





Contract No. 13/WSD/16

Mainlaying in Tseung Kwan O

**20th Quarterly EM&A Report
For May 2023 to July 2023**

September 2023
(Rev. 1.0)

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Date:	27 September 2023	27 September 2023

Revision History

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EXECUTIVE SUMMARY

- A1. Penta-Ocean - Concentric Joint Venture (POCJV) is contracted to carry out the Mainlaying in Tseung Kwan O under Contract No. 13/WSD/16 (hereinafter known as “the Project”).
- A2. In accordance with the Environmental Monitoring and Audit (EM&A) Manual for the Project, EM&A works should be carried out by Environmental Team (ET), Acuity Sustainability Consulting Limited (ASCL), during the construction phase of the Project.
- A3. The construction works of Mainlaying in Tseung Kwan O were commenced on 30 August 2018. This is the 20th quarterly Environmental Monitoring and Audit (EM&A) summary Report prepared by ASCL. This report presents the EM&A works carried out during the period of 1 May to 31 July 2023.
- A4. All the environmental monitoring works were conducted in accordance with the EM&A Manual. The monitoring results were checked and reviewed. Site audits were conducted once per week. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handing procedures were also checked.
- A5. A summary of the monitoring activities undertaken in this reporting period is listed below:

Monitoring Activities	Frequency
Daytime Noise monitoring	13 times
Landfill Gas Monitoring	1209 times
Environmental Site Inspection	14 times

- A6. All construction noise monitoring was conducted as scheduled in the reporting quarter. No Action or Limit Level exceedance for construction noise monitoring was recorded in the reporting quarter.
- A7. No Action or Limit Level exceedance of landfill gas monitoring was recorded in the reporting quarter.
- A8. No environmental complaint, notification of summons and prosecution was received in the reporting quarter. The Complaint Log is presented in **Appendix E**.
- A9. There were no changes to be reported that may affect the on-going EM&A programme.

1. BASIC PROJECT INFORMATION

1.1. Background

- 1.1.1. The proposed Desalination Plant at Tseung Kwan O (DPTKO) will produce potable water with an initial capacity of 135 million litres per day (MLD), expandable to an ultimate capacity of 270 MLD in the future to provide a secure and alternative freshwater resource complying with the World Health Organization (WHO) standards. The plant will adopt the Seawater Reverse Osmosis (SWRO) technology, which dominates the market due to its reliability and progressive reduction in cost as the technology advances.
- 1.1.2. Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of Environmental Protection granted the Variation of Environmental Permit (No. EP-503/2015/A) to Water Supplies Department (WSD) for the Project on 26 January 2018.
- 1.1.3. The scope of the Contract may be considered in brief, to consist of the laying of about 10km long 1200mm diameter freshwater mains and the associated works along the alignment of the Project as shown with the overall view in **Appendix B**.

1.2. The Reporting Scope

- 1.2.1. This is the 20th Quarterly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 May 2023 to 31 July 2023.
- 1.2.2. Contact details of the key personnel are presented in **Table 1.1** below:

Table 1.1 Contract Details of Key Personnel

Party	Position	Name	Telephone no.
Penta-Ocean-Concentric Joint Venture	Environmental Officer	Calvin Chik	9863-5630
Acuity Sustainability Consulting Limited	Environmental Team Leader	Jacky Leung	2698-6833
ANewR Consulting Limited	Independent Environmental Checker	James Choi	2618-2831

1.3. Summary of Construction Works

- 1.3.1. Details of the major construction works undertaken in this reporting quarter are shown in **Table 1.2**. The construction programme is presented in **Appendix A**.

Table 1.2 Summary of Construction Works Undertaken in the Reporting Quarter

Location	Construction activities carried in the reporting month
Wan Po Road and TKO Area 137	<ul style="list-style-type: none"> • Open trench method • Water main installation inside sleeve pipe
TKO Promenade (Stage 1 Landfill) & Po Yap Road Roundabout	<ul style="list-style-type: none"> • Open trench method • Water main installation inside sleeve pipe • Trenchless Method (sleeve pipe)
HK Velodrome	<ul style="list-style-type: none"> • Open trench method • Water main installation inside sleeve pipe • Trenchless Method (sleeve pipe)
Po Lam Road South / Ling Hong Road	<ul style="list-style-type: none"> • Open trench method • Water main installation inside sleeve pipe
Tsui Lam Road / Abandoned Road	<ul style="list-style-type: none"> • Open trench method • Pile cap construction

1.4. Summary of Construction Works

1.4.1. A summary of the valid permits, licences, and /or notifications on environmental protection for this Project is presented in **Table 1.3**.

Table 1.3 Summary of the Status of Valid Environmental Licence, Notification, Permit and Documentations

Reference No.	Valid Period		Status	Remark
	From	To		
Variation of Environmental Permit				
EP no.: EP- 503/2015/A	--	--	Valid	N/A
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation				
423775	--	--	Valid	N/A
Chemical Waste Producer Registration				
5213-839-P3287-01	--	--	Valid	N/A
Billing Account for Disposal of Construction Waste				
A/C no.: 7029491	--	--	Valid	N/A
Water Discharge Licence				
WT00032336-2018	10 Dec 2018	31 Dec 2023	Valid	N/A
Construction Noise Permit (CNP)				
GW-RE0109-23	8 Feb 2023	31 Mar 2023	Expired	Po Shun Road near junction of Wan Po Road
GW-RE0091-23	6 Feb 2023	29 Apr 2023	Expired	Construction site near junction of Wan Po Road and Pung Loi Road

1.4.2. The status for all environmental aspects is presented **Table 1.4**.

Table 1.4 Summary of Status for Key Environmental Aspects under the EM&A Manual

Parameters	Status
Noise	
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under VEP Condition 3.4
Impact Monitoring	On-going
Waste Management	
Mitigation Measures in Waste Management Plan	On-going
Landfill Gas Monitoring	
Monitoring	On-going
Environmental Audit	
Site Inspection	On-going

1.4.3. Other than the EM&A works by ET, regular environmental management meetings were conducted in order to enhance environmental awareness and closely monitor the environmental performance of the contractors.

1.4.4. The EM&A programme has been implemented in accordance with the recommendations presented in the approved EIA Report and the EM&A Manual. A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix C**.

2. NOISE MONITORING

2.1. Monitoring Requirements

2.1.1. To ensure no adverse noise impact, noise monitoring is recommended to be carried out within 300m radius from the nearby sensitive receivers (NSRs) during construction phase. Referring to the EM&A Manual Section 4.1.2, the impact noise monitoring should be carried out at all designated monitoring stations when there are project-related construction activities undertaken within a radius of 300m from the monitoring stations.

2.2. Monitoring Parameter

2.2.1. Impact noise monitoring was conducted weekly in the reporting quarter between 0700-1900 on normal weekdays. Construction noise level was measured in terms of the A-weighted equivalent continuous sound pressure level (L_{Aeq}). $L_{eq\ 30min}$ was used as the monitoring parameter for the time period between 0700 and 1900 on normal weekdays. **Table 2.1** summarizes the monitoring parameters, frequency, and duration of the impact noise monitoring.

Table 2.1 Noise Monitoring Parameters, Time, Frequency and Duration

Time	Frequency	Duration	Parameters
Daytime 0700 – 1900	Once per week	Continuously in Leq 5min/Leq 30min (average of 6 consecutive Leq 5min)	L_{eq} , L_{10} & L_{90}

2.2.2. The monitoring methodology and QA/QC procedure could be referring to Section 2.4 of the Monthly EM&A Report.

2.3. Monitoring Location

2.3.1. According to the environmental findings detailed in the EIA report and Baseline Monitoring Report, the designated locations for the construction noise monitoring are listed in **Table 2.2** and shown in **Figure 2.1 – 2.3**.

Table 2.2 Designated Noise Monitoring Station

NSR ID	Noise Sensitive Receivers	Monitoring Location	Position
NSR4	Creative Secondary School	Roof Floor	1m from Façade
NSR24	PLK Laws Foundation College	Pedestrian Road on Ground Floor	Free-Field
NSR31	School of Continuing and Professional Studies - CUHK	Roof Floor	1m from Façade



Figure 2.1 NSR4 Creative Secondary School

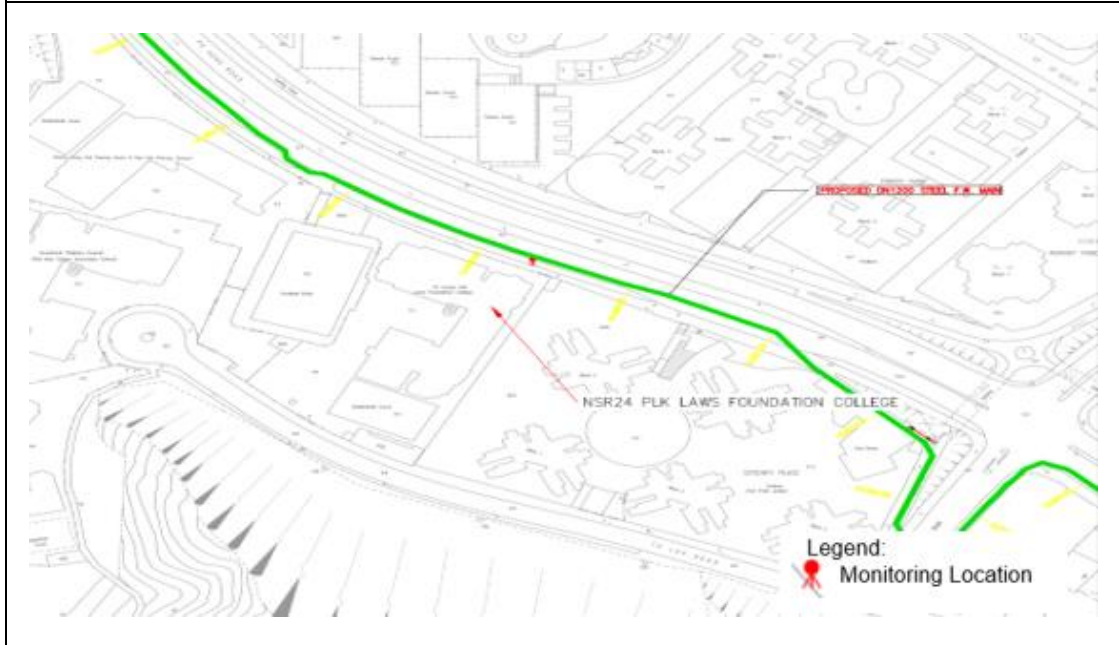
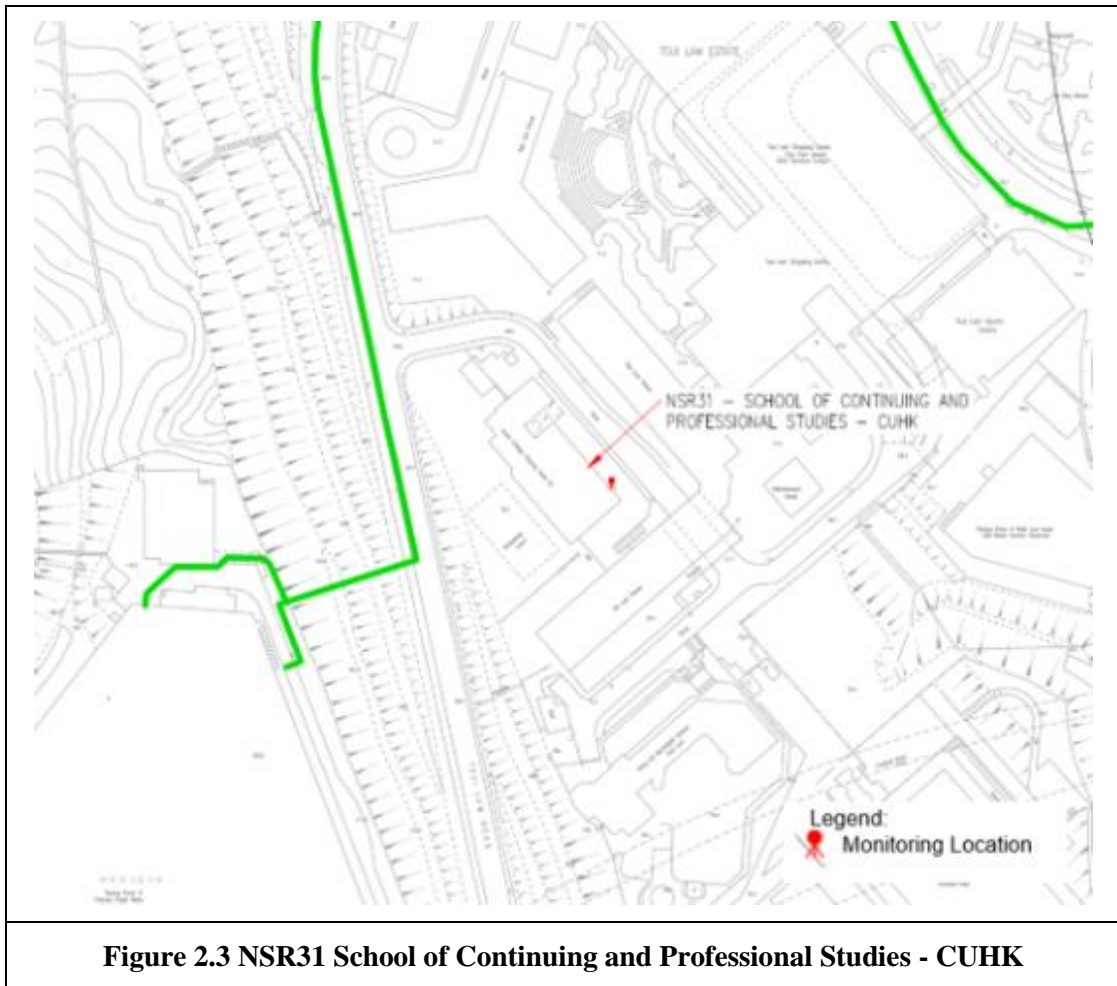


Figure 2.2 NSR24 PLK Laws Foundation College



2.4. Action and Limit Level

2.4.1. The Action/Limit Levels are in line with the criteria of Practice Note for Professional Persons (ProPECC PN 2/93) “Noise from Construction Activities – Non-statutory Controls” and Technical Memorandum on Environmental Impact Assessment Process issued by HKSAR Environmental Protection Department [“EPD”] under the Environmental Impact Assessment Ordinance, Cap 499, S.16 are presented in **Table 2.3**.

Table 2.3 Action and Limit Level for Construction Noise Monitoring

Time Period	Action Level	Limit Level
0700 – 1900 on normal weekdays	When one documented complaint is received from any one of the noise sensitive receivers	<ul style="list-style-type: none"> • 70 dB(A) for school and • 65 dB(A) during examination period
Notes: (a) Limits specified in the GW-TM and IND-TM for construction and operation noise, respectively.		

2.5. Monitoring Results and Observation

- 2.5.1. 13 times of noise impact monitoring were conducted as schedule in the reporting quarter at NSR4 Creative Secondary School since projected-related construction activities were undertaken within a radius of 300m from the monitoring location.
- 2.5.2. No construction works were conducted within 300m radius of NSR24 and NSR31. Thus, no construction noise monitoring was carried out at NSR24 and NSR31 in the reporting quarter.
- 2.5.3. The Graphical presentation of the construction noise monitoring results was shown in **Figure 2.4**.

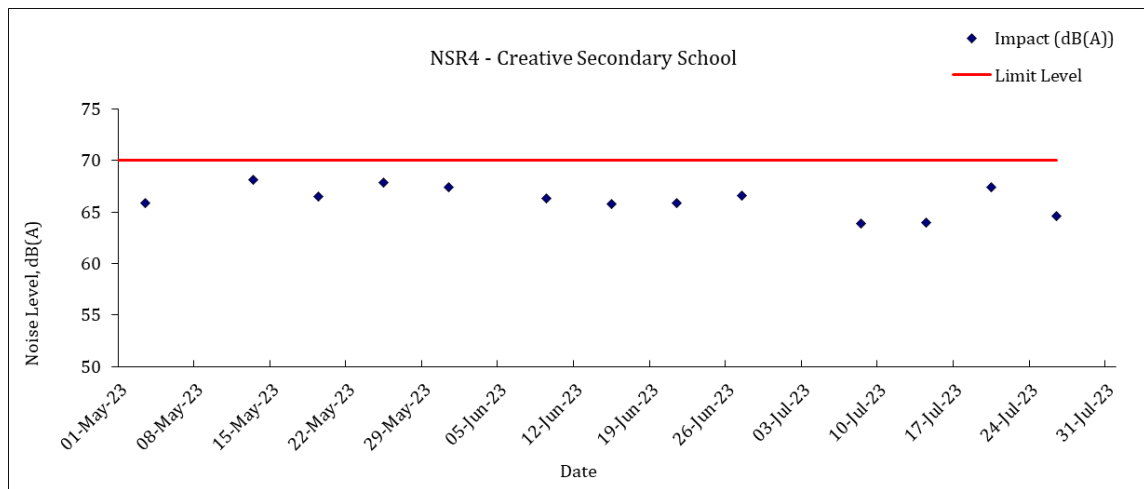


Figure 2.4 Graphical presentation of the construction noise monitoring at NSR4

- 2.5.4. No action or limit level exceedance of construction noise monitoring was recorded in the reporting quarter. Summary of exceedance could be referring to **Appendix D**.
- 2.5.5. If non-compliance occurred, actions as stated in **Appendix F** will be undertaken.
- 2.5.6. The major noise sources identified at the designated noise monitoring station were vehicle movement near the Creative Secondary School.

3. WASTE MANAGEMENT

- 3.1. Mitigation measure on waste management have been implemented in accordance with the requirements of the EM&A Manual. Suitable C&D materials were reused on-site, while the remaining C&D materials and non-inert wastes were disposed at the public filling reception facilities and the landfills respectively. The quantities disposed in the reporting quarter could be referring to **Appendix G**.

4. SUMMARY OF EXCEEDANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

- 4.1. All construction noise monitoring was conducted as schedule in the reporting quarter. No Action or Limit Level exceedance was recorded in the reporting quarter.
- 4.2. Landfill gas monitoring was carried out by the Registered Safety Officer of the Contractor at the excavation locations and within the consultation zones. No Action or Limit Level exceedance was recorded in the reporting quarter. Summary of Exceedance could be referring to **Appendix D**.
- 4.3. No environmental complaint, notification of summons and prosecution was received in the reporting quarter.

5. EM&A SITE INSPECTION

- 5.1. Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. Three joint site inspections with IEC were carried out on **23 May 2023, 26 June 2023 and 24 July 2023**.
- 5.2. Minor deficiencies were observed during weekly site inspection. Key observations during the site inspections are summarized in **Table 5.1 – 5.3**.

Table 5.1 Site Observations (May 2023)

Date	Environmental Observations	Follow-up Status
5 May 2023	<ol style="list-style-type: none"> 1. Wastewater discharge from site should be properly treated before discharge. (Shek Kok Road Pit D1) 2. Sedimentation tank shall be cleaned on a regularly basis. (Shek Kok Road Pit D1) 	<ol style="list-style-type: none"> 1. The wastewater was treated properly before discharge. 2. The sedimentation tank was cleaned regularly.
9 May 2023	<ol style="list-style-type: none"> 1. The Contractor should provide tree protection zone in WPR1. 	<ol style="list-style-type: none"> 1. Tree protection zone was established to protect the retained trees
18 May 2023	No major environmental deficiency was observed during site inspection	N/A
23 May 2023	<ol style="list-style-type: none"> 2. The chemical should be stored in drip tray and the chemical container should be properly labelled in Pit Y. 3. The contractor should provide the tree protection zone in Pit Y – Y2 	<ol style="list-style-type: none"> 1. The chemical was removed. 2. Tree protection zone was established to protect the retained trees.

