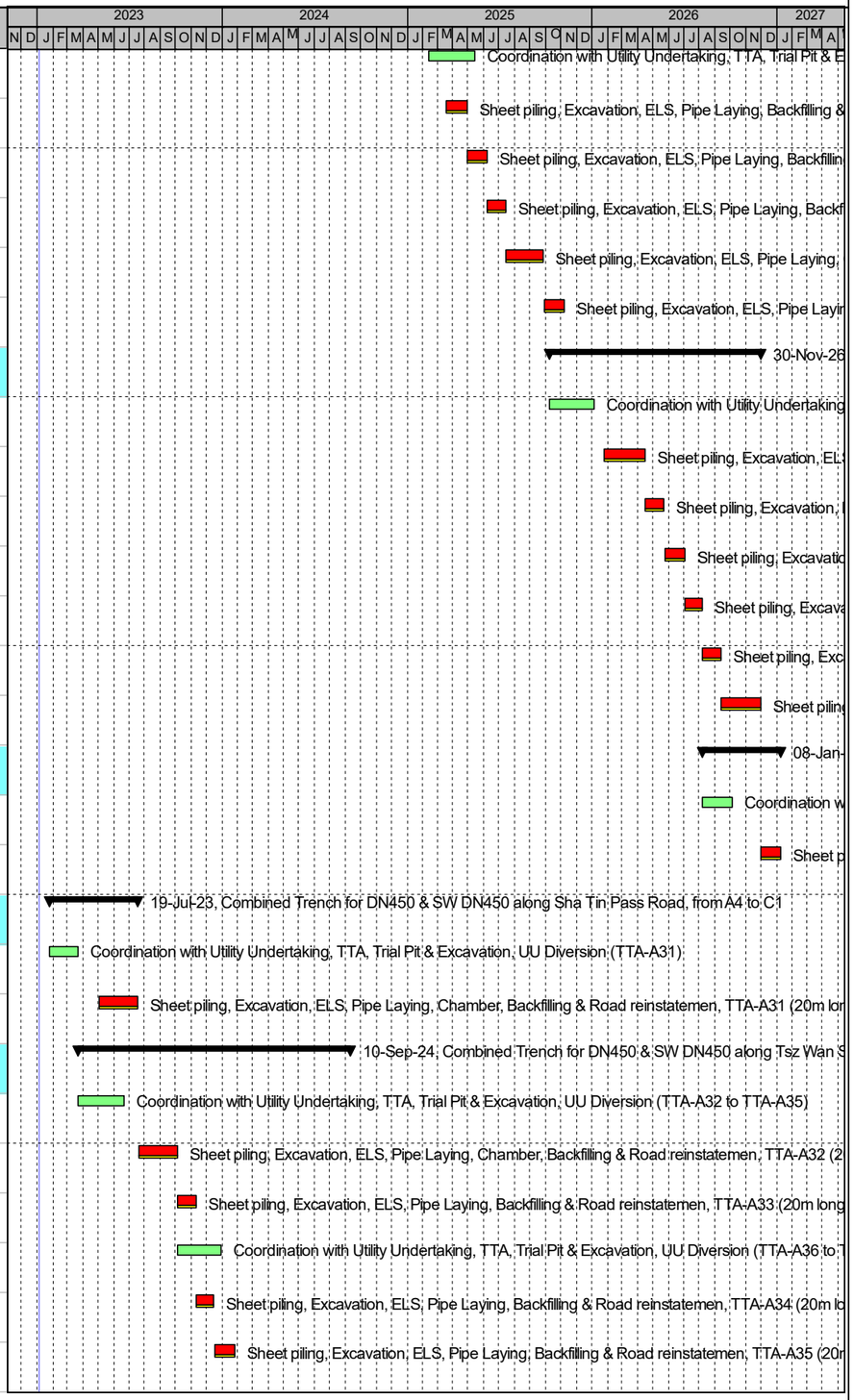
21.PRW.PO5.10090	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A4 to TTA-A2)	0%	0	72			12-Feb-25	13-May-25	25
SW-OTA-2040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A6 (20m long)	0%	31	31	20-Mar-25	29-Apr-25	20-Mar-25	29-Apr-25	4
SW-OTA-2030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A5 (20m long)	0%	31	31	30-Apr-25	07-Jun-25	30-Apr-25	07-Jun-25	4
SW-OTA-2020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A4 (20m long)	0%	31	31	09-Jun-25	15-Jul-25	09-Jun-25	15-Jul-25	4
SW-OTA-2010	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A3 (20m long)	0%	64	64	16-Jul-25	27-Sep-25	16-Jul-25	27-Sep-25	4
SW-OTA-2000	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A2 (20m long)	0%	31	31	29-Sep-25	06-Nov-25	29-Sep-25	06-Nov-25	4
Combined Trench for FW DN600, DN450 & SW DN450 along Chuk Yuen Road, from A3 to A4			252	340	26-Jan-26	30-Nov-26	10-Oct-25	30-Nov-26	4
21.PRW.PO5.10110	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A29 to TTA-A24)	0%	0	72			10-Oct-25	06-Jan-26	20
SW-OTA-3050	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A29 (18m long)	0%	64	64	26-Jan-26	16-Apr-26	26-Jan-26	16-Apr-26	4
SW-OTA-3040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A28 (20m long)	0%	31	31	17-Apr-26	23-May-26	17-Apr-26	23-May-26	4
SW-OTA-3030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A27 (20m long)	0%	31	31	26-May-26	02-Jul-26	26-May-26	02-Jul-26	4
SW-OTA-3020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A26 (20m long)	0%	31	31	03-Jul-26	07-Aug-26	03-Jul-26	07-Aug-26	4
SW-OTA-3010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A25 (20m long)	0%	31	31	08-Aug-26	12-Sep-26	08-Aug-26	12-Sep-26	4
SW-OTA-3000	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A24 (20m long)	0%	64	64	14-Sep-26	30-Nov-26	14-Sep-26	30-Nov-26	4
Open Trench for FW DN600 along Chuk Yuen Road, from A4 to Connection Point			31	126	01-Dec-26	08-Jan-27	08-Aug-26	08-Jan-27	4
21.PRW.PO5.10120	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A30)	0%	0	48			08-Aug-26	05-Oct-26	51
SW-OTA-4000	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A30 (25m long), to Connection Point	0%	31	31	01-Dec-26	08-Jan-27	01-Dec-26	08-Jan-27	4
Combined Trench for DN450 & SW DN450 along Sha Tin Pass Road, from A4 to C1			64	142	03-May-23	19-Jul-23	26-Jan-23	19-Jul-23	1
21.PRW.PO5.10130	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A31)	0%	0	48			26-Jan-23	22-Mar-23	23
SW-OTA-5000	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A31 (20m long)	0%	64	64	03-May-23	19-Jul-23	03-May-23	19-Jul-23	1
Combined Trench for DN450 & SW DN450 along Tsz Wan Shan Road, from C1 to Connection Points			343	437	20-Jul-23	10-Sep-24	23-Mar-23	10-Sep-24	1
21.PRW.PO5.10140	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A32 to TTA-A35)	0%	0	72			23-Mar-23	21-Jun-23	23
SW-OTA-6000	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A32 (20m long)	0%	64	64	20-Jul-23	04-Oct-23	20-Jul-23	04-Oct-23	1
SW-OTA-6010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A33 (20m long)	0%	31	31	05-Oct-23	10-Nov-23	05-Oct-23	10-Nov-23	1
21.PRW.PO5.10150	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A36 to TTA-A39)	0%	0	72			05-Oct-23	30-Dec-23	22
SW-OTA-6020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A34 (20m long)	0%	31	31	11-Nov-23	16-Dec-23	11-Nov-23	16-Dec-23	1
SW-OTA-6030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A35 (20m long)	0%	31	31	18-Dec-23	25-Jan-24	18-Dec-23	25-Jan-24	1



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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

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SW-OTA-6040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A36 (20m long)	0%	31	31	26-Jan-24	04-Mar-24	26-Jan-24	04-Mar-24	1
SW-OTA-6050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A37 (20m long)	0%	31	31	05-Mar-24	13-Apr-24	05-Mar-24	13-Apr-24	1
21.PRW.PO5.10160	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A40 to TTA-A41 to Connection)	0%	0	72			05-Mar-24	03-Jun-24	12
SW-OTA-6060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A38 (20m long)	0%	31	31	15-Apr-24	22-May-24	15-Apr-24	22-May-24	1
SW-OTA-6070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A39 (20m long)	0%	31	31	23-May-24	28-Jun-24	23-May-24	28-Jun-24	1
SW-OTA-6080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A40 (20m long)	0%	31	31	29-Jun-24	05-Aug-24	29-Jun-24	05-Aug-24	1
SW-OTA-6090	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A41 (25m long), to Connection Point	0%	31	31	06-Aug-24	10-Sep-24	06-Aug-24	10-Sep-24	1
Test & Commissioning and Connection			89	89	09-Jan-27	07-Apr-27	09-Jan-27	07-Apr-27	5
SW-TC-1000	Cleaning & Pressure Test for DN600 Fresh Water Main	0%	45	45	09-Jan-27	22-Feb-27	09-Jan-27	22-Feb-27	5
SW-TC-1020	Cleaning & Pressure Test for DN450 Fresh Water Main	0%	45	45	16-Jan-27	01-Mar-27	16-Jan-27	01-Mar-27	5
SW-TC-1040	Cleaning & Pressure Test for DN450 Salt Water Main	0%	45	45	23-Jan-27	08-Mar-27	23-Jan-27	08-Mar-27	5
SW-TC-1010	Connection to existing for DN600 Fresh Water Main	0%	30	30	23-Feb-27	24-Mar-27	23-Feb-27	24-Mar-27	19
SW-TC-1030	Connection to existing for DN450 Fresh Water Main	0%	30	30	02-Mar-27	31-Mar-27	02-Mar-27	31-Mar-27	12
SW-TC-1050	Connection to existing for DN450 Salt Water Main	0%	30	30	09-Mar-27	07-Apr-27	09-Mar-27	07-Apr-27	5
DN250, DN750 and DN800 Salt Water Mains			1169	1247	03-May-23	10-Apr-27	26-Jan-23	10-Apr-27	1
Pipe Installation by Pipe Jacking Method			1109	1109	03-May-23	22-Jan-27	03-May-23	22-Jan-27	4
Water Main Tunnel (Detail B), CH 0-63 (63m) along Chuk Yuen Road - Section B1			328	328	09-Aug-25	14-Sep-26	09-Aug-25	14-Sep-26	110
SW-JPB-1000	TTA implementation, site clearance, road modification and site setup	0%	14	14	09-Aug-25	22-Aug-25	09-Aug-25	22-Aug-25	261
SW-JPB-1010	SI works for trenchless design	0%	28	28	23-Aug-25	19-Sep-25	23-Aug-25	19-Sep-25	337
SW-JPB-1020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	23-Aug-25	21-Sep-25	23-Aug-25	21-Sep-25	261
SW-JPB-1030	Design Approval for trenchless works	0%	60	60	20-Sep-25	18-Nov-25	20-Sep-25	18-Nov-25	337
SW-JPB-1040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	22-Sep-25	05-Oct-25	22-Sep-25	05-Oct-25	381
SW-JPB-1050	Construction of receiving pit	0%	75	75	22-Sep-25	05-Dec-25	22-Sep-25	05-Dec-25	320
SW-JPB-1060	Construction of launching pit	0%	75	75	22-Sep-25	05-Dec-25	22-Sep-25	05-Dec-25	261
SW-JPB-1070	Advance preparation works at launching pit	0%	14	14	06-Dec-25	19-Dec-25	06-Dec-25	19-Dec-25	261
SW-JPB-1080	Plant mobilization and set-up at Launching pit	0%	45	45	22-Apr-26	05-Jun-26	22-Apr-26	05-Jun-26	138
SW-JPB-1090	Excavation (63m) by Pipe Jacking method, PR=1.5m/d	0%	42	42	06-Jun-26	27-Jul-26	06-Jun-26	27-Jul-26	113

