





#### Contract No. 21/WSD/21

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

# **Monthly Environmental and Audit Report** August 2023

ASCL	/	230168321	/	MRPT05	/	2.0
Publisher		Project Code		Sequential No.		Version

	Prepared by:	Certified by:	
Name	Angel Lee	F. C. Tsang	
Position	Environmental Team Consultant	Environmental Team Leader	
Signature	A	Toay Fandbearg	
Date	12 September 2023	12 September 2023	



#### **UMWELT CONSULTING LIMITED**

23/F, On Hong Commercial Building, 145 Hennessy Road, Wan Chai, Hong Kong

By Post

Our Ref : P221002-EMA-202308-V Date : 13<sup>th</sup> September 2023

Binnies Hong Kong Limited 43/F, AIA Kowloon Tower, 100 How Ming Street, Kwun Tong, Kowloon, Hong Kong

Attn: Wilson CK Lam

#### 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 August 2023

Dear Sir,

Pursuant to Condition 3.4 of Environmental Permit (EP) No. EP-602/2021, please note the Monthly Environmental and Audit Report August 2023, dated 12 September 2023 submitted under the EP, certified by the Environmental Team Leader on 12 August 2023, had been reviewed and is hereby verified.

Should you have any query, please feel free to contact the undersigned at 3756 9590 or <a href="mailto:ivanting@umwelt.consulting">ivanting@umwelt.consulting</a>.

Your faithfully,

For and on behalf of:

**Umwelt Consulting Limited** 

fing Po Chung Ivan

Independent Environmental Checker





# Content

EXE	CUTIVE SUMMARY	1
1.	INTRODUCTION	4
1.1	Project Background	4
1.2	Construction Works Programme	5
1.3	Project Organization	5
1.4	License, Notification and Permits	6
1.5	Brief Summary of EM&A Requirements	8
2.	AIR QUALITY MONITORING	10
2.1	Monitoring Locations	10
2.2	Air Quality Monitoring Parameter, Frequency and Duration	10
2.3	Monitoring Equipment and Methodology and QA/ QC Procedure	10
2.4	Action and Limit Levels	11
2.5	Results and Observation	12
3.	NOISE MONITORING	13
3.1	Monitoring Locations	13
3.2	Noise Monitoring Parameter, Frequency and Duration	13
3.3	Monitoring Equipment, Methodology and QA / QC Procedure	14
3.4	Maintenance and Calibration	15
3.5	Action and Limit Levels	15
3.6	Results and Observations	16
4.	WASTE MANAGEMENT	17
5.	ENVIRONMENTAL SITE INSPECTION AND AUDIT	18
6.	ENVIRONMENTAL NON-COMPLIANCE	20
6.1	Summary of Exceedance	20
6.2	Summary of Environmental Non-Compliance	21
6.3	Summary of Environmental Complaint	21
6.4	Summary of Environmental Summon and Successful Prosecution	21
7.	FUTURE KEY ISSUE	22
7.1	Construction Works and Potential Environmental Issues in the next Reporting Period	22

Contract No. 21/WSD/21 Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns Monthly EM&A Report (August 2023)





7.2	Recommendation	22
8.	CONCLUSION, COMMENTS AND RECOMMENDATION	24
8.1	Conclusion	24
8.2	Comments and Recommendations	24





#### **List of Tables**

Table I	Summary of EM&A Activities in the Reporting Period
Table II	Summary of Exceedance in the Reporting Period
Table 1.1	Status of Environmental License, Notification and Permits
Table 1.2	Summary of Status of Submission under EP-602/2021
Table 2.1	Air Quality Monitoring Stations for Construction Phase
Table 2.2	Impact Air Quality Monitoring Parameter, Duration and Frequency
Table 2.3	Impact Air Quality Monitoring Equipment
Table 2.4	Action and Limit Levels for 1-hour TSP
Table 2.5	Summary of Impact 1-hour TSP Monitoring Results
Table 2.6	Influencing Factors at / near Air Quality Monitoring Stations
Table 3.1	Noise Monitoring Stations during Construction Phase
Table 3.2	Construction Noise Monitoring Parameter, Frequency and Duration
Table 3.3	Construction Noise Monitoring Equipment
Table 3.4	Action and Limit Levels for Construction Noise Monitoring
Table 3.5	Summary of Construction Noise Monitoring Results
Table 3.6	Influencing Factors at Noise Monitoring Stations
Table 4.1	Summary of Waste Generated in the Reporting Period
Table 5.1	Summary of Site Inspections Observations and Recommendations
Table 6.1	Summary of Event and Action Plans

## **List of Figure**

Figure 1.1	Project Layout Plan
Figure 2.1	Air Quality Monitoring Stations
Figure 3.1	Construction Noise Monitoring Stations

### **List of Appendices**

Appendix A	Master Construction Programme for the Project		
Appendix B	Project Organization Chart and Key Personnel Contact		
Appendix C	Event and Action Plans		
Appendix D	Project Implementation Schedule		
Appendix E	Air Quality and Noise Monitoring Equipment Calibration Certification		
Appendix F	Environmental Monitoring Schedule		
Appendix G	Air Quality Monitoring Results and Graphical Presentation		
Appendix H	Extract of Meteorological Observations for Hong Kong (Kai Tak)		
Appendix I	Noise Monitoring Results and Graphical Presentation		
Appendix J	Waste Generation in the Reporting Month		
Appendix K	Summary of Complaint, Notification of Summons and Prosecution and Cumulative Complaint Log		
Appendix L			
	111		





#### **EXECUTIVE SUMMARY**

This is the 5<sup>th</sup> 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 August to 31 August 2023.

Key Construction Works in the Reporting Period

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

- Jacking pit construction for pipe jacking;
- Trial pit excavation;
- Formation of piling platform at +89.0mPD;
- Pipe piling for PAB ELS wall;
- Site compound set up;
- ELS works in Portion 3; and
- Canopy table installation 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:

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

EM&A Activities	Date
1-hour TSP Monitoring	3, 9, 15, 21 and 26 August 2023
Construction Noise Monitoring	3, 9, 15, 21 and 26 August 2023
Weekly Environmental Site Inspection	3, 11, 15, 25 and 31 August 2023

Breaches of Action and Limit Levels

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





Table II Summary of Exceedance in the Reporting Period

Environmental Monitoring	Parameter	pro rela	f non- ject ited lances	Total no. of non-project related exceedances	No. exceed relate the pr	ances ed to	Total no. of exceedances related to the project
Air Quality	1-hour TSP	0	0	0	0	0	0
Noise	$L_{eq(30 ext{-min})}$	0	1	1	0	0	0

Note:

#### 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.

One limit level exceedance was recorded on 3 August 2023 for construction noise monitoring during the reporting period. After investigation, the exceedance is considered as non-project related.

#### Complaint Log

No environmental complaint was received in the reporting period.

#### Notification of Summons and Successful Prosecutions

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

#### Reporting Change

There was no reporting change in the reporting period.

#### **Future Key Issues**

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

- Jacking pit construction for pipe jacking;
- Trial pit excavation;
- Formation of piling platform at +89.0mPD;
- Pipe piling for PAB ELS wall;

<sup>1.</sup> AL refers to Action Level and LL refers to Limit Level.

Contract No. 21/WSD/21 Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns Monthly EM&A Report (August 2023)





- Site compound set up; 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.





#### 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 5<sup>th</sup> Monthly EM&A Report summarizing the key findings of the construction phase EM&A programme from 1 August to 31 August 2023 (the reporting period) and is submitted to fulfil the requirements in Conditions 3.4 of EP-602/2021 and section 13.3 of the EM&A Manual of the Project.

#### 1.2 Construction Works Programme

- 1.2.1 The construction works of the Project was commenced on 31 March 2023. The construction works programme, and the location of construction works of the Project are shown in **Appendix A** and **Figure 1.1**, respectively. A summary of construction activities undertaken during the reporting period is presented below:
  - Jacking pit construction for pipe jacking;
  - Trial pit excavation;
  - Formation of piling platform at +89.0mPD;
  - Pipe piling for PAB ELS wall;
  - Site compound set up;
  - ELS works in Portion 3; and
  - Canopy table installation 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

Downit / License No	Valid	Status					
Permit / License No.	From	Expired On	Status				
Environmental Permit	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 Co	Billing Account for Disposal of Construction Waste						
7046085	04/01/2023	-	Valid				
Registration of Chemical Waste P	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-RE0570-23	01/06/2023	31/08/2023	Expired on 31/08/2023				
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)	





EP Condition	Title of Submission	Submission Status
2.11	Construction Works Schedule and Location Plan	28 Feb 2023 (Deposited)
2.12	Construction Noise Management Plan (CNMP)	<ul> <li>28 Feb 2023 (1st submission)</li> <li>The EPD's comments were issued on 8 Mar 2023</li> <li>The revised CNMP was submitted to the EPD for comment on 31 Jul 2023.</li> <li>The EPD issued further comments on 16 Aug 2023.</li> <li>The CNMP was further revised, certified by the ET Leader, verified by the IEC, and issued to the EPD on 22 Aug 2023.</li> </ul>
2.13	Waste Management Plan (WMP)	<ul> <li>28 Feb 2023 (1st submission)</li> <li>EPD's comments were issued on 3 Apr 2023.</li> <li>The revised WMP was submitted to the EPD for comment on 26 July 2023.</li> <li>The WMP was further updated and submitted to the EPD on 16 Aug 2023.</li> </ul>
2.14	Landscape and Visual Mitigation Plan (LVMP)	<ul> <li>28 Feb 2022 (1st Submission)</li> <li>EPD's comments were issued on 29 Mar 2023.</li> <li>The revised LVMP was certified by the ET Leader, verified by the IEC, and issued to the EPD on 22 Aug 2023.</li> </ul>
3.3	Baseline Monitoring Report	<ul> <li>17 Mar 2023 (1st Submission)</li> <li>27 Apr 2023 (2nd Submission)</li> <li>1 June 2023 (3rd Submission)</li> <li>13 July 2023 (Formal submission)</li> <li>3 Aug 2023 (accepted by the EPD)</li> </ul>
3.4	Monthly EM&A Report (July 2023)	12 August 2023
4.2	Dedicated Internet Website	2 May 2023





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

#### 1.5 Brief Summary of EM&A Requirements

#### Air Quality

- 1.5.1 In accordance with the EM&A Manual, the ET shall carry out impact monitoring during construction phase of the project. For 1-hour Total Suspended Particulates (TSP) monitoring, the sampling frequency of at least three times every six days should be undertaken when the highest dust impact occurs.
- 1.5.2 Action and Limit Levels for the 1-hour TSP monitoring works are discussed in **Section 2.4**. Should non-compliance of the criteria occur, action in accordance with the Event and Action Plan presented in **Appendix C** shall be carried out.
- 1.5.3 The air quality mitigation measures detailed in the EM&A Manual were recommended to be implemented during the construction phase. The implementation statuses of these measures are presented in **Appendix D**.

#### Noise Monitoring

- 1.5.4 Construction noise monitoring should be carried out at the designated monitoring stations directly affected by the construction works once every week after the commencement of construction. During construction works, one set of  $L_{eq(30-\text{min})}$  measurement at each station between 0700 and 1900 hours on normal weekdays shall be taken. If construction works are extended to include works during the period between 1900 and 0700 hours, additional weekly impact monitoring shall be carried out during evening and night-time works.
- 1.5.5 Action and Limit Levels for the noise monitoring are discussed in **Section 3.5**. Should non-compliance of the criteria occur, action in accordance with the Event and Action Plan presented in **Appendix C** shall be carried out.





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

#### Environmental Requirements in Contract Documents

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

#### 1.5.8 The Contractor shall also:

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





#### 2. AIR QUALITY MONITORING

#### 2.1 Monitoring Locations

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

**Table 2.1 Air Quality Monitoring Stations for Construction Phase** 

ID	Decemention	Coord	inates
Ш	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

#### Notes:

### 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.

<sup>1.</sup> 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.

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





- 2.3.2 Sufficient number of monitoring instruments was prepared by the ET for carrying out the impact monitoring. All equipment and associated instrumentation were clearly labelled.
- 2.3.3 Wind data were collected from the records of Hong Kong Observatory Kai Tak Wind Station (22.30966N, 114.21336E), which is located at the south-eastern side of runway of the former Kai Tak Airport about 4.5 km south-east from the project site.
- 2.3.4 Equipment used in the impact air quality monitoring programme is summarised in **Table 2.3.** Calibration certificates for the impact air quality monitoring equipment are attached in **Appendix E**.

Table 2.3 Impact Air Quality Monitoring Equipment

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

#### Maintenance and Calibration

- 2.3.5 Direct reading dust meters have been calibrated against high volume samplers (HVSs) annually. A 2-day, three 3-hour measurement results per day from direct reading dust meters were taken to compare with the sampling results from the HVSs. The correlation between the direct reading dust meters and the HVSs were then concluded. By accounting for the correlation factor, the direct reading dust meters are considered to achieve comparable results as that of the HVSs.
- 2.3.6 The 1-hour TSP measurement follows the instruction provided in the manufacturer's manual. Before initiating a measurement, zeroing the portable dust meter was carried out to ensure the accuracy of each measurement.

#### 2.4 Action and Limit Levels

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

Table 2.4 Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level (µg/m³)	Limit Level (µg/m³)
DM-1	300.1	
DM-2	289.0	
DM-3	289.7	500
DM-4	294.9	
DM-4a	291.6	





#### 2.5 Results and Observation

- 2.5.1 The impact air quality monitoring was conducted on 3, 9, 15, 21 and 26 August 2023. The impact air quality monitoring schedule for the reporting period is shown in **Appendix F**.
- 2.5.2 The monitoring results and graphical presentation of impact air quality monitoring are shown in **Appendix G**. No action or limit levels exceedance was recorded in the reporting period.

Table 2.5 Summary of Impact 1-hour TSP Monitoring Results

Monitoring	TSP C	Concentratio	n, μg/m <sup>3</sup>	Action	Limit Level
Station	Average	Minimum	Maximum	Level	Limit Level
DM-1	46	15	61	300.1	
DM-2	50	25	62	289.0	
DM-3	47	17	60	289.7	500
DM-4 <sup>(1)</sup>	45	20	61	294.9	
DM-4a	51	30	64	291.6	

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

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

Table 2.6 Influencing Factors at/ near Air Quality Monitoring Stations

<b>Monitoring Stations</b>	Influencing Factors
DM-1	Not identified
DM-2	Not identified
DM-3	Not identified
DM-4	Not identified
DM-4a	Not identified

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





#### 3. NOISE MONITORING

#### 3.1 Monitoring Locations

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

**Table 3.1 Noise Monitoring Stations during Construction Phase** 

ID	Description Measurement		Coord	linates
Ш	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 <sup>(2)</sup>	Block 6, Tsui Chuk Garden	Façade	822926	837246
NM-4a <sup>(1)</sup>	Road pavement near Wang King House, Tin Wang Court	Free field	822854	837340
NM-5	Wo Tin House, Shatin Pass Estate	Façade	823360	838143
NM-6	Sheung Fung Street Customs Staff Quarters	Free field	823134	838412

Notes:

The noise monitoring station proposed in the EM&A Manual (NM-1) was not available for baseline and impact monitoring. Therefore, impact monitoring at NM-1 was cancelled and agreed by the ER, IEC and EPD.

- (1) An additional noise monitoring station NM-4a was proposed by the ET and agreed by the ER, IEC and EPD.
- (2) Following the EPD's comment on the Baseline Monitoring Report (Ref. No. BRM-3.1, dated 17 March 2023), noise monitoring station was resumed at NM-4. Baseline monitoring for noise monitoring station NM-4 was then carried out between 2 May and 16 May 2023. Impact monitoring at NM-4 was commenced on 22 May 2023.
- 3.1.2 No construction work was conducted within 300 m radius of noise monitoring station NM-5 and NM-6. Thus, no construction noise monitoring was carried out at these two noise monitoring stations in the reporting period.

#### 3.2 Noise Monitoring Parameter, Frequency and Duration

- 3.2.1 Construction noise level was measured by the ET and measured in terms of the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ).  $L_{eq(30-\text{min})}$  was adopted as the monitoring parameter for the construction noise monitoring.
- 3.2.2 As supplementary information for data auditing, statistical results such as  $L_{10}$  and  $L_{90}$  were also obtained for reference.
- 3.2.3 **Table 3.2** summarized the monitoring parameters, duration, and frequency of construction noise monitoring.





Table 3.2 Construction Noise Monitoring Parameter, Frequency and Duration

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

#### 3.3 Monitoring Equipment, Methodology and QA / QC Procedure

- 3.3.1 As referred to the technical memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications were used for carrying out the construction noise monitoring.
- 3.3.2 Noise measurements were not made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed was checked with a portable wind speed meter capable of measuring the wind speed in m/s.
- 3.3.3 Sufficient number of noise measuring equipment and associated instrumentation 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**.

 Table 3.3 Construction Noise Monitoring Equipment

Equipment	Model (Serial Number)	Calibration Due Date
Sound Level Meter	Nti-XL2 (A2A-13661-E0)	21/08/2023
Sound Level Meter	Nti-XL2 (A2A-13663-F0)	14/02/2024
Sound Calibrator	Rion NC 75 (35124527)	01/11/2023

#### 3.4 Maintenance and Calibration

- 3.4.1 Maintenance and calibration procedures are as follows:
  - The microphone head of the sound level meter and calibrator were regularly cleaned with a soft cloth; and
  - The sound level meter and acoustic calibrator were calibrated annually by a HOKLAS accredited laboratory or the manufacturer.

#### 3.5 Action and Limit Levels

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

Table 3.4 Action and Limit Levels for Construction Noise Monitoring

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

<sup>\* 70</sup> 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 3, 9, 15, 21 and 26 August 2023. The monitoring schedule is presented in **Appendix F**.
- 3.6.2 The construction noise monitoring results are summarized in **Table 3.5**. Details of the results and graphical presentation are shown in **Appendix I**.
- 3.6.3 No Action levels exceedance was recorded in the reporting period. One limit level exceedance was recorded on 3 August 2023 for construction noise monitoring station NM-4a during the reporting period. According to the information provided by the Contractor, no project related construction work was carried out near the noise monitoring station. After investigation, the exceedance is considered as non-project related construction works near the monitoring location. Details of the investigation results are shown in **Appendix L**.

**Table 3.5 Summary of Construction Noise Monitoring Results** 

3.5	Noi	ise Level, dB	(A)	Limit Level
Monitoring Station (1)		$L_{eq}$ (30-min)		Limit Level
Station	Mean	Minimum	Maximum	
NM-2	67.4	62.3	69.3	75 dB(A)
NM-3	68.0	67.1	69.2	70/ 65 dB(A) <sup>(2)</sup>
NM-4 <sup>(3)</sup>	66.3	64.7	68.8	75 dB(A)
NM-4a	77.0	72.3	92.7	75 dB(A)

#### Note:

- (1) Construction noise monitoring at NM-4 and NM-5 will commence when construction works are undertaking near these stations.
- (2) 70 dB(A) for school and 65 dB(A) during school examination period.
- (3) Impact monitoring at NM-4 was commenced on 22 May 2023.
- 3.6.4 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**.
- 3.6.5 During the construction noise monitoring period, the influencing factors which may affect the results are summarized in **Table 3.6**.

**Table 3.6 Influencing Factors at Noise Monitoring Stations** 

<b>Monitoring Stations</b>	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, non-project related construction activities





#### 4. WASTE MANAGEMENT

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

Table 4.1 Summary of Waste Generated in the Reporting Period

	Ac	tual Quantaliti	es of Inert C&	D Materials G	enerated Mont	hly	Actua	al Quantities o	f C&D Wastes	Generated M	onthly		Actual Quanti	ities of C&D Wa	stes 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/foam package material)	Yard Waste	Others
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Aug 2023	0.18593	0.00000	0.00000	0.00000	0.18593	0.00000	0.00000	0.00000	0.00000	0.00000	0.01659	0.0058	0.02575	0.0055	0.00000	0.00000

- 4.1.2 Construction and demolition (C&D) materials sorting was carried out on site. Sufficient receptacles were provided for general refuse collection and sorting. Excavated inert C&D materials were reused to minimize the disposal of C&D waste to public fill.
- 4.1.3 The Contractor was advised to minimize the amount of waste through recycling or reusing. All applicable mitigation measures stipulated in the EM&A Manual and waste management plans shall be fully implemented.





#### 5. ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 5.1.1 Site inspections were carried out by the ET on a weekly basis to monitor the implementation of proper environmental pollution control mitigation measures for the Project. During the reporting period, site inspections were carried out 3, 11, 15 25 and 31 August 2023. Joint site inspection with the ER, the Contractor and the IEC was carried out on 15 August 2023.
- 5.1.2 During the site inspections in the reporting period, no non-conformance was identified. Key observations and reminders during the site inspections are described in **Table 5.1.**

**Table 5.1 Summary of Site Inspection Observations and Recommendations** 

Inspection Date	Key Observations / Reminders	Follow-up Action
3 Aug 2023	<ol> <li>The general refuse and construction material should be separated before disposal. (Portion 3) (Observation)</li> <li>The noise barriers should be properly erected in the site area. (Portion 3) (Observation)</li> <li>The stockpile of dusty materials should be covered by tarpaulin. (Portion 3) (Reminder)</li> </ol>	<ol> <li>The general refuse and construction material was separated before disposal and cleared.</li> <li>The noise barriers were reinstalled in the site area.</li> <li>The stockpile of dusty materials was covered.</li> </ol>
11 Aug 2023	1. The Contractor was reminded to clear the sediment and refuse in the storm drain. (Portion 3) (Reminder)	1. The sediment and refuse in the storm drain were cleared.
15 Aug 2023	No major environmental deficiency was observed.	N/A
25 Aug 2023	1. The Contractor was reminded to cover the bare slope to reduce muddy surface runoff. (Portion 3) (Reminder)	1. The bare slope was covered to reduce muddy surface runoff.
31 Aug 2023	<ol> <li>Potential oil leakage from the breaker tip was observed. The contractor was requested to clear the oil stain on the ground and dispose of the by-product as chemical waste. (Lung Fung Street) (Observation)</li> <li>The Contractor was reminded to reinstate the impervious sheeting and cover the bare slope to reduce muddy surface runoff. (Portion n3) (Reminder)</li> <li>The Contractor was reminded to display the Environmental Permit at the site exit. (Tsz Wan Shan Road near Shatin Pass Estate) (Reminder)</li> </ol>	<ol> <li>The oil stain on the ground was cleared and processed as chemical waste.</li> <li>The bare slope was covered by the impervious sheeting to reduce muddy surface runoff.</li> <li>The Environmental Permit at the site exit was displayed.</li> </ol>

Contract No. 21/WSD/21 Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns Monthly EM&A Report (August 2023)





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 exceedance was recorded in the reporting period. One Limit Level exceedance was recorded on 3 August 2023 in the reporting period. After the investigation, the exceedance was considered as non-project related. Details of the investigation results are shown in **Appendix L**.
- 6.1.3 An exceedance of construction noise Limit Level was recorded on 3 August 2023 in the reporting period. Follow-up actions in accordance with the Event and Action Plan in **Appendix C** were carried out and summarised in **Table 6.1**.

**Table 6.1 Summary of Event and Action Plans** 

Event	Action	Follow-up Action
	1. Identify source;	1. The non-project related construction works near the monitoring location (NM-4a) was identified as the noise source related to the Limit Level exceedance.
	2. Inform IEC, ER, EPD and Contractor;	2. Notification of exceedance have been issued to the IEC, the Contractor, the Engineer's Representative and the EPD.
	3. Repeat measurements to confirm findings;	3. Repeated measurement was carried out to confirm the limit level exceedance at NM-4a.
Limit Level Exceedance of Construction Noise	4. Increase monitoring frequency;	4. Increase in monitoring frequency was not carried out as the exceedance is considered non-project related.
	5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;	5. No additional mitigation measure was proposed as the exceedance is considered non-project related.
	6. Inform IEC, ER and EPD the causes and actions taken for the exceedances;	6. The ET would review the site condition after the exceedance. If further non-project related exceedance was recorded, the ET would propose suspension of noise monitoring or relocation of noise monitoring station, wherever appropriate.





Event	Action	Follow-up Action
	7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;	7. No remedial action was proposed as the exceedance is considered non-project related.
	8. If exceedance stops, cease additional monitoring.	8. No additional monitoring was proposed as the exceedance is considered non-project related.