Table 5.2 Site Observations (June 2023)

Date	Environmental Observations	Follow-up Status
1 Jun 2023	No major environmental deficiency was observed during site inspection	N/A
6 Jun 2023	No major environmental deficiency was observed during site inspection	N/A
14 Jun 2023	<ol style="list-style-type: none"> 1. Chemical containers should be stored with drip tray. (Pit 2) 2. Rainwater in trench should be treated before discharge, and the discharge should meet the requirement specified in the discharge licence. (Pit D Roundabout) 3. The Contractor was required to deploy sandbag barriers at the site boundary at Pit A to prevent surface runoff to public road. 	<ol style="list-style-type: none"> 1. Chemical container was removed. 2. Rainwater in trench was treated before discharge. 3. Sandbag barriers was erected at the site boundary to prevent muddy surface runoff.
20 Jun 2023	<ol style="list-style-type: none"> 1. The Contractor should provide the tree protection zone in Pit Y2. 	<ol style="list-style-type: none"> 1. Tree protection zone was provided.

Date	Environmental Observations	Follow-up Status
26 Jun 2023	<ol style="list-style-type: none"> The Contractor should provide the drip tray to store the chemical container in Pit Y2. The Contractor should provide the tree protection zone and remove objects which placed on the top of soil and trees in Pit M. 	<ol style="list-style-type: none"> Chemical container was removed. Tree protection zone was provided.

Table 5.3 Site Observations (July 2023)

Date	Environmental Observations	Follow-up Status
3 Jul 2023	No major environmental deficiency was identified	N/A
12 Jul 2023	<ol style="list-style-type: none"> The smoke emission from the generator was observed during the site inspection. The Contactor should repair the generator to reduce emission. The Contactor also reminded that the smoke emission from the plant shall not exceed Shade 1 on the Ringelmann Chart continuously for 30 seconds at any time. The Contractor should store the chemical waste in drip tray. 	<ol style="list-style-type: none"> The generator was repaired to reduce emission. The Chemical waste was removed
20 Jul 2023	<ol style="list-style-type: none"> Vehicles should be cleaned before leaving the construction site to minimize the deposition of mud on public road. (Shek Kok Road Pit D) 	<ol style="list-style-type: none"> All vehicles were washed before leaving the construction site. The public road was cleaned.
25 Jul 2023	<ol style="list-style-type: none"> The Chemical container should be stored with drip tray in Pit M. 	<ol style="list-style-type: none"> Chemical container was removed.

5.3. According to the EIA Study Report, Environmental Permit, contract documents and EM&A Manual, the mitigation measures detailed in the documents should be implemented as much as practical. An updated Implementation Status of Environmental Mitigation Measures (EMIS) is provided in **Appendix C**.

6. LANDFILL GAS MONITORING

6.1. Monitoring Requirements

6.1.1. In accordance with Section 11 of the EM&A Manual, monitoring of landfill gas is required for construction works within the 250m Consultation Zone. Part of the desalination plant and the indicative area of natural slope mitigation works fall within the SENT Landfill Extension Consultation Zone; and part of the 1,200 mm diameter freshwater mains along Wan Po Road falls within the SENT Landfill and SENT Landfill Extension Consultation Zones, TKO Stage II/III Restored Landfill and TKO Stage I Restored Landfill Consultation Zones.

6.2. Monitoring Location

6.2.1. Monitoring of oxygen, methane, carbon dioxide and barometric pressure was performed for excavations at 1m depth or more within the Consultation Zone.

6.2.2. During construction of works within the consultation zones, excavations of 1m depth or more was monitored:

- At the ground surface before excavation commences;
- Immediately before any worker enters the excavation;
- At the beginning of each working day for the entire period when the excavation remains open; and
- Periodically through the working day whilst workers are in the excavation.

6.2.3. For excavations between 300mm and 1m deep, measurements should be carried out:

- Directly after the excavation has been completed; and
- Periodically whilst the excavation remains open.

6.3. Monitoring Parameter

6.3.1. Landfill Gas monitoring was carried out to identify any migration between the landfill and the Project and to ensure the safety of the construction, operation and maintenance personnel working on-site, visitors and any other person within the Project area.

6.3.2. The following parameters were monitored:

- Oxygen;
- Carbon Dioxide;
- Barometric Pressure
- Methane;

6.3.3. The monitoring methodology and equipment could be referring to Section 4.5 of the Monthly Report.

6.4. Action and Limit Level

6.4.1. Action and Limit Level for landfill gas monitoring are presented in **Table 6.1**.

Table 6.1 Action and Limit Level for Landfill Gas Monitoring

Parameters	Action Level	Limit Level
Oxygen (O ₂)	<19% O ₂	<19% O ₂
Methane (CH ₄)	>10% LEL	>20% LEL
Carbon Dioxide (CO ₂)	>0.5% CO ₂	>1.5% CO ₂

6.5. Monitoring Result

6.5.1. In the reporting quarter, landfill gas monitoring was carried out by the Registered Safety Officer of the Contractor at the excavation locations for 1209 times. No action or limit level exceedance was recorded in the reporting quarter. The landfill gas monitoring results could be referring to Appendix J of the Monthly EM&A Report.

7. CONCLUSION AND RECOMMENDATIONS

- 7.1. This is the 20th quarterly Environmental Monitoring and Audit (EM&A) Summary Report prepared by ASCL. This report presents the EM&A works carried out during the period of 1 May 2023 to 31 July 2023 in accordance with the EM&A Manual and the requirement under EP-503/2015/A.
- 7.2. 13 times of noise impact monitoring were conducted in the reporting quarter at NSR4 Creative Secondary School since projected-related construction activities were undertaken within a radius of 300m from the monitoring location.
- 7.3. No Action or Limit Level exceedance of construction noise was recorded during the reporting quarter.
- 7.4. No landfill gas monitoring exceedance was recorded in the reporting quarter.
- 7.5. Weekly environmental site inspection was conducted during the reporting quarter. Minor deficiencies were observed during site inspection and were rectified. The environmental performance of the Project was therefore considered satisfactory.
- 7.6. According to the environmental site inspections performed in the reporting quarter, the Contractor is reminded to pay attention on proper storage of chemical and maintaining site tidiness. The Contractor is also reminded to consider the treatment of wastewater from the construction site area.
- 7.7. No environmental complaint, notification of summons and prosecution was received in the reporting quarter.
- 7.8. The ET will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.
- 7.9. Statistics on complaints and regulatory compliance are summarized in **Appendix E**.

Appendix A

Construction Programme

Project: Mainlaying in Tseung Kwan O

ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish	Gantt Chart																			
											2018	2019	2020	2021	2022	2023	2024	2025	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Key Dates	2495 days	Tue 7/11/17	Thu 5/9/24	Calendar Day			0%	Tue 7/11/17	NA	[Gantt Chart for Key Dates]																			
2	Contract Date	0 days	Tue 7/11/17	Tue 7/11/17	Calendar Day		67,59,60FS+27 days,61,62,58	100%	Tue 7/11/17	Tue 7/11/17	[Gantt Chart for Contract Date]																			
3	Starting Date	0 days	Thu 16/11/17	Thu 16/11/17	Calendar Day		4,5FS+730 days,6FS+1279 days	100%	Thu 16/11/17	Thu 16/11/17	[Gantt Chart for Starting Date]																			
4	Access Date of Portion A, B, C, D, E, F, G and J	0 days	Thu 16/11/17	Thu 16/11/17	Calendar Day	3	90,63,71,73,75,78,79	100%	Thu 16/11/17	Thu 16/11/17	[Gantt Chart for Access Date]																			
5	Access Date of Portion H	0 days	Sat 16/11/19	Sat 16/11/19	Calendar Day	3FS+730 days	110	100%	Sat 16/11/19	Sat 16/11/19	[Gantt Chart for Access Date of Portion H]																			
6	Completion Date (Contract)	0 days	Tue 18/5/21	Tue 18/5/21	Calendar Day	3FS+1279 days	7	100%	Tue 18/5/21	Tue 18/5/21	[Gantt Chart for Completion Date]																			
7	EOT for CE No. 23 Inclement Weather - In June 2018	0 days	Tue 18/5/21	Tue 18/5/21	HK Working Day	6	8	100%	Tue 18/5/21	Tue 18/5/21	[Gantt Chart for EOT for CE No. 23]																			
8	EOT for CE No. 01	246 days	Wed 19/5/21	Wed 19/1/22	Calendar Day	7	9FF	0%	NA	NA	[Gantt Chart for EOT for CE No. 01]																			
9	Revised Completion Date	0 days	Wed 19/1/22	Wed 19/1/22	Calendar Day	8FF	11FS+365 days	0%	NA	NA	[Gantt Chart for Revised Completion Date]																			
10	Planned Completion	0 days	Thu 5/9/24	Thu 5/9/24	Calendar Day	12FF		0%	NA	NA	[Gantt Chart for Planned Completion]																			
11	Defect Date	0 days	Thu 19/1/23	Thu 19/1/23	Calendar Day	9FS+365 days		0%	NA	NA	[Gantt Chart for Defect Date]																			
12	Mainlaying In Tseung Kwan O	2495 days	Tue 7/11/17	Thu 5/9/24	Calendar Day		10FF	77%	Tue 7/11/17	NA	[Gantt Chart for Mainlaying In Tseung Kwan O]																			
13	Issued Compensation Events (General)	1316 days	Tue 12/6/18	Tue 18/1/22	Calendar Day			100%	Tue 12/6/18	Tue 18/1/22	[Gantt Chart for Issued Compensation Events]																			
56	Preliminaries	1636 days	Tue 7/11/17	Sat 30/4/22	Calendar Day			100%	Tue 7/11/17	Sat 30/4/22	[Gantt Chart for Preliminaries]																			
57	Submission and Permit Application	322 days	Tue 7/11/17	Mon 24/9/18	Calendar Day			100%	Tue 7/11/17	Mon 24/9/18	[Gantt Chart for Submission and Permit Application]																			
69	Subcontracting	1122 days	Thu 16/11/17	Fri 11/12/20	Calendar Day			100%	Thu 16/11/17	Fri 11/12/20	[Gantt Chart for Subcontracting]																			
88	Site Establishment	220 days	Tue 2/1/18	Thu 9/8/18	Calendar Day			100%	Tue 2/1/18	Thu 9/8/18	[Gantt Chart for Site Establishment]																			
91	Procurement of Major Material	1485 days	Sat 7/4/18	Sat 30/4/22	Calendar Day			100%	Sat 7/4/18	Sat 30/4/22	[Gantt Chart for Procurement of Major Material]																			
101	Mainlaying in Tseung Kwan O Area 137 (Portion H)	1260 days	Tue 11/12/18	Wed 15/3/23	HK Working Day			92%	Tue 11/12/18	NA	[Gantt Chart for Mainlaying in Tseung Kwan O Area 137]																			
102	Early Possession of Portion H	0 days	Mon 29/7/19	Mon 29/7/19	Calendar Day			100%	Mon 29/7/19	Mon 29/7/19	[Gantt Chart for Early Possession of Portion H]																			
103	Issue Date of CE No. 07 -Water Supply to No. TKO Desalination Plant at Portion H (NS250 HDPE Pipe)	0 days	Tue 22/1/19	Tue 22/1/19	Calendar Day		104	100%	Tue 22/1/19	Tue 22/1/19	[Gantt Chart for Issue Date of CE No. 07]																			
104	Material Procurement and Delivery in Batches	330 days	Tue 11/12/18	Tue 5/11/19	Calendar Day	103		100%	Tue 11/12/18	Tue 5/11/19	[Gantt Chart for Material Procurement and Delivery]																			
105	Open Cut Excavation, Pipe Laying and Reinstatement at TKO Area 137	597 days	Sat 10/8/19	Sat 14/8/21	HK Working Day		761	100%	Sat 10/8/19	Sat 14/8/21	[Gantt Chart for Open Cut Excavation]																			
121	Trenchless Works (DN1200 MS PIPE + NS250 HDPE PIPE) at TKO Area 137	1162 days	Tue 22/1/19	Thu 22/12/22	HK Working Day		784,762	83%	Tue 22/1/19	NA	[Gantt Chart for Trenchless Works]																			
164	Final Connection of NS250 HDPE Pipe to Existing at Wan Po Road	14 days	Tue 28/2/23	Wed 15/3/23	HK Working Day	788		0%	NA	NA	[Gantt Chart for Final Connection]																			
165	Mainlaying From Boundary of Tseung Kwan O Area 137 to TKO Fresh Water Service Reservoir (Portion I)	1866 days	Tue 7/11/17	Mon 26/2/24	HK Working Day			74%	Tue 7/11/17	NA	[Gantt Chart for Mainlaying From Boundary]																			
166	Open Cut Excavation, Pipe Laying and Reinstatement at Wan Po Road	1506 days	Thu 30/8/18	Thu 28/9/23	HK Working Day			81%	Thu 30/8/18	NA	[Gantt Chart for Open Cut Excavation at Wan Po Road]																			
249	Trenchless Work at Wan Po Road From Pit A to Pit F	1866 days	Tue 7/11/17	Mon 26/2/24	HK Working Day			56%	Tue 7/11/17	NA	[Gantt Chart for Trenchless Work at Wan Po Road]																			
368	Open Cut Excavation, Pipe Laying and Reinstatement at TKO Landfill Stage 1 and TKO South Waterfront Promenade	1221 days	Thu 23/8/18	Fri 7/10/22	HK Working Day			91%	Thu 23/8/18	NA	[Gantt Chart for Open Cut Excavation at TKO Landfill]																			
413	Water Mains Near Pung Loi Road (CH.FD0+00 - CH.A3+51)	1020 days	Wed 17/6/20	Thu 23/11/23	HK Working Day			60%	Wed 17/6/20	NA	[Gantt Chart for Water Mains Near Pung Loi Road]																			
436	Water Mains near Pung Loi Road and Po Yap Road (CH.FE0+00 - CH.A3+58)	758 days	Thu 20/8/20	Sat 11/3/23	HK Working Day		765	78%	Thu 20/8/20	NA	[Gantt Chart for Water Mains near Pung Loi Road]																			
479	Trenchless Work from Po Yap Road Roundabout to KMB Depot (Pit K to Pit L) (Pit O to Pit P)	822 days	Fri 28/2/20	Mon 5/12/22	HK Working Day		765	55%	Fri 28/2/20	NA	[Gantt Chart for Trenchless Work from Po Yap Road]																			
517	Trenchless Work from Po Yap Road Roundabout (Hong Kong Velodrome)	1251 days	Tue 2/4/19	Mon 26/6/23	HK Working Day		765	80%	Tue 2/4/19	NA	[Gantt Chart for Trenchless Work from Po Yap Road]																			
583	Water Mains from KMB Depot to TKO Fresh Water Preliminary Service Reservoir	1649 days	Tue 7/11/17	Mon 5/6/23	HK Working Day			80%	Tue 7/11/17	NA	[Gantt Chart for Water Mains from KMB Depot]																			
759	DN800 - CH.ADN1200 MS Pipe Static Pressure Test, Pipeline Cleaning, CCTV Inspection, Sterilization and Water Sampling	1232 days	Wed 24/3/21	Tue 6/8/24	Calendar Day			13%	Wed 24/3/21	NA	[Gantt Chart for DN800 - CH.ADN1200 MS Pipe]																			
760	Static Pressure Test	1112 days	Wed 24/3/21	Mon 8/4/24	Calendar Day			18%	Wed 24/3/21	NA	[Gantt Chart for Static Pressure Test]																			
771	Pipeline Cleaning and CCTV Inspection	1153 days	Wed 12/5/21	Sun 7/7/24	Calendar Day			10%	Wed 12/5/21	NA	[Gantt Chart for Pipeline Cleaning and CCTV Inspection]																			
781	Sterilization and Water Sampling	30 days	Mon 8/7/24	Tue 6/8/24	Calendar Day			0%	NA	NA	[Gantt Chart for Sterilization and Water Sampling]																			
783	NS250 HDPE Pipe Static Pressure, Pipeline Cleaning, CCTV Inspection, Sterilization and Water Sampling	60 days	Fri 23/12/22	Mon 20/2/23	Calendar Day			0%	NA	NA	[Gantt Chart for NS250 HDPE Pipe]																			
786	Handover Portion I and Portion H to WSD Region	563 days	Tue 21/2/23	Thu 5/9/24	Calendar Day			0%	NA	NA	[Gantt Chart for Handover Portion I and Portion H]																			
789	Water Supply to Tseung Kwan O Desalination Plant at Fill Bank of Tseung Kwan O Area 137 (Portion J)	445 days	Tue 7/11/17	Sat 11/5/19	HK Working Day			99%	Tue 7/11/17	NA	[Gantt Chart for Water Supply to Tseung Kwan O Desalination Plant]																			