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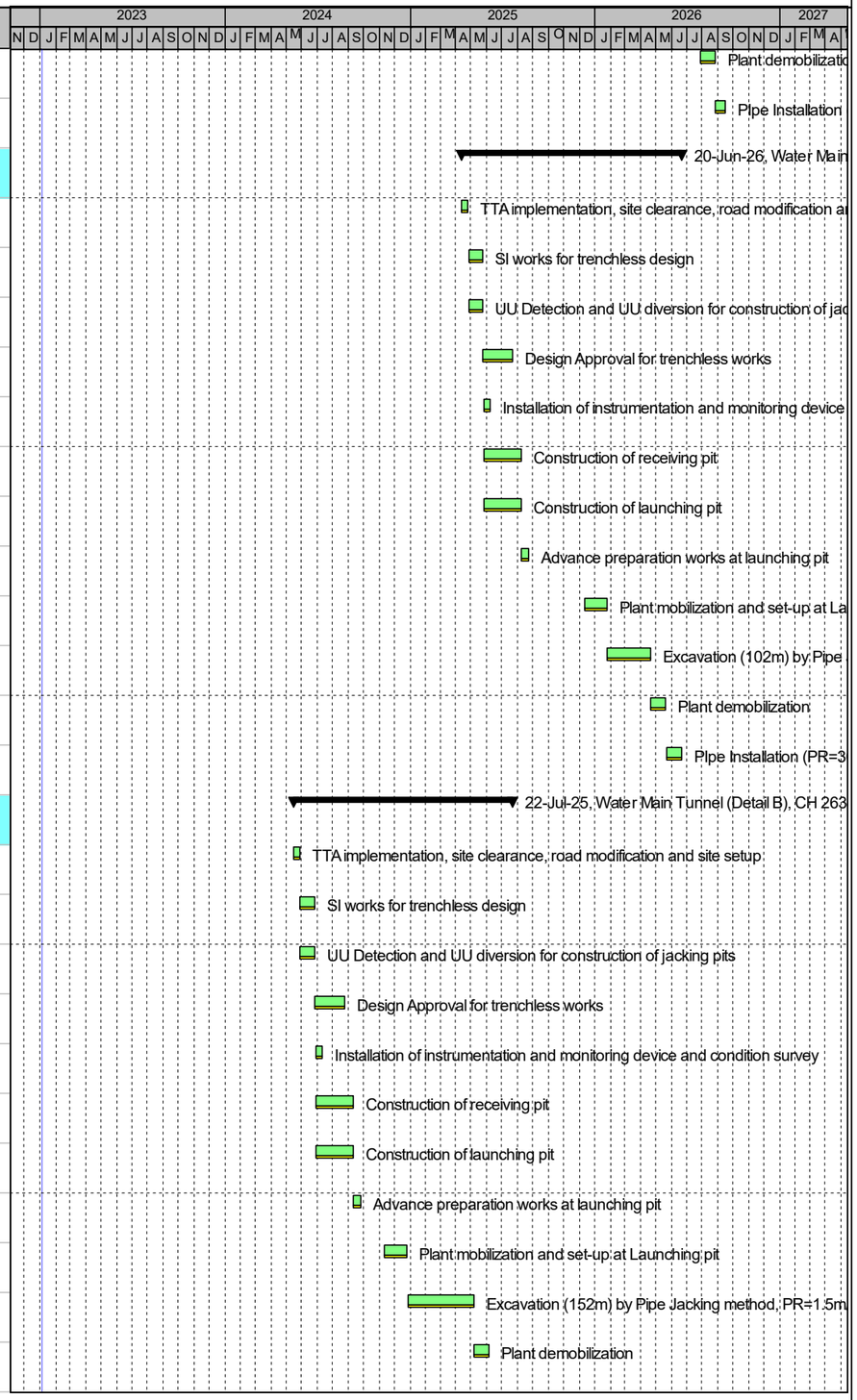
21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
SW-JPB-1110	Plant demobilization	0%	30	30	28-Jul-26	26-Aug-26	28-Jul-26	26-Aug-26	135
SW-JPB-1120	PIpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	16	16	27-Aug-26	14-Sep-26	27-Aug-26	14-Sep-26	110
Water Main Tunnel (Detail B), CH 78-180 (102m) along Chuk Yuen Road - Section B2			351	351	12-Apr-25	20-Jun-26	12-Apr-25	20-Jun-26	182
SW-JPB-2000	TTA implementation, site clearance, road modification and site setup	0%	14	14	12-Apr-25	25-Apr-25	12-Apr-25	25-Apr-25	253
SW-JPB-2010	SI works for trenchless design	0%	28	28	26-Apr-25	23-May-25	26-Apr-25	23-May-25	329
SW-JPB-2020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	26-Apr-25	25-May-25	26-Apr-25	25-May-25	253
SW-JPB-2030	Design Approval for trenchless works	0%	60	60	24-May-25	22-Jul-25	24-May-25	22-Jul-25	329
SW-JPB-2040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	26-May-25	08-Jun-25	26-May-25	08-Jun-25	373
SW-JPB-2050	Construction of receiving pit	0%	75	75	26-May-25	08-Aug-25	26-May-25	08-Aug-25	312
SW-JPB-2060	Construction of launching pit	0%	75	75	26-May-25	08-Aug-25	26-May-25	08-Aug-25	253
SW-JPB-2070	Advance preparation works at launching pit	0%	14	14	09-Aug-25	22-Aug-25	09-Aug-25	22-Aug-25	253
SW-JPB-2080	Plant mobilization and set-up at Launching pit	0%	45	45	12-Dec-25	25-Jan-26	12-Dec-25	25-Jan-26	142
SW-JPB-2090	Excavation (102m) by Pipe Jacking method, PR=1.5m/d	0%	68	68	26-Jan-26	21-Apr-26	26-Jan-26	21-Apr-26	114
SW-JPB-2110	Plant demobilization	0%	30	30	22-Apr-26	21-May-26	22-Apr-26	21-May-26	138
SW-JPB-2120	PIpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	24	24	22-May-26	20-Jun-26	22-May-26	20-Jun-26	182
Water Main Tunnel (Detail B), CH 263-414 (152m) along Chuk Yuen Road - Section B3			352	352	15-May-24	22-Jul-25	15-May-24	22-Jul-25	453
SW-JPB-3000	TTA implementation, site clearance, road modification and site setup	0%	14	14	15-May-24	28-May-24	15-May-24	28-May-24	195
SW-JPB-3010	SI works for trenchless design	0%	28	28	29-May-24	25-Jun-24	29-May-24	25-Jun-24	271
SW-JPB-3020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	29-May-24	27-Jun-24	29-May-24	27-Jun-24	195
SW-JPB-3030	Design Approval for trenchless works	0%	60	60	26-Jun-24	24-Aug-24	26-Jun-24	24-Aug-24	271
SW-JPB-3040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	28-Jun-24	11-Jul-24	28-Jun-24	11-Jul-24	315
SW-JPB-3050	Construction of receiving pit	0%	75	75	28-Jun-24	10-Sep-24	28-Jun-24	10-Sep-24	207
SW-JPB-3060	Construction of launching pit	0%	75	75	28-Jun-24	10-Sep-24	28-Jun-24	10-Sep-24	195
SW-JPB-3070	Advance preparation works at launching pit	0%	14	14	11-Sep-24	24-Sep-24	11-Sep-24	24-Sep-24	195
SW-JPB-3080	Plant mobilization and set-up at Launching pit	0%	45	45	12-Nov-24	26-Dec-24	12-Nov-24	26-Dec-24	147
SW-JPB-3090	Excavation (152m) by Pipe Jacking method, PR=1.5m/d	0%	102	102	27-Dec-24	06-May-25	27-Dec-24	06-May-25	116
SW-JPB-3110	Plant demobilization	0%	30	30	07-May-25	05-Jun-25	07-May-25	05-Jun-25	137



1st Programme Baseline
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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

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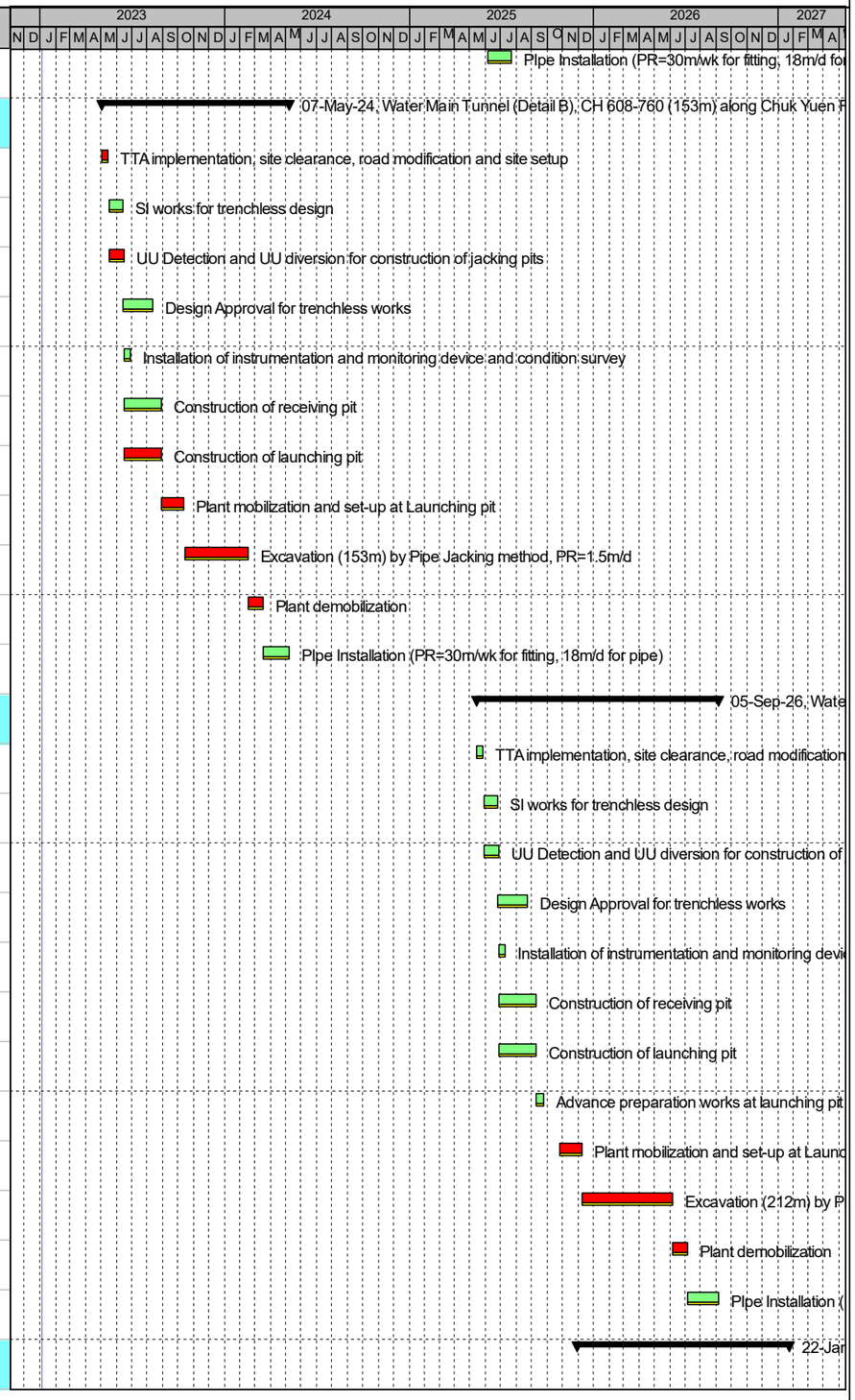
SW-JPB-3120	PIpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	39	39	06-Jun-25	22-Jul-25	06-Jun-25	22-Jul-25	453
Water Main Tunnel (Detail B), CH 608-760 (153m) along Chuk Yuen Road - Section B4			302	302	03-May-23	07-May-24	03-May-23	07-May-24	811
SW-JPB-4000	TTA implementation, site clearance, road modification and site setup	0%	14	14	03-May-23	16-May-23	03-May-23	16-May-23	4
SW-JPB-4010	SI works for trenchless design	0%	28	28	17-May-23	13-Jun-23	17-May-23	13-Jun-23	66
SW-JPB-4020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	17-May-23	15-Jun-23	17-May-23	15-Jun-23	4
SW-JPB-4030	Design Approval for trenchless works	0%	60	60	14-Jun-23	12-Aug-23	14-Jun-23	12-Aug-23	66
SW-JPB-4040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	16-Jun-23	29-Jun-23	16-Jun-23	29-Jun-23	110
SW-JPB-4050	Construction of receiving pit	0%	75	75	16-Jun-23	29-Aug-23	16-Jun-23	29-Aug-23	49
SW-JPB-4060	Construction of launching pit	0%	75	75	16-Jun-23	29-Aug-23	16-Jun-23	29-Aug-23	4
SW-JPB-4070	Plant mobilization and set-up at Launching pit	0%	45	45	30-Aug-23	13-Oct-23	30-Aug-23	13-Oct-23	4
SW-JPB-4080	Excavation (153m) by Pipe Jacking method, PR=1.5m/d	0%	102	102	14-Oct-23	16-Feb-24	14-Oct-23	16-Feb-24	3
SW-JPB-4100	Plant demobilization	0%	30	30	17-Feb-24	17-Mar-24	17-Feb-24	17-Mar-24	4
SW-JPB-4110	PIpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	39	39	18-Mar-24	07-May-24	18-Mar-24	07-May-24	811
Water Main Tunnel (Detail B), CH 1000-1208 (212m) along Chuk Yuen Road - Section B5			394	394	14-May-25	05-Sep-26	14-May-25	05-Sep-26	117
SW-JPB-5000	TTA implementation, site clearance, road modification and site setup	0%	14	14	14-May-25	27-May-25	14-May-25	27-May-25	35
SW-JPB-5010	SI works for trenchless design	0%	28	28	28-May-25	24-Jun-25	28-May-25	24-Jun-25	111
SW-JPB-5020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	28-May-25	26-Jun-25	28-May-25	26-Jun-25	35
SW-JPB-5030	Design Approval for trenchless works	0%	60	60	25-Jun-25	23-Aug-25	25-Jun-25	23-Aug-25	111
SW-JPB-5040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	27-Jun-25	10-Jul-25	27-Jun-25	10-Jul-25	155
SW-JPB-5050	Construction of receiving pit	0%	75	75	27-Jun-25	09-Sep-25	27-Jun-25	09-Sep-25	60
SW-JPB-5060	Construction of launching pit	0%	75	75	27-Jun-25	09-Sep-25	27-Jun-25	09-Sep-25	35
SW-JPB-5070	Advance preparation works at launching pit	0%	14	14	10-Sep-25	23-Sep-25	10-Sep-25	23-Sep-25	35
SW-JPB-5080	Plant mobilization and set-up at Launching pit	0%	45	45	26-Oct-25	09-Dec-25	26-Oct-25	09-Dec-25	3
SW-JPB-5090	Excavation (212m) by Pipe Jacking method, PR=1.5m/d	0%	142	142	10-Dec-25	05-Jun-26	10-Dec-25	05-Jun-26	3
SW-JPB-5110	Plant demobilization	0%	30	30	06-Jun-26	05-Jul-26	06-Jun-26	05-Jul-26	4
SW-JPB-5120	PIpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	54	54	06-Jul-26	05-Sep-26	06-Jul-26	05-Sep-26	117
Water Main Tunnel (Detail D), CH 1402-1535 (134m) along Sheung Fung Street - Section D1			341	341	29-Nov-25	22-Jan-27	29-Nov-25	22-Jan-27	4



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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

