





Contract No. 21/WSD/21

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

Monthly Environmental and Audit Report October 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 October 2023

Dear Sir,

Pursuant to Condition 3.4 of Environmental Permit (EP) No. EP-602/2021, please note the Monthly Environmental and Audit Report for October 2023, dated 7 November 2023 submitted under the EP, certified by the Environmental Team Leader on 7 November 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 to Chung Ivan Independent Environmental Checker



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EXECUTIVE SUMMARY

This is the 7th Monthly Environment Monitoring and Audit (EM&A) Report for Relocation of Diamon Hill Fresh Water and Salt Water Service Reservoirs to Caverns (the Project). This report was prepared by Acuity Sustainability Consulting Limited under Contract No. 21/WSD/21 (hereafter called "the Contract"). This report documents the findings of EM&A works during the reporting period from 1 October to 31 October 2023.

Key Construction Works in the Reporting Period

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

- Open trench for main laying and main laying;
- Jacking pit construction for pipe jacking;
- Trial pit excavation;
- Pipe piling for Portal Ancillary Building Excavation and Lateral Support (ELS) wall; and
- ELS works in Portion 3.

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:

EM&A Activities	Date
1-hour TSP Monitoring	5, 11, 17, 21 and 27 October 2023
Construction Noise Monitoring	5, 11, 17 and 27 October 2023
Weekly Environmental Site Inspection	6, 11, 20 and 27 October 2023

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

Breaches of Action and Limit Levels

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



Environmental Monitoring	Parameter	pro rela	f non- ject ated lances LL	Total no. of non-project related exceedances	No. exceed relate the pr AL	ances d to	Total no. of exceedances related to the project
Air Quality	1-hour TSP	0	0	0	0	0	0
Noise	Leq(30-min)	0	0	0	0	0	0

Table II Summary of Exceedance in the Reporting Period

Note:

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

Air Quality

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

Construction Noise

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

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

Complaint Log

No environmental complaint was received in the reporting period.

Notification of Summons and Successful Prosecutions

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

Reporting Change

There was no reporting change in the reporting period.

Future Key Construction Activities

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

- Open trench for main laying and main laying;
- Jacking pit construction for pipe jacking;
- Trial pit excavation;
- Pipe piling for Portal Ancillary Building Excavation and Lateral Support wall; and
- ELS works in Portion 3.



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.

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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 7th Monthly EM&A Report summarizing the key findings of the construction phase EM&A programme from 1 October to 31 October 2023 (the reporting period) and is submitted to fulfil the requirements in Condition 3.4 of EP-602/2021 and Section 13.3 of the EM&A Manual of the Project.

1.2 Construction Works Programme

- 1.2.1 The construction works of the Project was commenced on 31 March 2023. The construction works programme, and the location of construction works of the Project are shown in **Appendix A** and **Figure 1.1**, respectively. A summary of construction activities undertaken during the reporting period is presented below:
 - Open trench for main laying and main laying;
 - Jacking pit construction for pipe jacking;
 - Trial pit excavation;
 - Pipe piling for Portal Ancillary Building Excavation and Lateral Support wall; and
 - ELS works in Portion 3.

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	Status		
Fermit / License No.	From Expired On		Status	
Environmental Permit				
EP-602/2021	14/12/2021 -		Valid	
Notification Pursuant to Section Dust) Regulation	3(1) of the Air I	Pollution Contro	l (Construction	
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	
Construction Noise Permit				
GW-RE1015-23	01/09/2023	31/12/2023	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 (1st submission) The EPD's comments were issued on 8 Mar 2023 		

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EP Condition	Title of Submission	Submission Status
Condition		 The revised CNMP was submitted to the EPD for comment on 31 Jul 2023. The EPD issued further comments on 16 Aug 2023. The CNMP was further revised, certified by the ET Leader, verified by the IEC, and issued to the EPD on 22 Aug 2023. The revised CNMP was submitted to the EPD for comment on 15 Sept 2023. The EPD had no further comment on 5 Oct 2023.
2.13	Waste Management Plan (WMP)	 28 Feb 2023 (1st submission) The EPD's comments were issued on 3 Apr 2023. The revised WMP was submitted to the EPD for comment on 26 July 2023. The WMP was further updated and submitted to the EPD on 16 Aug 2023. The EPD had no further comment on 19 Sep 2023.
2.14	Landscape and Visual Mitigation Plan (LVMP)	 28 Feb 2022 (1st Submission) The EPD's comments were issued on 29 Mar 2023. The revised LVMP was certified by the ET Leader, verified by the IEC, and issued to the EPD on 22 Aug 2023. The EPD issued further comments on 11 Sep 2023.
3.3	Baseline Monitoring Report	 17 Mar 2023 (1st Submission) 27 Apr 2023 (2nd Submission) 1 June 2023 (3rd Submission) 13 July 2023 (Formal submission) 3 Aug 2023 (accepted by the EPD)
3.4	Monthly EM&A Report (September 2023)	17 October 2023

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EP Condition	Title of Submission	Submission Status		
4.2	Dedicated Internet Website	2 May 2023		

- 1.4.3 Following the EPD's comments on the Baseline Monitoring Report (Ref. No. BMR-3.1, dated 17 March 2023), updating of air quality and noise monitoring locations were proposed, including cancellation of noise monitoring station at Tower 1, Meridian Hill (NM-1), resumption of air quality and noise monitoring stations at Block 6, Tsui Chuk Garden (i.e. DM-4 and NM-4) and proposal of new noise monitoring locations at Wo Tin House, Shatin Pass Estate (NM-5) and Sheung Fung Street Customs Staff Quarter (NM-6).
- 1.4.4 Additional baseline monitoring for air quality monitoring station DM-4, and noise monitoring stations NM-4, NM-5 and NM-6 was carried out between 2 May and 16 May 2023. The Baseline Monitoring Report was updated with all baseline monitoring results included, certified by the ET Leader, and verified by the IEC on 30 May 2023. The updated Baseline Monitoring Report was submitted to the EPD on 1 June 2023. A minor comment was received from the EPD on 26 June 2023. Following the advice from the EPD, the Report was formally submitted to the EPD on 13 July 2023 after amendment. The Report was accepted by the EPD on 3 August 2023.

1.5 Brief Summary of EM&A Requirements

<u>Air Quality</u>

- 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 $L_{eq(30-min)}$ 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**.

ID	Description	Coordinates	
ID	Description	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

 Table 2.1
 Air Quality Monitoring Stations for Construction Phase

Notes:

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 was prepared by the ET for carrying out the impact monitoring. All equipment and associated instrumentation were clearly labelled.



- 2.3.3 Wind data were collected from the records of Hong Kong Observatory Kai Tak Wind Station (22.30966N, 114.21336E), which is located at the south-eastern side of runway of the former Kai Tak Airport about 4.5 km south-east from the project site.
- 2.3.4 Equipment used in the impact air quality monitoring programme is summarised in **Table 2.3.** Calibration certificates for the impact air quality monitoring equipment are attached in **Appendix E**.

Equipment	Brand and Model	Serial No.	Calibration Due Date
Direct Reading Dust	Sibata LD-5R	0Z4545	29/02/2024
		882106	29/02/2024
Meter		942532	29/02/2024

Table 2.3 Impact Air Quality Monitoring Equipment

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.

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

Table 2.4 Action and Limit Levels for 1-hour TSP



2.5 Results and Observation

- 2.5.1 The impact air quality monitoring was conducted on 5, 11, 17, 21 and 27 October 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.

Monitoring	TSP C	TSP Concentration, μg/m ³			Limit Loval
Station	Average	Minimum	Maximum	Level	Limit Level
DM-1	66	58	71	300.1	
DM-2	62	58	71	289.0	
DM-3	60	53	69	289.7	500
DM-4 ⁽¹⁾	63	59	68	294.9	
DM-4a	63	56	69	291.6	

 Table 2.5
 Summary of Impact 1-hour TSP Monitoring Results

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	5 Influencing Factors at/ near Air Quality Monitorin	g Stations
	·	8

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**.

ID	Description	Maagunamant	Coordinates	
ID	Description	Measurement	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 ⁽³⁾	Wo Tin House, Shatin Pass Estate	Façade	823360	838143
NM-6 ⁽³⁾	Sheung Fung Street Customs Staff Quarters	Free field	823134	838412

 Table 3.1 Noise Monitoring Stations during Construction Phase

Notes:

(1) (2)

(3)

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.
An additional noise monitoring station NM-4a was proposed by the ET and agreed by the ER, IEC and EPD.
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.
Main laying works near NM-5 and NM-6 were commenced in early September 2023. Noise monitoring at NM-5 and NM-6 was commenced on 7 September 2023.

3.2 Noise Monitoring Parameter, Frequency and Duration

- 3.2.1 Construction noise level was measured by the ET and measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq(30-min)}$ 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
Leq(30-min)	0700 and 1900 hours on normal weekdays	Once every week	Throughout the construction phase

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3.3 Monitoring Equipment, Methodology and QA / QC Procedure

- 3.3.1 As referred to the technical memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications were used for carrying out the construction noise monitoring.
- 3.3.2 Noise measurements were not made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed was checked with a portable wind speed meter capable of measuring the wind speed in m/s.
- 3.3.3 Sufficient number of noise measuring equipment and associated instrumentation 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 receiver building façade and set at a position 1.2 m above the ground. For free-field measurement, the monitoring station was set at a position 1.2 m above 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 $(L_{eq(30-\min)})$ would be determined for daytime noise by calculating the logarithmic average of six $L_{eq(5-\min)}$ 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 recalibration 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**.



Equipment	Model (Serial Number)	Calibration Due Date
Sound Level Meter	NTi-XL2 (A2A-13663-F0)	14/02/2024
Sound Level Meter	NTi-XL2 (A2A-09696-E0)	03/04/2024
Sound Calibrator	Rion NC 75 (35124530)	01/11/2023
Sound Calibrator	Rion NC 75 (34724245)	02/08/2024

Table 3.3 Construction Noise Monitoring Equipment

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 noncompliance of the criteria occur, action in accordance with the Event and Action Plan presented in **Appendix C** shall be carried out.

T	able 3.4	Action and	Limit Levels for	r Construction Noi	se Monitoring

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

Notes:

If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

* 70 dB(A) for school and 65 dB(A) during school examination period.

3.6 Results and Observations

- 3.6.1 The construction noise monitoring was conducted on 5, 11, 17 and 27 October 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 Level or Limit Level exceedance was recorded in the reporting period. Details of the results and graphical presentation are shown in **Appendix I**.



	Noi	se Level, dB	Limit Level	
Monitoring Station		Leq(30-min)	Limit Level	
Station	Mean	Minimum		
NM-2	69.3	65.6	70.8	75 dB(A)
NM-3	66.2	64.4	68.9	70/ 65 dB(A) ⁽¹⁾
NM-4 ⁽²⁾	64.6	61.8	66.1	75 dB(A)
NM-4a	71.7	69.4	72.8	75 dB(A)
NM-5 ⁽³⁾	66.9	64.2	68.8	75 dB(A)
NM-6 ⁽³⁾	73.0	69.9	75.2	75 dB(A)

Table 3.5 Summary of Construction Noise Monitoring Results

Note:

(1) 70 dB(A) for school and 65 dB(A) during school examination period.

(2) Impact monitoring at NM-4 was commenced on 22 May 2023.

(3) Impact monitoring at NM-5 and NM-6 was commenced on 7 September 2023.

- 3.6.3 Weather conditions during impact monitoring are presented in **Appendix I** and extracts of wind data recorded at Kai Tak Wind Station available from the Hong Kong Observatory are presented in **Appendix H**.
- 3.6.4 During the construction noise monitoring period, the influencing factors which may affect the results are summarized in **Table 3.6**.

Table 5.6 Influencing Factors at Noise Monitoring Stations											
Monitoring Stations	Influencing Factors										
NM-2	Road traffic noise, construction noise from 76 Broadcast Drive project										
NM-3	Road traffic noise										
NM-4	Road traffic noise										
NM-4a	Road traffic noise										
NM-5	Road traffic noise										
NM-6	Road traffic noise										

 Table 3.6 Influencing Factors at Noise Monitoring Stations



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**.

	Ac	tual Quantalitie	es of Inert C&l	D Materials Ge	nerated Month	ly	Actua	Actual Quantities of C&D Wastes Generated Monthly Actual Quantities of C&D Wastes Recycled										
Month	Total Quantity Generated	Broken Concrete (including rock for recycling into aggregates)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Chemical Waste	Others e.g., general refuse	Metals	Paper/ cardboard packaging	Plastics (bottles/ containers, plastic sheets/foa m 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)		
Oct 2023	0.06946	0.00000	0.00000	0.00000	0.06946	0.00000	0.00000	0.00000	0.00000	0.00000	0.01091	0.0057	0.01750	0.00960	0.00000	0.00000		

Table 4.1 Summary of Waste Generated in the Reporting Period

- 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 6, 11, 20 and 27 October 2023. Joint site inspection with the ER, the Contractor and the IEC was carried out on 11 October 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**.

Inspection Date	Key Observations / Reminders	Follow-up Action
6 Oct 2023	 The breaker tip should be covered with tarpaulin to prevent oil leakage. (Portion 3) (Observation) Potential oil leakage was observed from the breaker tip. The contractor was required to clear the oil stain on the ground and dispose the by- product as chemical waste. (Tsz Wan Shan Road) (Observation) The Contractor was reminded to cover the bore slope properly before the typhoon. (Portion 3) (Reminder) 	 The breaker tip was already covered with tarpaulin to prevent oil leakage. (Closed on 10 October 2023) Potential oil leakage was already cleared, and the breaker tip was covered with tarpaulin. (Closed on 10 October 2023) The bore slope was covered with tarpaulin properly. (Closed on 10 October 2023)
11 Oct 2023	1. The Contractor was reminded to align sandbags along the water barriers to prevent any silty surface runoff flowing away from the works area. (Tsz Wan Shan Road) (Reminder)	1. The sandbags were placed to prevent any silty surface runoff flowing away from the works area. (Closed on 13 October 2023)
20 Oct 2023	1. The Contractor was reminded to place the noise barriers properly. (Chuk Yuen Road) (Reminder)	1. The noise barriers were erected properly. (Closed on 20 October 2023)
27 Oct 2023	1. The Contractor was reminded to display the Environmental Permit at the site exit. (Portion 3) (Reminder)	1. The Environmental Permit was displayed at the site exit. (Closed on 27 October 2023)

Table 5.1 Summary of Site Inspection Observations and Recommendations

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



6. ENVIRONMENTAL NON-COMPLIANCE

6.1 Summary of Exceedance

- 6.1.1 No Action Level or Limit Level exceedance was recorded for 1-hour TSP monitoring in the reporting period.
- 6.1.2 No Action Level or Limit Level exceedance was recorded for construction noise monitoring in the reporting period.
- 6.1.3 Should the monitoring results of the environmental monitoring parameters at any designated monitoring stations indicate that the Action/ Limit Levels are exceeded, the actions in accordance with the Event and Action Plans in **Appendix C** would be carried out.

6.2 Summary of Environmental Non-Compliance

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

6.3 Summary of Environmental Complaint

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

6.4 Summary of Environmental Summon and Successful Prosecution

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



7. FUTURE KEY ISSUE

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

- 7.1.1 The construction programme for the Project for the next reporting period is presented in **Appendix A**.
- 7.1.2 Works to be undertaken in the next two months are summarized below:
 - Open trench for main laying and main laying;
 - Jacking pit construction for pipe jacking;
 - Trial pit excavation;
 - Pipe piling for Portal Ancillary Building Excavation and Lateral Support (ELS) wall; and
 - ELS works in Portion 3.
- 7.1.3 Potential environmental impacts arising from the above construction activities are mainly associated with construction dust impact, noise impact, water quality impact, waste management and landscape and visual.

7.2 Recommendation

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

<u>Dust</u>

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

Noise

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



Water Quality

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

Waste Management

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

Ecology

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

Landscape and Visual

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



8. CONCLUSION, COMMENTS AND RECOMMENDATION

8.1 Conclusion

- 8.1.1 This is the 7th Monthly EM&A Report presenting the EM&A works during the reporting period from 1 October 2023 to 31 October 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 6, 11, 20 and 27 October 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.

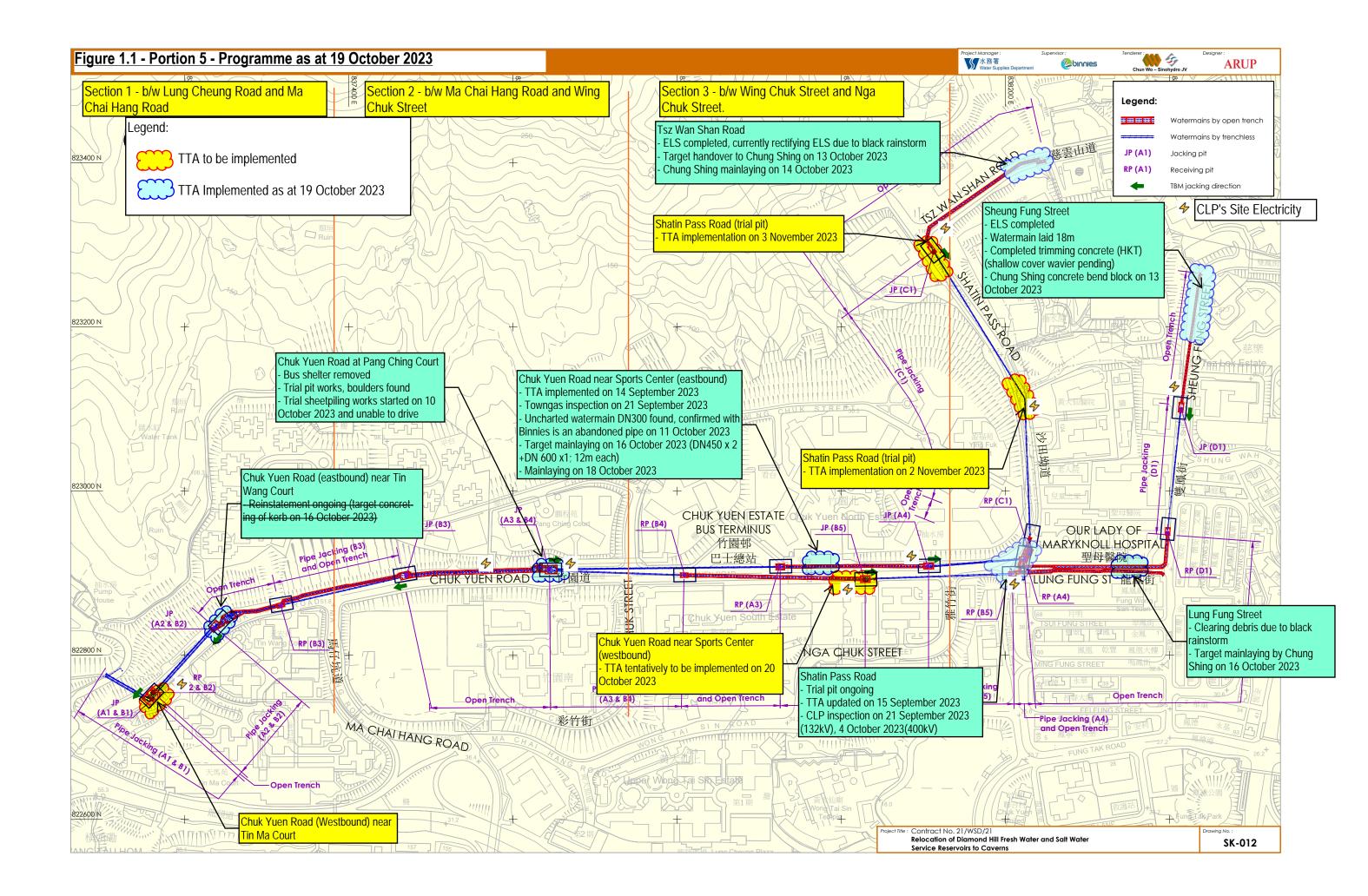
8.2 Comments and Recommendations

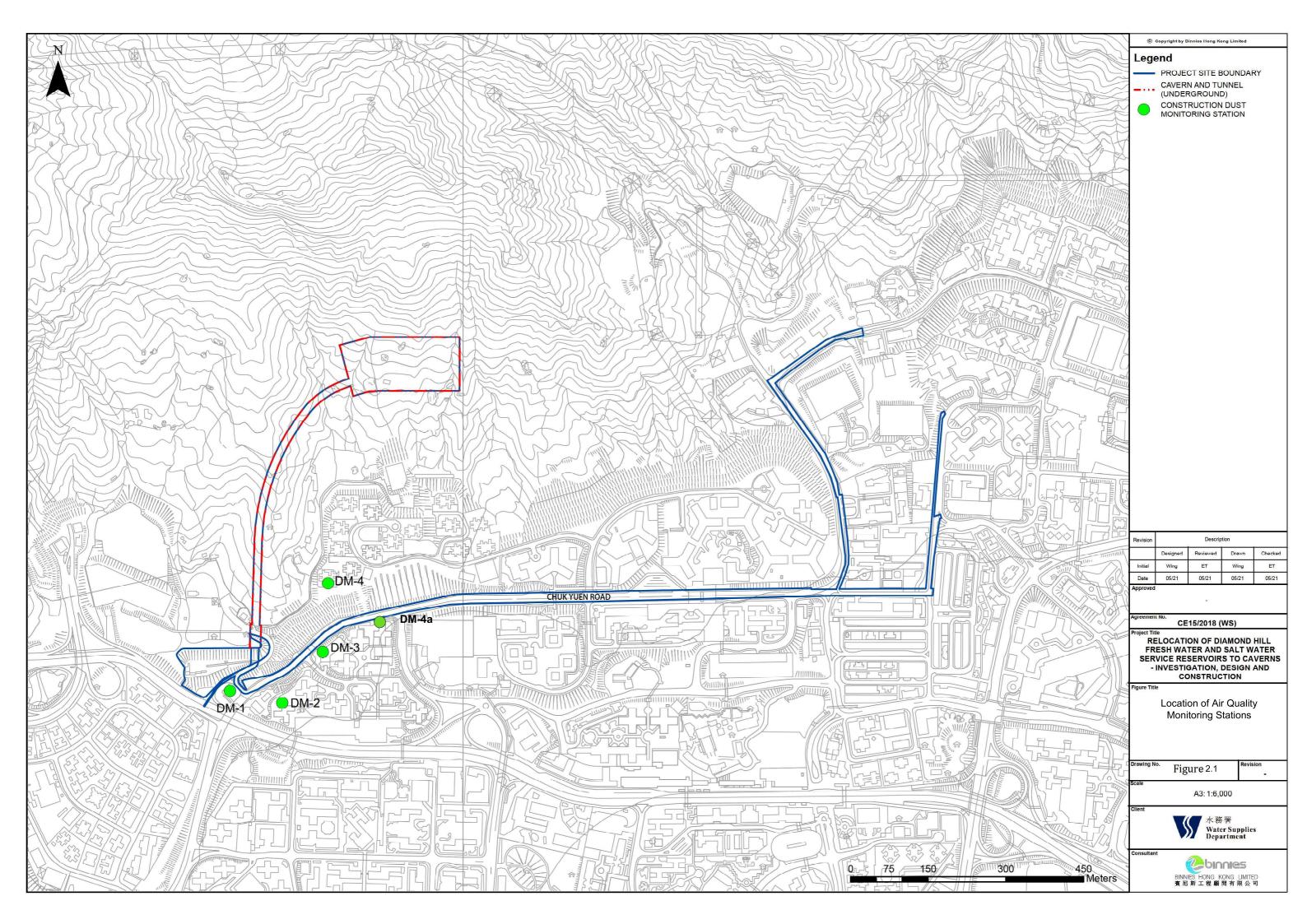
- 8.2.1 The proposed mitigation measures were properly implemented and were considered effective and efficient in pollution control.
- 8.2.2 The ET had no recommendation following the completion of EM&A in the reporting period.