Working Programme No. 15
Data Date : 24 May 2022



ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish	2018-2025																				
											2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1
1	Key Dates	2495 days	Tue 7/11/17	Thu 5/9/24	Calendar Day			0%	Tue 7/11/17	NA	[Timeline bars for Key Dates]																				
10	Planned Completion	0 days	Thu 5/9/24	Thu 5/9/24	Calendar Day	12FF		0%	NA	NA	[Timeline bar for Planned Completion]																				
12	Mainlaying In Tseung Kwan O	2495 days	Tue 7/11/17	Thu 5/9/24	Calendar Day		10FF	77%	Tue 7/11/17	NA	[Timeline bar for Mainlaying In Tseung Kwan O]																				
165	Mainlaying From Boundary of Tseung Kwan O Area 137 to TKO Fresh Water Service Reservoir (Portion I)	1866 days	Tue 7/11/17	Mon 26/2/24	HK Working Day			74%	Tue 7/11/17	NA	[Timeline bar for Mainlaying From Boundary of Tseung Kwan O Area 137 to TKO Fresh Water Service Reservoir (Portion I)]																				
249	Trenchless Work at Wan Po Road From Pit A to Pit F	1866 days	Tue 7/11/17	Mon 26/2/24	HK Working Day			56%	Tue 7/11/17	NA	[Timeline bar for Trenchless Work at Wan Po Road From Pit A to Pit F]																				
251	Trenchless Works (Pit A to Pit D)	1354 days	Fri 2/8/19	Mon 26/2/24	HK Working Day		763	51%	Fri 2/8/19	NA	[Timeline bar for Trenchless Works (Pit A to Pit D)]																				
273	New Routing From Pit A to Pit D)	553 days	Thu 14/4/22	Mon 26/2/24	HK Working Day			0%	Thu 14/4/22	NA	[Timeline bar for New Routing From Pit A to Pit D)																				
275	XP Application for WPR, SKR and Open Trench at Shek Kok Road	60 days	Tue 19/4/22	Thu 30/6/22	HK Working Day	274		278,279,286	0%	NA	NA	[Timeline bar for XP Application for WPR, SKR and Open Trench at Shek Kok Road]																			
279	Trial Pit Excavation at Pit SKR	10 days	Sat 2/7/22	Wed 13/7/22	HK Working Day	275		288,285,284	0%	NA	NA	[Timeline bar for Trial Pit Excavation at Pit SKR]																			
284	Pipe Laying (OC) from Pit SKR to Pit D (1st 200m)	200 days	Tue 14/7/22	Tue 14/3/23	HK Working Day	279		288	0%	NA	NA	[Timeline bar for Pipe Laying (OC) from Pit SKR to Pit D (1st 200m)]																			
288	Construction of Pit SKR	90 days	Wed 15/3/23	Thu 6/7/23	HK Working Day	279,284		290	0%	NA	NA	[Timeline bar for Construction of Pit SKR]																			
290	Headshield Tunneling fom Pit SKR to Pit WPR (64m)	107 days	Fri 7/7/23	Sat 11/11/23	HK Working Day	288		292	0%	NA	NA	[Timeline bar for Headshield Tunneling fom Pit SKR to Pit WPR (64m)]																			
292	MS Pipe Laying in Segment from Pit SKR to Pit WPR	30 days	Sun 12/11/23	Mon 11/12/23	Calendar Day	290		295,296	0%	NA	NA	[Timeline bar for MS Pipe Laying in Segment from Pit SKR to Pit WPR]																			
295	Pipe Connection Works and construction of Inspoecion Chamber at Pit WPR	60 days	Tue 12/12/23	Mon 26/2/24	HK Working Day	292,283			0%	NA	NA	[Timeline bar for Pipe Connection Works and construction of Inspoecion Chamber at Pit WPR]																			
296	Pipe Connection Works and construction of Washout Chamber at Pit SKR	60 days	Tue 12/12/23	Mon 26/2/24	HK Working Day	292			0%	NA	NA	[Timeline bar for Pipe Connection Works and construction of Washout Chamber at Pit SKR]																			
759	DN800 - CH,ADN1200 MS Pipe Static Pressure Test, Pipeline Cleaning, CCTV Inspection, Sterilization and Water Sampling	1232 days	Wed 24/3/21	Tue 6/8/24	Calendar Day			13%	Wed 24/3/21	NA	[Timeline bar for DN800 - CH,ADN1200 MS Pipe Static Pressure Test, Pipeline Cleaning, CCTV Inspection, Sterilization and Water Sampling]																				
760	Static Pressure Test	1112 days	Wed 24/3/21	Mon 8/4/24	Calendar Day			18%	Wed 24/3/21	NA	[Timeline bar for Static Pressure Test]																				
763	DN1200 MS Pipe - Static Pressure Test From DN900 Valve Chamber at Wan Po Road (CH.A12+50) to DN900 Valve Chamber at TKO Landfill Stage I Area A (CH.FB1+66) (Approx. 1.4km)	42 days	Tue 27/2/24	Mon 8/4/24	Calendar Day	224,251,306	774	0%	NA	NA	[Timeline bar for DN1200 MS Pipe - Static Pressure Test From DN900 Valve Chamber at Wan Po Road (CH.A12+50) to DN900 Valve Chamber at TKO Landfill Stage I Area A (CH.FB1+66) (Approx. 1.4km)]																				
771	Pipeline Cleaning and CCTV Inspection	1153 days	Wed 12/5/21	Sun 7/7/24	Calendar Day			10%	Wed 12/5/21	NA	[Timeline bar for Pipeline Cleaning and CCTV Inspection]																				
774	DN1200 MS Pipe - Pipeline Cleaning and CCTV Inspection From DN900 Valve Chamber at Wan Po Road (CH.A12+50) to DN900 Valve Chamber at TKO Landfill Stage I Area A	90 days	Tue 9/4/24	Sun 7/7/24	Calendar Day	763	782	0%	NA	NA	[Timeline bar for DN1200 MS Pipe - Pipeline Cleaning and CCTV Inspection From DN900 Valve Chamber at Wan Po Road (CH.A12+50) to DN900 Valve Chamber at TKO Landfill Stage I Area A]																				
781	Sterilization and Water Sampling	30 days	Mon 8/7/24	Tue 6/8/24	Calendar Day			0%	NA	NA	[Timeline bar for Sterilization and Water Sampling]																				
782	DN1200 MS Pipe - Portion I & Portion H (Total Water = 9700 cu.m)	30 days	Mon 8/7/24	Tue 6/8/24	Calendar Day	772,773,774,775,777,778,7787		0%	NA	NA	[Timeline bar for DN1200 MS Pipe - Portion I & Portion H (Total Water = 9700 cu.m)]																				
786	Handover Portion I and Portion H to WSD Region	563 days	Tue 21/2/23	Thu 5/9/24	Calendar Day			0%	NA	NA	[Timeline bar for Handover Portion I and Portion H to WSD Region]																				
787	DN1200 MS Pipe - Portion I & Portion H (Area 137)	30 days	Wed 7/8/24	Thu 5/9/24	Calendar Day	782		0%	NA	NA	[Timeline bar for DN1200 MS Pipe - Portion I & Portion H (Area 137)]																				

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

ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish	Gantt Chart																			
											2018	2019	2020	2021	2022	2023	2024	2025	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Key Dates	2495 days	Tue 7/11/17	Thu 5/9/24	Calendar Day			0%	Tue 7/11/17	NA	[Gantt bar from 7/11/17 to 5/9/24]																			
2	Contract Date	0 days	Tue 7/11/17	Tue 7/11/17	Calendar Day		67,59,60FS+27 days,61,62,58	100%	Tue 7/11/17	Tue 7/11/17	◆ 7/11																			
3	Starting Date	0 days	Thu 16/11/17	Thu 16/11/17	Calendar Day		4,5FS+730 days,6FS+1279 days	100%	Thu 16/11/17	Thu 16/11/17	◆ 16/11																			
4	Access Date of Portion A, B, C, D, E, F, G and J	0 days	Thu 16/11/17	Thu 16/11/17	Calendar Day	3	90,63,71,73,75,78,79	100%	Thu 16/11/17	Thu 16/11/17	◆ 16/11																			
5	Access Date of Portion H	0 days	Sat 16/11/19	Sat 16/11/19	Calendar Day	3FS+730 days	110	100%	Sat 16/11/19	Sat 16/11/19	◆ 16/11																			
6	Completion Date (Contract)	0 days	Tue 18/5/21	Tue 18/5/21	Calendar Day	3FS+1279 days	7	100%	Tue 18/5/21	Tue 18/5/21	◆ 18/5																			
7	EOT for CE No. 23 Inclement Weather - In June 2018	0 days	Tue 18/5/21	Tue 18/5/21	HK Working Day	6	8	100%	Tue 18/5/21	Tue 18/5/21	◆ 18/5																			
8	EOT for CE No. 01	246 days	Wed 19/5/21	Wed 19/1/22	Calendar Day	7	9FF	0%	NA	NA	◆ 19/1																			
9	Revised Completion Date	0 days	Wed 19/1/22	Wed 19/1/22	Calendar Day	8FF	11FS+365 days	0%	NA	NA	◆ 19/1																			
10	Planned Completion	0 days	Thu 5/9/24	Thu 5/9/24	Calendar Day	12FF		0%	NA	NA	◆ 5/9																			
11	Defect Date	0 days	Thu 19/1/23	Thu 19/1/23	Calendar Day	9FS+365 days		0%	NA	NA	◆ 19/1																			
12	Mainlaying In Tseung Kwan O	2495 days	Tue 7/11/17	Thu 5/9/24	Calendar Day		10FF	77%	Tue 7/11/17	NA	[Gantt bar from 7/11/17 to 5/9/24]																			
13	Issued Compensation Events (General)	1316 days	Tue 12/6/18	Tue 18/1/22	Calendar Day			100%	Tue 12/6/18	Tue 18/1/22	[Gantt bar from 12/6/18 to 1/18/22]																			
14	Issue CE No. 03 - Upgrading of bandwidth of Internet Services for Site Accommodation	0 days	Tue 12/6/18	Tue 12/6/18	Calendar Day		68	100%	Tue 12/6/18	Tue 12/6/18	◆ 12/6																			
15	Issue CE No. 01 - Change in Pressure Rating of Watermain, Valves and Fittings from PN16 to PN25	0 days	Thu 12/7/18	Thu 12/7/18	Calendar Day		68	100%	Thu 12/7/18	Thu 12/7/18	◆ 12/7																			
16	Issue CE No. 08 - Change in Number of Fixed IP Address for Broadband Connection for Site Accommodation	0 days	Tue 4/12/18	Tue 4/12/18	Calendar Day			100%	Tue 4/12/18	Tue 4/12/18	◆ 4/12																			
17	Issue CE No. 10 - Contractor Design of The Realignment	0 days	Thu 28/2/19	Thu 28/2/19	Calendar Day			100%	Thu 28/2/19	Thu 28/2/19	◆ 28/2																			
18	Issue CE No. 13 - Excavation of Inspection Pits for the Realignments	0 days	Wed 15/5/19	Wed 15/5/19	Calendar Day			100%	Wed 15/5/19	Wed 15/5/19	◆ 15/5																			
19	Issue CE No. 26 - Change in Cathodic Protection System for Mild Steel Pipes	0 days	Fri 16/8/19	Fri 16/8/19	Calendar Day		85	100%	Fri 16/8/19	Fri 16/8/19	◆ 16/8																			
20	Issue CE No. 35 - Feasibility Study on the Alternative Alignment by Trenchless Method in the Wan Po Road J/O Lohas Park Road	0 days	Tue 31/12/19	Tue 31/12/19	Calendar Day			100%	Tue 31/12/19	Tue 31/12/19	◆ 31/12																			
21	Issue CE No. 56 - Excavation of Inspection Pits for the Alternative Alignment (Batch No. 2)	0 days	Fri 22/5/20	Fri 22/5/20	Calendar Day			100%	Fri 22/5/20	Fri 22/5/20	◆ 22/5																			
22	Issue CE No. 64 - Tree Survey at Tsui Lam (Location A and Location B)	0 days	Tue 9/6/20	Tue 9/6/20	Calendar Day			100%	Tue 9/6/20	Tue 9/6/20	◆ 9/6																			
23	Issue CE No. 74 - Reinstatement of existing carriageway along Wan Po Road using PMSMA10	0 days	Thu 13/8/20	Thu 13/8/20	Calendar Day			100%	Thu 13/8/20	Thu 13/8/20	◆ 13/8																			
24	Issue CE No. 66 - Excavation of Inspection Pits for the Alternative Alignment (Batch No. 3)	0 days	Fri 21/8/20	Fri 21/8/20	Calendar Day			100%	Fri 21/8/20	Fri 21/8/20	◆ 21/8																			
25	Issue CE No. 72 - Temporary Reinstatement of Deteriorated Grasscrete Road by Bituminous Pavement along TKO South Waterfront Promenade	0 days	Mon 31/8/20	Mon 31/8/20	Calendar Day			100%	Mon 31/8/20	Mon 31/8/20	◆ 31/8																			
26	Issue CE No. 73 - Reinstatement of existing Geotextile in Area of Stage 1 Landfill between Chainage FC12+20 and Chainage FC13+26	0 days	Wed 9/9/20	Wed 9/9/20	Calendar Day			100%	Wed 9/9/20	Wed 9/9/20	◆ 9/9																			
27	Issue CE No. 81 - Additional Noise Monitoring for the Realignment Works	0 days	Tue 22/9/20	Tue 22/9/20	Calendar Day			100%	Tue 22/9/20	Tue 22/9/20	◆ 22/9																			
28	Issue CE No. 78 - Excavation of Inspection Pits for Additional Connection Point to The Existing Water Supply system	0 days	Wed 23/9/20	Wed 23/9/20	Calendar Day			100%	Wed 23/9/20	Wed 23/9/20	◆ 23/9																			
29	Issue CE No. 82 - Suspension of Site Works due to Coronavirus Disease	0 days	Wed 21/10/20	Wed 21/10/20	Calendar Day			100%	Wed 21/10/20	Wed 21/10/20	◆ 21/10																			
30	Issue CE No. 85 - Affected Trees across the Natural Stream Course at Tsui Lam (Location A)	0 days	Wed 28/10/20	Wed 28/10/20	Calendar Day			100%	Wed 28/10/20	Wed 28/10/20	◆ 28/10																			
31	Issue CE No. 90 - Temporary Relocation of Bicycle Parking spaces near HK Velodrome	0 days	Mon 23/11/20	Mon 23/11/20	Calendar Day			100%	Mon 23/11/20	Mon 23/11/20	◆ 23/11																			
32	Issue CE No. 83 - Inspection pits for the Realignment in Wan Po Road and Lohas Park Road	0 days	Sat 19/12/20	Sat 19/12/20	Calendar Day			100%	Sat 19/12/20	Sat 19/12/20	◆ 19/12																			
33	Issue CE No. CE - Site Clearance of Affected Trees and Plants for Mainlaying works near Po Hong Road and Ling Hong Road	0 days	Fri 18/12/20	Fri 18/12/20	Calendar Day			100%	Fri 18/12/20	Fri 18/12/20	◆ 18/12																			
34	Issue CE No. 99 - Excavation of Inspection pit near Mau Wu Tsai Village at Po Lam Road South	0 days	Wed 20/1/21	Wed 20/1/21	Calendar Day			100%	Wed 20/1/21	Wed 20/1/21	◆ 20/1																			
35	Issue CE No. 101 - Uncharted Irrigation Pipe in TKO South Promenade Waterfront's Cycle Track at CH.FC6+64	0 days	Fri 29/1/21	Fri 29/1/21	Calendar Day			100%	Fri 29/1/21	Fri 29/1/21	◆ 29/1																			
36	Issue CE No. 103 - Renewal of Excavation Permit	0 days	Wed 10/2/21	Wed 10/2/21	Calendar Day			100%	Wed 10/2/21	Wed 10/2/21	◆ 10/2																			
37	Issue CE No. 105 - Suspension of Works in Wan Po Road 1st Works Site due to Shortage of Backfilling Material Caused by COVID-19	0 days	Tue 23/2/21	Tue 23/2/21	Calendar Day			100%	Tue 23/2/21	Tue 23/2/21	◆ 23/2																			
38	Issue CE No. 104 - Works in Tsui Lam Section (Batch No.2) were Suspended due to Disruption to Supply of Construction Material Caused b COVID-19	0 days	Fri 26/2/21	Fri 26/2/21	Calendar Day			100%	Fri 26/2/21	Fri 26/2/21	◆ 26/2																			
39	Issue CE No. 106 - Works in Tsui Lam Section (Batch No.3) were Suspended due to Disruption to Supply of Construction Material Caused b COVID-19	0 days	Fri 26/2/21	Fri 26/2/21	Calendar Day			100%	Fri 26/2/21	Fri 26/2/21	◆ 26/2																			
40	Issue CE No. 108 - Works in Tsui Lam Section (Batch No.3) were Suspended due to Disruption to Supply of Construction Material Caused b COVID-19	0 days	Fri 26/2/21	Fri 26/2/21	Calendar Day			100%	Fri 26/2/21	Fri 26/2/21	◆ 26/2																			
41	Issue CE No. 107 - Affected Trees near Mau Wu Tsai Village between CH.HA0+00 and Ch. HA0+70	0 days	Mon 8/3/21	Mon 8/3/21	Calendar Day			100%	Mon 8/3/21	Mon 8/3/21	◆ 8/3																			
42	Issue CE No. 110 - Inaccessible to Works Area Ch.HA2+10 due to Deteriorated Concrete Access	0 days	Thu 8/4/21	Thu 8/4/21	Calendar Day			100%	Thu 8/4/21	Thu 8/4/21	◆ 8/4																			