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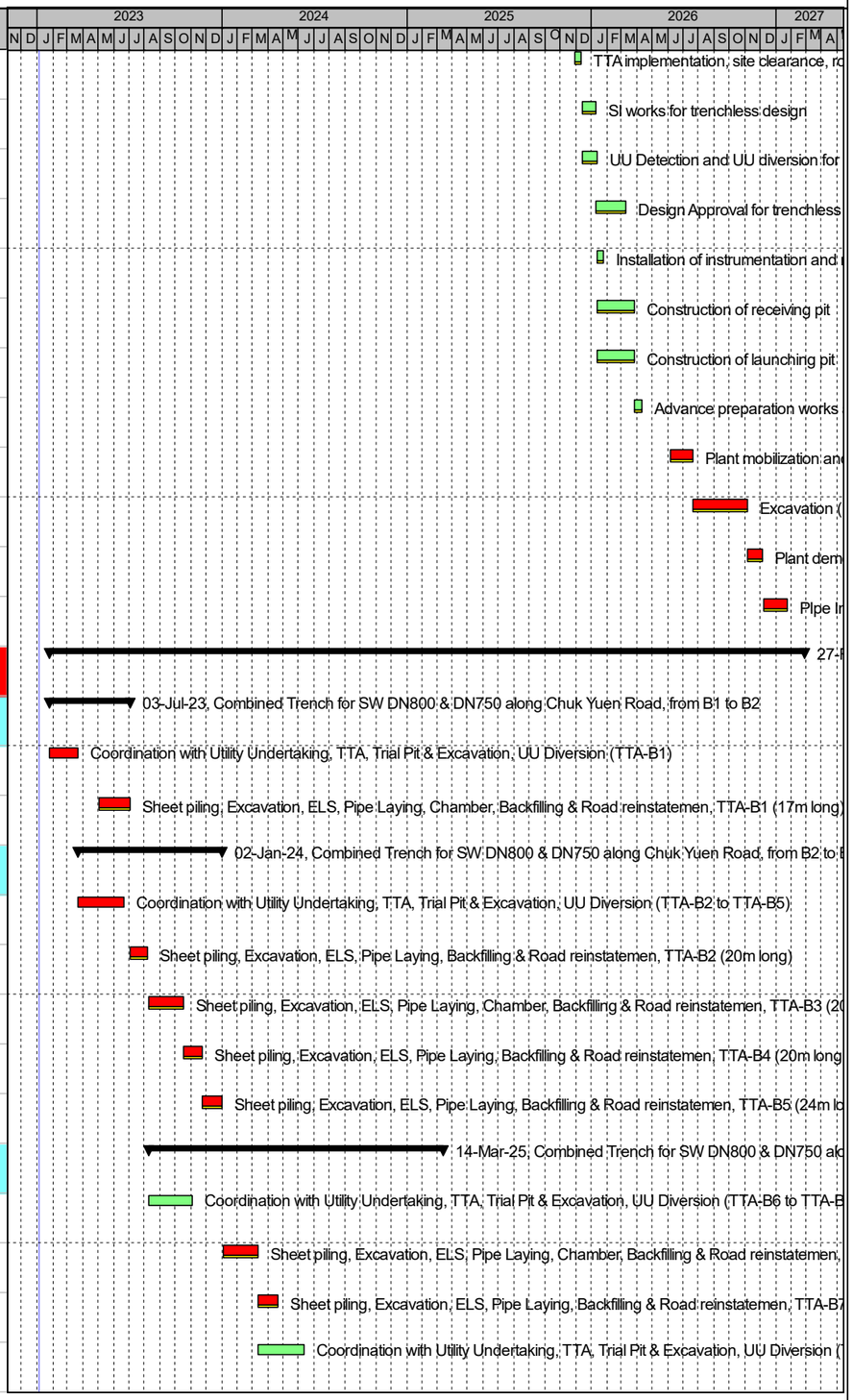
SW-JPB-6000	TTA implementation, site clearance, road modification and site setup	0%	14	14	29-Nov-25	12-Dec-25	29-Nov-25	12-Dec-25	60
SW-JPB-6010	SI works for trenchless design	0%	28	28	13-Dec-25	09-Jan-26	13-Dec-25	09-Jan-26	136
SW-JPB-6020	UU Detection and UU diversion for construction of jacking pits	0%	30	30	13-Dec-25	11-Jan-26	13-Dec-25	11-Jan-26	60
SW-JPB-6030	Design Approval for trenchless works	0%	60	60	10-Jan-26	10-Mar-26	10-Jan-26	10-Mar-26	136
SW-JPB-6040	Installation of instrumentation and monitoring device and condition survey	0%	14	14	12-Jan-26	25-Jan-26	12-Jan-26	25-Jan-26	180
SW-JPB-6050	Construction of receiving pit	0%	75	75	12-Jan-26	27-Mar-26	12-Jan-26	27-Mar-26	119
SW-JPB-6060	Construction of launching pit	0%	75	75	12-Jan-26	27-Mar-26	12-Jan-26	27-Mar-26	60
SW-JPB-6070	Advance preparation works at launching pit	0%	14	14	28-Mar-26	10-Apr-26	28-Mar-26	10-Apr-26	60
SW-JPB-6080	Plant mobilization and set-up at Launching pit	0%	45	45	06-Jun-26	20-Jul-26	06-Jun-26	20-Jul-26	4
SW-JPB-6090	Excavation (134m) by Pipe Jacking method, PR=1.5m/d	0%	90	90	21-Jul-26	05-Nov-26	21-Jul-26	05-Nov-26	4
SW-JPB-6110	Plant demobilization	0%	30	30	06-Nov-26	05-Dec-26	06-Nov-26	05-Dec-26	5
SW-JPB-6120	Plpe Installation (PR=30m/wk for fitting, 18m/d for pipe)	0%	38	38	07-Dec-26	22-Jan-27	07-Dec-26	22-Jan-27	4
Pipe Installation by Open Trench Method			1137	1215	03-May-23	27-Feb-27	26-Jan-23	27-Feb-27	1
Combined Trench for SW DN800 & DN750 along Chuk Yuen Road, from B1 to B2			50	128	03-May-23	03-Jul-23	26-Jan-23	03-Jul-23	1
21.PRW.PO5.10170	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B1)	0%	0	48			26-Jan-23	22-Mar-23	9
SW-OTB-1000	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B1 (17m long)	0%	50	50	03-May-23	03-Jul-23	03-May-23	03-Jul-23	1
Combined Trench for SW DN800 & DN750 along Chuk Yuen Road, from B2 to B3			151	231	04-Jul-23	02-Jan-24	23-Mar-23	02-Jan-24	1
21.PRW.PO5.10180	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B2 to TTA-B5)	0%	0	72			23-Mar-23	21-Jun-23	9
SW-OTB-2000	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B2 (20m long)	0%	31	31	04-Jul-23	08-Aug-23	04-Jul-23	08-Aug-23	1
SW-OTB-2010	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B3 (20m long)	0%	58	58	09-Aug-23	17-Oct-23	09-Aug-23	17-Oct-23	1
SW-OTB-2020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B4 (20m long)	0%	31	31	18-Oct-23	23-Nov-23	18-Oct-23	23-Nov-23	1
SW-OTB-2030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B5 (24m long)	0%	31	31	24-Nov-23	02-Jan-24	24-Nov-23	02-Jan-24	1
Combined Trench for SW DN800 & DN750 along Chuk Yuen Road, from B3 to B4			356	476	03-Jan-24	14-Mar-25	09-Aug-23	14-Mar-25	1
21.PRW.PO5.10190	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B6 to TTA-B9)	0%	0	72			09-Aug-23	03-Nov-23	49
SW-OTB-3000	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 (20m long)	0%	58	58	03-Jan-24	12-Mar-24	03-Jan-24	12-Mar-24	1
SW-OTB-3010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long)	0%	31	31	13-Mar-24	22-Apr-24	13-Mar-24	22-Apr-24	1
21.PRW.PO5.10200	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B10 to TTA-B15)	0%	0	72			13-Mar-24	12-Jun-24	22



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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

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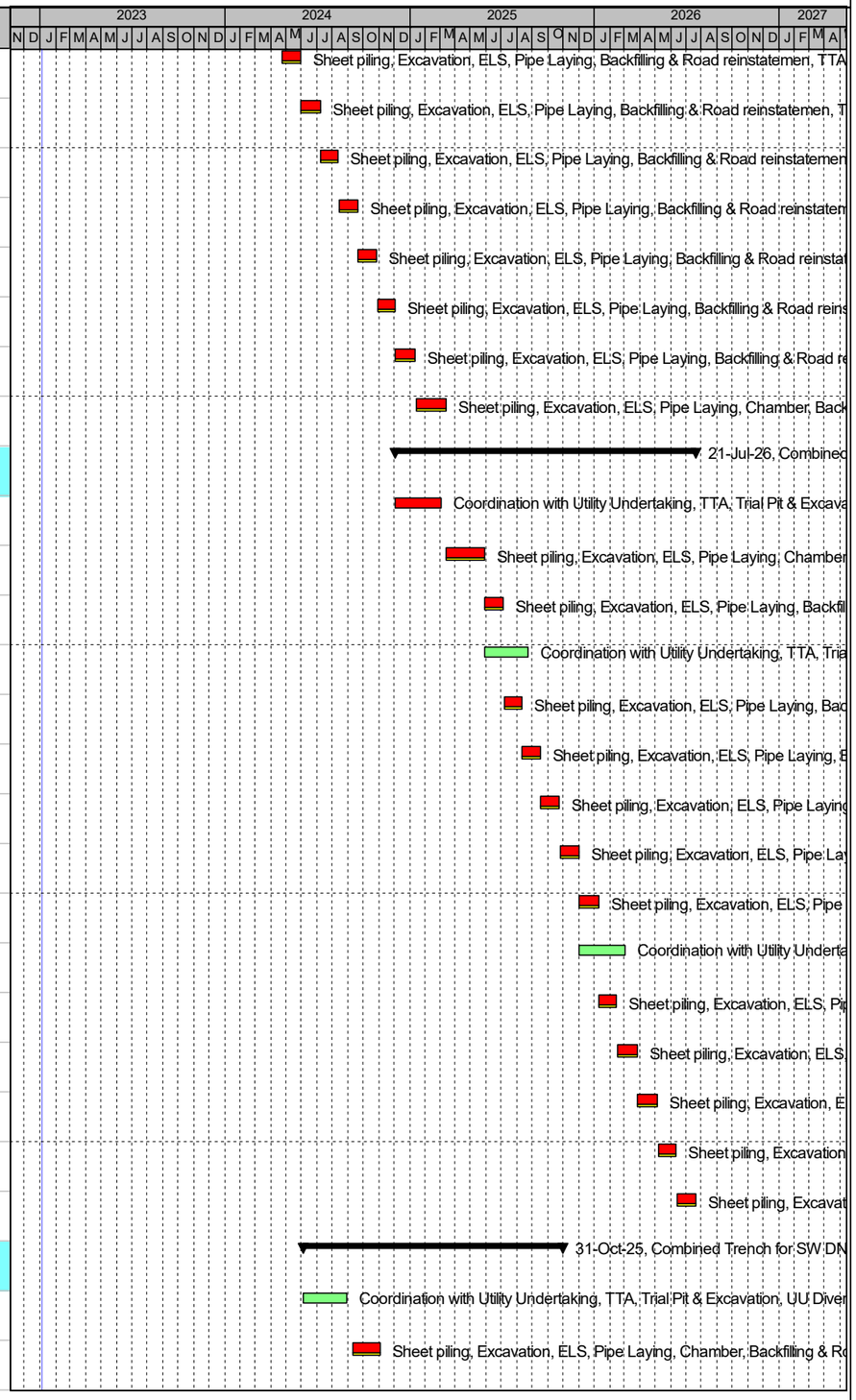
SW-OTB-3020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B8 (20m long)	0%	31	31	23-Apr-24	30-May-24	23-Apr-24	30-May-24	1
SW-OTB-3030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B9 (20m long)	0%	31	31	31-May-24	08-Jul-24	31-May-24	08-Jul-24	1
SW-OTB-3040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B10 (20m long)	0%	31	31	09-Jul-24	13-Aug-24	09-Jul-24	13-Aug-24	1
SW-OTB-3050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B11 (20m long)	0%	31	31	14-Aug-24	19-Sep-24	14-Aug-24	19-Sep-24	1
SW-OTB-3060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B12 (20m long)	0%	31	31	20-Sep-24	28-Oct-24	20-Sep-24	28-Oct-24	1
SW-OTB-3070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B13 (20m long)	0%	31	31	29-Oct-24	03-Dec-24	29-Oct-24	03-Dec-24	1
SW-OTB-3080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B14 (20m long)	0%	31	31	04-Dec-24	11-Jan-25	04-Dec-24	11-Jan-25	1
SW-OTB-3090	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B15 (17m long)	0%	50	50	13-Jan-25	14-Mar-25	13-Jan-25	14-Mar-25	1
Combined Trench for SW DN800 & DN750 along Chuk Yuen Road, from B4 to B5			399	480	15-Mar-25	21-Jul-26	04-Dec-24	21-Jul-26	1
21.PRW.PO5.10210	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B27 to TTA-B24)	0%	0	72			04-Dec-24	04-Mar-25	10
SW-OTB-4110	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B27 (20m long)	0%	58	58	15-Mar-25	28-May-25	15-Mar-25	28-May-25	1
SW-OTB-4100	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B26 (20m long)	0%	31	31	29-May-25	05-Jul-25	29-May-25	05-Jul-25	1
21.PRW.PO5.10220	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B23 to TTA-B19)	0%	0	72			29-May-25	22-Aug-25	22
SW-OTB-4090	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B25 (20m long)	0%	31	31	07-Jul-25	11-Aug-25	07-Jul-25	11-Aug-25	1
SW-OTB-4080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B24 (20m long)	0%	31	31	12-Aug-25	16-Sep-25	12-Aug-25	16-Sep-25	1
SW-OTB-4070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B23 (20m long)	0%	31	31	17-Sep-25	24-Oct-25	17-Sep-25	24-Oct-25	1
SW-OTB-4060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B22 (20m long)	0%	31	31	25-Oct-25	01-Dec-25	25-Oct-25	01-Dec-25	1
SW-OTB-4050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B21 (20m long)	0%	31	31	02-Dec-25	09-Jan-26	02-Dec-25	09-Jan-26	1
21.PRW.PO5.10230	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B18 to TTA-B16)	0%	0	72			02-Dec-25	02-Mar-26	22
SW-OTB-4040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B20 (20m long)	0%	31	31	10-Jan-26	14-Feb-26	10-Jan-26	14-Feb-26	1
SW-OTB-4030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B19 (20m long)	0%	31	31	16-Feb-26	26-Mar-26	16-Feb-26	26-Mar-26	1
SW-OTB-4020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B18 (20m long)	0%	31	31	27-Mar-26	06-May-26	27-Mar-26	06-May-26	1
SW-OTB-4010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B17 (20m long)	0%	31	31	07-May-26	12-Jun-26	07-May-26	12-Jun-26	1
SW-OTB-4000	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B16 (20m long)	0%	31	31	13-Jun-26	21-Jul-26	13-Jun-26	21-Jul-26	1
Combined Trench for SW DN800 & DN250 along Chuk Yuen Road, from B5 to D1			337	420	11-Sep-24	31-Oct-25	04-Jun-24	31-Oct-25	1
21.PRW.PO5.10240	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B28 to TTA-B32)	0%	0	72			04-Jun-24	28-Aug-24	12
SW-OTB-5000	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B28 (7m long)	0%	44	44	11-Sep-24	04-Nov-24	11-Sep-24	04-Nov-24	1



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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