#### **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:
  - Jacking pit construction for pipe jacking;
  - Trial pit excavation;
  - Formation of piling platform at +89.0mPD;
  - Pipe piling for PAB ELS wall;
  - Site compound set up; 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:

#### Dust

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

#### <u>Noise</u>

• 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 5<sup>th</sup> Monthly EM&A Report presenting the EM&A works during the reporting period from 1 August 2023 to 31 August 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 exceedance was recorded in the reporting period. One Limit Level exceedance was recorded on 3 August 2023 in the reporting period. After the investigation, the exceedance was considered as non-project related.
- 8.1.4 Environmental site inspections were conducted on 3, 11, 15, 25 and 31 August 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

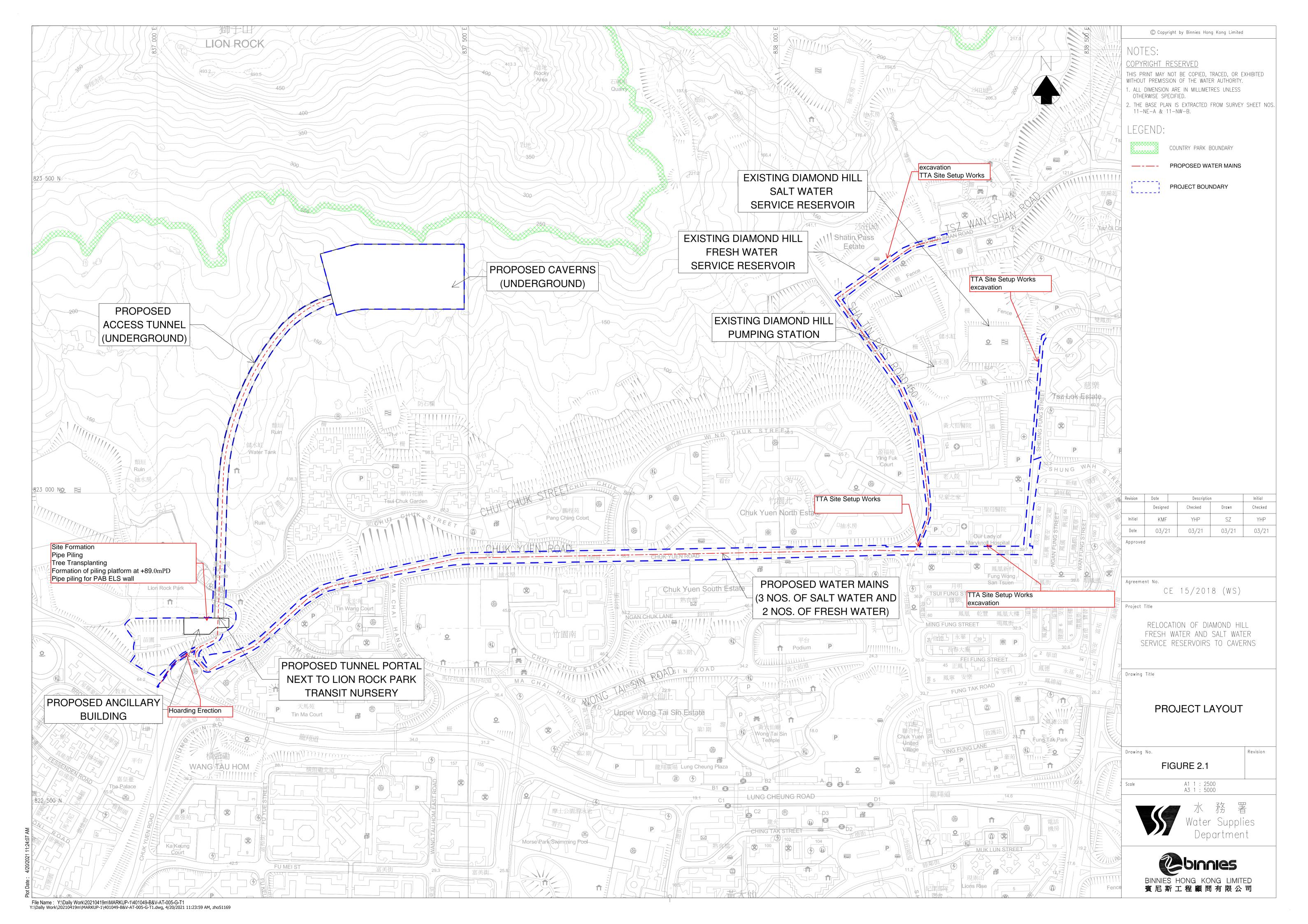
- 8.2.1 The proposed mitigation measures were properly implemented and were considered effective and efficient in pollution control.
- 8.2.2 The ET had no recommendation following the completion of EM&A in the reporting period.

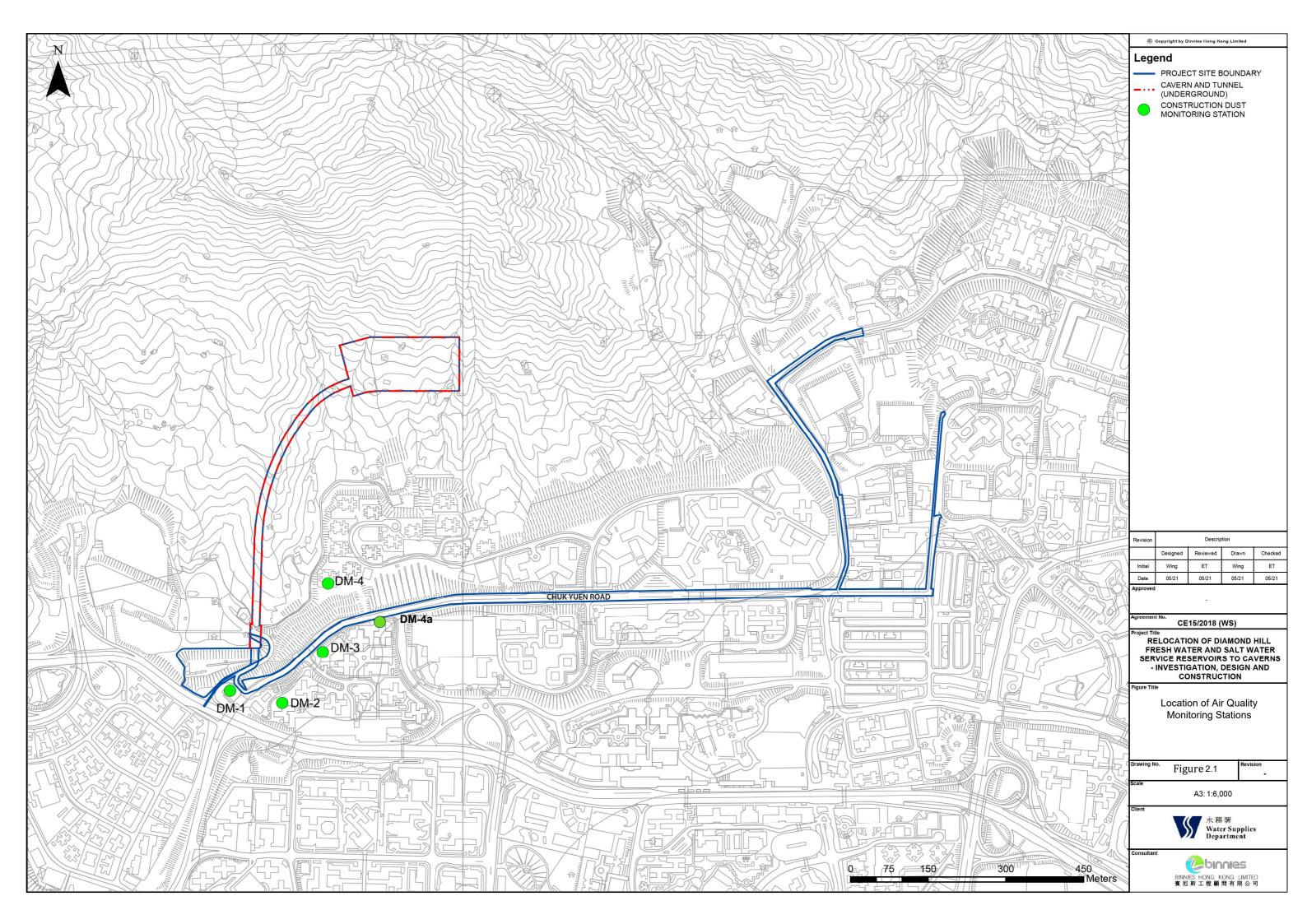
Contract No. 21/WSD/21 Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Caverns Monthly EM&A Report

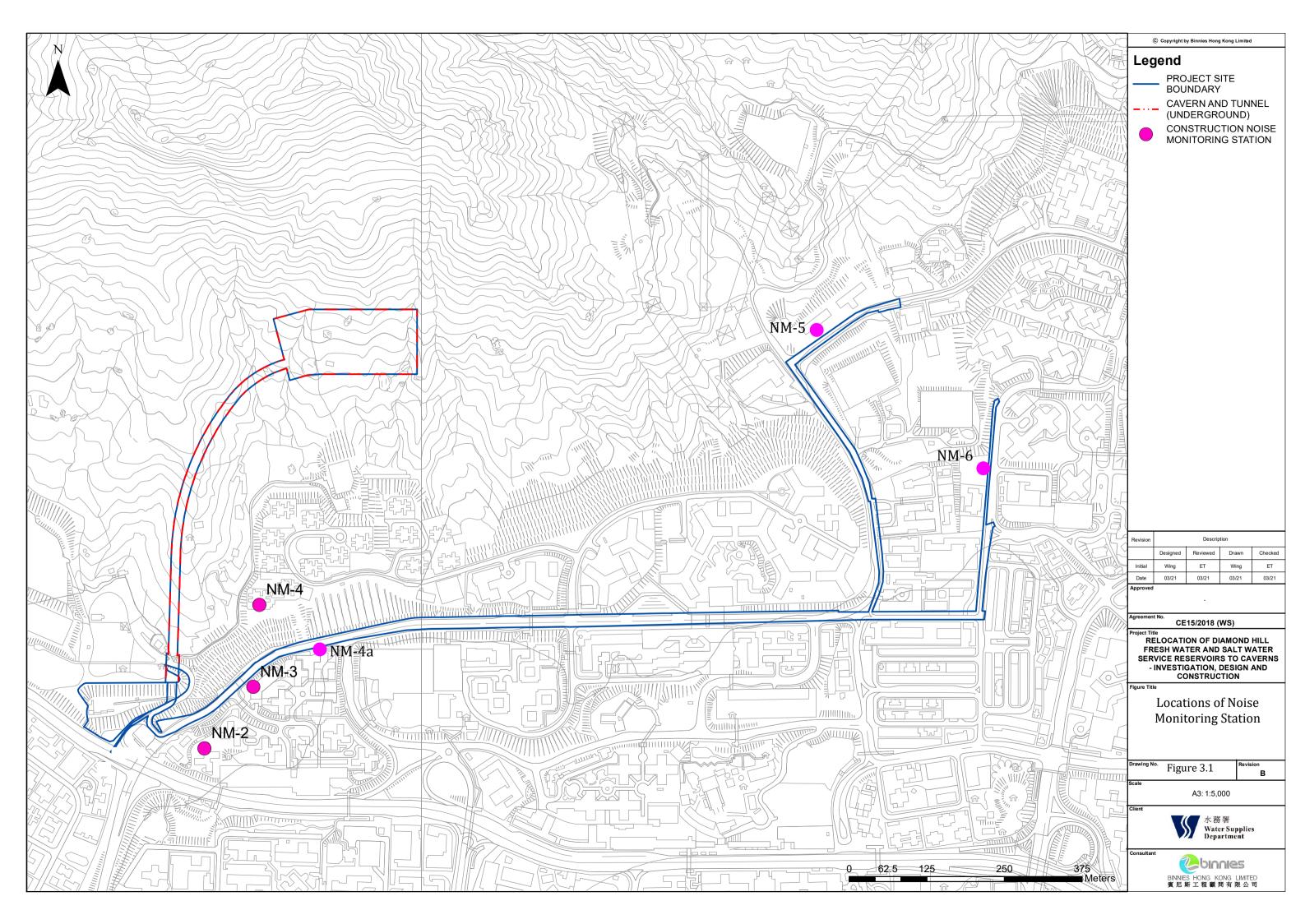




# **Figures**







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





# Appendix A

**Master Construction Pogramme for the Project** 

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

Monthly Programme January 2023

ty ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	ND JE	2023 FMAMJJASOND	2024 		2025 = M A M H H A	Island de	2026 MAM II II	
elocation of Diamo	ond Hill Fresh Water and Salt Water Service Reservoirs to Caverns - Janua	ry'23 Upd	1293	1293	29-Nov-22	12-Apr-27	29-Nov-22 A	12-Apr-27	0	N D O I				T M O O A		MAMOO	AGGINDIGIT
Contract Date			1596	1596	29-Nov-22	12-Apr-27	29-Nov-22 A	12-Apr-27	0	<b>+</b>							
Somia de Bate				,000		+											
CD-1000	Contract Date (CD)	100%	0	0	29-Nov-22		29-Nov-22 A			S Cont	ntract Date (CD)						
CD-1010	Starting date (SD, within 2weeks from the CD)	100%	0	0	09-Dec-22		09-Dec-22 A			Star	ırting date (SD, within 2we	eks from the CD)					
Contract Completion Da	te		0	0	12-Apr-27	12-Apr-27	12-Apr-27	12-Apr-27	0								
							'										
KD-1000	Completion date for the whole of the works (1585d)	0%	0	0		12-Apr-27		12-Apr-27*	0								
Anticipated Completion	Date		0	0	11-Apr-27	11-Apr-27	11-Apr-27	11-Apr-27	1								
KD-2100	Planned Completion date for the whole of the works (1585d)	0%	0	0		11-Apr-27		11-Apr-27	1								
A D-t-			00	400	00 D 00	00 M 00	00 D 00 A	00 M 02	4040		▼ 09-Mar-23, Access Da	at C					
Access Date			90	100	09-Dec-22	09-Mar-23	09-Dec-22 A	09-Mar-23	1316	ľ	• 03-Wa(-25, Access D	ue					
AD-1040	Portion 5	100%	0	0	09-Dec-22		09-Dec-22 A			Port	rtion 5						
AD-1000	Portion 1 (90d after SD)	0%	0	0	09-Mar-23		09-Mar-23		15	<del> - - -</del>	Portion 1 (90d after S	o)					
AD-1010	Portion 2 (90d after SD)	0%	0	0	09-Mar-23		09-Mar-23		1316	-	Portion 2 (90d after S	<b>1</b>					
AD-1010	1 Onton 2 (and alter ab)	070	U		09-IVIAI-23		09-IVIAI-23		1310								
AD-1020	Portion 3 (90d after SD)	0%	0	0	09-Mar-23		09-Mar-23		1		Portion 3 (90d after S	D)					
AD-1030	Portion 4 (90d after SD)	0%	0	0	09-Mar-23		09-Mar-23		43		Portion 4 (90d after S	D)					
Sub-letting / Procure	ment		267	267	29-Nov-22	24-Oct-23	29-Nov-22 A	24-Oct-23	1026		▼ 24-(	oct-23, Sub-letting	g / Procureme	ent			
					20 1101 22	2.00.20							1-4-24-4-4-4				
Works Sub-letting			267	267	29-Nov-22	24-Oct-23	29-Nov-22 A	24-Oct-23	1026		▼ 24-1	Oct-23, Works Su	ip-ieπing				
21.SUB.G.10000	Subletting for Initial Survey Works (WO001)	100%	0	18			29-Nov-22 A	30-Dec-22 A	\	<b>=</b> \$∪	ubletting for Initial Survey	Works (WO001)					
21.SUB.G.10010	Subletting for Temporary Supply of Water (WO002)	100%	0	18			29-Nov-22 A	30-Dec-22 A	\	<b>=</b> \$u	ubletting for Temporary S	ipply of Water (W	VO002)				
04 CLID C 40000	Cublette of a Tanan and County of Flacticity (MCOCC)	4000/		18			00 Nov. 00 A	20 D 00 A		S.	ubletting for Temporary S	upply of Electricity	(WC003)				
21.SUB.G.10020	Subletting for Temporary Supply of Electricity (WO003)	100%	0	18			29-Nov-22 A	30-Dec-22 A	\			apply of Electroity	(11000)				
21.SUB.G.10040	Subletting for Construction of New Shed and Miscellaneous Works (WO005)	70%	0	18			29-Nov-22 A	11-Jan-23	124	<b>=</b> S	Subletting for Construction	of New Shed an	d Miscellaned	ous Works (WC	)005)		
S-240	Subletting for Condition Survey, CCTV Inspection Survey	41.11%	90	90	29-Nov-22	26-Feb-23	09-Dec-22 A	26-Feb-23	66	1-1-1-1	Subletting for Condition	Survey, CCTV I	nspection Su	vey			
S-200A	Subletting for Consultants incl. designer, ICE, Traffic consultant	41.11%	90	90	29-Nov-22	26-Feb-23	09-Dec-22 A	26-Feb-23	0		Subletting for Consulta	nte incl. designer	ICE Traffic n	ongultant			
0-200A	outsiding for consultants inc. designer, for, frame consultant	71.1170	30	30	25-1407-22	20-1 CD-20	05-DC0-22A	20-1 CD-20						Origuitant			
21.SUB.G.10030	Subletting for Tree Survey Works (WO004)	58.33%	0	36			09-Dec-22 A	21-Jan-23	24	5	Subletting for Tree Surve	/ Works (WO004	)				
21.SUB.G.10050	Subletting for Traffic Consultancy Services Stage 1 (WO006)	58.33%	0	36			09-Dec-22 A	21-Jan-23	385	<b>-</b> 5	Subletting for Traffic Cons	ultancy Services	Stage 1 (WO	006)			
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	<b>-</b> 9	Subletting for Condition \$	urvey & Pre-Con	struction Con	dition Survey (\	VO007)		
															}	ļ	
21.SUB.G.10070	Subletting for UU Detection Works (WO008)	58.33%	0	36			09-Dec-22 A	21-Jan-23	9		Subletting for UU Detection	η ννοικς (γνουυ	φ): : : : :				
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 Consu	ltant - Temp Wor	ks for Site For	mation for PAE	(WO012)		
	·	1		,		,			,								
1ot Dwa ======	e Baseline 💠 💠 1st Programme Baseline Milestone					l of 27				Date		Revis	ion		Ch	ecked	Approved

Critical Remaining Work

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

Monthly Programme January 2023

vity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	u e	2023 2024 2025 2026
21.SUB.G.10090	Subletting for ICE Consultant - Portion 4 (WO013)	50%	0	42			09-Dec-22 A	01-Feb-23	1242	ND JF	MAMJJASONDJFMAMJJASONDJFMAMJJASOND Subletting for ICE Consultant - Portion 4 (WQ013)
04.01/0.0		04.000/					00.5	04.14	1010		I Subletting for Design Consultant (WO)014)
21.SUB.G.10100	Subletting for Design Consultant (WO014)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218		Subjecting of pesign Consultant (WOO14)
21.SUB.G.10110	Subletting for ICE Consultant - Civil & Structure (WO015)	50%	0	42			09-Dec-22 A	01-Feb-23	1101		Subletting for ICE Consultant - Civil & Structure (WQ015)
21.SUB.G.10120	Subletting for Ground Investigation & Montioring Works (WO016)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218		Subletting for Ground Investigation & Montioring Works (WO016)
21.SUB.G.10130	Subletting for Design Services for Pemanent/CSD (WO018)	43.75%	0	48			09-Dec-22 A	08-Feb-23	1236		Subletting for Design Services for Pemanent/CSD (WO018)
21.SUB.G.10140	Subletting for Demolition Works (WO032)	50%	0	42			09-Dec-22 A	01-Feb-23	1242		Subletting for Demolition Works (WO032)
21.SUB.G.10150	Subletting for Site Clearance (WO035)	29.17%	0	72			09-Dec-22 A	08-Mar-23	35		⊒ Subletting for Site Clearance (WO035)
21.SUB.G.10160	Subletting for Environmental Monitoring Works and Appointment of Environmental Team (SC0001)	58.33%	0	36			09-Dec-22 A	21-Jan-23	1248	5	Subletting for Environmental Monitoring Works and Appointment of Environmental Team (SC000.1)
21.SUB.G.10170	Subletting for Drainage and Duct for Slope Works (SC0004)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218	-	Subletting for Drainage and Duct for Slope Works (\$C0004)
21.SUB.G.10180	Subletting for Landscape Softworks for Slope Works (SC0005)	31.82%	0	66			09-Dec-22 A	01-Mar-23	1218		I Subletting for Landscape Softworks for Slope Works (SC0005)
21.SUB.G.10190	Subletting for Earthworks and ELS Works for PAB (SC0022)	31.82%	0	66			09-Dec-22 A	01-Mar-23	373		Subletting for Earthworks and ELS Works for PAB (\$C0022)
21.SUB.G.10200	Subletting for RC Works for PAB (SC0022)	29.17%	0	72			09-Dec-22 A	08-Mar-23	110		□ Subletting for RC Works for PAB (SC0022)
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		Subletting for Site Investigation Works incl. Borehole, Trial Trench, Manhole Survey
S-110	Pre-bid for Designer for Alternative Design	0%	28	28	29-Nov-22	26-Dec-22	02-Feb-23	01-Mar-23	1353		Pre-bid for Designer for Alternative Design
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 Installation Works by Pipe Jacking
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 Fabrication
S-280	Subletting for Foundation Works	0%	120	120	27-Jun-23	24-Oct-23	27-Jun-23	24-Oct-23	1266		Subletting for Foundation Works
Contractor's Design			497	490	27-Dec-22	29-Aug-24	09-Dec-22 A	29-Aug-24	773		₹ 29-Aug-24, Contractor's Design
21.DES.PAB.10000	Design submission and Approval for PAB ELS Works	38.89%	0	54			09-Dec-22 A	15-Feb-23	474		Design submission and Approval for PAB ELS Works
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 Hoarding at PAB
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	-	Design submission and Approval for Cathodic Protection of Watermains
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 Approval for Permanent Sleeve Pipe for Trenchless Works
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 Approval for Cut and Cover Tunnel (Alternative)
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 Approval for Tunnel Alignment and Cavern Layout (Alternative)
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 Approval for Lining for Tunnel and Caverns (Alternative)
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 Approval for Lining for Portal Foundation (Alternative)
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 Approval for Advance Treatment Works at Ma Chai Hang FWSR
4 of Drawnsan	Do Possijno A 1st Programma Possijna Milastaria					) -f 07				ate	Revision Checked Approx
ısı Piogramm	ne Baseline 💠 🔷 1st Programme Baseline Milestone				2	2 of 27			-		
Actual Work		1							12-De	C-22	First Programme

Critical Remaining Work

Monthly Programme January 2023

	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Float N.D.	2023 2024 2025 2026 JFMAMJJJASONDJFMAMJJJASONDJFMAMJJJASOND
D-1070	Design submission and Approval for Tunnel Internal Civil Structure	0%	90	90	24-Dec-23	22-Mar-24	24-Dec-23	22-Mar-24	438	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
D-1050	Design submission and Approval for Architectual Works	0%	90	90	27-Feb-24	26-May-24	27-Feb-24	26-May-24	931	Design submission and Approval for Architectual Works
D-1040	Design submission and Approval for E&M systems incl. ventilation, lighting, electrical, FS for	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. ventilatio
For Reprovision of Structo	Tunnel ures		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	□ ICEChecking -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	II 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	☐ :ICE 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		☐ Seeking Approval from PM with comment revised
		0 76	,	,	07-Aug-23	13-Aug-23				
Contractor's Blasting Asse	essment Report (CBAR)		0	431			09-Mar-23	12-May-24	36	▼ 12-May-24, Contractor's Blasting Assessment Report (¢BAR)
Contractor's Blasting Ass	sessment 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
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 Chệck ạn 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 & Subjmit to CoM, GEQ, 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 GBAR - 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	Réview & Approval from CoM, GEO, BD, Police & FSD on CBAR - Vol.1
Contractor's Blasting Ass	sessment 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 (¢BAR) - VAT Tun
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
	·	,	,	,	,				Date	Dovision
									בורו ו	
1st Programme	e Baseline ♦ 1st Programme Baseline Milestone  ♦ Milestone				3	3 of 27			12-Dec-22	''

Monthly Programme January 2023

. Finish Start	1st Prog. Start 1st Prog. Finish	t Prog. Original 1st Prog. Start 1st Prog. Finish Dur. Duration	Finish Start	Finish	Total Float	NDJFM	2023 AMJJASON	ID J F M	2024 2025   A M J J A S O N D J F M A M J J A S O	202 NDJFMAMJ	
01-Jan-24 2		0 28	01-Jan-2	28-Jan-24	36			□ PN	AMJJASONDJFMAMJJAS Gomment on CBAR - Vol.2		
29-Jan-24 1 <sup>-</sup>		0 14	29-Jan-2	11-Feb-24	. 36			□ In	corporate PM Comment on CBAR - Vol.2		
12-Feb-24 25		0 14	12-Feb-2	25-Feb-24	. 36			<b>0</b> F	Prepare & Submit to CoM, GEO, BD, Police	& FSD ¢BAR - Vol.2	
26-Feb-24 24		0 28	26-Feb-2	24-Mar-24	. 36				Review & Comments from CoM, GEO, BD	, Police & FSD on C	BAR - Vol.2
25-Mar-24 1		0 21	25-Mar-2	14-Apr-24	36				□ Revise & Final Submission to CoM, GEC	, BD, Police & FSD (	CBAR - Vol.2
15-Apr-24 12		0 28	15-Apr-2	12-May-24	36				🛱 Review & Approval from CoM, GEO, E	D, Police & FSD on	CBAR - Vol.2
06-Aug-23 10		0 371	06-Aug-2	10-Aug-24	2				▼ 10-Aug-24, Blasting Method Sta	tement (BMS)	
06-Aug-23 13		0 221	06-Aug-2	3 13-Mar-24	. 1				13-Mar-24, Blasting Method Statement (BN	IS) - VAT Tunnel (Be	efore MTR Vicinit
06-Aug-23 0-		0 60	06-Aug-2	04-Oct-23	1		P	repare & S	Submit to PM BMS Vol.1		
05-Oct-23 2		0 21	05-Oct-2	25-Oct-23	1			PM Reviev	w & Comment on BMS Vol.1		
26-Oct-23 08		0 14	26-Oct-2	08-Nov-23	3 1			Incorpora	ate PM comments & Submit to CoM BMS Vo	[1]	
09-Nov-23 06		0 28	09-Nov-2	06-Dec-23	3 1			Review	& Comments from GoM on BM\$ Vol.1		
07-Dec-23 20		0 14	07-Dec-2	3 20-Dec-23	3 1			■ Revise	e & Final Submission to CoM BMS Vol.1		
21-Dec-23 1		0 28	21-Dec-2	3 17-Jan-24	. 1			Rev	iew & Acceptance from CoM on BMS Vol.1		
18-Jan-24 3		0 14	18-Jan-2	31-Jan-24	. 1			■ Bla	isting Permit Application - VAT Tunnel (Befor	e MTR Vicinity)	
01-Feb-24 28		0 28	01-Feb-2	28-Feb-24	. 1			<b>=</b> (	Comments from CoM on Blasting Permit App	lication - VAT Tunne	el (Before MTR V
29-Feb-24 00		0 7	29-Feb-2	06-Mar-24	. 1				Site Inspection by CoM - VAT Tunnel (Befor	∌ MTR Vi¢inity)	
07-Mar-24 13		0 7	07-Mar-2	13-Mar-24	. 1			1	Issue fof Blasting Permit - VAT Tunnel (Befo	re MTR Vicinity)	
04-Dec-23 10		0 251	04-Dec-2	10-Aug-24	2				10-Aug-24, Blasting Method Sta	itement (BMS) - VAT	Tunnel & Cave
04-Dec-23 02		0 90	04-Dec-2	02-Mar-24	. 2				Prepare & Submit to PM BMS Vol.2		
03-Mar-24 23		0 21	03-Mar-2	23-Mar-24	. 2				PM Review & Comment on BMS Vol.2		
24-Mar-24 0		0 14	24-Mar-2	06-Apr-24	2				Incorporate PM comments & Submit to C	om BMS Vol.2	
07-Apr-24 04		0 28	07-Apr-2	04-May-24	2				Review & Comments from CoM on BM	\$ Vol.2	
05-May-24 18		0 14	05-May-2	18-May-24	2				■ Revise & Final Submission to CoM BM	S Vol.2	
19-May-24 1		0 28	19-May-2	15-Jun-24	. 2				Review & Acceptance from CoM on	BMS Vol.2	
16-Jun-24 2		0 14	16-Jun-2	29-Jun-24	. 2				<ul> <li>Blasting Permit Application - VAT Tu</li> </ul>	innel & Caverns (Fro	om MTR Vicinity)
30-Jun-24 2		0 28	30-Jun-2	27-Jul-24	2				Comments from CoM on Blasting	Permit Application -	- VAT Tunnel & C
, ,	4		'	,		Date		'	Revision	Checked	Approve
•	4 of 27	4 of 27					First Program	nme	I TO A ISIOI I	OHECKEU	Thhiose
	4 01 21	4 01 27			12-De		First Progran		January 2022		