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

ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish	Gantt Chart																				
											2018	2019	2020	2021	2022	2023	2024	2025	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
85	Sacrificial Anode Cathodic Protection (SACP)	82 days	Thu 30/5/19	Mon 19/8/19	Calendar Day	19	99	100%	Thu 30/5/19	Mon 19/8/19	[Gantt bar from Thu 30/5/19 to Mon 19/8/19]																				
86	Landscaping Works	42 days	Thu 6/9/18	Wed 17/10/18	Calendar Day	72,74		100%	Thu 6/9/18	Wed 17/10/18	[Gantt bar from Thu 6/9/18 to Wed 17/10/18]																				
87	Miscellaneous	1000 days	Sun 18/3/18	Fri 11/12/20	Calendar Day	74,72		100%	Sun 18/3/18	Fri 11/12/20	[Gantt bar from Sun 18/3/18 to Fri 11/12/20]																				
88	Site Establishment	220 days	Tue 2/1/18	Thu 9/8/18	Calendar Day			100%	Tue 2/1/18	Thu 9/8/18	[Gantt bar from Tue 2/1/18 to Thu 9/8/18]																				
89	Setting up PM's and Contractor Accommodation	90 days	Sat 12/5/18	Thu 9/8/18	Calendar Day	82FS+13 days		100%	Sat 12/5/18	Thu 9/8/18	[Gantt bar from Sat 12/5/18 to Thu 9/8/18]																				
90	Initial Survey of the Site	60 days	Tue 2/1/18	Fri 2/3/18	Calendar Day	4		100%	Tue 2/1/18	Fri 2/3/18	[Gantt bar from Tue 2/1/18 to Fri 2/3/18]																				
91	Procurement of Major Material	1485 days	Sat 7/4/18	Sat 30/4/22	Calendar Day			100%	Sat 7/4/18	Sat 30/4/22	[Gantt bar from Sat 7/4/18 to Sat 30/4/22]																				
92	Preparation of Purchase Order	7 days	Sat 7/4/18	Fri 13/4/18	Calendar Day	64SS+7 days,76	93	100%	Sat 7/4/18	Fri 13/4/18	[Gantt bar from Sat 7/4/18 to Fri 13/4/18]																				
93	1st Batch of Material Delivery	65 days	Sat 14/4/18	Sun 17/6/18	Calendar Day	92	94	100%	Sat 14/4/18	Sun 17/6/18	[Gantt bar from Sat 14/4/18 to Sun 17/6/18]																				
94	1st Batch of Material Delivery on site	0 days	Fri 29/6/18	Fri 29/6/18	Calendar Day	93	95	100%	Fri 29/6/18	Fri 29/6/18	[Gantt bar from Fri 29/6/18 to Fri 29/6/18]																				
95	Material Delivery by Batches	1401 days	Sat 30/6/18	Sat 30/4/22	Calendar Day	94		100%	Sat 30/6/18	Sat 30/4/22	[Gantt bar from Sat 30/6/18 to Sat 30/4/22]																				
96	Preparation of CE01 Purchase Order	7 days	Tue 25/9/18	Mon 1/10/18	Calendar Day	68	97	100%	Tue 25/9/18	Mon 1/10/18	[Gantt bar from Tue 25/9/18 to Mon 1/10/18]																				
97	1st Batch of CE01 Material Delivery	90 days	Tue 2/10/18	Sun 30/12/18	Calendar Day	96	98	100%	Tue 2/10/18	Sun 30/12/18	[Gantt bar from Tue 2/10/18 to Sun 30/12/18]																				
98	1st Batch of CE01 Material Delivery on site	1 day	Tue 22/1/19	Tue 22/1/19	Calendar Day	97		100%	Tue 22/1/19	Tue 22/1/19	[Gantt bar from Tue 22/1/19 to Tue 22/1/19]																				
99	SCAP Material Submission and Approval	261 days	Tue 20/8/19	Wed 6/5/20	Calendar Day	85	100	100%	Tue 20/8/19	Wed 6/5/20	[Gantt bar from Tue 20/8/19 to Wed 6/5/20]																				
100	SCAP Purchase Order & Material Delivery	115 days	Mon 22/6/20	Wed 14/10/20	Calendar Day	99		100%	Mon 22/6/20	Wed 14/10/20	[Gantt bar from Mon 22/6/20 to Wed 14/10/20]																				
101	Mainlaying in Tseung Kwan O Area 137 (Portion H)	1260 days	Tue 11/12/18	Wed 15/3/23	HK Working Day			92%	Tue 11/12/18	NA	[Gantt bar from Tue 11/12/18 to Wed 15/3/23]																				
102	Early Possession of Portion H	0 days	Mon 29/7/19	Mon 29/7/19	Calendar Day			100%	Mon 29/7/19	Mon 29/7/19	[Gantt bar from Mon 29/7/19 to Mon 29/7/19]																				
103	Issue Date of CE No. 07 -Water Supply to No. TKO Desalination Plant at Portion H (NS250 HDPE Pipe)	0 days	Tue 22/1/19	Tue 22/1/19	Calendar Day		104	100%	Tue 22/1/19	Tue 22/1/19	[Gantt bar from Tue 22/1/19 to Tue 22/1/19]																				
104	Material Procurement and Delivery in Batches	330 days	Tue 11/12/18	Tue 5/11/19	Calendar Day	103		100%	Tue 11/12/18	Tue 5/11/19	[Gantt bar from Tue 11/12/18 to Tue 5/11/19]																				
105	Open Cut Excavation, Pipe Laying and Reinstatement at TKO Area 137	597 days	Sat 10/8/19	Sat 14/8/21	HK Working Day		761	100%	Sat 10/8/19	Sat 14/8/21	[Gantt bar from Sat 10/8/19 to Sat 14/8/21]																				
106	DN1200 MS PIPE + NS250 HDPE PIPE - Open Cut	341 days	Sat 10/8/19	Wed 30/9/20	HK Working Day			100%	Sat 10/8/19	Wed 30/9/20	[Gantt bar from Sat 10/8/19 to Wed 30/9/20]																				
107	CH.CT1+51 - CH.265 DN1200 MS Pipe OC	82 days	Thu 16/4/20	Fri 24/7/20	None			100%	Thu 16/4/20	Fri 24/7/20	[Gantt bar from Thu 16/4/20 to Fri 24/7/20]																				
108	CH.CT0+51 - CH.1+51 DN1200 MS Pipe OC	44 days	Mon 10/2/20	Tue 31/3/20	HK Working Day			100%	Mon 10/2/20	Tue 31/3/20	[Gantt bar from Mon 10/2/20 to Tue 31/3/20]																				
109	CH.CT0+00 - CH.0+51 DN1200 MS Pipe OC	74 days	Thu 2/1/20	Tue 31/3/20	HK Working Day			100%	Thu 2/1/20	Tue 31/3/20	[Gantt bar from Thu 2/1/20 to Tue 31/3/20]																				
110	CH.CA0+00 - CH.4+00 DN1200 MS Pipe OC	192 days	Sat 10/8/19	Tue 31/3/20	HK Working Day 5			100%	Sat 10/8/19	Tue 31/3/20	[Gantt bar from Sat 10/8/19 to Tue 31/3/20]																				
111	CH.KT2+80 - CH.3+60 NS250 HDPE Pipe OC with additional Tees and fire Hydrant	56 days	Tue 28/7/20	Wed 30/9/20	HK Working Day			100%	Tue 28/7/20	Wed 30/9/20	[Gantt bar from Tue 28/7/20 to Wed 30/9/20]																				
112	CH.KT2+23 - CH.2+80 NS250 HDPE Pipe OC	29 days	Sat 20/6/20	Sat 25/7/20	HK Working Day			100%	Sat 20/6/20	Sat 25/7/20	[Gantt bar from Sat 20/6/20 to Sat 25/7/20]																				
113	CH.KT1+51 - CH.2+23 NS250 HDPE Pipe OC	31 days	Sat 16/5/20	Sat 20/6/20	HK Working Day			100%	Sat 16/5/20	Sat 20/6/20	[Gantt bar from Sat 16/5/20 to Sat 20/6/20]																				
114	CH.KT0+51 - CH.1+51 NS250 HDPE Pipe OC	19 days	Tue 10/3/20	Tue 31/3/20	HK Working Day			100%	Tue 10/3/20	Tue 31/3/20	[Gantt bar from Tue 10/3/20 to Tue 31/3/20]																				
115	CH.KT0+00 - CH.0+51 NS250 HDPE Pipe OC	50 days	Sun 2/2/20	Tue 31/3/20	HK Working Day			100%	Sun 2/2/20	Tue 31/3/20	[Gantt bar from Sun 2/2/20 to Tue 31/3/20]																				
116	CH.KA0+00 - CH.4+00 NS250 HDPE Pipe OC	143 days	Thu 10/10/19	Tue 31/3/20	HK Working Day			100%	Thu 10/10/19	Tue 31/3/20	[Gantt bar from Thu 10/10/19 to Tue 31/3/20]																				
117	Construction of Chambers	385 days	Wed 29/4/20	Sat 14/8/21	HK Working Day			100%	Wed 29/4/20	Sat 14/8/21	[Gantt bar from Wed 29/4/20 to Sat 14/8/21]																				
118	Combined DAV & IT Chamber for DN1200 MS pipe at CH.CT2+47	60 days	Tue 5/5/20	Wed 15/7/20	HK Working Day			100%	Tue 5/5/20	Wed 15/7/20	[Gantt bar from Tue 5/5/20 to Wed 15/7/20]																				
119	Combined Washout Pump Pit for DN1200 MS pipe and NS250 HDPE pipe at CH.CT2+43	71 days	Wed 3/6/20	Wed 26/8/20	HK Working Day			100%	Wed 3/6/20	Wed 26/8/20	[Gantt bar from Wed 3/6/20 to Wed 26/8/20]																				
120	DN900 Valve Chamber with by-pass pipes at CH.CA4+24	385 days	Wed 29/4/20	Sat 14/8/21	HK Working Day			100%	Wed 29/4/20	Sat 14/8/21	[Gantt bar from Wed 29/4/20 to Sat 14/8/21]																				
121	Trenchless Works (DN1200 MS PIPE + NS250 HDPE PIPE) at TKO Area 137	1162 days	Tue 22/1/19	Thu 22/12/22	HK Working Day		784,762	83%	Tue 22/1/19	NA	[Gantt bar from Tue 22/1/19 to Thu 22/12/22]																				
122	Issue CE No. 07 - Water Supply to Tseung Kwan O Desalination Plant at Portion 'H'	0 days	Tue 22/1/19	Tue 22/1/19	Calendar Day			100%	Tue 22/1/19	Tue 22/1/19	[Gantt bar from Tue 22/1/19 to Tue 22/1/19]																				
123	Issue CE No. 17 - Realignment of Water Main by Trenchless Method in TKO Area 137	0 days	Wed 1/1/20	Wed 1/1/20	Calendar Day			100%	Wed 1/1/20	Wed 1/1/20	[Gantt bar from Wed 1/1/20 to Wed 1/1/20]																				
124	Issue CE No. 118 - Non-destructive Void detection survey in Tseung Kwan O Area 137 between 137 Pit A and 137 Pit B	0 days	Tue 18/5/21	Tue 18/5/21	Calendar Day			100%	Tue 18/5/21	Tue 18/5/21	[Gantt bar from Tue 18/5/21 to Tue 18/5/21]																				
125	Issue CE No. 57 - Realignment of Water Main by Trenchless Method in SENTX Portion in TKO Area 137	0 days	Tue 18/1/22	Tue 18/1/22	Calendar Day	55FF	129	100%	Tue 18/1/22	Tue 18/1/22	[Gantt bar from Tue 18/1/22 to Tue 18/1/22]																				
126	Tendering & Approval	21 days	Mon 6/1/20	Sun 26/1/20	Calendar Day			100%	Mon 6/1/20	Sun 26/1/20	[Gantt bar from Mon 6/1/20 to Sun 26/1/20]																				

ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish	Gantt Chart																			
											2018	2019	2020	2021	2022	2023	2024	2025												
127	WSD instructed to retender	0 days	Fri 3/4/20	Fri 3/4/20	Calendar Day		128	100%	Fri 3/4/20	Fri 3/4/20	[Gantt bar for 127: Fri 3/4/20 to Fri 3/4/20]																			
128	Retendering, Review & Approval	43 days	Mon 18/5/20	Mon 29/6/20	Calendar Day	127	129	100%	Mon 18/5/20	Mon 29/6/20	[Gantt bar for 128: Mon 18/5/20 to Mon 29/6/20]																			
129	Issue LOA	1 day	Thu 3/9/20	Thu 3/9/20	Calendar Day	128,125	135	100%	Thu 3/9/20	Thu 3/9/20	[Gantt bar for 129: Thu 3/9/20 to Thu 3/9/20]																			
130	Trial Pit Excavation for Trenchless Works at TKO Area 137	156 days	Mon 2/9/19	Wed 11/3/20	HK Working Day			100%	Mon 2/9/19	Wed 11/3/20	[Gantt bar for 130: Mon 2/9/19 to Wed 11/3/20]																			
131	Pit 137A	35 days	Mon 2/9/19	Tue 15/10/19	HK Working Day			100%	Mon 2/9/19	Tue 15/10/19	[Gantt bar for 131: Mon 2/9/19 to Tue 15/10/19]																			
132	Pit 137B	57 days	Mon 28/10/19	Sat 4/1/20	HK Working Day			100%	Mon 28/10/19	Sat 4/1/20	[Gantt bar for 132: Mon 28/10/19 to Sat 4/1/20]																			
133	Pit 137C	14 days	Tue 25/2/20	Wed 11/3/20	HK Working Day			100%	Tue 25/2/20	Wed 11/3/20	[Gantt bar for 133: Tue 25/2/20 to Wed 11/3/20]																			
134	Construction of jacking / Receiving Pits	106 days	Mon 9/11/20	Thu 18/3/21	HK Working Day			100%	Mon 9/11/20	Thu 18/3/21	[Gantt bar for 134: Mon 9/11/20 to Thu 18/3/21]																			
135	Mobilization and Setup & Preliminary Works	3 days	Mon 9/11/20	Wed 11/11/20	Calendar Day	129	136,137,138	100%	Mon 9/11/20	Wed 11/11/20	[Gantt bar for 135: Mon 9/11/20 to Wed 11/11/20]																			
136	Receiving Pit 137A (Renopipe)	58 days	Mon 16/11/20	Mon 25/1/21	HK Working Day	135	141FF-30 days	100%	Mon 16/11/20	Mon 25/1/21	[Gantt bar for 136: Mon 16/11/20 to Mon 25/1/21]																			
137	Jacking Pit 137B (Renopipe)	59 days	Thu 12/11/20	Fri 22/1/21	HK Working Day	135	140	100%	Thu 12/11/20	Fri 22/1/21	[Gantt bar for 137: Thu 12/11/20 to Fri 22/1/21]																			
138	Receiving Pit 137C (Renopipe)	49 days	Mon 18/1/21	Thu 18/3/21	HK Working Day	135	152	100%	Mon 18/1/21	Thu 18/3/21	[Gantt bar for 138: Mon 18/1/21 to Thu 18/3/21]																			
139	TBM Pipe Jacking From Pit 137B to Pit 137A	410 days	Fri 22/1/21	Wed 15/6/22	HK Working Day			79%	Fri 22/1/21	NA	[Gantt bar for 139: Fri 22/1/21 to Wed 15/6/22]																			
140	Establishment at Pit 137B	29 days	Fri 22/1/21	Sat 27/2/21	HK Working Day	137	141	100%	Fri 22/1/21	Sat 27/2/21	[Gantt bar for 140: Fri 22/1/21 to Sat 27/2/21]																			
141	O WPR920 Steel Sleeve Pipe for both DN1200 & NS250 (Pit 137B - Pit 137A) (CH.CC0+10 to CH.CC.1+24) in Soil mixed with rubbish (114m; 3m/day)	42 days	Mon 1/3/21	Thu 22/4/21	HK Working Day	140,136FF-30 days	142	100%	Mon 1/3/21	Thu 22/4/21	[Gantt bar for 141: Mon 1/3/21 to Thu 22/4/21]																			
142	Grouting and Remove setup at Pit 137A & Pit 137B	31 days	Fri 23/4/21	Mon 31/5/21	HK Working Day	141	143	100%	Fri 23/4/21	Mon 31/5/21	[Gantt bar for 142: Fri 23/4/21 to Mon 31/5/21]																			
143	Setup for Pipe Laying inside jacking Pits 137B to Pit 137A	62 days	Wed 12/1/22	Mon 28/3/22	HK Working Day	154,142	145	100%	Wed 12/1/22	Mon 28/3/22	[Gantt bar for 143: Wed 12/1/22 to Mon 28/3/22]																			
144	DN1200 MS Pipe Laying inside jacking pipe (114m) (8m per 3 day)	14 days	Tue 29/3/22	Thu 14/4/22	HK Working Day	145	146	100%	Tue 29/3/22	Thu 14/4/22	[Gantt bar for 144: Tue 29/3/22 to Thu 14/4/22]																			
145	NS250 HDPE Pipe Laying inside jacking pipe (114m) (8m per day)	0 days	Fri 28/1/22	Fri 28/1/22	HK Working Day	143	144	100%	Fri 28/1/22	Fri 28/1/22	[Gantt bar for 145: Fri 28/1/22 to Fri 28/1/22]																			
146	Formwork & Setup for Grouting the gap between pipe and Sleeve	3 days	Tue 19/4/22	Thu 21/4/22	HK Working Day	144	147	0%	NA	NA	[Gantt bar for 146: Tue 19/4/22 to Thu 21/4/22]																			
147	Grouting Works (20 meter/day)	6 days	Fri 22/4/22	Thu 28/4/22	HK Working Day	146	148	0%	NA	NA	[Gantt bar for 147: Fri 22/4/22 to Thu 28/4/22]																			
148	Pipe Laying (HB, BVB, Short Pipe), Thrust Block & backfilling inside Pit 137A	24 days	Fri 29/4/22	Sat 28/5/22	HK Working Day	147	149	0%	NA	NA	[Gantt bar for 148: Fri 29/4/22 to Sat 28/5/22]																			
149	Remove ELS and Extract Sheetpile at Pit 137A	2 days	Mon 30/5/22	Tue 31/5/22	HK Working Day	148	150	0%	NA	NA	[Gantt bar for 149: Mon 30/5/22 to Tue 31/5/22]																			
150	Pipe Laying (DN1200 MS Pipe & NS250 HDPE Pipe) From Pit 137A to CH.CC1+38 & KC1+38	12 days	Wed 1/6/22	Wed 15/6/22	HK Working Day	149		0%	NA	NA	[Gantt bar for 150: Wed 1/6/22 to Wed 15/6/22]																			
151	TBM Pipe Jacking From Pit 137B to Pit 137C	578 days	Tue 12/1/21	Thu 22/12/22	HK Working Day			74%	Tue 12/1/21	NA	[Gantt bar for 151: Tue 12/1/21 to Thu 22/12/22]																			
152	Revised Establishment at Pit 137B	39 days	Fri 19/3/21	Sat 8/5/21	HK Working Day	138	153	100%	Fri 19/3/21	Sat 8/5/21	[Gantt bar for 152: Fri 19/3/21 to Sat 8/5/21]																			
153	O WPR920 Steel Sleeve Pipe for both DN1200 & NS250 (Pit 137C - Pit 137B) (CH.CB0+00 to CH.CB.2+46) in Soil mixed rubbish (246m; 1.5m/day) include 49 days	144 days	Sun 9/5/21	Sat 30/10/21	HK Working Day	152	154	100%	Sun 9/5/21	Sat 30/10/21	[Gantt bar for 153: Sun 9/5/21 to Sat 30/10/21]																			
154	Grouting, Remove setup at Pit 137C and Pit 137B	41 days	Mon 1/11/21	Fri 17/12/21	HK Working Day	153	155,143	100%	Mon 1/11/21	Fri 17/12/21	[Gantt bar for 154: Mon 1/11/21 to Fri 17/12/21]																			
155	Setup for Pipe Laying inside jacking Pit 137B to Pit 137C	95 days	Tue 12/1/21	Tue 19/4/22	HK Working Day	154	157	100%	Tue 12/1/21	Tue 19/4/22	[Gantt bar for 155: Tue 12/1/21 to Tue 19/4/22]																			
156	DN1200 MS Pipe Laying inside jacking pipe (246m) (3 days per 8m)	93 days	Wed 20/4/22	Wed 10/8/22	HK Working Day	157	158	75%	Wed 20/4/22	NA	[Gantt bar for 156: Wed 20/4/22 to Wed 10/8/22]																			
157	NS250 HDPE Pipe Laying inside jacking pipe (246m) (8m per day)	4 days	Sat 22/1/22	Thu 27/1/22	HK Working Day	155	156	100%	Sat 22/1/22	Thu 27/1/22	[Gantt bar for 157: Sat 22/1/22 to Thu 27/1/22]																			
158	Formwork & Setup for Grouting the gap between pipe and Sleeve	3 days	Thu 11/8/22	Sat 13/8/22	HK Working Day	156	159	0%	NA	NA	[Gantt bar for 158: Thu 11/8/22 to Sat 13/8/22]																			
159	Grouting Works (20 meter/day)	13 days	Mon 15/8/22	Mon 29/8/22	HK Working Day	158	160	0%	NA	NA	[Gantt bar for 159: Mon 15/8/22 to Mon 29/8/22]																			
160	Construction of Combined Inspection and Washout Chamber (Type III) at Pit 137C	60 days	Tue 30/8/22	Thu 10/11/22	HK Working Day	159	162,161	0%	NA	NA	[Gantt bar for 160: Tue 30/8/22 to Thu 10/11/22]																			
161	Pipe Connection Inside Pit 137C	6 days	Fri 11/11/22	Thu 17/11/22	HK Working Day	160		0%	NA	NA	[Gantt bar for 161: Fri 11/11/22 to Thu 17/11/22]																			
162	Pipe Laying (HB, BVB, Short Pipe), Thrust Block & backfilling inside Pit 137C	24 days	Fri 11/11/22	Thu 8/12/22	HK Working Day	160	163	0%	NA	NA	[Gantt bar for 162: Fri 11/11/22 to Thu 8/12/22]																			
163	Remove ELS and Remove ELS and Extract Sheetpile at Pit 137C	12 days	Fri 9/12/22	Thu 22/12/22	HK Working Day	162		0%	NA	NA	[Gantt bar for 163: Fri 9/12/22 to Thu 22/12/22]																			
164	Final Connection of NS250 HDPE Pipe to Existing at Wan Po Road	14 days	Tue 28/2/23	Wed 15/3/23	HK Working Day	788		0%	NA	NA	[Gantt bar for 164: Tue 28/2/23 to Wed 15/3/23]																			
165	Mainlaying From Boundary of Tseung Kwan O Area 137 to TKO Fresh Water Service Reservoir (Portion I)	1866 days	Tue 7/11/17	Mon 26/2/24	HK Working Day			74%	Tue 7/11/17	NA	[Gantt bar for 165: Tue 7/11/17 to Mon 26/2/24]																			
166	Open Cut Excavation, Pipe Laying and Reinstatement at Wan Po Road	1506 days	Thu 30/8/18	Thu 28/9/23	HK Working Day			81%	Thu 30/8/18	NA	[Gantt bar for 166: Thu 30/8/18 to Thu 28/9/23]																			
167	Open Cut CH.A0+00 to CH.A3+62 (Pit 1)	1321 days	Mon 10/9/18	Sat 25/2/23	HK Working Day		762	88%	Mon 10/9/18	NA	[Gantt bar for 167: Mon 10/9/18 to Sat 25/2/23]																			
168	Issue CE No. 76 - Unchartered Drain Pipe in Wan Po Road between CH.A1+12 and CH.A1+14	0 days	Fri 30/10/20	Fri 30/10/20	Calendar Day			100%	Fri 30/10/20	Fri 30/10/20	[Gantt bar for 168: Fri 30/10/20 to Fri 30/10/20]																			