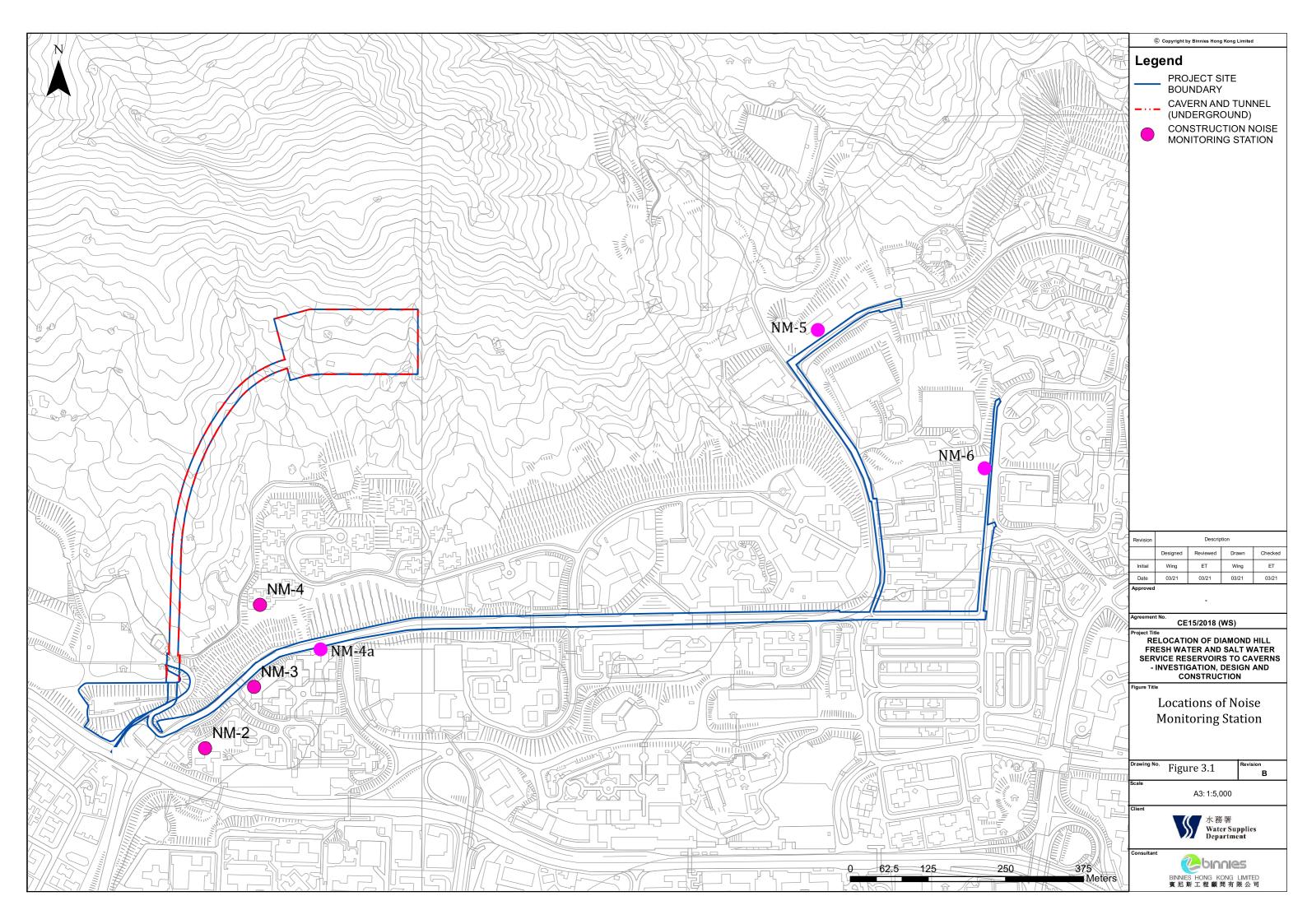


Figures

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Appendix A

Master Construction Pogramme for the Project

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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 1st Prog. Start | 1st Prog. Finish Start Finish Activity % Complete st Prog. Original Dur. Duration Float NDJFMAMJJASONDJFMA 12-Apr-27 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 0 Contract Date 1596 29-Nov-22 12-Apr-27 29-Nov-22 A 12-Apr-27 0 1596 CD-1000 Contract Date (CD) 100% 0 0 29-Nov-22 29-Nov-22 A Contract Date (CD) CD-1010 Starting date (SD, within 2weeks from the CD) 100% 09-Dec-22 09-Dec-22 A Starting date (SD, within 2weeks from 0 0 12-Apr-27 **Contract Completion Date** 0 0 12-Apr-27 12-Apr-27 12-Apr-27 0 KD-1000 12-Apr-27* Completion date for the whole of the works (1585d) 0% 12-Apr-27 0 0 0 Anticipated Completion Date 11-Apr-27 11-Apr-27 11-Apr-27 11-Apr-27 0 0 KD-2100 Planned Completion date for the whole of the works (1585d) 0% 0 11-Apr-27 11-Apr-27 0 1 09-Mar-23, Access Date 09-Dec-22 A 09-Mar-23 1316 Access Date 90 100 09-Dec-22 09-Mar-23 AD-1040 Portion 5 100% 09-Dec-22 09-Dec-22 A Portion 5 0 0 AD-1000 Portion 1 (90d after SD) 0% 09-Mar-23 09-Mar-23 15 Portion 1 (90d after SD) 0 0 09-Mar-23 AD-1010 Portion 2 (90d after SD) 09-Mar-23 1316 Portion 2 (90d after SD) 0% 0 0 AD-1020 Portion 3 (90d after SD) 0% 0 0 09-Mar-23 09-Mar-23 1 Portion 3 (90d after SD) 09-Mar-23 43 Portion 4 (90d after SD) AD-1030 Portion 4 (90d after SD) 09-Mar-23 0% 0 0 🕶 24-Oct-23, Su Sub-letting / Procurement 24-Oct-23 29-Nov-22 A 24-Oct-23 1026 267 267 29-Nov-22 🔻 24-Oct-23, Wo Works Sub-letting 267 29-Nov-22 24-Oct-23 29-Nov-22 A 24-Oct-23 1026 267 Subletting for Initial Survey Works (W 21.SUB.G.10000 Subletting for Initial Survey Works (WO001) 100% 29-Nov-22 A 30-Dec-22 A 0 18 Subletting for Temporary Supply of W 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 29-Nov-22 A 30-Dec-22 A Subletting for Temporary Supply of Ele Subletting for Temporary Supply of Electricity (WO003) 100% 0 18 Subletting for Construction of New S 21.SUB.G.10040 Subletting for Construction of New Shed and Miscellaneous Works (WO005) 18 124 70% 0 29-Nov-22 A 11-Jan-23 S-240 Subletting for Condition Survey, CCTV Inspection Survey Subletting for Condition 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 90 90 Subletting for Consultants incl. de 41.11% 29-Nov-22 26-Feb-23 09-Dec-22 A 26-Feb-23 0 21.SUB.G.10030 36 Subletting for Tree Survey Works (V Subletting for Tree Survey Works (WO004) 58.33% 0 09-Dec-22 A 21-Jan-23 24 Subletting for Traffic Consultancy Se 21.SUB.G.10050 36 385 Subletting for Traffic Consultancy Services Stage 1 (WO006) 58.33% 0 09-Dec-22 A 21-Jan-23 Subletting for Condition Survey & Pi 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 Subletting for UU Detection Works 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 Subletting for ICE Consultant - Ter Date 1st Programme Baseline 🔶 ♦ 1st Programme Baseline Milestone 1 of 27 12-Dec-22 First Programme Actual Work Milestone

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Critical Remaining Work

Summary

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etting for Temporary Supply of Electricity (WO003)					
letting for Construction of New Shed and Miscellaheous Works (WO005)					
Subletting for Condition Survey, CCTV Inspection Survey					
Subletting for Consultants incl. designer, ICE, Traffic consultant					
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First Programme					
Monthly Programme January 2023					

12-Jan-23

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

Monthly Programme January 2023

PRINE 15000 Subtrage CE Caradieri - weine (wODN) 909 90	ivity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration		1st Prog. Finish	Start	Finish	Total Float		2023 20 J J A S O N D J F M A M J
AnswerAnsw	21.SUB.G.10090	Subletting for ICE Consultant - Portion 4 (WO013)	50%	0	42			09-Dec-22 A	01-Feb-23	1242	Subletti	ng for ICE Consultant - Portio
111 <th< td=""><td>21.SUB.G.10100</td><td>Subletting for Design Consultant (WO014)</td><td>31.82%</td><td>0</td><td>66</td><td></td><td></td><td>09-Dec-22 A</td><td>01-Mar-23</td><td>1218</td><td>Suble</td><td>etting for Design Consultant (V</td></th<>	21.SUB.G.10100	Subletting for Design Consultant (WO014)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218	Suble	etting for Design Consultant (V
111 <th< td=""><td>21 SUB G 10110</td><td>Subletting for ICE Consultant - Civil & Structure (WO015)</td><td>50%</td><td>0</td><td>42</td><td></td><td></td><td>09-Dec-22 A</td><td>01-Feb-23</td><td>1101</td><td>Subletti</td><td>nd for ICE Consultant - Civil 8</td></th<>	21 SUB G 10110	Subletting for ICE Consultant - Civil & Structure (WO015)	50%	0	42			09-Dec-22 A	01-Feb-23	1101	Subletti	nd for ICE Consultant - Civil 8
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111 <th< td=""><td>21.SUB.G.10120</td><td>Subletting for Ground Investigation & Montioring Works (WO016)</td><td>31.82%</td><td>0</td><td>66</td><td></td><td></td><td>09-Dec-22 A</td><td>01-Mar-23</td><td>1218</td><td>μ Suble</td><td>tting for Ground Investigation</td></th<>	21.SUB.G.10120	Subletting for Ground Investigation & Montioring Works (WO016)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218	μ Suble	tting for Ground Investigation
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1 control1 control <td>21.SUB.G.10180</td> <td>Subletting for Landscape Softworks for Slope Works (SC0005)</td> <td>31.82%</td> <td>0</td> <td>66</td> <td></td> <td></td> <td>09-Dec-22 A</td> <td>01-Mar-23</td> <td>1218</td> <td>Suble</td> <td>tting for Landscape Softwork</td>	21.SUB.G.10180	Subletting for Landscape Softworks for Slope Works (SC0005)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218	Suble	tting for Landscape Softwork
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And S 10Proble for Designer for Allernative DesignNo.N	21.SUB.G.10200	Subletting for RC Works for PAB (SC0022)	29.17%	0	72			09-Dec-22 A	08-Mar-23	110	Suble	etting for RC Works for PAB (
A contractionA cont	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	Sut	bletting for Site Investigation V
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SeadSubleting for Foundation WorksSubleting for Foundation Wor	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		Subletting for Pipe Installatio
Contractor's Design Series	S-290	Subletting for MIC Fabrication	0%	110	90	29-Nov-22	18-Mar-23	29-Mar-23	26-Jun-23	1386		Subletting for MIC Fabrica
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International Approval for Cathodic Protection of WatermainsNo. </td <td>21.DES.PAB.10000</td> <td>Design submission and Approval for PAB ELS Works</td> <td>38.89%</td> <td>0</td> <td>54</td> <td></td> <td></td> <td>09-Dec-22 A</td> <td>15-Feb-23</td> <td>474</td> <td>Desigr</td> <td>h submission and Approval for</td>	21.DES.PAB.10000	Design submission and Approval for PAB ELS Works	38.89%	0	54			09-Dec-22 A	15-Feb-23	474	Desigr	h submission and Approval for
And the second	21.DES.PAB.10010	Design submission and Approval for Hoarding at PAB	55.56%	0	54			09-Dec-22 A	04-Feb-23	53	Design	submission and Approval for
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 Tunnel Alignment and Caverns (Alternative) 0% 150 150 27-Dec-22 25-May-23 02-Mar-23 29-Jul-23 1433 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 1433 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-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	🗖 Desig	n submission and Approval fo
Design submission and Approval for Tunnel Alignment and Cavern Layout (Alternative)0%606027-Dec-2224-Feb-2302-Mar-2330-Apr-231443D-1020Design submission and Approval for Lining for Tunnel and Caverns (Alternative)0%15015027-Dec-2225-May-2302-Mar-2329-Jul-231353D-1030Design submission and Approval for Lining for Portal Foundation (Alternative)0%15015027-Dec-2225-May-2302-Mar-2329-Jul-231353D-1030Design submission and Approval for Lining for Portal Foundation (Alternative)0%15015027-Dec-2225-May-2302-Mar-2329-Jul-231353	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		Design submission and App
D-1020Design submission and Approval for Lining for Tunnel and Caverns (Alternative)0%15015027-Dec-2225-May-2302-Mar-2329-Jul-231353D-1030Design submission and Approval for Lining for Portal Foundation (Alternative)0%15015027-Dec-2225-May-2302-Mar-2329-Jul-231353D-1030Design submission and Approval for Lining for Portal Foundation (Alternative)0%15015027-Dec-2225-May-2302-Mar-2329-Jul-231353	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		Design submission and A
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-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		Design submission and Appro
	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		Design submission and
D-1090 Design submission and Approval for Advance Treatment Works at Ma Chai Hang FWSR 0% 90 90 09-Mar-23 06-Jun-23 06-Jun-23 1226 Design sub	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		Design submission and
	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		Design submission and Ap
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	Actual Work	♦ Milestone										st Programme
Remaining Work Summary 12-Jan-23 Monthly Proc	Remaining W	ork Summary								12-Ja	n-23 Mo	onthly Programme Janu

Critical Remaining Work

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

y ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float N D J	2023 2024 2025 2026 2 FMAMJJJASONDJFMAMJJASONDJFMAMJJASONDJF
0-1070	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	Design submission and Approval for Tunnel Internal Civil Structure
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	Design submission and Approval for Overhead Ventilation Ducts
0-1050	Design submission and Approval for Architectual Works	0%	90	90	27-Feb-24	26-May-24	27-Feb-24	26-May-24	931	Design submission and Approval for Architectual Works
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	Design submission: and Approval for E&M systems incl. ventilation, li
or Reprovision of Strue	ctures		168	168	27-Feb-23	13-Aug-23	27-Feb-23	13-Aug-23	1338	▼ 13-Aug-23, For Reprovision of Structures
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	Design Works for Reprovision of Structures (AIP)
D-S1010	ICE Checking - AIP	0%	21	21	27-Mar-23	16-Apr-23	27-Mar-23	16-Apr-23	1338	LCE: Checking - AIP
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	Submission of Contractor Design (AIP) for PM's review
D-S1030	Seeking Approval from PM	0%	7	7	15-May-23	21-May-23	15-May-23	21-May-23	1338	Seeking Approval from PM
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	Design Works for Reprovision of Structures (DDA)
D-S1080	Submission and Approval for Foundation Design	0%	21	21	22-May-23	11-Jun-23	22-May-23	11-Jun-23	1401	📮 Submission and Approval for Foundation Design
D-S1050	ICE Checking - DDR	0%	21	21	19-Jun-23	09-Jul-23	19-Jun-23	09-Jul-23	1338	CE Checking - DDR
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	Submission of Contractor Design (DDR) for PM's review
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	E Seeking Approval from PM with comment revised
Contractor's Blasting As	ssessment Report (CBAR)		0	431			09-Mar-23	12-May-24	36	▼ 12-May-24; Contractor's Blasting Assessment Report (CBAR)
Contractor's Blasting A	ssessment Report (CBAR) - VAT Tunnel (Before MTR Vicinity) Vol.1		0	304			09-Mar-23	06-Jan-24	12	🔻 🗸 06-Jan-24, Contractor's Blasting Assessment Report (CBAR) - VAT Tunnel (Before M
21.CBA.VAT.10000	Preperation of CBAR - Vol.1	0%	0	150			09-Mar-23	05-Aug-23	1	Preperation of CBAR - Vol.1
21.CBA.VAT.10010	ICE Check on CBAR - Vol.1	0%	0	21			06-Aug-23	26-Aug-23	12	■ ICE Check on CBAR - Vol:1
21.CBA.VAT.10020	PM Comment on CBAR - Vol.1	0%	0	28			27-Aug-23	23-Sep-23	12	PM Comment on CBAR - Vol.1
21.CBA.VAT.10030	Incorporate PM Comment on CBAR - Vol.1	0%	0	14			24-Sep-23	07-Oct-23	12	Incorporate PM Comment on CBAR - Vol.1
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	□ Prepare & Submit to CoM, GEO, BD, Police & FSD CBAR - Vol.1
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	Review & Comments from CoM, GEO, BD, Police & FSD on CBAR - Vol.1
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	📮 Revise & Final Submission to CoM, GEO, BD, Police & FSD CBAR - Vol.1
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	🔲 Review & Approval from CoM, GEO, BD, Police & FSD on CBAR - Vol.1
Contractor's Blasting A	ssessment Report (CBAR) - VAT Tunnel & Caverns (From MTR Vicinity) Vol.2		0	401			08-Apr-23	12-May-24	36	▼ 12-May-24; Contractor's Blasting Assessment Report (CBAR) - VAT Tunne
21.CBA.VAT.10080	Preperation of CBAR - Vol.2	0%	0	240			08-Apr-23	03-Dec-23	2	Preperation of CBAR - Vol.2
21.CBA.VAT.10090	ICE Check on CBAR - Vol.2	0%	0	28			04-Dec-23	31-Dec-23	36	CE Check on CBAR- Vol,2
	ne Baseline 🔶 🔷 1st Programme Baseline Milestone					3 of 27			Date	Revision Checked Approve
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Critical Remaining Work

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

Monthly Programme January 2023

21.CBA.VAT.10100 21.CBA.VAT.10110	PM Comment on CBAR - Vol.2	0%	0	28		01-Jan-24		36			JJASONDJFMA PMC
21.CBA.VAT.10110						or barr 21	20-0411-24	50			
	Incorporate PM Comment on CBAR - Vol.2	0%	0	14		29-Jan-24	11-Feb-24	36			🛛 Incor
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			D Prep
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			🗖 R
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			.
asting Method Statem	ient (BMS)		0	371		06-Aug-23	10-Aug-24	2			•
lasting Method Stater	ment (BMS) - VAT Tunnel (Before MTR Vicinity) Vol.1		0	221		06-Aug-23	13-Mar-24	1			13
21.BMS.VAT.10000	Prepare & Submit to PM BMS Vol.1	0%	0	60		06-Aug-23	04-Oct-23	1			Prepare & Sub
21.BMS.VAT.10010	PM Review & Comment on BMS Vol.1	0%	0	21		05-Oct-23	25-Oct-23	1			PM Review &
21.BMS.VAT.10020	Incorporate PM comments & Submit to CoM BMS Vol.1	0%	0	14		26-Oct-23	08-Nov-23	1			Incorporate
21.BMS.VAT.10030	Review & Comments from CoM on BMS Vol.1	0%	0	28		09-Nov-23	06-Dec-23	1			📕 Review &
21.BMS.VAT.10040	Revise & Final Submission to CoM BMS Vol.1	0%	0	14		07-Dec-23	20-Dec-23	1			■ Revise &
21.BMS.VAT.10050	Review & Acceptance from CoM on BMS Vol.1	0%	0	28		21-Dec-23	17-Jan-24	1			🛑 Review
21.BMS.VAT.10060	Blasting Permit Application - VAT Tunnel (Before MTR Vicinity)	0%	0	14		18-Jan-24	31-Jan-24	1			Blastir
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			📕 Cor
21.BMS.VAT.10080	Site Inspection by CoM - VAT Tunnel (Before MTR Vicinity)	0%	0	7		29-Feb-24	06-Mar-24	1			I Site
21.BMS.VAT.10090	Issue fof Blasting Permit - VAT Tunnel (Before MTR Vicinity)	0%	0	7		07-Mar-24	13-Mar-24	1			I Iss
lasting Method Stater	ment (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			Pre
21.BMS.VAT.10110	PM Review & Comment on BMS Vol.2	0%	0	21		03-Mar-24	23-Mar-24	2			Pî
21.BMS.VAT.10120	Incorporate PM comments & Submit to CoM BMS Vol.2	0%	0	14		24-Mar-24	06-Apr-24	2			• 4
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			
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Critical Remaining Work