Monthly Programme January 2023

12-Jan-23

Remaining Work

Critical Remaining Work

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

vity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026 NDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJ
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 Inspection by CoM VAT Tunnel & Caverns (From MTR Vicinity
21.BMS.VAT.10190	Issue fof Blasting Permit - VAT Tunnel & Caverns (From MTR Vicinity)	0%	0	7			04-Aug-24	10-Aug-24	2	l lssue fof Blasting Permit - VAT Tunnel & Caverns (From MTR Vicin
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-Works
			ŭ							
21.PRW.G.10000	Tree Survey at PAB Area	0%	0	15			26-Jan-23	11-Feb-23	24	□ Třeę Şurvey at PAB Area
21.PRW.G.10010	Topographic Survey at PAB Area	0%	0	12			26-Jan-23	08-Feb-23	298	□ Topographic Surveyat PAB Area
21.PRW.G.10020	Pre-Condition Survey Site Wide	0%	0	29			26-Jan-23	28-Feb-23	281	Pre-Condition Survey Site Wide
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	TTA Implementation for the exposed work of dia. 1400mm pipe at Lion Rock Road
21.PRW.G.10050	UU Detection at PAB & Portion 5	0%	0	12			26-Jan-23	08-Feb-23	1208	UU Detection at PAB & Portion 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	II Trial pit to exposed work of dia. 1400mm bipe at Lion Rock Road
Relocation of Transit Nurs			202	175	09-Dec-22	28-Jun-23	09-Dec-22 A	28-Jun-23	1384	▼ 28-Jun-23, Relocation of Transit Nursey
		450/								
SW-RTN-1010	Liase with LCSD for facilities relocation arrangement	45%	60	60	09-Dec-22	06-Feb-23	09-Dec-22 A		73	Liase with LCSD for facilities relocation arrangement
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 Site setup in Portion 4
SW-RTN-1020	Access to Portion 4	0%	0	0	09-Mar-23		09-Mar-23		43	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 works; e.g.; water supply, in Portion 4:
SW-RTN-1050	Relocation of Transit Nursery and other LCSD's facilties to Portion 4	0%	40	40	11-May-23	19-Jun-23	11-May-23	19-Jun-23	35	Relocation of Transit Nursery and other LCSD's facilities to 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	l: Test and Commissioning of water supply and LCSD's facilities:
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	R Handover Portion 4 to LCSD for its management:
Ma Chai Hang Fresh Wa	tter Service Reservoir (MCHFWSR)		360	333	09-Dec-22	03-Dec-23	09-Dec-22 A	03-Dec-23	1226	▼ 03-Ded-23, Ma Chai Hang Fresh Water Service Reservoir (MCHFWSR)
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 MCHFWSR
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	Ground treatment works in Portion 2
Portal Ancillary Building			1245	1245	28-Jan-23	11-Apr-27	28-Jan-23	11-Apr-27	1	
Preparation Works & Sit	te Clearance		174	174	28-Jan-23	20-Jul-23	28-Jan-23	20-Jul-23	242	▼ 20-Jul-23, Preparation Works & Site Clearance
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	Access to Portion 3
		·	'	'	,	'	'	1.	·	Date Revision Checked Approx
1st Programme	•				;	5 of 27			12-De	
Actual Work	♠ Milestone								12-De	<u> </u>
Remaining Wo	rk Summary	l l								n-23 Monthly Programme January 2023

Monthly Programme January 2023

/ ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total 2023 Float NID LEMAM LIJA	2024 2025   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		
SW-PAB1030	Hoarding Erection and Site Setup	0%	10	10	13-Apr-23	22-Apr-23	13-Apr-23	22-Apr-23		g Erection and Site Setup		JASONDJ
SW-PAB1040	Tree Treatment and Site Clearance	0%	49	49	23-Apr-23	10-Jun-23	23-Apr-23	10-Jun-23	O Tree	Treatment and Site Clearance		
3V-I AD 1040	The Treatment and Site Clearance	0 70	43	49	20-Api-20	10-3411-23	25-Api-25	10-3011-23		neamentand Sie Gleafance		
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 S	urvey, Trial pit, UU detection, Condition survey		
Foundation, Sub-Strue	cture and Retaining Structure		579	579	07-Jun-23	20-May-25	07-Jun-23	20-May-25	246	▼ 20-Máy-2	5, Foundation, Sub-	Structure and Re
Northern Side of PAB (F	RHS) (Zone 2)		356	356	07-Jun-23	15-Aug-24	07-Jun-23	15-Aug-24	469	15-Aug-24, Northern Side of P	AB (RH\$) (Zone 2)	
_			000	000	07 0dil 20	10 / lag 24	07 0dil 20	10 / lag 24				
SW-PAB-2110	Implement TTA to shift Lion Rock Road traffic westward to provide sufficent space for pipe pile installation	0%	2	2	07-Jun-23	08-Jun-23	07-Jun-23	08-Jun-23	293   Imple	ement TTA to shift Lion Rock Road traffic westward to provi	le sufficent space for	pipe pile installa
SW-PAB-2120	Removal of road pavement and site clearance, surveying, UU detection, diversion (if any)	0%	20	20	09-Jun-23	28-Jun-23	09-Jun-23	28-Jun-23	361 ■ Rei	moval of road pavement and site clearance, surveying, UU	detection, diversion (	(if any)
SW-PAB-2000	Construction of Concrete Block Wall and Forma Working Platform at +85mPD (7d+3d) (start	0%	10	10	20-Jun-23	03-Jul-23	20-Jun-23	03-Jul-23	28	onstruction of Concrete Block Wall and Forma Working Plat	orm at +85mPD (7d-	+3d) (start after 8
3V-1 Ab-2000	after 8no pipe pile by 1rig)	0 70	10	10	20-3411-23	03-34-23	20-3un-23	03-04-23	20	A STATE OF THE STA		(Start after 0
SW-PAB-2010	Soil Excavation for Southern Ramp (Total: 2689m3) (PR=180m3/d)	0%	15	15	20-Jun-23	08-Jul-23	20-Jun-23	08-Jul-23	285 📮 So	oil Excavation for Southern Ramp (Total: 2689rn3) (PR=180	m3/d)	
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 (273dia) along Lion Rock Road (To	otal: 53no.) (PR=1d/p	oile/rig) (2rigs) plu
SW-PAB-2020	plus 1 wk for grouting  Installation of King Post (Total: 3no) (PR=2.5d/pile/rig) (2 rigs)	0%		5	24-Jul-23	28-Jul-23	24-Jul-23	28-Jul-23	11	nstallation of King Post (Total: 3no) (PR+2:5d/pile/rig) (2 rigs		
3VV-PAD-2U2U	ilistaliation of Kirg Post (10tal. 310) (FK-2.3u/pile/rig) (2 rigs)	070	3	3	24-Jul-23	20-JUF23	24-Jur-23	20-Jul-23	"	nstaliation of king Post (Total, \$10) (PK+2.30/pile/ng) (2 ngs		
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	Installation of Pipe Pile at RHS of Portal (Total: 15no) (PR=	2.5d/pile/rig) (2 rigs)	+3d remobilizati
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 Platform for Bored Pile Construction		
SW-PAB-2050	Plant mobilization and Installation of Bored Pile on Steel Platform (Total: 4no) (PR=22d/pile/rig) (1	00/	88	88	27-Dec-23	15 Amr 24	27-Dec-23	15 Amr 24	100	Plant mobilization and Installation of Bor	al Mila an Ota al Diate	- Total (Inc.)
SVV-PAB-2050	rigs)	0%	00	00	27-Dec-23	15-Apr-24	27-Dec-23	15-Apr-24	199	Plant mobilization and installation of Bon	ed File on Steel Platfo	orm (Total: 4110)
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	Plant Demobilization and Removal of \$	eel Platform	
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	Soil Excavation to Formation Level an	d ELS Installation (To	otal: 2217m3) (P
SW-PAB-2080	Dila Tast @ Crid DD FF (Tatal) Ana )	00/	30	30	40 May 24	46 him 24	10 May 24	16-Jun-24	F70			
SVV-PAD-2000	Pile Test @ Grid BB-EE (Total: 4no.)	0%	30	30	18-May-24	16-Jun-24	18-May-24	10-Jun-24	578	□ Pile Test @ Grid BB-EE (Total: 4no	);	
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	Construction of Retainig Wall F	W3 and Backfill work	<
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	Trim Pile Head, Construction o	Pile Cap @ Grid BB	3-EE,3m thk
Northern Cide of DAD //	10) (7-2-4)		570	<b>570</b>	47.1.00	00.14	47.1.00	00.14		20 Mày 2	5, Northern Side of F	DAR (LH\$) (Zone
Northern Side of PAB (L	.ns) (zone 1)		570	570	17-Jun-23	20-May-25	17-Jun-23	20-May-25	201	V 20-1049-2	, Notuletti Side Olif	-AD (Li 19) (2011
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 🔲 🖳 li	nstallation of mini-pile for support steel platform (Total: 22no	(PR=1.5d/pile/rig) (1	rigs)
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 footing on mini-pile		
014 545 0000		00/			04 1 100	07.1.100	04 1 100	07.1.100				
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	nstallation of Sheet Pile (Total: 10m, 240m2) (PR=40m2/d/p	iler) (1 piler)	
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 (Total: 15m, 360m2) (PR=40m2/d/	oiler) (1 piler)	
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	Sdil Excavation to reach 1:8 fall for King Post Installation		
OW D: 2 2 2 -	-	201				_		_				
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 ELS installation - Stage 1 (Total: 27)	)Um3) (PR=180m3/d	i) + 8d ELS
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 Remaining Sheet Pile (Total: 42m, 930m2	) (PR=40m2/d/piler) (	(1 piler)
												<u>                                      </u>
1st Programm	me Baseline ♦ ♦ 1st Programme Baseline Milestone				ı	6 of 27			Date	Revision	Checked	Approve
Actual Work	Milestone				(	J UI Z1				ogramme		
Remaining W									12-Jan-23 Monthly	Programme January 2023		

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

y ID	Activity Name	Activity % Complete	1st Prog. Dur.	. Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026
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	NDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND.  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 Pile on Steel Platform (Total: 7no) (PR=2:
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-BB (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	☐ Rémoval of Steel Platform
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 to Formation Level;and ELS:Installation
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 Pile Head, Construction of Pile Cap @ C
Southern Side of PAB			499	499	08-Aug-23	10-Apr-25	08-Aug-23	10-Apr-25	242	▼ 10-Apr-25, Southern Side of PAB
		201	10	10	20.1		20.1	20.1.20	100	
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=40m2/d/piler)
SW-PAB-4010	Construction of Concrete Block Wall and Forma 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 Form a Working 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 RW1 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 of Bored Pile on ground at FEL (Total: 3
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
Building Structure - Grid	d No. U - BB		727	727	04-Aug-23	13-Jan-26	04-Aug-23	13-Jan-26	260	▼ 13-Jah-26, Building Structu
SW-PAB-S2000	Installation of Tower Crane	0%	5	5	04-Aug-23	09-Aug-23	04-Aug-23	09-Aug-23	354	Il Installation of Tower Crane
SW-PAB-S3000	Commencement of Building Structure	0%	0	0	21-May-25		21-May-25		244	Commencement of Building Structure
SW-PAB-S3010	Column, Beam & Floor Slab @ Ground Floor +78mPD (from Pile Cap @ +75mPD) incl. scaffold	0%	35	35	21-May-25	24-Jun-25	21-May-25	24-Jun-25	244	□ Column, Beam & Floor Slab @ Ground Flo
SW-PAB-S3020	erection  RC Column and RC Wall @ above Ground Floor	0%	26	26	25-Jun-25	20-Jul-25	25-Jun-25	20-Jul-25	244	☐ RC:Column and RC Wall @ above Gro
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		RC Beam& Floor Slab @ First Floor -
								_		
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		□ RC:Column and RC Wall @ above
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+
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 @ abo
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:ii
			<u>'</u>	1	'				Г	Date Revision Checked Approv
•	ne Baseline ♦ 1st Programme Baseline Milestone ♦ Milestone				•	7 of 27			12-De	
Actual Work										

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

	Activity Name	Activity % Complete	1st Prog. Dur.	Duration	l ot i log. otali	1st Prog. Finish	Start	Finish	Total Float	NDJEMAMJI	ASONDI	EΜΔΜ	ا ا ا ا ا ح ا د	ו עו עו	F M A M	ЛЛАС	2026   OND JFMAMJJ	
SW-PAB-S3090	Waterproofing works on roof	0%	18	18	27-Dec-25	13-Jan-26	27-Dec-25	13-Jan-26	318	JA D J F IVI A IVI J J	A S O N D 3	I I IVI A	U U N S	1403	L TAIM	JUNE	Waterproofir	
			0-0									ļ			 			26
Building Structure - Grid	1 NO. BB - EE		256	256	16-Mar-26	26-Nov-26	16-Mar-26	26-Nov-26	1									▼ 40-
SW-PAB-S4000	Column, Beam & Floor Slab @ Ground Floor +78mPD (from Pile Cap @ +75mPD) incl. scaffold erection	0%	35	35	16-Mar-26	19-Apr-26	16-Mar-26	19-Apr-26	1								Colur	mn, Beam & Flo
SW-PAB-S4010	RC Column and RC Wall @ above Ground Floor	0%	26	26	20-Apr-26	15-May-26	20-Apr-26	15-May-26	1								■ RC	Column and F
SW-PAB-S4020	RC Beam & Floor Slab @ First Floor +84.25mPD incl. scaffold erection	0%	35	35	16-May-26	19-Jun-26	16-May-26	19-Jun-26	1	-								RC Beam & Fk
SW-PAB-S4030	RC Column and RC Wall @ above First Floor	0%	26	26	20-Jun-26	15-Jul-26	20-Jun-26	15-Jul-26	1									RC Column
SW-PAB-S4040	RC Beam & Floor Slab @ Roof +91.5mPD incl. scaffold erection	0%	35	35	16-Jul-26	19-Aug-26	16-Jul-26	19-Aug-26	1									RC Beam
SW-PAB-S4050	RC Column and RC Wall @ above Roof	0%	14	14	20-Aug-26	02-Sep-26	20-Aug-26	02-Sep-26	1									RC Colu
SW-PAB-S4070	RC Stairs	0%	21	21	20-Aug-26	09-Sep-26	20-Aug-26	09-Sep-26	79	-								RC Stair
SW-PAB-S4060	Roof Canopy @ +95.8mPD incl. scaffold erection	0%	21	21	03-Sep-26	23-Sep-26	03-Sep-26	23-Sep-26	1									■ Roof C
SW-PAB-S4080	Installation of Photovoltaic Panel	0%	18	18	22-Oct-26	08-Nov-26	22-Oct-26	08-Nov-26	1									■ Insta
SW-PAB-S4090	Waterproofing works on roof	0%	18	18	09-Nov-26	26-Nov-26	09-Nov-26	26-Nov-26	1						} - <del> </del> -   -   -			■ W
SW-PAB-S4100	Complete RC Structure	0%	0	0		26-Nov-26		26-Nov-26	1									<b>\$</b> c
BWF/ MEP/ FS/ Fitout	t Works		595	595	25-Aug-25	11-Apr-27	25-Aug-25	11-Apr-27	1							-		
For Grid No. U - BB			409		25-Aug-25		J	07-Oct-26	78							-		07-00
					·		-											
G/F - Transformer Roon	n & LV Switch Room		409	409	25-Aug-25	07-Oct-26	25-Aug-25	07-Oct-26	48									07-00
SW-PAB-A5010	TR &LVSR - Falsework Removal/ Preparation for ABWF & MEP Works	0%	35	35	25-Aug-25	28-Sep-25	25-Aug-25	28-Sep-25	268			;			}		TR &LVSR - Falsewo	ork Removal/I
SW-PAB-A5020	TR &LVSR - ABWF Deg1 - Deg3	0%	38	38	29-Sep-25	05-Nov-25	29-Sep-25	05-Nov-25	268								TR &LVSR - ABW	/F Deg1 - Deg
SW-PAB-A5030	TR &LVSR - BS 1st Fix - 3rd Fix	0%	38	38	13-Oct-25	19-Nov-25	13-Oct-25	19-Nov-25	268	-							TR &LVSR - B\$	1st Fix - 3rd Fi
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								TR &LVSR - CL	P Inspection a
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 &LVS	SR - Installation
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	1-							<del>                                      </del>	□ TR &l
SW-PAB-A5070	TR &LVSR - Power-on Date	0%	0	0		07-Oct-26		07-Oct-26	48									<b>\$</b> TR &L
1/F - Genset Room			152	152	25-Oct-25	25-Mar-26	25-Oct-25	25-Mar-26	244								▼ 25-Mar	r-26, 1/F - Gen
SW-PAB-A5110	Genset Rm - Falsework Removal/ Preparation for ABWF & MEP Works	0%	35	35	25-Oct-25	28-Nov-25	25-Oct-25	28-Nov-25	244								Genset Rm - Fa	alsework Remo
SW-PAB-A5120	Genset Rm - Concrete Plinth, Waterproofing & Test	0%	12	12	29-Nov-25	10-Dec-25	29-Nov-25	10-Dec-25	244								☐ Genset Rm - C	oncrete Plinth
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 Screed	ling, Wall Plast
												<u> </u>			<u> </u>		<u>                                      </u>	<u>                                      </u>
1st Programm	ne Baseline 💠 💠 1st Programme Baseline Milestone					8 of 27			12-De	Date	rogramme		Revision				Checked	Approv
		1							1400									

Monthly Programme January 2023

)	Activity Name	Activity % Complete	Dur.	Duration	TSI Flog. Staff	1st Prog. Finish	Start	Finish	Total Float	ND JE	2023 MAMJIJAISIONDI,	2024 IFMAMJJAS	2025 ONDJFMAMJJA		26 JASONDJ
SW-PAB-A5140	MEP Works	0%	28	28	08-Jan-26	04-Feb-26	08-Jan-26	04-Feb-26	244					MEP Wor	ks
SW-PAB-A5150	Move-In Generator Equipments	0%	7	7	05-Feb-26	11-Feb-26	05-Feb-26	11-Feb-26	244					I Move-In	Generator Equip
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					⊑ Final Co	oat to Wall & Sea
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 Equi
Other Rooms			187	187	25-Aug-25	27-Feb-26	25-Aug-25	27-Feb-26	300				· · · · · · · · · · · · · · · · · · ·		-26, Other Roon
	O/E E L. L.D I/D I'. ( ADWEAMEDW. L.	00/			Ū									☐ G/F - Falsework R	
SW-PAB-A5210	G/F - Falsework Removal/ Preparation for ABWF & MEP Works	0%	42	42	25-Aug-25	05-Oct-25	25-Aug-25	05-Oct-25	361						
SW-PAB-A5220	G/F - ABWF Deg1 - Deg3	0%	70	70	06-Oct-25	14-Dec-25	06-Oct-25	14-Dec-25	361					G/F-ABWF	
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 - BS 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					1/F - Falsewor	k Removal/ Prer
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 - ABV	NF 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					<b>□</b> 1/F - B9	\$ 1st Fix - 3rd Fix
For Grid No. BB - EE			187	187	20-Jun-26	23-Dec-26	20-Jun-26	23-Dec-26	1					<b>-</b>	2
G/F - FS Water Tank & F	S Pump Room		129	129	20-Jun-26	26-Oct-26	20-Jun-26	26-Oct-26	29					•	<b>2</b> 6-O
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						■ FS Water Ta
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 T
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							☐ FS Water
	-														
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							□ F\$ Wate
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						FSW
SW-PAB-A6060	FS Water Tank & Pump Rm - Install Cat Ladder & Hatch Cover	0%	10	10	17-Oct-26	26-Oct-26	17-Oct-26	26-Oct-26	29						□ FSW
Other Rooms			187	187	20-Jun-26	23-Dec-26	20-Jun-26	23-Dec-26	1				;; -, -, -, -, -, -, -, -, -, -, -, -, -,	<b>.</b>	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 - Falsev
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 - A
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 -
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						<b>=</b> 1/F - Fa
SW-PAB-A6150	1/F - ABWF Deg1 - Deg3	0%	70	70	01-Oct-26	09-Dec-26	01-Oct-26	09-Dec-26	1						1,
SW-PAB-A6160	1/F - BS 1st Fix - 3rd Fix	0%	70	70	15-Oct-26	23-Dec-26	15-Oct-26	23-Dec-26							
	W. SO ISHIN GIGHTS	370													
External Works			197	197	— <del>06-S</del> ер-26	23-Mar-27	08-Sep-26	23-Mar-27	20						
= 1st Programme	e Baseline ♦ ♦ 1st Programme Baseline Milestone	<u> </u>				9 of 27			1	Date		Revisio	n	Checked	Approv
ist isgiaiilli	2 2455 V V 15t i regiannine Dasenne Minestone				;	9 UI Z1			12-De		First Programme			<del>- 1</del>	<del>                                     </del>

)	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float N	2023   2024   2025   2026   DJFMAMJJJASONDJFMAMJJJASONDJFMAMJJJASONDJFMAMJJJASON	2 N D J F
W-PAB-E1000	Underground Utilities Works, Drainage Works & Testing	0%	100	100	08-Sep-26		08-Sep-26	16-Dec-26	1		Un
/-PAB-E1010	Backfilling to Ground Level	0%	30	30	23-Oct-26	21-Nov-26	23-Oct-26	21-Nov-26	20		Bac
W-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
V-PAB-E1030	Extenal wall plastering/ painting works	0%	24	24	06-Dec-26	29-Dec-26	06-Dec-26	29-Dec-26	80		<b>=</b> E
W-PAB-E1040	Extenral wall tiles	0%	24	24	06-Dec-26	29-Dec-26	06-Dec-26	29-Dec-26	20		₽ E
W-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		
W-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		
W-PAB-E1070	Construction of vehicular road	0%	45	45	23-Jan-27	08-Mar-27	23-Jan-27	08-Mar-27	35		
W-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		
W-PAB-E1100	Complete External Works	0%	0	0		23-Mar-27		23-Mar-27	20		
sting and Commision	ing		97	97	24-Nov-26	28-Feb-27	24-Nov-26	28-Feb-27	1		+
W-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		<b>1</b> /
W-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		
ndscaping and Archit	tectural Roof		219	219	20-Aug-26	26-Mar-27	20-Aug-26	26-Mar-27	17	<del>,                                    </del>	
1000	Construction of Gabion Wall	0%	60	60	20-Aug-26	18-Oct-26	20-Aug-26	18-Oct-26	132		Const
1030	Tree Transplant near Gabion Wall	0%	60	60	19-Sep-26	17-Nov-26	19-Sep-26	17-Nov-26	132		Tre
1040	Installation of Landscape Fence	0%	14	14	18-Nov-26	01-Dec-26	18-Nov-26	01-Dec-26	132		■ Ins
A1050	Architectural Roof hardwork	0%	120	120	27-Nov-26	26-Mar-27	27-Nov-26	26-Mar-27	17		-
A1060	Architectural Roof softwork and Tree transplant	0%	60	60	27-Dec-26	24-Feb-27	27-Dec-26	24-Feb-27	47		
atutory Approval & Ins	spection		156	156	07-Nov-26	11-Apr-27	07-Nov-26	11-Apr-27	1	·	
VSD Inspection			114	114	07-Nov-26	28-Feb-27	07-Nov-26	28-Feb-27	1	· · · · · · · · · · · · · · · · · · ·	
SW-PAB-8000	Submit WWO 46 Part IV (PD) and Wait for Inspection by WSD	0%	35	35	07-Nov-26	11-Dec-26	07-Nov-26	11-Dec-26	10		<b>■</b> Su
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		<b>■</b> Su
SW-PAB-8010	Inspection and Re-inspection by WSD (PD) (including water test)	0%	49	49	12-Dec-26	29-Jan-27	12-Dec-26	29-Jan-27	10		
SW-PAB-7010	Inspection and Re-inspection by WSD (FS)	0%	58	58	12-Dec-26	07-Feb-27	12-Dec-26	07-Feb-27	1		
SW-PAB-8020	Issuance Period of WWO 46 Part V (PD)	0%	21	21	30-Jan-27	19-Feb-27	30-Jan-27	19-Feb-27	10		
SW-PAB-7020	Issuance Period of WWO 46 Part V (FS)	0%	21	21	08-Feb-27	28-Feb-27	08-Feb-27	28-Feb-27	1		
1st Programm	ne Baseline 💠 💠 1st Programme Baseline Milestone				1	10 of 27			- I		prove
Actual Work	◆ Milestone								12-Dec		
									12-Jan-	23 Monthly Programme January 2023	