Working Programme No. 15
Data Date : 24 May 2022

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

Project: Mainlaying in Tseung Kwan O

ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish	Gantt Chart (2018-2025)																																						
											2018	2018	2018	2018	2018	2019	2019	2019	2019	2019	2020	2020	2020	2020	2020	2021	2021	2021	2021	2021	2022	2022	2022	2022	2022	2023	2023	2023	2023	2023	2024	2024	2024	2024	2024	2025	2025	2025	2025
169	Issue CE No. 96 - Diversion of Uncharged Irrigation pipe at CH.A2+34 at Wan Po Road	0 days	Mon 18/1/21	Mon 18/1/21	Calendar Day			100%	Mon 18/1/21	Mon 18/1/21	◆ 18/1																																						
170	CH.A0+00 - CH.A0+14 OC	45 days	Thu 16/6/22	Mon 8/8/22	HK Working Day	139		0%	NA	NA																																							
171	CH.A0+14 - CH.A0+50 OC	156 days	Thu 23/5/19	Tue 26/11/19	HK Working Day			100%	Thu 23/5/19	Tue 26/11/19																																							
172	CH.A0+50 - CH.A1+50 OC	42 days	Mon 10/9/18	Wed 31/10/18	HK Working Day			100%	Mon 10/9/18	Wed 31/10/18																																							
173	CH.A1+50 - CH.A1+60 OC	53 days	Thu 1/11/18	Fri 4/1/19	HK Working Day			100%	Thu 1/11/18	Fri 4/1/19																																							
174	CH.A1+60 - CH.A2+14 OC	107 days	Sat 5/1/19	Mon 20/5/19	HK Working Day			100%	Sat 5/1/19	Mon 20/5/19																																							
175	CH.A2+14 - CH.A2+30 OC	150 days	Tue 1/9/20	Thu 4/3/21	HK Working Day			100%	Tue 1/9/20	Thu 4/3/21																																							
176	CH.A2+30 - CH.A2+46 OC	105 days	Tue 27/10/20	Thu 4/3/21	HK Working Day			100%	Tue 27/10/20	Thu 4/3/21																																							
177	CH.A2+46 - CH.A2+70 OC	93 days	Tue 10/11/20	Thu 4/3/21	HK Working Day	178		100%	Tue 10/11/20	Thu 4/3/21																																							
178	CH.A2+70 - CH.A2+86 OC	74 days	Wed 2/12/20	Thu 4/3/21	HK Working Day	177		100%	Wed 2/12/20	Thu 4/3/21																																							
179	CH.A2+86 - CH.A2+94 OC	48 days	Tue 5/1/21	Thu 4/3/21	HK Working Day	180		100%	Tue 5/1/21	Thu 4/3/21																																							
180	CH.A2+94 - CH.A3+34.5 OC (Excluding Road reinstatement)	218 days	Fri 5/3/21	Fri 26/11/21	HK Working Day	179	195	100%	Fri 5/3/21	Fri 26/11/21																																							
181	CH.A3+34.5 - CH.A3+60 OC with DN150 DAV	60 days	Wed 4/5/22	Fri 15/7/22	HK Working Day	197	182	0%	NA	NA																																							
182	CH.A3+60 and connecting to Pit 1	30 days	Tue 3/1/23	Thu 9/2/23	HK Working Day	209,181	211,183	0%	NA	NA																																							
183	Road reinstatement CH.A2+94 - CH.3+60	14 days	Fri 10/2/23	Sat 25/2/23	HK Working Day	182		0%	NA	NA																																							
184	Trenchless Works (Pit 1 to Pit 2)	811 days	Mon 4/1/21	Thu 28/9/23	HK Working Day	762		61%	Mon 4/1/21	NA																																							
185	Ground Investigation & Drilling Bored Hole at Receiving Pit 1	9 days	Tue 20/4/21	Thu 29/4/21	HK Working Day	192		100%	Tue 20/4/21	Thu 29/4/21																																							
186	Setting out the inspection Pit for Jacking Pit 2	1 day	Mon 4/1/21	Mon 4/1/21	HK Working Day	187		100%	Mon 4/1/21	Mon 4/1/21																																							
187	Mobilization and Excavation of Inspection Pit at Pit 2	28 days	Tue 5/1/21	Fri 5/2/21	HK Working Day	186	188	100%	Tue 5/1/21	Fri 5/2/21																																							
188	Review alternative location for Pit 2 by WSD	29 days	Sat 6/2/21	Mon 15/3/21	HK Working Day	187	189	100%	Sat 6/2/21	Mon 15/3/21																																							
189	Mobilization and excavation of Inspection Pit 2 after relocation	15 days	Tue 16/3/21	Thu 1/4/21	HK Working Day	188	190	100%	Tue 16/3/21	Thu 1/4/21																																							
190	Mobilization; Ground Investigation & Drilling Bored Hole at Receiving Pit 2	17 days	Wed 7/4/21	Mon 26/4/21	HK Working Day	189	192	100%	Wed 7/4/21	Mon 26/4/21																																							
191	Issue EWN no. 405	0 days	Tue 18/5/21	Tue 18/5/21	HK Working Day			100%	Tue 18/5/21	Tue 18/5/21	◆ 18/5																																						
192	Subletting and Re-Design for Pit 1 & Pit 2 (Changing from conventional sheet piling method to pipe piling method)	84 days	Fri 30/4/21	Tue 10/8/21	HK Working Day	185,190	193	100%	Fri 30/4/21	Tue 10/8/21																																							
193	Tendering, Subletting and Award for Constructing Pit 1 & Pit 2 (Pipe Piling Method)	57 days	Wed 11/8/21	Tue 19/10/21	HK Working Day	192	198,196	100%	Wed 11/8/21	Tue 19/10/21																																							
194	Construction of Jacking / Receiving Pits	157 days	Wed 20/10/21	Tue 3/5/22	HK Working Day			94%	Wed 20/10/21	NA																																							
195	Renopipe Release the working area for Luen Hing at Pit 1	0 days	Sat 27/11/21	Sat 27/11/21	HK Working Day	180	196	100%	Sat 27/11/21	Sat 27/11/21	◆ 27/11																																						
196	Set up and Driving Pipe Piles and Grouting for Pit 1	50 days	Sat 27/11/21	Thu 27/1/22	HK Working Day	195,193	197	100%	Sat 27/11/21	Thu 27/1/22																																							
197	Excavation and ELS installation for Pit 1	48 days	Thu 3/3/22	Tue 3/5/22	HK Working Day	196	208,181	70%	Thu 3/3/22	NA																																							
198	Renopipe Release the working area for Luen Hing TTA Implement at Pit 2	9 days	Wed 20/10/21	Fri 29/10/21	HK Working Day	193	199	100%	Wed 20/10/21	Fri 29/10/21																																							
199	Mobilization, Establishment, Driving Pipe Piles and Grouting for Pit 2	63 days	Sat 30/10/21	Fri 14/1/22	HK Working Day	198	200	100%	Sat 30/10/21	Fri 14/1/22																																							
200	Excavation and ELS installation for Pit 2	82 days	Sat 15/1/22	Thu 28/4/22	HK Working Day	199	203	100%	Sat 15/1/22	Thu 28/4/22																																							
201	TMB Pipe Jacking Pit 1- Pit 2	420 days	Wed 4/5/22	Thu 28/9/23	HK Working Day			4%	Wed 4/5/22	NA																																							
202	Additional GI Works beside Pit 2	12 days	Wed 4/5/22	Wed 18/5/22	HK Working Day	203		100%	Wed 4/5/22	Wed 18/5/22																																							
203	Mobilization & setup at Pit 2	40 days	Thu 19/5/22	Wed 6/7/22	HK Working Day	200,202	204	0%	NA	NA																																							
204	TBM Jacking Sleeve Pipe (L=138m, 2m/day)	69 days	Thu 7/7/22	Mon 26/9/22	HK Working Day	203	205	0%	NA	NA																																							
205	Grouting and Remove Setup including Thrust Wall	14 days	Tue 27/9/22	Fri 14/10/22	HK Working Day	204	206	0%	NA	NA																																							
206	Setup Guard Rail	6 days	Sat 15/10/22	Fri 21/10/22	HK Working Day	205	207	0%	NA	NA																																							
207	Pipe Laying inside Sleeve Pipe (8m pipe, 3 days per Joint)	51 days	Sat 22/10/22	Tue 20/12/22	HK Working Day	206	208	0%	NA	NA																																							
208	Formwork & Setup for Grouting the Gap between Pipe and Sleeve	3 days	Wed 21/12/22	Fri 23/12/22	HK Working Day	207,197	209	0%	NA	NA																																							
209	Grouting Works (30m/day)	5 days	Sat 24/12/22	Sat 31/12/22	HK Working Day	208	210,182	0%	NA	NA																																							
210	Construction of Combined Inspection and Washout Chamber Type I at Pit 2	45 days	Tue 3/1/23	Mon 27/2/23	HK Working Day	209	217,218,220	0%	NA	NA																																							

Working Programme No. 15
Data Date : 24 May 2022

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

ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish	Gantt Chart																							
											2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2023 Q4
632	Tree survey, TPRP Submission and Receiving TPRP approval	295 days	Tue 22/9/20	Mon 20/9/21	HK Working Day	631	661,633	100%	Tue 22/9/20	Mon 20/9/21	[Gantt bar from 2019 Q1 to 2021 Q1]																							
633	Mobilization and Tree Removal	23 days	Tue 21/9/21	Wed 20/10/21	HK Working Day	632	663,636	100%	Tue 21/9/21	Wed 20/10/21	[Gantt bar from 2021 Q1 to 2021 Q2]																							
634	Issue CE No. XXX - Change Trenchless (Pit U - Pit V) to Open Cut and Revised the Alignment	0 days	Thu 31/3/22	Thu 31/3/22	HK Working Day			0%	NA	NA	[Milestone diamond at 2022 Q1]																							
635	Open Cut, CH.HA0+80 - CH.HA3+17	141 days	Thu 19/11/20	Fri 14/5/21	HK Working Day		626	100%	Thu 19/11/20	Fri 14/5/21	[Gantt bar from 2021 Q1 to 2021 Q2]																							
636	Open Cut, CH.HA3+17 - CH.HA3+79	66 days	Tue 26/10/21	Thu 13/1/22	HK Working Day	633		30%	Tue 26/10/21	NA	[Gantt bar from 2021 Q4 to 2022 Q1]																							
637	Open Trench Pipe Laying at Po Lam Road South (Mau Wu Tsai Village)	382 days	Wed 12/5/21	Tue 23/8/22	HK Working Day			74%	Wed 12/5/21	NA	[Gantt bar from 2021 Q2 to 2022 Q3]																							
638	Open Cut, CH.HA3+79 - CH.HA4+68 with SACP	127 days	Wed 12/5/21	Tue 12/10/21	HK Working Day		639	100%	Wed 12/5/21	Tue 12/10/21	[Gantt bar from 2021 Q2 to 2021 Q3]																							
639	Open Cut, CH.HA4+68 - CH.HA5+21	60 days	Tue 14/6/22	Tue 23/8/22	HK Working Day	638,640		0%	NA	NA	[Gantt bar from 2022 Q1 to 2022 Q2]																							
640	Open Cut, CH.HA5+21 - CH.HA5+55 (Pit W)	60 days	Mon 28/3/22	Mon 13/6/22	HK Working Day		639	95%	Mon 28/3/22	NA	[Gantt bar from 2022 Q1 to 2022 Q2]																							
641	Trenchless Work at Po Lam Road South	259 days	Wed 14/4/21	Thu 24/2/22	HK Working Day			100%	Wed 14/4/21	Thu 24/2/22	[Gantt bar from 2021 Q2 to 2022 Q1]																							
642	Inspection Pit Excavation	108 days	Wed 14/4/21	Sat 21/8/21	HK Working Day			100%	Wed 14/4/21	Sat 21/8/21	[Gantt bar from 2021 Q2 to 2021 Q3]																							
643	Inspection Pit Excavation at Pit W	4 days	Wed 18/8/21	Sat 21/8/21	HK Working Day		646	100%	Wed 18/8/21	Sat 21/8/21	[Gantt bar from 2021 Q3 to 2021 Q3]																							
644	Inspection Pit Excavation at Pit X	3 days	Wed 14/4/21	Fri 16/4/21	HK Working Day		647	100%	Wed 14/4/21	Fri 16/4/21	[Gantt bar from 2021 Q2 to 2021 Q2]																							
645	Construction of Jacking / Receiving Pits	107 days	Sat 24/4/21	Tue 31/8/21	HK Working Day			100%	Sat 24/4/21	Tue 31/8/21	[Gantt bar from 2021 Q2 to 2021 Q3]																							
646	Receiving Pit W	8 days	Mon 23/8/21	Tue 31/8/21	HK Working Day	643		100%	Mon 23/8/21	Tue 31/8/21	[Gantt bar from 2021 Q3 to 2021 Q3]																							
647	Jacking Pit X	31 days	Sat 24/4/21	Tue 1/6/21	HK Working Day	644	649	100%	Sat 24/4/21	Tue 1/6/21	[Gantt bar from 2021 Q2 to 2021 Q2]																							
648	Hand Shield Pipe Jacking from Pit W to Pit X (~85m)	219 days	Wed 2/6/21	Thu 24/2/22	HK Working Day			100%	Wed 2/6/21	Thu 24/2/22	[Gantt bar from 2021 Q2 to 2022 Q1]																							
649	Establishment at Pit X	15 days	Wed 2/6/21	Sat 19/6/21	HK Working Day	647	650	100%	Wed 2/6/21	Sat 19/6/21	[Gantt bar from 2021 Q2 to 2021 Q2]																							
650	Form Entrance Opening at pit X	5 days	Thu 8/7/21	Tue 13/7/21	HK Working Day	649	651	100%	Thu 8/7/21	Tue 13/7/21	[Gantt bar from 2021 Q2 to 2021 Q2]																							
651	Mild Steel Sleeve Pipe in Mix of Soil (46m) (0.6m / day)	73 days	Wed 14/7/21	Fri 8/10/21	HK Working Day	650	652,653	100%	Wed 14/7/21	Fri 8/10/21	[Gantt bar from 2021 Q2 to 2021 Q3]																							
652	Rearrangement Walling and Form Exit Opening at Pit W	14 days	Mon 11/10/21	Wed 27/10/21	HK Working Day	651	654	100%	Mon 11/10/21	Wed 27/10/21	[Gantt bar from 2021 Q3 to 2021 Q3]																							
653	Remove Setup it Pit X	5 days	Sat 9/10/21	Fri 15/10/21	HK Working Day	651	654	100%	Sat 9/10/21	Fri 15/10/21	[Gantt bar from 2021 Q3 to 2021 Q3]																							
654	Setup for Pipe Laying inside Jacking Pit X	6 days	Thu 28/10/21	Wed 3/11/21	HK Working Day	653,652	655	100%	Thu 28/10/21	Wed 3/11/21	[Gantt bar from 2021 Q3 to 2021 Q3]																							
655	DN900 MS Pipe Laying inside Jacking Pipe (3 days per 4m)(Only Internal)	19 days	Thu 4/11/21	Thu 25/11/21	HK Working Day	654	656	100%	Thu 4/11/21	Thu 25/11/21	[Gantt bar from 2021 Q3 to 2021 Q3]																							
656	Formwork & Setup for Grouting the gap between pipe and Sleeve	2 days	Sat 12/2/22	Mon 14/2/22	HK Working Day	655	657	100%	Sat 12/2/22	Mon 14/2/22	[Gantt bar from 2022 Q1 to 2022 Q1]																							
657	Grouting Works (30m per day)	9 days	Tue 15/2/22	Thu 24/2/22	HK Working Day	656		100%	Tue 15/2/22	Thu 24/2/22	[Gantt bar from 2022 Q1 to 2022 Q1]																							
658	Open Trench Pipe Laying at Po Lam Road (West Bound)	465 days	Mon 20/7/20	Fri 11/2/22	HK Working Day		767,768	100%	Mon 20/7/20	Fri 11/2/22	[Gantt bar from 2020 Q3 to 2022 Q2]																							
659	Issue CE No. 68 - TIA for TTA at Po Lam Road	0 days	Mon 20/7/20	Mon 20/7/20	HK Working Day		660	100%	Mon 20/7/20	Mon 20/7/20	[Milestone diamond at 2020 Q3]																							
660	Traffic Survey and Revise TIA, revised TTA Drawings, Obtain RA	177 days	Mon 20/7/20	Sat 20/2/21	HK Working Day	659	665	100%	Mon 20/7/20	Sat 20/2/21	[Gantt bar from 2020 Q3 to 2021 Q1]																							
661	Mobilization and Tree Removal	29 days	Tue 21/9/21	Wed 27/10/21	HK Working Day	632	663,664,662	100%	Tue 21/9/21	Wed 27/10/21	[Gantt bar from 2021 Q1 to 2021 Q2]																							
662	Construction of DAV Chamber at Pit X	41 days	Tue 7/12/21	Wed 26/1/22	HK Working Day	661		100%	Tue 7/12/21	Wed 26/1/22	[Gantt bar from 2021 Q4 to 2022 Q1]																							
663	Open Cut, front Pit X, CH.HA6+00 - CH.HA6+54	86 days	Thu 28/10/21	Fri 11/2/22	HK Working Day	661,665,633		100%	Thu 28/10/21	Fri 11/2/22	[Gantt bar from 2021 Q3 to 2022 Q1]																							
664	Construction of DN900 Valve Chamber and By Pass Pipes	17 days	Tue 11/1/22	Sat 29/1/22	HK Working Day	661		100%	Tue 11/1/22	Sat 29/1/22	[Gantt bar from 2022 Q1 to 2022 Q1]																							
665	Open Cut, CH.HA6+54 to CH.HA7+24 (Portion SKR) with SACP	85 days	Mon 22/2/21	Mon 7/6/21	HK Working Day	660	666,663	100%	Mon 22/2/21	Mon 7/6/21	[Gantt bar from 2021 Q1 to 2021 Q2]																							
666	Open Cut, CH.HA7+24 - CH.HA7+61/CH.HB0+00 Excavation in Rock	189 days	Wed 16/6/21	Sat 29/1/22	HK Working Day	665		100%	Wed 16/6/21	Sat 29/1/22	[Gantt bar from 2021 Q2 to 2022 Q1]																							
667	Water Main Structure and Associated Pipe Support across the Natural Stream Course (Location A) (CH.HB0+00 ~ CH.HB0+ CE)	730 days	Tue 5/5/20	Tue 18/10/22	HK Working Day		768	93%	Tue 5/5/20	NA	[Gantt bar from 2020 Q1 to 2022 Q4]																							
668	Design Submission (CE No. 55) for Water Main Structure and Associated Pipe Support across the Natural Stream Course	37 days	Tue 5/5/20	Tue 16/6/20	HK Working Day		669	100%	Tue 5/5/20	Tue 16/6/20	[Gantt bar from 2020 Q1 to 2020 Q1]																							
669	WSD & GEO Review and Approve	121 days	Wed 17/6/20	Thu 15/10/20	Calendar Day	668	672	100%	Wed 17/6/20	Thu 15/10/20	[Gantt bar from 2020 Q1 to 2020 Q2]																							
670	Tendering Process, Tender Award for CE No. 51 (Location A Mini-pile Works)	113 days	Wed 26/8/20	Wed 16/12/20	Calendar Day			100%	Wed 26/8/20	Wed 16/12/20	[Gantt bar from 2020 Q2 to 2020 Q4]																							
671	Issue CE No. 55 - Design of the Water Mains Structure and Associated Pipe Support across the Natural Stream Course for Alternative Alignment in Tsui Lam	0 days	Tue 5/5/20	Tue 5/5/20	Calendar Day			100%	Tue 5/5/20	Tue 5/5/20	[Milestone diamond at 2020 Q1]																							
672	Tender and Subletting (Mini-Pile)	62 days	Fri 16/10/20	Wed 16/12/20	Calendar Day	669		100%	Fri 16/10/20	Wed 16/12/20	[Gantt bar from 2020 Q3 to 2020 Q4]																							
673	Issue CE No. 85 - Affected Trees across the Natural Stream Course at Tsui Lam (Location A)	0 days	Wed 28/10/20	Wed 28/10/20	Calendar Day			100%	Wed 28/10/20	Wed 28/10/20	[Milestone diamond at 2020 Q3]																							