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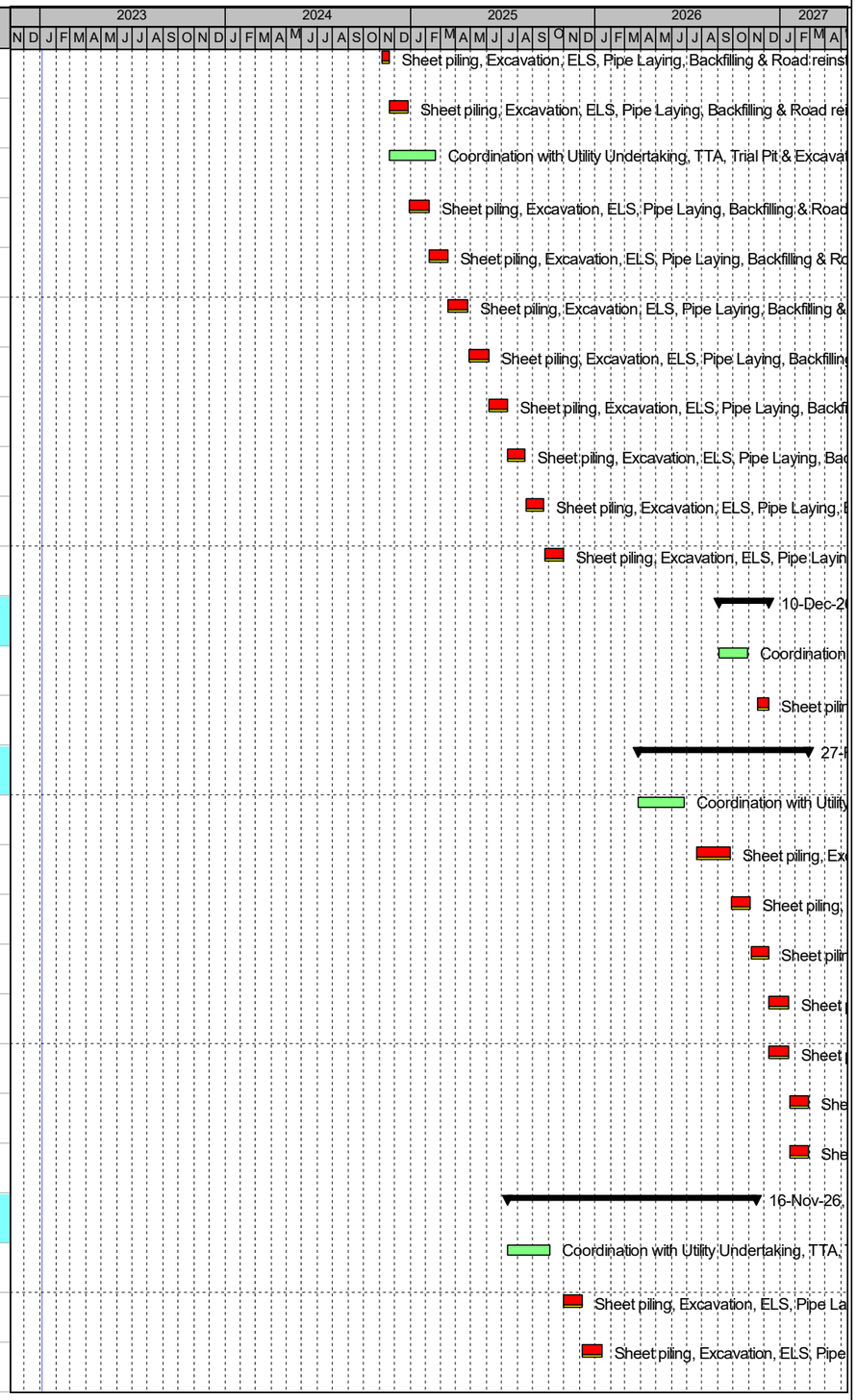
SW-OTB-5010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B29 (7m long)	0%	14	14	05-Nov-24	20-Nov-24	05-Nov-24	20-Nov-24	1
SW-OTB-5020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B30 (20m long)	0%	31	31	21-Nov-24	28-Dec-24	21-Nov-24	28-Dec-24	1
21.PRW.PO5.10250	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B33 to TTA-B38)	0%	0	72			21-Nov-24	19-Feb-25	22
SW-OTB-5030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B31 (20m long)	0%	31	31	30-Dec-24	07-Feb-25	30-Dec-24	07-Feb-25	1
SW-OTB-5040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B32 (20m long)	0%	31	31	08-Feb-25	15-Mar-25	08-Feb-25	15-Mar-25	1
SW-OTB-5050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B33 (20m long)	0%	31	31	17-Mar-25	25-Apr-25	17-Mar-25	25-Apr-25	1
SW-OTB-5060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B34 (20m long)	0%	31	31	26-Apr-25	04-Jun-25	26-Apr-25	04-Jun-25	1
SW-OTB-5070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B35 (20m long)	0%	31	31	05-Jun-25	11-Jul-25	05-Jun-25	11-Jul-25	1
SW-OTB-5080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B36 (20m long)	0%	31	31	12-Jul-25	16-Aug-25	12-Jul-25	16-Aug-25	1
SW-OTB-5090	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B37 (20m long)	0%	31	31	18-Aug-25	22-Sep-25	18-Aug-25	22-Sep-25	1
SW-OTB-5100	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B38 (21m long)	0%	31	31	23-Sep-25	31-Oct-25	23-Sep-25	31-Oct-25	1
Open Trench for DN800 along Sheung Fung Street, from D1 to Connection Point			21	83	17-Nov-26	10-Dec-26	02-Sep-26	10-Dec-26	1
21.PRW.PO5.10280	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B39)	0%	0	48			02-Sep-26	30-Oct-26	15
SW-OTB-6000	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B39 (9m long), to Connection Point	0%	21	21	17-Nov-26	10-Dec-26	17-Nov-26	10-Dec-26	1
Open Trench for DN750 along Chuk Yuen Road, from B5 to Connection Point			181	274	22-Jul-26	27-Feb-27	27-Mar-26	27-Feb-27	1
21.PRW.PO5.10290	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B40 to TTA-B42)	0%	0	72			27-Mar-26	25-Jun-26	22
SW-OTB-7000	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B40 (20m long)	0%	57	57	22-Jul-26	25-Sep-26	22-Jul-26	25-Sep-26	1
SW-OTB-7010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B41 (20m long)	0%	31	31	28-Sep-26	04-Nov-26	28-Sep-26	04-Nov-26	1
SW-OTB-7020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B42 (20m long)	0%	31	31	05-Nov-26	10-Dec-26	05-Nov-26	10-Dec-26	1
SW-OTB-7030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B43 (20m long)	0%	31	31	11-Dec-26	19-Jan-27	11-Dec-26	19-Jan-27	1
SW-OTB-7050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B45 (20m long)	0%	31	31	11-Dec-26	19-Jan-27	11-Dec-26	19-Jan-27	1
SW-OTB-7040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B44 (20m long)	0%	31	31	20-Jan-27	27-Feb-27	20-Jan-27	27-Feb-27	1
SW-OTB-7060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B46 (20m long), to Connection Point	0%	31	31	20-Jan-27	27-Feb-27	20-Jan-27	27-Feb-27	1
Open Trench for DN250 along Sheung Fung Street, from D1 to Connection Point			310	403	01-Nov-25	16-Nov-26	12-Jul-25	16-Nov-26	1
21.PRW.PO5.10260	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B56 to TTA-B52)	0%	0	72			12-Jul-25	04-Oct-25	22
SW-OTB-8090	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B56 (20m long), to Connection Point	0%	31	31	01-Nov-25	06-Dec-25	01-Nov-25	06-Dec-25	1
SW-OTB-8080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B55 (20m long)	0%	31	31	08-Dec-25	15-Jan-26	08-Dec-25	15-Jan-26	1



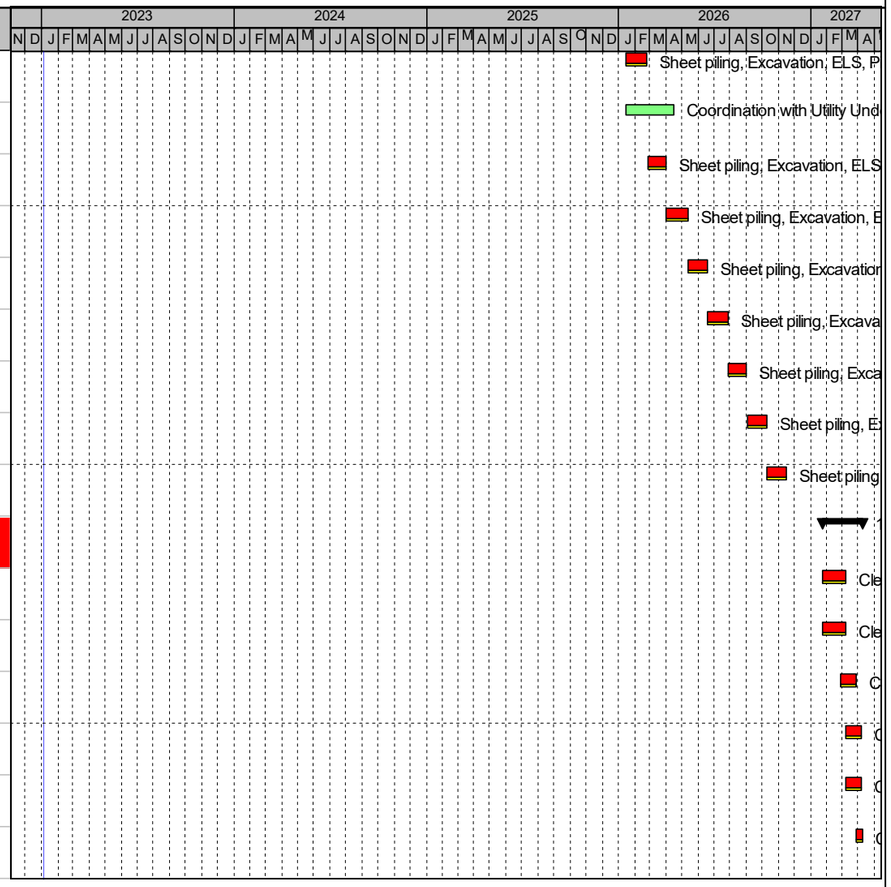
1st Programme Baseline
Actual Work
Remaining Work
Critical Remaining Work
1st Programme Baseline Milestone
Milestone
Summary

Date	Revision	Checked	Approved
12-Dec-22	First Programme		
12-Jan-23	Monthly Programme January 2023		

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float
SW-OTB-8070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B54 (20m long)	0%	31	31	16-Jan-26	24-Feb-26	16-Jan-26	24-Feb-26	1
21.PRW.PO5.10270	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B51 to TTA-B47)	0%	0	72			16-Jan-26	16-Apr-26	22
SW-OTB-8060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B53 (20m long)	0%	31	31	25-Feb-26	01-Apr-26	25-Feb-26	01-Apr-26	1
SW-OTB-8050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B52 (20m long)	0%	31	31	02-Apr-26	12-May-26	02-Apr-26	12-May-26	1
SW-OTB-8040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B51 (20m long)	0%	31	31	13-May-26	18-Jun-26	13-May-26	18-Jun-26	1
SW-OTB-8030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B50 (20m long)	0%	31	31	20-Jun-26	27-Jul-26	20-Jun-26	27-Jul-26	1
SW-OTB-8020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B49 (20m long)	0%	31	31	28-Jul-26	01-Sep-26	28-Jul-26	01-Sep-26	1
SW-OTB-8010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B48 (20m long)	0%	31	31	02-Sep-26	09-Oct-26	02-Sep-26	09-Oct-26	1
SW-OTB-8000	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B47 (20m long)	0%	31	31	10-Oct-26	16-Nov-26	10-Oct-26	16-Nov-26	1
Test & Commissioning and Connection			78	78	23-Jan-27	10-Apr-27	23-Jan-27	10-Apr-27	2
SW-TC-2000	Cleaning & Pressure Test for DN800	0%	45	45	23-Jan-27	08-Mar-27	23-Jan-27	08-Mar-27	5
SW-TC-2040	Cleaning & Pressure Test for DN250	0%	45	45	23-Jan-27	08-Mar-27	23-Jan-27	08-Mar-27	5
SW-TC-2020	Cleaning & Pressure Test for DN750	0%	28	28	28-Feb-27	27-Mar-27	28-Feb-27	27-Mar-27	2
SW-TC-2010	Connection to existing for DN800	0%	30	30	09-Mar-27	07-Apr-27	09-Mar-27	07-Apr-27	5
SW-TC-2050	Connection to existing for DN250	0%	30	30	09-Mar-27	07-Apr-27	09-Mar-27	07-Apr-27	5
SW-TC-2030	Connection to existing for DN750	0%	14	14	28-Mar-27	10-Apr-27	28-Mar-27	10-Apr-27	2



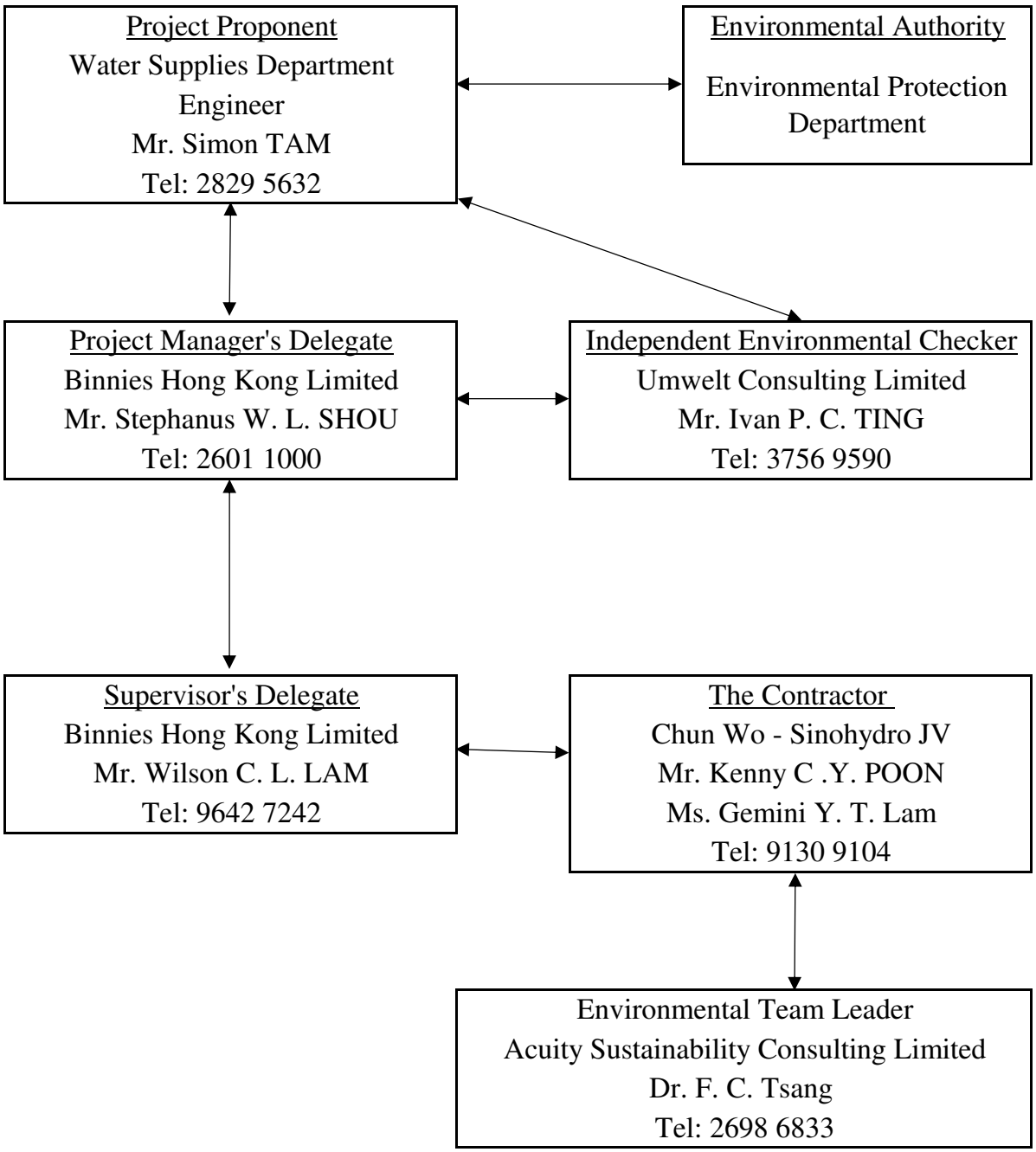
1st Programme Baseline
Actual Work
Remaining Work
Critical Remaining Work
1st Programme Baseline Milestone
Milestone
Summary