D	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023   2024   2025   2026 NDJFMAMJJASONDJFMAMJJASONDJFMAMJJASO	ND I
SW-PAB-8030	Obtain WWO 46 Part V (PD) by WSD	0%	0	0		19-Feb-27		19-Feb-27	10	ADJEMAMOOASONDOFMAMOOASSAMOOASSAMOOASSA	NDS
SW-PAB-7030	Obtain WWO 46 Part V (FS) by WSD	0%	0	0		28-Feb-27		28-Feb-27	1		
FSD and OP Inspection			121	121	12-Dec-26	11-Apr-27	12-Dec-26	11-Apr-27	1		
_			121	121	12-Dec-20			·	l		
SW-PAB-9000	Submit Form 314 / FSI501 and Wait for Inspection by FSD	0%	21	21	12-Dec-26	01-Jan-27	12-Dec-26	01-Jan-27	59		
SW-PAB-9010	FS Inspection and Re-inspection	0%	28	28	01-Mar-27	28-Mar-27	01-Mar-27	28-Mar-27	1		
SW-PAB-9020	Issue Fire Certificate (FS172)	0%	14	14	29-Mar-27	11-Apr-27	29-Mar-27	11-Apr-27	1		
SW-PAB-9030	Obtain Fire Certificate (FS172) by FSD	0%	0	0		11-Apr-27		11-Apr-27	1		
ehicular Access Tunne			1145	1145	09-Mar-23	15-Jan-27	09-Mar-23	15-Jan-27	67		<del></del>
										▼ 15-Oct-24, Tunnel Works CH 3 - 40 by Cut and Cover N	Votboo
unnel Works CH 3 - 4	10 by Cut and Cover Method		476	476	09-Mar-23	15-Oct-24	09-Mar-23	15-Oct-24	655		/IEU IOC
Preliminary Works			77	77	09-Mar-23	24-May-23	09-Mar-23	24-May-23	0	▼ 24-May-23, Préliminary Works	
SW-VAT-1000	Access to Portion 1	0%	0	0	09-Mar-23		09-Mar-23		15	🕏 Access to Rortion 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 Pottion: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	■ Hoarding Erection and Site 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	■ Tree Treatment and Site Clearance	
							•				
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, Trial pit, UU detection, Condition survey	
Stage 1 & 2 - ELS works	s, 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-Nov-23, Stage 1 & 2 - ELS works, CH3 -27, at Zone0 (up to existing kerb line o	fLion
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	Installation of 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 Installation of King Post (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	Soil Excavation for Temporary Steel Platform (Total:878m3) (PR=180m3/d)	
CM/ ) /AT 4440		00/	40	40						■ Erection of Temporary Steel Platform for Traffic Diversion	
SW-VAT-1140	Erection of Temporary Steel Platform for Traffic Diversion	0%	18	18	29-Jul-23	18-Aug-23	29-Jul-23	18-Aug-23	0		
SW-VAT-1150	Erection of Temporary Steel Platform for Bored Pile Construction support with King Post	0%	18	18	19-Aug-23	08-Sep-23	19-Aug-23	08-Sep-23	49	☐ Erection of Temporary Steel Platform for Bored Pile Construction support with King Pos	t
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 Excavation for C&C Tunnel (Total: 6460m3) (PR≑180m3/d)	
Stage 3 - ELS works, CH	127 -40, at ZoneA		67	67	19-Aug-23	08-Nov-23	19-Aug-23	08-Nov-23	0	▼──▼ 08-Nov-23, Stage 3 - EL\$ works, CH27 -40, at ZoneA	
SW-VAT-1200	Divert the Traffic onto the Temporary Steel Platform to maintain access to Lion Rock Park and	0%	3	3	19-Aug-23	22-Aug-23	19-Aug-23	22-Aug-23	0	ו Divert the Traffic onto the Temporary Steel Platform to maintain a cœss to Lion Rook Pari	k and l
SW-VAT-1210	DSD - TTA1	0%	6	6					6	Construction of Concrete Block Wall and Form Working Platform at +89mPD (3d+3d)	
SVV-VAI-1210	Construction of Concrete Block Wall and Form Working Platform at +89mPD (3d+3d)	U%	6	6	23-Aug-23		23-Aug-23	29-Aug-23	0		
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	Trial:Trench, UU detection and diversion	
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	Installation of Pipe Pile (Total: 15no) (PR=2:5d/pile/rig) (1 rigs)	
1st Programm	ne Baseline ♦ ♦ 1st Programme Baseline Milestone				1	11 of 27			D	Pate Revision Checked Ap	prov
Actual Work	Milestone				ı	1 1 01 41			12-Dec	c-22 First Programme	
Remaining Wo	ork Summary								12-Jan	1-23 Monthly Programme January 2023	

ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	15t Flog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026 NDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND
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 work	ks, CH27 -40, at ZoneB		110	110	09-Nov-23	21-Mar-24	09-Nov-23	21-Mar-24	0	▼ 21-Már-24, Stage 4-&5 - EL\$ works, CH27 -40; at ZoneB
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	I Divert the Traffic onto the Temporary Steel Platform to maintain a cœss to Lion Rock F
	DSD - TTA2									
SW-VAT-1300a	Trial Trench, UU detection and diversion	0%	6	6	13-Nov-23	18-Nov-23	13-Nov-23	18-Nov-23	0	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
3VV-VAI-1320	Constitution of Temporary Steer Flation Hat Zone Bilot Hallic Diversion	0 76	10	10	21-Dec-23	00-Jan-24	21-Dec-23	00-3411-24		Constitution of emporary Steer Fation Latzone Biol Traile Diversion
SW-VAT-1330	Divert the Traffic onto the Temporary Steel Platform to maintain access to Lion Rock Park and DSD - TTA3	0%	3	3	09-Jan-24	11-Jan-24	09-Jan-24	11-Jan-24	0	□ Divert the Traffic onto the Temporary Steel Platform to maintain a cœss to Lion R
SW-VAT-1340	Remaining Soil Excavation for C&C Tunnel (Total: 5870m3) (PR=200m3/d) + 28d ELS with 4	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
517 W.II 1010	strut & tie-back	070			12 0411 2 1	ZT War ZT	12 Gail 21	21 Mai 21		
Structure Works			167	167	22-Mar-24	15-Oct-24	22-Mar-24	15-Oct-24	655	V 15-Oct-24; Structure Work\$
SW-VAT-1500	Construction of blinding, waterproofing layer and base slab (Total: 792m3, 8bays(10x16.5),	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: 792m
	PR=12d/bay)					·				
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:
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 = 1
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	Demoval of towns year at a line of the market and TTA	00/	10	10	14 Can 04	04 Oct 24	14-Sep-24	01-Oct-24	805	Removal of temporary steel platform (staged TTA)
SVV-VAI-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, FLA)
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):
Funnel 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
			0		0 1 11.G. 2 1	10 11161 20	0 1 111a. 2 1	10 11161 20		
SW-VAT-2000	Opening of Pipe Plle Wall, Portal construction and site setup	0%	50	50	01-Mar-24	19-Apr-24	01-Mar-24	19-Apr-24	0	Opening of Pipe Plle Wall, Portal construction and site setup
SW-VAT-2010	Tunn elling 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-I by med
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 I
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	Tunnjelling works for vehicular access tunnjel, T1-II by
SW-VAT-2040	Tunnelling works for vehicular access tunnel, T2-III by Drill & Blast (155.45m) (5Blast/wk)	00/	240	240	20 Oct 24	25 km 25	20 Oct 24	25 hm 25	0	Tunn elling works for vehicular access to
SVV-VA1-2040	Turinelling works for verticular access further, 12-in by Dhii & blast (133.4311) (3blast/wk)	0%	240	240	29-Oct-24	25-Jun-25	29-Oct-24	25-Jun-25		
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	Tunn elling works for vehicula
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
	g				50 , ipi 20	10 000 20	00 / tpi 20	10 000 20		
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	Tunnelling works for Caver
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	Tunnelling works for Ca
SW-VAT-2120	Tunnelling works for Caverns 2 by Drill & Blast (80.7m) (5Blast/wk)	0%	118	118	24-Sep-25	19-Jan-26	24-Sep-25	19-Jan-26	2	Turin elling works for Ca
1st Programi	me Baseline ♦				1	2 of 27			D	ate Revision Checked Appr
Actual Work	-				'	_ 0, _ 1			12-Dec	, ,
		1							12-Jan	1-23 Monthly Programme January 2023

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

y 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
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	NDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASON	
Remaining Works			868	868	31-Aug-24	15-Jan-27	31-Aug-24	15-Jan-27	87	<u> </u>	<b>√</b> 15
_		201					Ü				
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	Construction of shotcre	te (min
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	[CH40+571] Constru	ction of
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	[CH40-571] Cc	ınstruct
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	įc	CH40-77
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	[CH57:1-	776] C
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	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	1571-77
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		📮 [Сн
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		<b>—</b> Ir
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		Co
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		- Ir
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	Caverns 1 - Construction o	if Shot
SW-C1-1000	Caverns 1 - Completion of Tunnel Works	0%	0	0		18-Oct-25		18-Oct-25	0	Caverns 1 - Completion of Tu	ınnel V
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 1 - Construction	on of C
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	Caverns 1 - Water	proofi
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	Cavems 1 - Co	nstruc
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	Caverns 1	- Can
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	Caverns	s 1 - C
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	Caver	ns 1 -
SW-C1-1080	Caverns 1 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	60	60	15-Aug-26	13-Oct-26	15-Aug-26	13-Oct-26	1		averns
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		<u> </u>
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		🕏 Ca
SW-C1-1120	Caverns 1 - CLP installation works in Transformer Room and Switchoard Room	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	1		
SW-C1-1130	Caverns 1 - Testing and Commissioning	0%	90	90	12-Jan-27	11-Apr-27	12-Jan-27	11-Apr-27	1		-
											<u> </u>
1st Programr	ne Baseline ♦				1	3 of 27			l	·	rove
Actual Work	-									ec-22 First Programme	
Actual Work									12-Ja	an-23 Monthly Programme January 2023	

ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023   2024   2025 	2020 NDJEMAMJI.	
averns 2 - Salt Wate	er Service Reservoir No.2		390	390	12-Dec-25	11-Apr-27	12-Dec-25	11-Apr-27	1			IND SIND OF
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 o
SW-C2-1000	Caverns 2 - Completion of Tunnel Works	0%	0	0		19-Jan-26		19-Jan-26	2		Caverns 2 -	Campletion of Tu
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		Caver	ns 2 - Construct
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			averns 2 + Wate
SW-C2-1040	Caverns 2 - Construction of Slab 1.6m thk for water tank area (Total: 1880m3, 15bays (11x7),	0%	60	60	11-May-26	22-Jul-26	11-May-26	22-Jul-26	1			Caverns 2 - C
	PR= 15d/bay, 3workfronts)								1			Caverns 2
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				
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			Caverr
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			Cavems
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			Caver
SW-C2-1090	Caverns 2 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	90	90	07-Oct-26	04-Jan-27	07-Oct-26	04-Jan-27	68			<b>-</b>
SW-C2-1100	Caverns 2 - BS, E&M works and ABWF	0%	127	127	06-Nov-26	12-Mar-27	06-Nov-26	12-Mar-27	1			
SW-C2-1110	Caverns 2 - Connect power cable from SWSR1 Transformer Room & Switchoard Room to SWSR2	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31			
SW-C2-1130	Caverns 2 - Testing and Commissioning	0%	90	90	12-Jan-27	11-Apr-27	12-Jan-27	11-Apr-27	1			
SW-C2-1120	Caverns 2 - Energization of SWSR2	0%	0	0	11-Feb-27		11-Feb-27		31			
Caverns 3 - Salt 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 - C	onstruction of S
SW-C3-1000	Caverns 3 - Completion of Tunnel Works	0%	0	0		29-Nov-25		29-Nov-25	1		Caverns 3 - Cor	mpletion of Tunn
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
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		Cave	rns 3 - Waterpro
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		Ca	averns 3 - Cons
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 - C
	(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				Caverns 3
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			Caverns 3
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			Cavern
SW-C3-1090	Caverns 3 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	90	90	13-Oct-26	10-Jan-27	13-Oct-26	10-Jan-27	62			
SW-C3-1100	Caverns 3 - BS, E&M works and ABWF	0%	150	150	13-Oct-26	11-Mar-27	13-Oct-26	11-Mar-27	2			
									1			<u>: : : : : : : : :</u>
1st Program	nme Baseline 💠 💠 1st Programme Baseline Milestone				1	4 of 27				Date Revision	Checked	Approve
	A Miller Land	1							12-De	ec-22 First Programme		
Actual Work									12-Jar	<u> </u>	l	

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

ity ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float		SOND		2024 - 1 1 A S C			2025 11 11 A1 S1 OLA		026 	202
SW-C3-1110	Caverns 3 - Connect power cable from SWSR1 Transformer Room & Switchoard Room to SWSR3	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31	NDJFMAMJJA	SONDI	FIMIA	JJASC	IN DI J	rı" A M	JASM	I D 1 L M A M 1		DIJIE
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										\$ 0
Caverns 4 - Fresh Wa	ater Service Reservoir No.1		349	349	02-Feb-26	10-Apr-27	02-Feb-26	10-Apr-27	1								<del></del>		
SW-C4-1010	Caverns 4 - Construction of Shotcrete	0%	56	56	02-Feb-26	14-Apr-26	02-Feb-26	14-Apr-26	20								Cav	verns:4 - Con	structio
SW-C4-1000	Caverns 4 - Completion of Tunnel Works	0%	0	0		15-Mar-26		15-Mar-26	1								Cave	rns 4 - Compl	etion c
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								<b>=</b> c	averns 4 - Co	nstruc
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	1-	<del>,</del> <del></del>			<del> </del>				Caverns 4	- Wate
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	1							•	Caverns	s 4 - C
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									Cave	ms 4 -
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										Caverr
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	-								<b>C</b> a	verns
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										Caven
SW-C4-1090	Caverns 4 - Construction of remaining works incl. staircase, partition wall and other civil works for E&M plant	0%	60	60	12-Nov-26	10-Jan-27	12-Nov-26	10-Jan-27	62	-									<b>=</b> c
SW-C4-1100	Caverns 4 - BS, E&M works and ABWF	0%	120	120	12-Nov-26	11-Mar-27	12-Nov-26	11-Mar-27	2										$\stackrel{\sqcup}{=}$
SW-C4-1110	Caverns 4 - Connect power cable from SWSR1 Transformer Room & Switchoard Room to SWSR4	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31	-									
SW-C4-1130	Caverns 4 - Testing and Commissioning	0%	90	90	11-Jan-27	10-Apr-27	11-Jan-27	10-Apr-27	2	-									-
SW-C4-1120	Caverns 4 - Energization of SWSR4	0%	0	0	11-Feb-27		11-Feb-27		31										\$
Caverns 5 - Fresh Wa	ater Service Reservoir No.2		392	392	10-Dec-25	10-Apr-27	10-Dec-25	10-Apr-27	1								<b></b>		
								, i											
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	s 5 - Construc	tion o
SW-C5-1000	Caverns 5 - Completion of Tunnel Works	0%	0	0		12-Jan-26		12-Jan-26	3								Caverns 5	- Completion	of Tu
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								Cave	rns 5 - Const	ruction
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	<b></b>				<del> </del>			<b>=</b> c	averns 5 - W	aterpr
SW-C5-1040	Caverns 5 - Construction of Slab 1.6m thk for water tank area (Total: 1961m3, 12bays (11x9), PR= 15d/bay, 3workfronts)	0%	60	60	30-Apr-26	13-Jul-26	30-Apr-26	13-Jul-26	2	1								Caverns 5	5 - Co
SW-C5-1060	Caverns 5 - Construction of Slab 1.0m thk for pump/plant room area (Total:986m3, 9bays (11x9), PR=12d/bay, 3 workfront)	0%	36	36	14-Jul-26	24-Aug-26	14-Jul-26	24-Aug-26	2									Caven	n <b>s</b> 5 -
SW-C5-1050	Caverns 5 - Construction of wall, beam & slab up to 91.35mPD for water tank area	0%	90	90	14-Jul-26	11-Oct-26	14-Jul-26	11-Oct-26	33									Ca	verns
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									Ca	verns
												1 1 1 1 1	1111	: : : :	1111	1 1 1 1 1	111111		
1st Program	nme Baseline 💠 💠 1st Programme Baseline Milestone					15 of 27				Date			Revision				Checked	Appr	ove
Actual Work	k • Milestone										ogramme Program							1	
		1							1177 10		, , ,roarom		10 m/ 7/1/2	· -4				1	

ty ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 NDJFMAMJJASONDJFMAMJJASOND		2026 2027 J J A S O N D J F M
SW-C5-1080	Caverns 5 - Construction of wall, beam & slab up to cavern soffit for pump/ plant room area	0%	60	60	13-Sep-26	11-Nov-26	13-Sep-26	11-Nov-26	2			Caverns
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			Cave
SW-C5-1100	Caverns 5 - BS, E&M works and ABWF	0%	120	120	12-Nov-26	11-Mar-27	12-Nov-26	11-Mar-27	2			
SW-C5-1110	Caverns 5 - Connect power cable from SWSR1 Transformer Room & Switchoard Room to SWSR5	0%	60	60	13-Dec-26	10-Feb-27	13-Dec-26	10-Feb-27	31			c
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			<b>\$</b> Ca
Water Mains Installation W	Vorks 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	□ TTA Implementation for ΨU Diversion Works		
21.PRW.PO5.10010	Trench Excavation for UU Diversion Works	0%	0	11			16-Feb-23	28-Feb-23	1208	☐ Trèn¢h Excavation for UU Diversion Works		
21.PRW.PO5.10020	Public Light Cable Diversion	0%	0	5			01-Mar-23	06-Mar-23	1212	Public Light Cable Diversion		
21.PRW.PO5.10030	PCCW Cable Diversion	0%	0	9			01-Mar-23	10-Mar-23	1208	□ PCGW 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 Fres	h Water Mains & DN450 Salt Water Mains		1280	1259	09-Dec-22	07-Apr-27	09-Dec-22 A	07-Apr-27	4	<b>-</b>		
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	29-Apr-23	171	Application of CNP to extend working hours for	r pipe jacking works	
Pipe Installation by Pipe Ja	acking Method		719	719	30-Aug-23	29-Jan-26	30-Aug-23	29-Jan-26	289		<b>▼</b> 29-Jạn-	26, Pipe Installation by
Water Main Tunnel (Detai	I 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		▼ 29-Jạn-	26, Water Main Tunnel
SW-JPA-1000	TTA implementation, site clearance, road modification and site setup	0%	14	14	02-Feb-25	15-Feb-25	02-Feb-25	15-Feb-25	226		TTA implementation, site clearance	, road modification and
SW-JPA-1010	SI works for trenchless design	0%	28	28	16-Feb-25	15-Mar-25	16-Feb-25	15-Mar-25	302		📮 SI works for 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	226		UU Detection and UU diversion:	or construction of jackir
SW-JPA-1030	Design Approval for trenchless works	0%	60	60	16-Mar-25	14-May-25	16-Mar-25	14-May-25	302		Design Approval for trenchle	ss 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 ar	nd monitoring device an
SW-JPA-1050	Construction of receiving pit	0%	75	75	18-Mar-25	31-May-25	18-Mar-25	31-May-25	285		Construction of receiving p	it
SW-JPA-1060	Construction of launching pit	0%	75	75	18-Mar-25	31-May-25	18-Mar-25	31-May-25	226		Construction of launching	oit .
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		☐ Advance preparation wor	ks 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 mobilizatio	n and set-up at Laund
1st Programme	Baseline ♦ 1st Programme Baseline Milestone				1	6 of 27			-	Date Revision	Checked	Approved
Actual Work	♦ Milestone								12-Dec	ec-22 First Programme		
Actual Work		1							12-Jan			

Monthly Programme January 2023

'ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026   DJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND
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	Excavation (59m) by Pipe J
SW-JPA-1110	Plant demobilization	0%	30	30	12-Dec-25	10-Jan-26	12-Dec-25	10-Jan-26	142	□ :Plant demobilization
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	☐ Plpe:Installation (PR=30
		0,0								▼ 07-Noý-25, Water Main Tunne
Water Main Tunnel (De	tail 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	V OA-NOV-45; vvateriviani runne
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	TTA implementation, site dearance, road modification and
SW-JPA-2010	SI works for trenchless design	0%	28	28	30-Oct-24	26-Nov-24	30-Oct-24	26-Nov-24	283	□ SI works for trenchless design
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	☐ UU Detection and UU diversion for construction of jackin
SW-JPA-2030	Design Approval for trenchless works	0%	60	60	27-Nov-24	25-Jan-25	27-Nov-24	25-Jan-25	283	Design Approval for trenchless works
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	☐ Installation of instrumentation and monitoring device an
	,	-								
SW-JPA-2050	Construction of receiving pit	0%	75	75	29-Nov-24	11-Feb-25	29-Nov-24	11-Feb-25	266	Construction of receiving pit
SW-JPA-2060	Construction of launching pit	0%	75	75	29-Nov-24	11-Feb-25	29-Nov-24	11-Feb-25	207	Construction of launching pit
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	□ Advance preparation works at launching pit
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	Plant mobilization and set-up at:Launchin
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	Excavation:(101m) by Pipe Jacking
SW-JPA-2110	Plant demobilization	0%	30	30	10-Sep-25	09-Oct-25	10-Sep-25	09-Oct-25	139	. □ :Plant demobilization
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	☐ Plpe Installation:(PR≑30m/wk
Water Main Tunnel (De	etail 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	▼ 10-Mar-25, Water Main Tunnel (Detail A), CH 61
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	☐ :TTA implementation, site clearance, road modification and site setup
SW-JPA-3010	SI works for trenchless design	0%	28	28	13-Sep-23	10-Oct-23	13-Sep-23	10-Oct-23	258	☐ St works for trenchless design
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	UU Detection and UU diversion for construction of jacking pits
SW-JPA-3030	Design Approval for trenchless works	0%	60	60	11-Oct-23	09-Dec-23	11-Oct-23	09-Dec-23	258	Design Approval for trenchless works
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	☐ Installation of instrumentation and monitoring device and condition survey
SW-JPA-3050	Construction of receiving pit	0%	75	75	13-Oct-23	26-Dec-23	13-Oct-23	26-Dec-23	195	Construction of receiving pit
SW-JPA-3060	Construction of launching pit	0%	75	75	13-Oct-23	26-Dec-23	13-Oct-23	26-Dec-23	172	Construction of launching pit
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	. ☐ : Advance preparation works at launching pit
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	Plant mobilization and set-up at Launching pit
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	Excavation (276m) by Pipe Jacking method, PR=1.5m/d
	1		1	1	ı				Ji	
1st Programm	ne Baseline 💠 💠 1st Programme Baseline Milestone				1	7 of 27			Date	ate Revision Checked Appro

Actual Work

Remaining Work

Critical Remaining Work

Milestone

Summary

12-Dec-22

12-Jan-23

First Programme

Monthly Programme January 2023

	Activity Name	Activity % Complete	Dur.	Duration	ist Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026   DJFMAMJJJASONDJFMAMJJJASONDJFMAMJJJASOND
SW-JPA-3110	Plant demobilization	0%	30	30	12-Nov-24	11-Dec-24	12-Nov-24	11-Dec-24	147	□ Plant demobilization
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	Plpe Installation (PR≑30m/wk;for fitting, 18m/d;for
Water Main Tunnel (Det	tail 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	▼ 21-Jan-26, Water Main T
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	□ TTA implementation, site: clearance, road modification and
	TrAimpementation, site dearance, road modification and site setup	076	14	14	00-1107-24		00-1107-24		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	SI works for trenchless design
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	☐ UU:Detection and UU:diversion for construction of jackli
SW-JPA-4030	Design Approval for trenchless works	0%	60	60	18-Dec-24	15-Feb-25	18-Dec-24	15-Feb-25	108	Design Approval for trenchless works
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	☐ Installation of instrumentation and monitoring device ar
SW-JPA-4050	Construction of receiving pit	0%	75	75	20-Dec-24	04-Mar-25	20-Dec-24	04-Mar-25	35	Construction of receiving pit:
	<u> </u>									
SW-JPA-4060	Construction of launching pit	0%	75	75	20-Dec-24	04-Mar-25	20-Dec-24	04-Mar-25	32	Construction of launching;pit
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	☐ Advance preparation works at launching pit
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	Plant mobilization and set-up at Launching
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	Excavation (184m);by Pipe Jac
SW-JPA-4110	Plant demobilization	0%	30	30	26-Oct-25	24-Nov-25	26-Oct-25	24-Nov-25	3	■ Plant:demobilization
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	Plpe Installation (PR=30r
		076	47	47			25-1107-25			
Water Main Tunnel (Det	tail 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	▼ 19-Aug-25, Water Main Tuhnel (Deta
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	TTA implementation, site clearance, road modification and site setup
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 for trenchless design
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	📮 ЏU Detection and ЏU diversion for construction of jacking pits
SW-JPA-5030	Design Approval for trenchless works	0%	60	60	25-Nov-23	23-Jan-24	25-Nov-23	23-Jan-24	103	Design Approval for trenchless works
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	Installation of instrumentation and monitoring device and condition survey
SW-JPA-5050	Construction of receiving pit	0%	75	75	27-Nov-23	09-Feb-24	27-Nov-23	09-Feb-24	32	Construction of receiving pit
SW-JPA-5060	Construction of launching pit	0%	75	75	27-Nov-23	09-Feb-24	27-Nov-23	09-Feb-24	27	Construction of launching pit
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	□ Advance preparation works at launching pit
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	Plant mobilization and set-up at Launching pit
SW-JPA-5090		0%	262	262	02-May-24	17-Mar-25	02-May-24	17-Mar-25	3	Excavation (392m) by Pipe Jacking method, PR
	Excavation (392m) by Pipe Jacking method, PR=1.5m/d				_					
SW-JPA-5110	Plant demobilization	0%	30	30	18-Mar-25	16-Apr-25	18-Mar-25	16-Apr-25	3	Plant demobilization
= 1st Programm	ne Baseline 💠 💠 1st Programme Baseline Milestone				4	8 of 27			Da	ate Revision Checked Appro
ist Fiogramm	Ist Programme Baseline Milestone     Milestone				1	0 UI Z1			12-Dec-	·

Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025	
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			Installation (PR=30m/wk for fitting
ench Method		1097	1175	03-May-23	08-Jan-27	26-Jan-23	08-Jan-27	4		<del></del>
NICOD DIVISO & CW DIVISO along Chuk Yung Dood from M. to A0		05	400	07 Nov 05	04 len 00	40 hd 05	04 law 00			₹ 24-Jan-26, Çombined Tre
INGUU, DIV45U & SW DIV45U along Chuk Yuen Road, Irom AT to AZ		65	160	U7-NOV-25	24-Jan-26	16-Jul-25	24-Jan-26	4		v 24-5411-20, COMBINED THE
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 Undertakir
1 0, , , , , , , , , , , , , , , , , , ,	0%	65	65	07-Nov-25	24-Jan-26	07-Nov-25	24-Jan-26	4		Sheet piling, Excavation, E
0N600, 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		7 06-Nov-25, Combined Trench f
, , ,	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)
	0%	31	31	03-May-23	08-Jun-23	03-May-23	08-Jun-23	4	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reir	statemen, TTA-A23 (21m long)
Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A22	0%	65	65	09-Jun-23	25-Aug-23	09-Jun-23	25-Aug-23	4	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Back	illing & Road reinstatemen, TTA-A
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 & I	Road reinstatemen, TTA-A21 (21r
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's	Excavation, UU Diversion (TTA-A
	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 (/
	0%	31	31	10-Nov-23	15-Dec-23	10-Nov-23	15-Dec-23	4	Sheet piling, Excavation, ELS, Pipe Laying, Backfilli	ng & Road reinstatemen, TTA-A1
	0%	31	31	16-Dec-23	24-Jan-24	16-Dec-23	24-Jan-24	4	Sheet piling, Excavation, ELS, Pipe Laying, Bac	filling & Road reinstatemen, TTA-
	0%	31	31	25-Jan-24	02-Mar-24	25-Jan-24	02-Mar-24	4	Sheet piling, Excavation, ELS, Pipe:Laying, B	ackfilling & Road reinstatemen, T
	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
, , ,	0%	0	72			04-Mar-24	01-Jun-24	25	Coordination with Utility Undertaking,	TA, Trial Pit & Excavation, UU Div
	0%	31	31	13-Apr-24	21-May-24	13-Apr-24	21-May-24	4	Sheet piling, Excavation, ELS, Pipe Lag	ing, Backfilling & Road reinstatem
	0%	31	31	22-May-24	27-Jun-24	22-May-24	27-Jun-24	4	Sheet piling, Excavation, ELS, Pipe	aying, Backfilling & Road reinstat
, , , , , , , , , , , , , , , , , , , ,	0%	31	31	28-Jun-24	03-Aug-24	28-Jun-24	03-Aug-24	4	Sheet piling; Excavation, ELS, Pi	e Laying, Backfilling & Road reins
1 0, 1 1 1 0, 1	0%	31	31	05-Aug-24	09-Sep-24	05-Aug-24	09-Sep-24	4	Sheet piling, Excavation, ELS,	Pipe Laying, Backfilling & Road re
	0%	31	31	10-Sep-24	18-Oct-24	10-Sep-24	18-Oct-24	4	Sheet piling, Excavation, Et	S, Pipe Laying, Backfilling & Roac
	0%	0	72			10-Sep-24	05-Dec-24	25	Coordination with Utility	Underlaking, TTA, Trial Pit & Exca
Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A10 (20m	0%	31	31	19-Oct-24	23-Nov-24	19-Oct-24	23-Nov-24	4	Sheet pilling, Excavation.	ELS, Pipe Laying, Backfilling & Ro
C,	0%	31	31	25-Nov-24	02-Jan-25	25-Nov-24	02-Jan-25	4	Sheet piling, Excavati	on, ELS, Pipe Laying, Backfilling 8
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, Exca	ration, ELS, Pipe Laying, Backfillin
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, Ex	cavation, ELS, Pipe Laying, Backf
Baseline ♦ ♦ 1st Programme Baseline Milestone				10	9 of 27			Date	Revision	Checked Approv
				1.	0 01 21			T	1	<del>                                     </del>
♦ Milestone								12-Dec-22	First Programme	
♦ Milestone  ✓ Summary								12-Dec-22 12-Jan-23	First Programme  Monthly Programme January 2023	
F 3	Pipe Installation (PR=30m/wk for fitting, 18m/d for pipe)  ench Method  NB00, DMs0 & SW DMs0 along Chuk Yuen Road, from A1 to A2  Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A1)  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A1 (15m long)  NB00, DMs0 & SW DMs0 along Chuk Yuen Road, from A2 to A3  Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A23 to TTA-A19)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A2 (21m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A21 (21m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A21 (21m long)  Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A18 to TTA-A19)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A20 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A19 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A19 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A18 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A10 (20m long)  Sh	Pipe Installation (PR=30mWk for fitting, 18mid for pipe)  0%  N800, DM50 & SW DM450 along Chuk Yuen Road, from A1 to A2  Coordination with Utility Undertaking, TTA, Trial Pt & Excavation, UU Diversion (TTA-A1)  0%  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A1 (15m long)  N800, DM50 & SW DM50 along Chuk Yuen Road, from A2 to A3  Coordination with Utility Undertaking, TTA, Trial Pt & Excavation, UU Diversion (TTA-A23 to TTA-A19) 0%  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A23 (21m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A21 (21m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A21 (21m long)  Coordination with Utility Undertaking, TTA, Trial Pt & Excavation, UU Diversion (TTA-A18 to TTA-A19)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A20 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A19 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A19 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A18 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A16 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A17 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A10 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A10 (20m long)  Sheet	Pipe Installation (PR-30m/wk for fitting, 18m/d for pipe)  0%  1097  1097  1097  1098  1097  1098  109	Pipe Installation (PR=30mWk for filling, 18m/d for pipe)	Pipe Installation (PR=30mWk for fitting, 18m'd for pipe)	Counting   Counting	Corprison   Corp.   Corp.	Control   Cont	Part   Ductors   Ductor   Du	Angle   Contract   C

Monthly Programme January 2023

	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023	N D J et al a la	2024	2025		-
	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A4 to	0%	0	72			12-Feb-25	13-May-25	25	NDJFMAMJJASC	NDJFMA	JJASOND		OND JFMAMJ tion with Utility Under	
	TTA-A2)							-							
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 pilin	g, Excavation, ELS, F	Pipe Laying, Bacl
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 p	iling, Excavation, EL	S, Pipe Laying, B
CIAL OTA 2000	Charta Tan Consulting Cl C Director in Destation 2 Destation 2 Destation TTA A4 (200 class)	00/	24	24	00 1 05	45 1.105	00 1 05	45 1.105	4						
SW-OTA-2020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A4 (20m long)	0%	31	31	09-Jun-25	15-Jul-25	09-Jun-25	15-Jul-25	4				Snea	et piling, Excavation, l	ELS, Pipe Laying
	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, Excava	ation, ELS, Pipe I
	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, Exc	avation. ELS. Pit
					·		•							, , , ,	
Combined Trench for FW D	N600, 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-
	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A29 to	0%	0	72			10-Oct-25	06-Jan-26	20					Coordinatio	n with Utility Und
	TTA-A24) Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A29	0%	64	64	26-Jan-26	16-Apr-26	26-Jan-26	16-Apr-26	1					She	et piling, Excavat
	(18m long)	0 70	04	04	20-Jan-20	10-Ар1-20	20-Jan-20	10-Αρι-20	4					JIII	etpiii ig, Excava
	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					<b>=</b> S	heet piling, Exca
	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A27 (20m	0%	31	31	26-May-26	02-Jul-26	26-May-26	02-Jul-26	4						Sheet piling, E
	long)														
	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,
	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A25 (20m	0%	31	31	08-Aug-26	12-Sep-26	08-Aug-26	12-Sep-26	4						Sheet pili
	long) Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-A24	0%	64	64	14-Sep-26	30-Nov-26	14-Sep-26	30-Nov-26	4						Sha
	(20m long)	070	04	04	14 CCP 20	00 1100 20	14 OOP 20	00 1107 20	_						Jin Sin
Open Trench for FW DN600	O 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						Coordin
SW-OTA-4000	Cheet niling Everystion ELC Dine Leving Deal-tiling 9 Dead valueteters TTA A20 /25m	00/	24	24	01 Dec 26	08-Jan-27	01 Dec 26	08-Jan-27	4						
	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A30 (25m long), to Connection Point	0%	31	31	01-Dec-26	00-Jan-21	01-Dec-26	00-Jan-21	4						
Combined Trench for DN45	0 & 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	<b>▼ 19-</b> Ju	l-23, Combined	Trench for DN45	) & \$W 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	Coordination v	ith Utility Undert	aking, TTA, Trial F	Pit & Excavation, UU [	Diversion (TTA-A31)	
	, , ,														
	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	Shee	piling, Excavati	on, ELS, Pipe Lay	ing, Chamber, Backfil	ing & Road reinstate	men, TTA-A31 (
Combined Trench for DN45	0 & 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	<b>          <del>                            </del></b>		▼ 10-\$er	-24, Combined Tren	ch for DN450 & SW I	DN450 along Ts
21 PPW PO5 10140	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-A32 to	0%	0	72			23-Mar-23	21-Jun-23	23	Coordin	ation with Utility	Undertaking TTA	, Trial Pit & Excavatio	n UU Diversion (TTA	A-A32 to TTA-A3
	TTA-A35)	0 70		12			23-iviai-23	21-Jun-23	23	9917	aus. Wa Camby	, , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,	i, 00 pivojojo; (1 i.	
	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, Ex	cavation, ELS, Pir	e Laying, Chamber,	Backfilling & Road rei	nstatemen, TTA-
	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A33 (20m	0%	31	31	05-Oct-23	10-Nov-23	05-Oct-23	10-Nov-23	1		Sheet pilind.	Excavation, ELS.	Pipe Laying, Backfillir	g & Road reinstaterr	nen, TTA-A33 (20
	long)				_	-									
	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		Coordina	uon with Utility Un	dertaking, TTA, Trial i	rı & ⊨xcavation, UU	∪version (TTA-/
	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A34 (20m	0%	31	31	11-Nov-23	16-Dec-23	11-Nov-23	16-Dec-23	1		Sheet pilin	g, Excavation, EL	S, Pipe Laying, Back	illing & Road reinstat	emen, TTA-A34
	long) Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A35 (20m	Λ0/	24	24	18-Dec-23	25-Jan-24	18-Dec-23	25-Jan-24	1		Chac*	niling Evonuation	ELS, Pipe Laying, Ba	ckfilling & Dond rains	etatemen TTA A
	Sneet plling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A35 (20m long)	0%	31	31	10-Dec-23	20-Jan-24	10-De0-23	∠5-Ja∏-24			— sneet∣	ımıy, ⊏xcavation,	сьэ, гіре Laying, Ba	Chilling & Road reins	satemen, ITA-A
-															
1st Programme E	Baseline ♦ 1st Programme Baseline Milestone				2	0 of 27				Date First Program		Revision		Checked	Approve
Actual Work	◆ Milestone								12-De	c-22 First Progra	rnme				

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

SW-OTA-6050 S 21.PRW.PO5.10160 (	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A36 (20m long)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A37 (20m long)	0%	31	31	26-Jan-24	04-Mar-24	26-Jan-24	04-Mar-24	1				MJJASONDJFMAMJ Pipe Laying, Backfilling & Road re	
21.PRW.PO5.10160 (	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-A37 (20m													
	iong)	0%	31	31	05-Mar-24	13-Apr-24	05-Mar-24	13-Apr-24	1			Sheet piling, Excavation, EL	S Pipe Laying, Backfilling & Road	d reinstatemen,
	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 I	Jndertaking, TTA, Trial Pit & Exca	avation, UU Dive
	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		I	Sheet piling, Excavation,	ELS, Pipe Laying, Backfilling & R	oad reinstateme
	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, Excavatio	n, EL\$, Pipe Laying, Backfilling 8	Road reinstate
	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, Excava	ation, ELS, Pipe Laying, Backfillin	g & Road reinsta
	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, Exc	avation, ELS, Pipe Laying, Backfi	illing & Road reir
Test & Commissioning and C	Connection		89	89	09-Jan-27	07-Apr-27	09-Jan-27	07-Apr-27	5					<b>*</b>
SW-TC-1000	Cleaning & Pressure Test for DN600 Fresh Water Main	0%	45	45	09-Jan-27	22-Feb-27	09-Jan-27	22-Feb-27	5					
SW-TC-1020	Cleaning & Pressure Test for DN450 Fresh Water Main	0%	45	45	16-Jan-27	01-Mar-27	16-Jan-27	01-Mar-27	5					
SW-TC-1040	Cleaning & Pressure Test for DN450 Salt Water Main	0%	45	45	23-Jan-27	08-Mar-27	23-Jan-27	08-Mar-27	5		+			
SW-TC-1010	Connection to existing for DN600 Fresh Water Main	0%	30	30	23-Feb-27	24-Mar-27	23-Feb-27	24-Mar-27	19					
SW-TC-1030	Connection to existing for DN450 Fresh Water Main	0%	30	30	02-Mar-27	31-Mar-27	02-Mar-27	31-Mar-27	12					
SW-TC-1050	Connection to existing for DN450 Salt Water Main	0%	30	30	09-Mar-27	07-Apr-27	09-Mar-27	07-Apr-27	5					
N250, DN750 and DN80	00 Salt Water Mains		1169	1247	03-May-23	10-Apr-27	26-Jan-23	10-Apr-27	1					
Pipe Installation by Pipe Jac	cking Method		1109	1109	03-May-23	22-Jan-27	03-May-23	22-Jan-27	4	· · · · · · · · · · · · · · · · · · ·				
Water Main Tunnel (Detail	B), CH 0-63 (63m) along Chuk Yuen Road - Section B1		328	328	09-Aug-25	14-Sep-26	09-Aug-25	14-Sep-26	110				<b>.</b>	▼ 14-Sep-2
				020	ŭ		ŭ	·						
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, si	
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 trenchle	ss 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 U	U diversion for c
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 Approva	ıl for trenchless v
SW-JPB-1040 I	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 instrur	mentation and m
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	f 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	f 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 prep	oaration works a
SW-JPB-1080 F	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 mobilization
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				<u> </u>	Excavation (
										<u>                                     </u>	<u> </u>			<u> </u>
1st Programme B	Baseline ♦					21 of 27				ate		Revision	Checked	Approve
		1							12-Dec	00 15 15	ogramme			

Monthly Programme January 2023

/ ID	Activity Name	Activity % Complete	1st Prog. Dur.	Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	ND JEW	2023	SOND	EM A	2024 M II II AISIOINII	2025 J F M A M J J		202 FMAM I		202 1 E
SW-JPB-1110	Plant demobilization	0%	30	30	28-Jul-26	26-Aug-26	28-Jul-26	26-Aug-26	135	NDJFIN		301403	FIMIA		7 3 F 1 A W 3 3	ASTRIDIS	FIMAIMS	Plant der	
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 in	ıstall
Water Main Tunnel (Det	tail 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						<b>V</b>			20-Jun-26, W	/ater
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						<b>□</b> TTAir	mplementation	, site clearar	ice, road modi	ificat
SW-JPB-2010	SI works for trenchless design	0%	28	28	26-Apr-25	23-May-25	26-Apr-25	23-May-25	329						<b>□</b> SIv	vorks for trend	hless 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						שי 🖳 טיט	Detection and	UU diversio	n for construc	tion
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 Appro	oval for trend	hless 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						□ lns	stallation of ins	trumentation	and monitorin	ng d
SW-JPB-2050	Construction of receiving pit	0%	75	75	26-May-25	08-Aug-25	26-May-25	08-Aug-25	312							Constructio	n of receiving	g pit	- +
SW-JPB-2060	Construction of launching pit	0%	75	75	26-May-25	08-Aug-25	26-May-25	08-Aug-25	253							Constructio	n of launchin	g 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 p	reparation v	orks at launch	ning
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 mobil	zation and set	t-up
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								Exca	avation (102m)	) by
SW-JPB-2110	Plant demobilization	0%	30	30	22-Apr-26	21-May-26	22-Apr-26	21-May-26	138					+-+-+-				ant demobiliza	ıtion
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									Plpe Installatio	on (F
Water Main Tunnel (Det	tail 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						<del></del>	22-Jul-25, W	ater Main Tu	nnel (Detail B)	), CI
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 impleme	tation, site cleara	nce, road mo	lification 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 fo	trenchless desig	n			
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 Detecti	n and UU diversi	on for constru	ction of jacki	ng 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 tren	chless 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 instrumentatio	n and monitor	ng device ar	nd condition su	urve
SW-JPB-3050	Construction of receiving pit	0%	75	75	28-Jun-24	10-Sep-24	28-Jun-24	10-Sep-24	207					Cons	ruction of receivin	ng pit			
SW-JPB-3060	Construction of launching pit	0%	75	75	28-Jun-24	10-Sep-24	28-Jun-24	10-Sep-24	195					Cons	ruction of launchi	ng 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	195					□ Adv	nce preparation	works at laund	hing 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	147						Plant mobilizati	on and set-up	at Launchin	gpit	1 1
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						Exca	vation (152m)	by Pipe Jac	king method, F	PR=
SW-JPB-3110	Plant demobilization	0%	30	30	07-May-25	05-Jun-25	07-May-25	05-Jun-25	137						■ Pla	ant demobiliza	ion		
1st Programm	ne Baseline ♦ ♦ 1st Programme Baseline Milestone					2 of 27				ate				Revision		С	necked	Approv	vec
Actual Work	♦ Milestone				_				12-De	c-22	First Pro	gramme							
Actual Work														nuary 2023					

Monthly Programme January 2023

)	Activity Name	Activity % Complete	1st Prog Dur.	. Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	2023 2024 2025 2026 NDJFMAMJJASONDJFMAMJJASONDJFMAMJJASON	20
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	ND 3 F M A M 33 A S O N D 3 F M A M 33 A S O N D 3 F M A M 3 J A M 3 J A M 3	
Vater Main Tunnel (De	otail 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	7 07-May-24, Water Main Tunnel (Detail B), CH 608-760 (153m) along	Chuk
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	■ T.TA implementation; site clearance, road modification and site setup	
3VV-0FD-4000	Trainipertentation, sie dearance, road modification and sie setup	0 76	14	14	03-iviay-23	10-iviay-23	03-iviay-23	10-iviay-23	4		
SW-JPB-4010	SI works for trenchless design	0%	28	28	17-May-23	13-Jun-23	17-May-23	13-Jun-23	66	□ 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	
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	
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	
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 Lauriching pit	
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)	
Water Main Tunnel (De	etail 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	<del>▼</del>	ep-2
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	☐ TTA implementation, site clearance, road	mod
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	
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 co	nstruc
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 wo	rks
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 mo	nitori
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	
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	
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 I	aunc
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 a
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	(212
SW-JPB-5110	Plant demobilization	0%	30	30	06-Jun-26	05-Jul-26	06-Jun-26	05-Jul-26	4	III Plant den	ıobiliz
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	Pipe	Insta
Water Main Tunnel (De	etail 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		•
= 1ot Drammer	no Racolino A 1st Programmo Posolino Milestono					22 of 27				Date Revision Checked App	rove
1st Programn Actual Work	ne Baseline   1st Programme Baseline Milestone  Milestone				2	23 of 27			12-De		346
, lotual VVOIR	▼ VIIIIOGEOTIC								12-Ja		

Monthly Programme January 2023

1	D	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	ND JE	2023 2024 2025 2026   MAM
	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	14 5 3 1	
	SW_IPR-6010	SI works for transhlase design	0%	28	28	13 Dec 25	00_lan_26	13 Dec 25	00-lan-26	136		St works for transhless das
Martin   M	3VV-3FB-0010	SI WORKS TOT BETTATIESS GESIGN	0 70	20	20	13-Dec-23	09-Jan-20	13-Dec-23		130		
Section   Sect	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		☐ UU Detection and UU diver
90.945200 Contration decomps	SW-JPB-6030	Design Approval for trenchless works	0%	60	60	10-Jan-26	10-Mar-26	10-Jan-26	10-Mar-26	136		Design Approval for tre
Mary	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		☐ Installation of instrumentati
### Accordance Transfer and and particular management (a) 10 miles (b)	SW-JPB-6050	Construction of receiving pit	0%	75	75	12-Jan-26	27-Mar-26	12-Jan-26	27-Mar-26	119		Construction of receiv
Secondary   Seco	SW-JPB-6060	Construction of launching pit	0%	75	75	12-Jan-26	27-Mar-26	12-Jan-26	27-Mar-26	60		Construction of launce
Security	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		☐ :Advance preparation
Secondary   Seco	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		Plant mobiliz:
Second   Personal Comment   Pe		, ,,										
SW-DB-120   Pipe Installation   PiPe-Osinwik is filling, flamb by pipe)   ON-   ON	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		Exce
Part	SW-JPB-6110	Plant demobilization	0%	30	30	06-Nov-26	05-Dec-26	06-Nov-26	05-Dec-26	5		Pı
2   12   13   13   14   15   15   15   15   15   15   15	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		
21 PRW/POS.10170 Continuition with Unity Undertaking, TTA. Trial PIA & Excavation, UI Diversion (TTA-B1) 0% 0 48 25-lan-23 22-lan-23 0 49 Continuition with Unity Undertaking, TTA. Trial PIA & Excavation, UI Diversion (TTA-B1) 0% 0 50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Pipe Installation by Open 1	rench Method		1137	1215	03-May-23	27-Feb-27	26-Jan-23	27-Feb-27	1	-	
21 FRWPOS10170 Coordination with Utility Undertaking, TTA. Trial P18.6 Exercision, ULI Disersion (TTA-B1) 0% 0 48 25-lun-23 22-lun-23 22-lun-23 22-lun-23 23-lun-23 22-lun-23 23-lun-23 23	Combined Trench for SW	DNR00 & DN750 along Chuk Yuen Road, from R1 to R2		50	128	03-May-23	03_ luL23	26- lan-23	03_ lul-23	1		03-Jul-23. Combined Trench for SW DN800 & DN750 along Chuk Yuen Road. from B1 to B2
SW-OTB-1000 Sheet pling, Exavation, ELS, Pipe Laying, Chamber, Bacidiling & Road reinstatemen, TTA-B1 of May 23 03-July 24 04-July 23 02-July 24 02-July 2	Combined Trenerior CVV	Shoot a Strott droing than 1 deli ready, with Strott Se		30	120	00-iviay-20	00-Jur25	20-0an-20	00-Jui-25	'		
(17m for large)  151 231 04-Jul 23 02-Jun 24 23-Minr 23 02-Jun 24 23-Minr 23 02-Jun 24 1 1 70-Jun 24 (23-Minr 24) 1 70-J	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		Coordination with Utility Undertaking, T.TA, Trial Pit & Excavation, UU Diversion (TTA-B1)
21 PRWPO5.10180 Coordination with Utility Undertaking, TTA, Trial Pt & Excavation, UU Diversion (TTA-82 to TTA-85) SW-OTB-2000 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-82 (20m long) SW-OTB-2010 Sheet plring, Excavation, ELS, Pipe Laying, Chamber, Backfling & Road reinstatemen, TTA-83 0% 58 58 09-Aug-23 17-Oct-23 09-Aug-23 17-Oct-23 1 SW-OTB-2020 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-84 (20m long) SW-OTB-2030 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-85 (20m long) SW-OTB-2030 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-2030 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-2030 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-2030 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-2030 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-2030 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-2030 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-2030 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-3030 Sheet plring, Excavation, ELS, Pipe Laying, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-3030 Sheet plring, Excavation, ELS, Pipe Laying, Chamber, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-3030 Sheet plring, Excavation, ELS, Pipe Laying, Chamber, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-3030 Sheet plring, Excavation, ELS, Pipe Laying, Chamber, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-3030 Sheet plring, Excavation, ELS, Pipe Laying, Chamber, Backfling & Road reinstatemen, TTA-85 (24m long) SW-OTB-3030 Sheet plring, Excavation, ELS, Pipe Laying, Chamb	SW-OTB-1000		0%	50	50	03-May-23	03-Jul-23	03-May-23	03-Jul-23	1		Sheet piling; Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B1 (1
THABS)  SW-OTB-2000 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B2 (20m long)  SW-OTB-2010 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfiling & Road reinstalemen, TTA-B2 (20m long)  SW-OTB-2020 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B3 (20m long)  SW-OTB-2030 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B5 (20m long)  SW-OTB-2030 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B6 (20m long)  SW-OTB-2030 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B6 (20m long)  TTA-B9)  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstalemen, TTA-B6 (20m long)  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfiling & Road reinstalemen, TTA-B7 (20m long)  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfiling & Road reinstalemen, TTA-B7 (20m long)  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfiling & Road reinstalemen, TTA-B7 (20m long)  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfiling & Road reinstalemen, TTA-B7 (20m long)  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfiling & Road reinstalemen, TTA-B7 (20m long)  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe	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-Ján-24, Combined Trench for SW DN800 & DN750 along Chuk Yuen Road, from
TTAB5)  SW-OTB-2000 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B2 (20m long)  SW-OTB-2010 Sheet pling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B3 (20m long)  SW-OTB-2020 Sheet pling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B4 (20m long)  SW-OTB-2020 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B4 (20m long)  SW-OTB-2020 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B4 (20m long)  SW-OTB-2030 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B5 (24m long)  SW-OTB-2030 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B6 (24m long)  SW-OTB-2030 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B6 (24m long)  SW-OTB-3030 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B6 (24m long)  SW-OTB-3030 Sheet pling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 (24m long)  SW-OTB-3030 Sheet pling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 (24m long)  SW-OTB-3030 Sheet pling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 (24m long)  SW-OTB-3030 Sheet pling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 (24m long)  SW-OTB-3030 Sheet pling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 (24m long)  SW-OTB-3030 Sheet pling, Excavation, ELS, Pipe L	21.PRW.PO5.10180	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B2 to	0%	0	72			23-Mar-23	21-Jun-23	9		Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B2 to TTA-B5)
SW-OTB-2010 Sheetpling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B3 0% 58 58 09-Aug-23 17-Oct-23 09-Aug-23 17-Oct-23 1		TTA-B5)										
20m long	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 piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B2 (20m long)
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 1	SW-OTB-2010		0%	58	58	09-Aug-23	17-Oct-23	09-Aug-23	17-Oct-23	1		Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TT
Combined Trench for SW DN800 & DN750 along Chuk Yuen Road, from B3 to B4  21.PRWPO5.10190 Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B6 to TTA-B9)  SW-OTB-3000 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 (20m long)  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long)  SW-OTB-3010 Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B10 to TTA-B10 to TTA-B10 to TTA-B10)  21.PRWPO5.10200 Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B10 to TTA-B10 to TTA-B10)  356 476 03-Jan-24 14-Mar-25 09-Aug-23 14-Mar-25 1  358 09-Aug-23 03-Nov-23 49  359 09-Aug-23 03-Nov-23 49  359 09-Aug-23 03-Nov-23 49  359 09-Aug-24 12-Mar-24 12-Mar-24 1  359 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 (20m long)  350 476 03-Jan-24 12-Mar-25 1  350 Jan-24 12-Mar-25 09-Aug-23 03-Nov-23 49  350 Jan-24 12-Mar-24 12-Mar-24 12-Mar-24 11  350 Jan-24 12-Mar-24 11  350 Jan-24 12-Mar-24 12-Mar-24 11  350 Jan-24 12-Mar-24 12-Mar-24 11  350 Jan-24 12-Mar-24 11  350 Jan-24 12-Mar-24 11  350 Jan-24 12-Mar-24 12-Mar-24 12-Mar-24 12-Mar-24 11  350 Jan-24 12-Mar-24 12-Mar-24 11  350 Jan-24	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 piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, T.TA-B4 (2
21.PRW.PO5.10190 Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B6 to TTA-B9)  SW-OTB-3000 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long)  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long)  SW-OTB-3010 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long)  SW-OTB-3010 Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long)  SW-OTB-3010 Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B10 to Table 1)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long)  SW-OTB-3010 Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B10 to Table 1)  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long)  SW-OTB-3010 Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B10 to Table 1)  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 to Table 1)  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 to Table 1)  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 to Table 1)  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 to Table 1)  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 to Table 1)  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 to Table 1)  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 to Table 1)  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Ro	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 piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B5
TTA-B9)  SW-OTB-3000 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 0% 58 58 03-Jan-24 12-Mar-24 1 12-Ma	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		▼ 14-Mar-25; Combined Trench for SW DN800 & DN
SW-OTB-3000 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 0% 58 58 03-Jan-24 12-Mar-24 1 Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6 0% 58 58 03-Jan-24 12-Mar-24 1 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long) 0% 31 31 13-Mar-24 22-Apr-24 1 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long) 0% 31 31 13-Mar-24 22-Apr-24 1 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B7 (20m long) 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%			0%	0	72			09-Aug-23	03-Nov-23	49		Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B6 t
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 1		Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B6	0%	58	58	03-Jan-24	12-Mar-24	03-Jan-24	12-Mar-24	1		Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinsta
21.PRW.PO5.10200 Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B10 to TTA-B15)  1st Programme Baseline  1st Programme Baseline  1st Programme Baseline Milestone  24 of 27	SW-OTB-3010	, or	0%	31	31	13-Mar-24	22-Apr-24	13-Mar-24	22-Apr-24	1		Sheet piling, Excavation; ELS, Pipe Laving, Backfilling & Road reinstatemen.
TTA-B15)  TTA-B15)  TTA-B15)  1st Programme Baseline		, , , , , , , , , , , , , , , , , , ,					,			22		
10. Die 20 Final Die 200 Final	21.1107.1 00.10200	• • • • • • • • • • • • • • • • • • • •	<b>3</b> 70		12			10 Mai-24	12 JUII-24			
10. First Drawning Baseline Villestone		Pacalina A 1st Programma Pacalina Milectona					24 of 27				Date	Revision Checked Approve
	1st Drogrammo					,	4 111 //					

Monthly Programme January 2023

ID	Activity Name	Activity % Complete	1st Prog. Dur.	Duration	1st Prog. Start	ist Prog. Finish	Start	Finish	Float			
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	IN D JFMAM JJASONDJFM	AMJJASONDJFMAMJJASONDJFMAM  Sheet piling, Excavation, ELS, Pipe Laying, Backfilling 8	
SW-OTB-3030	Sheet piling. Excavation. ELS. Pipe Laving. 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, Backfillin	g.&.Road rejostate
	1 3, , , , 1 , 3,				,		,		'			
SW-OTB-3040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B10 (20m long)	0%	31	31	09-Jul-24	13-Aug-24	09-Jul-24	13-Aug-24	1		Sheet piling, Excavation, ELS, Pipe Laying, Backf	illing & Road reinst
SW-OTB-3050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B11 (20m long)	0%	31	31	14-Aug-24	19-Sep-24	14-Aug-24	19-Sep-24	1		Sheet piling, Excavation, ELS, Pipe Laying, Ba	ckfilling & Road re
SW-OTB-3060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B12 (20m long)	0%	31	31	20-Sep-24	28-Oct-24	20-Sep-24	28-Oct-24	1		Sheet piling, Excavation, ELS, Pipe Laying,	Backfilling & Road
SW-OTB-3070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B13 (20m long)	0%	31	31	29-Oct-24	03-Dec-24	29-Oct-24	03-Dec-24	1		Sheet piling, Excavation, ELS, Pipe Layir	ng, Backfilling & Ro
SW-OTB-3080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B14 (20m long)	0%	31	31	04-Dec-24	11-Jan-25	04-Dec-24	11-Jan-25	1		Sheet piling, Excavation, ELS, Pipe La	aying, Backfilling &
	Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B15 (17m long)	0%	50	50	13-Jan-25	14-Mar-25	13-Jan-25	14-Mar-25	1		Sheet piling, Excavation, ELS, Pi	oe Laying, Chamb
	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		· · · · · · · · · · · · · · · · · · ·	<b></b> 21-Jul-26, C¢
21.PRW.PO5.10210	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B27 to	0%	0	72			04-Dec-24	04-Mar-25	10		Coordination with Utility Undertaki	ng, TTA, Trial Pit 8
	TTA-B24) Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B27	00/	F0	F0	45 Mar OF	20 May 25	45 Mar 25	20 May 25	1			C Distant as in a C
	(20m long)	0%	58	58	15-Mar-25	28-May-25	15-Mar-25	28-May-25	I		Sheet piling, Excavation, El	
SW-OTB-4100	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B26 (20m long)	0%	31	31	29-May-25	05-Jul-25	29-May-25	05-Jul-25	1		Sheet piling, Excavation,	, ELS, Pipe Laying
21.PRW.PO5.10220	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B23 to TTA-B19)	0%	0	72			29-May-25	22-Aug-25	22		Coprdination with Ut	ility Undertaking, 1
SW-OTB-4090	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B25 (20m long)	0%	31	31	07-Jul-25	11-Aug-25	07-Jul-25	11-Aug-25	1		Sheet piling, Excavati	on, ELS, Pipe Lay
SW-OTB-4080	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B24 (20m long)	0%	31	31	12-Aug-25	16-Sep-25	12-Aug-25	16-Sep-25	1		Sheet piling, Exca	/ation, ELS, Pipe L
SW-OTB-4070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B23 (20m long)	0%	31	31	17-Sep-25	24-Oct-25	17-Sep-25	24-Oct-25	1		Sheet piling, Ex	cavation, ELS, Pip
SW-OTB-4060	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B22 (20m long)	0%	31	31	25-Oct-25	01-Dec-25	25-Oct-25	01-Dec-25	1		Sheet piling,	Excavation, ELS,
SW-OTB-4050	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B21 (20m long)	0%	31	31	02-Dec-25	09-Jan-26	02-Dec-25	09-Jan-26	1		Sheet pilir	ng, Excavation, EL
21.PRW.PO5.10230	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B18 to TTA-B16)	0%	0	72			02-Dec-25	02-Mar-26	22		Cqort	dination with Utility
SW-OTB-4040	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B20 (20m long)	0%	31	31	10-Jan-26	14-Feb-26	10-Jan-26	14-Feb-26	1		. Sheet;	oiling, Excavation,
SW-OTB-4030	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B19 (20m long)	0%	31	31	16-Feb-26	26-Mar-26	16-Feb-26	26-Mar-26	1		<b>≡</b> \$he	et piling, Excavati
SW-OTB-4020	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B18 (20m long)	0%	31	31	27-Mar-26	06-May-26	27-Mar-26	06-May-26	1		<b>=</b> S	Sheet piling, Excav
SW-OTB-4010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B17 (20m long)	0%	31	31	07-May-26	12-Jun-26	07-May-26	12-Jun-26	1			Sheet piling, Exc
SW-OTB-4000	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B16 (20m long)	0%	31	31	13-Jun-26	21-Jul-26	13-Jun-26	21-Jul-26	1			Sheet piling,
Combined Trench for SW I	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, Cor	mbined Trench for
21.PRW.PO5.10240	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B28 to	0%	0	72			04-Jun-24	28-Aug-24	12		Coordination with Utility Undertaking, TTA, Trial i	Pit & Excavation, l
SW-OTB-5000	TTA-B32)  Sheet piling, Excavation, ELS, Pipe Laying, Chamber, Backfilling & Road reinstatemen, TTA-B28	0%	44	44	11-Sep-24	04-Nov-24	11-Sep-24	04-Nov-24	1		Sheet piling, Excavation, ELS, Pipe Laying,	Chamber, Backfil
	(7m long)									<u> </u>		<u> </u>
1st Programme	Baseline ♦ 1st Programme Baseline Milestone				2	.5 of 27				Date	Revision Checked	Approve
A = 1	♦ Milestone								12-De	ec-22 First Programme		
Actual Work	▼ Willestone								12-Ja	n-23 Monthly Programme		

Monthly Programme January 2023

21 PRWPO5.10280 Coordination with Utility Undertaking, TTA. Trial Pt & Excavation, UU Diversion (TTA-B39) 0% 0 48	ID	Activity Name	Activity % Complete	1st Prog. Dur.	Original Duration	1st Prog. Start	1st Prog. Finish	Start	Finish	Total Float	ND IEM	2023	2024 2025 - MAM JUASOND JEMAM JUAS		
March   Marc	SW-OTB-5010	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B29 (7m long)	,		14	05-Nov-24	20-Nov-24	05-Nov-24	20-Nov-24	1	NDJEM				
TABLE	SW-OTB-5020	, , , , , , , , , , , , , , , , , , , ,	0%	31	31	21-Nov-24	28-Dec-24	21-Nov-24	28-Dec-24	1			💻 \$heet piling, Excava	ation, EL\$, Pipe Laying	, Backfilling & Ro
1972    197	21.PRW.PO5.10250	, , , , , , , , , , , , , , , , , , , ,	0%	0	72			21-Nov-24	19-Feb-25	22			Coordination w	th Utility Undertaking, T	TA, Trial Pit & Ex
Secretary   Communication	SW-OTB-5030		0%	31	31	30-Dec-24	07-Feb-25	30-Dec-24	07-Feb-25	1			Sheet piling, Exc	avation, ELS, Pipe Lay	ing, Backfilling &
March   Section   Sectio	SW-OTB-5040		0%	31	31	08-Feb-25	15-Mar-25	08-Feb-25	15-Mar-25	1			Sheet piling, E	xcavation, ELS, Pipe L	aying, Backfillin
Second   Process   Proce	SW-OTB-5050		0%	31	31	17-Mar-25	25-Apr-25	17-Mar-25	25-Apr-25	1			Sheet pilini	g, Excavation, ELS, Pip	e Laying, Backf
Secretary   December   File   Prevention   Pile   Prevention   P	SW-OTB-5060		0%	31	31	26-Apr-25	04-Jun-25	26-Apr-25	04-Jun-25	1			Sheet p	iling, Excavation, ELS,	Pipe Laying, Ba
March   Marc	SW-OTB-5070		0%	31	31	05-Jun-25	11-Jul-25	05-Jun-25	11-Jul-25	1			Shei	et piling, Excavation, EL	S, Pipe Laying,
Secretary   Secr			0%	31	31	12-Jul-25	16-Aug-25	12-Jul-25	16-Aug-25	1				neet piling, Excavation,	ELS, Pipe Layin
Part	SW-OTB-5090		0%	31	31	18-Aug-25	22-Sep-25	18-Aug-25	22-Sep-25	1			=	Sheet piling, Excavatio	on, ELS, Pipe La
21 PRWP05 10200   Conditional with Ulily Undertaking TTA, Triat PA & Examplian, LEA, Eye Laying, Backfiring & Road reinstalement, TTA, 509 (fib. brog). 0% 21 21 17 Nov. 20 10 Dec. 20 17 Nov. 20 10 Dec. 20 11 D	SW-OTB-5100		0%	31	31	23-Sep-25	31-Oct-25	23-Sep-25	31-Oct-25	1				Sheet piling, Excav	ation, ELS, Pipe
SW-018-000 Sheelping, Exceedion, L.S. Pipe Laying, Baodling & Road rehablament, TTA 939 (9m brg), 0% 21 21 17 Nov-25 10 Dec-26	Open Trench for DN800 a	ong Sheung Fung Street, from D1 to Connection Point		21	83	17-Nov-26	10-Dec-26	02-Sep-26	10-Dec-26	1					10-
181 274 22-Jul 26 27-Feb-27 1  21 PRW/PDS 10290 Coordination Will Uity Undertaking TTA, Trait PE & Examiliation, UU Diversion (TTA-Skill to 17 22-Jul 26 27-Feb-27 1  21 PRW/PDS 10290 Coordination Will Uity Undertaking TTA, Trait PE & Examiliation, UU Diversion (TTA-Skill to 17 22-Jul 26 25-Sep-26 22-Jul 26 25-Sep-26 1  SW-CTB-7000 Sheet pixing, Examiliation ELS. Pipe Laying, Chamithee, Burkkilling & Road minimisterment, TTA-Bkill (20m nor) SW-CTB-7000 Sheet pixing, Examiliation ELS. Pipe Laying, Bacdiffing & Road reinsisterment, TTA-Bkill (20m nor) SW-CTB-7000 Sheet pixing, Examiliation ELS. Pipe Laying, Bacdiffing & Road reinsisterment, TTA-Bkill (20m nor) SW-CTB-7000 Sheet pixing, Examiliation ELS. Pipe Laying, Bacdiffing & Road reinsisterment, TTA-Bkill (20m nor) SW-CTB-7000 Sheet pixing, Examiliation ELS. Pipe Laying, Bacdiffing & Road reinsisterment, TTA-Bkill (20m nor) SW-CTB-7000 Sheet pixing, Examiliation ELS. Pipe Laying, Bacdiffing & Road reinsisterment, TTA-Bkill (20m nor) SW-CTB-7000 Sheet pixing, Examiliation ELS. Pipe Laying, Bacdiffing & Road reinsisterment, TTA-Bkill (20m nor) SW-CTB-7000 Sheet pixing, Examiliation Foot Sheet pixing, Examiliation	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					Coord
22 PRW/POS-10290 Coordination with Utility Undertaking, TTA, Trial Pt & Excavation, ULI Diversion (TTA-840 to 0 % 0 72	SW-OTB-6000		0%	21	21	17-Nov-26	10-Dec-26	17-Nov-26	10-Dec-26	1					<b>■</b> She
TTA-B22  SW-OTB-7000 Sheet pling. Excavation, ELS, Ppe Laying, Chamber, Backfiling & Road reinstatemen, TTA-B41 (20m 0% 57 57 22-Jul-26 25-Sep-26 22-Jul-26 25-Sep-26 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Open Trench for DN750 a	ong Chuk Yuen Road, from B5 to Connection Point		181	274	22-Jul-26	27-Feb-27	27-Mar-26	27-Feb-27	1				<u> </u>	
2(2m ling)   2(2m ling)   2   2   2   2   2   2   2   2   2	21.PRW.PO5.10290	, , ,	0%	0	72			27-Mar-26	25-Jun-26	22				•	Coordination with
SW-OTB-7020 Sheet pling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B42 (20m	SW-OTB-7000	1 0	0%	57	57	22-Jul-26	25-Sep-26	22-Jul-26	25-Sep-26	1					Sheet pili
SW-OTB-7030   Sheet pling, Excavation, ELS, Pipe Laying, Backfiling & Road reinstatemen, TTA-B43 (20m   0%   31   31   11-Dec-26   19-Jan-27   11-Dec-26   19-Jan-27   1	SW-OTB-7010		0%	31	31	28-Sep-26	04-Nov-26	28-Sep-26	04-Nov-26	1					■ Sheet
SW-OTB-7050   Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B45 (20m   0%   31   31   20-Jan-27   27-Feb-27   20-Jan-27   27-Feb-27   1   9   9   9   9   9   9   9   9   9	SW-OTB-7020		0%	31	31	05-Nov-26	10-Dec-26	05-Nov-26	10-Dec-26	1					■ She
SW-OTB-7040 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B44 (20m	SW-OTB-7030		0%	31	31	11-Dec-26	19-Jan-27	11-Dec-26	19-Jan-27	1					
SW-OTB-8090 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B56 (20m 0% 31 31 20-Jan-27 27-Feb-27 20-Jan-27 27-Feb-27 1 long), to Connection Point 310 403 01-Nov-25 16-Nov-26 12-Jul-25 16-Nov-26 1 1 2-Jul-25 16-Nov-26 1 2-Jul-25 16-N	SW-OTB-7050	1 0, , , , , , , , , , , , , , , , , , ,	0%	31	31	11-Dec-26	19-Jan-27	11-Dec-26	19-Jan-27	1					
long), to Connection Point    Open Trench for DN250 along Sheung Fung Street, from D1 to Connection Point   310   403   01-Nov-25   16-Nov-26   1   2-Jul-25   22   2-Jul-25	SW-OTB-7040	, , , , , , , , , , , , , , , , , , , ,	0%	31	31	20-Jan-27	27-Feb-27	20-Jan-27	27-Feb-27	1					
21.PRW.PO5.10260 Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B56 to TTA-B52)  SW-OTB-8090 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B56 (20m 0% 31 31 01-Nov-25 06-Dec-25 11-Nov-25 06-Dec-25 15-Jan-26 11-Nov-25 06-Dec-25 15-Ja	SW-OTB-7060		0%	31	31	20-Jan-27	27-Feb-27	20-Jan-27	27-Feb-27	1					
TTA-B52)  SW-OTB-8090 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B56 (20m 0% 31 31 01-Nov-25 06-Dec-25 01-Nov-25 06-Dec-25 1 long), to Connection Point  SW-OTB-8080 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B55 (20m 0% 31 31 08-Dec-25 15-Jan-26 08-Dec-25 15-Jan-26 1 long)  1st Programme Baseline    26 of 27	Open Trench for DN250 a	ong Sheung Fung Street, from D1 to Connection Point		310	403	01-Nov-25	16-Nov-26	12-Jul-25	16-Nov-26	1			· · · · · · · · · · · · · · · · · · ·		▼ 16-N
SW-OTB-8080 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B55 (20m 0% 31 31 08-Dec-25 15-Jan-26 08-Dec-25 15-Jan-26 1 Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B55 (20m 0% 31 31 08-Dec-25 15-Jan-26 1 Date Revision Checked Approve	21.PRW.PO5.10260		0%	0	72			12-Jul-25	04-Oct-25	22				Coordination with Util	ity Undertaking,
long)  — 1st Programme Baseline ♦ ♦ 1st Programme Baseline Milestone  26 of 27  — Date Revision Checked Approve  13 Dec 23 First Programme	SW-OTB-8090		0%	31	31	01-Nov-25	06-Dec-25	01-Nov-25	06-Dec-25	1				Sheet piling, Exc	cavation, ELS, P
12 Dec 22 First Programme	SW-OTB-8080	, , , , , , , , , , , , , , , , , , , ,	0%	31	31	08-Dec-25	15-Jan-26	08-Dec-25	15-Jan-26	1				Sheet piling, I	Excavation, ELS
13. Dec 22. First Dreament	= 1st Draggemen	Rasalina 🛕 🛕 1st Programma Rasalina Milestona					6 of 07			г	)ate		Revision	Checked	Approve
	•					2	0 01 2/					First Programme			

D	Activity Name	Activity %	1st Prog.	Original	1st Prog. Start	1st Prog. Finish	Start	Finish	Total		2023	2024	2025	2026 202
		Complete	Dur.	Duration					Float	NDJFM	AMJJASON	NDJFMAMJJASOND	JFMAMJJAS	ONDJFMAMJJASONDJFM
SW-OTB-8070	Sheet piling, Excavation, ELS, Pipe Laying, Backfilling & Road reinstatemen, TTA-B54 (20m long)	0%	31	31	16-Jan-26	24-Feb-26	16-Jan-26	24-Feb-26	1					Sheet piling, Excavation, ELS
21.PRW.PO5.10270	Coordination with Utility Undertaking, TTA, Trial Pit & Excavation, UU Diversion (TTA-B51 to TTA-B47)	0%	0	72			16-Jan-26	16-Apr-26	22					Coordination with Utility U
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; Excavation, I
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, Excavatio
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 piling, Excava
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					Sheet piling, Exc
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					Sheet 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					Sheet 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					Sheet p
Test & Commissioning and	I Connection		78	78	23-Jan-27	10-Apr-27	23-Jan-27	10-Apr-27	2					<del>+ -</del>
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					<u> </u>
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					<u> </u>
SW-TC-2030	Connection to existing for DN750	0%	14	14	28-Mar-27	10-Apr-27	28-Mar-27	10-Apr-27	2					

	1st Programme Baseline	$\Diamond$	♦ 1st Programme Baseline Milestone	
	Actual Work	<b>♦</b>	◆ Milestone	
	Remaining Work		Summary	
	Critical Remaining Work			

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

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





#### Appendix B

**Project Organization Chart and Key Personnel Contact** 

#### Subcontractors and His Representative

Company	Workers' Representative	Contact No.
Toyo Greenland	Sandy Chan	9231 5419
Gorgeous	Thomas Chan	9600 3231
Bo Pak	Wong Man Ki	5395 7433
Shing Kei	Lam Shing Kei	9050 4651
Wing Loi	W.F Leung	9231 7779
Harvest	Law Chun Wai	9352 9999
Benny Chung	Wing Wo	6480 7623
Wong Tak Shing	Wo Kai	6020 8095
Samuel Cheung	Wan Kei	5368 3982

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





# **Appendix C Event and Action Plans**





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

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





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





**Table C2** Event/Action Plan for Construction Noise

Event		Ac	ction	
Event	ET	IEC	ER	Contractor
Action Level Exceedance	<ol> <li>Notify IEC, ER and Contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to the IEC, ER and Contractor;</li> <li>Discuss with the Contractor and formulate remedial measures;</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol> <li>Review the analysed results submitted by the ET;</li> <li>Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>Ensure remedial measures are properly implemented.</li> </ol>	<ol> <li>Submit noise mitigation proposals to IEC and ER;</li> <li>Implement noise mitigation proposals.</li> </ol>
Limit Level Exceedance	<ol> <li>Identify source;</li> <li>Inform IEC, ER, EPD and Contractor;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency;</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Inform IEC, ER and EPD the causes and actions taken for the exceedances;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>Ensure remedial measures properly implemented;</li> <li>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.</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to the IEC within three working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Resubmit proposals if problem still not under control;</li> <li>Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>





Table C3 Event/Action Plan for Landscape and Visual

Frant		Ac	ction	
Event	ET	IEC	ER	Contractor
Action Level Exceedance	<ol> <li>Inform the IEC, ER and the Contractor;</li> <li>Discuss remedial actions with IEC, ER and Contractor; and</li> <li>Monitor remedial actions until rectification has been completed.</li> </ol>	<ol> <li>Check inspection report;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET, ER and Contractor on possible remedial measures;</li> <li>Advise ER on effective of proposed remedial measures; and</li> <li>Check implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of non-conformity in writing;</li> <li>Review and agree on the remedial measures proposed by the Contractor; and</li> <li>Ensure remedial measures are properly implemented.</li> </ol>	<ol> <li>Identify source and investigate the non-conformity;</li> <li>Amend working methods agreed with ER as appropriate; and</li> <li>Rectify damage and undertake any necessary replacement.</li> </ol>
Limit Level Exceedance	<ol> <li>Identify sources;</li> <li>Inform the Contractor, IEC and ER;</li> <li>Discuss inspection frequency;</li> <li>Discuss remedial actions with IEC, ER and Contractor;</li> <li>Monitor remedial actions until rectification has been completed; and</li> <li>If non-conformity stops, cease additional monitoring.</li> </ol>	<ol> <li>Check inspection report;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET, ER and Contractor on possible remedial measures; and</li> <li>Advise ER on effectiveness of proposed remedial measures.</li> </ol>	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.	appropriate;

Notes:

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

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





# 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 Qua	lity						
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	<ul> <li>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:</li> <li>The contractor shall observe and comply with Air Pollution Control (Construction Dust) Regulation and implement all the required mitigation measures.</li> <li>The contractor shall undertake precautions at all times to prevent dust nuisance and smoke as a result of his activities.</li> <li>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.</li> <li>The contractor shall frequently clean and water the site to minimize fugitive dust emissions.</li> <li>The contractor shall ensure that there will be adequate water supply/storage for dust suppression.</li> </ul>	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
	<ul> <li>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.</li> </ul>						
	<ul> <li>Any stockpile of dusty material should be properly covered by tarpaulin or other impervious sheeting.</li> </ul>						
	<ul> <li>Vehicles leaving a site loaded with dusty materials should be covered by tarpaulin or other impervious sheeting.</li> </ul>						
	<ul> <li>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.</li> <li>Any materials dropped on paved roads shall be</li> </ul>						
	cleaned up immediately to prevent dust nuisance.  • The contractor shall devise, arrange methods of working and carrying out the works in such a manner so as to minimize dust impacts on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these methods are implemented.						
D3	The contractor shall also implement specific dust mitigation measures for excavation, drilling and blasting activities during the construction of tunnel portal. These include the use of blast nets / canvas covers and ensure portal door is properly closed.	Minimize dust impact at the nearby sensitive receivers	Contractor	All Construction sites	Construction Stage	<ul> <li>Air Pollution Control Ordinance</li> <li>To control the dust impact to meet</li> </ul>	To be Implemented





EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
						HKAQO and EIAO- TM criteria	
D4	Before the commencement of any works, the Engineer may require the contractor to submit the methods of working, construction plant or equipment and air pollution control measures to be used on the site to be made available for inspection and approval.	Minimize dust impact at the nearby sensitive receivers	Contractor	All Construction sites	Construction Stage	Air Pollution Control Ordinance     To control the dust impact to meet HKAQO and EIAO- TM criteria	Implemented
D5	<ul> <li>The following precautionary measures shall be incorporated into contract document and implemented throughout the construction.</li> <li>The contractor shall ensure the use of electricity power equipment is connected to the main electricity supply for better emission estimation.</li> <li>The contractor shall avoid the use of diesel power machines and generators as far as practicable.</li> <li>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.</li> <li>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.</li> </ul>	Avoid burdening the surrounding NO <sub>2</sub> 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