Project: Mainlaying in Tseung Kwan O

ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish	2018																2019				2020				2021				2022				2023				2024				2025												
											Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
674	Tree survey, TPRP Submission and Receiving TPRP approval (HyD)	227 days	Mon 31/8/20	Tue 8/6/21	HK Working Day		676	100%	Mon 31/8/20	Tue 8/6/21																																																					
675	East Portion - Foundation Works (PC-C1, PC-T1 & PC-P1)	283 days	Wed 9/6/21	Tue 24/5/22	HK Working Day			99%	Wed 9/6/21	NA																																																					
676	Mobilization and Tree Removal	24 days	Wed 9/6/21	Thu 8/7/21	HK Working Day	674	677	100%	Wed 9/6/21	Thu 8/7/21																																																					
677	Erect Temporary Timber Platform for Piling Works	7 days	Fri 9/7/21	Fri 16/7/21	HK Working Day	676	678	100%	Fri 9/7/21	Fri 16/7/21																																																					
678	Pre-drilling works (PD6, PD7 & PD8) & confirmation of rock head and depth of mini-pile	25 days	Sat 17/7/21	Sat 14/8/21	HK Working Day	677	679,686	100%	Sat 17/7/21	Sat 14/8/21																																																					
679	Mobilization and Driving Dia. 323mm steel Casting (14 nos)	39 days	Mon 16/8/21	Thu 30/9/21	HK Working Day	678	680	100%	Mon 16/8/21	Thu 30/9/21																																																					
680	Cleaning, Insert T50 reinforcement and Grouting	18 days	Mon 11/10/21	Mon 1/11/21	HK Working Day	679	681,684	100%	Mon 11/10/21	Mon 1/11/21																																																					
681	Setup and Loading Test of Mini-Pile (T-1)	15 days	Tue 1/3/22	Thu 17/3/22	HK Working Day	680	683,682	100%	Tue 1/3/22	Thu 17/3/22																																																					
682	Setup and Loading Test of Mini-Pile (C1-2)	8 days	Fri 18/3/22	Sat 26/3/22	HK Working Day	681		100%	Fri 18/3/22	Sat 26/3/22																																																					
683	Construction Pile Caps (P1) with Pier 1	50 days	Fri 18/3/22	Sat 21/5/22	HK Working Day	681	684	100%	Fri 18/3/22	Sat 21/5/22																																																					
684	Remove Timber platform for Piling Works	2 days	Mon 23/5/22	Tue 24/5/22	HK Working Day	683,680	694	0%	Mon 23/5/22	NA																																																					
685	West Portion - Foundation Works (PC-P2, PC-P3 & PC-C2)	241 days	Tue 5/10/21	Fri 29/7/22	HK Working Day			98%	Tue 5/10/21	NA																																																					
686	Mobilization and Tree Removal	3 days	Tue 5/10/21	Thu 7/10/21	HK Working Day	678	687	100%	Tue 5/10/21	Thu 7/10/21																																																					
687	Erect Temporary Timber Platform for Piling Works	5 days	Thu 28/10/21	Tue 2/11/21	HK Working Day	686	688	100%	Thu 28/10/21	Tue 2/11/21																																																					
688	Pre-drilling works (P WPR, PSKR, PD3, PD4 & PD5) & confirmation of rock head and depth of mini-pile	16 days	Fri 26/11/21	Tue 14/12/21	HK Working Day	687,703,707	689	100%	Fri 26/11/21	Tue 14/12/21																																																					
689	Driving Dia. 323mm steel Casting (26 nos)	58 days	Wed 15/12/21	Sat 26/2/22	HK Working Day	688	690	100%	Wed 15/12/21	Sat 26/2/22																																																					
690	Cleaning, Insert T50 reinforcement and Grouting	50 days	Sat 26/2/22	Fri 29/4/22	HK Working Day	689	692,691	100%	Sat 26/2/22	Fri 29/4/22																																																					
691	Construction Pile Caps with Pier 2	36 days	Mon 21/3/22	Wed 27/7/22	HK Working Day	690	692	95%	Mon 21/3/22	NA																																																					
692	Remove Timber platform for Piling Works	2 days	Thu 28/7/22	Fri 29/7/22	HK Working Day	690,691	694	0%	NA	NA																																																					
693	Pipelaying on Mini-pile Foundation	66 days	Sat 30/7/22	Tue 18/10/22	HK Working Day			0%	NA	NA																																																					
694	Temporary Working Platform for Pipe Installation	6 days	Sat 30/7/22	Fri 5/8/22	HK Working Day	684,692	695	0%	NA	NA																																																					
695	Cut Temporary casting and Bend the T50 to designated position	12 days	Sat 6/8/22	Fri 19/8/22	HK Working Day	694	696	0%	NA	NA																																																					
696	Pipe Installation / Welding / Testing / Painting	24 days	Sat 20/8/22	Sat 17/9/22	HK Working Day	695	697,701	0%	NA	NA																																																					
697	Concrete Hunching	12 days	Mon 19/9/22	Mon 3/10/22	HK Working Day	696	698	0%	NA	NA																																																					
698	Apply top coating of aliphatic polyurethane on site	6 days	Wed 5/10/22	Tue 11/10/22	HK Working Day	697	699	0%	NA	NA																																																					
699	Remove Temporary Working Platform	6 days	Wed 12/10/22	Tue 18/10/22	HK Working Day	698	702	0%	NA	NA																																																					
700	Open Trench Pipe Laying at Po Lam Road (East Bound)	551 days	Thu 8/4/21	Tue 14/2/23	HK Working Day		768	60%	Thu 8/4/21	NA																																																					
701	Open Cut, CH.HC0+00 - CH.HC0+08; Connecting to CH.HB	60 days	Mon 19/9/22	Tue 29/11/22	HK Working Day	696,706	702	0%	NA	NA																																																					
702	Open Cut, CH.HC0+08 - CH.HC0+12	60 days	Wed 30/11/22	Tue 14/2/23	HK Working Day	699,701		0%	NA	NA																																																					
703	Open Cut, CH.HC0+12 - CH.HC0+97 with SACP	104 days	Wed 16/6/21	Tue 19/10/21	HK Working Day		704,688	100%	Wed 16/6/21	Tue 19/10/21																																																					
704	Open Cut, CH.HC0+97 - CH.HC1+56(Portion B4) with SACP	62 days	Wed 24/11/21	Thu 10/2/22	HK Working Day	703,707	705	99%	Wed 24/11/21	NA																																																					
705	Open Cut, CH.HC1+56 - CH.HC2+04	60 days	Fri 11/2/22	Tue 26/4/22	HK Working Day	704	706	0%	NA	NA																																																					
706	Open Cut, CH.HC2+04 - CH.HC2+70 with SACP	60 days	Wed 27/4/22	Sat 9/7/22	HK Working Day	705	701	0%	NA	NA																																																					
707	Open Cut, CH.HC2+70 - CH.HC3+22 with SACP	58 days	Tue 14/9/21	Tue 23/11/21	HK Working Day	708	704,688	100%	Tue 14/9/21	Tue 23/11/21																																																					
708	Open Cut, CH.HC3+22 - CH.HC3+70 /CH.HD0+00	131 days	Thu 8/4/21	Sat 11/9/21	HK Working Day		707	100%	Thu 8/4/21	Sat 11/9/21																																																					
709	Water Main Structure and Associated Pipe Support from Po Lam Road to Tsui Lam Road (Location B)(CH.HD0+00 ~ CH.H WPR+01)	771 days	Tue 16/6/20	Thu 19/1/23	HK Working Day		768	82%	Tue 16/6/20	NA																																																					
710	Issue CE No. 62 - Design of Pipe Support in Tsui Lam (Location B)	0 days	Tue 16/6/20	Tue 16/6/20	Calendar Day		711	100%	Tue 16/6/20	Tue 16/6/20																																																					
711	Design Submission (CE No. 62) for Water Main Structure and Associated at Tsui Lam	356 days	Wed 17/6/20	Fri 27/8/21	HK Working Day	710	712	100%	Wed 17/6/20	Fri 27/8/21																																																					
712	WSD & GEO Approval	0 days	Tue 21/9/21	Tue 21/9/21	Calendar Day	711	716	100%	Tue 21/9/21	Tue 21/9/21																																																					
713	TTA Drawing approval for Tsui Lam Road	0 days	Thu 30/9/21	Thu 30/9/21	HK Working Day		719	100%	Thu 30/9/21	Thu 30/9/21																																																					
714	LCSD's Consent	0 days	Tue 5/10/21	Tue 5/10/21	HK Working Day		715FS+18 days	100%	Tue 5/10/21	Tue 5/10/21																																																					
715	Approval of Excavation Permit for Tsui Lam Road	0 days	Mon 1/11/21	Mon 1/11/21	HK Working Day	714FS+18 days		100%	Mon 1/11/21	Mon 1/11/21																																																					

Project: Mainlaying in Tseung Kwan O

ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish	Gantt Chart															
											Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
716	Tender and sublett Mini-pile works at Location B to current Sub-contractor	73 days	Fri 27/8/21	Mon 22/11/21	HK Working Day	712	721	100%	Fri 27/8/21	Mon 22/11/21																
717	Tree survey, TPRP Submission and Receiving TPRP approval (HyD)	322 days	Fri 21/8/20	Mon 20/9/21	HK Working Day	718	718	100%	Fri 21/8/20	Mon 20/9/21																
718	Mobilization, Tree Removal Works & Site Clearance	69 days	Mon 20/9/21	Sat 11/12/21	HK Working Day	717	719	100%	Mon 20/9/21	Sat 11/12/21																
719	Obtain RA for TTA implement	38 days	Sun 7/11/21	Tue 14/12/21	Calendar Day	713,718	721	100%	Sun 7/11/21	Tue 14/12/21																
720	Mini-pile Foundation Works	258 days	Wed 15/12/21	Mon 31/10/22	HK Working Day			39%	Wed 15/12/21	NA																
721	Erect Temporary Timber Platform for Piling Works	25 days	Wed 15/12/21	Sat 15/1/22	HK Working Day	719,716	722	100%	Wed 15/12/21	Sat 15/1/22																
722	Pre-drilling works & confirmation of rock head and depth of mini-pile	36 days	Wed 26/1/22	Fri 11/3/22	HK Working Day	721	723	100%	Wed 26/1/22	Fri 11/3/22																
723	Mobilization and Driving Dia. 273mm steel Casting (18 nos)	51 days	Sat 26/3/22	Tue 31/5/22	HK Working Day	722	724	61%	Sat 26/3/22	NA																
724	Cleaning, Insert T50 reinforcement and Grouting	18 days	Wed 1/6/22	Wed 22/6/22	HK Working Day	723	725	0%	NA	NA																
725	Setup and Loading Test of Mini-Pile	36 days	Thu 23/6/22	Thu 4/8/22	HK Working Day	724	726	0%	NA	NA																
726	Construction Pile Caps (PC-C, PC-P1, PC-P2, PC-P3 & PC-T) and Piers (P1, P2 & P3)	72 days	Fri 5/8/22	Mon 31/10/22	HK Working Day	725	728	0%	NA	NA																
727	Pipelaying on Mini-pile Foundation	66 days	Tue 1/11/22	Thu 19/1/23	HK Working Day			0%	NA	NA																
728	Temporary Working Platform for Pipe Installation	6 days	Tue 1/11/22	Mon 7/11/22	HK Working Day	726	729	0%	NA	NA																
729	Cut Temporary casting and Bend the T50 to designated position	12 days	Tue 8/11/22	Mon 21/11/22	HK Working Day	728	730	0%	NA	NA																
730	Pipe Installation / Welding / Testing / Painting (~115m)	24 days	Tue 22/11/22	Mon 19/12/22	HK Working Day	737,729	731	0%	NA	NA																
731	Concrete Hunching	12 days	Tue 20/12/22	Thu 5/1/23	HK Working Day	730	732	0%	NA	NA																
732	Apply top coating of aliphatic polyurethane on site	6 days	Fri 6/1/23	Thu 12/1/23	HK Working Day	731	733	0%	NA	NA																
733	Remove Temporary Working Platform	6 days	Fri 13/1/23	Thu 19/1/23	HK Working Day	732	740	0%	NA	NA																
734	From Tsui Lam Road to TKO Freshwater PSR (CH.HE.0+00 ~ CH.HE2+11) & (CH.HF0+00 CH.HF3+11)	1649 days	Tue 7/11/17	Mon 5/6/23	HK Working Day		768	81%	Tue 7/11/17	NA																
735	Batch No 3 - Temporary Works Design and Preliminary Works	30 days	Fri 19/2/21	Thu 25/3/21	HK Working Day	589		100%	Fri 19/2/21	Thu 25/3/21																
736	TTA preparation, SLG meetings, obtain RA	150 days	Mon 3/8/20	Wed 30/12/20	Calendar Day	585		100%	Mon 3/8/20	Wed 30/12/20																
737	Material procurement (DN800 MS PIPE) (360m)	255 days	Fri 19/2/21	Sun 31/10/21	Calendar Day	589	730,751,755,753	100%	Fri 19/2/21	Sun 31/10/21																
738	Material procurement (Butterfly Valves)	244 days	Mon 30/8/21	Sat 30/4/22	Calendar Day			100%	Mon 30/8/21	Sat 30/4/22																
739	Water Mains CH.HE0+00 - CH.HE0+27)	108 days	Fri 20/1/23	Mon 5/6/23	HK Working Day			0%	NA	NA																
740	Open Cut across Tsui Lam Road (CH.HE0+00 to 0+06)	48 days	Fri 20/1/23	Mon 20/3/23	HK Working Day	733	741	0%	NA	NA																
741	Open Cut across Tsui Lam Road (CH.HE0+06 to 0+20)	60 days	Tue 21/3/23	Mon 5/6/23	HK Working Day	740		0%	NA	NA																
742	Water Mains CH.HE0+27 - CH.HE2+11	414 days	Mon 1/3/21	Mon 25/7/22	HK Working Day		769	75%	Mon 1/3/21	NA																
743	Issue CE No. 114 - Non-explosive agent near TKO Freshwater Preliminary Service Reservoir	0 days	Fri 14/5/21	Fri 14/5/21	HK Working Day			100%	Fri 14/5/21	Fri 14/5/21																
744	Receiving of Drawing No. SK40134/525 for Proposed Alternative Alignment at TKOFWSR	0 days	Fri 20/8/21	Fri 20/8/21	HK Working Day			100%	Fri 20/8/21	Fri 20/8/21																
745	Open Cut, CH.HE0+20 -CH.HE0+27 (Excavation in Rock)	59 days	Mon 25/10/21	Tue 4/1/22	HK Working Day			100%	Mon 25/10/21	Tue 4/1/22																
746	Open Cut, CH.HE0+27 -CH.HE1+98(Excavation in Rock)	254 days	Mon 1/3/21	Thu 6/1/22	HK Working Day			100%	Mon 1/3/21	Thu 6/1/22																
747	Construction of Combined EMF and MBV Chamber at CH.HE1+90	128 days	Mon 16/8/21	Tue 18/1/22	HK Working Day		748	100%	Mon 16/8/21	Tue 18/1/22																
748	Open Cut CH.1+98 & connecting to the existing DN800 F.W. Main at CH.HE2+11	60 days	Wed 19/1/22	Fri 1/4/22	HK Working Day	747	749	0%	NA	NA																
749	Construction of flowmeter kiosks and GI cable ducts for Combined EMF and MBV Chamber at CH.HE1+90	90 days	Sat 2/4/22	Mon 25/7/22	HK Working Day	748		0%	NA	NA																
750	Water Mains CH.HF0+00 - CH.HF3+10 (Inlet A)	1343 days	Tue 7/11/17	Tue 24/5/22	HK Working Day		770	82%	Tue 7/11/17	NA																
751	Open Cut CH.HF0+00 - CH.HF0+19	67 days	Sat 20/11/21	Sat 12/2/22	HK Working Day	737		100%	Sat 20/11/21	Sat 12/2/22																
752	Open Cut CH.HF0+19 - CH.HF1+30	114 days	Fri 31/12/21	Tue 24/5/22	HK Working Day			100%	Fri 31/12/21	Tue 24/5/22																
753	Construction of Combined EMF and MBV Chamber at CH.HF1+30	90 days	Sat 22/1/22	Tue 17/5/22	HK Working Day	737		100%	Sat 22/1/22	Tue 17/5/22																
754	Open Cut CH.HF1+30 - CH.HF1+36	31 days	Sat 22/1/22	Wed 2/3/22	HK Working Day			100%	Sat 22/1/22	Wed 2/3/22																
755	Exposed Pipe CH.HF1+36 - CH.HF2+85	53 days	Thu 25/11/21	Fri 28/1/22	HK Working Day	737	757	100%	Thu 25/11/21	Fri 28/1/22																
756	Exposed Pipe to the side wall of TKOFWSR	41 days	Thu 24/2/22	Wed 13/4/22	HK Working Day	757		100%	Thu 24/2/22	Wed 13/4/22																
757	Form Opening and Cast-in short pipe at TKOFWSR	9 days	Mon 14/2/22	Wed 23/2/22	HK Working Day	755	756	100%	Mon 14/2/22	Wed 23/2/22																