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are & Submit to CoM, GEO, BD, Police &	FSD CBAR - Vol 2	
view & Comments from CoM, GEO, BD, I	Police & FSD on C	BAR - Vol.2
evise & Final Submission to CoM, GEO, I	3D, Police & FSD (CBAR - Vol.2
Review & Approval from CoM, GEO, BD	, Police & FSD on	CBAR - Vol.2
10-Aug-24, Blasting Method State	ment (BMS)	
Mar-24, Blasting Method Statement (BMS) - VAT Tunnel (Be	fore MTR Vicinity) Vol.1
hit to PM BMS Vol.1		
Comment on BMS Vol.1		
M comments & Submit to CoM BMS Vol 1		
Comments from CoM on BM\$ Vol 1		
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& Acceptance from CoM on BMS Vol.1		
g Permit Application - VAT Tunnel (Before	MTR Vicinity)	
ments from CoM on Blasting Permit Applic	cation - VAI Iunne	ei (Betore IVI I R Vicinity)
Inspection by CoM- VAT Tunnel (Before	MTR Viçinity)	
e fof Blasting Permit - VAT Tunnel (Before		
e loi biasting reinit - vAn Tuninei (Beloie		
10-Aug-24, Blasting Method State	ment (BMS) _ \/AT	Tunnel & Coverns /(Fr
• TO-Aug-24, Dasuig Meulou State		Turinera Caverris (Fi
are & Submit to PM BMS Vol 2		
Review & Comment on BMS Vol.2		
corporate PM comments & Submit to Col		
Review & Comments from CoM on BMS	Vol2	
Revise & Final Submission to CoM BMS	Vol.2	
Review & Acceptance from CoM on B	MS Vol.2	
Blasting Permit Application - VAT Tun	nel & Caverns (Fro	om MTR Vicinity)
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💻 Comments from CoM on Blasting F	Permit Application -	VAT Tunnel & Caverns
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Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float		2023 F M A M J J A S O N D J F	2024 4 a M J J J A S O NI		2025	SQND			
21.BMS.VAT.10180	Site Inspection by CoM - VAT Tunnel & Caverns (From MTR Vicinity)	0%	0	7			28-Jul-24	03-Aug-24	2			Site Ins	pection by	CoM - VA	Tunnel 8	Caverns (Fro	m MTR Vic	inity)
21.BMS.VAT.10190	Issue fof Blasting Permit - VAT Tunnel & Caverns (From MTR Vicinity)	0%	0	7			04-Aug-24	10-Aug-24	2			I Issue fo	of Blasting	ı Permit - V	AT Tunnel	& Caverns (Fr	om MTR V	icinity)
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		▼ 28-Feb-23, Site Wide Pre-\	Vorks						
21.PRW.G.10000	Tree Survey at PAB Area	0%	0	15			26-Jan-23	11-Feb-23	24	Þ	Tree Survey at PAB Area							
21.PRW.G.10010	Topographic Survey at PAB Area	0%	0	12			26-Jan-23	08-Feb-23	298	Þ	Topographic Survey at PAB	\rea						
21.PRW.G.10020	Pre-Condition Survey Site Wide	0%	0	29			26-Jan-23	28-Feb-23	281		□ Pre-Condition Survey Site	Vide						
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	0	TTA Implementation for the e	xposed work of dia.	1400mm (pipe at Lior	Rock Roa	ad		
21.PRW.G.10050	UU Detection at PAB & Portion 5	0%	0	12			26-Jan-23	08-Feb-23	1208	Þ	UU Detection at PAB & Porti	μ ή 5						
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	D	Trial pit to exposed work of c	ia. 1400mmpipe at l	Lion Rock	Road				
Relocation of Transit Nu	rsey		202	175	09-Dec-22	28-Jun-23	09-Dec-22 A	28-Jun-23	1384	-	🗕 🕂 28-Jun-23, Reloc	ation of Transit Nurse	рy					
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	-	Liase with LCSD for facilities	elocation arrangem	ent					
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		□ Hoarding erection and Sit	e setup in Portion 4						
SW-RTN-1020	Access to Portion 4	0%	0	0	09-Mar-23		09-Mar-23		43	2	Access to Portion 4							
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		🔲 Civil construction work	s, e.g. water supply,	in Portion	4				
SW-RTN-1050	Relocation of Transit Nursery and other LCSD's facilities to Portion 4	0%	40	40	11-May-23	19-Jun-23	11-May-23	19-Jun-23	35		Relocation of Tran	sit Nursery and othe	r LCSD's í	faciltiies to F	Portion 4			
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		I Test and Commiss	ioning of water supp	oly and LC	SD's faciliti	es			
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		Handover Portion	4 to LCSD for its ma	anagemer	nt				
Ma Chai Hang Fresh Wa	ater Service Reservoir (MCHFWSR)		360	333	09-Dec-22	03-Dec-23	09-Dec-22 A	03-Dec-23	1226	-	↓ 03-De	e-23, Ma Chai Hang	g Fresh W	ater Servic	e Reservo	ir (MCHFWSF	¢)	
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		Liase with WSD for works	arrangement in MCH	HFWSR					
SW-P2-1010	Access to Portion 2	0%	0	0	09-Mar-23		09-Mar-23		1316		🕏 Access to Portion 2							
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		Groui	nd treatment works ir	n Portion 2	2				
Portal Ancillary Building			1245	1245	28-Jan-23	11-Apr-27	28-Jan-23	11-Apr-27	1									
Preparation Works & Si	ite Clearance		174	174	28-Jan-23	20-Jul-23	28-Jan-23	20-Jul-23	242	-	🗸 20-Jul-23, Prep	uration Works & Site	Clearan¢	e				
SW-PAB1000	XP and TTAApplication	0%	75	75	28-Jan-23	12-Apr-23	28-Jan-23	12-Apr-23	0		XP and TTAApplication							
SW-PAB1020	Tree Survey at Portion 3	0%	42	42	09-Mar-23	19-Apr-23	09-Mar-23	19-Apr-23	3		💻 Tree Survey at Portion	3						
SW-PAB1010	Access to Portion 3	0%	0	0	09-Mar-23		09-Mar-23		3		S Access to Portion 3							
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1st Programme	e Baseline 🔶 🔷 1st Programme Baseline Milestone					5 of 27				ate		Revision			(Checked	Appr	roved
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Remaining Wo	-								12-Jai	-23	Monthly Programme	January 2023						
Critical Remain	ning Work																	

Monthly Programme January 2023

ivity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 20 F M A M J J A S O N D J F M A M J
SW-PAB1030	Hoarding Erection and Site Setup	0%	10	10	13-Apr-23	22-Apr-23	13-Apr-23	22-Apr-23	0	Hoarding Erection and Site Set
SW-PAB1040	Tree Treatment and Site Clearance	0%	49	49	23-Apr-23	10-Jun-23	23-Apr-23	10-Jun-23	0	Tree Treatment and Site Cle
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	🔲 Survey, Trial pit, UU:deter
Foundation, Sub-Stru	icture 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	0%	2	2	07-Jun-23	08-Jun-23	07-Jun-23	08-Jun-23	293	I Implement TTA to shift Lion F
SW-PAB-2120	installation 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	E Removal of road pavemen
SW-PAB-2000	Construction of Concrete Block Wall and Form a Working Platform at +85mPD (7d+3d) (start	0%	10	10	20-Jun-23	03-Jul-23	20-Jun-23	03-Jul-23	28	Construction of Concrete
SW-PAB-2010	after 8no pipe pile by 1rig) 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	Soil Excavation for Southe
SW-PAB-2150	linstallation of Pipe Plile (273dia) along Lion Rock Road (Total: 53no.) (PR=1d/pile/rig) (2rigs)	0%	33	33	10-Jul-23	16-Aug-23	10-Jul-23	16-Aug-23	285	🔲 linstallation of Pipe Plile
	plus 1 wk for grouting									
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	Installation of King Post (
SW-PAB-2030	Installation of Plpe 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	Linstallation of Pipe Pile
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	Erection of Steel Plat
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	Plan
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	0 Plar
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	⊑ S
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	E E
Northern Side of PAB (LHS) (Zone 1)		570	570	17-Jun-23	20-May-25	17-Jun-23	20-May-25	201	v .
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	🖽 Installation of mini-pile for
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	Construction of RC foo
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	I Installation of Sheet Pile
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	Installation of Sheet Pile
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	Soil Excavation to reach
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	Soil Excavation and
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	Installation of Remai
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Actual Work	-								12-Dec-22	First Programme
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Remaining Work

Work

Summary

Critical Remaining Work

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Revision	Спескеа	Approved
First Programme		
Monthly Programme January 2023		

12-Jan-23

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y ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float		2023 2024 2025 MAMJJASONDJFMAMJJASONDJFMAMJJA	2026 2027 SIGNDULEMANULUASIONDULEM
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		Erection of Steel Platform for Bored Pile Construction	
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		Installation of Bored Pil	e on Steel Platform (Total: 7no) (PR=22d/pil
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		Pile Test @ Grid U-B	B((Total::7no.)
SW-PAB-3080	Removal of Steel Platform	0%	12	12	22-Nov-24	05-Dec-24	22-Nov-24	05-Dec-24	199		Removal of Steel P	afform
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		🔲 Soil Excavation t	o Formation Level and ELS Installation (Tota
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		Trim P	ile Head, Construction of Pile Cap @ Grid U
Southern Side of PAB			499	499	08-Aug-23	10-Apr-25	08-Aug-23	10-Apr-25	242		▼ 10-Api-25	5, Southern Side of PAB
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		☐ Installation of Sheet Pile (Total: 60m, 720m2) (PR≑40m	2/d/piler)
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		Construction of Concrete Block Wall and Forma Wo	rking Platform at +84mPD (26d + 6d)
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		Installation of Bored Pile on Workingl Platform	(Total: 3no) (PR=22d/pile/rig) (1 rigs)
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		Pile Test @ Grid U-BB (Total: 3no.)	
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		Removal of Platform and Concrete Block	
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		Construction of Retaining Wall RW	'1 and RW2 by Open Cut Method
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		Installation o	f Bored Pile on ground at FEL (Total: 3no) (F
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		Pile Test (@ Grid U-BB (Total: 3no.)
Structure Works			986	986	04-Aug-23	26-Nov-26	04-Aug-23	26-Nov-26	1		•	▼ 26-Nov
Building Structure - Gri	id No. U - BB		727	727	04-Aug-23	13-Jan-26	04-Aug-23	13-Jan-26	260		· · · · · · · · · · · · · · · · · · ·	▼ 13-Jan-26, Building Structure - 0
SW-PAB-S2000	Installation of Tower Crane	0%	5	5	04-Aug-23	09-Aug-23	04-Aug-23	09-Aug-23	354		Installation of Tower Crane	
SW-PAB-S3000	Commencement of Building Structure	0%	0	0	21-May-25		21-May-25		244		S Comm	encement of Building Structure
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		르 Cok	umn, Beam & Floor Slab @:Ground Floor +7
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			C Column and RC Wall @ above Ground F
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			RC Beam & Floor Slab @ First Floor +84.2
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			RC Column and RC Wall @ above First R
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			RC Beam & Floor Slab @ Roof +91.5r
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			📱 RC Column and RC Wall @ above R
SW-PAB-S3080	RC Stairs	0%	21	21	25-Oct-25	14-Nov-25	25-Oct-25	14-Nov-25	378			RC Stairs
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			☐ Roof Canopy @ +95.8mPD incl.sc
1 of Deserver	ne Baseline 🔷 🔷 1st Programme Baseline Milestone			-		7 of 07				Date	Revision	Checked Approved
Actual Work						7 of 27			12-De		First Programme	

1st Programme Baseline 🔷 🔷 1st Programme Baseline Milestone	7 of 27	Date	Revision
Actual Work Milestone		12-Dec-22	First Programme
Remaining Work Summary		12-Jan-23	Monthly Programme January 2023
Critical Remaining Work			

Salt Water Service Reservoirs to Cavern Monthly Programme January 2023

uilding Structure - Grid No. BB - I SW-PAB-S4000 Colun erection SW-PAB-S4010 RC Colum SW-PAB-S4020 RC Ba SW-PAB-S4030 RC Col SW-PAB-S4030 RC Col SW-PAB-S4050 RC Col SW-PAB-S4050 RC Col SW-PAB-S4050 RC Col SW-PAB-S4050 RC Col SW-PAB-S4060 Roof of SW-PAB-S4060 Roof of SW-PAB-S4080 Install SW-PAB-S4090 Water SW-PAB-S4090 Water SW-PAB-S4100 Comp BWF/ MEP/ FS/ Fitout Works or Grid No. U - BB S/F - Transformer Room & LV Sw SW-PAB-A5010 TR &L	nn, Beam & Floor Slab @ Ground Floor +78mPD (from Pile Cap @ +75mPD) incl. scaffold ion Column and RC Wall @ above Ground Floor ieam & Floor Slab @ First Floor +84.25mPD incl. scaffold erection Column and RC Wall @ above First Floor ieam & Floor Slab @ Roof +91.5mPD incl. scaffold erection Column and RC Wall @ above Roof Column and RC Wall @ above Roof itairs Canopy @ +95.8mPD incl. scaffold erection lation of Photovoltaic Panel rproofing works on roof plete RC Structure	0% 0% 0% 0% 0% 0% 0% 0% 0% 0%	18 256 35 26 35 26 35 26 35 21 21 18 0 595 409	18 256 35 26 35 26 35 26 35 21 21 18 0 595	27-Dec-25 16-Mar-26 16-Mar-26 20-Apr-26 16-May-26 20-Jun-26 20-Aug-26 20-Aug-26 20-Aug-26 20-Aug-26 03-Sep-26 09-Nov-26 25-Aug-25	13-Jan-26 26-Nov-26 19-Apr-26 15-May-26 19-Jun-26 19-Jul-26 19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26 11-Apr-27	27-Dec-25 16-Mar-26 16-Mar-26 20-Apr-26 16-May-26 20-Jun-26 20-Jun-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	13-Jan-26 26-Nov-26 19-Apr-26 15-May-26 19-Jun-26 19-Jun-26 19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	318 1	F M A M J J A S C			Waterproofing	
SW-PAB-S4000 Columerectic SW-PAB-S4010 RC Ca SW-PAB-S4020 RC Ba SW-PAB-S4030 RC Ca SW-PAB-S4040 RC Ba SW-PAB-S4050 RC Ca SW-PAB-S4060 Roof G SW-PAB-S4060 Roof G SW-PAB-S4080 Install SW-PAB-S4090 Water SW-PAB-S4100 Compa SW-PAB-S4100 Compa SW-PAB-S4100 Compa SW-PAB-S4100 Trp R SW-PAB-S4100 Trp R SW-PAB-S4100 Trp R	nn, Beam & Floor Slab @ Ground Floor +78mPD (from Pile Cap @ +75mPD) incl. scaffold ion Column and RC Wall @ above Ground Floor ieam & Floor Slab @ First Floor +84.25mPD incl. scaffold erection Column and RC Wall @ above First Floor ieam & Floor Slab @ Roof +91.5mPD incl. scaffold erection Column and RC Wall @ above Roof Column and RC Wall @ above Roof itairs Canopy @ +95.8mPD incl. scaffold erection lation of Photovoltaic Panel rproofing works on roof plete RC Structure	0% 0% 0% 0% 0% 0% 0%	35 26 35 26 35 26 35 14 21 21 21 21 18 18 18 0 0 595	35 26 35 26 35 14 21 21 18 18 18 0	16-Mar-26 20-Apr-26 16-May-26 20-Jun-26 20-Jun-26 20-Aug-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	19-Apr-26 15-May-26 19-Jun-26 15-Jul-26 19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26	16-Mar-26 20-Apr-26 16-May-26 20-Jun-26 16-Jul-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	19-Apr-26 15-May-26 19-Jun-26 19-Jun-26 15-Jul-26 02-Sep-26 09-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	1 1				RC C	In, Beam & Flo Column and R C Beam & Flo RC Column a RC Beam RC Beam RC Colum RC Stairs Rc Stairs Roof Ca
erection SW-PAB-S4010 RC CA SW-PAB-S4020 RC BA SW-PAB-S4030 RC CA SW-PAB-S4040 RC BA SW-PAB-S4050 RC CA SW-PAB-S4050 RC CA SW-PAB-S4070 RC SI SW-PAB-S4060 Roof (SW-PAB-S4060 Roof (SW-PAB-S4090 Water SW-PAB-S4090 Water SW-PAB-S4090 Comp SWF/ MEP/ FS/ Fitout Works or Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR & L	ion Column and RC Wall @ above Ground Floor learn & Floor Slab @ First Floor +84.25mPD incl. scaffold erection Column and RC Wall @ above First Floor learn & Floor Slab @ Roof +91.5mPD incl. scaffold erection Column and RC Wall @ above Roof Column and RC Wall @ above Roof itairs Canopy @ +95.8mPD incl. scaffold erection lation of Photovoltaic Panel rproofing works on roof plete RC Structure	0% 0% 0% 0% 0% 0% 0%	26 35 26 35 14 21 21 21 18 18 18 0 595	26 35 26 35 14 21 21 21 18 18 18 0	20-Apr-26 16-May-26 20-Jun-26 16-Jul-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	15-May-26 19-Jun-26 15-Jul-26 19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 23-Sep-26 28-Nov-26 26-Nov-26	20-Apr-26 16-May-26 20-Jun-26 16-Jul-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	15-May-26 19-Jun-26 15-Jul-26 19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	1 1 1 1 1 1 79 1 1 1 1 1 1				RC C	Column and R C Beam & Flor RC Column a RC Beam & RC Colum RC Stairs Roof Ca
SW-PAB-S4010 RC C SW-PAB-S4020 RC B SW-PAB-S4030 RC C SW-PAB-S4040 RC B SW-PAB-S4050 RC C SW-PAB-S4050 RC C SW-PAB-S4070 RC S SW-PAB-S4060 Roof (SW-PAB-S4060 Install SW-PAB-S4080 Install SW-PAB-S4090 Water SW-PAB-S4090 Comp BWF/ MEP/ FS/ Fitout Works or Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR & I	Column and RC Wall @ above Ground Floor Jeam & Floor Slab @ First Floor +84.25mPD incl. scaffold erection Column and RC Wall @ above First Floor Jeam & Floor Slab @ Roof +91.5mPD incl. scaffold erection Column and RC Wall @ above Roof Canopy @ +95.8mPD incl. scaffold erection Iation of Photovoltaic Panel rproofing works on roof plete RC Structure	0% 0% 0% 0% 0% 0%	35 26 35 14 21 21 21 18 18 18 0 595	35 26 35 14 21 21 21 18 18 18 0	16-May-26 20-Jun-26 16-Jul-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	19-Jun-26 15-Jul-26 19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 23-Sep-26 28-Nov-26 26-Nov-26 26-Nov-26	16-May-26 20-Jun-26 16-Jul-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	19-Jun-26 15-Jul-26 19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 23-Sep-26 28-Nov-26 26-Nov-26 26-Nov-26	1 1 1 1 79 1 1 1 1 1				P R	C Beam & Floc RC Column ar RC Beam 8 RC Colum RC Stairs Rc Stairs Roof Car
SW-PAB-S4030 RC Cd SW-PAB-S4040 RC Bd SW-PAB-S4050 RC Cd SW-PAB-S4050 RC Cd SW-PAB-S4070 RC Sd SW-PAB-S4060 Roof d SW-PAB-S4060 Install SW-PAB-S4080 Install SW-PAB-S4090 Water SW-PAB-S4100 Comp BWF/ MEP/ FS/ Fitout Works For Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR & I SW-PAB-A5020 TR & I	Column and RC Wall @ above First Floor Beam & Floor Slab @ Roof +91.5mPD incl. scaffold erection Column and RC Wall @ above Roof Catairs Canopy @ +95.8mPD incl. scaffold erection lation of Photovoltaic Panel rproofing works on roof plete RC Structure	0% 0% 0% 0% 0% 0%	26 35 14 21 21 18 18 18 0 595	26 35 14 21 21 18 18 0	20-Jun-26 16-Jul-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	15-Jul-26 19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	20-Jun-26 16-Jul-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	15-Jul-26 19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	1 1 1 79 1 1 1 1					RC Column a RC Beam 8 RC Colum RC Stairs Roof Ca Instal
SW-PAB-S4040 RC BA SW-PAB-S4050 RC CA SW-PAB-S4070 RC SA SW-PAB-S4060 Roof (SW-PAB-S4080 Install SW-PAB-S4090 Water SW-PAB-S4100 Comp BWF/ MEP/ FS/ Fitout Works or Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR &L SW-PAB-A5020 TR &L	team & Floor Slab @ Roof +91.5mPD incl. scaffold erection Column and RC Wall @ above Roof tairs Canopy @ +95.8mPD incl. scaffold erection lation of Photovoltaic Panel rproofing works on roof plete RC Structure	0% 0% 0% 0% 0%	35 14 21 21 18 18 18 0 595	35 14 21 21 18 18 0	16-Jul-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	16-Jul-26 20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	19-Aug-26 02-Sep-26 09-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	1 79 1 1 1 1					RC Beam & RC Colurr RC Stairs Roof Ca
SW-PAB-S4050 RC CA SW-PAB-S4070 RC SM SW-PAB-S4060 Roof of SW-PAB-S4080 Install SW-PAB-S4090 Water SW-PAB-S4100 Comp BWF/ MEP/ FS/ Fitout Works for Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR &L SW-PAB-A5020 TR &L	Column and RC Wall @ above Roof Stairs Canopy @ +95.8mPD incl. scaffold erection lation of Photovoltaic Panel rproofing works on roof plete RC Structure	0% 0% 0% 0%	14 21 21 18 18 0 595	14 21 21 18 18 0	20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	02-Sep-26 09-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	20-Aug-26 20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	02-Sep-26 09-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	1 79 1 1 1 1					 RC Colum RC Stairs Roof Car Instal
SW-PAB-S4070 RC SI SW-PAB-S4060 Roof (SW-PAB-S4080 Install SW-PAB-S4090 Water SW-PAB-S4100 Comp BWF/ MEP/ FS/ Fitout Works For Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR &L SW-PAB-A5020 TR &L	tairs Canopy @ +95.8mPD incl. scaffold erection lation of Photovoltaic Panel rproofing works on roof plete RC Structure	0% 0% 0%	21 21 18 18 0 595	21 21 18 18 0	20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	09-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	20-Aug-26 03-Sep-26 22-Oct-26 09-Nov-26	09-Sep-26 23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	79 1 1 1					 RC Stairs Roof Car Instal
SW-PAB-S4060 Roof of SW-PAB-S4080 Install SW-PAB-S4090 Water SW-PAB-S4100 Comp BWF/ MEP/ FS/ Fitout Works For Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR &L SW-PAB-A5020 TR &L	Canopy @ +95.8mPD incl. scaffold erection lation of Photovoltaic Panel rproofing works on roof plete RC Structure	0% 0% 0%	21 18 18 0 595	21 18 18 0	03-Sep-26 22-Oct-26 09-Nov-26	23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26	03-Sep-26 22-Oct-26 09-Nov-26	23-Sep-26 08-Nov-26 26-Nov-26 26-Nov-26						Roof Car
SW-PAB-S4080 Install SW-PAB-S4090 Water SW-PAB-S4100 Comp ABWF/ MEP/ FS/ Fitout Works For Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR &L SW-PAB-A5020 TR &L	lation of Photovoltaic Panel rproofing works on roof plete RC Structure	0%	18 18 0 595	18 18 18 0	22-Oct-26 09-Nov-26	08-Nov-26 26-Nov-26 26-Nov-26	22-Oct-26 09-Nov-26	08-Nov-26 26-Nov-26 26-Nov-26	1					📕 Install
SW-PAB-S4090 Water SW-PAB-S4100 Comp BWF/ MEP/ FS/ Fitout Works For Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR &L SW-PAB-A5020 TR &L	rproofing works on roof plete RC Structure	0%	18 0 595	18 0	09-Nov-26	26-Nov-26 26-Nov-26	09-Nov-26	26-Nov-26 26-Nov-26	1					
SW-PAB-S4100 Comp BWF/ MEP/ FS/ Fitout Works For Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR &I SW-PAB-A5020 TR &I	plete RC Structure		0	0		26-Nov-26		26-Nov-26				 		∎ Wat
BWF/ MEP/ FS/ Fitout Works For Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR &L SW-PAB-A5020 TR &L		0%	595		25-Aug-25		25 <u>-</u> Δug-25		1					
For Grid No. U - BB G/F - Transformer Room & LV Sw SW-PAB-A5010 TR &L SW-PAB-A5020 TR &L	vitch Room			595	25-Aug-25	11-Apr-27	25 - Aug-25							🕏 Cor
G/F - Transformer Room & LV Sw SW-PAB-A5010 TR &I SW-PAB-A5020 TR &I	vitch Room		409				20-Aug-20	11-Apr-27	1					
SW-PAB-A5010 TR & SW-PAB-A5020 TR &	vitch Room			409	25-Aug-25	07-Oct-26	25-Aug-25	07-Oct-26	78					• 07-Oct-
SW-PAB-A5020 TR &	Non Noom		409	409	25-Aug-25	07-Oct-26	25-Aug-25	07-Oct-26	48					 07-Oct-
	LVSR - Falsework Removal/ Preparation for ABWF & MEP Works	0%	35	35	25-Aug-25	28-Sep-25	25-Aug-25	28-Sep-25	268		 	 🔲 TR &L\	//SR - Falsewor	k Removal/ Pr
SW-PAB-A5030 TR &	LVSR - ABWF Deg1 - Deg3	0%	38	38	29-Sep-25	05-Nov-25	29-Sep-25	05-Nov-25	268			🔲 TR (&LVSR-ABWF	Deg1 - Deg3
	LVSR - BS 1st Fix - 3rd Fix	0%	38	38	13-Oct-25	19-Nov-25	13-Oct-25	19-Nov-25	268			📮 TR	&LVSR - B\$ 1	st:Fix - 3rd Fix
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			□ TF	R &LVSR - CLP	'Inspection an
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				🔲 TR &LVSR	२ - Installation c
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			 		📮 TR &LV
SW-PAB-A5070 TR &	LVSR - Power-on Date	0%	0	0		07-Oct-26		07-Oct-26	48					🕏 TR &LV
1/F - Genset Room			152	152	25-Oct-25	25-Mar-26	25-Oct-25	25-Mar-26	244				₩₩ 25-Mar-2	26, 1/F - Gense
SW-PAB-A5110 Gens	et Rm - Falsework Removal/ Preparation for ABWF & MEP Works	0%	35	35	25-Oct-25	28-Nov-25	25-Oct-25	28-Nov-25	244			📮 Ge	enset Rm - Fals	ework Remov
SW-PAB-A5120 Gense	et Rm - Concrete Plinth, Waterproofing & Test	0%	12	12	29-Nov-25	10-Dec-25	29-Nov-25	10-Dec-25	244			G	enset Rm - Co	ncrete Plinth, N
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				Floor Screedin	ıg, Wall Plaste
]	1	J	Date		 Revision		hecked	Approve
 1st Programme Baseli Actual Work 	ine 🔷 🔷 1st Programme Baseline Milestone					3 of 27			1 1010				HECKEU	