•	Zivice 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			
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/m² 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/m² 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 observation
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	<ul> <li>Good Site Management Practices</li> <li>Only well-maintained plant should be operated onsite, and plant will be serviced regularly during the construction phase;</li> <li>Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction phase;</li> <li>Mobile plant, if any, should be sited away from NSRs;</li> <li>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;</li> <li>Plant known to emit noise strongly in one direction should be orientated so that the noise is directed away from the nearby NSRs;</li> </ul>	Control construction noise impacts	Contractor	All Construction sites	Construction stage	• EIAO-TM	Implemented





	1						
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
Operatio	<ul> <li>Material stockpiles and other structures should be effectively utilised in screening noise from on-site construction activities;</li> <li>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;</li> <li>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.</li> </ul>						
	• Change quieten plants	Reduce the	Duningt	Tunnel Portal /	Prior to	- FIAO TM	To be
	<ul> <li>Choose quieter plant;</li> <li>Include noise levels specification when ordering new mechanical equipment such as pumps and ventilation systems;</li> </ul>	operation noise	Project Proponent	Ancillary building / SRs in carven	operation of the Project for planned NSRs	• EIAO-TM	implemented
	<ul> <li>Locate fixed plant, louvres or openings away from NSRs;</li> </ul>						
N11	Locate fixed plant in walled plant rooms or in specially designed enclosures;						
	Ensure pump room doors and tunnel						
	portal doors are kept closed;						
	Silencers, acoustic louvres or acoustic doors should be used where necessary; and						
	Develop and implement a regularly scheduled plant maintenance programme so that equipment is properly						





•	EMENT 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
	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.	construction activities				• TM-DSS	
	<ul> <li>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.</li> <li>Works programme should be designed to minimise</li> </ul>						
	works areas at any one time, thus minimizing exposed soil areas and reducing the potential for increased siltation and site runoff.						
	Sand/silt removal facilities such as sand traps, silt traps and sediment basins should be provided to remove the sand/silt particles from run-off where necessary. These facilities should be properly and regularly cleaned and maintained. These facilities should be carefully planned to ensure that they would be installed at appropriate locations to capture all surface water generated on site.						
	Careful programming of the works to avoid excavation works during the rainy season (April to September).						
	• Temporary access roads (if any) should be protected by crushed gravel and exposed slope surfaces shall be protected (e.g. by tarpaulin) when rainstorms are likely;						
	Open stockpiles of construction materials on-site should be covered with tarpaulin or similar fabric during rainstorms to prevent erosion. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system						





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
	<ul> <li>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.</li> <li>Measures should be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.</li> <li>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.</li> <li>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.</li> <li>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</li> </ul>						





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	<ul> <li>Water Pollution Control Ordinance</li> <li>ProPECC PN1/94</li> <li>ETWB TC(W) No. 5/2005</li> <li>EIAO-TM</li> <li>TM-DSS</li> </ul>	N/A
W4	Sewage Generated by Construction Workforce  No discharge of sewage to the storm drains and inland watercourse will be allowed. Domestic sewage /wastewater generated by workforce on-site should be collected in a suitable storage facility such as portable chemical toilets. An adequate number of portable toilets will be provided during the construction phase, with a licensed collector employed to clean the chemical toilets on a regular basis and be responsible for collection and disposal of the sewage. According to the Reference Materials on Construction Site Welfare, Health and Safety Measures that issued by the Construction Industry Council, the number of toilet facilities provided on site shall be at a ratio of not less than one for every 25 workers. These toilets should be maintained in a state that will not deter the workers from using them.	To minimise water quality impact from sewage effluent in construction phase	Contractor	All construction sites where applicable	Construction stage	• Water Pollution Control Ordinance • ProPECC PN1/94 • ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	Implemented
W5	Accidental Spillage of Chemicals  The following mitigation measures should be implemented to avoid adverse impacts of chemical spillage:	To prevent water quality impact due to chemical spillage	Contractor	All construction sites where applicable	Construction stage	Water Pollution Control Ordinance     Waste Disposal (Chemical Waste) (General) Regulation     ProPECC PN1/94	Implemented





EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	<ul> <li>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.</li> <li>All fuel tanks and chemical storage areas should be provided with locks and be sited on paved areas.</li> <li>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.</li> <li>Waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance.</li> <li>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.</li> </ul>					• ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	
W6	<ul> <li>Groundwater infiltration and Groundwater Drawdown</li> <li>To minimize the groundwater infiltration, the following groundwater control measures are recommended:</li> <li>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.</li> <li>Where water inflow quantities are excessive, pregrouting will be required to reduce the water inflow into the tunnel/cavern.</li> </ul>	To minimise water quality impact from groundwater infiltration	Contractor	All construction sites where applicable	Construction stage	<ul> <li>Water Pollution Control Ordinance</li> <li>ProPECC PN1/94</li> <li>ETWB TC(W) No. 5/2005</li> <li>EIAO-TM</li> <li>TM-DSS</li> </ul>	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
	<ul> <li>In case of excessive infiltration being observed as a result of the tunnelling or excavation works even after pre-</li> <li>grouting measures, post-grouting should be applied as far as practicable.</li> <li>Waterproof lining will be installed after the formation of the tunnels and caverns.</li> <li>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</li> <li>Construction Works in Close Proximity of Inland</li> </ul>	To minimise	Contractor	All construction	Construction	• Water Pollution	To be
W7	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.	water quality impact from construction site near watercourses		sites where applicable	stage	Control Ordinance  • ProPECC PN1/94  • ETWB TC(W) No. 5/2005  • EIAO-TM  • TM-DSS	Implemented
W8	<ul> <li>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:</li> <li>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.</li> <li>Temporary storage of materials (e.g. equipment, chemicals and fuel) and temporary stockpile of</li> </ul>	To minimise water quality impact from construction site near watercourses	Contractor	The relocated DHSRs	Construction stage	• Water Pollution Control Ordinance • ProPECC PN1/94 • ETWB TC(W) No. 5/2005 • EIAO-TM • TM-DSS	Implemented





EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	<ul> <li>construction debris and spoil should be located well away from any watercourses.</li> <li>Stockpiling of construction materials and dusty materials should be covered and located away from any watercourses.</li> <li>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.</li> <li>Adequate lateral support may need to be erected in order to prevent soil/mud from slipping into the watercourses.</li> <li>Construction works close to the inland watercourses should be carried out in dry season as far as practicable</li> </ul>						
W9	where the flow in the surface channel or stream is low.  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	quality (Operation Phase)						
W10	The ProPECC PN 5/93 "Drainage Plans subject to Comments by Environmental Protection Department" provides guidelines and practices for handling, treatment and disposal of various effluent discharges to stormwater drains and foul sewers. The design of site drainage and disposal of various site effluents generated within the	To control operational site effluents	Further Operator	The relocated DHSRs	Operation stage	Water Pollution Control Ordinance     ProPECC PN5/93	To be Implemented





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





EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	<ul> <li>should also be carried out prior to occurrence of rainstorm.</li> <li>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.</li> </ul>						
Waste M	Ianagement (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	<ul> <li>Waste Disposal Ordinance</li> <li>EIAO</li> <li>ETWB TC(W) No. 19/2005</li> <li>DEVB TC(W) No. 6/2010</li> </ul>	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	<ul> <li>Waste Disposal Ordinance</li> <li>EIAO</li> <li>ETWB TC(W) No. 19/2005</li> <li>DEVB TC(W) No. 6/2010</li> </ul>	Implemented
WM4	Where waste generation is unavoidable, the potential for recycling or reuse should be rigorously explored. If waste cannot be recycled, disposal routes described in the EMP should be followed. A recording system for the amount of wastes generated, recycled and disposed (including the	Reduce waste generation	Contractor	All Construction sites	Construction stage	• Waste Disposal Ordinance • EIAO • ETWB TC(W) No. 19/2005	Implemented





EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	disposal sites) should be implemented. In order to monitor the disposal of C&D material and solid wastes at public filling facilities and landfills and to control flytipping, 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	<ul> <li>Best Management Practice</li> <li>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;</li> <li>The reuse/recycling of all materials on site shall be investigated prior to treatment/ disposal off- site;</li> <li>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;</li> <li>All waste materials shall be sorted onsite into inert and non-inert C&amp;D materials, and where the materials can be recycled or reused, they shall be further segregated.</li> </ul>	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
	<ul> <li>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&amp;D materials shall be collected and disposed of to the landfills whilst any inert C&amp;D materials shall be reused on site as far as possible. Alternatively, if inert C&amp;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;</li> <li>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&amp;D materials and solid wastes from the site to public filling facilities and landfills;</li> <li>Under the Waste Disposal (Chemical Waste) (General) Regulation, the Contractor shall register as a Chemical Waste Producer if chemical wastes such as spent lubricants and paints are generated on site. Only licensed chemical waste collectors shall be employed to collect any chemical waste generated at site. The handling, storage, transportation and disposal of chemical wastes shall be conducted in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme both published by EPD;</li> <li>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</li> </ul>						





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
	<ul> <li>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;</li> <li>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</li> <li>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.</li> </ul>						
WM7	On-site Sorting, Reuse and Recycling All waste materials should be segregated into categories covering:  Inert C&D materials suitable for reuse  on-site; Inert C&D materials suitable for public fill reception facilities; Recyclable C&D materials for recycling; Remaining C&D materials for landfill; Chemical waste; and General refuse for landfill.	Reduce waste generation	Contractor	All construction sites	Construction stage	Waste Disposal Ordinance     ETWB TCW No. 19/2005, Environmental Management on Construction Sites	Implemented
WM8	Proper segregation and disposal of construction waste should be implemented. Separate containers should be provided for inert and non-inert materials.	Reduce waste generation	Contractor	All construction sites	Construction stage	<ul> <li>Waste Disposal         Ordinance         <ul> <li>ETWB TCW</li> <li>No. 19/2005,</li> <li>Environmental</li> <li>Management on</li> <li>Construction Sites</li> </ul> </li> </ul>	Implemented





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





EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
WM12	<ul> <li>Control measures for temporary stockpiles on-site should be taken, which include:</li> <li>Surface of stockpiled soil should be regularly wetted with water especially during dry season;</li> <li>Disturbance of stockpiled soil should be minimized;</li> <li>Stockpiled soil should be properly covered with tarpaulin especially when heavy rainstorms are predicted;</li> <li>Stockpiling areas should be enclosed where space is available;</li> <li>Stockpiling location should be away from the water bodies; and</li> <li>An independent surface water drainage system equipped with silt traps should be installed at the stockpiling area.</li> </ul>	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	<ul> <li>Air Pollution Control Ordinance</li> <li>ETWB TCW No. 19/2005, Environmental Management on Construction Sites</li> </ul>	Implemented





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





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





EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	designated landfills by reputable waste collectors. The removal of waste from the site should be arranged on a daily basis or at least on every second day by the contractor to minimise any potential odour impacts, minimise the presence of pests, vermin and other scavengers and prevent unsightly accumulation of waste.	avoid odour, pest and litter impacts				• Public Health and Municipal Services Ordinance (Cap.132)	
Waste Mo	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	<ul> <li>Minimizing Disturbance from Construction Activities</li> <li>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:</li> <li>Site hoarding would be established around the proposed tunnel portal and E&amp;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;</li> <li>QPME, noise and dust reduction tarpaulin sheeting could be used during construction phase to reduce noise disturbance and dust emission. Temporary</li> </ul>	To minimise disturbance from construction activities	Contractor	All construction sites	Construction stage	TM-EIAO	Implemented





EM&A Log Ref.	Recommended Mitigation Measures	Objective of the recommended measure & main concerns to address	Implement Agent	Location / Timing	Implementation Timing	Requirements and / or Standards to be Achieved	Implementation status
	<ul> <li>barriers such as movable noise barrier, temporary noise screening structures and site hoardings could further reduce the noise impact;</li> <li>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.</li> </ul>						
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 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
	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 pregrouting and post-grouting measures, thus the impact of the proposed cavern on the groundwater table is considered to be limited.	To minimize groundwater infiltration / avoid potential impacts on watercourses	Contractor	Works area at Cavern and tunnel portal	Design stage / Construction stage / Operation Stage	EIAO-TM	To be implemented
E9	The permanent tunnel structure of the proposed access tunnel would be designed as drained type at the locations with adequate rock cover and designed as undrained type at locations with mix ground conditions. The water inflow would also be controlled to an acceptable level with pregrouting 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	oe and Visual (Construction Phase)						
CM1	<ul> <li>Careful Site Planning and Management</li> <li>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.</li> <li>Good site practices shall be enforced to eliminate eyesores from unappealing stockpiling/ storage areas and/or construction activities.</li> </ul>	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	<ul> <li>Careful Design of Slope Works</li> <li>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.</li> </ul>	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
СМЗ	<ul> <li>Tree Preservation</li> <li>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.</li> <li>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.</li> </ul>	To minimize tree removal	Project Proponent (via Contractor)	All construction areas	Construction stage	N/A	Implemented
CM4	<ul> <li>Tree Transplanting/ Compensatory Tree Planting</li> <li>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</li> </ul>	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
	<ul> <li>Greening, Landscape and Tree Management Section of Development Bureau.</li> <li>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.</li> <li>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.</li> <li>Tree species selected shall be compatible with surrounding existing vegetation.</li> </ul>	To provide quality and sustainable landscape that is compatible with the site context					
CM5	<ul> <li>Inspection of Tree Works</li> <li>Regular site inspection shall be conducted by tree specialist.</li> </ul>	To closely monitor the site activities in order to avoid or minimize any possible adverse impact to the retained trees	Project Proponent (via Contractor)	All construction areas	Construction stage	N/A	Implemented
CM6	Minimization of Light Impact     Lighting at construction sites shall be carefully controlled at night	To avoid disturbance to nearby VSRs	Project Proponent (via Contractor)	All construction areas and temporary works areas	Construction stage	N/A	Implemented
CM7	Erection of Decorative Site Hoarding     Decorative hoarding that is compatible with the surrounding environment shall be erected during construction.	To enhance the visual amenity of construction hoarding	Project Proponent (via Contractor)	All construction areas and temporary work areas	Construction stage	N/A	To be implemented





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

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
		facilities and to blend in with the surrounding landscape	(via Contractor)				
OM4	<ul> <li>Careful Design of Ancillary Facilities</li> <li>The orientation and location of the ancillary facilities shall be carefully designed. Its finish shall be non-reflective and dull in colour.</li> <li>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.</li> </ul>	To avoid glare impact to surrounding VSRs	Project Proponent (via Contractor)	Ancillary building	Operation stage	N/A	To be implemented

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





# **Appendix E**

**Air Quality and Noise Monitoring Equipment Calibration Certification** 





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

## **Information of Calibrated Equipement**

Verification Test Date:	1-Mar-23	to	2-Mar-23	Next Verification Te	est Date:	1-Mar-24
Unit-under-Test- Model No.:		Sibata LD-5R				
Unit-under-Test Serial No.:		0Z4545		_		
Our Report Refrence No.:	R	PT-23-HVS-00	02	_		
Calibration Location:				<u> </u>		

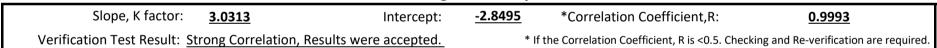
#### **Standard Equipment Information**

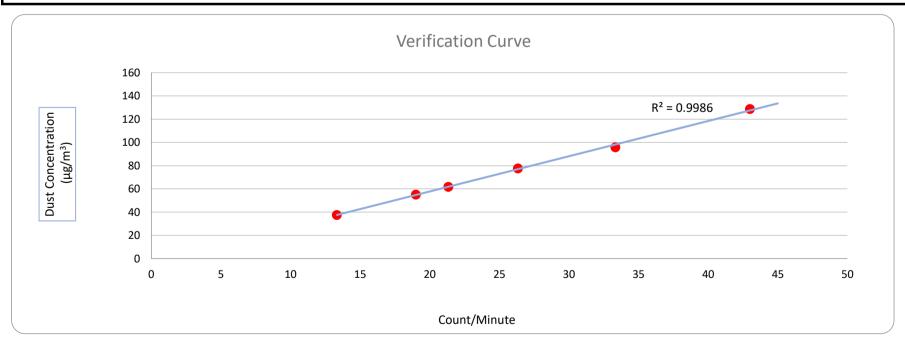
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1086	3465
Last Calibration Date:	1-Mar-23	28-Jun-22
Next Calibration Date:	30-Apr-23	27-Jun-23

# **Equipement Vertification Result**

Verification		Duration			Results from	Calibrated Equipement	Results from Standard Equipment
Test No.	Date	Start-time	Start-time End-time Elapso		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





Operated By: Andy Li Date: 01-03-2023
Project Technician, Environmental

Checked By: Tandy Tse Date: 01-03-2023





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

## **Information of Calibrated Equipement**

Verification Test Date:	1-Mar-23	to	2-Mar-23	_	Next Verification Test Date:	1-Ma	r-24
Unit-under-Test- Model No.:		Sibata LD-5R		_			
Unit-under-Test Serial No.:		942532		_			
Our Report Refrence No.:	R	PT-23-HVS-000	05	_			
Calibration Location:				 Emax			
· -						_	

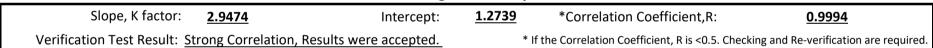
#### **Standard Equipment Information**

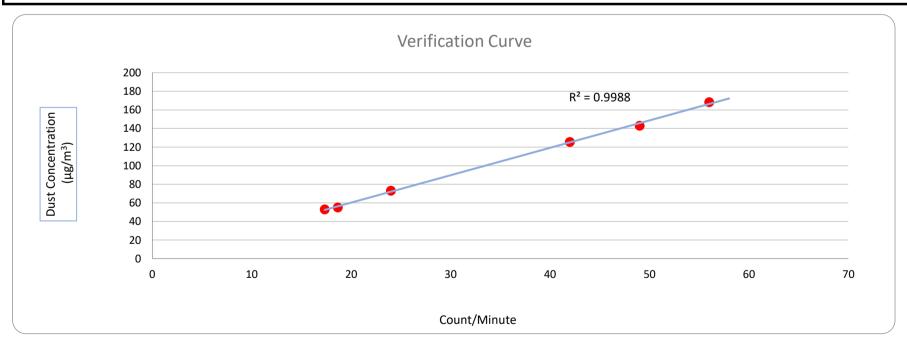
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment Serial no.:	1855	3465
Last Calibration Date:	1-Mar-23	28-Jun-22
Next Calibration Date:	30-Apr-23	27-Jun-23

#### **Equipement Vertification Result**

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

## Linear Regression of y on x





Operated By: Andy Li Date: 01-03-2023
Project Technician, Environmental

Checked By: Tandy Tse Date: 01-03-2023





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

**Information of Calibrated Equipement** 

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.:	R	PT-23-HVS-000	18	_	
Calibration Location:				Emax	

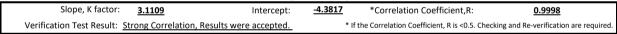
**Standard Equipment Information** 

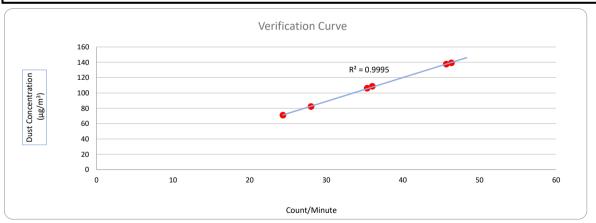
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment Serial no.:	1087	3465
Last Calibration Date:	1-Mar-23	28-Jun-22
Next Calibration Date:	30-Apr-23	27-Jun-23

**Equipement Vertification Result** 

Verification Test No.	Date	Duration		Results from Calibrated Equipement		Results from Standard Equipment	
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/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

Linear Regression of y on x





Operated By: Andy Li Date: 05-03-2023

Project Technician, Environmental

Checked By: Tandy Tse Date: 05-03-2023

Senior Consultant, Environmental



# CALIBRATION CERTIFICATE

Product

: SOUND CALIBRATOR

Type

NC-75

Serial number

35124527

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



Certificate No. D224644E

# CALIBRATION RESULT

1. Sound pressure level (with reference standard microphone)

Measured	Expanded	
value	uncertainty *1	
93.99 dB	0.09 dB	

Specified secondary standard microphone:

Type

: 4160

Serial number : 2973341

Reference Sound pressure: 2×10<sup>-5</sup> 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	Measurement
value	uncertainty
varue	(k=2)
1000.0 Hz	$2.7 \times 10^{-4} \mathrm{Hz}$

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 Meter

Manufacturer:

NTi Audio

Type No.:

XL2 (Serial No.: A2A-13661-E0)

Microphone:

ACO 7052 (Serial No.:68914)

Preamplifier:

NTi Audio MA220 (M2211) (Serial No.:6282)

#### Submitted by:

Customer:

Acuity Sustainability Consulting Limited

Address:

Unit E, 12/F., Ford Glory Plaza,

Nos. 37-39 Wing Hong Street,

Cheung Sha Wan, Kowloon, Hong Kong

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

Within (31.5Hz – 8kHz)

☐ Outside

the allowable tolerance.

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

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

Date of receipt: 20 August 2022

Date of calibration: 22 August 2022

Date of NEXT calibration: 21 August 2023

Calibrated by:

Calibration Technician

Certified by:

Mr. Ng Yan Wa Laboratory Manager

Date of issue: 22 August 2022

Certificate No.: APJ22-071-CC001

IN TESTING LABORRION WAS NOT THE TES

Page 1 of 4

# Acoustics and Air Testing Laboratory Co. Ltd. 聲學及空氣測試實驗室有限公司

#### Calibration Precaution: 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 Conditions:

Air Temperature:

23.4 °C

Air Pressure:

1005 hPa

Relative Humidity:

68.5 %

#### 3. Calibration Equipment:

Type

Serial No.

Calibration Report Number

Traceable to

**Multifunction Calibrator** 

B&K 4226

2288467

AV220061

**HOKLAS** 

#### 4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			App	ied value	UUT Reading,	IEC 61672 Class 1	
Range, dB	Freq. \	Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA	SPL	Fast	94	1000	93.8	±0.4

#### Linearity

Setting of Unit-under-test (UUT)			App	lied value	UUT Reading,	IEC 61672 Class 1	
Range, dB	Freq. W	eighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
				94		93.8	Ref
30-130	dBA	SPL	Fast	104	1000	103.8	±0.3
				114		114.0	±0.3

#### Time Weighting

Setting of Unit-under-test (UUT)			Appl	ied value	UUT Reading,	IEC 61672 Class 1	
Range, dB	Freq. W	eighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130 dBA S	SPL	Fast	94	1000	93.8	Ref	
30 130	UDA	SIL	Slow	74	1000	93.8	±0.3

Certificate No.: APJ22-071-CC001

Page 2 of 4

Homepage: http://www.aa-lab.com



#### Frequency Response

#### Linear Response

Sett	Setting of Unit-under-test (UUT)			Appl	ied value	UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Wo	eighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
					31.5	93.9	±2.0
					63	94.0	±1.5
×					125	93.9	±1.5
					250	93.8	±1.4
30-130	dB	SPL	Fast	94	500	93.8	±1.4
					1000	93.8	Ref
					2000	93.4	±1.6
					4000	93.0	±1.6
					8000	92.2	+2.1; -3.1

### A-weighting

Sett	Setting of Unit-under-test (UUT)			Appl	ied value	UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. W	eighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
					31.5	54.6	-39.4 ±2.0
					63	67.7	-26.2 ±1.5
					125	77.8	-16.1 ±1.5
					250	85.2	-8.6 ±1.4
30-130	dBA	SPL	Fast	94	500	90.6	-3.2 ±1.4
					1000	93.8	Ref
					2000	94.6	+1.2 ±1.6
					4000	94.0	$+1.0\pm1.6$
					8000	91.2	-1.1 +2.1; -3.1

### C-weighting

Sett	Setting of Unit-under-test (UUT)			Appl	ied value	UUT Reading, IEC 61672 Cla	
Range, dB	Freq. W	eighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
					31.5	90.9	-3.0 ±2.0
					63	93.1	$-0.8 \pm 1.5$
					125	93.7	-0.2 ±1.5
					250	93.8	$-0.0\pm1.4$
30-130	dBC	SPL	Fast	94	500	93.8	$-0.0\pm1.4$
					1000	93.8	Ref
					2000	93.3	-0.2 ±1.6
					4000	92.2	-0.8 ±1.6
					8000	89.3	-3.0 +2.1; -3.1

Certificate No.: APJ22-071-CC001



Page 3 of 4



### 5. Calibration Results Applied

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

Uncertainties of Applied Value:

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

The uncertainties are evaluated for a 95% confidence level.

#### Note:

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

MAR TESTING LABORED AND LABORED AND MAR TESTING LABORED AND LABORE

Page 4 of 4

Homepage: http://www.aa-lab.com

E-mail: inquiry@aa-lab.com



# **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:

M. Frick

Signature:

Stamp:

m 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:

						actual	XL2	calibration
			reference	actual	unit	error	tolerance	uncertainty <sup>2</sup>
	RMS Level @ 1kHz, XLR	Input	0.1	0.100	V	≤0.1%	±0.5%	±0.10%
			1	0.999	V	-0.1%	±0.5%	±0.09%
			10	9.982	V	-0.2%	±0.5%	±0.09%
	Flatness, XLR Input <sup>1</sup>	20 Hz 20 kHz	1 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,	XLR Inpu	ut	-100.5	dB		typ100 dB	±0.50%
0	Test Conditions:	Tempe	rature:	24.9	°C			
			e Humidity:	19.8	%			

#### · 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

 $<sup>^{1}</sup>$  The specified tolerance +/-0.1 dB @ 1V = +/- 1.1%

<sup>&</sup>lt;sup>2</sup> 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.





## **Appendix F**

**Environmental Monitoring Schedule** 

#### Contract No. 21/WSD/21

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

		Impact Environn	nental Monitoring Sche	edule (Version 2.0)		
			August 2023			
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) Site Inspection	4	5
6	7	8	Junpact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a)	10	Site inspection	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) Site inspection	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)	22	23	24	25 Site inspection	Impact Air Quality Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a)
27	28	29	30	Site inspection	1	2

Air Quality Monitoring Stations:

DM-1 - Tennis Court near Tin Ma Court

DM-2 - Chun Sing House, Tin Ma Court

DM-3 - Grace Methodist Church Kindergarten

DM-4 - Block 6, Tsui Chuk Garden

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

Noise Monitoring Stations:

NM-2 - Chun Sing House, Tin Ma Court

NM-3 - Grace Methodist Church Kindergarten

NM-4 - Block 6, Tsui Chuk Garden

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

#### Contract No. 21/WSD/21

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

		<b>Tentative Impact Env</b>	ironmental Monitoring	Schedule (Version 2.0)		
			September 2023			
Sun	Mon	Tue	Wed	Thur	Fri	Sat
					1	2
3	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)	5	6	7 Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	8 Site inspection	9
10	11	12	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	14	15	16
17	18	Impact Air Quality and Noise	20	21	Site inspection	23
24	Impact Air Quality and Noise Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a, NM-2, NM-3, NM-4, NM-4a, NM-5, NM-6)	26	27	28	Impact Air Quality Monitoring (DM-1, DM-2, DM-3, DM-4, DM-4a) Site inspection	30
The schedule may be changed due to unfores Air Quality Monitoring Stations: DM-1 - Tennis Court near Tin Ma Cou DM-2 - Chun Sing House, Tin Ma Cou DM-3 - Grace Methodist Church Kind DM-4 - Block 6, Tsui Chuk Garden DM-4a - Road pavement near Wang K	ırt ergarten		NM-3 - Grace Met NM-4 - Block 6, T NM-4a - Road pav NM-5 - Wo Tin He	House, Tin Ma Court thodist Church Kindergarten	g Court	





### Appendix G

**Air Quality Monitoring Results and Graphical Presentation** 



# **Appendix G - 1-hour TSP Monitoring Results**

I-1 - Tennis Cou	rt near Tin M	la Court	
Date	Time	Weather	Particulate Concentration (µg/m³)
	15:00		45
3 Aug 2023	16:00	Sunny	49
	17:00		46
	9:50		15
9 Aug 2023	10:50	Sunny	20
	11:50		16
	13:00		53
15 Aug 2023	14:00	Sunny	56
	15:00		51
	13:06		51
21 Aug 2023	14:06	Sunny	58
	15:06		53
	14:30		59
26 Aug 2023	15:30	Sunny	61
	16:30		58
		Minimum	15
		Maximum	61
		Average	46

-2 - Chun Sing	House, Tin M	a Court	
Date	Time	Weather	Particulate Concentration (µg/m³)
	10:06		50
3 Aug 2023	11:06	Sunny	53
	12:06		50
	14:50		28
9 Aug 2023	15:50	Sunny	30
	16:50		25
	9:40		53
15 Aug 2023	10:40	Sunny	55
	11:40		52
	9:06		59
21 Aug 2023	10:06	Sunny	61
	11:06		62
	11:00		60
26 Aug 2023	12:00	Sunny	61
	13:00		58
		Minimum	25
		Maximum	62
		Average	50



# **Appendix G - 1-hour TSP Monitoring Results**

DM-3 - Grace Met	hodist Church	Kindergarten	
Date	Time	Weather	Particulate Concentration (μg/m³)
	9:07		49
3 Aug 2023	10:07	Sunny	52
	11:07		46
	14:02		17
9 Aug 2023	15:02	Sunny	21
	16:02		23
	8:36		54
15 Aug 2023	9:36	Sunny	55
	10:36		53
	13:40		52
21 Aug 2023	14:40	Sunny	54
	15:40		51
	9:32		59
26 Aug 2023	10:32	Sunny	60
	11:32		58
		Minimum	17
		Maximum	60
		Average	47

Date	Time	Weather	Particulate Concentration (µg/m³)
	8:30		51
Aug 2023	9:30	Sunny	53
	10:30		50
	8:21		20
Aug 2023	9:21	Sunny	23
	10:21		21
	10:12		46
5 Aug 2023	11:12	Sunny	48
	12:12		45
	8:12		49
1 Aug 2023	9:12	Sunny	50
	10:12		48
	11:50		56
6 Aug 2023	12:50	Sunny	61
	13:50		59
		Minimum	20
		Maximum	61
		Average	45



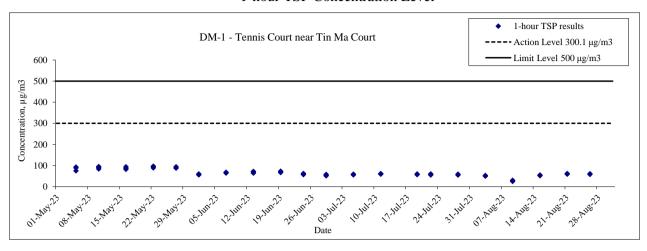
# **Appendix G - 1-hour TSP Monitoring Results**

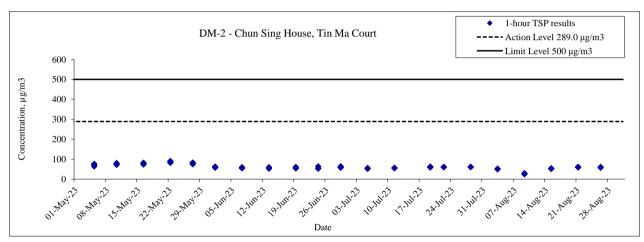
DM-4a - Road pav	ement near Wa	ng King House,	Tin Wang Court
Date	Time	Weather	Particulate Concentration (µg/m³)
	14:30		46
3 Aug 2023	15:30	Sunny	49
	16:30		43
	9:21		32
9 Aug 2023	10:21	Sunny	30
	11:21		36
	13:10		59
15 Aug 2023	14:10	Sunny	61
	15:10		54
	9:26		51
21 Aug 2023	10:26	Sunny	61
	11:26		58
	14:00		63
26 Aug 2023	15:00	Sunny	64
	16:00		60
		Minimum	30
		Maximum	64
		Average	51

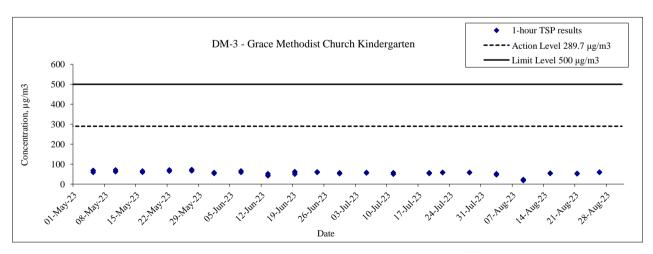




#### 1-hour TSP Concentration Level



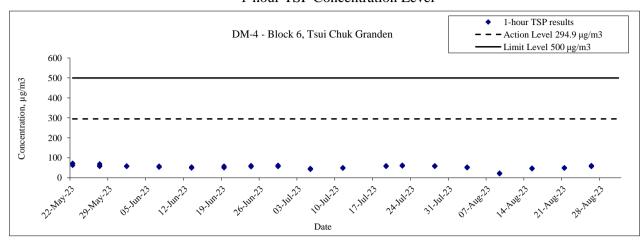


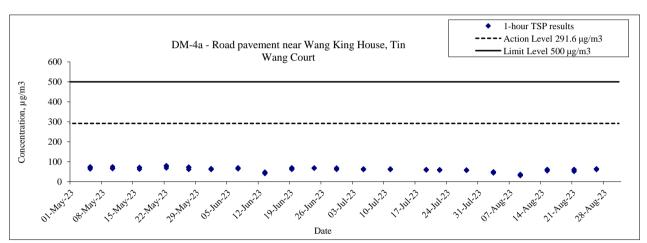






#### 1-hour TSP Concentration Level









### **Appendix H**

**Extract of Meteorological Observations for Hong Kong** (Kai Tak)

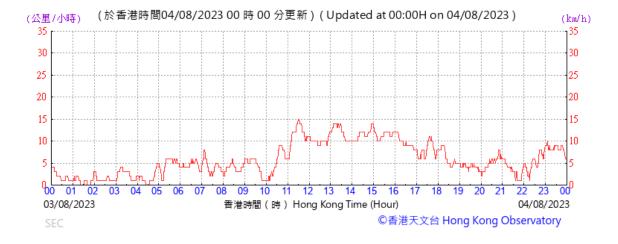




# Appendix H - Extract of Meteorological Observations for Hong Kong (Kai Tak Wind Station)

Wind Direction







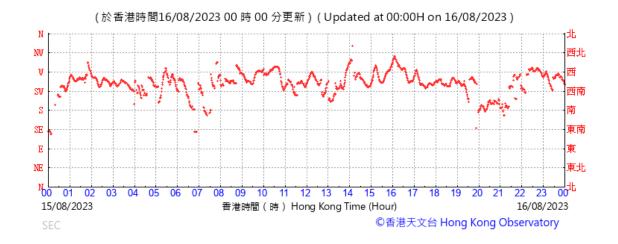








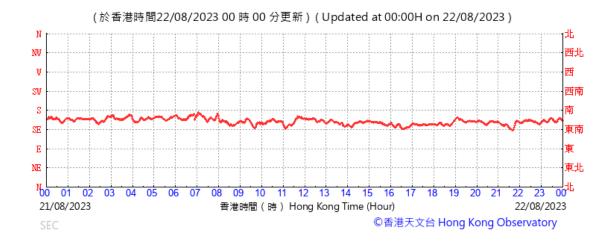


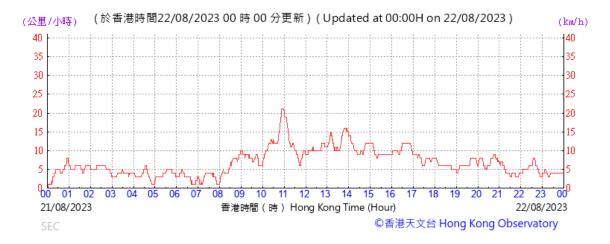








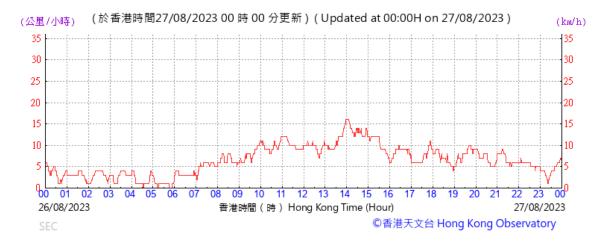
















# Appendix I

**Noise Monitoring Results and Graphical Presentation** 



68.0

Average:

#### 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	weamer	Start Time	Leq	L10	L90	Leq(30min)
		14:30	67.1	71.2	66.1	
		14:35	68.2	72.2	66.3	
3 Aug 2023	Sunny	14:40	68.9	73.1	66.4	68.1
3 Aug 2023	Sumiy	14:45	68.1	72.4	67.1	08.1
		14:50	67.9	71.1	67.6	
		14:55	68.3	72.6	66.3	
		10:50	68.2	71.3	65.2	
		10:55	67.9	69.4	64.4	
9 Aug 2023	Sunny	11:00	68.8	71.2	65.4	68.5
) Mug 2023	Buility	11:05	69.4	73.2	64.1	00.5
		11:10	67.9	69.9	65.3	
		11:15	68.6	71.2	65.1	
		13:21	67.1	68.1	65.2	
		13:26	68.9	69.4	66.9	
15 Aug 2023	Sunny	13:31	69.4	71.2	67.2	68.9
15 Aug 2023		13:36	70.6	72.6	68.4	00.5
		13:41	68.8	69.9	67.4	
		13:46	67.9	69.6	66.9	
		14:00	69.2	71.2	60.2	
		14:05	70.1	72.3	61.2	
21 Aug 2023	Sunny	14:10	68.3	70.6	61.9	69.3
21 / lug 2023	Buility	14:15	69.2	71.6	60.9	07.3
		14:20	70.2	72.4	62.1	
		14:25	68.3	70.9	61.6	
		8:30	61.5	63.1	57.8	
		8:35	62.3	65.4	59.1	
26 Aug 2023	Sunny	8:40	62.6	64.2	57.0	62.3
20 Aug 2023	Sumiy	8:45	63.1	66.4	56.2	02.3
		8:50	62.9	64.3	58.2	
		8:55	61.1	63.9	59.2	
					Min:	62.3
					Max:	69.3
					Average:	67.4

Date	Weather	Start Time			dB(A)	
Date	weather	Start Time	Leq	L10	L90	Leq(30min)
		9:40	66.3	68.1	65.4	
		9:45	67.9	69.6	66.3	
3 Aug 2023	Sunny	9:50	68.1	69.1	67.1	67.4
3 Aug 2023	Sumy	9:55	67.7	68.6	65.4	07.4
		10:00	67.9	68.6	66.9	
		10:05	66.2	68.4	64.2	
		9:47	66.3	68.2	62.1	
		9:52	66.9	67.9	63.1	
9 Aug 2023	Sunny	9:57	67.1	69.2	62.9	67.1
9 Aug 2023	Sumy	10:02	66.8	68.3	62.4	07.1
		10:07	68.1	71.2	63.1	
		10:12	67.4	68.2	62.4	
		10:21	68.2	70.3	64.3	
		10:26	67.8	69.1	65.1	
15 Aug 2023	Sunny	10:31	69.2	71.6	64.6	68.8
13 Aug 2023	Sullily	10:36	68.4	70.9	65.2	08.8
		10:41	69.1	71.6	64.9	
		10:46	69.6	71.1	65.2	
		9:30	66.3	67.6	62.4	
		9:35	67.1	68.4	63.1	
21 Aug 2023	Sunny	9:40	66.9	67.7	65.6	67.2
21 Aug 2023	Sumy	9:45	68.4	69.4	62.6	07.2
		9:50	67.2	68.9	62.9	
		9:55	67.3	68.2	63.1	
		9:33	69.7	72.2	58.0	
		9:38	70.2	73.2	60.2	
26 Aug 2023	Sunny	9:43	68.2	71.6	59.0	69.2
20 Aug 2023	Sumy	9:48	67.7	69.3	56.2	07.2
		9:53	70.3	73.9	61.2	
		9:58	68.7	72.6	60.3	
					Min:	67.1
					Max:	69.2





#### Appendix I - Construction Noise Monitoring Results

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

Date	Weather	Start Time			dB(A)	
Date	weather	Start Time	Leq	L10	L90	Leq(30min)
		8:30	64.4	68.4	60.4	
		8:35	63.4	67.7	59.6	
3 Aug 2023	Sunny	8:40	69.1	71.2	67.3	66.0
	Sullily	8:45	64.9	67.1	62.6	00.0
		8:50	65.6	68.6	64.1	
		8:55	66.1	68.8	65.2	
		8:30	61.4	63.2	58.6	
		8:35	62.9	63.6	59.1	
9 Aug 2023	Sunny	8:40	67.1	69.4	60.4	64.7
9 Aug 2023	Sullily	8:45	64.3	68.1	60.6	04.7
		8:50	65.6	67.8	63.6	
		8:55	64.4	67.9	60.4	
		8:31	66.3	68.4	62.1	
		8:36	67.1	69.4	63.1	
15 Aug 2023	Sunny	8:41	61.9	64.2	60.2	66.3
13 Aug 2023		8:46	68.4	71.2	65.1	00.3
		8:51	65.1	67.6	63.2	
		8:56	66.3	68.6	63.6	
		10:11	64.7	68.1	60.1	
		10:16	65.1	67.2	61.4	
21 Aug 2023	Sunny	10:21	66.2	69.6	61.2	65.9
21 Aug 2023	Sullily	10:26	64.9	67.2	62.1	03.9
		10:31	66.9	69.1	61.9	
		10:36	66.9	70.1	60.2	
		11:53	68.1	69.2	57.8	
		11:58	69.2	70.3	58.6	
26 Aug 2023	Sunny	12:03	67.2	68.2	56.2	68.8
26 Aug 2023	Sullity	12:08	68.3	69.9	57.9	08.8
		12:13	69.1	70.9	59.4	
		12:18	70.2	72.6	60.3	
	<del></del>				Min:	64.7
					Max:	68.8
					Average:	66.3

					dB(A)		
Date	Weather	Start Time	Leq	L10	L90	Leq(30min)	With Free-Fiel Correction
		10:13	91.5	94.6	71.9		
		10:18	90.4	92.4	71.0		
3 Aug 2023	Sunny	10:23	88.9	90.4	70.3	89.7	02.7
3 Aug 2023	Sumiy	10:28	89.5	92.0	70.8	69.7	92.7
		10:33	88.8	91.6	70.6		
		10:38	88.6	90.6	70.3	Y	
		9:05	70.1	72.1	67.1		72.6
		9:10	69.7	71.6	66.3		
9 Aug 2023	Crommer	9:15	68.9	69.2	67.1	69.6	
9 Aug 2025	Sunny	9:20	70.6	73.2	68.2	09.0	72.0
		9:25	68.6	70.6	67.4		
		9:30	69.6	71.6	65.1		
		9:21	70.1	72.1	69.1		
		9:26	71.1	73.2	69.6		
15 4 2022	Sunny	9:31	70.6	71.6	68.2	70.1	73.1
15 Aug 2023		9:36	69.9	72.9	64.1	70.1	
		9:41	68.9	72.6	64.4		
		9:46	69.7	70.2	68.2		
		12:57	70.2	72.2	68.1		
		13:02	71.2	74.2	67.1		
21 4 2022	C	13:07	72.4	74.9	68.6	71.0	74.0
21 Aug 2023	Sunny	13:12	70.6	73.1	69.2	71.0	/4.0
		13:17	71.1	72.9	68.3		
		13:22	70.2	72.1	67.6		
		13:26	68.6	70.6	59.0		
		13:31	69.6	71.3	58.1		
26 Aug 2023	Sunny	13:36	70.1	72.6	59.2	60.2	72.3
20 Aug 2023	Sumy	13:41	67.2	68.3	58.2	69.3	12.3
		13:46	69.3	71.6	59.4		
		13:51	70.2	72.1	58.1	<u> </u>	
					Min:	69.3	72.3
					Max:	89.7	92.7
						= 4.0	== 0

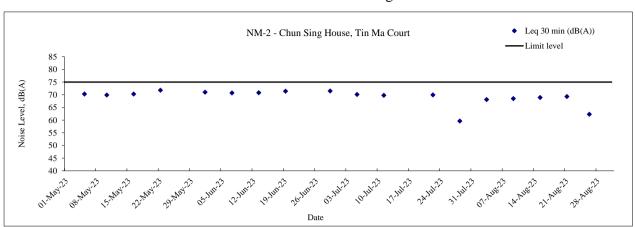
Average:

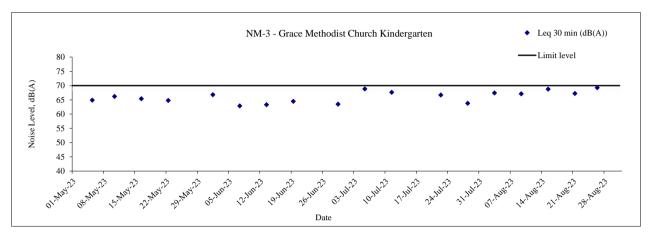
74.0

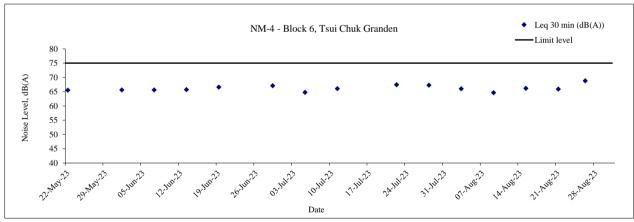
77.0

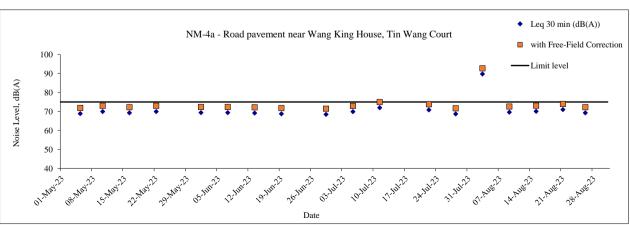


#### Construction Noise Monitoring Results













# 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 Ine	rt C&D Materials Ge	enerated / Imported (	in '000m3)			Actual Qua	intities of C&D Wastes Ge	enerated		Α	ctual Quantit	ies of C&D W	astes Recycle	ed
														Plastics		
														(bottles/co		
														ntainers,pla		i
Month		<b>Broken Concrete</b>							Plastics					stic		i
		(including rock for				Imported		Paper/	(bottles/containers,pla		Others, e.g.		Paper/	sheets/foa		i
	<b>Total Quantity</b>	recycling into	Reused in the	Reused in other	Disposed as	C&D		cardboard	stic sheets/foam	Chemical	general		cardboard	m package		i
	Generated	aggregates)	Contract	Projects	Public Fill	Material	Metals	packaging	package material)	Waste	refuse	Metals	packaging	material)	Yard Waste	Others
	(a+b+c+d)	(a)	(b)	( c)	(d)		(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )
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	0.00000															
Oct	0.00000															
Nov	0.00000															1
Dec	0.00000															
Total	1.41860	0.00000	0.00000	0.00000	1.41860	0.00000	0.00000	0.00000	0.00000	0.00000	0.28553	0.01300	0.02910	0.01530	0.00686	0.00000

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

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

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





### **Appendix K**

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





### **Statistical Summary of Environmental Complaints**

Demonstra Deviced	Environmental Complaint Statistics						
Reporting Period	Frequency	Cumulative	Complaint Nature				
1 August 2023 - 31 August 2023	0	0	N/A				

#### Statistical Summary of Environmental Summons

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

#### Statistical Summary of Environmental Prosecution

Demonstrat Desired	Environmental Prosecution Statistics					
Reporting Period	Frequency	Frequency Cumulative				
1 August 2023 – 31 August 2023	0	0	N/A			

#### Statistical Summary of Non-compliance (exceedances) of the Reporting Period

Environmental Monitoring	Parameter	pro rela	f non- ject ated dances LL	Total no. of non-project related exceedances	No. exceed relate the pro	ances d to	Total no. of exceedances related to the project
Air Quality	1-hour TSP	0	0	0	0	0	0
Noise	$L_{eq(31 ext{-min})}$	0	1	1	0	0	0





### Cumulative Complaint Log

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





### **Appendix L**

**Incident Report(s) for Construction Noise Monitoring Exceedance** 





### <u>Investigation Report for Exceedance of Limit Level of Construction Noise Monitoring on 3</u> <u>August 2023</u>

Investigation was carried out in response to an exceedance of limit level during the construction noise monitoring on 3 August 2023. The following table summarizes details of the exceedance.

Date	Time	Monitoring Station	Location	Measured Result $L_{eq~(30~{ m min})}$ dB(A)	Re-Measured Results $L_{eq~(30~{ m min})}$ dB(A)	Limit Level dB(A)
03/08/2023	10:13	NM-4a	Road pavement near Wang King House, Tin Wang Court	92.7	88.8	75

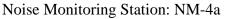
Construction activities carried out during the investigation period:	According to the information provided by the Contractor, the construction works carried out within the site area (Portion 3 at Lion Rock Park) on 3 August 2023 include:  • Backfilling; • Setup of water-barrier and housekeeping.
Possible reason for Action or Limit Level Non-compliance:	According to on-site observation during the construction noise monitoring at NM-4a on 3 August 2023, non-project related construction activities was observed next to the noise monitoring station NM-4a. Handheld breaker was observed operating during the noise monitoring and considered as a major noise source during the monitoring.  According to the information provided by the Contractor, no project related construction work was carried out near the noise monitoring station NM-4a. (Figure 1)  In conclusion, the limit level exceedance recorded at noise monitoring station NM-4a on 3 August 2023 was considered non-project related.
Action taken / to be taken:	<ol> <li>Noise sources during the noise monitoring was identified and recorded on the field record sheet.</li> <li>Notifications of exceedance have been issued to the IEC, the Contractor, and the Engineer's Representative.</li> <li>Repeated measurement was carried out to confirm the limit level exceedance at NM-4a.</li> <li>The noise monitoring frequency was not increased since the limit level exceedance recorded on 3 August 2023 was considered non-project related.</li> <li>The Contractor's working procedures were checked and reviewed during the weekly site inspection on 3 August 2023, no non-compliance was observed. As no evidence was found to indicate that the exceedance on 3 August 2023 was affected by the site activities, no additional mitigation measure was proposed.</li> <li>The ET would review the site condition at NM-4a in coming weeks and propose suspension of noise monitoring or relocation of noise monitoring station, wherever appropriate.</li> </ol>





#### Site Observation Photos around noise Monitoring Stations taken by the ET on 3 August 2023







Non-project related construction works

#### Photo Records on 3 August 2023 provided by the Contractor

#### Portion 3 (Lion Rock Park)



Construction activities: Backfill



Construction activities: Setup water-barrier and housekeeping

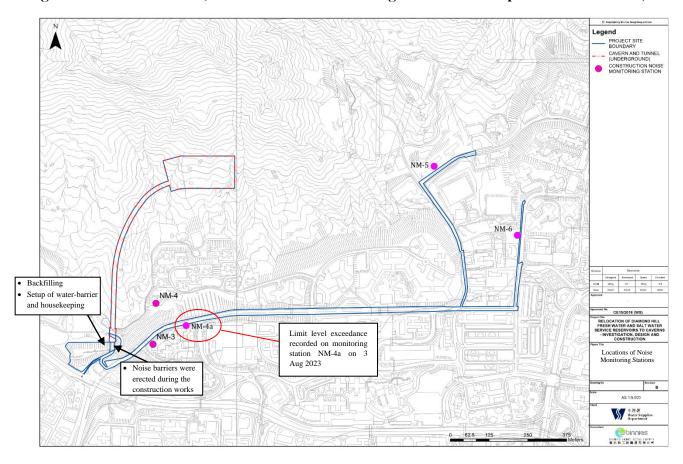


Mitigation Measures: Noise barriers were erected during the construction works





Figure 1 Location Plan (Site activities held on 3 August 2023 were reported in text boxes)



Prepared by:	Howard Chan	Certified by:	F. C. Tsang
Designation:	Environmental Team Member	Designation:	Environmental Team Leader
Signature:	Loward	Signature:	Toay Faitheary
Date:	9 August 2023	Date:	9 August 2023