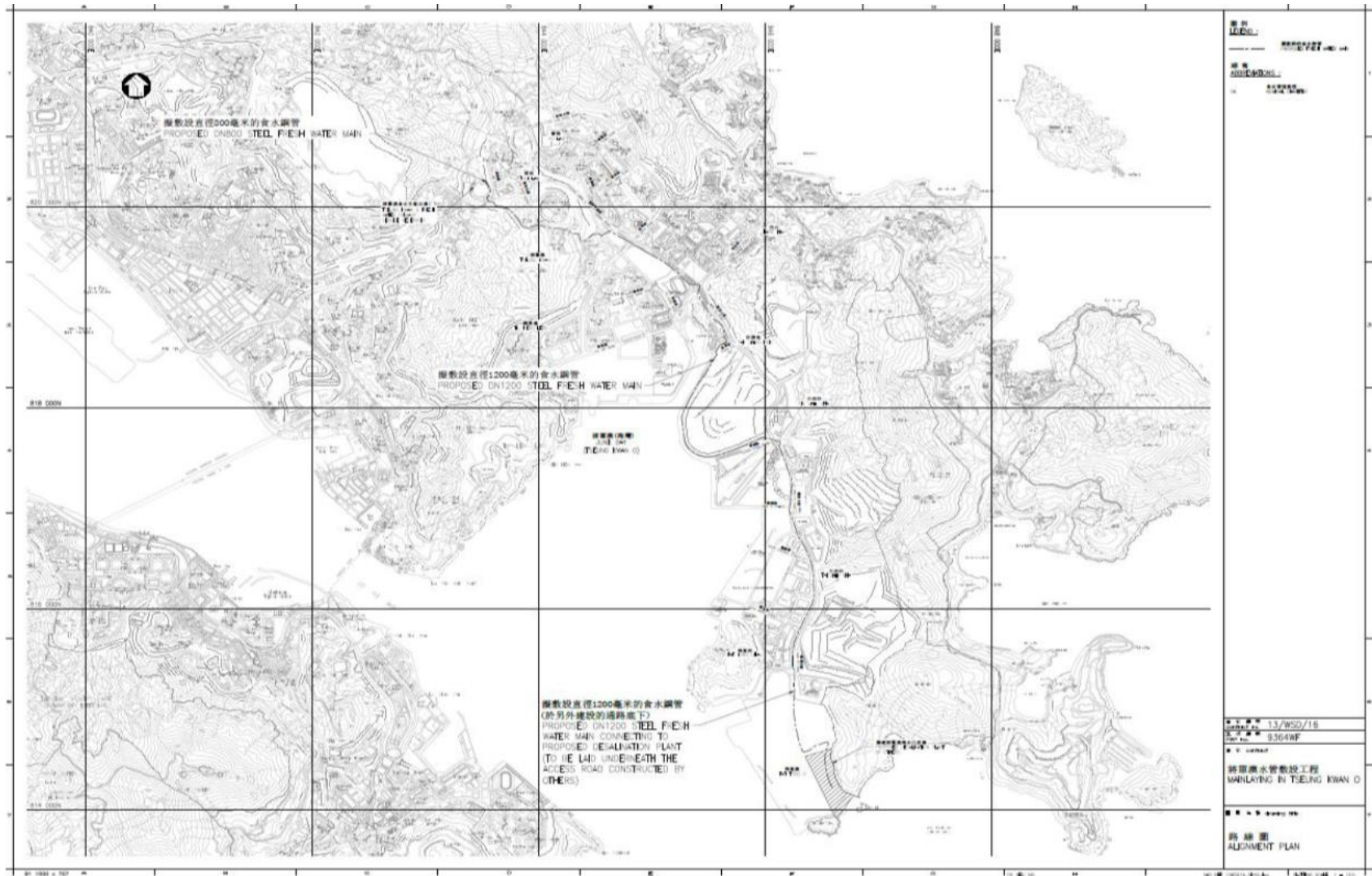
ID	Task Name	Duration	Start	Finish	Task Calendar	Predecessors	Successors	% Complete	Actual Start	Actual Finish	Gantt Chart																							
											2018	2019	2020	2021	2022	2023	2024	2025	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
758	Construction of flowmeter kiosks and GI cable ducts for Combined EMF and MBV Chamber at CH.HF1+30	90 days	Tue 7/11/17	Mon 26/2/18	HK Working Day			0%	NA	NA	[Gantt bar from Q1 2018 to Q1 2018]																							
759	DN800 - CH.ADN1200 MS Pipe Static Pressure Test, Pipeline Cleaning, CCTV Inspection, Sterilization and Water Sampling	1232 days	Wed 24/3/21	Tue 6/8/24	Calendar Day			13%	Wed 24/3/21	NA	[Gantt bar from Q1 2021 to Q4 2024]																							
760	Static Pressure Test	1112 days	Wed 24/3/21	Mon 8/4/24	Calendar Day			18%	Wed 24/3/21	NA	[Gantt bar from Q1 2021 to Q4 2024]																							
761	DN1200 MS Pipe - Static Pressure Test From DN900 Valve Chamber at CH.CA4+24 to CH.CT.2+65 (Approx. 0.7km)	49 days	Wed 24/3/21	Tue 11/5/21	Calendar Day	105	772	100%	Wed 24/3/21	Tue 11/5/21	[Gantt bar from Q1 2021 to Q1 2021]																							
762	DN1200 MS Pipe - Static Pressure Test From DN900 Valve Chamber at CH.CA4+24 to DN900 Valve Chamber at Wan Po Road (CH.A12+50) (Approx. 1.7km)	51 days	Fri 29/9/23	Sat 18/11/23	Calendar Day	121,167,184,213,224	773	0%	NA	NA	[Gantt bar from Q3 2023 to Q4 2023]																							
763	DN1200 MS Pipe - Static Pressure Test From DN900 Valve Chamber at Wan Po Road (CH.A12+50) to DN900 Valve Chamber at TKO Landfill Stage I Area A (CH.FB1+66) (Approx. 1.4km)	42 days	Tue 27/2/24	Mon 8/4/24	Calendar Day	224,251,306	774	0%	NA	NA	[Gantt bar from Q1 2024 to Q2 2024]																							
764	DN1200 MS Pipe - Static Pressure Test From DN900 Valve Chamber at TKO Landfill Stage I Area A (CH.FB1+66) to DN900 Valve Chamber at CH.FD3+43 (approx. 2.1km)	63 days	Tue 12/9/23	Mon 13/11/23	Calendar Day	372,434	775	0%	NA	NA	[Gantt bar from Q3 2023 to Q4 2023]																							
765	DN1200 MS Pipe - Static Pressure Test From DN900 Valve Chamber at CH.FD 3+43 to DN900 Valve Chamber at Mau Wu Tsai (CH.HA0+44) (approx. 1.4km)	42 days	Tue 12/9/23	Mon 23/10/23	Calendar Day	436,479,517,594,434	776	0%	NA	NA	[Gantt bar from Q3 2023 to Q4 2023]																							
766	DN1200 MS Pipe - Static Pressure Test From Pit Y (CH>GSKR.20 to CH.HA3+70)	11 days	Tue 19/4/22	Fri 29/4/22	Calendar Day			100%	Tue 19/4/22	Fri 29/4/22	[Gantt bar from Q2 2022 to Q2 2022]																							
767	DN1200 MS Pipe - Static Pressure Test From DN900 Valve Chamber at Mau Wu Tsai (CH.HA0+44) to DN900 Valve at Mau Wu Tsai (CH.HA6+45) (approx. 0.7km)	30 days	Fri 1/4/22	Sat 30/4/22	Calendar Day	628,623,658	777	0%	NA	NA	[Gantt bar from Q1 2022 to Q2 2022]																							
768	DN1200 MS Pipe - Static Pressure Test From DN900 Valve at Mau Wu Tsai (CH.HA6+45) to DN800 EMF & BV Chamber at TKO F.W.S.R.(CH.HE1+90) & (CH.HF1+30) (Approx. 1.1km)	33 days	Tue 6/6/23	Sat 8/7/23	Calendar Day	658,667,700,709,734	778	0%	NA	NA	[Gantt bar from Q2 2023 to Q3 2023]																							
769	DN800 MS Pipe - Static Pressure Test From DN800 EMF & BV Chamber at TKO F.W.S.R.(CH.HE1+90) to CH.HE2+11 (approx. 20m)	6 days	Tue 26/7/22	Sun 31/7/22	Calendar Day	742	779	0%	NA	NA	[Gantt bar from Q3 2022 to Q3 2022]																							
770	DN800 MS Pipe - Static Pressure Test From DN800 EMF & BV Chamber at TKO F.W.S.R.(CH.HF1+30) to CH.HF3+10 (Approx. 80m)	6 days	Wed 25/5/22	Mon 30/5/22	Calendar Day	750	780	0%	NA	NA	[Gantt bar from Q2 2022 to Q3 2022]																							
771	Pipeline Cleaning and CCTV Inspection	1153 days	Wed 12/5/21	Sun 7/7/24	Calendar Day			10%	Wed 12/5/21	NA	[Gantt bar from Q1 2021 to Q4 2024]																							
772	DN1200 MS Pipe - Pipeline Cleaning and CCTV Inspection From DN900 Valve Chamber at CH.CA4+24 to CH.CT.2+65	60 days	Wed 12/5/21	Sat 10/7/21	Calendar Day	761	782	100%	Wed 12/5/21	Sat 10/7/21	[Gantt bar from Q1 2021 to Q1 2021]																							
773	DN1200 MS Pipe - Pipeline Cleaning and CCTV Inspection From DN900 Valve Chamber at CH.CA4+24 to DN900 Valve Chamber at Wan Po Road (CH.A12+50)	90 days	Sun 19/11/23	Fri 16/2/24	Calendar Day	762	782	0%	NA	NA	[Gantt bar from Q4 2023 to Q1 2024]																							
774	DN1200 MS Pipe - Pipeline Cleaning and CCTV Inspection From DN900 Valve Chamber at Wan Po Road (CH.A12+50) to DN900 Valve Chamber at TKO Landfill Stage I Area A	90 days	Tue 9/4/24	Sun 7/7/24	Calendar Day	763	782	0%	NA	NA	[Gantt bar from Q1 2024 to Q2 2024]																							
775	DN1200 MS Pipe - Pipeline Cleaning and CCTV Inspection From DN900 Valve Chamber at TKO Landfill Stage I Area A (CH.FB1+66) to DN900 Valve Chamber at CH.FD3+43	90 days	Tue 14/11/23	Sun 11/2/24	Calendar Day	764	782	0%	NA	NA	[Gantt bar from Q4 2023 to Q1 2024]																							
776	DN1200 MS Pipe - Pipeline Cleaning and CCTV From DN900 Valve Chamber at CH.FD 3+43 to DN900 Valve Chamber at Mau Wu Tsai (CH.HA0+44)	90 days	Tue 24/10/23	Sun 21/1/24	Calendar Day	765	782	0%	NA	NA	[Gantt bar from Q4 2023 to Q1 2024]																							
777	DN1200 MS Pipe - Pipeline Cleaning and CCTV Inspection From From DN900 Valve Chamber at Mau Wu Tsai (CH.HA0+44) to DN900 Valve at Mau Wu Tsai (CH.HA6+45)	60 days	Sun 1/5/22	Wed 29/6/22	Calendar Day	767	782	0%	NA	NA	[Gantt bar from Q1 2022 to Q2 2022]																							
778	DN1200 MS Pipe - Pipeline Cleaning and CCTV Inspection From DN900 Valve at Mau Wu Tsai (CH.HA6+45) to DN800 EMF & BV Chamber at TKO F.W.S.R.(CH.HE1+90) & DN800 MS Pipe - Pipeline Cleaning and CCTV Inspection From DN800 EMF & BV Chamber at TKO F.W.S.R.(CH.HE1+90) to CH.HE2+11	60 days	Sun 9/7/23	Wed 6/9/23	Calendar Day	768	782	0%	NA	NA	[Gantt bar from Q2 2023 to Q3 2023]																							
779	DN800 MS Pipe - Pipeline Cleaning and CCTV Inspection From DN800 EMF & BV Chamber at TKO F.W.S.R.(CH.HE1+90) to CH.HE2+11	18 days	Mon 1/8/22	Thu 18/8/22	Calendar Day	769	782	0%	NA	NA	[Gantt bar from Q1 2022 to Q2 2022]																							
780	DN800 MS Pipe - Pipeline Cleaning and CCTV Inspection From DN800 EMF & BV Chamber at TKO F.W.S.R.(CH.HF1+30) to CH.HF3+10	18 days	Tue 31/5/22	Fri 17/6/22	Calendar Day	770	782	0%	NA	NA	[Gantt bar from Q2 2022 to Q3 2022]																							
781	Sterilization and Water Sampling	30 days	Mon 8/7/24	Tue 6/8/24	Calendar Day			0%	NA	NA	[Gantt bar from Q1 2024 to Q2 2024]																							
782	DN1200 MS Pipe - Portion I & Portion H (Total Water = 9700 cu.m)	30 days	Mon 8/7/24	Tue 6/8/24	Calendar Day	772,773,774,775,777,778,778		0%	NA	NA	[Gantt bar from Q1 2024 to Q2 2024]																							
783	NS250 HDPE Pipe Static Pressure, Pipeline Cleaning, CCTV Inspection, Sterilization and Water Sampling	60 days	Fri 23/12/22	Mon 20/2/23	Calendar Day			0%	NA	NA	[Gantt bar from Q4 2022 to Q1 2023]																							
784	NS250 HDPE Pipe - Static Pressure Test - Portion H (Area 137)	30 days	Fri 23/12/22	Sat 21/1/23	Calendar Day	121	785	0%	NA	NA	[Gantt bar from Q4 2022 to Q1 2023]																							
785	NS250 HDPE Pipe - Pipeline Cleaning and CCTV Inspection, Sterilization and Water Sampling - Portion H (Area 137)	30 days	Sun 22/1/23	Mon 20/2/23	Calendar Day	784	788	0%	NA	NA	[Gantt bar from Q1 2023 to Q2 2023]																							
786	Handover Portion I and Portion H to WSD Region	563 days	Tue 21/2/23	Thu 5/9/24	Calendar Day			0%	NA	NA	[Gantt bar from Q1 2023 to Q4 2024]																							
787	DN1200 MS Pipe - Portion I & Portion H (Area 137)	30 days	Wed 7/8/24	Thu 5/9/24	Calendar Day	782		0%	NA	NA	[Gantt bar from Q1 2024 to Q2 2024]																							
788	NS250 HDPE Pipe - Portion H (Area 137)	7 days	Tue 21/2/23	Mon 27/2/23	Calendar Day	785	164	0%	NA	NA	[Gantt bar from Q1 2023 to Q1 2023]																							
789	Water Supply to Tseung Kwan O Desalination Plant at Fill Bank of Tseung Kwan O Area 137 (Portion J)	445 days	Tue 7/11/17	Sat 11/5/19	HK Working Day			99%	Tue 7/11/17	NA	[Gantt bar from Q1 2018 to Q2 2019]																							
790	Issue of CE No. 02	0 days	Fri 16/11/18	Fri 16/11/18	HK Working Day		791	100%	Fri 16/11/18	Fri 16/11/18	[Gantt bar from Q4 2018 to Q4 2018]																							
791	Procurement of Major Material	48 days	Sat 17/11/18	Thu 3/1/19	Calendar Day	790	792	100%	Sat 17/11/18	Thu 3/1/19	[Gantt bar from Q4 2018 to Q1 2019]																							
792	Installation of NS250 HDPE Pipe from A to B in accordance with the Drawing No. 13/WSD/16/SK13 to SK15 and W20203/4A	89 days	Fri 4/1/19	Thu 25/4/19	HK Working Day	791	793	100%	Fri 4/1/19	Thu 25/4/19	[Gantt bar from Q1 2019 to Q2 2019]																							
793	Sterilization and Flushing NS250 HDPE Pipe (From T0+00 to T23+64)	4 days	Wed 24/4/19	Sun 28/4/19	HK Working Day	792	794	100%	Wed 24/4/19	Sun 28/4/19	[Gantt bar from Q2 2019 to Q2 2019]																							
794	Take Water Sampling	1 day	Mon 29/4/19	Mon 29/4/19	HK Working Day	793	795	100%	Mon 29/4/19	Mon 29/4/19	[Gantt bar from Q2 2019 to Q2 2019]																							
795	Backfill at T23+64 after completion of Water Sampling Test	1 day	Sat 11/5/19	Sat 11/5/19	HK Working Day	794	796FF	100%	Sat 11/5/19	Sat 11/5/19	[Gantt bar from Q2 2019 to Q2 2019]																							
796	Handover Portion J to WSD Region	0 days	Sat 11/5/19	Sat 11/5/19	HK Working Day	795FF		100%	Sat 11/5/19	Sat 11/5/19	[Gantt bar from Q2 2019 to Q2 2019]																							
797		1 day	Tue 7/11/17	Tue 7/11/17	None			0%	NA	NA	[Gantt bar from Q1 2018 to Q1 2018]																							

Working Programme No. 15
Data Date : 24 May 2022

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

Appendix B

Overview of Mainlaying in Tseung Kwan O



Overview of Mainlaying in Tseung Kwan O

Appendix C

Summary of Implementation Status of Environmental Mitigation Measures (EMIS)

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Air Quality								
S4.8.1	Impervious dust screen or sheeting will be provided to enclose scaffolding from the ground floor level of building for construction of superstructure of the new buildings.	Land site/ During Construction	Contractor(s)		✓		N/A	Air Pollution Control (Construction Dust)
S4.8.1	Impervious sheet will be provided for skip hoist for material transport.	Land site/ During Construction, particularly dry season	Contractor(s)		✓		N/A	-
S4.8.1	The area where dusty work takes place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after dusty activities as far as practicable.	Land site/ During Construction	Contractor(s)		✓		Implemented	-
S4.8.1	All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation.	Land site/ During Construction	Contractor(s)		✓		Implemented	-
S4.8.1	Dropping heights for excavated materials should be controlled to a practical height to minimize the fugitive dust arising from unloading.	Land site/ During Construction	Contractor(s)		✓		Implemented	-
S4.8.1	During transportation by truck, materials should not be loaded to a level higher than the side and tail boards, and should be dampened or covered before transport.	Land site/ During Construction	Contractor(s)		✓		Implemented	-
S4.8.1	Wheel washing device should be provided at the exits of the work sites. Immediately before leaving a construction site, every vehicle shall be washed to remove any dusty material from its body and wheels as far as practicable.	Land site/ During Construction	Contractor(s)		✓		Implemented	-
S4.8.1	Road sections between vehicle-wash areas and vehicular entrance will be paved.	Land site/ During Construction	Contractor(s)		✓		N/A	-
S4.8.1	Hoarding of not less than 2.4m high from ground level will be provided along the length of the Project Site boundary.	Land site/ During construction	Contractor(s)	✓	✓		Implemented	-
S4.8.1	Haul roads will be kept clear of dusty materials and will be sprayed with water so as to maintain the entire road surface wet at all times.	Land site/ During construction	Contractor(s)		✓		Implemented	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S4.8.1	Temporary stockpiles of dusty materials will be either covered entirely by impervious sheets or sprayed with water to maintain the entire surface wet all the time.	Land site/ During construction	Contractor(s)		✓		Implemented after observation	-
S4.8.1	Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials will be covered entirely by impervious sheeting sheltered on top and 3-sides.	Land site/ During construction	Contractor(s)		✓		Implemented after observation	-
S4.8.1	All exposed areas will be kept wet always to minimize dust emission.	Land site/ During construction	Contractor(s)		✓		Implemented	-
S4.8.1	Ultra-low-sulphur diesel (ULSD) will be used for all construction plant on-site, as defined as diesel fuel containing not more than 0.005% sulphur by weight) as stipulated in Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites.	Land site/ During construction/ During Operation	Contractor(s)		✓	✓	Implemented	Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites
S4.8.1	The engine of the construction equipment during idling will be switched off.	Land site/ During construction	Contractor(s)		✓		Implemented	-
S4.8.1	Concrete batching plant will be required on site. control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented. The control measures recommended in the Guidance Note on a Best Practicable Means for Cement Works (Concrete Batching Plant) (BPM 3/2 (93)) will be implemented.	Land site/ During construction	Contractor(s)		✓		N/A	Guidance Note on a Best
S4.8.1	Regular maintenance of construction equipment deployed on-site will be conducted to prevent black smoke emission.	Land site/ During construction	Contractor(s)		✓		Implemented	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S4.10	To ensure proper implementation of the recommended dust mitigation measures and good construction site practices during the construction phase, environmental site audits on weekly basis is recommended throughout the construction period.	Land site/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Noise								
S5.7	Only well-maintained plant will be operated on-site, and plant will be serviced regularly during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Silencers or mufflers on construction equipment will be utilised and will be properly maintained during the construction phase.	Noise control/ During construction	Contractor(s)		✓		N/A	
S5.7	Mobile plant, if any, will be sited as far away from NSRs as possible.	Noise control/ During construction	Contractor(s)		✓		Implemented	
S5.7	Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or will be throttled down to a minimum.	Noise control/ During construction	Contractor(s)		✓		Implemented	
S5.7	Plants known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.	Noise control/ During construction	Contractor(s)		✓		Implemented	
S5.7	Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from on-site construction activities.	Noise control/ During construction	Contractor(s)		✓		N/A	
S5.7	Use of Quite Powered Mechanical Equipment (QPME).	Noise control/ During construction	Contractor(s)		✓		Implemented	
S5.7	Movable noise barriers of 3m in height 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. The length of the barrier should be at least five times greater than its height. The noise barrier material should have a superficial surface density of at least 7 kg m ⁻² and have no openings or gaps.	Noise control/ During construction	Contractor(s)		✓		N/A	
S5.7	The noise insulating sheet should be deployed such that there would be no opening or gaps on the joints.	Noise control/ During construction	Contractor(s)		✓		N/A	
S5.7	Construction activities (e.g., excavation/shoring, reinstatement (asphalt), and pipe jacking) will be planned and carried out in sequence, such that items of PME proposed for these activities will not be operated simultaneously.	Noise control/ During construction	Contractor(s)		✓		Implemented	