Critical Remaining Work

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern Monthly Programme January 2023

				Mon	niy Program		19 2020				
Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	. Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float N	2023 2024 2025 VDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFM/	2026 2027
SW-PAB-A5140	MEP Works	0%	28	28	08-Jan-26	04-Feb-26	08-Jan-26	04-Feb-26		ME	P Works
SW-PAB-A5150	Move-In Generator Equipments	0%	7	7	05-Feb-26	11-Feb-26	05-Feb-26	11-Feb-26	244	II Ma	we-In Generator Equipments
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	e e e e e e e e e e e e e e e e e e e	nal Coat to Wall & Sealer to Fig
SW-PAB-A5170	Install Generator Equipments & Testing	0%	28	28	26-Feb-26	25-Mar-26	26-Feb-26	25-Mar-26	244		Install Generator Equipments
Other Rooms			187	187	25-Aug-25	27-Feb-26	25-Aug-25	27-Feb-26	300	√ <i>− − − ℓ 2</i>	7-Feb-26, Other Rooms
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	☐ G/F - Falsew	ork Removal/ Preparation for A
SW-PAB-A5220	G/F - ABWF Deg1 - Deg3	0%	70	70	06-Oct-25	14-Dec-25	06-Oct-25	14-Dec-25	361	G/F-A	BWF Deg1 - Deg3
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	G/F-,E	3S 1st Fix - 3rd Fix
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		sework Removal/Preparation
SW-PAB-A5250	1/F - ABWF Deg1 - Deg3	0%	70	70	06-Dec-25	13-Feb-26	06-Dec-25	13-Feb-26	300	1/F	- ABWF Deg1 - Deg3
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	1	/F - B\$ 1st Fix - 3rd Fix
For Grid No. BB - EE			187	187	20-Jun-26	23-Dec-26	20-Jun-26	23-Dec-26	1		▼ 23-Dec-2
G/F - FS Water Tank & I	FS Pump Room		129	129	20-Jun-26	26-Oct-26	20-Jun-26	26-Oct-26	29		▼
		0%		05	00 hm 00						🔲 FS Water Tank & Pu
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		🖡 FS Water Tank & Pi
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		■ FS Water Tank & F
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		📮 FS Water Tank 8
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		FS Water Tar
SW-PAB-A6060	FS Water Tank & Pump Rm - Install Cat Ladder & Hatch Cover	0%	10	10	17-Oct-26		17-Oct-26	26-Oct-26	29		□ FSWater Tar
Other Rooms			187	187	20-Jun-26	23-Dec-26	20-Jun-26	23-Dec-26	1		▼ 23-Dec-2
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		🔲 G/F - Falsework Rer
SW-PAB-A6120	G/F - ABWF Deg1 - Deg3	0%	70	70	01-Aug-26	09-Oct-26	01-Aug-26	09-Oct-26	62		G/F - ABWF D
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		G/F - B\$ 1st F
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		💻 1/F - Falsework
SW-PAB-A6150	1/F - ABWF Deg1 - Deg3	0%	70	70	01-Oct-26	09-Dec-26	01-Oct-26	09-Dec-26			1/F÷ABW
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		1/F - BS
External Works			197	197	08-Sep-26	23-Mar-27	08-Sep-26	23-Mar-27	20		- 23
II											
1st Programm	e Baseline 💠 🔷 1st Programme Baseline Milestone				9	9 of 27				Revision Check	ed Approved
Actual Work	♦ Milestone								12-Dec-		
Remaining Wo	-								12-Jan-2	-23 Monthly Programme January 2023	
Critical Remain	ning Work										

						nme Januar											
Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	NDJFM	2023 AMJJASO	NDJFM	2024 1 A M J J <i>J</i>	ASOND	2025 J F M A M J J A	202 A S O N D J F M A M J S	
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								Undergro
SW-PAB-E1010	Backfilling to Ground Level	0%	30	30	23-Oct-26	21-Nov-26	23-Oct-26	21-Nov-26	20								📮 Backfilling to
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								🛿 Site prepa
SW-PAB-E1030	Extenal wall plastering/ painting works	0%	24	24	06-Dec-26	29-Dec-26	06-Dec-26	29-Dec-26	80								🖵 Extenal
SW-PAB-E1040	Extenral wall tiles	0%	24	24	06-Dec-26	29-Dec-26	06-Dec-26	29-Dec-26	20								🗳 Extenral
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				I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I			1 1 <th>📮 Instali I</th>	📮 Instali I
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								🖵 Install
SW-PAB-E1070	Construction of vehicular road	0%	45	45	23-Jan-27	08-Mar-27	23-Jan-27	08-Mar-27	35								Co
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							1 1 <th>\$ C</th>	\$ C
Testing and Commision			97	97		28-Feb-27	24-Nov-26	28-Feb-27								1 1 <th>▼ 28-</th>	▼ 28-
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								1A-West
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								1A-
			219	219		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								Construction c
A1030	Tree Transplant near Gabion Wall	0%	60	60	19-Sep-26	17-Nov-26	19-Sep-26	17-Nov-26	132								💻 Tree Trans
A1040	Installation of Landscape Fence	0%	14	14	18-Nov-26	01-Dec-26	18-Nov-26	01-Dec-26	132								Installation
A1050	Architectural Roof hardwork	0%	120	120	27-Nov-26	26-Mar-27	27-Nov-26	26-Mar-27	17								A .
A1060	Architectural Roof softwork and Tree transplant	0%	60	60	27-Dec-26		27-Dec-26	24-Feb-27	47								Arct
Statutory Approval & Ir	ispection		156	156	07-Nov-26	11-Apr-27	07-Nov-26	11-Apr-27	1								Y
WSD Inspection			114	114	07-Nov-26	28-Feb-27	07-Nov-26	28-Feb-27	1				I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I I			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <th>28-1</th>	28-1
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								💻 Submit W
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								💻 Submit W
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								Linspec
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								Inspe
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								Issu
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								ISSL
1st Program	ne Baseline 🔶 🔷 1st Programme Baseline Milestone				4	0 of 27			D	Date			Revis	sion		Checked	Approved
Actual Work	-				1				12-Dec		First Progra	mme					····
Remaining V									12-Jan		Monthly Pro		January	2023			
Critical Rema											. ,		,			I	

				<u>0a</u>			nme Janua																
Activ	ty ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float					FIMIAIN	2024 JJASO		2025 Mamuu			2026 MULLAS		2027
	SW-PAB-8030	Obtain WWO 46 Part V (PD) by WSD	0%	0	0		19-Feb-27		19-Feb-27	10						33730							S Obta
	SW-PAB-7030	Obtain WWO 46 Part V (FS) by WSD	0%	0	0		28-Feb-27		28-Feb-27	1													🕏 Obt
	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													Submit F
	SW-PAB-9010	FS Inspection and Re-inspection	0%	28	28	01-Mar-27	28-Mar-27	01-Mar-27	28-Mar-27	1													E F
	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	-												▼ 15-Jan
I	Tunnel Works CH 3 - 40	0 by Cut and Cover Method		476	476	09-Mar-23	15-Oct-24	09-Mar-23	15-Oct-24	655	-					•	15-Oct-2	4, Tunnel V	/orks CH :	3 - 40 by Cu	it and Cove	er Metho	bc
	Preliminary Works			77	77	09-Mar-23	24-May-23	09-Mar-23	24-May-23	0	-		24-May-2	3, Prelim	inary W	orks							
	SW-VAT-1000	Access to Portion 1	0%	0	0	09-Mar-23		09-Mar-23		15	\$	Acces	s to Portic	n 1									
	SW-VAT-1010	Tree Survey at Portion 1	0%	30	30	09-Mar-23	07-Apr-23	09-Mar-23	07-Apr-23	15		Tree	Survey	at Portior	n'1								
	SW-VAT-1020	Hoarding Erection and Site Setup	0%	10	10	13-Apr-23	22-Apr-23	13-Apr-23	22-Apr-23	0		I Ho	arding Er	ection ar	nd Site S	Setup							
	SW-VAT-1030	Tree Treatment and Site Clearance	0%	28	28	23-Apr-23	20-May-23	23-Apr-23	20-May-23	0		٦ 💻	Free Trea	tment an	nd Site C	learance							
	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			Survey, T	rial pit, Ul	Udetec	ion, Conditio	n survey						
	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		-		▼ 11-No	ov-23, S	tage 1 & 2 - I	ELS wor	ks; CH3 -27	, at Zone0	(up to exist	ng kerb lin	e of Lior	1 Rock Ro
	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			linstal	ation of F	Pipe Pile	(Total: 34no) (PR=2.	5d/pile/rig) (2 rigs)				
	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			I Insta	lation of I	King Po	st (Total: 4no) (PR=2.	5d/pile/rig) (2 rigs)				
	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			E Soil I	Excavatio	on for Te	mporary Ste	el Platfor	m (Total:878	3m3) (PR=	180m3/d)			
	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			📕 Ere	ction of	Tempora	ary Steel Plat	form for	Fraffic Divers	sion				
	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			E	rection o	f Tempo	rary Steel Pla	atform foi	Bored Pile	Construct	on support	with King F	Post	
	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				Soil E	xcavatio	on for C&C T	unnel (To	otal: 6460m	3) (PR≑18	0m3/d)			
	Stage 3 - ELS works, CH2	27 -40, at ZoneA		67	67	19-Aug-23	08-Nov-23	19-Aug-23	08-Nov-23	0			V	▼ 08-No	ov-23, S	tage 3 - ELS	works, C	CH27 -40, a	ZoneA				
	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			I Div	ert the T	raffic on	to the Tempo	orary Ste	el Platform to	o ma'intain	access to L	ion Rock F	?ark anc	IDSD-T
	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			L Co	onstructio	on of Co	ncrete Block	Walland	l Form Work	ing Platfor	m at +89mF	D (3d+3d))	
	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		+ + - ·	T I	rial Trenc	xh, UU c	etection and	diversior	1					
	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				Installa	tion of F	ipe Pile (Tota	al: 15no)	(PR=2.5d/p	ile/rig) (1 ri	gs)			
							4 (07				Date	1				Revision				Checke	d	Approv	ved
	Actual Work	e Baseline 🔶 🔷 1st Programme Baseline Milestone Ist Programme Baseline Milestone				1	1 of 27			12-De		First	t Progra	mme						0.10010		- 7910	
	Remaining Wo									12-Jar		_			ne Jar	uary 2023	3						
	Critical Remain	,																	•				

Salt Water Service Reservoirs to Cavern

ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026 20 DJFMAMJJJASONDJFMAMJJASONDJFMAMJJASONDJF
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	Construction of Temporary Steel Platform at Zone A for Traffic Diversion
Stage 4 & 5 - ELS works	s, CH27 -40, at ZoneB		110	110	09-Nov-23	21-Mar-24	09-Nov-23	21-Mar-24	0	. 21-Mar-24, Stage 4 & 5 - EL\$ works, CH27 -40; at ZoneВ
SW-VAT-1300	Divert the Traffic onto the Temporary Steel Platform to maintain access to Lion Rock Park and	0%	3	3	09-Nov-23	11-Nov-23	09-Nov-23	11-Nov-23	0	${f I}$; Divert the Traffic onto the Temporary;Steel Platform to maintain a coess to Lion Rock; Park an
SW-VAT-1300a	DSD - TTA2 Trial Trench, UU detection and diversion	0%	6	6	13-Nov-23	18-Nov-23	13-Nov-23	18-Nov-23	0	I Trial Trench, UU detection and diversion
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	. Installation of Pipe Pile (Total: 12no):(PR≑2:5d/pile/rig) (1 rigs)
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	Construction of Temporary Steel Platform at:Zone B for Traffic Diversion
SW-VAT-1330	Divert the Traffic onto the Temporary Steel Platform to maintain access to Lion Rock Park and	0%	3	3	09-Jan-24	11-Jan-24	09-Jan-24	11-Jan-24	0	I :Divert the Traffic onto the Témpo rary:Steel Platform to maintain a coess to Lion Rock F
SW-VAT-1340	DSD - TTA3 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	Remaining Soil:Excavation:for C&C Tunnel:(Total: 5870m3):(PR=200m3/d) + 2
Structure Works			167	167	22-Mar-24	15-Oct-24	22-Mar-24	15-Oct-24	655	v 15-Oct-24, Structure Works
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	Construction of blinding, waterproofing layer and base slab (Total: 792m3, 81
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	Construction of temporary wall, waterproofing layer and wall (Total: 960r
SW-VAT-1520	Erection of working platform	0%	21	21	22-Jun-24	17-Jul-24	22-Jun-24	17-Jul-24	639	Erection of working platform
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	Construction of top slab (Total: 792m3, 4bays(10x16:5), PR = 12d/t
SW-VAT-1540	Backfilling to existing level	0%	30	30	15-Aug-24	13-Sep-24	15-Aug-24	13-Sep-24	786	Backfilling to existing level
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	Removal of temporary steel platform (staged TTA)
SW-VAT-1560	Reinstatement of road (staged TTA)	0%	32	32	14-Sep-24	15-Oct-24	14-Sep-24	15-Oct-24	805	Reinstatement of road (staged TTA)
unnel 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	▼ 15-Mar-26, Tunnel Wol
SW-VAT-2000	Opening of Pipe Pile Wall, Portal construction and site setup	0%	50	50	01-Mar-24	19-Apr-24	01-Mar-24	19-Apr-24	0	Dpening of Pipe Pile Wall, Portal construction and site setup
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	Tunnelling works for vehicular access tunnel, T1+l by mech. b
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	Tunnelling works for vehicular access tunnel, T2-III by Drill
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	Tunnelling works for vehicular access tunnel, T1-II by me
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	Tunnelling works for vehicular access tunne
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	Tunnelling works for vehicular ac
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	Turin elling works for Caverns 1 by
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	Tuhrielling works for Caverns 3
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	Tunhelling works for Caverr
W-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	Tunn elling works for Caver
- 1 of Drogrammer	e Baseline 🔷 🔷 1st Programme Baseline Milestone					12 of 27			Date	te Revision Checked Approve
									Duit	

Critical Remaining Work

Salt Water Service Reservoirs to Cavern

Monthly Programme January 2023

				Mont	hly Progran	nme Janua	ry 2023																
ctivity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float			2023			2024			25			2026		2027 D J F M A
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		JFMA			JFMA		ABUN	DJF	JAS					or Cavern
Remaining Works			868	868	31-Aug-24	15-Jan-27	31-Aug-24	15-Jan-27	87							•		 					- ▼ 15-Ja
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											Constru	iction of	shotcret	e (min 10ı
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] [CH4	0+571] C	onstruc	tion of dra
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												[CH40-	71] Cor	nstruction
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													— [Cł	140-776]
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									 			 [0	H571-7	'7'6] Cons
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											F			571-776] (
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											ſ] [CH40-
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														🗕 Instal
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														Constr
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									 					🗕 Instal
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										E Cav	erns 1-	Constru	iction of	Shotcrete
SW-C1-1000	Caverns 1 - Completion of Tunnel Works	0%	0	0		18-Oct-25		18-Oct-25	0										💲 Cave	ns 1 - C	ompletic	n of Tur	nnel Work
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											Caverns	s 1 - Coi	Istructio	n of Cave
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									 		📕 Cav	verns 1	Waterp	roofing sy
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												Cavern	s 1 - Cor	nstruction
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											=	💻 Ca	verns 1 -	- Construc
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											Ē		averns	1 - Consti
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												-	Cavern	ıs 1 - Con
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									 				💻 Ca	iverns 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														📕 Cave
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 Switcboard Room	0%	0	0		12-Dec-26		12-Dec-26	1													1	Cavern
SW-C1-1120	Caverns 1 - CLP installation works in Transformer Room and Switcboard Room	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	1														💻 Ca
SW-C1-1130	Caverns 1 - Testing and Commissioning	0%	90	90	12-Jan-27	11-Apr-27	12-Jan-27	11-Apr-27	1									 					
		,			,			,	·	D-+	<u> </u>				D '			 		<u></u>		Δ	
•	me Baseline 🔶 1st Programme Baseline Milestone				1	3 of 27			12-De	Date		irst Pro	nramm	<u>م</u>	Rev	1510[1				hecke		Appr	oved
Actual Work									12-De			fonthly	-		anuan	12023							
Remaining W	2								12-00	u 1-20	I'	ioriuliy	, iogia		anuar	, 2020							
Critical Rema	ining Work																						

Salt Water Service Reservoirs to Cavern

				Mont	hly Progran	nme Janua	ry 2023			
Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026 2027 JFMAMJJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFM
Caverns 2 - Salt Wate	er Service Reservoir No 2		390	390	12-Dec-25	11-Apr-27	12-Dec-25	11-Apr-27		JE MAMJJASONDJE MAMJJASONDJE MAMJJASONDJE MAMJJASONDJE M
SW-C2-1010	Caverns 2 - Construction of Shotcrete	0%	54	54	12-Dec-25	20-Feb-26	12-Dec-25	20-Feb-26	2	Caverns 2 - Construction of S
SW-C2-1000	Caverns 2 - Completion of Tunnel Works	0%	0	0		19-Jan-26		19-Jan-26	2	🕏 Caverns 2 - Completion of Tunr
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	Caverns 2 - Construction
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	Caverns 2 - Waterpr
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	Caverns 2 - Cons
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	💻 Caverris 2 - C
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	Caverns 2
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	💻 Caverns 2 -
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	Caverns
SW-C2-1090	Caverns 2 - Construction of remaining works incl. staircase, partition wall and other civil works for	0%	90	90	07-Oct-26	04-Jan-27	07-Oct-26	04-Jan-27	68	Cave
SW-C2-1100	E&M plant 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 & Switcboard Room to	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31	
	SWSR2								51	
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	\$ C
Caverns 3 - Salt Wate	er 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	Caverns 3 - Construction of Shot
SW-C3-1000	Caverns 3 - Completion of Tunnel Works	0%	0	0		29-Nov-25		29-Nov-25	1	Caverns 3 - Completion of Tunnel V
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	Caverns 3- Construction of C
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	Caverns:3 - Waterproofi
SW-C3-1040	Caverns 3 - Construction of Slab 1.6m thk for water tank area (Total: 1961m3, 12bays (11x9),	0%	60	60	13-Mar-26	27-May-26	13-Mar-26	27-May-26	1	Caverns 3 - Construc
SW-C3-1060	PR= 15d/bay, 3workfronts) Caverns 3 - Construction of Slab 1.0m thk for pump/plant room area (Total:597m3, 11bays	0%	48	48	28-May-26	24-Jul-26	28-May-26	24-Jul-26	1	Caverns 3 - Cons
	(11x9), PR=12d/bay, 3 workfront)									
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	Caverns 3 - Co
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	Cavernsi3 - C
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	Caverns:3
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	Cav
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	
			,	,					Date	e Revision Checked Approved
1st Program	nme Baseline 🔷 🔷 1st Programme Baseline Milestone				1	4 of 27			12-Dec-22	
Remaining									12-Jan-23	
-	naining Work									

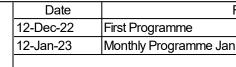
						nme Janua	ry 2023							
y ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float			2025 ONDJFMAMJJAS		
SW-C3-1110	Caverns 3 - Connect power cable from SWSR1 Transformer Room & Switcboard Room to SWSR3	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31				5 - IN D J F M A M J	
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					💲 Ca
Caverns 4 - Fresh Wa	ter 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				Cave	rns:4 - Construction (
SW-C4-1000	Caverns 4 - Completion of Tunnel Works	0%	0	0		15-Mar-26		15-Mar-26	1				• Cavern	s 4 - Completion of T
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				Ca	verns 4 - Construction
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					Caverns 4 - Waterpr
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					Caverns 4 - Cons
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					📕 Caverns 4 - Co
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				I I	Caverns 4
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					💻 Caverns 4 -
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					Caverns 4
SW-C4-1090	Caverns 4 - Construction of remaining works incl. staircase, partition wall and other civil works for	0%	60	60	12-Nov-26	10-Jan-27	12-Nov-26	10-Jan-27	62					Cave
SW-C4-1100	E&M plant Caverns 4 - BS, E&M works and ABWF	0%	120	120	12-Nov-26	11-Mar-27	12-Nov-26	11-Mar-27	2					
														Ca
SW-C4-1110	Caverns 4 - Connect power cable from SWSR1 Transformer Room & Switcboard 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					💲 Ca
Caverns 5 - Fresh Wa	ter 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				Caverns	5 - Construction of Sh
SW-C5-1000	Caverns 5 - Completion of Tunnel Works	0%	0	0		12-Jan-26		12-Jan-26	3				🕏 Caverns 5 -	Completion of Tunne
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				💻 Caven	ns 5 - Construction of
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				E Ca	verns 5 + Waterproofi
SW-C5-1040	Caverns 5 - Construction of Slab 1.6m thk for water tank area (Total: 1961m3, 12bays (11x9),	0%	60	60	30-Apr-26	13-Jul-26	30-Apr-26	13-Jul-26	2					Caverns 5 - Constr
SW-C5-1060	PR= 15d/bay, 3workfronts) Caverns 5 - Construction of Slab 1.0m thk for pump/plant room area (Total:986m3, 9bays	0%	36	36	14-Jul-26	24-Aug-26	14-Jul-26	24-Aug-26	2					Eaverns 5 - Cor
SW-C5-1050	(11x9), PR=12d/bay, 3 workfront) Caverns 5 - Construction of wall, beam & slab up to 91.35mPD for water tank area			90	14-Jul-26	11-Oct-26	14-Jul-26	11-Oct-26	33					
		0%	90											Caverns 5 -
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					Caverns 5 -
						15 - 5 07			Dat	e.	Revisio	n	Checked	Approved
•	me Baseline 🔶 🔷 1st Programme Baseline Milestone				1	15 of 27			12-Dec-2			-		
Actual Work									12-Jan-2	v	gramme January 20	123		
Remaining V	-										granino bandary Zt	,		
Critical Rema	aining Work													

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern Monthly Programme January 2023

				Mont	hly Prograr	nme Janua	ry 2023					
tivity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A		
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				Caverns 5
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			Caveri Caveri
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			C
SW-C5-1110	Caverns 5 - Connect power cable from SWSR1 Transformer Room & Switcboard Room to SWSR5	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31			Cav
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			💲 Cav
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	🕶 13-Mar-23, UU Diversion Works		
21.PRW.PO5.10000	TTA Implementation for UU Diversion Works	0%	0	6			09-Feb-23	15-Feb-23	1208	I TTA Implementation for UU Diversion Works		
21.PRW.PO5.10010	Trench Excavation for UU Diversion Works	0%	0	11			16-Feb-23	28-Feb-23	1208	Trènch Excavation for UU Diversion Works		
21.PRW.PO5.10020	Public Light Cable Diversion	0%	0	5			01-Mar-23	06-Mar-23	1212	I Public Light Cable Diversion		
21.PRW.PO5.10030	PCCW Cable Diversion	0%	0	9			01-Mar-23	10-Mar-23	1208	PCCW Cable Diversion		
21.PRW.PO5.10040	Conductivity Test for Cable	0%	0	2			11-Mar-23	13-Mar-23	1208	I Conductivity Test for Cable		
DN600 and DN450 Fre	esh 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 TTAApplication	18.62%	145	145	09-Dec-22	02-May-23	09-Dec-22 A	02-May-23	1	XP and TTAApplication		
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			Application of CNP to extend working hours for pipe jacking wor	S	
Pipe Installation by Pipe	Jacking Method		719	719	30-Aug-23	29-Jan-26	30-Aug-23	29-Jan-26	289			δ, Pipe Installation by P
Water Main Tunnel (Deta	ail 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			δ, Water Main Tunnel (I
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			itation, site clearance, r	tood modification and c
SW-JPA-1010	SI works for trenchless design	0%	28	28	16-Feb-25	15-Mar-25	16-Feb-25	15-Mar-25			trenchless design	
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			n and UU diversion for	
SW-JPA-1030	Design Approval for trenchless works	0%	60	60	16-Mar-25	14-May-25	16-Mar-25	14-May-25	302	Desigr	Approval for trenchless	3 works
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	Installation	of instrumentation and	monitoring device and
SW-JPA-1050	Construction of receiving pit	0%	75	75	18-Mar-25	31-May-25	18-Mar-25	31-May-25	285	Cons	ruction of receiving pit	
SW-JPA-1060	Construction of launching pit	0%	75	75	18-Mar-25	31-May-25	18-Mar-25	31-May-25	226	Cons	ruction of launching pit	
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	Adv	ince preparation works	at launching pit
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		Plant mobilization	and set-up at Launch
		·	1		'	,				Date Revision	Checked	
1st Programme	e Baseline 🔶 🔶 1st Programme Baseline Milestone				1	l6 of 27			12-Dec			Approved

Actual Work	
Remaining Work	

♦ ♦ Milestone



Revision	Checked	Approved
nuary 2023		

Summary -

Critical Remaining Work

Monthly Programme January 2023

12-Jan-23

Act	ivity ID	Activity Name	Activity %	1st Prog.		1st Prog. Start	1st Prog. Finish	Start	Finish	Total				023				20
	CIM IDA 4000	Even when (50m) by Dine, leading method, DD=4.5% //	Complete	Dur.	Duration	0E 0-+0E	11 D 05	0E 0 -+ 05	11 D 05	Float	NDJ	FM	AMJ	JA	SON	NDJF	MA	МJ
	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	Plpe 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 (Det	ail 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	Plpe 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 (Det	ail 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				V				
	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				C] TT/	Aimpler	nenta	tion
	SW-JPA-3010	SI works for trenchless design	0%	28	28	13-Sep-23	10-Oct-23	13-Sep-23	10-Oct-23	258					🗖 s	SI works	for tre	encł
	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					ם נ	JU Dete	ection	and
	SW-JPA-3030	Design Approval for trenchless works	0%	60	60	11-Oct-23	09-Dec-23	11-Oct-23	09-Dec-23	258					-	Des	sign Ap	opro
	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						Installat	tion of	insl
	SW-JPA-3050	Construction of receiving pit	0%	75	75	13-Oct-23	26-Dec-23	13-Oct-23	26-Dec-23	195	_					📮 Cc	onstru	ctior
	SW-JPA-3060	Construction of launching pit	0%	75	75	13-Oct-23	26-Dec-23	13-Oct-23	26-Dec-23	172						🗕 Cc	onstru	ctior
	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						•	\dvan	ce p
	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						[Plan
	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								
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21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern Monthly Programme January 2023

Acti	ivity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float		EM/	202 A.M.J			JFM	2 A M
	SW-JPA-3110	Plant demobilization	0%	30	30	12-Nov-24	11-Dec-24	12-Nov-24	11-Dec-24	147				-143			
	SW-JPA-3120	Plpe 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 (Deta	ail 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	Plpe 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 (Deta	ail 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				/	U TT	A imple	menta
	SW-JPA-5010	SI works for trenchless design	0%	28	28	28-Oct-23	24-Nov-23	28-Oct-23	24-Nov-23	103						SI works	s for tr
	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						UU Dete	ection
	SW-JPA-5030	Design Approval for trenchless works	0%	60	60	25-Nov-23	23-Jan-24	25-Nov-23	23-Jan-24	103						🗖 Des	sign A
	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						Installa	tion o
	SW-JPA-5050	Construction of receiving pit	0%	75	75	27-Nov-23	09-Feb-24	27-Nov-23	09-Feb-24	32						💻 C(onstru
	SW-JPA-5060	Construction of launching pit	0%	75	75	27-Nov-23	09-Feb-24	27-Nov-23	09-Feb-24	27						💻 Cr	onstru
	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						∎ A	dvan
	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							P
	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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Salt Water Service Reservoirs to Cavern Monthly Programme January 2023

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SW-JPA-5120	Plpe 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		FMAMJJJASONDJFMAMJJJASONDJFMAMJJASONDJFMAMJJJASONDJFMA Plpe Installation (PR=30m/wk for fitting; 18m/d
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	v 24-Jan-26, Combined Trench for
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	Coordination with Utility Undertaking, TTA
			05		07.NL 05	04.1.00				
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	Sheet piling, Excavation, ELS, Pip
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	V06-Nov-25, Combined Trench for FW D
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	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A23 to TTA-A19)
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	💻 :Sheet piling, Excavation, ELS, Pipe Laying, Backfilling:&:Road reinstatemen, TTA-A23 (21m long)
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	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A22 (21rr
SW-OTA-2190	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A21 (21m	0%	31	31	26-Aug-23	03-Oct-23	26-Aug-23	03-Oct-23	4	📕 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A21 (21m long)
21.PRW.PO5.10060	long) Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A18 to	0%	0	72			26-Aug-23	21-Nov-23	25	Coordination with Utility Undertaking, TTA, Trial Pit& Excavation, UU Diversion (TTA-A18 to TT
SW-OTA-2180	TTA-A14) Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A20 (20m	0%	31	31	04-Oct-23	09-Nov-23	04-Oct-23	09-Nov-23	4	💻 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A20 (20m long
	long)									
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	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A19 (20m k
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	💻 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A18 (20
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	📕 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstatemen, TTA-A17 (
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	💻 : Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A1
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	Coordination with Utility:Undertaking, TTA, Trial Pit & Excavation, UU Diversion (
SW-OTA-2130	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A15 (20m	0%	31	31	13-Apr-24	21-May-24	13-Apr-24	21-May-24	4	💻 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA
SW-OTA-2120	long) Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A14 (20m	0%	31	31	22-May-24	27-Jun-24	22-May-24	27-Jun-24	4	💻 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, T
SW-OTA-2110	long) Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A13 (20m	0%	31	31	28-Jun-24	03-Aug-24	28-Jun-24	03-Aug-24	4	Sheet piling; Excavation, ELS, Pipe:Laying, Backfilling & Road reinstatemen
SW-OTA-2100	long) Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A12 (20m	0%	31	31	05-Aug-24		05-Aug-24	09-Sep-24	4	💻 :Sheet piling, Excavation, ELS, Pipe Laying, Backfilling:&:Road reinstatem
	long)									
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	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstat 💭
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	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, L
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	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reins
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	📕 Sheet piling; Excavation, ELS, Pipe:Laying, Backfilling & Road re
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	💻 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Roa
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	💻 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & R
		l								
1st Programme	e Baseline ♦ 🔹 ♦ 1st Programme Baseline Milestone	<u> </u>				10 of 27			Date	Revision Checked Approved
Actual Work	Asseine Milestone Milestone				1	19 of 27			12-Dec-22	First Programme
Remaining Wo									12-Jan-23	Monthly Programme January 2023
Critical Remain	2									

- Critical Remaining Work

				<u></u>		hly Progran						
Activi	iy ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float N	DUIEM	2023 2024 2025 2026 2027 NAMJJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMA
	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		Coordination with Utility Undertaking, TTA, Trial Pit & E
	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		📕 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling &
	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		Sheet piling, Excavation, ELS, Pipe Laying, Backfillin :
	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		💻 Sheet:piling, Excavation, ELS, Pipe Laying, Backf
	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		Sheet piling, Excavation, ELS, Pipe Laying,
	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		💻 Sheet piling, Excavation, ELS, Pipe Layir
	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		▼ 30-Nov-26
	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		Coordination with Utility Undertaking
	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		Sheet piling, Excavation, EL:
	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		💻 Sheet piling, Excavation, I
	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		💻 Sheet piling; Excavatic
	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		💻 Sheet piling, Excava
	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		Sheet piling, Exc
	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		Sheet piline
	Open Trench for FW DN6	00 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		Coordination w
	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		💻 :Sheet p
	Combined Trench for DN4	150 & 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		▼ 19-Jul-23, Combined Trench for DN450 & SW DN450 along Sha Tin Pass Road, from A4 to C1
	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	-	I Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A31)
	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		Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A31 (20m lor
	Combined Trench for DN4	150 & 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	V	▼ 10-Sep-24, Combined Trench for DN450 & SW DN450 along Tsz Wan S
	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	C	Coordination with Utility Undertaking, TTA, Trial Pit& Excavation, UU Diversion (TTA-A32 to TTA-A35)
	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		Sheet piling; Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A32 (2
	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		💻 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A33 (20m long
	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		Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A36 to T
	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		📕 : Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A34 (20m lo
	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		💻 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A35 (20r
					1			1		Da		Revision Checked Approved
	1st Programme					2	0 of 27			12-Dec-		First Programme
	Actual Work	♦ ♦ Milestone								12-Dec-		Monthly Programme January 2023
	Remaining Wor	k Summary									-0	

Critical Remaining Work

Revision	Checked	Approved
nuary 2023		

				Mont	hly Progran	nme Januar	y 2023				
Activity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026 N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D	2027
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	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, T	
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	Sheet:piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemer	n, TTA-A3
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	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU D	iversion (1
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	📕 Sheet plling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstater	men, TTA-
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	💻 Sheet piling, Excavation, EL\$, Pipe Laying, Backfilling & Road reinsta	atemen, T
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	Sheet piling; Excavation, ELS, Pipe:Laying, Backfilling:& Road rein 🗮	istatemen,
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	💻 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road r	einstatem
Test & Commissioning an	nd Connection		89	89	09-Jan-27	07-Apr-27	09-Jan-27	07-Apr-27	5		¢ c
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		💻 Clea
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		E Clea
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		E Cle
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		C
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 DN	1800 Salt Water Mains		1169	1247	03-May-23	10-Apr-27	26-Jan-23	10-Apr-27	1	•	 7 1
Pipe Installation by Pipe	Jacking Method		1109	1109	03-May-23	22-Jan-27	03-May-23	22-Jan-27	4		♥ 22-Jar
Water Main Tunnel (Deta	ail 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	∀	p-26, Wate
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	□ TTA implementation, site clearance, a	road modi
SW-JPB-1010	SI works for trenchless design	0%	28	28	23-Aug-25	19-Sep-25	23-Aug-25	19-Sep-25	337	📮 SI works for trenchless design	
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	UU:Detection and UU diversion fo	r construc
SW-JPB-1030	Design Approval for trenchless works	0%	60	60	20-Sep-25	18-Nov-25	20-Sep-25	18-Nov-25	337	Design Approval for trenchles	s works
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	Installation of instrumentation and	d monitorir
SW-JPB-1050	Construction of receiving pit	0%	75	75	22-Sep-25	05-Dec-25	22-Sep-25	05-Dec-25	320	Construction of receiving pit	
SW-JPB-1060	Construction of launching pit	0%	75	75	22-Sep-25	05-Dec-25	22-Sep-25	05-Dec-25	261	Construction of launching pit	
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	Advance preparation works	s at launch
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	📛 Plant mobilizat	ion and se
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	Excavation	n (63m) by
1st Programme	e Baseline 🔷 🔷 1st Programme Baseline Milestone				2	1 of 27				Date Revision Checked Appro	ved
Actual Work	 ♦ Milestone 				-				12-De		
Remaining Wo	Summary								12-Ja	n-23 Monthly Programme January 2023	

Critical Remaining Work

Summary

21/WSD/21 - Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern Monthly Programme January 2023

				Mont	hly Progran	nme Janua	ry 2023			
ctivity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026 202 D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M
SW-JPB-1110	Plant demobilization	0%	30	30	28-Jul-26	26-Aug-26	28-Jul-26	26-Aug-26		
SW-JPB-1120	Plpe 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	Pipe Installat
Water Main Tunnel (De	etail 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	v v 20-Jun-26, Water N
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	Contraction Contractic Contract
SW-JPB-2010	SI works for trenchless design	0%	28	28	26-Apr-25	23-May-25	26-Apr-25	23-May-25	329	SI works for trenchless design
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	🖵 VU: Detection and VU diversion for construction o
SW-JPB-2030	Design Approval for trenchless works	0%	60	60	24-May-25	22-Jul-25	24-May-25	22-Jul-25	329	💻 Design Approval for trenchless works
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	Installation of instrumentation and monitoring dev
SW-JPB-2050			75	75	26-May-25		,			Construction of receiving pit
	Construction of receiving pit	0%				08-Aug-25	26-May-25	08-Aug-25		
SW-JPB-2060	Construction of launching pit	0%	75	75	26-May-25	08-Aug-25	26-May-25	08-Aug-25	253	Construction of launching pit
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	Advance preparation works at launching p
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	Plant:mobilization and set-up a
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	Excavation (102m) by P
SW-JPB-2110	Plant demobilization	0%	30	30	22-Apr-26	21-May-26	22-Apr-26	21-May-26	138	Plant demobilization
SW-JPB-2120	Plpe 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	Pipe Installation (Pi
Water Main Tunnel (De	etail 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	V 22-Juli-25, Water Main Tunnel (Detail B), CH
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	TTA implementation, site clearance, road modification and site setup
SW-JPB-3010	SI works for trenchless design	0%	28	28	29-May-24	25-Jun-24	29-May-24	25-Jun-24	271	SI works for trenchless design
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	UU Detection and UU diversion for construction of jacking pits
SW-JPB-3030	Design Approval for trenchless works	0%	60	60	26-Jun-24	24-Aug-24	26-Jun-24	24-Aug-24	271	Design Approval for trenchless works
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	Installation of instrumentation and monitoring device and condition survey
SW-JPB-3050	Construction of receiving pit	0%	75	75	28-Jun-24	10-Sep-24	28-Jun-24	10-Sep-24	207	Construction of receiving pit
SW-JPB-3060	Construction of launching pit	0%	75	75	28-Jun-24	10-Sep-24	28-Jun-24	10-Sep-24		Construction of Jaunching pit
SW-JPB-3070	Advance preparation works at launching pit	0%	14	14	11-Sep-24	24-Sep-24	11-Sep-24	24-Sep-24		Advance preparation works at launching pit
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		Plant:mobilization and set-up:at Launching:pit
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	Excavation (152m) by Pipe Jacking method, PR=1
SW-JPB-3110	Plant demobilization	0%	30	30	07-May-25	05-Jun-25	07-May-25	05-Jun-25	137	📮 Plant demobilization
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-	me Baseline 🔷 🔷 1st Programme Baseline Milestone				2	2 of 27			Date 12-Dec-22	
Actual Work	♦ Milestone								12-Dec-22	

vvork Remaining Work Summary

Critical Remaining Work

Monthly Programme January 2023

12-Jan-23

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Activit	/ ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float NDJ	2023 2024 2025 2026 2027 FMAMJJJASONDJFMAMJJASONDJFMAMJJASONDJFMA
	SW-JPB-3120	Plpe 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	Plpe Installation (PR=30m/wk for fitting, 18m/d for
	Water Main Tunnel (Deta	il 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	V 07-May-24, Water Main Tunnel (Detail B), CH 608-760 (153m) along Chuk Yuen F
	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	TTA implementation, site clearance, road modification and site setup
	SW-JPB-4010	SI works for trenchless design	0%	28	28	17-May-23	13-Jun-23	17-May-23	13-Jun-23	66	SI works for trenchless design
	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	UU Detection and UU diversion for construction of jacking pits
	SW-JPB-4030	Design Approval for trenchless works	0%	60	60	14-Jun-23	12-Aug-23	14-Jun-23	12-Aug-23	66	Design Approval for trenchless works
	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	Installation of instrumentation and monitoring device and condition survey
I	SW-JPB-4050	Construction of receiving pit	0%	75	75	16-Jun-23	29-Aug-23	16-Jun-23	29-Aug-23	49	Construction of receiving pit
1	SW-JPB-4060	Construction of launching pit	0%	75	75	16-Jun-23	29-Aug-23	16-Jun-23	29-Aug-23	4	Construction of launching pit
Н	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	Plant mobilization and set-up at Launching pit
Ш	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	Excavation (153m) by Pipe Jacking method, PR=1.5m/d
	SW-JPB-4100	Plant demobilization	0%	30	30	17-Feb-24	17-Mar-24	17-Feb-24	17-Mar-24	4	Plant demobilization
	SW-JPB-4110	Plpe 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	Plpe Installation (PR=30m/wk for fitting, 18m/d for pipe)
Ш	Water Main Tunnel (Deta	il 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	v vo5-Sep-26, Wate
	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	E TTAimplementation, site clearance, road modification
I	SW-JPB-5010	SI works for trenchless design	0%	28	28	28-May-25	24-Jun-25	28-May-25	24-Jun-25	111	🔲: SI works for trenchless design
H	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	UU Detection and UU diversion for construction of
H	SW-JPB-5030	Design Approval for trenchless works	0%	60	60	25-Jun-25	23-Aug-25	25-Jun-25	23-Aug-25	111	Design Approval for trenchless works
I	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	Installation of instrumentation and monitoring devi
I	SW-JPB-5050	Construction of receiving pit	0%	75	75	27-Jun-25	09-Sep-25	27-Jun-25	09-Sep-25	60	Construction of receiving pit
I	SW-JPB-5060	Construction of launching pit	0%	75	75	27-Jun-25	09-Sep-25	27-Jun-25	09-Sep-25	35	Construction of launching pit
I	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	Advance preparation works at launching pit
Ш	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	📕 :Plant mobilization and set-up at Launc
	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	Excavation (212m) by P
	SW-JPB-5110	Plant demobilization	0%	30	30	06-Jun-26	05-Jul-26	06-Jun-26	05-Jul-26	4	💻 Plant demobilization
	SW-JPB-5120	Plpe 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	Plpe Installation (
	Water Main Tunnel (Deta	il 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	22-Jar
	1st Programme	e Baseline ♦ 🔹 🔶 1st Programme Baseline Milestone					3 of 27			Date	Revision Checked Approved
	Actual Work	Milestone				2				12-Dec-22	First Programme
	Remaining Wo	-								12-Jan-23	Monthly Programme January 2023

Critical Remaining Work

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Monthly Programme January 2023

Activi	ty ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float			2023			2
	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	ND	JFM	AMJJ		JFMA	IVI J
	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						
Ш	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						
Ш	SW-JPB-6050	Construction of receiving pit	0%	75	75	12-Jan-26	27-Mar-26	12-Jan-26	27-Mar-26	119						
Ш	SW-JPB-6060	Construction of launching pit	0%	75	75	12-Jan-26	27-Mar-26	12-Jan-26	27-Mar-26	60						
Ш	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						
Ш	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						
Ш	SW-JPB-6110	Plant demobilization	0%	30	30	06-Nov-26	05-Dec-26	06-Nov-26	05-Dec-26	5						
Ш	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						
Ш	Pipe Installation by Open		070	1137	1215	03-May-23	27-Feb-27	26-Jan-23	27-Feb-27	1						_
Π.					1213					<u> </u>						-
Ш	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				03-Jul-23, (ombined	Ire
Ш	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			Coordir	nation with L	Jtility Unde	rtak
	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				Sheet piling	ı, Excavati	on,
Ш	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		-			▼ 02-Jan	-24,
Ш	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		-		Coordinatior	n with Utilit	y Ur
Ш	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			=	Sheet pil	ing, Excav	/atio
Ш	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				Shi	eetpiling, I	Exca
Ш	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					Sheet pilin	g, E
	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					Sheet p	biling
	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				c	oordinatio	n wi
Ш	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					💻 si	heel
Ш	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						Sh
	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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Critical Remaining Work

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Monthly Programme January 2023

				Mont	hly Progran	nme Januar	y 2023			
iy ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float NID	2023 2024 2025 2026 2027 JFMAMJJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMA
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	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TT,
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	📕 :Sheet piling, Excavation, ELS, Pipe Laying, Backfilling:& Road reinstatemen, T
	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	Sheet piling, Excavation, ELS; Pipe Laying, Backfilling & Road reinstateme
	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	Backfilling & Road reinstate Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstate
	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	📕 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinsta
	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	📕 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reir
	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	sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road 📕
	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B15 $(17m\text{long})$	0%	50	50	13-Jan-25	14-Mar-25	13-Jan-25	14-Mar-25	1	Sheet:piling, Excavation, ELS; Pipe Laying, Chamber, Bac
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	₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩
	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	Coordination with Utility Undertaking, TTA, Trial Pit & Excav
	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	Sheet piling, Excavation, ELS, Pipe Laying, Chambe
	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	💻 Sheet piling, Excavation, ELS, Pipe Laying, Backf
	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	Coordination with Utility Undertaking, TTA, Tri
	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	💻 Sheet piling, Excavation, ELS, Pipe Laying, Ba
	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	📕 Sheet piling, Excavation, ELS, Pipe Laying,
	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	💻 Sheet piling, Excavation, ELS, Pipe Layir
	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	💻 Sheet piling, Excavation, ELS, Pipe:La
	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	📕 Sheet piling, Excavation, ELS, Pipe
	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	Coordination with Utility Underl
	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	💻 Sheet:piling, Excavation, ELS, P
	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	💻 Sheet pilirig, Excavation, ELS
	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	💻 Sheet piling; Excavation, E
	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	Sheet.piling, Excavation 💻 Sheet.piling, Excavation
	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	💻 Sheet piling, Excava
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	♥━━━━━━━━━━━━━━━━━━♥ 31-Oct-25, Combined Trench for SW DI
	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	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Dive
	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	🗯 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & F
			,	,	,					
1st Programme	-				2	5 of 27			Date 12-Dec-22	
Actual Work									12-Dec-22	
Remaining Work	2									

Monthly Programme January 2023

/ ID	Activity Name	Activity % Complete	1st Prog Dur.	J. Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026
SW-OTB-5010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B29 (7m long)	0%	14	Duration 14	05-Nov-24	20-Nov-24	05-Nov-24	20-Nov-24	1 Fioat	N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Ro
0010-010-0010	טונכר אווואס, באסאמנטה, בבט, דוויס במאוואס מיזיטמר האוואס מיזיטמר האוואס מיזיטמר אוויס מיזיטמר אוויס מיזיטמר או	070			00-1107-24	20-1107-24	00-1101-24	20-1100-24		
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	💻 \$heet piling, Excavation, EL\$, Pipe Laying, Backfilling &
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	Coprdination with Utility Undertaking, TTA, Trial Pit&
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	💻 :Sheet piling, Excavation, ELS, Pipe Laying, Backfilling
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	💻 : Sheet piling, Excavation, ELS, Pipe Laying, Backfil
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	Sheet piling, Excavation, ELS, Pipe Laying, Bac
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	📕 Sheet piling, Excavation, ELS, Pipe Laying, I
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	💻 Sheet piling, Excavation, ELS, Pipe Layin
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	💻 Sheetipiling, Excavation, ELS, Pipe La
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	📕 Sheet piling, Excavation, ELS, Pipe
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	Sheet piling; Excavation, ELS, Pi
Open Trench for DN800 a	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	çoor
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	■ s
Open Trench for DN750 a	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	Çoordination v
SW-OTB-7000	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B40	0%	57	57	22-Jul-26	25-Sep-26	22-Jul-26	25-Sep-26	1	🗯 Sheet r
SW-OTB-7010	(20m long) 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	She
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	s 💻 s
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 a	along Sheung Fung Street, from D1 to Connection Point	<u> </u>	310	403	01-Nov-25	16-Nov-26	12-Jul-25	16-Nov-26	1	v 16-
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	Coordination with Utility Undertakin
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	Sheet piling, Excavation, ELS,
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	💻 Sheet piling, Excavation, E
]				
1st Programme	Baseline 💠 🔷 1st Programme Baseline Milestone				2	26 of 27				Date Revision Checked Approv
Actual Work	♦ Milestone								12-De	c-22 First Programme
									12-Jar	n-23 Monthly Programme January 2023

Critical Remaining Work

				IVION	thly Program		,				
ivity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float		2027
SW-OTB-8070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B54 (20m	0%	31	31	16-Jan-26	24-Feb-26	16-Jan-26	24-Feb-26		NDJFMAMJJASONDJFMAMJJASONDJFMAMJJASO	
21.PRW.PO5.10270	long) 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	Coordination	<i>i</i> ith Utility Ui
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	💻 Sheet piling, Es	cavation, El
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	Sheet piling	Excavation
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	💻 Sheet pil	ng, Excaval
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	💻 Sheel	piling, Exca
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	sh	et piling, E
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		iheet piling
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		Sheetpi
Test & Commissioning and	d 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					2	27 of 27					proved
	♦ Milestone				2	27 of 27			12-De 12-Ja	ec-22 First Programme	proved

 1st Programme Baseline		♦ 1st Programme Baseline Milestone	27 of 27	Date	F
Actual Work	•	♦ Milestone		12-Dec-22	First Programme
Remaining Work		Summary		12-Jan-23	Monthly Programme Jan
Critical Remaining Work		,			

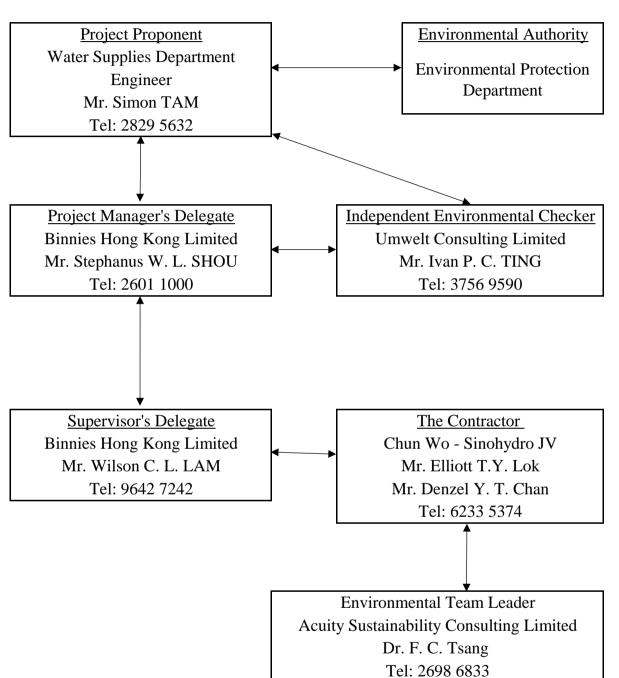


Appendix B

Project Organization Chart and Key Personnel Contact

Service Contract No. WD/02/2021 Contract No. 21/WSD/21 Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns Monthly EM&A Report





Project Organization Chart



Appendix C

Event and Action Plans



Table C1Event and Action Plan for Air Quality (Dust)

Event		Ad	ction	
Event	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;



Errort		A	ction	
Event	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 C2Event/Action Plan for Construction Noise

Event		A	ction	
Event	ET	IEC	ER	Contractor
Action Level Exceedance	 Notify IEC, ER and Contractor; Carry out investigation; Report the results of investigation to the IEC, ER and Contractor; Discuss with the Contractor and formulate remedial measures; Increase monitoring frequency to check mitigation effectiveness. 	 Review the analysed results submitted by the ET; Review the proposed remedial measures by the Contractor and advise the ER accordingly; Supervise the implementation of remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor; Require Contractor to propose remedial measures for the analysed noise problem; Ensure remedial measures are properly implemented. 	 Submit noise mitigation proposals to IEC and ER; Implement noise mitigation proposals.
Limit Level Exceedance	 Identify source; Inform IEC, ER, EPD and Contractor; Repeat measurements to confirm findings; Increase monitoring frequency; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Inform IEC, ER and EPD the causes and actions taken for the exceedances; 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 Contractors 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; Require Contractor to propose remedial measures for the analysed noise problem; 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 the IEC within three 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 C3Event/Action Plan for Landscape and Visual

Execut		Action								
Event	ET	IEC	ER	Contractor						
Action Level Exceedance	 Inform the IEC, ER and the Contractor; Discuss remedial actions with IEC, ER and Contractor; and Monitor remedial actions until rectification has been completed. 	 Check inspection report; Check Contractor's working method; Discuss with ET, ER and Contractor on possible remedial measures; Advise ER on effective of proposed remedial measures; and Check implementation of remedial measures. 	 Confirm receipt of notification of non- conformity in writing; Review and agree on the remedial measures proposed by the Contractor; and Ensure remedial measures are properly implemented. 	 Identify source and investigate the non-conformity; Amend working methods agreed with ER as appropriate; and Rectify damage and undertake any necessary replacement. 						
Limit Level Exceedance	 Identify sources; Inform the Contractor, IEC and ER; Discuss inspection frequency; Discuss remedial actions with IEC, ER and Contractor; Monitor remedial actions until rectification has been completed; and If non-conformity stops, cease additional monitoring. 	 Check inspection report; Check Contractor's working method; Discuss with ET, ER and Contractor on possible remedial measures; and Advise ER on effectiveness of proposed remedial measures. 	 Notify the Contractor; In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; and Supervise implementation of remedial measures. 	 Identify source and investigate the non-conformity; Implement remedial measures; Amend working methods agreed with ER as appropriate; 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 Qual	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 after reminder		
D2	 The following dust suppression measures should be incorporated into contract document. The standard dust suppression measures as stipulated in the Air Pollution Control (Construction Dust) Regulation to control the dust nuisance shall be implemented throughout the construction phase: The contractor shall observe and comply with Air Pollution Control (Construction Dust) Regulation and implement all the required mitigation measures. The contractor shall undertake precautions at all times to prevent dust nuisance and smoke as a result of his activities. The contractor shall ensure a highly efficient dust filter (at least 80% efficiency) to be installed at the ventilation exhaust to treat the exhausting air from cavern. The contractor shall frequently clean and water the site to minimize fugitive dust emissions. The contractor shall ensure that there will be adequate water supply/storage for dust suppression. 	Minimize dust impact at the nearby sensitive receivers	Contractor	All Construction sites	Construction Stage	 Air Pollution Control Ordinance To control the dust impact to meet HKAQO and EIAO- TM criteria 	Implemented		



EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	 The working area of any pavement breaking, excavation or earth moving operation should be sprayed with water immediately before, during and after the operation to avoid dust generation. Any stockpile of dusty material should be properly covered by tarpaulin or other impervious sheeting. Vehicles leaving a site loaded with dusty materials should be covered by tarpaulin or other impervious sheeting. Wheel washing facilities shall be installed and used by all vehicles leaving the site. No earth, mud, debris, dust and the like shall be deposited on public roads. Water in the wheel cleaning facility shall be changed at frequent intervals and sediments shall be removed regularly. The contractor shall submit details of proposals for the wheel cleaning facility. Such wheel washing facilities shall be usable prior to any earthworks excavating activity on the site. The Contractor shall also provide a hard-surfaced road between any washing facility and the public road. Any materials dropped on paved roads shall be cleaned up immediately to prevent dust nuisance. The contractor shall devise, arrange methods of working and carrying out the works in such a manner so as to minimize dust impacts on the surrounding 						
	environment, and shall provide experienced personnel with suitable training to ensure that these methods are implemented. The contractor shall also implement specific dust	Minimize dust	Contractor	All Construction	Construction	Air Pollution Control	To be
D3	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.	impact at the nearby sensitive receivers		sites	Stage	OrdinanceTo control the dust impact to meet	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		
Construc	Construction Noise								
N1	The contractor should limit the pipe section to be constructed by open cut method in a length of no more than 30 m at any one time when works are in close proximity to NSRs. Each work front along the proposed watermain laying should be separated by a clearance distance of at least 60 m.	Control construction noise impacts	Contractor	All construction area for watermain laying works	Construction stage	• EIAO-TM	To be implemented		
N2	Use of quiet PME is considered to be a practicable means to mitigate the construction noise impact. Quiet plant is defined as a PME having actual SWL lower than the value specified in the GW-TM.	Control construction noise impacts	Contractor	All construction area for watermain laying works	Construction stage	 EIAO-TM A Practical Guile for the Reduction of Noise from construction works 	Implemented		
N3	The use of noise barrier for certain PME could generally provide a 5 dB(A) reduction for movable PME and 10 dB(A) for stationary PME. The barrier material shall have a superficial surface density of not less than 10 kg/m ² and have no opening or gaps. Sound absorbent lining inside the enclosure should be at least 25 mm thick.	Control construction noise impacts	Contractor	All construction area for watermain laying works	Construction stage	• EIAO-TM	Implemented		
N4	Provision of movable noise barriers of 3m or above in height and with a short-cantilevered section on the top with skid footing should be used and located within a few metres of stationary plant and mobile plant such that the line of sight to the NSR is blocked by the barriers.	Control construction noise impacts	Contractor	All construction area for watermain laying works	Construction stage	• EIAO-TM	To be implemented		
N5	Noise enclosure lined with absorptive materials shall be provided at the tunnel portal to mitigate the noise from tunnel/cavern construction. The enclosure is a gap free enclosure with acoustic doors for vehicular access purpose. The acoustic doors shall remain closed throughout the construction period. The sheet material mass of the noise enclosure should be at least 10 kg/m ² and sound-absorbent lining inside the enclosure should be at least 25 mm thick.	Control construction noise impacts	Contractor	Tunnel Portal	Construction stage	 EIAO-TM A Practical Guile for the Reduction of Noise from construction works 	To be implemented		



EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
N6	Noise barrier/enclosure should be inspected and maintained regularly. The contractor should design and provide details of the temporary noise barriers and noise enclosure to the Engineer for approval.	Control construction noise impacts	Contractor	All Construction sites	Construction stage	• EIAO-TM	Implemented after reminder
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	 <u>Good Site Management Practices</u> Only well-maintained plant should be operated onsite, 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



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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. 						
Operatio	n 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 	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
	 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 						



EM&A		Objective of the recommended	Implement	Location /	Implementation	Requirements and / or	Implementation
Log Ref.	Recommended Mitigation Measures	measure & main concerns to address	Ågent	Timing	Timing	Standards to be Achieved	status
	operated and serviced in order to maintain controlled level of noise. The programme should be implemented by properly trained personnel.						
Water Qu	uality (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 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
	 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 	address construction activities				• TM-DSS	
	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						



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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 						
	 A relastices should be taken to minimise the higress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. Manholes should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system. 						
	• Water used in ground boring and drilling for site investigation or rock/soil anchoring should as far as practicable be recirculated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.						
	• All vehicles and plant should be cleaned before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. A wheel washing bay should be provided at every site if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be						



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



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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, pregrouting will be required to reduce the water inflow into the tunnel/cavern. 	To minimise water quality impact from groundwater infiltration	Contractor	All construction sites where applicable	Construction stage	 Water Pollution Control Ordinance ProPECC PN1/94 ETWB TC(W) No. 5/2005 EIAO-TM TM-DSS 	To be Implemented



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



	LineA Report						
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 Q	uality (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

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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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EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	 should also be carried out prior to occurrence of rainstorm. Manholes, as well as storm water gullies, ditches provided at the Project site should be regularly inspected and cleaned (e.g. monthly). Additional inspection and cleansing should be carried out before forecast heavy rainfall. 						
Waste M	lanagement (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



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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	 <u>Best Management Practice</u> An on-site environmental co-ordinator should be identified at the outset of the works. The co-ordinator shall prepare an Environmental Management Plan (EMP) incorporating waste management in accordance with the requirements set out in the ETWB TCW No. 19/2005, Environmental Management on Construction Sites. The EMP shall include monthly and yearly Waste Flow Tables (WFT) that indicate the amounts of waste generated, recycled and disposed of (including final disposal site), and which should be regularly updated. WFT will be provided in the WMP which will form part of the EMP in accordance with ETWB TCW No.19/2005; The reuse/recycling of all materials on site shall be investigated prior to treatment/ disposal off- site; Good site practices shall be adopted from the commencement of works to avoid the generation of waste, reduce cross contamination of waste and to promote waste minimisation; All waste materials shall be sorted onsite into inert and non-inert C&D materials, and where the materials can be recycled or reused, they shall be further segregated. 	Ensure proper waste management system throughout the construction	Contractor	All construction sites	• Construction stage	 EIAO Waste Disposal Ordinance ETWB TCW No. 19/2005, Environmental Management on Construction Sites DEVB TCW No.6/2010 DEVB TCW No. 8/2010 WBTC No.12/2000 	Implemented after observation



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 onsite 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 reused 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 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 Waste Control Scheme both published by EPD; A sufficient number of covered bins shall be provided on site for the containment of general refuse. These bins shall be cleared daily and the collected waste disposed of to the refuse transfer station. Further to the 		17				

17



EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	 issue of DEVB TCW No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness, the contractor is required to maintain a clean and hygienic site throughout the Project works; Tool-box talks should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse, and recycling; and The contractor shall comply with all relevant statutory requirements and guidelines and their updated versions that may be issued during the course of Project construction. 						
WM7	 <u>On-site Sorting, Reuse and Recycling</u> 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



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



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



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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	<u>Chemical Waste</u> 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 after observation



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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	<u>General Refuse</u> 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 Ma	anagement (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

Contract No. 21/WSD/21 Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns Monthly EM&A Report



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	Control of Site Runoff 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
Е9	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				
Landscap	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	 <u>Careful Design of Slope Works</u> 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	 <u>Tree Preservation</u> 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				
CM4	 <u>Tree Transplanting/ Compensatory Tree Planting</u> 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	 <u>Inspection of Tree Works</u> 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	 <u>Minimization of Light Impact</u> 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	 <u>Erection of Decorative Site Hoarding</u> 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	 <u>Reinstatement of Temporarily Disturbed Areas</u> 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
Landscap	pe 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	<u>Vertical Greening</u> 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	 <u>Careful Design of Ancillary Facilities</u> The orientation and location of the ancillary facilities shall be carefully designed. Its finish shall be non-reflective and dull in colour. The ancillary facilities are unmanned structures that merely require minimal security services during daytime. There shall be nobody and no lighting illuminating from the buildings at night, except essential street lighting for the portal access road. 	To avoid glare impact to surrounding VSRs	Project Proponent (via Contractor)	Ancillary building	Operation stage	N/A	To be implemented



Appendix E

Air Quality and Noise Monitoring Equipment Calibration Certification





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

Verification Test Date:	1-Mar-23	to	2-Mar-23	_	Next Verification Test Date:	1-Mar-24
Unit-under-Test- Model No.:		Sibata LD-5R		_		
Unit-under-Test Serial No.:		0Z4545		-		
Our Report Refrence No.:	RF	PT-23-HVS-0002	2	-		
Calibration Location:			E	Emax		

	Standard Equipment Informa	ation
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1086	3465
Last Calibration Date:	1-Mar-23	28-Jun-22
Next Calibration Date:	30-Apr-23	27-Jun-23

				Equipement	Vertification R	esult	
Verification		Duration			Results from	Calibrated Equipement	Results from Standard Equipment
Test No.	Date	Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (μg/m³) y-axis
1	1/3/2023	5013.27	5016.34	184.20	4851	26	78
2	1/3/2023	5016.34	5019.34	180.00	6000	33	96
3	1/3/2023	5019.34	5022.34	180.00	7740	43	129
4	2/3/2023	5022.34	5025.34	180.00	3840	21	62
5	2/3/2023	5025.34	5028.34	180.00	2400	13	38
6	2/3/2023	5028.34	5031.34	180.00	3420	19	55

Linear Regression of y on x Slope, K factor: -2.8495 *Correlation Coefficient,R: 3.0313 Intercept: 0.9993 Verification Test Result: Strong Correlation, Results were accepted. * If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required Verification Curve 160 140 $R^2 = 0.9986$ • Dust Concentration (μg/m³) 120 100 80 60 40 20 0 0 5 10 15 20 25 30 35 40 45 50 Count/Minute

Operated By:

Andy Li Project Technician, Environmental

Date: 05-03-2023

Tandy Tse

Checked By:

Senior Consultant, Environmental

Date: 05-03-2023



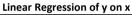


Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

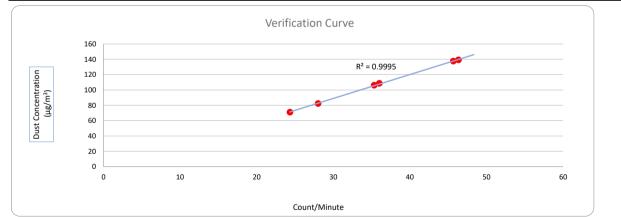
Verification Test Date:	1-Mar-23	to	2-Mar-23		Next Verification Test Date:	1-Mar-24
Unit-under-Test- Model No.:		Sibata LD-5R		-		
Unit-under-Test Serial No.:		882106		-		
Our Report Refrence No.:	F	RPT-23-HVS-0008	3	-		
- Calibration Location:			E	max		

	Standard Equipment Inforn	nation
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment Serial no.:	1087	3465
Last Calibration Date:	1-Mar-23	28-Jun-22
Next Calibration Date:	30-Apr-23	27-Jun-23

				Equipement	Vertification R	esult	
Verification		Duration			Results from	Calibrated Equipement	Results from Standard Equipment
Test No.	Date	Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (μg/m³) y-axis
1	1/3/2023	5013.27	5016.34	184.20	8535	46	139
2	1/3/2023	5016.34	5019.34	180.00	6480	36	109
3	1/3/2023	5019.34	5022.34	180.00	8220	46	137
4	2/3/2023	5022.34	5025.34	180.00	5040	28	82
5	2/3/2023	5025.34	5028.34	180.00	4380	24	71
6	2/3/2023	5028.34	5031.34	180.00	6360	35	106



Slope, K factor:	<u>3.1109</u>	Intercept:	-4.3817	*Correlation Coefficient,R:	<u>0.9998</u>
Verification Test Result: St	rong Correlation, Resu	ts were accepted.	* If	the Correlation Coefficient, R is <0.5. Checkin	g and Re-verification are required.



Operated By:

Andy Li Project Technician, Environmental

Date: 05-03-2023

Tandy Tse

Checked By:

Senior Consultant, Environmental

Date: 05-03-2023





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

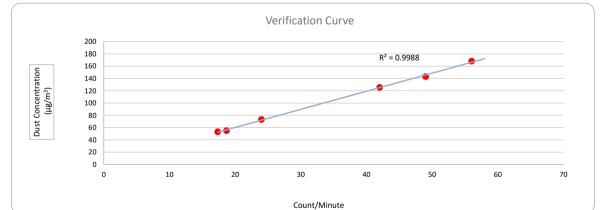
Verification Test Date:	1 May 22	4.4	2 Mar 22		Next Verification Test Date:	1 Mar 24
	1-Mar-23	to	2-Mar-23	-		1-Mar-24
Unit-under-Test- Model No.:		Sibata LD-5R				
Unit-under-Test Serial No.:		942532		-		
Our Report Refrence No.:	R	RPT-23-HVS-0005	5	-		
Calibration Location:			E	max		

	Standard Equipment Inform	ation
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment Serial no.:	1855	3465
Last Calibration Date:	1-Mar-23	28-Jun-22
Next Calibration Date:	30-Apr-23	27-Jun-23

				Equipement	Vertification R	esult		
Verification		Duration			Results from	Calibrated Equipement	Results from Standard Equipment	
Test No.	Date	Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (μg/m³) y-axis	
1	1/3/2023	5013.27	5016.34	184.20	7736	42	125	
2	1/3/2023	5016.34	5019.34	180.00	8820	49	143	
3	1/3/2023	5019.34	5022.34	180.00	10080	56	168	
4	2/3/2023	5022.34	5025.34	180.00	3120	17	53	
5	2/3/2023	5025.34	5028.34	180.00	3360	19	55	
6	2/3/2023	5028.34	5031.34	180.00	4320	24	73	



Slope, K factor:	.9474 Intercept:	<u>1.2739</u>	*Correlation Coefficient,R:	<u>0.9994</u>
Verification Test Result: Stron	ng Correlation, Results were accepted.	*	f the Correlation Coefficient, R is <0.5. Checki	ng and Re-verification are required.



Operated By:

Andy Li Project Technician, Environmental

Date: 05-03-2023

Tandy Tse

Checked By:

Senior Consultant, Environmental

Date: 05-03-2023

Certificate No. D224647E



CALIBRATION CERTIFICATE

Product	:	SOUND CALIBRATOR
Туре	:	NC-75
Serial number	:	35124530
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 °C, 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

This certificate is based on article 144 of the Measurement Law and indicates the result of calibration in accordance with measurement standards traceable to Primary Measurement Standards (National Standards) which realizes the physical units of measurement according to the International System of Units (SI).

The accreditation symbol is attestation of which the result of calibration is traceable to Primary Measurement Standards (National Standards).

The certificate shall not be reproduced except in full, without the written approval of the issuing laboratory. The calibration laboratory who issued this calibration certificate conforms to ISO/IEC 17025:2017.

This calibration certificate was issued by the calibration laboratory accredited by IAJapan who is a signatory to the Mutual Recognition Arrangement (MRA) of International Laboratory Accreditation Cooperation (ILAC) and Asia Pacific Accreditation Cooperation (APAC). This (These) calibration result(s) may be accepted internationally through ILAC/APAC MRA.



Certificate No. D224647E

CALIBRATION RESULT

1. Sound pressure level (with reference standard microphone)

Measured	Expanded uncertainty *1		
value			
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	$2.7 imes 10^{\cdot 4} \mathrm{Hz}$

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 ·



Certificate of Calibration

for

Description:	Sound Level Calibrator			
Manufacturer:	RION			
Type No.:	NC-75			
Serial No.:	34724245			

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:

\checkmark	Within
	Outside

the allowable tolerance.

The test equipments used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 27 July 2023

Date of calibration: 3 August 2023

Date of NEXT calibration: 2 August 2024

Calibrated by:

Calibration Technician

Date of issue: 3 August 2023

Certified by:

Mr. Ng Yan Wa Laboratory Manager



Page 1 of 2

Certificate No.: APJ23-049-CC003

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

Acoustics and Air Testing Laboratory Co. Ltd. 聲學及空氣測試實驗室有限公司 (A+A)*L

Calibration Precautions: 1.

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. **Calibration Specifications:**

Calibration check

3. **Calibration Conditions:**

Air Temperature:	22.6 °C
Air Pressure:	1006 hPa
Relative Humidity:	52.9 %

4. Calibration Equipment:

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

5. Calibration Results

5.1 Sound Pressure Level

Nominal value dB	Nominal valueAccept lower leveldBdB		Measured value dB
94.0	93.6	94.4	94.0

Note:

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



Page 2 of 2

Certificate No.: APJ23-049-CC003



Manufacturer Calibration Certificate

The following instrument has been tested and calibrated to the manufacturer specifications. The calibration is traceable in accordance with ISO/IEC 17025 covering all instrument functions.

- Device Type: XL2 Audio and Acoustic Analyzer
- Serial Number: A2A-13663-F0

- Certificate Issued: 15 February 2023
- Certificate Number: 44972-A2A-13663-F0
- Results:

PASSED (for detailed report see next page)

Tested by:

Signature:

Stamp:

M. Frick Audio AG NI Im alten Rist 102 LI - 9494 Schaan www.nti-audio.com

Calibration of:	XL2 Audio and Acoustic Analyzer
Serial Number:	A2A-13663-F0
Date:	15 February 2023

· Detailed Calibration Test Results:

RMS Level @ 1kHz, XLR I	reference nput 0.1 1 10	actual 0.100 0.999 9.982	unit V V V	actual error ≤0.1% -0.1% -0.2%	XL2 tolerance ±0.5% ±0.5% ±0.5%	calibration uncertainty ² $\pm 0.10\%$ $\pm 0.09\%$ $\pm 0.09\%$
riddrood, rizi i input	20 Hz 1 20 kHz 1	0.995 1.003	V V	-0.5% 0.3%	±1.1% ±1.1%	±0.09% ±0.09%
Frequency	1000	1000.00	Hz	≤0.003%	±0.003%	±0.01%
Residual Noise	XLR	< 2 uV			<2 uV	±0.50%
THD+N @ 0 dBu, 1 kHz, X	(LR Input	-100.5	dB		typ100 dB	±0.50%

- 24.9 °C Temperature: Test Conditions: 19.8 % **Relative Humidity:**
- · Calibration Equipment Used:
- Agilent Multimeter, Typ 34401A, Serial No. MY 5300 4607 Last calibration: 15.09.2022, Next calibration: 15.09.2023 Calibrated by ELCAL to the national standards maintained at Swiss Federal Office of Metrology. SCS 0002

- FX100 Audio Analyzer, Serial No. 10408 Last Calibration: 11.10.2022, Next Calibration: 11.10.2023 Manufacturer calibration based on Agilent 34410, Serial No. MY47014254, Last Calibration: 26.05.2022, Next Calibration: 26.05.2023 which is calibrated by ELCAL to national standards maintained at Swiss Federal Office of Metrology. SCS 002

¹ The specified tolerance +/-0.1 dB @ 1V = +/-1.1%

² The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with the regulations of the GUM.

Certificate of Calibration

for

Description:	Sound Level Meter
Manufacturer:	NTi Audio
Type No.:	XL2 (Serial No.: A2A-09696-E0)
Microphone:	ACO 7052 (Serial No.:68914)
Preamplifier:	NTi Audio MA220 (Serial No.:10390)
	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 – 4kHz)□ 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: 30 March 2023

Date of calibration: 04 April 2023

Date of NEXT calibration: 03 April 2024

Calibrated by:

Calibration Technician

Date of issue: 04 April 2023

Certificate No.: APJ22-164-CC002

Certified by:

Mr. Ng Yan Wa Laboratory Manager



Page 1 of 4

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

(A+A)*L Acoustics and Air Testing Laboratory Co. Ltd. 聲學及空氣測試實驗室有限公司

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:	21.5 °C
Air Pressure:	1005 hPa
Relative Humidity:	71.4 %

3. Calibration Equipment:

	Туре	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,	IEC 61672 Class 1	
Range, dB	Freq. V	Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA	SPL	Fast	94	1000	94.1	±0.4

Linearity

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

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1	
Range, dB	Freq. W	eighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA	SPL	Fast	94	1000	94.1	Ref
50-150	uDA	SL	Slow	94	1000	94.1	±0.3

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Certificate No.: APJ22-164-CC002



Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Appl	Applied value		IEC 61672 Class 1	
Range, dB	Freq. We	eighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
				31.5	94.3	±2.0	
					63	94.3	±1.5
				125	94.3	±1.5	
30-130	dD	dB SPL Fast	Fast	94	250	94.2	±1.4
30-130	uВ				500	94.2	±1.4
				1000	94.1	Ref	
				2000	93.8	±1.6	
					4000	93.1	±1.6

A-weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting		Time Weighting	Level, dB	Level, dB Frequency, Hz		Specification, dB
					31.5	55.0	-39.4 ±2.0
	30-130 dBA SPL			-	63	68.2	-26.2±1.5
					125	78.2	-16.1±1.5
30-130		CDI Foot	Fast	94	250	85.6	-8.6 ± 1.4
50-150		SIL	Tast	94	500	91.0	-3.2 ± 1.4
					1000	94.1	Ref
					2000	95.0	$+1.2 \pm 1.6$
					4000	94.1	$+1.0 \pm 1.6$

C-weighting

Setting of Unit-under-test (UUT)			Appl	Applied value		IEC 61672 Class 1	
Range, dB	Freq. Weighting		Time Weighting	Level, dB	Level, dB Frequency, Hz		Specification, dB
				31.5	91.3	-3.0 ±2.0	
					63	93.5	-0.8 ± 1.5
			L Fast		125	94.1	-0.2 ± 1.5
30-130	dBC	SPL		94	250	94.2	-0.0±1.4
50-150	UDC SFL	SFL		94	500	94.2	-0.0 ± 1.4
				ſ	1000	94.1	Ref
					2000	93.6	-0.2±1.6
					4000	92.3	-0.8±1.6



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Certificate No.: APJ22-164-CC002



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	± 0.15
	63 Hz	± 0.10
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
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.



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Certificate No.: APJ22-164-CC002



Appendix F

Environmental Monitoring Schedule

		Tentative Impa	ct Environmental Mon	itoring Schedule		
		•	October 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-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	6 Site inspecction	7
8	9	10	11 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6) Site inspecction	12	13	14
15	16	17 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	18	19	20 Site inspecction	21 Impact Air Quality Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a)
22	23	24	25	26	27 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6) Site inspection	28
29	30	31				
Air Quality Monitoring Stations: DM-1 - Tennis Court near Tin Ma Co DM-2 - Chun Sing House, Tin Ma Co DM-3 - Grace Methodist Church Kin DM-4 - Block 6, Tsui Chuk Garden DM-4a - Road pavement near Wang I	urt Jergarten		NM-3 - Grace Met NM-4 - Block 6, T NM-4a - Road pav NM-5 - Wo Tin H	House, Tin Ma Court hodist Church Kindergarten	ıg Court	

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

		Tentative Impa	ct Environmental Mon	itoring Schedule		
			November 2023	0		
Sun	Mon	Tue	Wed	Thur	Fri	Sat
			1	2 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	3 Site inspecction	4
5	6	7	8 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	9	10 Site inspecction	11
12	13	14 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	15 Site inspecction	16	17	18
19	20 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	21	22	23	24 Site inspection	25 Impact Air Quality Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a)
26	27	28	29	30	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, NM-5, NM-6) Site inspection	2
The schedule may be changed Air Quality Monitoring Sta DM-1 - Tennis Court near DM-2 - Chun Sing House, DM-3 - Grace Methodist O DM-4 - Block 6, Tsui Chu	Tin Ma Court , Tin Ma Court Church Kindergarten		NM-3 - Grace Met NM-4 - Block 6, T NM-4a - Road pav	g House, Tin Ma Court thodist Church Kindergarten	ng Court	

NM-5 - Wo Tin House, Shatin Pass Estate NM-6 - Sheung Fung Street Customs Staff Quarters

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

DM-4a - Road pavement near Wang King House, Tin Wang Court



Appendix G

Air Quality Monitoring Results and Graphical Presentation



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Appendix G - 1-hour TSP Monitoring Results

Date	Time	Weather	Particulate Concentration (µg/m ³)
	8:10		60
Oct 2023	9:10	Sunny	58
	10:10		62
	8:01		63
1 Oct 2023	9:01	Sunny	64
	10:01		61
	8:25		67
7 Oct 2023	9:25	Fine	69
	10:25		66
	8:01		70
1 Oct 2023	9:01	Cloudy	68
	10:01		69
	8:12		69
7 Oct 2023	9:12	Sunny	71
	10:12		68
		Minimum	58
		Maximum	71
		Average	66
2 - Chun Sing	House, Tin M	a Court	
Date	Time	Weather	Particulate Concentration ($\mu g/m^3$)
	13:21		61
Oct 2023	14:21	Sunny	59
	15:21		62
	14:25		
			61
l Oct 2023	15:25	Sunny	
1 Oct 2023		Sunny	61 58 59
l Oct 2023	15:25 16:25	Sunny	58 59
	15:25 16:25 13:09	Sunny	58 59 58
	15:25 16:25		58 59
	15:25 16:25 13:09 14:09 15:09		58 59 58 63 63
Oct 2023 7 Oct 2023	15:25 16:25 13:09 14:09 15:09 13:50	Fine	58 59 58 63 63 63 68
7 Oct 2023	15:25 16:25 13:09 14:09 15:09 13:50 14:50		58 59 58 63 63
7 Oct 2023	15:25 16:25 13:09 14:09 15:09 13:50 14:50 15:50	Fine	58 59 58 63 63 63 68 71 68
Oct 2023 Oct 2023	15:25 16:25 13:09 14:09 15:09 13:50 14:50 15:50 13:07	Fine	58 59 58 63 63 63 68 71 68 59
Oct 2023 Oct 2023	15:25 16:25 13:09 14:09 15:09 13:50 14:50 15:50 13:07 14:07	Fine	58 59 58 63 63 63 68 71 68 59 63
7 Oct 2023	15:25 16:25 13:09 14:09 15:09 13:50 14:50 15:50 13:07	Fine	58 59 58 63 63 63 68 71 68 59

Maximum

Average



Appendix G - 1-hour TSP Monitoring Results

Date	Time	Weather	Particulate Concentration ($\mu g/m^3$)
	8:21		57
5 Oct 2023	9:21	Sunny	59
	10:21		56
	13:10		56
1 Oct 2023	14:10	Sunny	59
	15:10		58
	8:01		60
7 Oct 2023	9:01	Fine	63
	10:01		61
	8:30		68
21 Oct 2023	9:30	Cloudy	69
	10:30		67
	8:46		57
27 Oct 2023	9:46	Sunny	59
	10:46		53
		Minimum	53
		Maximum	69
		A	10
4 - Block 6 Ts	ui Chuk Gard	Average	60
4 - Block 6, Ts Date	ui Chuk Gard Time		60 Particulate Concentration (μg/m ³)
	Time	len	Particulate Concentration (µg/m ³)
Date		en Weather	Particulate Concentration (µg/m ³) 60
Date	Time 8:45 9:45	len	Particulate Concentration (µg/m ³) 60 59
Date	Time 8:45 9:45 10:45	en Weather	Particulate Concentration (µg/m ³) 60 59 61
Date 5 Oct 2023	Time 8:45 9:45 10:45 8:24	en Weather Sunny	Particulate Concentration (µg/m ³) 60 59
Date 5 Oct 2023	Time 8:45 9:45 10:45	en Weather	Particulate Concentration (µg/m ³) 60 59 61 62
Date 5 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24	en Weather Sunny	Particulate Concentration (µg/m ³) 60 59 61 62 64
Date 5 Oct 2023 1 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24 13:40	en Weather Sunny	Particulate Concentration (µg/m ³) 60 59 61 62 64 66
-4 - Block 6, Ts Date 5 Oct 2023 11 Oct 2023 17 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24	len Weather Sunny Sunny	Particulate Concentration (µg/m ³) 60 59 61 62 64 66 62
Date 5 Oct 2023 1 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24 13:40 14:40 15:40	len Weather Sunny Sunny	Particulate Concentration (µg/m ³) 60 59 61 62 64 66 62 64 64 60
Date 5 Oct 2023 1 Oct 2023 7 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24 13:40 14:40 15:40 13:20	en Weather Sunny Sunny Fine	Particulate Concentration (µg/m ³) 60 59 61 62 64 66 62 64 66 62 64 60 65
Date 5 Oct 2023 1 Oct 2023 7 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24 13:40 14:40 15:40 13:20 14:20	len Weather Sunny Sunny	Particulate Concentration (µg/m ³) 60 59 61 62 64 66 62 64 66 62 64 60 65 68
Date 5 Oct 2023 1 Oct 2023 7 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24 13:40 14:40 15:40 13:20	en Weather Sunny Sunny Fine	Particulate Concentration (µg/m ³) 60 59 61 62 64 66 62 64 66 62 64 60 65 68 68 68
Date 5 Oct 2023 1 Oct 2023 7 Oct 2023 1 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24 13:40 14:40 15:40 13:20 14:20 15:20 8:29	en Weather Sunny Sunny Fine Cloudy	Particulate Concentration (µg/m ³) 60 59 61 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 66 66 66 66 66 66 66 66
Date 5 Oct 2023 1 Oct 2023 7 Oct 2023 21 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24 10:24 13:40 14:40 15:40 13:20 14:20 15:20 8:29 9:29	en Weather Sunny Sunny Fine	Particulate Concentration $(\mu g/m^3)$ 60 59 61 62 64 66 62 64 66 62 64 60 65 68 68 68 60 62
Date 5 Oct 2023 1 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24 13:40 14:40 15:40 13:20 14:20 15:20 8:29	en Weather Sunny Sunny Fine Cloudy	Particulate Concentration $(\mu g/m^3)$ 60 59 61 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 62 64 66 66 62 64 66 62 64 66 66 66 66 66 66 66 66 66
Date 5 Oct 2023 1 Oct 2023 7 Oct 2023 1 Oct 2023	Time 8:45 9:45 10:45 8:24 9:24 10:24 10:24 13:40 14:40 15:40 13:20 14:20 15:20 8:29 9:29	en Weather Sunny Sunny Cloudy Sunny	Particulate Concentration $(\mu g/m^3)$ 60 59 61 62 64 66 62 64 66 62 64 66 65 68 68 68 60 62 61 62 63 64 65 68 68 60 62 64 65 65 68 66 62 64 66 65 66 65 68 66 68 66 68 66 68 66 68 66 68 66 68 68

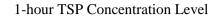


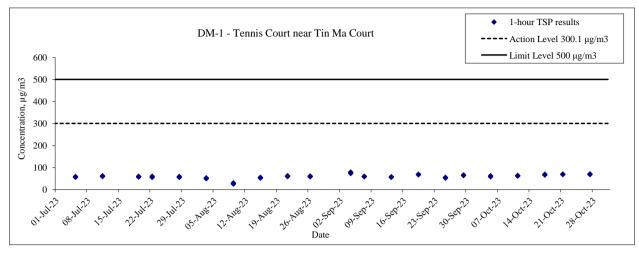
Appendix G - 1-hour TSP Monitoring Results

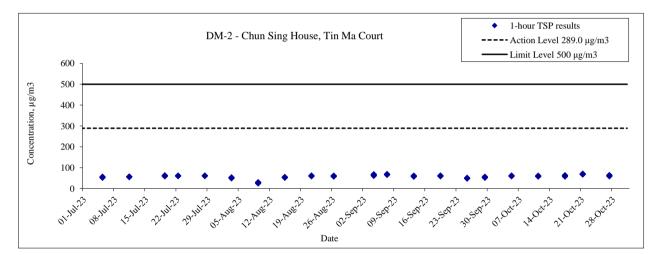
DM-4a - Road pave	DM-4a - Road pavement near Wang King House, Tin Wang Court								
Date	Time	Weather	Particulate Concentration (µg/m ³)						
	13:06		59						
5 Oct 2023	14:06	Sunny	60						
	15:06		58						
	8:10		62						
11 Oct 2023	9:10	Sunny	69						
	10:10		66						
	8:40	┥╶┈┝	63						
17 Oct 2023	9:40	Fine	67						
	10:40		65						
	8:30		67						
21 Oct 2023	8:50	Cloudy	69						
	9:50		67						
	13:19		59						
27 Oct 2023	14:19	Sunny	63						
	15:19		56						
		Minimum	56						
		Maximum	69						
		Average	63						

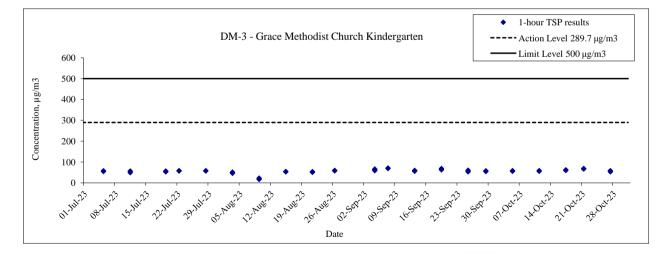
Contract No. 21/WSD/21 Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns





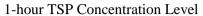


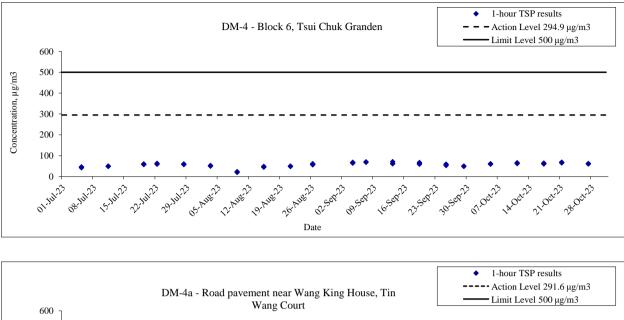


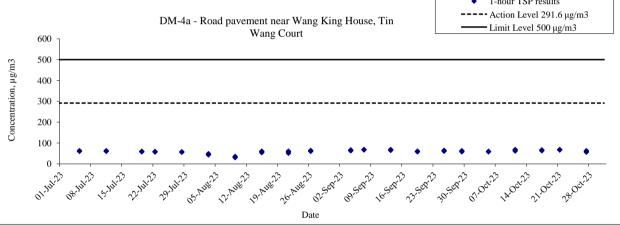


Contract No. 21/WSD/21 Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns











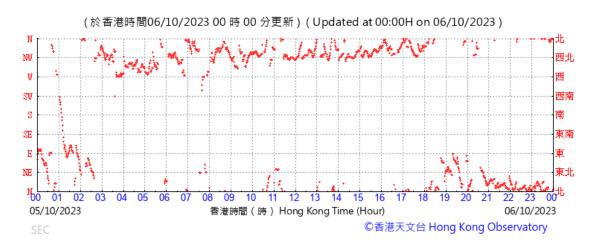
Appendix H

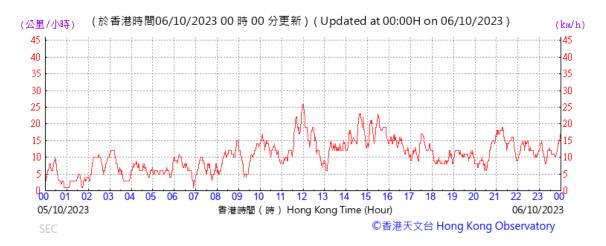
Extract of Meteorological Observations for Hong Kong (Kai Tak)



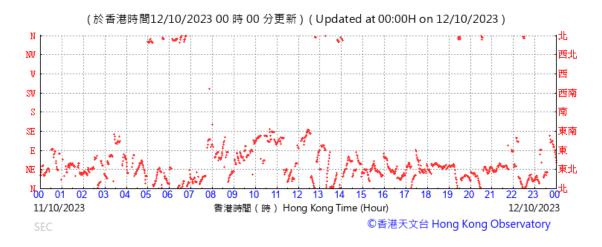
Appendix H - Extract of Meteorological Observations for Hong Kong (Kai Tak Wind Station)

Wind Direction



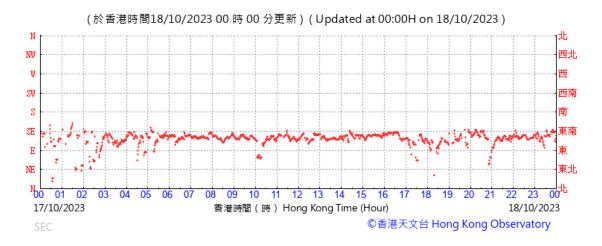






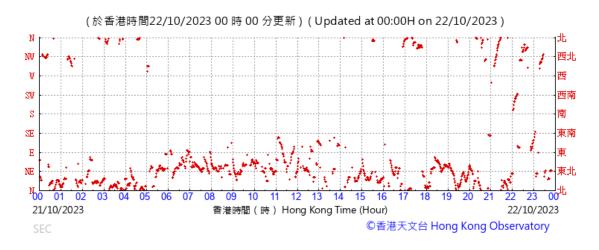


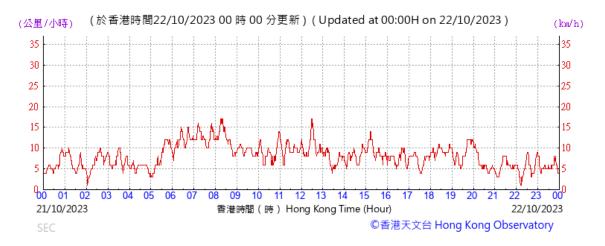




















Appendix I

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)	
Date	weather	Start Time	Leq	L10	L90	Leq(30min)
		14:30	70.6	71.8	69.2	
		14:35	71.6	72.6	69.9	
5 Oct 2023	Sunny	14:40	69.0	72.9	58.2	70.3
5 Oct 2025	Sunny	14:45	68.8	71.9	58.0	70.5
		14:50	70.6	71.9	69.1	
		14:55	70.7	72.0	69.4	
		14:25	65.2	66.3	62.0	
		14:30	65.9	67.1	63.2	
11 Oct 2023	Fine	14:35	66.0	68.2	63.9	65.6
11 Oct 2023	Fille	14:40	65.4	67.6	64.2	05.0
		14:45	64.9	66.7	63.2	
		14:50	65.9	67.9	62.8	
		15:40	71.0	72.4	69.3	
		15:45	70.8	72.0	69.2	
17 Oct 2023	Fine	15:50	70.9	72.1	69.4	70.8
17 Oct 2023	Fille	15:55	70.7	71.8	69.2	70:8
		16:00	70.6	72.0	68.8	
		16:05	71.0	72.3	69.4	
		10:50	69.1	71.2	68.3	
		10:55	70.2	72.6	69.5	
27 Oct 2023	Sunny	11:00	71.6	73.2	68.5	70.7
27 001 2025	Sulliy	11:05	69.6	72.6	67.1	70.7
		11:10	71.6	73.6	69.1	
		11:15	71.2	72.4	68.1	
					Min:	65.6
					Max:	70.8
					Average:	69.3

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

Date	Weather	Start Time			dB(A)	
Date	weather	Start Time	Leq	L10	L90	Leq(30min)
		10:30	65.3	67.4	55.8	
		10:35	65.0	67.3	57.1	
5 Oct 2023	Sunny	10:40	67.0	70.4	57.4	66.2
5 OCt 2025	Sumy	10:45	66.3	68.4	58.1	00.2
		10:50	65.9	67.1	57.6	
		10:55	67.1	69.3	56.3	
		13:09	64.0	65.5	55.4	
		13:14	64.8	66.1	55.0	
11 Oct 2023	Fine	13:19	64.3	67.2	56.5	64.4
11 Oct 2025	Thic	13:24	64.6	66.7	53.7	04.4
		13:29	63.9	67.2	55.5	
		13:34	64.5	66.1	53.7	
		14:49	65.0	67.1	55.0	
		14:54	64.7	68.6	56.0	
17 Oct 2023	Fine	14:59	65.9	67.5	55.4	65.5
17 Oct 2023	Thic	15:04	65.4	67.7	55.8	05.5
		15:09	66.4	67.7	55.8	
		15:14	65.3	68.1	59.3	
		9:30	66.3	68.2	56.2	
		9:35	67.3	69.2	57.6	
27 Oct 2023	Sunny	9:40	68.3	71.2	67.2	68.9
27 001 2023	Sulliy	9:45	70.2	71.6	68.3	08.9
		9:50	69.4	71.1	68.3	
		9:55	70.6	72.4	69.3	
					Min:	64.4
					Max:	68.9
					Average:	66.2



Appendix I - Construction Noise Monitoring Results

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

Date	Weather	Start Time						
Date	weather	Start Time	Leq	L10	L90	Leq(30min)		
		15:50	69.3	72.7	66.1			
		15:55	65.6	68.2	61.4			
5 Oct 2023	Sunny	16:00	65.7	66.6	62.4	66.1		
5 001 2025	Sumy	16:05	64.4	65.4	61.5	00.1		
		16:10	64.0	65.1	61.6			
		16:15	65.3	67.1	62.0			
		15:10	64.5	65.8	63.0			
		15:15	65.2	66.3	63.7			
11 Oct 2023	Fine	15:20	63.7	64.6	62.5	64.7		
11 Oct 2025	The	15:25	65.0	66.6	63.4	04.7		
		15:30	64.6	65.7	63.2			
		15:35	65.1	66.7	63.7			
		14:05	62.1	63.5	57.3			
		14:10	62.0	62.9	60.2			
17 Oct 2023	Fine	14:15	62.0	63.1	60.1	61.8		
17 Oct 2025	The	14:20	61.5	62.7	51.7	01.8		
		14:25	61.9	63.0	60.1			
		14:30	61.5	62.9	58.9			
		8:45	65.1	67.2	63.2			
		8:50	64.2	66.4	62.6			
27 Oct 2023	Sunny	8:55	66.3	68.2	61.7	65.6		
27 Oct 2023	Sumy	9:00	65.1	67.3	60.4	05.0		
		9:05	65.6	68.9	63.2			
		9:10	66.6	67.9	65.1			
					Min:	61.8		
					Max:	66.1		
					Average:	64.6		

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

					dB(A)		
Date	Date Weather		Leq	L10	L90	Leq(30min)	With Free-Field Correction
		9:50	70.9	73.7	60.3		
		9:55	69.9	72.9	60.2		
5 Oct 2023	Sunny	10:00	69.0	72.9	58.2	69.5	72.5
5 OCt 2025	Sumy	10:05	70.6	71.9	69.1	09.5	12.5
		10:10	67.4	70.4	58.4		
		10:15	67.7	70.0	58.4		
		13:45	71.8	74.2	63.3		
		13:50	69.7	72.7	62.6		72.8
11 Oct 2023	Fine	13:55	68.9	72.1	62.4	69.8	
11 Oct 2025	Time	14:00	70.1	72.2	61.6		72.0
		14:05	68.2	71.7	61.3		
		14:10	69.2	72.1	62.9		
		10:35	65.7	70.1	64.4		
		10:40	66.7	69.9	59.1		
17 Oct 2023	Fine	10:45	67.2	71.5	59.4	66.4	69.4
17 Oct 2025	The	10:50	66.5	71.9	59.7	00.4	09.4
		10:55	65.9	71.8	63.1		
		11:00	66.3	71.8	60.6		
		10:15	67.1	70.2	63.4		
		10:20	68.2	71.6	65.2		
27 Oct 2023	Sunny	10:25	71.2	73.4	70.3	69.1	72.1
27 001 2023	Sulliy	10:30	67.2	69.5	65.7	09.1	/2.1
		10:35	68.9	69.9	66.1		
		10:40	70.2	73.1	69.4		
					Min:	66.4	69.4
					Max:	69.8	72.8
					Average:	68.7	71.7



Appendix I - Construction Noise Monitoring Results

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

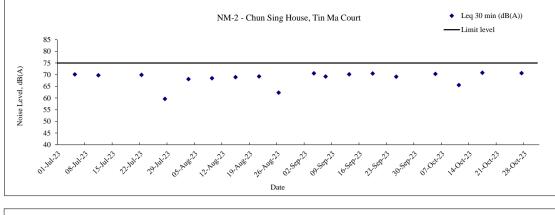
Date	Weather	Start Time				
Date	weather	Start Time	Leq	L10	L90	Leq(30min)
		11:20	66.1	69.4	56.8	
		11:25	67.5	70.1	58.8	
5 Oct 2023	Sunny	11:30	67.3	68.4	54.9	65.9
5 OCT 2025	Sunny	11:35	66.0	70.5	57.1	03.9
		11:40	64.3	68.2	55.5	
		11:45	62.4	65.6	55.1	
		9:46	67.7	70.6	57.3	
		9:51	72.9	77.1	58.7	
11 Oct 2023	Fine	9:56	67.8	71.6	58.0	68.8
11 Oct 2025	The	10:01	68.7	72.6	58.5	08.8
		10:06	65.6	69.0	57.5	
		10:11	64.9	68.2	56.6	
		9:50	63.6	67.7	57.7	
		9:55	64.1	67.9	57.0	
17 Oct 2023	Fine	10:00	63.1	67.9	56.2	64.2
17 Oct 2025	The	10:05	65.4	67.5	56.1	04.2
		10:10	64.0	67.4	56.2	
		10:15	64.8	68.0	56.4	
		14:17	68.7	70.4	58.2	
		14:22	70.2	76.2	58.7	
27 Oct 2023	Sunny	14:27	68.2	71.4	58.0	68.5
27 001 2023	Sumy	14:32	69.7	73.2	58.6	00.5
		14:37	67.2	69.3	57.6	
		14:42	65.7	67.1	57.6	
					Min:	64.2
					Max:	68.8
					Average:	66.9

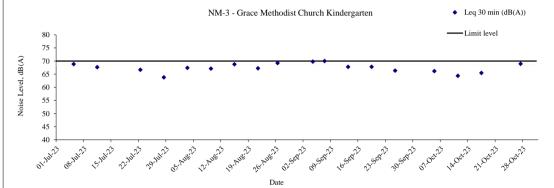
Construction Noise Monitoring Stations: Sheung Fung Street Customs Staff Quarters (NM-6)

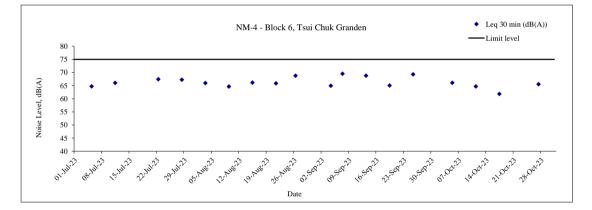
					dB(A)		
Date	Weather	Start Time	Leq	L10	L90	Leq(30min)	With Free-Field Correction
		13:40	69.3	72.3	60.7		
		13:45	70.2	72.5	60.3		
5 Oct 2023	Sunny	13:50	71.8	74.7	58.3	69.8	72.8
5 Oct 2025	Sumy	13:55	66.7	71.0	57.8	09.0	72.0
		14:00	68.0	72.1	61.7		
		14:05	70.9	72.9	57.0		
		9:06	71.6	75.6	61.9		
		9:11	70.7	74.0	59.1	72.2	75.2
11 Oct 2023	Fine	9:16	73.5	76.2	69.2		
11 Oct 2023		9:21	72.9	75.8	62.5		
		9:26	71.4	74.6	63.4		
		9:31	72.6	76.6	64.0		
		9:10	67.8	73.3	61.0		
		9:15	68.1	73.2	59.4		
17 Oct 2023	Fine	9:20	66.0	72.7	59.2	66.9	69.9
17 Oct 2025	Tille	9:25	65.0	73.0	58.8	00.9	09.9
		9:30	65.2	73.3	58.8		
		9:35	68.1	73.1	58.7		
		15:01	70.6	73.2	60.9		
		15:06	69.9	72.1	60.1		
27 Oct 2023	Sunny	15:11	72.5	76.2	64.2	71.1	74.1
27 Oct 2025	Sunny	15:16	71.2	74.3	62.6	/1.1	/4.1
		15:21	70.3	72.6	63.6		
		15:26	71.6	73.7	64.0		
					Min:	66.9	69.9
					Max:	72.2	75.2
					Average:	70.0	73.0

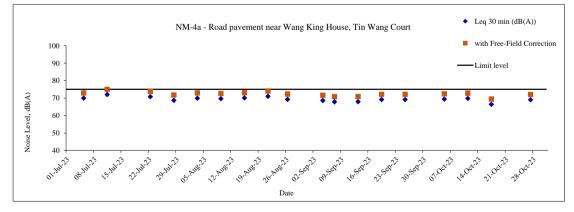


Construction Noise Monitoring Results



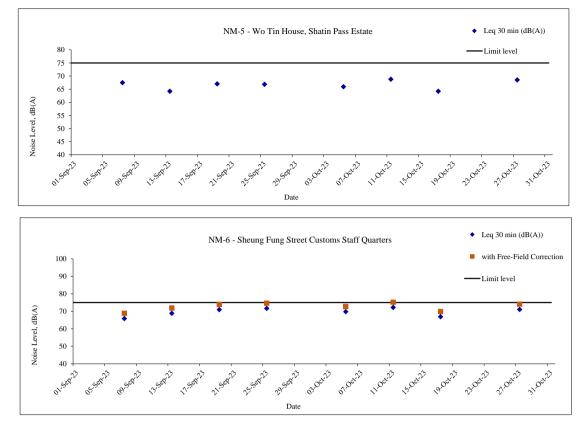








Construction Noise Monitoring Results





Appendix J

Waste Generation in the Reporting Month

Monthly Summary Waste Flow Table for 2023

Contract No.: 21/WSD/21

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

	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							
														Dianting		
														Plastics (bottles/co		
														ntainers.pl		
Month		Broken Concrete							Plastics					astic		
		(including rock for				Imported		Paper/	(bottles/containers.pla		Others, e.g.		Paper/	sheets/foa		
	Total Quantity	recycling into	Reused in the	Reused in other	Disposed as	C&D		cardboard	stic sheets/foam	Chemical	general		• •	m package		
	Generated	aggregates)	Contract	Projects	Public Fill	Material	Metals	packaging	package material)	Waste	refuse	Metals	packaging		Yard Waste	Others
						Material			(in '000kg)	(in '000m ³)						
	(a+b+c+d)	(a)	(b)	(c)	(d)		(in '000kg)	(in '000kg)		. ,	· /	(in '000kg)	· 0/		(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	0.95983	0.00000	0.00000	0.00000	0.95983	0.00000	0.0000	0.00000	0.00000	0.00000	0.02408	0.0000	0.00000	0.00000	0.00000	0.00000
Jun	0.14853	0.00000	0.00000	0.00000	0.14853	0.00000	0.0000	0.00000	0.00000	0.00000	0.03804	0.0000	0.00000	0.00000	0.00000	0.00000
Sub-total	1.16548	0.00000	0.00000	0.00000	1.16548	0.00000	0.0000	0.00000	0.00000	0.00000	0.26277	0.0000	0.00000	0.00000	0.00686	0.00000
Jul	0.06719	0.00000	0.00000	0.00000	0.06719	0.00000	0.0000	0.00000	0.00000	0.00000	0.00618	0.0072	0.00335	0.00980	0.00000	0.00000
Aug	0.18593	0.00000	0.00000	0.00000	0.18593	0.00000	0.0000	0.00000	0.00000	0.00000	0.01659	0.0058	0.02575	0.00550	0.00000	0.00000
Sep	0.24785	0.00000	0.00000	0.00000	0.24785	0.00000	0.0000	0.00000	0.00000	0.00000	0.01399	0.0054	0.00920	0.00420	0.00000	0.00000
Oct	0.06946	0.00000	0.00000	0.00000	0.06946	0.00000	0.0000	0.00000	0.00000	0.00000	0.01091	0.0057	0.01750	0.00960	0.00000	0.00000
Nov	0.00000															1
Dec	0.00000															1
Total	1.73591	0.00000	0.00000	0.00000	1.73591	0.00000	0.00000	0.00000	0.00000	0.00000	0.31043	0.02410	0.05580	0.02910	0.00686	0.00000

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

Assume the density of rock and broken concrete is 2.5 ton/m3.
 Assume the density of non-inert C&D waste is 0.9 ton/m³.



Appendix K

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



Statistical Summary of Environmental Complaints

Demotion Derival	Environmental Complaint Statistics					
Reporting Period	Frequency	Cumulative	Complaint Nature			
31 March 2023 	0	0	N/A			
1 October 2023 31 October 2023	0	0	N/A			

Statistical Summary of Environmental Summons

Descertine Desie d	Environmental Summons Statistics					
Reporting Period	Frequency	Cumulative	Details			
31 March 2023 30 September 2023	0	0	N/A			
1 October 2023 	0	0	N/A			

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics				
	Frequency	Cumulative	Details		
31 March 2023 30 September 2023	0	0	N/A		
1 October 2023 	0	0	N/A		



Cumulative statistics on Non-compliance (exceedances)

Reporting Period	Environmental Monitoring	Parameter	No. of proj rela exceed	ject ted lances	Total no. of non-project related exceedances	No. exceed relate the pr	lances ed to roject	Total no. of exceedances related to the project
			AL	LL	enecculiees	AL	LL	the project
This Reporting Period	Air Quality	1-hour TSP	0	0	0	0	0	0
(1 – 31 Oct 2023)	Noise	Leq(30-min)	0	0	0	0	0	0
Total no. recorded since	Air Quality	1-hour TSP	0	0	0	0	0	0
project commencement	Noise	Leq(30-min)	0	1	1	0	0	0

Cumulative Complaint Log

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