Date	Revision	Checked	Approved
12-Dec-22	First Programme		
12-Jan-23	Monthly Programme January 2023		

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 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 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	To be 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						

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	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	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
	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

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	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
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

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						

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	disposed of to the refuse transfer station. Further to the 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

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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

ACUITY SUSTAINABILITY CONSULTING LIMITED

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

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

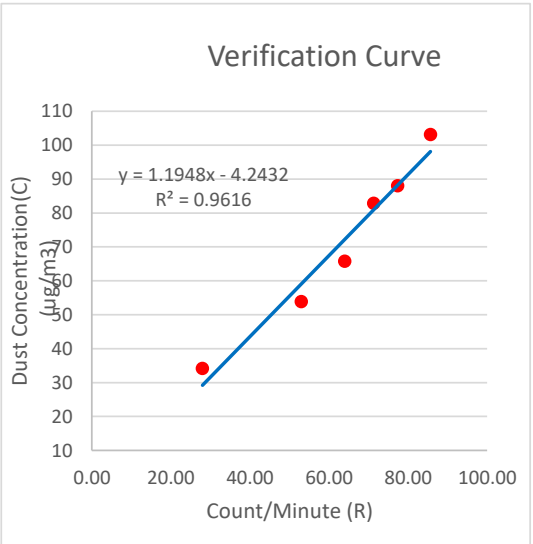
Verification Test Date: 9-Oct-22 to 16-Oct-22
Next Verification Test Date: 15-Oct-23
Unit-under-Test- Model No. Sibata LD-5R
Unit-under-Test Serial No. 851820
Our Report Refrence No. RPT-22-HVS-0019

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

Verification Test No.	Date	Time			K-Factor	Counts/ Minute (R)	Total Counts (TC)	TSP Sample ID No.	Dust Concentration (ug/m3), (C)
		Start-time	End-time	Elapsed Time (in min)	K-Factor (K=C/R)	x-axis			y axis
1	9/10/2022	6210.34	6213.34	180.00	0.00122	28.00	5040	R221670/1	34
2	9/10/2022	6213.34	6216.36	181.20	0.00103	64.00	11597	R221670/2	66
3	9/10/2022	6216.36	6221.78	325.20	0.00120	85.67	27859	R221670/3	103
4	16/10/2022	6249.91	6252.92	180.60	0.00102	53.00	9571.8	R221671/1	54
5	16/10/2022	6252.92	6255.92	180.00	0.00114	77.33	13920	R221671/2	88
6	16/10/2022	6255.92	6261.94	361.20	0.00116	71.33	25766	R221671/3	83
					0.00113				

K-Factor to be inputted in LD-5R (corrected 1 decimal point): 1.1

By Linear Regression of y on x:
slope, mh= 1.1948
intercept,ch= -4.2432
*Correlation Coefficient,R= 0.9806
Verification Test Result: Strong Correlation, Results were accepted.
* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.



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

ACUITY SUSTAINABILITY CONSULTING LIMITED

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

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

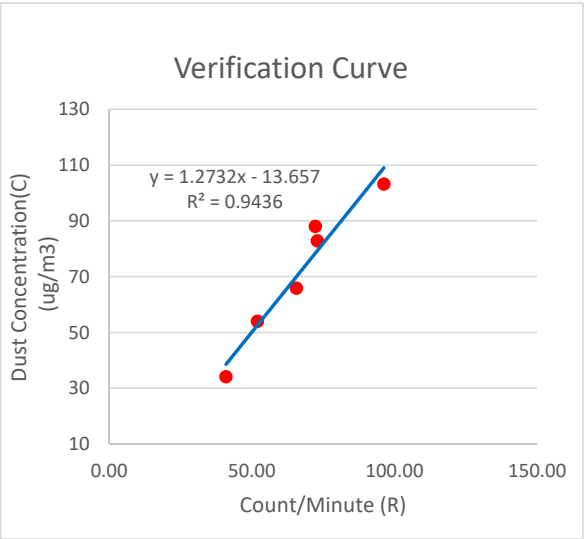
Verification Test Date: 9-Oct-22 to 16-Oct-22
Next Verification Test Date: 15-Oct-23
Unit-under-Test- Model No. Sibata LD-5R
Unit-under-Test Serial No. 882109
Our Report Refrence No. RPT-22-HVS-0015

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

Verification Test No.	Date	Time			K-Factor	Counts/ Minute (R)	Total Counts (TC)	TSP Sample ID No.	Dust Concentration (ug/m3), (C)
		Start-time	End-time	Elapsed Time (in min)	K-Factor (K=C/R)	x-axis			y axis
1	9/10/2022	6210.34	6213.34	180.00	0.00083	41.00	7380	R221670/1	34
2	9/10/2022	6213.34	6216.36	181.20	0.00100	65.67	11899	R221670/2	66
3	9/10/2022	6216.36	6221.78	325.20	0.00107	96.33	31328	R221670/3	103
4	16/10/2022	6249.91	6252.92	180.60	0.00104	52.00	9391.2	R221671/1	54
5	16/10/2022	6252.92	6255.92	180.00	0.00122	72.33	13020	R221671/2	88
6	16/10/2022	6255.92	6261.94	361.20	0.00113	73.00	26368	R221671/3	83
					0.00105				

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

By Linear Regression of y on x:
slope, mh= 1.2732
intercept,ch= -13.6573
*Correlation Coefficient,R= 0.9714
Verification Test Result: Strong Correlation, Results were accepted.
* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.



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

ACUITY SUSTAINABILITY CONSULTING LIMITED

Website: www.acuityhk.com

Unit C, 11/F, Ford Glory Plaza,
Nos. 37-39 Wing Hong Street,
Cheung Sha Wan, Kowloon.

Tel. : (852) 2698 6833
Fax.: (852) 2698 9383

PC-3A(E) K-Factor Verification Test by Total Suspended Particulates HVS Test Report

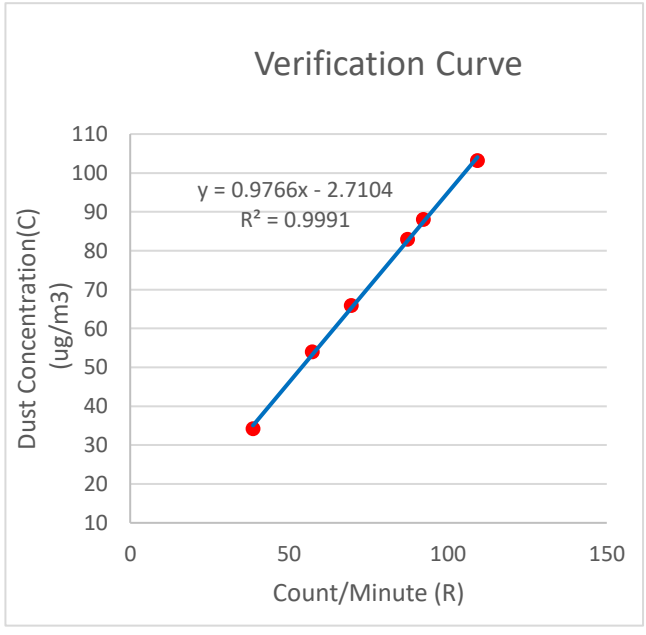
Verification Test Date: 9-Oct-22 to 16-Oct-22
Next Verification Test Date: 8-Oct-23
Unit-under-Test- Model No. PC-3A(E)
Unit-under-Test Serial No. JC-220710221
Our Report Refrence No. RPT-22-HVS-0033
Calibration Location: Emax

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

Verification Test No.	Date	Time			K-Factor	Counts/ Minute (R)	Total Counts (TC)	TSP Sample ID No.	Dust Concentration (ug/m3), (C)
		Start-time	End-time	Elapsed Time (in min)	K-Factor (K=C/R)	x-axis			y axis
1	9/10/2022	6210.34	6213.34	180.00	0.00088	39	6960	R221670/1	34
2	9/10/2022	6213.34	6216.36	181.20	0.00094	70	12624	R221670/2	66
3	9/10/2022	6216.36	6221.78	325.20	0.00094	109	35555	R221670/3	103
4	16/10/2022	6249.91	6252.92	180.60	0.00094	57	10354	R221671/1	54
5	16/10/2022	6252.92	6255.92	180.00	0.00095	92	16620	R221671/2	88
6	16/10/2022	6255.92	6261.94	361.20	0.00095	87	31545	R221671/3	83
					0.00094				

K-Factor to be inputted in PC-3A(E) (corrected 1 decimal point): 0.94

By Linear Regression of y on x:
slope, mh= 0.9766
intercept,ch= -2.7104
*Correlation Coefficient,R= 0.9996
Verification Test Result: Strong Correlation, Results were accepted.
* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.



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

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***NTi Audio***
Type No.:	***XL2 (Serial No.: A2A-13548-E0)***
Microphone:	***ACO 7052 (Serial No.:73912)***
Preamplifier:	***NTi Audio M2211 MA220 (Serial No.:5735)***

Submitted by:

Customer:	*Acuity Sustainability Consulting Limited*
Address:	*Unit E, 12/F, Ford Glory Plaza,*
	Nos. 37-39 Wing Hong Street,
	Cheung Sha Wan, 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: 2 February 2023

Date of calibration: 6 February 2023

Date of NEXT calibration: 5 February 2024

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **6 February 2023**

Certificate No.: APJ22-124-CC001

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:	23.9 °C
Air Pressure:	1006 hPa
Relative Humidity:	47.9 %

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, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dB SPL	Fast	94	31.5	94.1	±2.0
				63	94.2	±1.5
				125	94.1	±1.5
				250	94.1	±1.4
				500	94.2	±1.4
				1000	94.1	Ref
				2000	94.5	±1.6
				4000	95.2	±1.6
				8000	94.9	+2.1; -3.1

A-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	31.5	54.8	-39.4 ±2.0
				63	68.0	-26.2 ±1.5
				125	78.0	-16.1 ±1.5
				250	85.5	-8.6 ±1.4
				500	91.0	-3.2 ±1.4
				1000	94.1	Ref
				2000	95.7	+1.2 ±1.6
				4000	96.2	+1.0 ±1.6
				8000	93.9	-1.1+2.1; -3.1

C-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	dBC SPL	Fast	94	31.5	91.2	-3.0 ±2.0
				63	93.4	-0.8 ±1.5
				125	94.0	-0.2 ±1.5
				250	94.1	-0.0 ±1.4
				500	94.2	-0.0 ±1.4
				1000	94.1	Ref
				2000	94.3	-0.2 ±1.6
				4000	94.4	-0.8 ±1.6
				8000	92.0	−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	± 0.10
	125 Hz	± 0.10
	250 Hz	± 0.05
	500 Hz	± 0.10
	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

Certificate No. D224646E

JCSS 0197

CALIBRATION CERTIFICATE

Product	:	SOUND CALIBRATOR
Type	:	NC-75
Serial number	:	35124529
Manufacturer	:	RION CO., LTD.
Calibration quantities	:	Sound pressure level (with reference standard microphone)
Calibration method	:	Measured by specified secondary standard microphone according to JCSS calibration procedure specified by RION.
Ambient conditions	:	Temperature 23.9 ℃, Relative humidity 49 %, Static pressure 100.6 kPa
Calibration date	:	02/11/2022 (DD/MM/YYYY)
Calibration location	:	3-20-41 Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan RION CO., LTD. Calibration Room

We hereby certify that the results of this calibration were as follows.

Issue date : 09/11/2022 (DD/MM/YYYY)

Junichi Kawamura
Manager
Quality Assurance Section,
Quality Assurance Department,
Environmental Instrument Division,
RION CO., LTD.
3-20-41 Higashimotomachi, Kokubunji,
Tokyo 185-8533, Japan

Certificate No. D224646E

CALIBRATION RESULT

1. Sound pressure level (with reference standard microphone)

Measured value	Expanded uncertainty *1
93.99 dB	0.09 dB

Specified secondary standard microphone:
Type : 4160
Serial number : 2973341
Reference Sound pressure : 2×10^{-5} Pa

*1 Defines an interval estimated to have a level of confidence of approximately 95 %.
Coverage factor k=2

Calibration result is the calibration value in ambient conditions during calibration.

BE OUT OF JCSS CALIBRATION

1. Frequency

Measured value	Measurement uncertainty (k=2)
1000.0 Hz	2.7×10^{-4} Hz

Working measurement standard universal counter:
Type : 53132A
Serial number : MY40005574
(JCSS Calibration Certificate No. 2208001889940)

2. Total distortion

Measured value
0.2 %

Working measurement standard distortion meter:
Type : VA-2230A
Serial number : 11076061
(A2LA Calibration Certificate No. 1502-03109)

- closing -

Appendix F

Environmental Monitoring Schedule

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

Impact Environmental Monitoring Schedule

May 2023

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

Air Quality Monitoring Station:
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 Station:
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

Contract No. 21/WSD/21

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

Tentative Impact Environmental Monitoring Schedule

June 2023

Sun	Mon	Tue	Wed	Thur	Fri	Sat
				1 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a)	**2** Site Inspection	**3**
4	**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)	**8**	**9** Site Inspection	**10**
11	**12**	**13** Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a)	**14** Site Inspection	**15**	**16**	**17**
18	**19** Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a)	**20**	**21**	**22**	**23** Site Inspection	**24** Impact Air Quality Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a)
25	**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) Site Inspection	

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

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)
5 May 2023	12:01	Sunny	75
	13:01		89
	14:01		93
10 May 2023	12:03	Fine	84
	13:03		91
	14:03		95
16 May 2023	12:10	Fine	82
	13:10		94
	14:10		88
22 May 2023	11:54	Sunny	89
	12:54		97
	13:54		95
27 May 2023	11:55	Sunny	94
	12:55		88
	13:55		89
		Minimum	75
		Maximum	97
		Average	90

DM-2 - Chun Sing House, Tin Ma Court			
Date	Time	Weather	Particulate Concentration (µg/m^3)
5 May 2023	9:39	Sunny	64
	10:39		72
	11:39		77
10 May 2023	10:19	Fine	72
	11:19		81
	12:19		75
16 May 2023	10:17	Fine	74
	11:17		77
	12:17		82
22 May 2023	10:20	Sunny	82
	11:20		91
	12:20		88
27 May 2023	10:27	Sunny	75
	11:27		81
	12:27		83
		Minimum	64
		Maximum	91
		Average	78

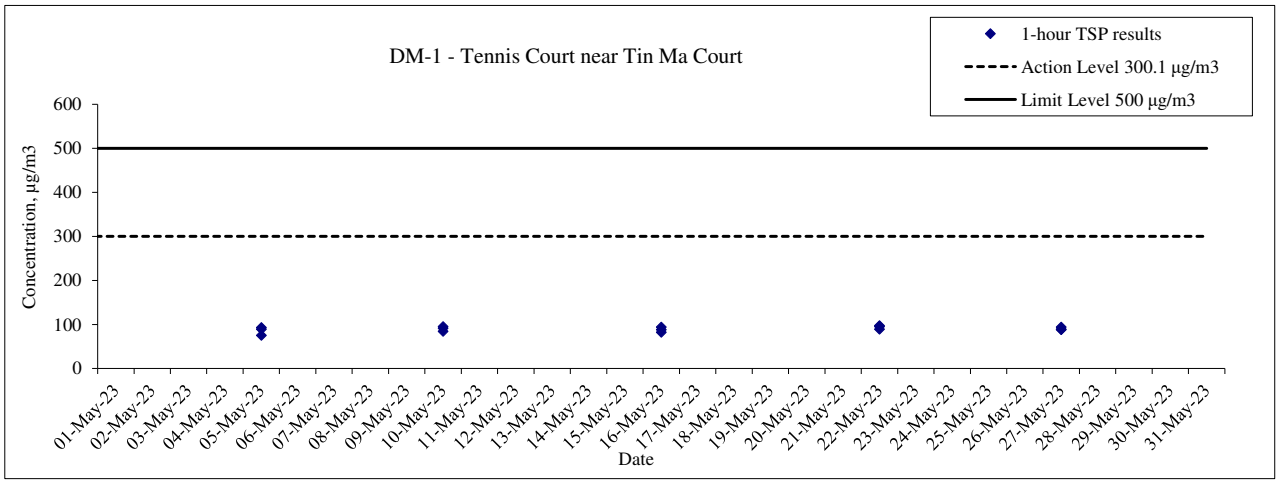
Appendix G - 1-hour TSP Monitoring Results

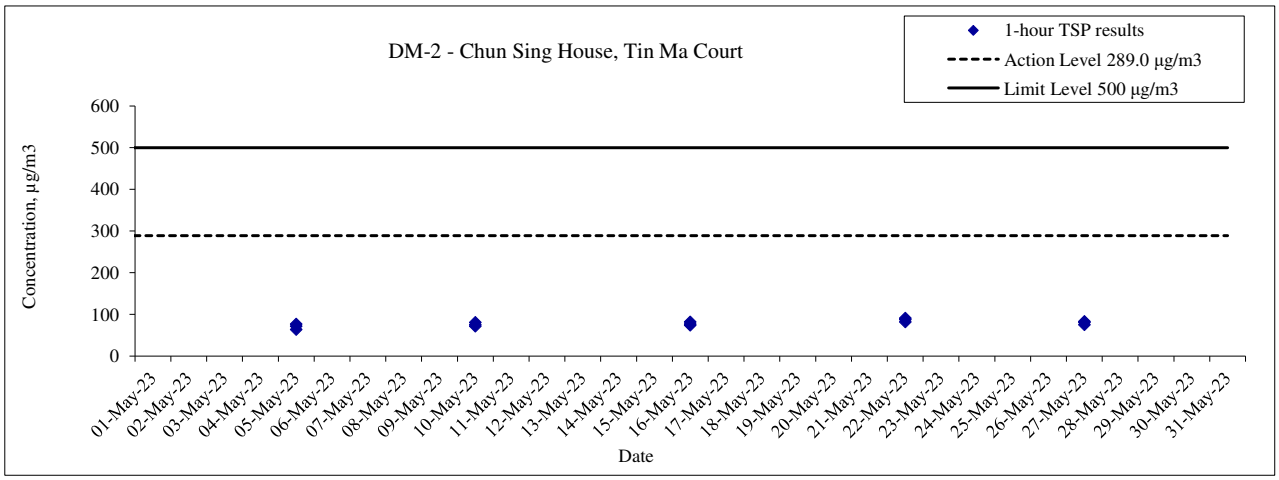
DM-3 - Grace Methodist Church Kindergarten			
Date	Time	Weather	Particulate Concentration (µg/m^3)
5 May 2023	8:53	Sunny	58
	9:53		66
	10:53		69
10 May 2023	8:56	Fine	62
	9:56		71
	10:56		64
16 May 2023	8:51	Fine	59
	9:51		64
	10:51		66
22 May 2023	8:40	Sunny	64
	9:40		71
	10:40		69
27 May 2023	8:41	Sunny	67
	9:41		66
	10:41		73
		Minimum	58
		Maximum	73
		Average	66

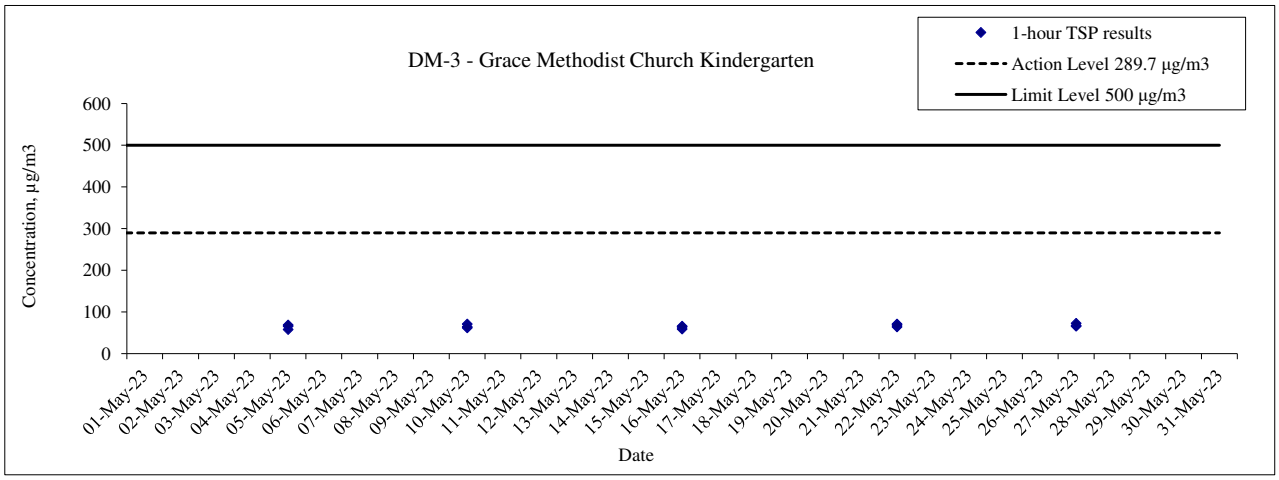
DM-4 - Block 6, Tsui Chuk Garden			
Date	Time	Weather	Particulate Concentration (µg/m^3)
22 May 2023	12:38	Sunny	62
	13:38		71
	14:38		72
27 May 2023	12:33	Sunny	57
	13:33		62
	14:33		69
		Minimum	57
		Maximum	72
		Average	66

DM-4a - Road pavement near Wang King House, Tin Wang Court			
Date	Time	Weather	Particulate Concentration (µg/m^3)
5 May 2023	8:41	Sunny	63
	9:41		70
	10:41		74
10 May 2023	8:49	Fine	65
	9:49		74
	10:49		66
16 May 2023	8:44	Fine	62
	9:44		70
	10:44		71
22 May 2023	8:53	Sunny	68
	9:53		77
	10:53		80
27 May 2023	8:48	Sunny	61
	9:48		70
	10:48		73
		Minimum	61
		Maximum	80
		Average	70

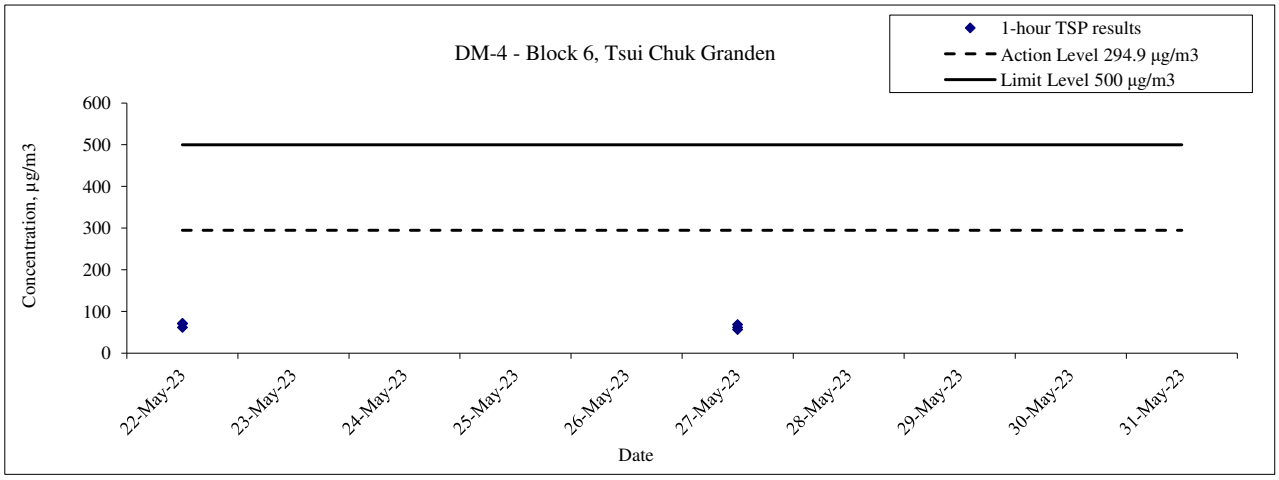
1-hour TSP Concentration Level

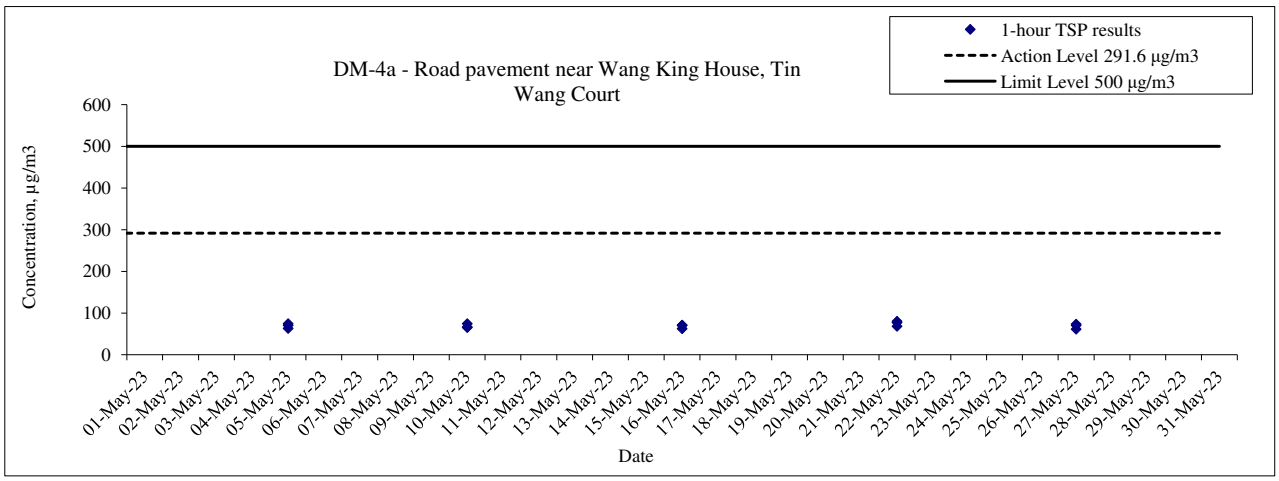






1-hour TSP Concentration Level



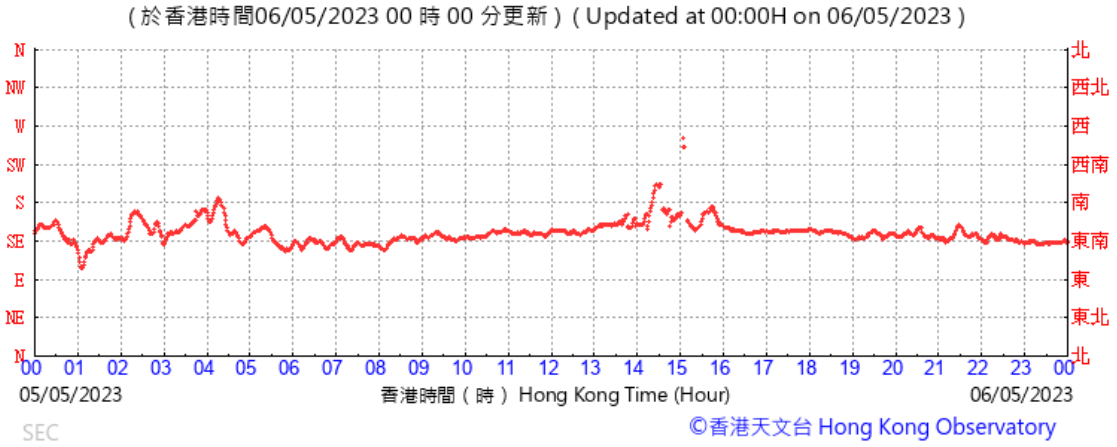


Appendix H

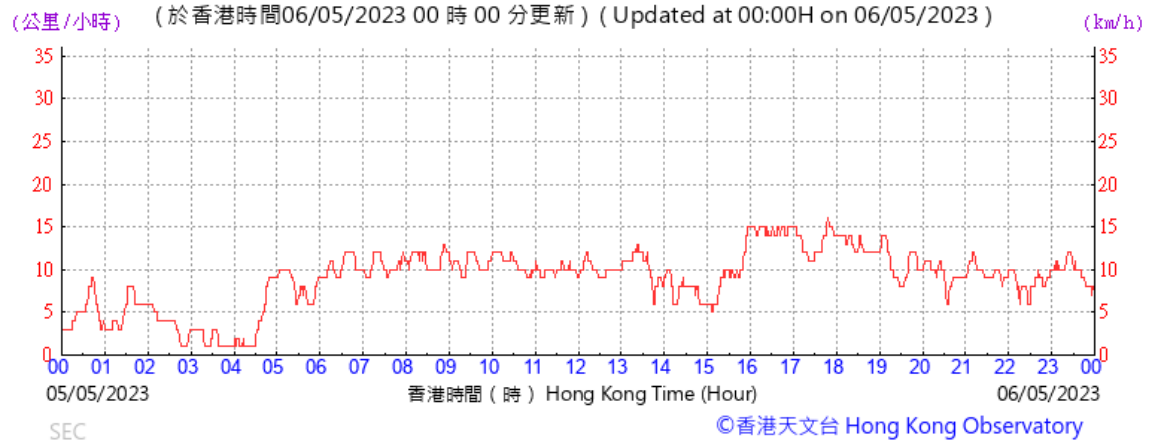
Extract of Meteorological Observations for Hong Kong (Kai Tak)

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

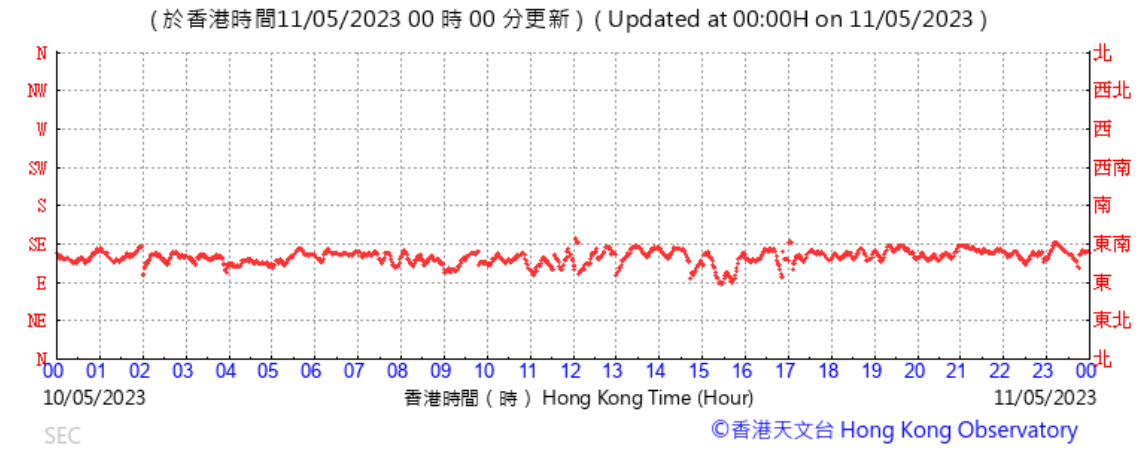
Wind Direction



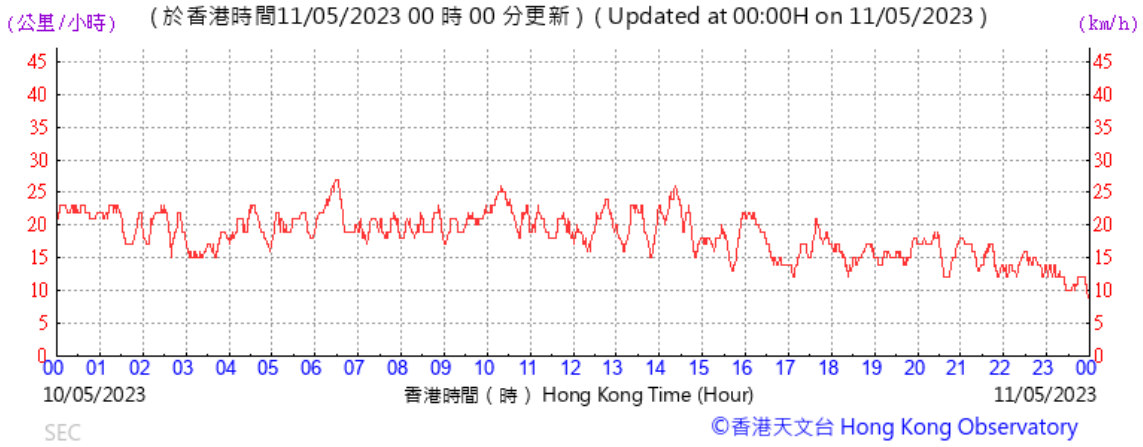
Wind Speed



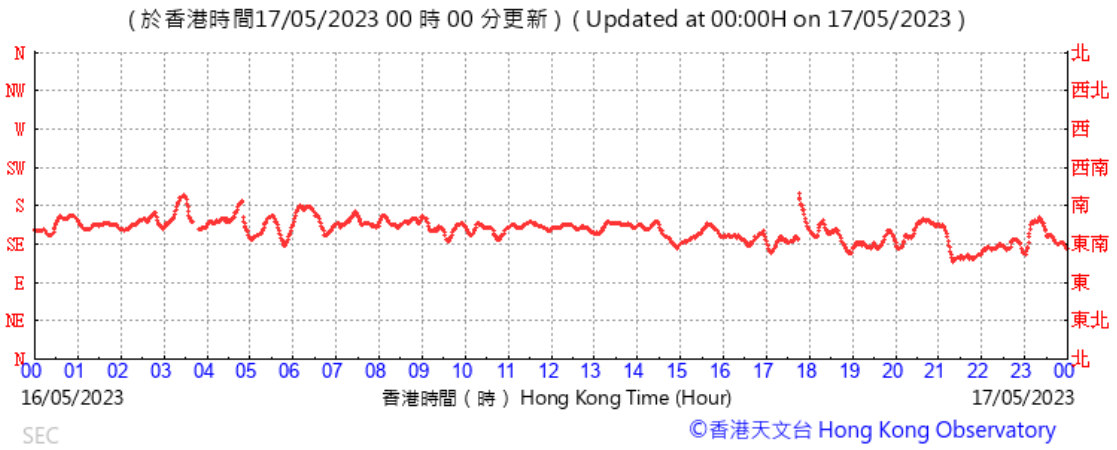
Wind Direction



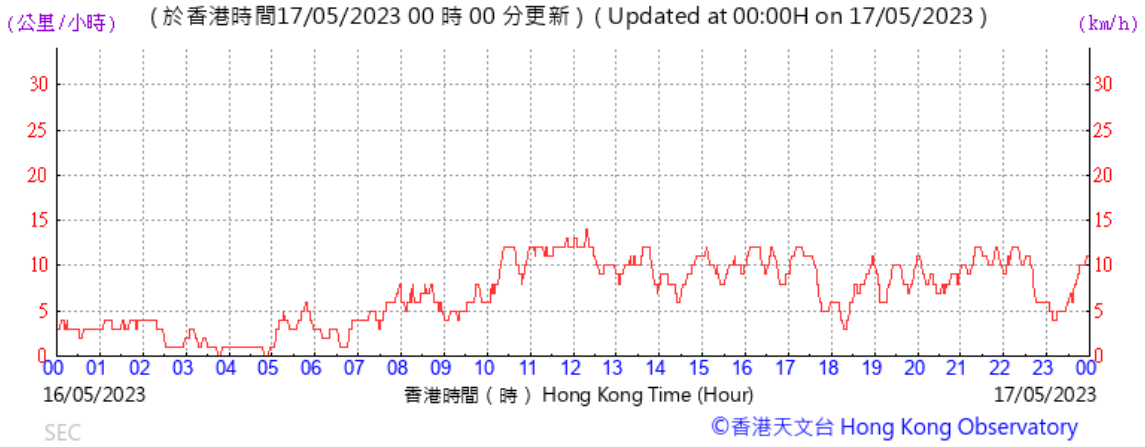
Wind Speed



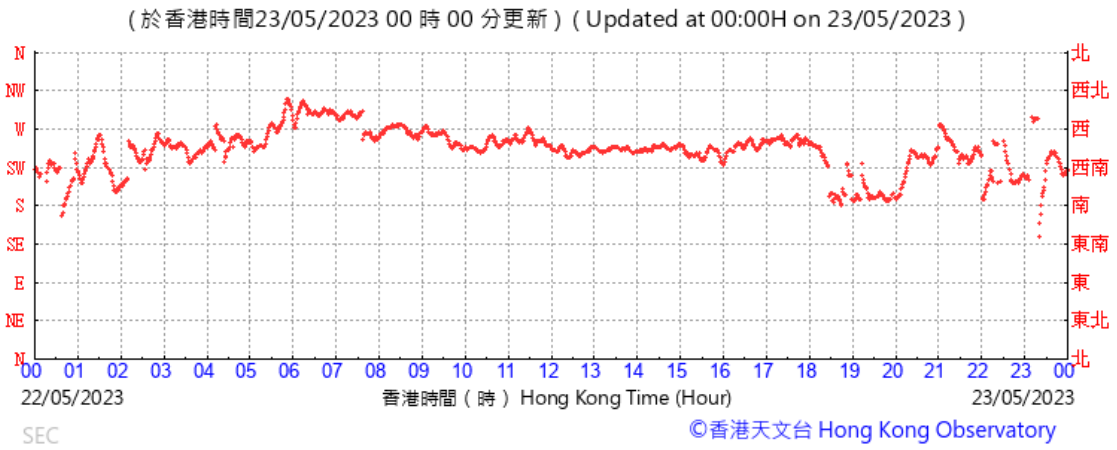
Wind Direction



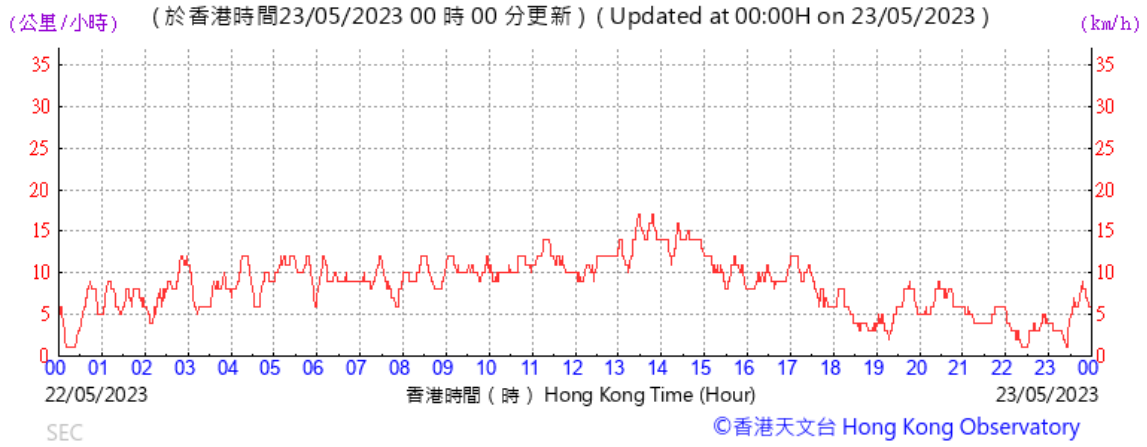
Wind Speed



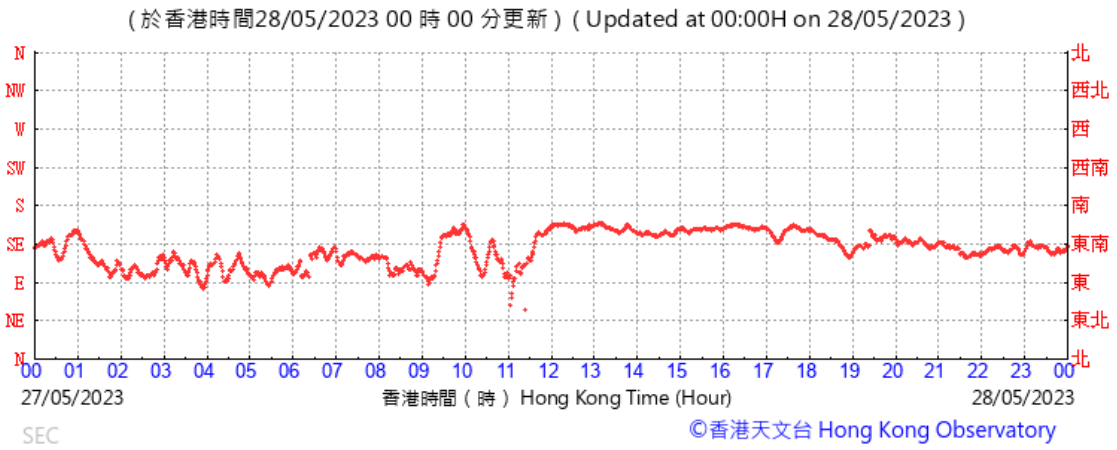
Wind Direction



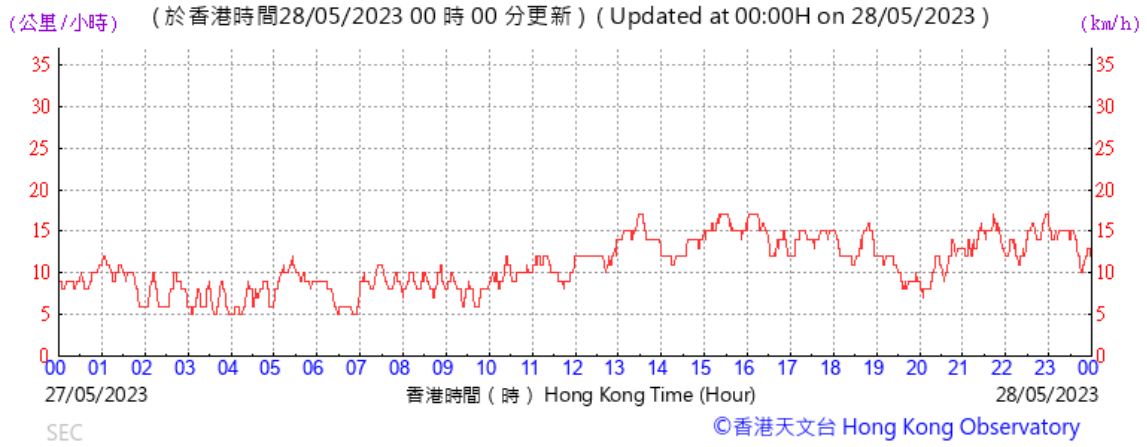
Wind Speed



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)
5 May 2023	Sunny	9:41	70.3	71.4	69.0	70.3
		9:46	70.3	71.2	69.2	
		9:51	70.2	71.4	68.5	
		9:56	70.1	71.4	68.5	
		10:01	70.5	71.8	68.9	
		10:06	70.3	71.4	69.1	
10 May 2023	Fine	10:24	70.0	71.1	68.7	69.9
		10:29	70.2	71.4	68.9	
		10:34	70.1	71.2	68.7	
		10:39	70.2	71.1	69.1	
		10:44	69.8	71.0	68.5	
		10:49	69.3	70.5	68.0	
16 May 2023	Fine	10:20	70.5	71.6	69.1	70.3
		10:25	70.1	71.2	68.8	
		10:30	69.9	71.0	68.6	
		10:35	70.2	71.3	68.9	
		10:40	70.4	71.7	68.7	
		10:45	70.4	71.7	68.6	
22 May 2023	Sunny	10:24	69.2	70.2	68.0	71.8
		10:29	69.1	70.2	67.9	
		10:34	69.4	70.4	67.9	
		10:39	69.4	70.7	67.4	
		10:44	74.5	75.5	73.4	
		10:49	74.5	75.6	73.1	
					Min:	69.9
					Max:	71.8
					Average:	70.6

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

Date	Weather	Start Time	dB(A)			
			Leq	L10	L90	Leq(30min)
5 May 2023	Sunny	8:56	65.8	68.9	55.8	64.9
		9:01	65.4	68.6	57.4	
		9:06	64.8	68.2	54.3	
		9:11	64.3	67.6	54.0	
		9:16	64.0	67.4	53.8	
		9:21	64.8	68.0	53.6	
10 May 2023	Fine	9:00	66.2	68.2	54.9	66.2
		9:05	64.5	68.0	55.0	
		9:10	64.8	68.2	55.3	
		9:15	65.2	68.9	54.4	
		9:20	69.5	69.8	56.2	
		9:25	64.3	68.2	54.3	
16 May 2023	Fine	8:58	66.3	69.2	55.9	65.4
		9:03	66.7	70.0	54.8	
		9:08	64.6	68.2	54.4	
		9:13	64.5	68.2	53.9	
		9:18	64.0	68.2	54.0	
		9:23	65.8	68.5	54.9	
22 May 2023	Sunny	9:36	65.9	69.1	54.9	64.8
		9:41	64.8	67.8	58.6	
		9:46	64.6	68.2	55.9	
		9:51	64.8	68.3	55.9	
		9:56	63.7	67.6	56.3	
		10:01	65.0	68.9	56.1	
					Min:	64.8
					Max:	66.2
					Average:	65.3

Appendix I - Construction Noise Monitoring Results

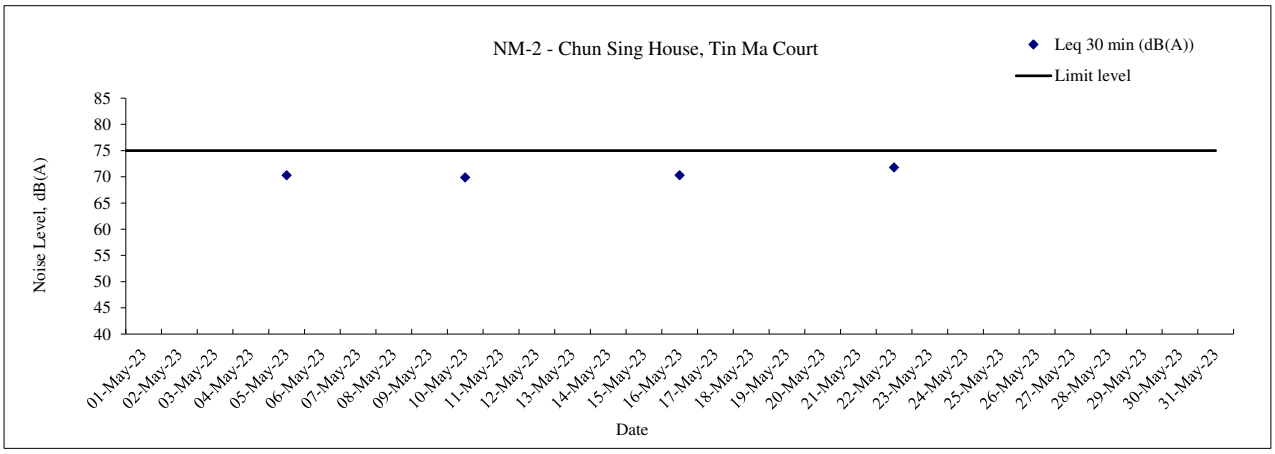
Construction Noise Monitoring Stations: Block 6, Tsui Chuk Graden (NM-4)

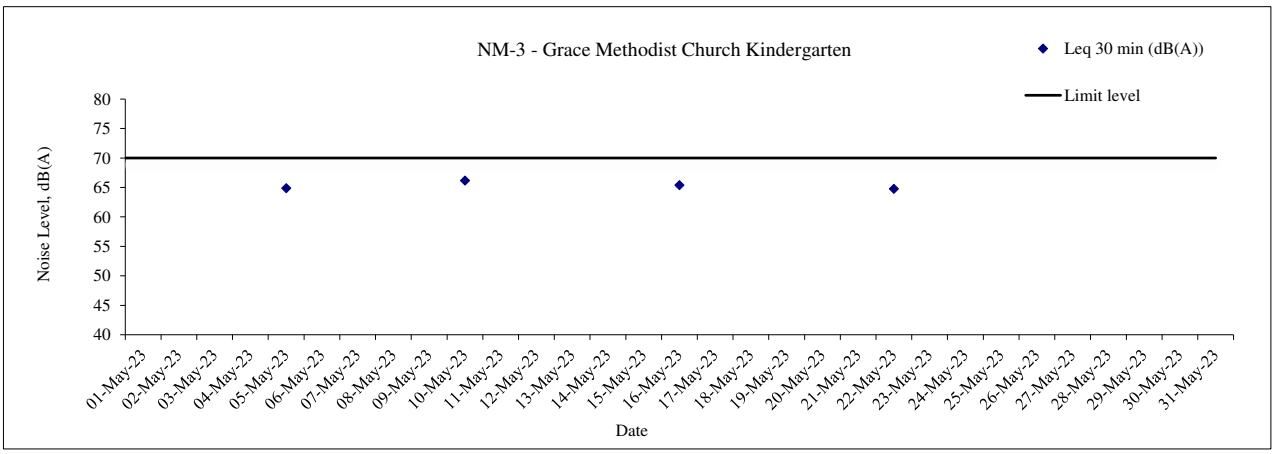
Date	Weather	Start Time	dB(A)			
			Leq	L10	L90	Leq(30min)
22 May 2023	Sunny	12:43	64.4	65.5	63.0	65.1
		12:48	66.1	67.6	64.3	
		12:53	64.7	66.2	62.9	
		12:58	65.3	66.6	62.6	
		13:03	65.4	67.1	62.6	
		13:08	64.1	65.1	62.4	
					Min:	65.1
					Max:	65.1
					Average:	65.1

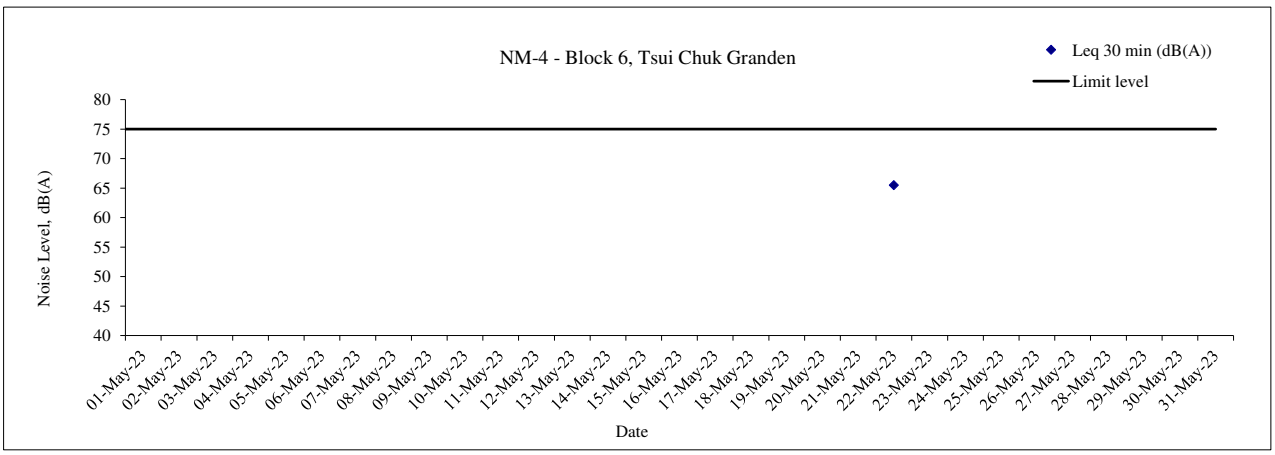
Construction Noise Monitoring Stations: Road pavement near Wang King House, Tin Wang Court (NM-4a)

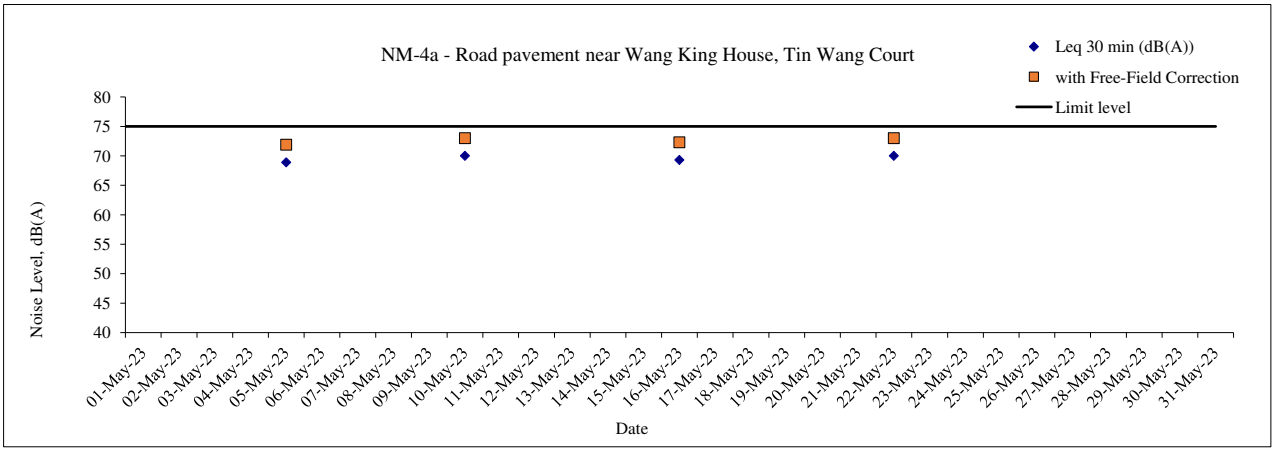
Date	Weather	Start Time	dB(A)				
			Leq	L10	L90	Leq(30min)	With Free-Field Correction
5 May 2023	Sunny	10:26	67.2	70.8	58.6	68.9	71.9
		10:31	69.7	73.3	57.4		
		10:36	68.8	72.8	57.8		
		10:41	68.8	72.6	57.2		
		10:46	68.5	71.8	58.7		
		10:51	69.9	73.4	59.0		
10 May 2023	Fine	9:35	68.7	72.4	57.6	70.0	73.0
		9:40	67.5	70.7	59.5		
		9:45	72.5	73.4	58.1		
		9:50	69.3	72.0	61.5		
		9:55	70.4	72.9	58.8		
		10:00	69.7	72.8	58.4		
16 May 2023	Fine	9:35	69.4	72.8	59.8	69.3	72.3
		9:40	67.8	71.4	58.0		
		9:45	71.0	74.3	60.3		
		9:50	69.2	72.5	58.3		
		9:55	68.2	72.0	58.0		
		10:00	69.7	72.3	59.9		
22 May 2023	Sunny	8:56	70.1	72.8	61.3	70.0	73.0
		9:01	70.6	73.7	60.4		
		9:06	69.7	72.5	63.9		
		9:11	71.9	73.4	60.4		
		9:16	67.7	71.1	60.1		
		9:21	68.4	72.0	58.3		
					Min:	68.9	71.9
					Max:	70.0	73.0
					Average:	69.5	72.5

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	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.0000	0.00000	0.00000	0.00000	0.00000	0.0000	0.00000	0.00000	0.00000	0.00000
Feb	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.0000	0.00000	0.00000	0.00000	0.00000	0.0000	0.00000	0.00000	0.00000	0.00000
Mar	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.0000	0.00000	0.00000	0.00000	0.00000	0.0000	0.00000	0.00000	0.00000	0.00000
Apr	0.05712	0.00000	0.00000	0.00000	0.05712	0.00000	0.0000	0.00000	0.00000	0.00000	0.20064	0.0000	0.00000	0.00000	0.00686	0.00000
May	0.90365	0.00000	0.00000	0.00000	0.90365	0.00000	0.0000	0.00000	0.00000	0.00000	0.02411	0.0000	0.00000	0.00000	0.00000	0.00000
Jun	0.00000															
Sub-total	0.96077	0.00000	0.00000	0.00000	0.96077	0.00000	0.0000	0.00000	0.00000	0.00000	0.22476	0.0000	0.00000	0.00000	0.00686	0.00000
Jul	0.00000															
Aug	0.00000															
Sep	0.00000															
Oct	0.00000															
Nov	0.00000															
Dec	0.00000															
Total	0.96077	0.00000	0.00000	0.00000	0.96077	0.00000	0.00000	0.00000	0.00000	0.00000	0.22476	0.00000	0.00000	0.00000	0.00686	0.00000

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 May 2023 – 31 May 2023	0	0	N/A

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Details
1 May 2023 – 31 May 2023	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
1 May 2023 – 31 May 2023	0	0	N/A

Statistical Summary of non-compliance (exceedances) of 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

Cumulative Complaint Log

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