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S5.7	PMEs will not be used at the works areas near educational institutions with residual impact (i.e. the "influence area" within a radius of 40m) during school hours in order to reduce impact to the educational institutions.	Noise control / During construction	Contractor(s)		✓		Implemented	-
S5.7	Noise enclosures or acoustic sheds would be used to cover stationary PME such as generators. Portable/Movable noise enclosure made of material with superficial surface density of at least 7 kg m ⁻² may be used for screening the noise from operation of the saw/groover, concrete.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		N/A	-
S5.9	Sawcutting pavement, breaking up of pavement, excavation /shoring, pipe laying, backfilling, reinstatement (concrete) and pipe jacking shall be scheduled outside the examination period.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		Implemented	-
S5.9	In view the duration of noise exceedance at Creative Secondary School, PLK Laws Foundation College, TKO Kei Tak Primary School and School of Continuing and Professional Studies-CUHK is limited to 8 weeks, the construction work in the influence areas near the four schools shall be scheduled during long school holidays (e.g. summer holiday, Easter holiday or Christmas holiday, etc.) as far as practicable. Scheduling the construction work for the four schools.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		Implemented	-
S5.10	A noise monitoring programme shall be implemented for the construction phase.	Designated monitoring stations as defined in EM&A Manual/ During construction phase	ET		✓		Implemented	-
S5.10	The effectiveness of on-site control measures could also be evaluated through the regular site audits.	All facilities/ During construction	Contractor(s)/ ET & IEC		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
Water Quality								
S6.9	Silt removal facilities such as silt traps or sedimentation facilities will be provided to remove silt particles from runoff to meet the requirements of the TM standard under the WPCO. The design of silt removal facilities will be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures will be inspected on a regular basis and maintained to confirm proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit will be removed regularly.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented after observation	ProPECC PN 1/94 TM Standard under the WPCO
S6.9	Earthworks to form the final surfaces will be followed up with surface protection and drainage works to prevent erosion caused by rainstorms.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	Appropriate surface drainage will be designed and provided where necessary.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9	The precautions to be taken at any time of year when rainstorms are likely together with the actions to be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	ProPECC PN 1/94
S6.9	Oil interceptors will be provided in the drainage system where necessary and regularly emptied to prevent the release of oil and grease into the storm water drainage system after accidental spillages.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-
S6.9	Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge, if any, will be adequately designed for the controlled release of storm flows.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-
S6.9	The temporary diverted drainage, if any, will be reinstated to the original condition when the construction work has finished or when the temporary diversion is no longer required.	Land site & drainage/ During construction	Contractor(s)		✓		N/A	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation status	Relevant Legislation & Guidelines
				D	C	O		
S6.9	Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment.	Land site & drainage/ During construction	Contractor(s)		✓		Implemented	-
S6.9 and S6.12	The sterilization water should be dechlorinated with total residual chlorine (TRC) level below 1 mg/L before discharge to public sewer. In situ testing of TRC should also be conducted for the discharge of chlorinated water for pipeline disinfection to ensure sufficient dechlorination before discharge to public sewer.	Sterilization of water mains prior to commissioning	Contractor(s)		✓	✓	N/A	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters
S6.9	The cleaning and flushing water should also be treated and desilted to the relevant discharge requirement stipulated in TM-DSS before discharging.	Sterilization of water mains prior to commissioning	Contractor(s)		✓	✓	N/A	
S6.9	Site drainage should be well maintained, and good construction practices should be observed to ensure that oil, fuels, solvents and other chemicals are managed, stored and handled properly and do not enter the nearby water streams.	Land site & drainage/ During construction/ During operation	Contractor(s)		✓	✓	Implemented after observation	-
S6.12	Regular site inspections will be carried out in order to confirm that regulatory requirements are being met and that contractors are implementing the standard site practice and mitigation measures as proposed to reduce potential impacts to water quality.	During construction	Contractor(s)/ ET & IEC		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
Waste Management								
S8.5	Nomination of approved personnel to be responsible for standard site practices, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site.	Contract mobilization/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Training of site personnel in proper waste management and chemical handling procedures. Training will be provided to workers on the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling at the beginning of the construction works.	Contract mobilization/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Provision of sufficient waste disposal points and regular collection for disposal.	All area/ During construction/ During operation	Contractor(s)		✓	✓	Implemented	DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	Appropriate measures to reduce windblown litter and dust transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	All area/ During construction	Contractor(s)		✓		Implemented	
S8.5	A waste management plan (WMP) as stated in the "ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites" for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established and implemented during the construction phase as part of the Environmental Management Plan (EMP). The Contractor will be required to prepare the EMP and submits it to the Architect/ Engineer under the Contract for approval prior to implementation.	All area/ During construction	Contractor(s)		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites
S8.5	Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre at Tsing Yi.	All area/ During construction	Contractor(s)		✓		N/A.	Chapters 2 & 3 Code of Practice on the Packaging, Labelling & Storage of Chemical Wastes published under the Waste Disposal Ordinance (Cap 354), Section 35
S8.5	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	Land site/ During construction	Contractor(s)		✓		Implemented	Waste Disposal Ordinance (Cap 354)

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S8.5	A recording system for the amount of wastes generated/ recycled and disposal sites. The trip-ticket system will be included as one of the contractual requirements and implemented by the contractor(s).	Land site/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal.	Land site/ During construction/ During operation	Contractor(s)		✓		Implemented	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Encourage collection of aluminium cans and wastepaper by individual collectors during construction with separate labelled bins provided to segregate these wastes from other general refuse by the workforce.	Land site/ During construction	Contractor(s)		✓		Implemented	ETWB TCW No. 33/2002, Management of Construction and Demolition Material Including Rock
S8.5	Any unused chemicals and those with remaining functional capacity will be recycled as far as possible.	Land site/ During construction	Contractor(s)		✓		N/A	-
S8.5	Use of reusable non-timber formwork to reduce the amount of C&D materials.	All areas/ During construction	Contractor(s)		✓		N/A	WBTC 32/92, The Use of Tropical Hard Wood on Construction Site
S8.5	Prior to disposal of construction waste, wood, steel and other metals will be separated to the extent practical, for re-use and/or recycling to reduce the quantity of waste to be disposed of to landfill.	All areas/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	Proper storage and site practices to reduce the potential for damage or contamination of construction materials.	All areas/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Plan and stock construction materials carefully to reduce amount of waste generated and avoid unnecessary generation of waste.	All areas/ During construction	Contractor(s)		✓		Implemented	-
S8.5	The management of dredged/ excavated sediment management requirement from <i>ETWB TC(W) No. 34/2002</i> will be incorporated in the Specification of the Contract Documents.	Marine works/ During construction	WSD/ Contractor(s)		✓		Implemented	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The contractor will open a billing account with EPD in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation for the payment of disposal charges.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	Cap 354N Waste Disposal (Charges for Disposal of Construction Waste) Regulation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S8.5	A trip-ticket system will be established in accordance with DEVB TC(W) No. 6/2010 to monitor the reuse of surplus excavated materials off-site and disposal of construction waste and general refuse at transfer facilities/ landfills, and to control fly-tipping.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials
S8.5	The project proponent will also conduct regular inspection of the waste management measures implemented on site as described in the Waste Management Plan.	All area/ During construction	Contractor(s)/ ET & IEC		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites
S8.5	A recording system (similar to summary table as shown in Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005) for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005
S8.5	Inert C&D materials (public fill) will be reused within the Project as far as practicable.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Public fill and construction waste shall be segregated and stored in different containers or skips to facilitate reuse or recycling of materials and their proper disposal.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Specific areas of the work site will be designated for such segregation and storage if immediate use is not practicable.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	To reduce the potential dust and water quality impacts of site formation works, C&D materials will be wetted as quickly as possible to the extent practice after filling.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control (Construction Dust) Regulation (Cap 311R); WPCO (Cap 358)
S8.5	Open stockpiles of excavated/ fill materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	Land site/ During Construction, particularly dry season	Contractor(s)		✓		Implemented	Air Pollution Control (Construction Dust) Regulation (Cap 311R)
S8.5	Chemical waste container shall be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented after observation	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines	
				D	C	O			
S8.5	Chemical waste container shall have a capacity of less than 450 L unless the specifications have been approved by the EPD.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented after observation	Wastes	
S8.5	A label in English and Chinese shall be displayed on the chemical container in accordance with instructions prescribed in Schedule 2 of the Regulations.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented		
S8.5	Storage areas for chemical waste shall be enclosed on at least 3 sides.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented		
S8.5	Storage areas for chemical waste shall have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	All area/ During construction/ During operation	Contractor(s) / WSD		✓	✓	Implemented		
S8.5	Storage areas for chemical waste shall have adequate ventilation.	All area/ During construction/ During operation	Contractor(s) / WSD		✓	✓	Implemented		
S8.5	Storage areas for chemical waste shall be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary).	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented		
S8.5	Storage areas for chemical waste shall be arranged so that incompatible materials are appropriately separated.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented		
S8.5	General refuse will be stored in enclosed bins or compaction units separately from construction and chemical wastes.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented after reminder		
S8.5	Adequate number of waste containers will be provided to avoid over-spillage of waste.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented		DEVB TC(W) No. 8/2010 Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	A reputable waste collector will be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented		-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S8.5	Recycling bins will be provided at strategic locations within the Site to facilitate recovery of recyclable materials (including aluminum can, wastepaper, glass bottles and plastic bottles) from the Site. Materials recovered will be sold for recycling.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	-
S8.5	To avoid any odour and litter impact, accurate number of portable toilets will be provided for workers on-site.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	The burning of refuse on construction sites is prohibited by law.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control Ordinance (Cap 311)
S8.7	To facilitate monitoring and control over the contractors' performance on waste management, a waste inspection and audit programme will be implemented throughout the construction phase.	All facilities/ During construction	ET/ IEC		✓		Implemented	-

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
Ecology								
S9.7	Erect fences along the boundary of the works area before the commencement of works to prevent vehicle movements and encroachment of personnel onto adjacent areas.	All area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	Regularly check the work site boundaries to ensure that they are not breached and that damage does not occur to surrounding areas.	All area/ During construction	Contractor(s)/ ET		✓		Implemented	-
S9.7	Avoid any damage and disturbance, particularly those caused by filling and illegal dumping, to the surrounding habitats through proper management of waste disposal.	All area/ During construction	Contractor(s)		✓		Implemented	-
S9.7	Reinstate temporarily affected areas, particularly the habitats of plantation and shrubland-grassland immediately after completion of construction works, through on-site tree/shrub planting. The tree/shrub species will be chosen with reference to those in the surrounding area.	All area/ During construction	Contractor(s)		✓		N/A	-

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
Landscape & Visual								
S11.10 & 11.11	The construction area and area allowed for temporary structures, such as the contractor's office, will be minimized to a practical minimum. (MM1)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	At the detailed design stage, the design team will seek to minimize the landscape footprint of the Project and above ground facilities, while satisfying all other requirements. (MM2)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	Design principles will be adopted to take into account the surrounding area, particularly Clear Water Bay Country Park behind and the nearby waterfront, with due consideration given to: - green roofs where practical (i.e., without equipment on the roof); - roadside planting; - aesthetic treatment of all structures; - vertical greening; - screen planting along application site; and - landscape enhancement with amenity planting where practical including planting along the edge (site boundary) fence with native shrubs where feasible to reduce their visual impact and blend them into the surrounding landscape.(MM3)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	All trees within the Project Site or the potential slope mitigation works area will be carefully protected during construction according to DEVB TCW No. 10/2013 – Tree Preservation (MM4)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented after reminder	ETWB TCW No. 3/2006 - Tree Preservation.

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S11.10 & 11.11	No tree within the Country Park will be felled. Trees within the Site unavoidably affected by the works will be transplanted where necessary and practical. For trees that need to be felled, compensatory planting will be provided to the satisfaction of relevant Government departments. A compensatory tree planting proposal including locations of tree compensation will be submitted to seek relevant government department's approval, in accordance with DEVB TC(W) No. 10/2013. (MM5)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	N/A	DEVB TC(W) No. 10/2013

Note: D – Design stage C – Construction O – Operation

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
Landfill Gas Hazard								
S12.7	During all works, safety procedures should be implemented to minimise the risks of fires and explosions, asphyxiation of workers and toxicity effects resulting from contact with contaminated soil and groundwater.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	During trenching and excavation as well as creation of confined spaces at near to or below ground level, precautions should be clearly laid down and rigidly Gas detection equipment and appropriate breathing apparatus should be available and used when entering confined spaces or trenches deeper than 1 meter.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	The Contractor should make the workers are aware of potential hazards of working in confined spaces (any chamber, manhole or culvert which is large enough to permit access to personnel). Such work in confined spaces is controlled by the Factories and Industrial Undertakings (Confined Spaces) Regulations of the Factories and Industrial Undertakings Ordinance. Following the Safety Guide to Working in Confined Spaces ensures compliance with the above regulations.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	Safety officers, specifically trained with regard to landfill gas and leachate related hazards and the appropriate actions to take in adverse circumstances, should be present on the site throughout the works, in particular, when works are undertaken below grade.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	All personnel who work on site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of the works, the possible presence of contaminated water and the need to avoid physical contact with it.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	Monitoring for landfill gas should be undertaken in all excavations, manholes, chambers (particularly during pipe jacking) and any confined spaces through the use of an intrinsically safe portable	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
	instrument, appropriately calibrated and capable of measuring the concentrations of methane, carbon dioxide and oxygen.							
S12.7	Monitoring frequency and areas to be monitored should be specified prior to commencement of groundwork, either by the Safety Officer, or by an appropriately qualified person. All measurements should be recorded and documented.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	Proceed drilling with adequate care and precautions against the potential hazards which may be encountered.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	Prior to the commencement of the site works, the drilling contractor should devise a 'method-of-working' statement covering all normal and emergency procedures (including but not limited to number of operatives, experience and special skills of operatives, normal method of operations, emergency procedures, supervisors' responsibilities, storage and use of safety equipment, safety procedures and signs, barriers and guarding). The site supervisor and all operatives must be familiar with this statement.	All area/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	Where below ground service entries are necessary to the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II), the entry point should be sealed to prevent gas entry. In addition, any below grade cable trenches entering the Incoming Switchgear Room and 132 kV Substation can become the pathway for landfill gas and hence gridded metal covers should be used.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	-
S12.7	It is recommended regular landfill gas monitoring should be carried out at the Incoming Switchgear Room, 132 kV Substation and Chlorine Store (I) and (II). The monitoring frequency will be monthly for the first year of operation. If the monitoring results show no sign of landfill gas migration, reduce the monitoring frequency to once every six months.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	-

EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S12.7	The manholes and utility pits within the Project Site and along the freshwater mains. Each manhole/ utility pit should be monitored with two measurements (at mid depth and base). Each measurement should be monitored for a minimum of 10 minutes. A steady reading and peak reading should be recorded at each manhole/ utility pit and for each measurement. The need for venting the manhole/ utility pit and further monitoring will be reviewed after the initial monitoring.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-
S12.7	All construction, operation and maintenance personnel working on-site as well as visitors should be made aware of the hazards of landfill gas and its possible presence on-site. This should be achieved through a combination of posting warning signs in prominent places and also by access to detailed information on landfill gas hazards and the designs and procedural means by which these hazards are being minimized on-site.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented	-

Note: D – Design stage C – Construction O – Operation

Appendix D

Summary of Exceedance

Summary of Exceedance

Environmental Monitoring	Parameter	No. of non-Project related exceedance in the reporting period		Total No. of non-Project related exceedance in the reporting period	No. of Project related exceedance in the reporting period		Total No. of Project related exceedance in the reporting period
		AL	LL		AL	LL	
Noise	Leq (30min)	0	0	0	0	0	0
Landfill Gas	O ₂	0	0	0	0	0	0
	CH ₄	0	0	0	0	0	0
	CO ₂	0	0	0	0	0	0

Appendix E

Complaint Log

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 May 2023 - 31 July 2023	0	3	N/A

Statistical Summary of Environmental Summons

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

Statistical Summary of Environmental Prosecution

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

Appendix F

Event / Action Plan for Noise and Landfill Gas

Event / Action Plan for Construction Noise Monitoring

Event	Action			Contractor
	ET	IEC	ER	
Action Level	<ol style="list-style-type: none"> Carry out investigation to identify the source and cause of the complaint/exceedance(s) Notify IEC, ER, and Contractor and report the results of investigation to the Contractor, ER and the IEC Discuss with the Contractor and IEC for remedial measures required If the complaint is related to the Project, conduct additional monitoring for checking mitigation effectiveness and report the findings and results to the IEC, ER and the Contractor 	<ol style="list-style-type: none"> Review the analysed results submitted by the ET Review the proposed remedial measures by the Contractor and advise the ER accordingly Supervise the implementation of remedial measures 	<ol style="list-style-type: none"> Confirm receipt of Notification of Exceedance in writing Require Contractor to propose remedial measures for the analysed noise problem Ensure remedial measures are properly implemented 	<ol style="list-style-type: none"> Submit noise mitigation proposals, if required, to the IEC and ER Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> Carry out investigation to identify the source and cause of the exceedance Notify IEC, ER, Project Proponent, EPD and Contractor Repeat measurements to confirm findings Provide investigation report to IEC, ER, EPD and Contractor he causes of the exceedances If the exceedance is related to the Project, assess effectiveness by additional monitoring. Report the remedial action implemented and the additional monitoring results to IEC, EPD, ER and Contractor If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> Review the analysed results submitted by the ET Discuss the potential remedial measures with ER, ET Leader, and Contractor Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly Supervise the implementation of remedial measures 	<ol style="list-style-type: none"> Confirm receipt of Notification of Exceedance in writing Require the Contractor to propose remedial measures for the analysed noise problem Ensure remedial measures are properly implemented If exceedance continues, consider what activity of the work is responsible and instruct the Contractor, in agreement with the Project Proponent, to stop that activity of work until the exceedance is abated 	<ol style="list-style-type: none"> Take immediate action to avoid further exceedance Submit proposals for remedial actions to IEC and ER within 3 working days of notification Implement the agreed proposals Resubmit proposals if problem still not under control Stop the relevant activity of works as determined by the Project Proponent until the exceedance is abated

Action and Level and Event/ Action Plan for Landfill Gas Monitoring

Parameters	Level	Action
Oxygen (O ₂)	Action Level < 19% O ₂	Ventilate trench/void to restore O ₂ to > 19%
	Limit Level < 19% O ₂	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore O ₂ to > 19%
Methane (CH ₄)	Action Level >10% LEL	Post "No Smoking" signs Prohibit hot works Increase ventilation to restore CH ₄ to <10% LEL
	Limit Level >20% LEL	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore CH ₄ to <10% LEL
Carbon Dioxide (CO ₂)	Action Level >0.5% CO ₂	Ventilate to restore CO ₂ to < 0.5%
	Limit Level >1.5% CO ₂	Stop works Evacuate personnel / prohibit entry Increase ventilation to restore CO ₂ to <0.5%

Appendix G

Waste Flow Table

Appendix G – Waste Flow Table

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of Non-C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Project	Disposed as Public Fill	Imported Fill	Metals	Paper / Cardboard packaging	Plastics	Chemical Waste	Other, e.g., general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in'000kg)	(in'000kg)	(in'000kg)	(in'000kg)	(in '000m ³)
Jan 2023	0.542	0.015	0.122	--	0.420	0.389	--	0.052	--	--	0.002
Feb 2023	1.213	0.076	0.206	--	1.007	1.044	--	0.055	--	--	0.000
Mar 2023	1.093	0.045	0.188	--	0.905	1.382	--	0.059	--	--	0.005
Apr 2023	1.484	0.000	0.363	--	1.121	1.796	--	0.056	--	--	0.001
May 2023	1.819	0.022	0.386	--	1.433	0.934	--	0.051	--	--	0.006
Jun 2023	1.400	0.011	0.574	--	0.826	0.613	--	0.052	--	--	0.007
Sub-total	7.551	0.169	1.839	0.000	5.712	6.196	0.000	0.325	0.000	0.000	0.021
Jul 2023	0.709	0.015	0.466	--	0.243	0.520	--	0.057	--	--	0.005
Aug 2023											
Sep 2023											
Oct 2023											
Nov 2023											
Dec 2023											
Total	8.260	0.184	2.305	0.000	5.955	6.716	0.000	0.382	0.000	0.000	0.026

Notes:

- 1) Total quantity Generated only refers to the actual Quantitates of inert C&D materials generated monthly excluding those that will be recycled (Hard rock & large broken concrete, reused in contract and reused in another contract). Imported fill will not be included in total quantity generated as those C&D materials are not generated from this project.
- 2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- 3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials.