





Contract No. 13/WSD/16

Mainlaying in Tseung Kwan O

**Monthly EM&A Report No. 60
(Period from 1 July to 31 July 2023)**

30 August 2023

(Rev. 1)

	Prepared by:	Reviewed and Certified by:
Name	Howard Chan	Jacky Leung
Position	Environmental Team Member	Environmental Team Leader
Signature		
Date:	30 August 2023	30 August 2023



Water Supplies Department
New Works Branch
Construction Division
11 Tai Yip Lane
Kowloon Bay
Kowloon
Hong Kong

Your reference:

Our reference: HKWSD201/50/109165

Date: 31 August 2023

Attention: Mr Henry Chan

BY POST

Dear Sirs

Quotation No.: WQ/17/A071
Independent Environmental Checker for Water Supplies Department
– Proposed Desalination Plant in TKO Area 137 for Contract No. 13/WSD/16
Verification of Monthly EM&A Report No.60

We refer to emails of 8 and 30 August 2023 attaching Monthly EM&A Report No.60 for the captioned project prepared by the ET.

We have no further comment and hereby verify the captioned report in accordance with Clause 3.5 of the Environmental Permit no. EP-503/2015/A.

Should you have any queries regarding the above, please do not hesitate to contact the undersigned or our Mr Louis Kwan 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

James Choi
Independent Environmental Checker

CPSJ/KSYL/lsm

Revision History

Rev.	DESCRIPTION OF MODIFICATION	DATE
1	1 st Submission	08/08/2023
2	2 nd Submission	30/08/2023

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EXECUTIVE SUMMARY

Introduction

- 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. This is the 60th Monthly EM&A Report, prepared by ASCL, for the Project summarizing the monitoring results and audit findings of the EM&A programme at and around Tseung Kwan O (TKO) during the reporting period from 1 July to 31 July 2023.
- A4. The EM&A programme for this contract has covered environmental monitoring on construction noise level at selected NSRs and Contractor’s environmental performance auditing in the aspects of construction dust, construction noise, water quality, waste management, landscape and visual and ecology.

Summary of Main Works Undertaken & Key Mitigation Measures Implemented

- A5. Key works carried out in this reporting period for the Project included the followings:

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 • Trenchless method (sleeve pipe) • Hydrostatic Pressure test
TKO Promenade (Stage 1 Landfill) & Po Yap Road Roundabout	<ul style="list-style-type: none"> • Open trench method • Water main installation inside sleeve pipe • Hydrostatic Pressure test
HK Velodrome	<ul style="list-style-type: none"> • Open trench method • Hydrostatic Pressure test
Po Lam Road South / Ling Hong Road	<ul style="list-style-type: none"> • Open trench method • Water main installation inside sleeve pipe • Trenchless method (sleeve pipe)
Tsui Lam Road / Abandoned Road	<ul style="list-style-type: none"> • Open trench method • Trenchless method (sleeve pipe) • Hydrostatic Pressure test

- A6. The major environmental impacts brought by the above construction works include:
- Construction dust and noise generation from mainlaying of pipes, and excavation;
 - Waste generation from the construction activities; and
 - Impact on water quality from construction activities

A7. The key environmental mitigation measures implemented for the Project in this reporting period associated with the above construction works include:

- Reduction of construction dust generation from mainlaying of pipes, and excavation;
- Reduction of noise from equipment and machinery on-site;
- Sorting and storage of general refuse and construction waste; and
- Treatment of wastewater through water treatment facilities before discharge

Summary of Exceedance & Investigation & Follow-up

A8. Noise monitoring was scheduled in the reporting month for NSR4 Creative Secondary School on 8, 14, 20 and 26 July 2023 as construction works were conducted within 300m to the noise sensitive receiver. No Action or Limit Level exceedance was recorded during the reporting period.

A9. Landfill gas monitoring was carried out by the Registered Safety Officer of the Contractor at the excavation locations and within the consultation zones for 453 times. All the measured results were presented in **Appendix J** and were within the Action and Limit Levels.

Complaint Handling and Prosecution

A10. No environmental complaint, notifications of summons and prosecution was received in the reporting month.

Reporting Change

A11. There were no changes reported that may affect the on-going EM&A programme.

Summary of Upcoming Key Issues and Key Mitigation Measures

A12. Key works in the next reporting month for the Project will include the followings:

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

A13. The major environmental impacts brought by the above construction works will include:

- Construction dust and noise generation of mainlaying of pipes, and excavation works;
- Waste generation from construction activities; and
- Impact on water quality from construction activities.

A14. The key environmental mitigation measures for the Project in the coming reporting period associated with the above construction works will include:

- Reduction of construction dust generation of mainlaying of pipes, and excavation works by regular water spraying and covering of dusty materials with screenings;
- Reduction of noise from equipment and machinery on-site;
- Sorting and storage of general refuse and construction waste; and
- Treatment of wastewater through water treatment facilities before discharge.

1. BASIC PROJECT INFORMATION

1.1 Background

The proposed Desalination Plant at Tseung Kwan O (DPTKO) will produce potable water with an initial capacity of 135 million liters 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.

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.

The scope of the Contract may be considered in brief, to consist of the laying of about 10 km long 1200 mm 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

This is the 60th Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 July to 31 July 2023.

1.3 Project Organization

The Project Organization structure for Construction Phase is presented in **Figure 1.1**.

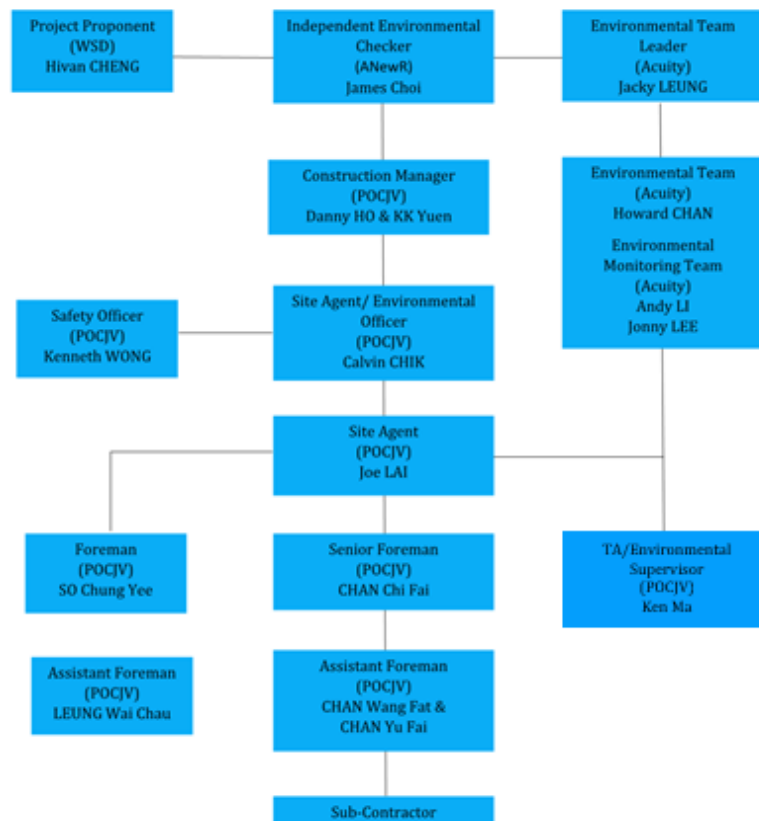


Figure 1.1 Project Organization Chart

Contact details of the key personnel are presented in **Table 1.1** below:

Table 1.1 Contact details of the 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

1.4 Summary of Construction Works

Details of the major construction works undertaken in this reporting period are shown in **Table 1.2** and the construction works locations are shown in **Appendix B**. The construction programme is presented in **Appendix A**.

Table 1.2 Summary of the Construction Works Undertaken during the Reporting Month

Location	Construction activities carried out 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 • Trenchless method (sleeve pipe) • Hydrostatic Pressure test
TKO Promenade (Stage 1 Landfill) & Po Yap Road Roundabout	<ul style="list-style-type: none"> • Open trench method • Water main installation inside sleeve pipe • Hydrostatic Pressure test
HK Velodrome	<ul style="list-style-type: none"> • Open trench method • Hydrostatic Pressure test
Po Lam Road South / Ling Hong Road	<ul style="list-style-type: none"> • Open trench method • Water main installation inside sleeve pipe • Trenchless method (sleeve pipe)
Tsui Lam Road / Abandoned Road	<ul style="list-style-type: none"> • Open trench method • Trenchless method (sleeve pipe) • Hydrostatic Pressure test

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 Environmental Licence, Notification and Permit

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

Reference No.	Valid Period		Status	Remark
	From	To		
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				
GW-RE0618-23	7 Jun 2023	31 Aug 2023	Valid	Wan Po Road near junction of PO Shun Road

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	
Impact Monitoring	On-going
Environmental Audit	
Site Inspection	On-going

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.

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

To ensure no adverse noise impact, noise monitoring is recommended to be carried out within 300m radius from the nearby noise sensitive receivers (NSRs), during construction phase. The NSRs selected as monitoring station are (i) NSR4 – Creative Secondary School, (ii) NSR24 – PLK Laws Foundation College, and (iii) NSR31 – School of Continuing and Professional Studies – CUHK respectively.

Referring to EM&A Manual Section 4.1.2, the impact noise monitoring should be carried out at all the designated monitoring stations when there are project-related construction activities undertaken within a radius of 300m from the monitoring stations.

Impact monitoring for noise impact was conducted in the reporting month for NSR4 – Creative Secondary School on 8, 14, 20 and 26 July 2023 as construction works were conducted within 300m to the noise sensitive receiver. Detailed monitoring results can be found in **Appendix G**.

2.2 Noise Monitoring Parameters, Time, Frequency

Impact noise monitoring was conducted weekly in the reporting period between 0700-1900 on normal weekdays. Construction works will follow the requirements as stipulated in the valid CNPs if works have to be conducted in the restricted hours.

Construction noise level was measured in terms of the A-weighted equivalent continuous sound pressure level (L_{Aeq}). $L_{Aeq, 30min}$ 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. The monitoring schedule is provided in **Appendix D**.

Table 2.1 Noise Monitoring Parameters, Time, Frequency and Duration

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

2.3 Noise Monitoring Locations

The monitoring locations should normally be made at a point 1m from the exterior of the NSRs building façade and be at a position 1.2m above the ground. A correction of +3dB(A) should be made to the free-field measurements.

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** below.

Table 2.2 Noise Monitoring Location

NSR ID	Noise Sensitive Receivers	Monitoring Location	Position
NSR 4	Creative Secondary School	Roof Floor	1 m from facade
NSR 24	PLK Laws Foundation College	Pedestrian Road on Ground Floor	Free-field
NSR 31	School of Continuing and Professional Studies - CUHK	Roof Floor	1 m from facade

Three noise monitoring locations for impact monitoring at the nearby sensitive receivers are shown in **Figure 2.1-2.3**.



Figure 2.1 NSR4 Creative Secondary School



Figure 2.2 NSR24 PLK Laws Foundation College



Figure 2.3 NSR31 School of Continuing and Professional Studies - CUHK

2.4 Impact Monitoring Methodology

Integrated sound level meters were used for the noise monitoring. The meters were in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications. Immediately prior to and following each noise measurement the accuracy of the sound level meters was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level before and after the noise measurements agree to within 1.0 dB(A).

Calibration certificates of the instruments used are presented in **Appendix E**. Noise measurements were not made in the presence of fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed was checked with a portable wind speed meter capable of measuring the wind speed in m/s.

Table 2.3 Impact Noise Monitoring Equipment

Equipment	Brand and Model	Serial Number	Date of Calibration	Expiry Date
Sound Level Meter	Lutron, SL-4033SD	I.588921	21 Mar 2023	20 Mar 2024
Sound Level Meter Calibrator	RION, NC75	35124529	2 Nov 2022	1 Nov 2023
Pocket Wind Meter Anemometer	Kestrel 1000 Wind Meter	Nil	Nil	Nil

2.5 Action and Limit Levels

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 2.4**.

Table 2.4 Action and Limit Levels for Noise

Time Period	Action Level	Limit Level (dB(A))
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.		

If exceedances are found during noise monitoring, the actions in accordance with the Event and Action Plan will be carried out according to **Appendix F**.

2.6 Monitoring Results and Observations

Referring to EM&A Manual Section 4.1.2, impact monitoring for noise impact was scheduled weekly in the reporting month for NSR4 – Creative Secondary School on 8, 14, 20 and 26 July 2023. Detailed monitoring results are presented in **Appendix G**.

No construction works were conducted within 300m radius of NSR24 and NSR31. Thus, no construction noise monitoring works was carried at these two locations in the reporting month.

No action or limit level exceedance was recorded for construction noise monitoring during the reporting period.

3. WASTE MANAGEMENT

The waste generated from this Project includes inert construction and demolition (C&D) materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse, vegetative wastes, and recyclable wastes such as plastics and paper/cardboard packaging waste. Steel materials generated from the project are also grouped into non-inert C&D materials as these materials were not disposed of with other inert C&D materials. With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in **Table 3.1**. Details of cumulative waste management data are presented as a waste flow table in **Appendix H**.

Table 3.1 Quantities of waste generated from the Project

Reporting period	Quantity					
	Inert C&D Materials (in '000m ³)	Chemical Waste (in '000kg)	Non-inert C&D Materials			
			Others, e.g., General Refuse disposed at Landfill (in '000m ³)	Recycled materials		
				Paper/cardboard (in '000kg)	Plastics (in '000kg)	Metals (in '000kg)
July 2023	0.709	0.000	0.005	0.057	0.000	0.000

4. LANDFILL GAS MONITORING

4.1 Monitoring Requirement

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 fresh water 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.

4.2 Monitoring Location

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

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.

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.

The area required to be monitored for landfill gas in the reporting period are shown in **Figure 4.1** to **Figure 4.9**.

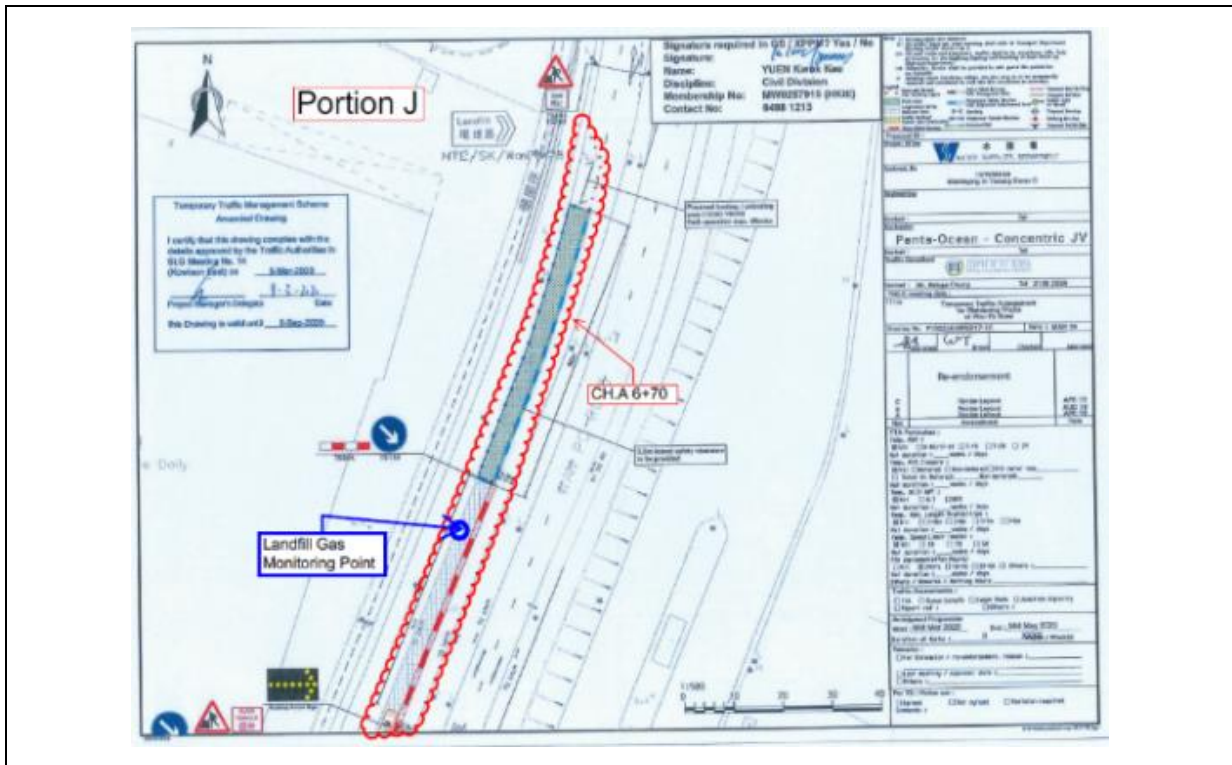


Figure 4.1 Monitoring Location - CH.A 6+70

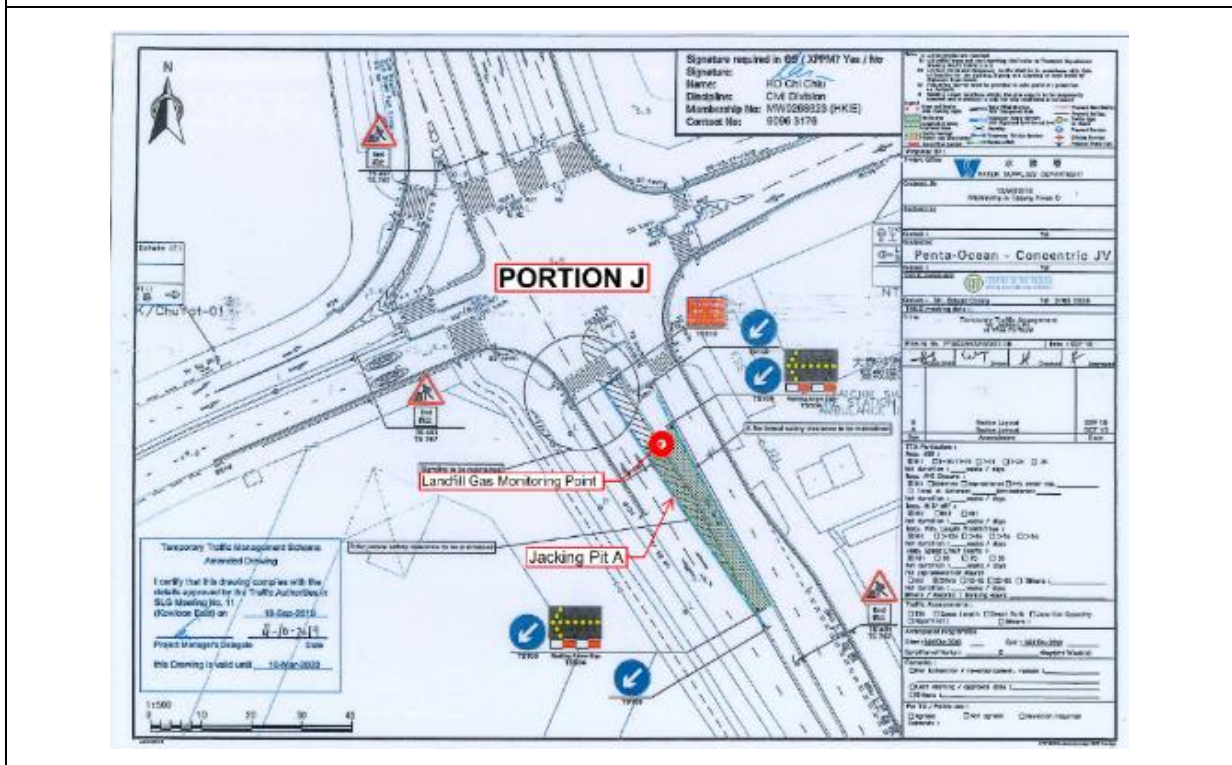


Figure 4.2 Monitoring Location - CH.A 13+50 ~ 14+00 (Pit A)

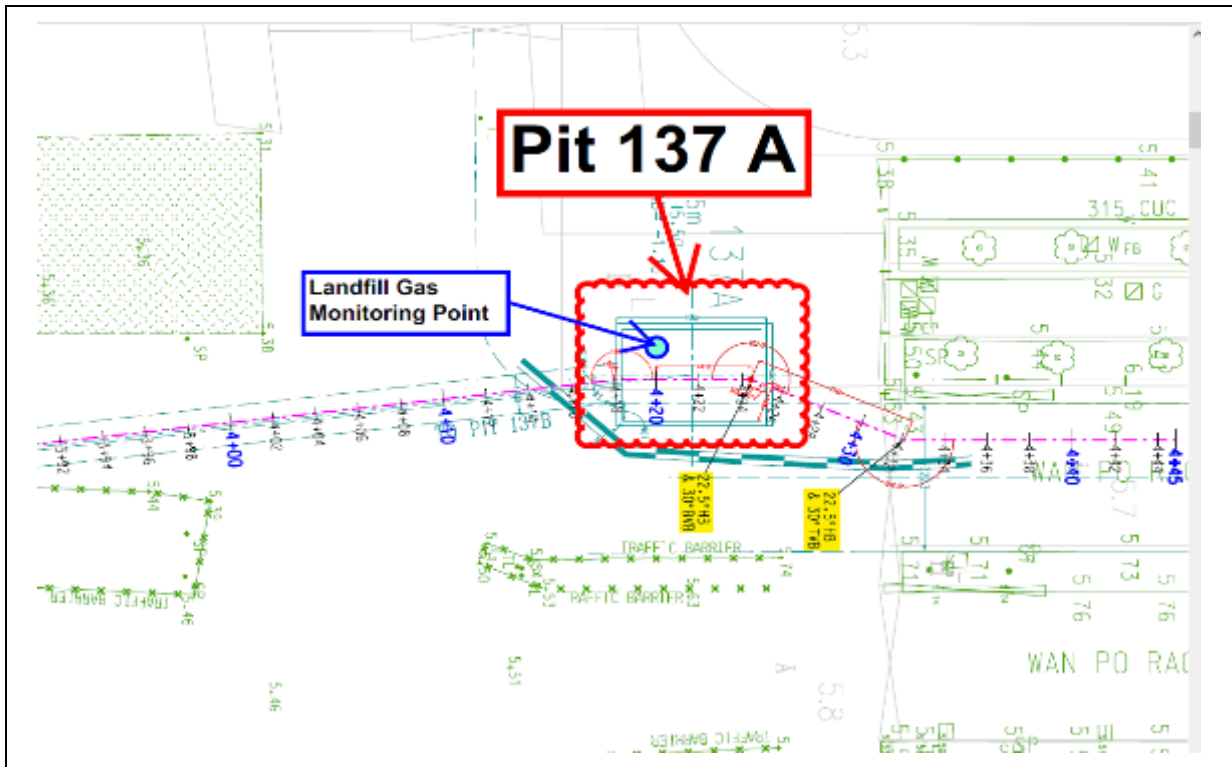


Figure 4.4 Monitoring Location – Pit 137A (137 Pit A)

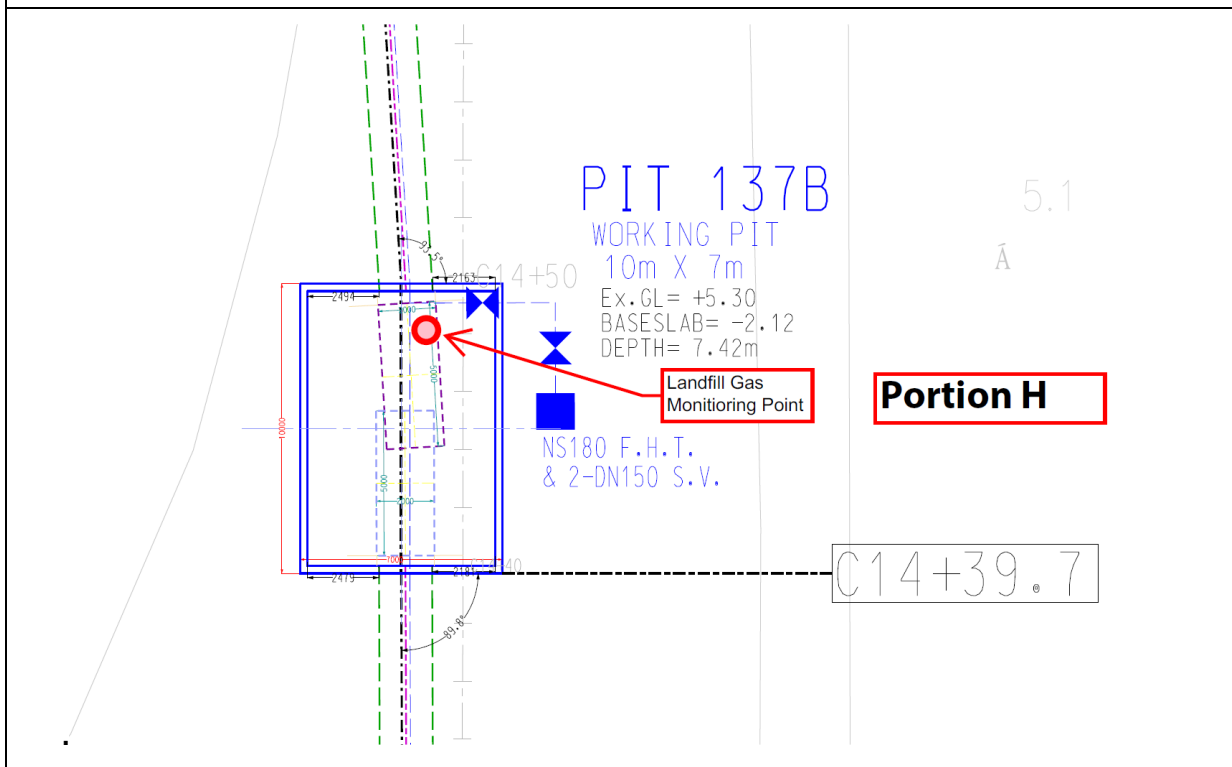


Figure 4.5 Monitoring Location – Pit 137B (137 Pit B)

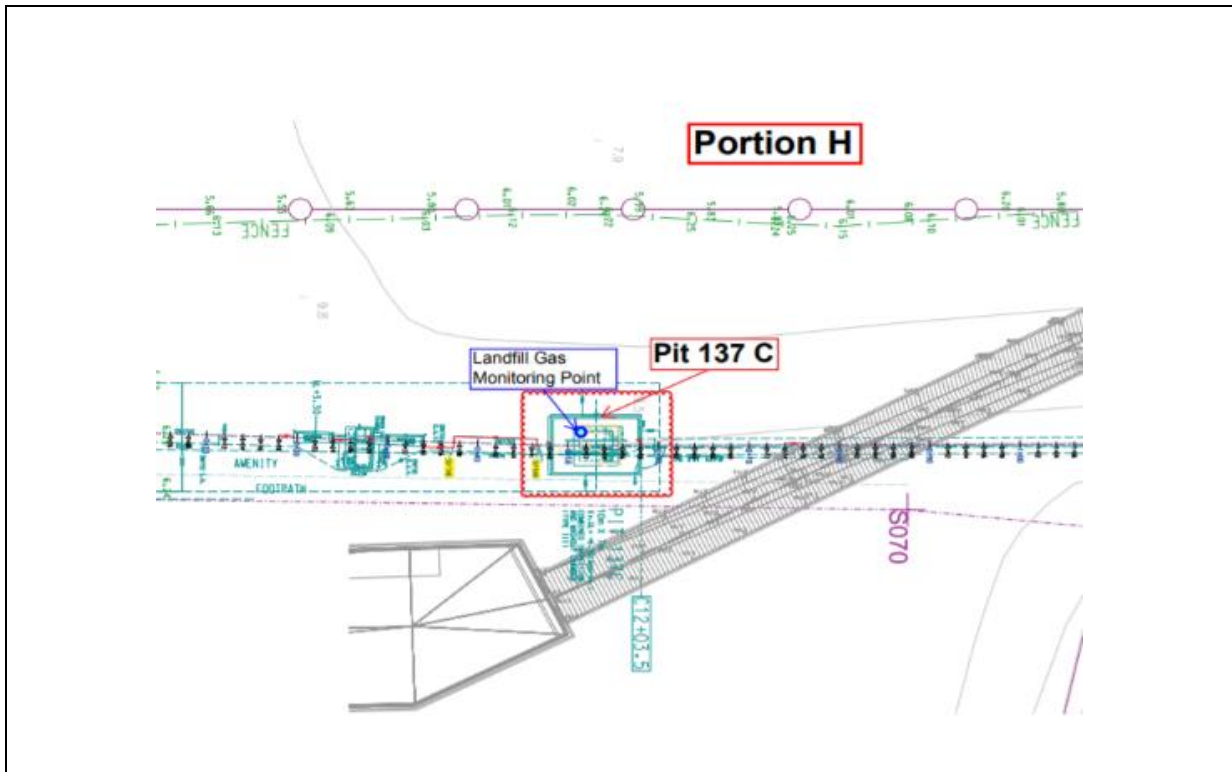


Figure 4.6 Monitoring Location - Pit 137C (137 Pit C)

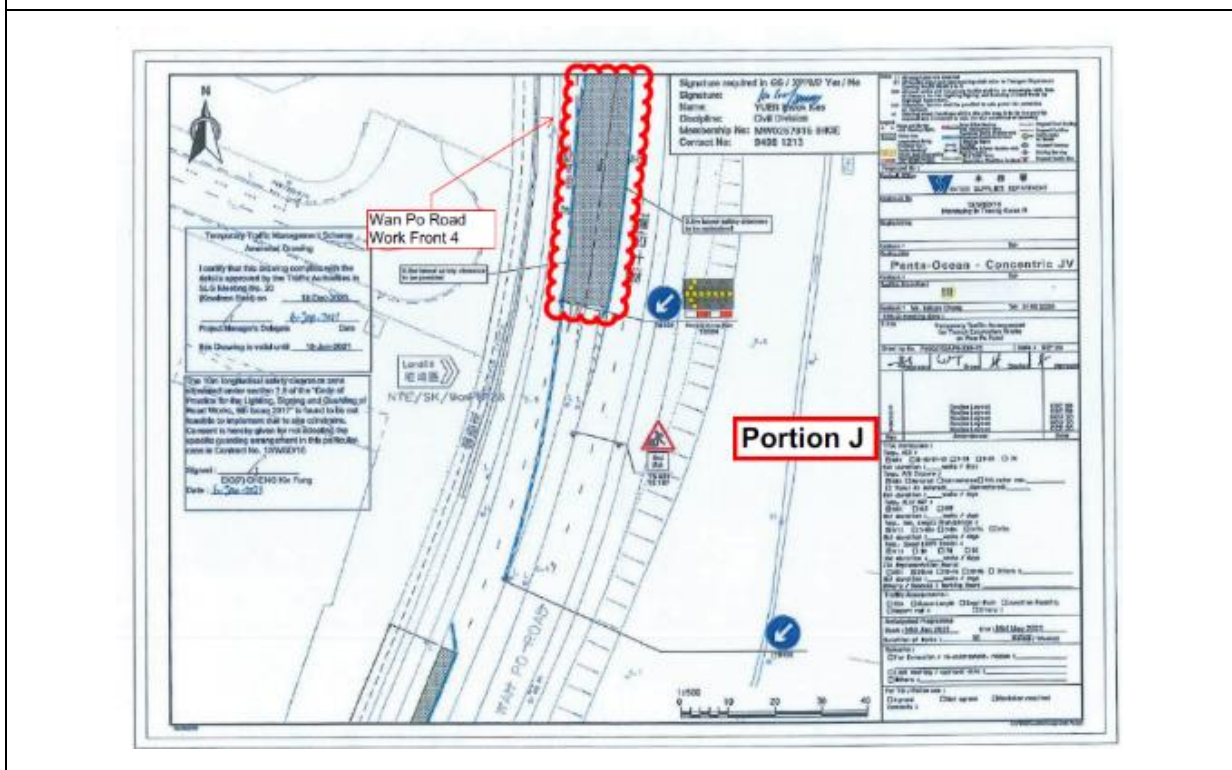
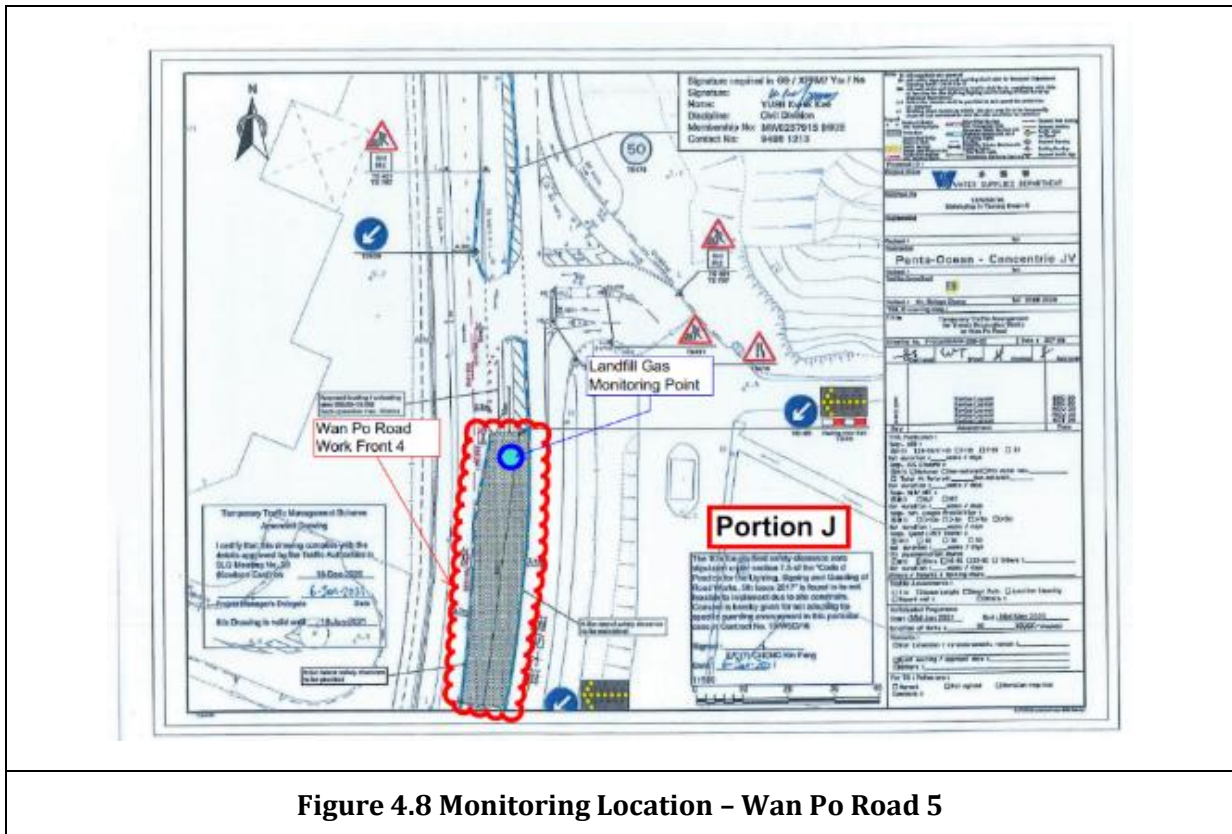


Figure 4.7 Monitoring Location - Wan Po Road 4



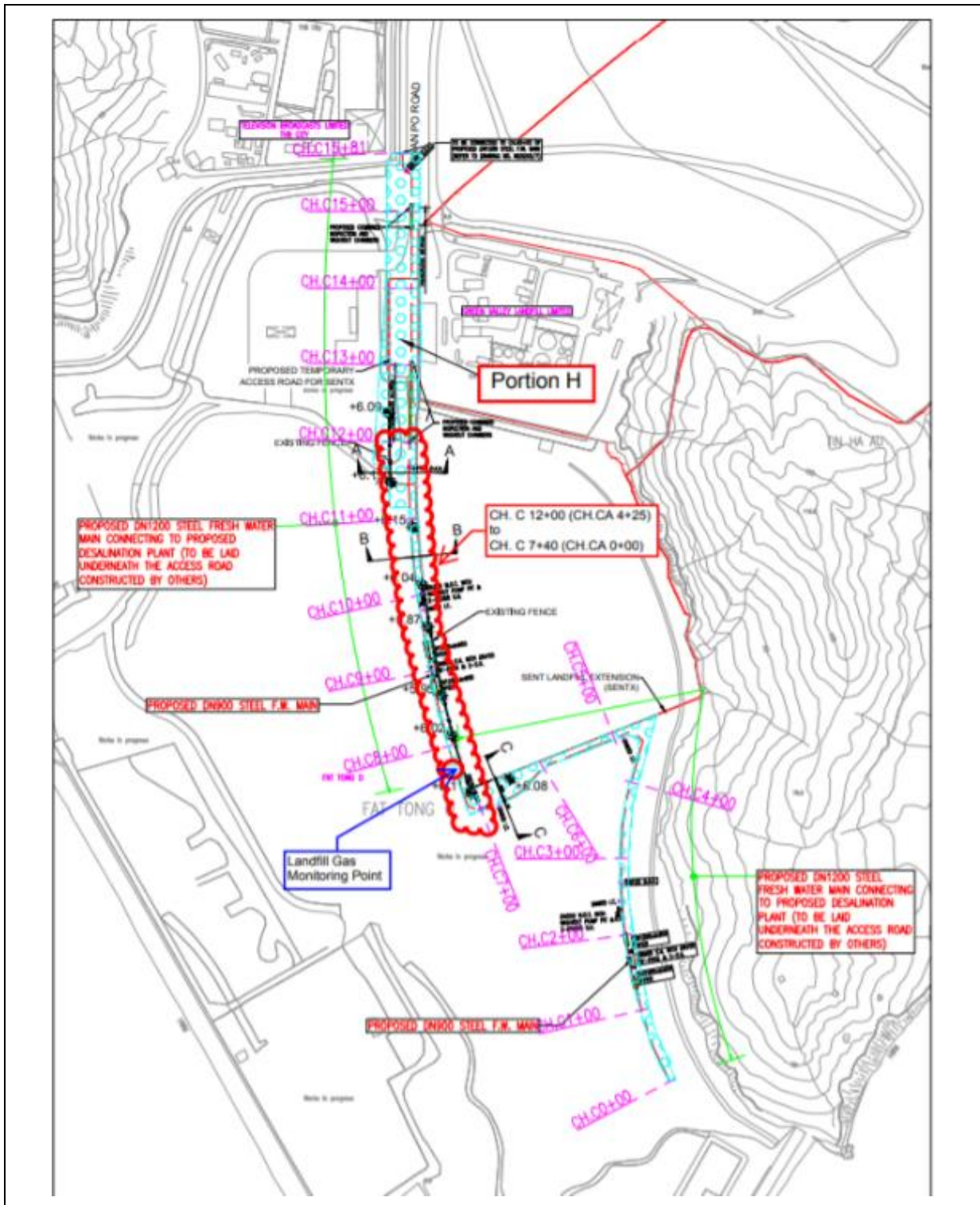


Figure 4.9 Monitoring Location –CH.CA 0+00 to CH.CA 04+25 (CH.C 7+40 ~ 12+00)

4.3 Monitoring Parameters

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.

The following parameters were monitored:

- Methane.
- Oxygen.
- Carbon Dioxide.
- Barometric Pressure.

4.4 Action and Limit Level

Action and Limit Level are provided in **Table 4.1**.

Table 4.1 Action and Limit Level for Landfill Gas Monitoring Equipment

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

4.5 Monitoring Equipment

Landfill Gas monitoring was carried out using intrinsically safe, portable multi-gas monitoring instruments. The gas monitoring equipment is:

- Complying with the Landfill Gas Hazard Assessment Guidance Note as intrinsically safe;
- Capable of continuous barometric pressure and gas pressure measurements;
- Normally operated in diffusion mode unless required for spot sampling, when it should be capable of operating by means of an aspirator or pump;
- Having low battery, fault and over range indication incorporated;
- Capable of storing monitoring data, and shall be capable of being down-loaded directly;
- Measure in the following ranges:

methane	0-100% Lower Explosion Limit (LEL) and 0-100% v/v;
oxygen	0-25% v/v;
carbon dioxide	0-5% v/v; and
barometric pressure	mBar (absolute)

alarm (both audibly and visually) in the event that the concentrations of the following are exceeded:

methane	>10% LEL;
oxygen	<19% by volume; and
carbon dioxide	>0.5% by volume
barometric pressure	mBar (absolute)

Monitoring Equipment used in the reporting period are summarised in **Table 4.2**. The Landfill Gas monitoring equipment calibration certificate is presented in **Appendix I**.

Table 4.2 Landfill Gas Monitoring Equipment

Equipment	Brand and Model	Calibration Expiry Date
Portable Gas Detector	PGM-2500 QRAE III	27 July 2023
		27 July 2024
	XT-XWHM-Y-OR	2 September 2023
CO2 Analyzer	TES, 1307H	16 November 2023

4.6 Monitoring Results

In the reporting period, construction works within the consultation zones, excavations of 1m depth or more was monitored. Landfill gas monitoring was carried out by the Registered Safety Officer of the Contractor at the excavation locations for 453 times. All the measured results were presented in **Appendix J** and were within the Action and Limit Levels.

Table 4.3 Action and Limit Levels and Event and Action Plan for LFG Hazard

Parameters	Level	Action
Oxygen (O ₂)	Action Level < 19% O ₂	Ventilate trench/void to restore O ₂ to > 19% Stop works
	Limit Level < 19% O ₂	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 Stop works
	Limit Level >20% LEL	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% Stop works
	Limit Level >1.5% CO ₂	Evacuate personnel / prohibit entry Increase ventilation to restore CO ₂ to <0.5%

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

The Environmental Complaint Handling Procedure is shown in below **Figure 5.1**:

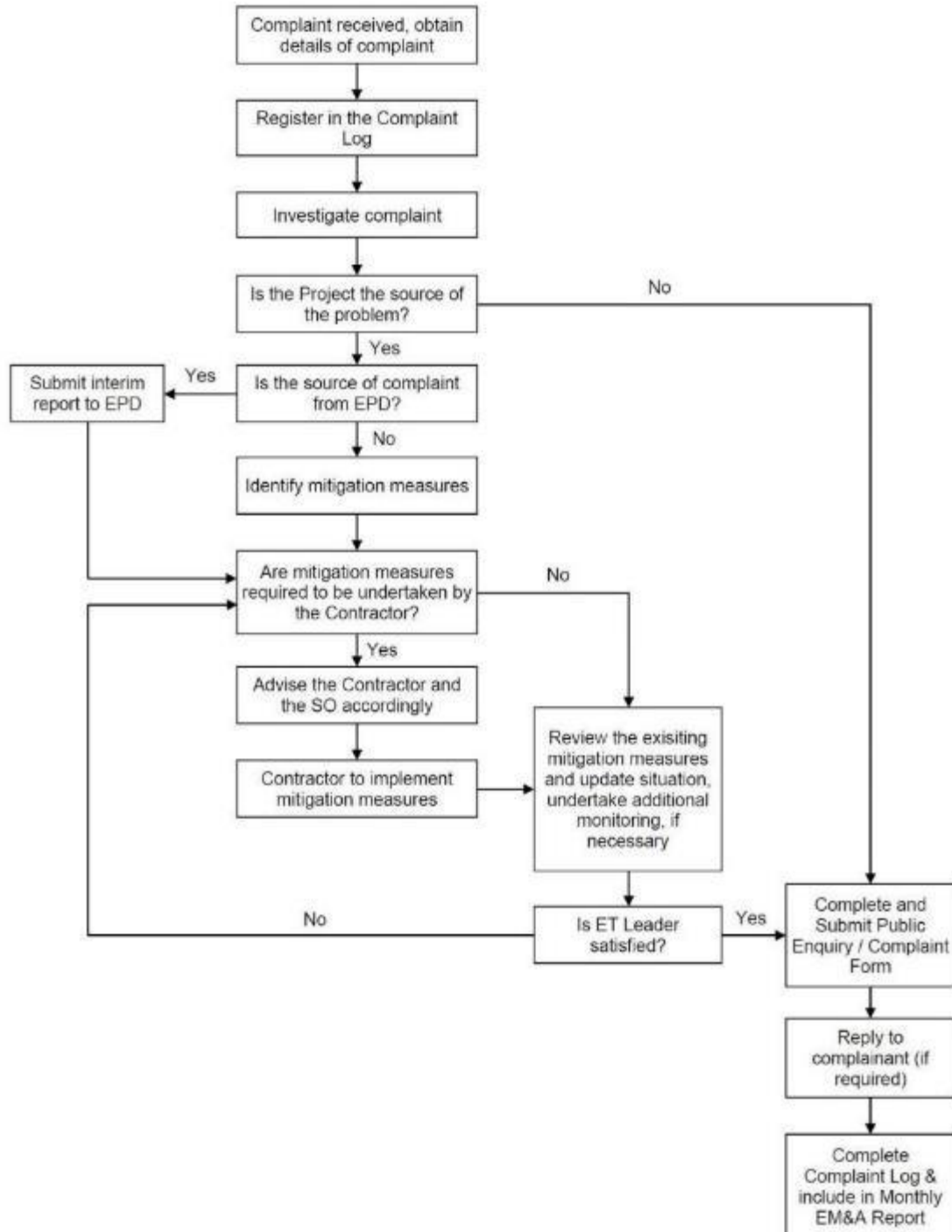


Figure 5.1 Environmental Complaint Handling Procedure

Impact monitoring for noise impact was scheduled in the reporting month for NSR4 – Creative Secondary School on 8, 14, 20 and 26 July 2023 as construction works were conducted within 300m to the noise sensitive receiver. Detailed monitoring results can be found in **Appendix G**. No action or limit levels exceedance was recorded in the reporting period.

Landfill gas monitoring was carried out by the Registered Safety Officer of the Contractor at the excavation locations and within the consultation zones for 453 times. All the measured results were presented in **Appendix J** and were within the Action and Limit Levels.

No environmental complaint, notification of summons and prosecution was received in the reporting period.

Statistics on complaints and regulatory compliance are summarized in **Appendix K**.

6. EM&A SITE INSPECTION

Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, site inspections were carried out on 3, 12, 20 and 24 July 2023 at the site portions list in **Table 6.1** below. One joint site inspection with IEC was carried out on 24 July 2023.

Table 6.1 Site Inspection Record

Date	Inspected Site Portion	Time
3 July 2023	Portion J	09:30 – 10:30
12 July 2023	Portion J	09:30 – 10:30
20 July 2023	Portion J	15:00 – 16:00
24 July 2023	Portion J	14:00 – 15:30

Minor deficiencies were observed during weekly site inspections. Key observations during the site inspections are summarized in **Table 6.2**.

Table 6.2 Site Observations

Date	Environmental Observations	Follow-up Status
3 July 2023	No major environmental deficiency was observed during site inspection.	N/A
12 July 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 July 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.
24 July 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.

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 during the reporting period. An updated Implementation Status of Environmental Mitigation Measures (EMIS) is provided in **Appendix C**.

Site inspection proforma of the reporting period is provided in **Appendix L**.

7. FUTURE KEY ISSUES

Key works that will be anticipated in the next reporting period for the Project are shown in **Table 7.1**.

Table 7.1. Key works for the next reporting month

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

The major environmental impacts brought by the above construction works will include:

- Construction dust and noise generation of mainlaying of pipes, TBM break through, and excavation works;
- Waste generation from construction activities; and
- Impact on water quality from construction activities.

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

- Dust suppression by regular wetting and water spraying for excavation works, mainlaying of pipes and TBM break through works;
- Reduction of noise from equipment and machinery on-site;
- Sorting and storage of general refuse and construction waste; and
- Treatment of wastewater with water treatment facilities before discharge.

The proactive environmental protection proforma for the next reporting month is listed in **Appendix M**.

Referring to EM&A Manual Section 4.1.2, the impact noise monitoring should be carried out at all the designated monitoring stations when there are project-related construction activities undertaken within a radius of 300m from the monitoring stations.

The tentative impact monitoring schedule for the next reporting month is attached in **Appendix N**.

8. CONCLUSION AND RECOMMENDATIONS

This is the 60th monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works undertaken during the period from 1 July to 31 July 2023 in accordance with the EM&A Manual and the requirement under EP-503/2015/A.

Impact monitoring for noise impact was scheduled in the reporting month for NSR4 – Creative Secondary School on 8, 14, 20 and 26 July 2023 as construction works were conducted within 300m to the noise sensitive receiver. No action and limit level exceedance for construction noise monitoring was recorded in the reporting period.

Landfill gas monitoring was carried out by the Registered Safety Officer of the Contractor at the excavation locations and within the consultation zones for 453 times. All the measured results were presented in **Appendix J** and were within the Action and Limit Levels.

No exceedance of the action and limit level for landfill gas monitoring was recorded during the reporting period.

Weekly environmental site inspections were conducted during the reporting month. Observations and Recommendations were made during site inspection, Contractor was reminded that sedimentation facilities shall be provided on site to remove silt particles from runoff before discharge and to meet the requirements of the TM standard under the WPCO.

According to the environmental site inspections performed in the reporting month, the contractor is reminded to pay attention on maintaining site tidiness, water treatment facilities, and proper materials storage.

No environmental complaint, notification of summons and prosecution was received in the reporting month.

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

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	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 bars 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 bar 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 bar 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 bar 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 bar for Access Date]																											
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 bar 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 bar for EOT]																											
8	EOT for CE No. 01	246 days	Wed 19/5/21	Wed 19/1/22	Calendar Day	7	9FF	0%	NA	NA	[Gantt bar for EOT]																											
9	Revised Completion Date	0 days	Wed 19/1/22	Wed 19/1/22	Calendar Day	8FF	11FS+365 days	0%	NA	NA	[Gantt bar for Revised Completion Date]																											
10	Planned Completion	0 days	Thu 5/9/24	Thu 5/9/24	Calendar Day	12FF		0%	NA	NA	[Gantt bar 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 bar 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 bar 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 bar 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 bar 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 bar 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 bar 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 bar 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 bar 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 bar 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 bar 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 bar 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 bar for Material Procurement and Delivery in Batches]																											
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 for Open Cut Excavation, Pipe Laying and Reinstatement at TKO Area 137]																											
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 for Trenchless Works at TKO Area 137]																											
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 Final Connection of NS250 HDPE Pipe]																											
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 Mainlaying From Boundary of Tseung Kwan O Area 137]																											
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 Open Cut Excavation, Pipe Laying and Reinstatement 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 bar 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 bar for Open Cut Excavation, Pipe Laying and Reinstatement at TKO Landfill Stage 1 and TKO South Waterfront Promenade]																											
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 bar 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 bar for Water Mains near Pung Loi Road and Po Yap 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 bar for Trenchless Work from Po Yap Road Roundabout to KMB Depot]																											
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 bar for Trenchless Work from Po Yap Road Roundabout (Hong Kong Velodrome)]																											
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 bar for Water Mains from KMB Depot to TKO Fresh Water Preliminary Service Reservoir]																											
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 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	[Gantt bar 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 bar 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 bar 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 bar for NS250 HDPE Pipe Static Pressure, Pipeline Cleaning, CCTV Inspection, Sterilization and Water Sampling]																											
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 for Handover Portion I and Portion H to WSD Region]																											
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 for Water Supply to Tseung Kwan O Desalination Plant at Fill Bank of Tseung Kwan O Area 137 (Portion J)]																											

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																					
10	Planned Completion	0 days	Thu 5/9/24	Thu 5/9/24	Calendar Day	12FF		0%	NA	NA																					
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																					
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																					
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																					
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																					
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																					
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																				
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																				
284	Pipe Laying (OC) from Pit SKR to Pit D (1st 200m)	200 days	Thu 14/7/22	Tue 14/3/23	HK Working Day	279		288	0%	NA	NA																				
288	Construction of Pit SKR	90 days	Wed 15/3/23	Thu 6/7/23	HK Working Day	279,284		290	0%	NA	NA																				
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																				
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																				
295	Pipe Connection Works and construction of Inspoction Chamber at Pit WPR	60 days	Tue 12/12/23	Mon 26/2/24	HK Working Day	292,283			0%	NA	NA																				
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																				
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																					
760	Static Pressure Test	1112 days	Wed 24/3/21	Mon 8/4/24	Calendar Day			18%	Wed 24/3/21	NA																					
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																					
771	Pipeline Cleaning and CCTV Inspection	1153 days	Wed 12/5/21	Sun 7/7/24	Calendar Day			10%	Wed 12/5/21	NA																					
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																					
781	Sterilization and Water Sampling	30 days	Mon 8/7/24	Tue 6/8/24	Calendar Day			0%	NA	NA																					
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																					
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																					
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																					

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 1/22/22]																			
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																			

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
43	Issue CE No. 112 - Works Delayed in Portion H due to COVID-19	0 days	Wed 14/4/21	Wed 14/4/21	Calendar Day			100%	Wed 14/4/21	Wed 14/4/21	◆ 14/4																			
44	Issue CE No. 113 - Special Cleaning of Workfronts from CH.A0+00 to CH.A13+70 at Wan Po Road	0 days	Fri 30/4/21	Fri 30/4/21	Calendar Day			100%	Fri 30/4/21	Fri 30/4/21	◆ 30/4																			
45	Issue CE No. 116 - Special Mosquito and Biting Midges Prevention Measures from CH.FB0+00 to Ch.FB5+34 and Ch.FC0+0 to FC13+26 along TKO South Waterfront	0 days	Mon 24/5/21	Mon 24/5/21	Calendar Day			100%	Mon 24/5/21	Mon 24/5/21	◆ 24/5																			
46	Issue CE No. 119 - Professional Indemnity Insurance for the Conforming Designs unde CE No.55, 62 and 77	0 days	Mon 31/5/21	Mon 31/5/21	Calendar Day			100%	Mon 31/5/21	Mon 31/5/21	◆ 31/5																			
47	Issue CE No. 120 - Left-in Sheet Pile for Manual Excavation in Po Lam Road at CH.HA6+55	0 days	Mon 31/5/21	Mon 31/5/21	Calendar Day			100%	Mon 31/5/21	Mon 31/5/21	◆ 31/5																			
48	Issue CE No. 127 - Manual Excavation under Unexpectedly long and contonuous extent of UU obstruction in Wan Po Road at CH. A0+88	0 days	Tue 12/10/21	Tue 12/10/21	Calendar Day			100%	Tue 12/10/21	Tue 12/10/21	◆ 12/10																			
49	Issue CE No. 129 - Special Cleaning of Workfronts from CH.HA0+00 to CH.A13+70 at Wan po Road in Sep 2021	0 days	Tue 26/10/21	Tue 26/10/21	Calendar Day			100%	Tue 26/10/21	Tue 26/10/21	◆ 26/10																			
50	Issue CE No. 100 - Additional Mainlaying Works at Ling Hong Road and HK Velodrome	0 days	Tue 14/12/21	Tue 14/12/21	Calendar Day			100%	Tue 14/12/21	Tue 14/12/21	◆ 14/12																			
51	Issue CE No. 131 - Additional Traffic Court and Analysis for TTA Application	0 days	Fri 24/12/21	Fri 24/12/21	Calendar Day			100%	Fri 24/12/21	Fri 24/12/21	◆ 24/12																			
52	Issue CE No. 138 - Additional Inspection Pits for Realignment of DN800 Water Main in TKOFWPSR	0 days	Fri 24/12/21	Fri 24/12/21	Calendar Day			100%	Fri 24/12/21	Fri 24/12/21	◆ 24/12																			
53	Issue CE No. 141 - Provision of Suitable land Transport for Site Supervision in Tseung Kwan O Area 137 (Dec 2021 - Sept 2022)	0 days	Wed 29/12/21	Wed 29/12/21	Calendar Day			100%	Wed 29/12/21	Wed 29/12/21	◆ 29/12																			
54	Issue CE No. 136 - Additional Resurfacing Works at Wan Po Road Near TKO Area 137	0 days	Fri 31/12/21	Fri 31/12/21	Calendar Day			100%	Fri 31/12/21	Fri 31/12/21	◆ 31/12																			
55	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		125FF	100%	Tue 18/1/22	Tue 18/1/22	◆ 18/1																			
56	Preliminaries	1636 days	Tue 7/11/17	Sat 30/4/22	Calendar Day			100%	Tue 7/11/17	Sat 30/4/22	◆																			
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	◆																			
58	Submission of Safety Plan	35 days	Tue 7/11/17	Mon 11/12/17	Calendar Day	2		100%	Tue 7/11/17	Mon 11/12/17	■																			
59	Submission of Site Management Plan and Trip Ticket	45 days	Tue 7/11/17	Thu 21/12/17	Calendar Day	2		100%	Tue 7/11/17	Thu 21/12/17	■																			
60	Submission of Key People	14 days	Mon 4/12/17	Sun 17/12/17	Calendar Day	2FS+27 days		100%	Mon 4/12/17	Sun 17/12/17	■																			
61	Submission of Subcontractor Management Plan	30 days	Tue 7/11/17	Wed 6/12/17	Calendar Day	2		100%	Tue 7/11/17	Wed 6/12/17	■																			
62	Submission of First Programme	7 days	Tue 7/11/17	Mon 13/11/17	Calendar Day	2		100%	Tue 7/11/17	Mon 13/11/17	■																			
63	Submission of Pipe Material (PN16)	54 days	Thu 1/2/18	Tue 27/3/18	Calendar Day	4	64	100%	Thu 1/2/18	Tue 27/3/18	■																			
64	Approval of Pipe material submission (PN16)	137 days	Wed 28/3/18	Sat 11/8/18	Calendar Day	63	925S+7 days	100%	Wed 28/3/18	Sat 11/8/18	■																			
65	Appointment of Environmental Team	10 days	Wed 9/5/18	Fri 18/5/18	Calendar Day	81	66	100%	Wed 9/5/18	Fri 18/5/18	■																			
66	Environmental Baseline Monitoring	17 days	Tue 29/5/18	Thu 14/6/18	Calendar Day	65		100%	Tue 29/5/18	Thu 14/6/18	■																			
67	Submission of Environmental Management Plan	45 days	Tue 7/11/17	Thu 21/12/17	Calendar Day	2		100%	Tue 7/11/17	Thu 21/12/17	■																			
68	Submission & Approval of CE01 Pipe Material PN25	75 days	Thu 12/7/18	Mon 24/9/18	Calendar Day	14,15	96	100%	Thu 12/7/18	Mon 24/9/18	■																			
69	Subcontracting	1122 days	Thu 16/11/17	Fri 11/12/20	Calendar Day			100%	Thu 16/11/17	Fri 11/12/20	◆																			
70	Submission and Approval	122 days	Thu 16/11/17	Sat 17/3/18	Calendar Day			100%	Thu 16/11/17	Sat 17/3/18	◆																			
71	Submission of sub-contractor selection procedure	24 days	Thu 16/11/17	Sat 9/12/17	Calendar Day	4	72	100%	Thu 16/11/17	Sat 9/12/17	■																			
72	Approval of sub-contractor selection procedure	42 days	Sun 10/12/17	Sat 20/1/18	Calendar Day	71	87,82,83FS+10 days,86	100%	Sun 10/12/17	Sat 20/1/18	■																			
73	Submission of Sub-contractor Condition	14 days	Sun 21/1/18	Sat 3/2/18	Calendar Day	4	74	100%	Sun 21/1/18	Sat 3/2/18	■																			
74	Approval of Sub-contractor Condition	42 days	Sun 4/2/18	Sat 17/3/18	Calendar Day	73	87,82,83FS+10 days,86	100%	Sun 4/2/18	Sat 17/3/18	■																			
75	Submission of Supplier Selection Procedure	75 days	Thu 16/11/17	Mon 29/1/18	Calendar Day	4	76	100%	Thu 16/11/17	Mon 29/1/18	■																			
76	Approval of Supplier Selection Procedure	42 days	Tue 30/1/18	Mon 12/3/18	Calendar Day	75	92	100%	Tue 30/1/18	Mon 12/3/18	■																			
77	Subcontractor Selection and Subcontracting	1115 days	Thu 23/11/17	Fri 11/12/20	Calendar Day			100%	Thu 23/11/17	Fri 11/12/20	◆																			
78	Traffic Consultant for Investigation Works	30 days	Thu 23/11/17	Fri 22/12/17	Calendar Day	4		100%	Thu 23/11/17	Fri 22/12/17	■																			
79	Consultancy: Landscape for Investigation works	30 days	Fri 5/1/18	Sat 3/2/18	Calendar Day	4	250	100%	Fri 5/1/18	Sat 3/2/18	■																			
80	Consultancy: Traffic consultant	55 days	Wed 21/2/18	Mon 16/4/18	Calendar Day			100%	Wed 21/2/18	Mon 16/4/18	■																			
81	Environmental Team	9 days	Mon 16/4/18	Tue 24/4/18	Calendar Day		65	100%	Mon 16/4/18	Tue 24/4/18	■																			
82	Temporary site office, hoarding & project sign board	75 days	Thu 22/3/18	Mon 4/6/18	Calendar Day	74,72	89FS+13 days	100%	Thu 22/3/18	Mon 4/6/18	■																			
83	Consultancy: Independent Checking Engineer	12 days	Mon 14/5/18	Fri 25/5/18	Calendar Day	72FS+10 days,74FS+10 days		100%	Mon 14/5/18	Fri 25/5/18	■																			
84	Survey Services	23 days	Wed 26/9/18	Thu 18/10/18	Calendar Day			100%	Wed 26/9/18	Thu 18/10/18	■																			

Working Programme No. 15
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Task Split Milestone Summary Project Summary Inactive Task Inactive Milestone Inactive Summary Manual Task Duration-only Manual Summary Manual Summary Rollup External Tasks Start-only Finish-only 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	2019	2020	2021	2022	2023	2024	2025	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
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																				
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																				
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																				
88	Site Establishment	220 days	Tue 2/1/18	Thu 9/8/18	Calendar Day			100%	Tue 2/1/18	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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
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																				
126	Tendering & Approval	21 days	Mon 6/1/20	Sun 26/1/20	Calendar Day			100%	Mon 6/1/20	Sun 26/1/20																				

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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

Project: Mainlaying in Tseung Kwan O

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
338	Vertical Pipes, Exposed Pipes & Burned Pipes above MTR Tunnels (CH.FA0+50 to CH.FA0+85)	173 days	Fri 11/11/22	Wed 14/6/23	HK Working Day			0%	NA	NA	[Gantt bars for task 338]																				
339	Vertical pipes with Concrete Surround	30 days	Fri 11/11/22	Thu 15/12/22	HK Working Day	337	340	0%	NA	NA	[Gantt bars for task 339]																				
340	Exposed pipes with concrete surround	30 days	Fri 16/12/22	Thu 26/1/23	HK Working Day	339	341	0%	NA	NA	[Gantt bars for task 340]																				
341	Open cut pipe laying with concrete surround	30 days	Wed 10/5/23	Wed 14/6/23	HK Working Day	359,340		0%	NA	NA	[Gantt bars for task 341]																				
342	Hand Shield Pipe Jacking crossing Lohas Park Road	289 days	Thu 19/5/22	Tue 9/5/23	HK Working Day			0%	Thu 19/5/22	NA	[Gantt bars for task 342]																				
343	MTR's Consent for Construction of Pit E	0 days	Thu 19/5/22	Thu 19/5/22	HK Working Day		347	100%	Thu 19/5/22	Thu 19/5/22	[Milestone at 19/5]																				
344	MTR's Consent for Construction of Pit F	0 days	Wed 1/6/22	Wed 1/6/22	HK Working Day		348	99%	Wed 1/6/22	NA	[Milestone at 1/6]																				
345	MTR's Consent for Construction of Pit G	0 days	Mon 6/6/22	Mon 6/6/22	HK Working Day		349	99%	Mon 6/6/22	NA	[Milestone at 6/6]																				
346	Loading & Unloading TTA for Pit G	0 days	Mon 13/6/22	Mon 13/6/22	HK Working Day		349	99%	Mon 13/6/22	NA	[Milestone at 13/6]																				
347	Construction of Receiving Pit E	45 days	Mon 23/5/22	Fri 15/7/22	HK Working Day	318,320,343		0%	Mon 23/5/22	NA	[Gantt bars for task 347]																				
348	Construction of Jacking Pit F	45 days	Wed 1/6/22	Mon 25/7/22	HK Working Day	320,318,344	350	0%	NA	NA	[Gantt bars for task 348]																				
349	Construction of Receiving Pit G	45 days	Mon 13/6/22	Thu 4/8/22	HK Working Day	345,346		0%	NA	NA	[Gantt bars for task 349]																				
350	Establishment at Pit F	14 days	Tue 26/7/22	Wed 10/8/22	HK Working Day	348	351	0%	NA	NA	[Gantt bars for task 350]																				
351	Mild Steel Sleeve Pipe (Pit F - Pit E) in Soil Mix (40m; 0.4m/day)	100 days	Thu 11/8/22	Thu 8/12/22	HK Working Day	350	352	0%	NA	NA	[Gantt bars for task 351]																				
352	Mild Steel Sleeve Pipe (Pit F - Pit G) in Soil Mix (20m; 0.4m/day)	50 days	Fri 9/12/22	Sat 11/2/23	HK Working Day	351	353	0%	NA	NA	[Gantt bars for task 352]																				
353	Remove setup Including Thrust Wall at Pit F	6 days	Mon 13/2/23	Sat 18/2/23	HK Working Day	352	354	0%	NA	NA	[Gantt bars for task 353]																				
354	Setup for Pipe Laying inside jacking Pit F	6 days	Mon 20/2/23	Sat 25/2/23	HK Working Day	353	355	0%	NA	NA	[Gantt bars for task 354]																				
355	DN900 MS Pipe Laying from Pit F to Pit E (40m) (say 3 days per 4m)	30 days	Mon 27/2/23	Sat 1/4/23	HK Working Day	354	356	0%	NA	NA	[Gantt bars for task 355]																				
356	Modify Setup for Pipe Laying inside jacking Pit F	6 days	Mon 3/4/23	Thu 13/4/23	HK Working Day	355	357	0%	NA	NA	[Gantt bars for task 356]																				
357	DN900 MS Pipe Laying from Pit F to Pit G (20m) (say 3 days per 4m)	15 days	Fri 14/4/23	Tue 2/5/23	HK Working Day	356	358	0%	NA	NA	[Gantt bars for task 357]																				
358	Formwork & Setup for Grouting the gap between pipe and Sleeve	3 days	Wed 3/5/23	Fri 5/5/23	HK Working Day	357	359	0%	NA	NA	[Gantt bars for task 358]																				
359	Grouting Works (30 meter/day)	3 days	Sat 6/5/23	Tue 9/5/23	HK Working Day	358	341,361	0%	NA	NA	[Gantt bars for task 359]																				
360	Vertical Pipes, Exposed Pipes & Burned Pipes above MTR Tunnels (CH.FA1+50 to CH.FA2+17)	1657 days	Tue 7/11/17	Wed 14/6/23	HK Working Day			59%	Tue 7/11/17	NA	[Gantt bars for task 360]																				
361	Vertical pipes with Concrete Surround	30 days	Wed 10/5/23	Wed 14/6/23	HK Working Day	359		0%	NA	NA	[Gantt bars for task 361]																				
362	Exposed pipes with concrete surround	60 days	Tue 15/2/22	Fri 29/4/22	HK Working Day	366		0%	NA	NA	[Gantt bars for task 362]																				
363	Site Clearance at Storage Yard	3 days	Mon 1/11/21	Wed 3/11/21	HK Working Day	319	366	100%	Mon 1/11/21	Wed 3/11/21	[Milestone at 3/11/21]																				
364	Plate Load Tests for Tower P2	34 days	Tue 9/11/21	Fri 17/12/21	HK Working Day			100%	Tue 9/11/21	Fri 17/12/21	[Milestone at 17/12/21]																				
365	Construction footing of Tower P2 at CH.FA1+76	72 days	Sat 18/12/21	Fri 18/3/22	HK Working Day			100%	Sat 18/12/21	Fri 18/3/22	[Milestone at 18/3/22]																				
366	Open cut pipe laying with concrete surround (CH.FA1+76 to CH.FA2+04)	82 days	Thu 4/11/21	Mon 14/2/22	HK Working Day	363	362	100%	Thu 4/11/21	Mon 14/2/22	[Milestone at 14/2/22]																				
367	Open cut pipe laying from CH.FA2+04 to CH.FB0+03 & Connect to DN900SV Chamber	42 days	Tue 7/11/17	Wed 27/12/17	HK Working Day			0%	NA	NA	[Gantt bars for task 367]																				
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 bars for task 368]																				
369	Issue CE No. 05 - Feasibility Study Realignment of pipeline at Tseung Kwan O Stage I Landfill	0 days	Thu 23/8/18	Thu 23/8/18	Calendar Day			100%	Thu 23/8/18	Thu 23/8/18	[Milestone at 23/8]																				
370	Issue CE No. 36 - Realignment of Watermain along the Bituminous Road adjacent to Lohas Park Road	0 days	Fri 22/5/20	Fri 22/5/20	Calendar Day			100%	Fri 22/5/20	Fri 22/5/20	[Milestone at 22/5]																				
371	Issue CE No. 34 - Realignment of Watermain along TKO Stage I Landfill	0 days	Tue 5/11/19	Tue 5/11/19	Calendar Day			100%	Tue 5/11/19	Tue 5/11/19	[Milestone at 5/11]																				
372	TKO Landfill Stage I Area A (CH.FB0+00 to CH.FB5+34)	712 days	Fri 15/5/20	Fri 7/10/22	HK Working Day		764	85%	Fri 15/5/20	NA	[Gantt bars for task 372]																				
373	CH.FB0+00 DN300 Washout Chamber	60 days	Tue 7/12/21	Mon 21/2/22	HK Working Day	374		0%	NA	NA	[Gantt bars for task 373]																				
374	CH.FB0+00 - CH.FB 1+66 OC with DN900 Valve Chamber with DN150 by-pass	372 days	Sat 5/9/20	Mon 6/12/21	HK Working Day		373	100%	Sat 5/9/20	Mon 6/12/21	[Milestone at 6/12/21]																				
375	CH.FB1+66 - CH.FB 5+39 OC	379 days	Fri 15/5/20	Sat 21/8/21	HK Working Day			100%	Fri 15/5/20	Sat 21/8/21	[Milestone at 21/8/21]																				
376	CH.FB5+34 - CH.FC 0+00 OC	101 days	Mon 12/4/21	Wed 11/8/21	HK Working Day	394	381	100%	Mon 12/4/21	Wed 11/8/21	[Milestone at 11/8/21]																				
377	CH.FB 5+34 DN300 DN600 IT Chamber	30 days	Tue 21/6/22	Tue 26/7/22	HK Working Day	411	378	0%	NA	NA	[Gantt bars for task 377]																				
378	CH.FB 5+34 DN300 Washout Chamber	60 days	Wed 27/7/22	Fri 7/10/22	HK Working Day	377		0%	NA	NA	[Gantt bars for task 378]																				
379	TKO South Waterfront Promenade (CH.FC0+00 - CH.FC 4+87)	443 days	Wed 26/2/20	Tue 24/8/21	HK Working Day			100%	Wed 26/2/20	Tue 24/8/21	[Milestone at 24/8/21]																				

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	Timeline																			
											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							
422	Open Trench Crossing Pung Loi Avenue	156 days	Mon 20/6/22	Fri 23/12/22	HK Working Day			0%	NA	NA																				
423	Obtain Access from EPD (TKO Landfill Stage I Area B)	14 days	Mon 20/6/22	Thu 7/7/22	HK Working Day	411	424	0%	NA	NA																				
424	CH.FD0+00 - CH.FD0+65 OC	100 days	Fri 8/7/22	Fri 4/11/22	HK Working Day	420,423	425	0%	NA	NA																				
425	Construction DN900 SV Chamber at CH.FD0+25	42 days	Sat 5/11/22	Fri 23/12/22	HK Working Day	424		0%	NA	NA																				
426	Exposed Pipe From CH.FDD0+65 to FDSKR+00	337 days	Mon 3/1/22	Wed 22/2/23	HK Working Day			36%	Mon 3/1/22	NA																				
427	Excavation In Slope Toe; Construction of Flooding Protection Wall with U-Channel, Length = 135m, @12m @18days	216 days	Wed 12/1/22	Thu 6/10/22	HK Working Day	421,417	428	50%	Wed 12/1/22	NA																				
428	Exposed Pipe, Length = 173m, with concrete saddle Supports	42 days	Fri 7/10/22	Thu 24/11/22	HK Working Day	427	430	0%	NA	NA																				
429	3 nos. Trial Pit Excavation under existing Flyover	14 days	Mon 3/1/22	Tue 18/1/22	HK Working Day	421		100%	Mon 3/1/22	Tue 18/1/22																				
430	DN1200 Pipe Laying on Concrete Support with Concrete Hunching	65 days	Fri 25/11/22	Wed 15/2/23	HK Working Day	428	431,433	0%	NA	NA																				
431	Apply top coating of aliphatic polyurethane on site	6 days	Thu 16/2/23	Wed 22/2/23	HK Working Day	430	435	0%	NA	NA																				
432	Open Trench Connecting Trenchless and Exposed Pipe	230 days	Thu 16/2/23	Thu 23/11/23	HK Working Day			0%	NA	NA																				
433	CH.FSKR+00 to CH.FD3+15 OC	90 days	Thu 16/2/23	Wed 7/6/23	HK Working Day	430	435,434	0%	NA	NA																				
434	CH.FDD3+15 to CH.FDD3+51 OC with DN900 Valve Chamber and By-pass Pipe and Connection to Pit WPR1	80 days	Thu 8/6/23	Mon 11/9/23	HK Working Day	433	435,764,765	0%	NA	NA																				
435	Make Good Slope Toe and Landscape Work	60 days	Tue 12/9/23	Thu 23/11/23	HK Working Day	433,434,431		0%	NA	NA																				
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																				
437	Trial Pit at Working Pit WPR1	36 days	Thu 20/8/20	Wed 30/9/20	HK Working Day			100%	Thu 20/8/20	Wed 30/9/20																				
438	Trial Pit at Working Pit G1A	12 days	Sun 1/11/20	Sat 14/11/20	HK Working Day			100%	Sun 1/11/20	Sat 14/11/20																				
439	Issue CE No. 59 - Realignment of Water Main near Pung Loi Road and Po Yap Roundabout	0 days	Fri 13/11/20	Fri 13/11/20	Calendar Day	439	440,444	100%	Fri 13/11/20	Fri 13/11/20																				
440	Tender Process and Tender Award for CE No. 59	99 days	Fri 13/11/20	Fri 19/2/21	Calendar Day	439	441	100%	Fri 13/11/20	Fri 19/2/21																				
441	Design & Method Statement Submission and Approval ; Preparation Works for Pit J1A	93 days	Sat 20/2/21	Wed 16/6/21	HK Working Day	440	465,442,443	100%	Sat 20/2/21	Wed 16/6/21																				
442	Design & Method Statement Submission and Approval ; Preparation Works for Pit G1A	125 days	Thu 17/6/21	Sat 13/11/21	HK Working Day	441	452	100%	Thu 17/6/21	Sat 13/11/21																				
443	Design & Method Statement Submission and Approval ; Preparation Works for Pit WPR1	125 days	Thu 17/6/21	Sat 13/11/21	HK Working Day	441	450	100%	Thu 17/6/21	Sat 13/11/21																				
444	TTA preparation, SLG meetings and obtain RA	293 days	Fri 13/11/20	Wed 1/9/21	Calendar Day	439	448	100%	Fri 13/11/20	Wed 1/9/21																				
445	Trenchless Crossing MTR Tunnels (Pit WPR1 to Pit G1A)	717 days	Fri 9/10/20	Sat 11/3/23	HK Working Day			50%	Fri 9/10/20	NA																				
446	Inspection Pit at Location of Pit G1A	19 days	Fri 9/10/20	Sun 1/11/20	HK Working Day			100%	Fri 9/10/20	Sun 1/11/20																				
447	Construction of Jacking Pit / Receiving Pit (TBM)	151 days	Wed 1/9/21	Sat 5/3/22	HK Working Day			100%	Wed 1/9/21	Sat 5/3/22																				
448	Obtain consent for vehicular access construction for WPR1	0 days	Wed 1/9/21	Wed 1/9/21	HK Working Day	444		100%	Wed 1/9/21	Wed 1/9/21																				
449	Tree Truning at WPR1	2 days	Wed 3/11/21	Thu 4/11/21	HK Working Day		450	100%	Wed 3/11/21	Thu 4/11/21																				
450	Jacking Pit WPR1 (Near Pung Loi Road)	91.2 days	Fri 5/11/21	Sat 5/3/22	HK Working Day	449,443	454	100%	Fri 5/11/21	Sat 5/3/22																				
451	Planter Removal and Access Formation to pit G1A	13 days	Wed 1/9/21	Wed 15/9/21	HK Working Day		452	100%	Wed 1/9/21	Wed 15/9/21																				
452	Receiving Pit G1A (Near Po Yap Road)	91 days	Mon 27/9/21	Sat 15/1/22	HK Working Day	451,442	470,454	100%	Mon 27/9/21	Sat 15/1/22																				
453	TBM Pipe Jacking (WPR1 to J1A)	301 days	Mon 7/3/22	Sat 11/3/23	HK Working Day			14%	Mon 7/3/22	NA																				
454	TBM Establishment at Pit WPR1	38 days	Mon 7/3/22	Sat 23/4/22	HK Working Day	450,452	455	100%	Mon 7/3/22	Sat 23/4/22																				
455	Jacking DN1600 Precast Concrete Sleeve Pipe (224m; 2.0m/day)	112 days	Sun 24/4/22	Tue 6/9/22	HK Working Day	454	456	5%	Sun 24/4/22	NA																				
456	Remove setup including Thrust Wall at Pit WPR1	14 days	Wed 7/9/22	Fri 23/9/22	HK Working Day	455	457	0%	NA	NA																				
457	Setup for Pipe Laying inside Jacking Pit WPR1	6 days	Sat 24/9/22	Fri 30/9/22	HK Working Day	456	458	0%	NA	NA																				
458	DN1200 MS Pipe Laying inside Jacking Pipe (224m) (3 days per 8m)	84 days	Mon 3/10/22	Thu 12/1/23	HK Working Day	457	459	0%	NA	NA																				
459	Formwork & Setup for Grouting the gap between pipe and Sleeve	3 days	Fri 13/1/23	Mon 16/1/23	HK Working Day	458	460	0%	NA	NA																				
460	Grouting Works (30m per day)	8 days	Tue 17/1/23	Sat 28/1/23	HK Working Day	459	461	0%	NA	NA																				
461	Pipe Connection inside Working Pit WPR1	18 days	Mon 30/1/23	Sat 18/2/23	HK Working Day	460	462	0%	NA	NA																				
462	Remove ELS including extracting sheet piles at Pit WPR1; Reinstatement	18 days	Mon 20/2/23	Sat 11/3/23	HK Working Day	461		0%	NA	NA																				
463	Trenchless Works (Pit G1A or Pit J1A)	320 days	Mon 3/5/21	Tue 31/5/22	HK Working Day			97%	Mon 3/5/21	NA																				

Task Split	Summary	Inactive Milestone	Duration-only	Start-only	External Milestone	Critical Split
Milestone	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline	Progress
	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
590	TTA preparation, SLG meetings, obtain RA and implement Advanced Works	100 days	Mon 3/8/20	Tue 10/11/20	Calendar Day	585		100%	Mon 3/8/20	Tue 10/11/20	[Gantt bars for 590-593]																				
591	Ground Investigation at Pit R	1 day	Mon 21/12/20	Mon 21/12/20	HK Working Day			100%	Mon 21/12/20	Mon 21/12/20	[Gantt bar for 591]																				
592	Issue EWN No. 269 - Unexpected High Rockhead Level Encountered at Working Pit R	0 days	Fri 8/1/21	Fri 8/1/21	HK Working Day			100%	Fri 8/1/21	Fri 8/1/21	[Gantt bar for 592]																				
593	Receiving of Drawing No. SK40134-517 for Changing Construction Method and Alignment from Pit P to Pit T	0 days	Fri 30/7/21	Fri 30/7/21	HK Working Day			100%	Fri 30/7/21	Fri 30/7/21	[Gantt bar for 593]																				
594	Trenchless Works from Pit P to Mau Wu Tsai Abandon Road	688 days	Tue 24/11/20	Wed 22/3/23	HK Working Day		765	54%	Tue 24/11/20	NA	[Gantt bar for 594]																				
595	Issue EWN No. 241 for Tree Issue for Changing Trenchless (Pit S to Pit T) to Open Cut at Control Site (CS-108)	0 days	Tue 24/11/20	Tue 24/11/20	HK Working Day		626	100%	Tue 24/11/20	Tue 24/11/20	[Gantt bar for 595]																				
596	TBM Pipe Jacking (Pit P to Pit Y)	554 days	Wed 12/5/21	Wed 22/3/23	HK Working Day			39%	Wed 12/5/21	NA	[Gantt bar for 596]																				
597	WSD agreed to carry out Horizontal grout from Pit P to Pit Y (45m)	0 days	Wed 12/5/21	Wed 12/5/21	HK Working Day		598	100%	Wed 12/5/21	Wed 12/5/21	[Gantt bar for 597]																				
598	Mobilization and Carry out Horizontal grouting	43 days	Wed 12/5/21	Sat 3/7/21	HK Working Day	597	600	100%	Wed 12/5/21	Sat 3/7/21	[Gantt bar for 598]																				
599	Receiving Pit Y	74 days	Fri 25/6/21	Mon 20/9/21	HK Working Day			100%	Fri 25/6/21	Mon 20/9/21	[Gantt bar for 599]																				
600	Establishment and Set up for pipe jacking at Pit P	93 days	Mon 5/7/21	Sat 23/10/21	HK Working Day	598	601	100%	Mon 5/7/21	Sat 23/10/21	[Gantt bar for 600]																				
601	Jacking DN1600 Precast Concrete Sleeve Pipe	79 days	Mon 25/10/21	Thu 27/1/22	HK Working Day	600		100%	Mon 25/10/21	Thu 27/1/22	[Gantt bar for 601]																				
602	Stop Works due to incident at KMB deport	106 days	Thu 27/1/22	Thu 12/5/22	Calendar Day		603FF	100%	Thu 27/1/22	Thu 12/5/22	[Gantt bar for 602]																				
603	WSD obtained approval from TD, KMD and HyD	0 days	Thu 12/5/22	Thu 12/5/22	Calendar Day	602FF	604	100%	Thu 12/5/22	Thu 12/5/22	[Gantt bar for 603]																				
604	Constuction of Rescure Pit at KMB Depot and Remove TBM	90 days	Fri 13/5/22	Sat 27/8/22	HK Working Day	603	606,608,609,605	1%	Fri 13/5/22	NA	[Gantt bar for 604]																				
605	Pipe Laying from Pit P to Rescure Pit at KMB Depot	54 days	Mon 29/8/22	Wed 2/11/22	HK Working Day	604	610	0%	NA	NA	[Gantt bar for 605]																				
606	Open Cut at KMB Depot Stage 1	72 days	Mon 29/8/22	Wed 23/11/22	HK Working Day	604	607	0%	NA	NA	[Gantt bar for 606]																				
607	Open Cut at KMB Depot Stage 2	72 days	Thu 24/11/22	Wed 22/2/23	HK Working Day	606		0%	NA	NA	[Gantt bar for 607]																				
608	Open Cut outside at KMB Depot along Po Hong Road Green Area	72 days	Mon 29/8/22	Wed 23/11/22	HK Working Day	604		0%	NA	NA	[Gantt bar for 608]																				
609	Open Cut Across Po Hong Road (Lane by Lane, 42 W.D. per lanes; 4 Stage)	168 days	Mon 29/8/22	Wed 22/3/23	HK Working Day	604		0%	NA	NA	[Gantt bar for 609]																				
610	Pipe Connection inside Working Pit P	18 days	Mon 28/11/22	Sat 17/12/22	HK Working Day	605,511	611	0%	NA	NA	[Gantt bar for 610]																				
611	Construction of Combined chamber at Pit P	48 days	Mon 19/12/22	Sat 18/2/23	HK Working Day	610	612	0%	NA	NA	[Gantt bar for 611]																				
612	Remove ELS including extracting sheet piles at Pit P; Reinstatement	18 days	Mon 20/2/23	Sat 11/3/23	HK Working Day	611		0%	NA	NA	[Gantt bar for 612]																				
613	Hand Shield Pipe Jacking from Pit R to Pit Y	300 days	Fri 18/12/20	Wed 22/12/21	HK Working Day			100%	Fri 18/12/20	Wed 22/12/21	[Gantt bar for 613]																				
614	Issue CE No. 94 - 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		416	100%	Fri 18/12/20	Fri 18/12/20	[Gantt bar for 614]																				
615	Jacking / Receiving Pit R	25 days	Fri 16/7/21	Fri 13/8/21	HK Working Day		616	100%	Fri 16/7/21	Fri 13/8/21	[Gantt bar for 615]																				
616	Establishment at Pit R	10 days	Sat 14/8/21	Wed 25/8/21	HK Working Day	615	617	100%	Sat 14/8/21	Wed 25/8/21	[Gantt bar for 616]																				
617	Mild Steel Sleeve Pipe in Mix of Soil (26m)(0.8m/day)	35 days	Thu 26/8/21	Thu 7/10/21	HK Working Day	616	618	100%	Thu 26/8/21	Thu 7/10/21	[Gantt bar for 617]																				
618	Remove Setup at Pit R	13 days	Fri 8/10/21	Sat 23/10/21	HK Working Day	617	619	100%	Fri 8/10/21	Sat 23/10/21	[Gantt bar for 618]																				
619	Setup for Pipe Laying inside Jacking Pit R	12 days	Mon 25/10/21	Sat 6/11/21	HK Working Day	618	620	100%	Mon 25/10/21	Sat 6/11/21	[Gantt bar for 619]																				
620	DN1200 MS Pipe Laying inside Jacking Pipe (3 days per 4m)(Only Internal Coating)	13 days	Fri 5/11/21	Fri 19/11/21	HK Working Day	619	621	100%	Fri 5/11/21	Fri 19/11/21	[Gantt bar for 620]																				
621	Formwork & Setup for Grouting the gap between pipe and Sleeve	2 days	Sat 20/11/21	Mon 22/11/21	HK Working Day	620	622	100%	Sat 20/11/21	Mon 22/11/21	[Gantt bar for 621]																				
622	Grouting Works	9 days	Mon 13/12/21	Wed 22/12/21	HK Working Day	621	624	100%	Mon 13/12/21	Wed 22/12/21	[Gantt bar for 622]																				
623	Open Cut Excavation from Pit R to Mau Wu Tsai Abandon Road	239 days	Mon 10/5/21	Fri 25/2/22	HK Working Day		767	100%	Mon 10/5/21	Fri 25/2/22	[Gantt bar for 623]																				
624	Open Cut, CH.HA0+28 - CH.HA0+48 with DAV Chamber (Connecting to Pit R)	49 days	Fri 24/12/21	Fri 25/2/22	HK Working Day	622,627	625	100%	Fri 24/12/21	Fri 25/2/22	[Gantt bar for 624]																				
625	Construction of DN900 Valve Chamber with by-pass at CH.HA0+44	36 days	Fri 24/12/21	Thu 10/2/22	HK Working Day	624		100%	Fri 24/12/21	Thu 10/2/22	[Gantt bar for 625]																				
626	Open Cut, CH.HA0+48 - CH.HA 1+20 OC with DN600 IT Chamber (Connecting Original CH.HA0+80)	75 days	Mon 10/5/21	Sun 8/8/21	HK Working Day	635,595	627	100%	Mon 10/5/21	Sun 8/8/21	[Gantt bar for 626]																				
627	Construction of Wash Out Chamber & Reserved Tee at CH.HA0+49	36 days	Mon 23/8/21	Tue 5/10/21	HK Working Day	626	624	100%	Mon 23/8/21	Tue 5/10/21	[Gantt bar for 627]																				
628	Open Trench Pipe laying at Abandoned Road	451 days	Tue 22/9/20	Thu 31/3/22	HK Working Day		767	91%	Tue 22/9/20	NA	[Gantt bar for 628]																				
629	Issue CE No. 121 - Non-explosive agent in Abandoned Road Near Mau Wu Tsai Village	0 days	Fri 25/6/21	Fri 25/6/21	HK Working Day			100%	Fri 25/6/21	Fri 25/6/21	[Gantt bar for 629]																				
630	Issue CE No. 70 - Landscaping Survey near Mau Wu Tsai Village	0 days	Tue 22/9/20	Tue 22/9/20	HK Working Day			100%	Tue 22/9/20	Tue 22/9/20	[Gantt bar for 630]																				
631	Issue CE No. 86 - Tree Affected in Mainlaying Works near Mau Wu Tsai Village	0 days	Mon 12/10/20	Mon 12/10/20	HK Working Day		632	100%	Mon 12/10/20	Mon 12/10/20	[Gantt bar for 631]																				

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																								
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																								
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	◆ 31/3																							
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
653	Remove Setup at 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																								
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																								
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																								
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																								
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																								
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																								
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	◆ 20/7																							
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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																								
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	◆ 5/5																							
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																								
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	◆ 28/10																							

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
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	[Gantt bar from 31/8/20 to 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	[Gantt bar from 9/6/21 to 24/5/22]																				
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	[Gantt bar from 9/6/21 to 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	[Gantt bar from 9/7/21 to 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	[Gantt bar from 17/7/21 to 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	[Gantt bar from 16/8/21 to 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	[Gantt bar from 11/10/21 to 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	[Gantt bar from 1/3/22 to 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	[Gantt bar from 18/3/22 to 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	[Gantt bar from 18/3/22 to 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	[Gantt bar from 23/5/22 to 24/5/22]																				
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	[Gantt bar from 5/10/21 to 29/7/22]																				
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	[Gantt bar from 5/10/21 to 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	[Gantt bar from 28/10/21 to 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	[Gantt bar from 26/11/21 to 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	[Gantt bar from 15/12/21 to 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	[Gantt bar from 26/2/22 to 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	[Gantt bar from 21/3/22 to 27/7/22]																				
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	[Gantt bar from 28/7/22 to 29/7/22]																				
693	Pipelaying on Mini-pile Foundation	66 days	Sat 30/7/22	Tue 18/10/22	HK Working Day			0%	NA	NA	[Gantt bar from 30/7/22 to 18/10/22]																				
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	[Gantt bar from 30/7/22 to 5/8/22]																				
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	[Gantt bar from 6/8/22 to 19/8/22]																				
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	[Gantt bar from 20/8/22 to 17/9/22]																				
697	Concrete Hunching	12 days	Mon 19/9/22	Mon 3/10/22	HK Working Day	696	698	0%	NA	NA	[Gantt bar from 19/9/22 to 3/10/22]																				
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	[Gantt bar from 5/10/22 to 11/10/22]																				
699	Remove Temporary Working Platform	6 days	Wed 12/10/22	Tue 18/10/22	HK Working Day	698	702	0%	NA	NA	[Gantt bar from 12/10/22 to 18/10/22]																				
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	[Gantt bar from 8/4/21 to 14/2/23]																				
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	[Gantt bar from 19/9/22 to 29/11/22]																				
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	[Gantt bar from 30/11/22 to 14/2/23]																				
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	[Gantt bar from 16/6/21 to 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	[Gantt bar from 24/11/21 to 10/2/22]																				
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	[Gantt bar from 11/2/22 to 26/4/22]																				
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	[Gantt bar from 27/4/22 to 9/7/22]																				
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	[Gantt bar from 14/9/21 to 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	[Gantt bar from 8/4/21 to 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	[Gantt bar from 16/6/20 to 19/1/23]																				
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	[Milestone diamond at 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	[Gantt bar from 17/6/20 to 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	[Milestone diamond at 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	[Milestone diamond at 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	[Milestone diamond at 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	[Milestone diamond at 1/11/21]																				

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 Chart]																							
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]																							
760	Static Pressure Test	1112 days	Wed 24/3/21	Mon 8/4/24	Calendar Day			18%	Wed 24/3/21	NA	[Gantt Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
781	Sterilization and Water Sampling	30 days	Mon 8/7/24	Tue 6/8/24	Calendar Day			0%	NA	NA	[Gantt Chart]																							
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 Chart]																							
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]																							
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 Chart]																							
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 Chart]																							
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]																							
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 Chart]																							
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 Chart]																							
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]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
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 Chart]																							
797		1 day	Tue 7/11/17	Tue 7/11/17	None			0%	NA	NA	[Gantt Chart]																							

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

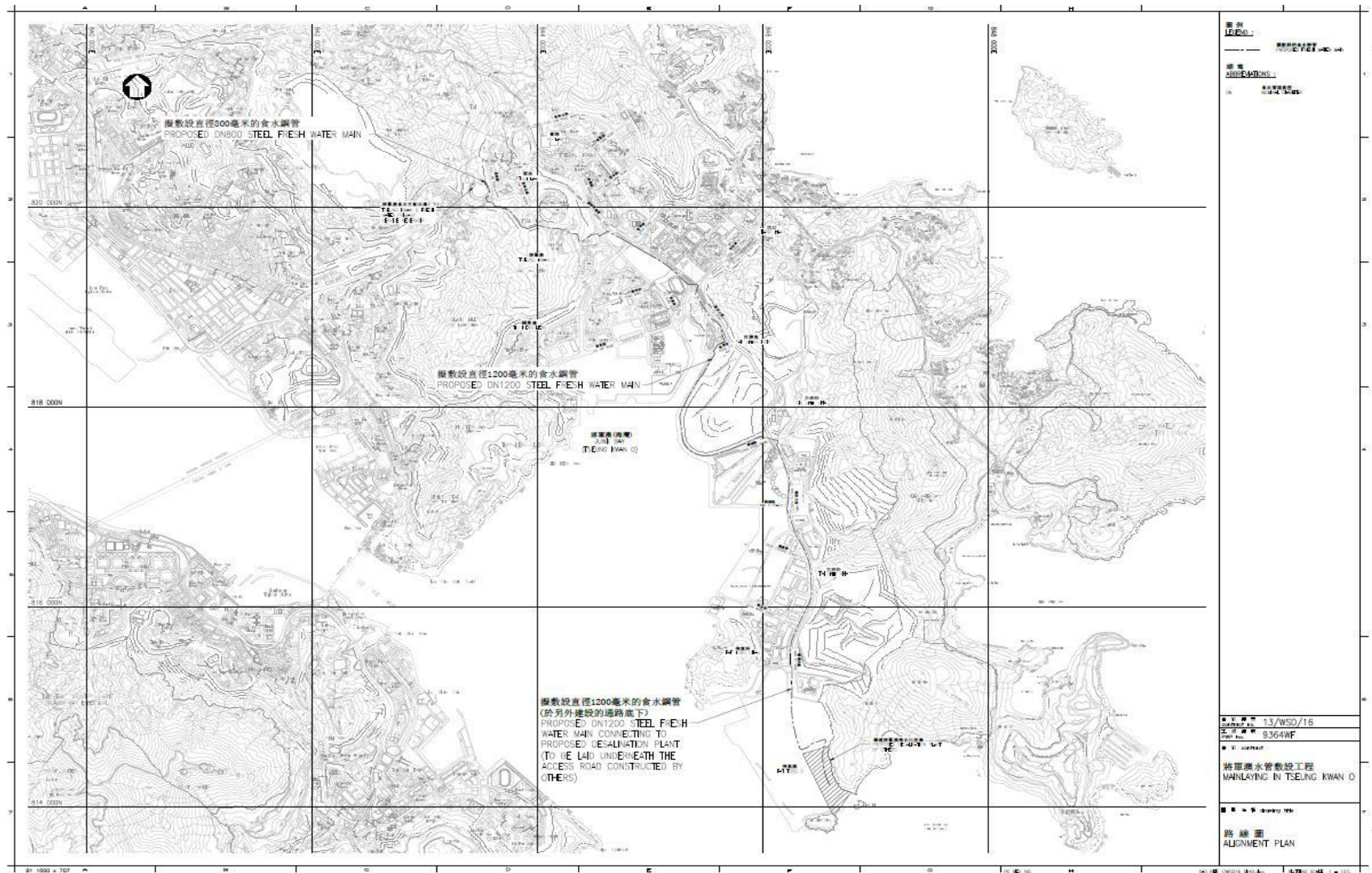


Figure B1. Overview of Mainlaying in TKO

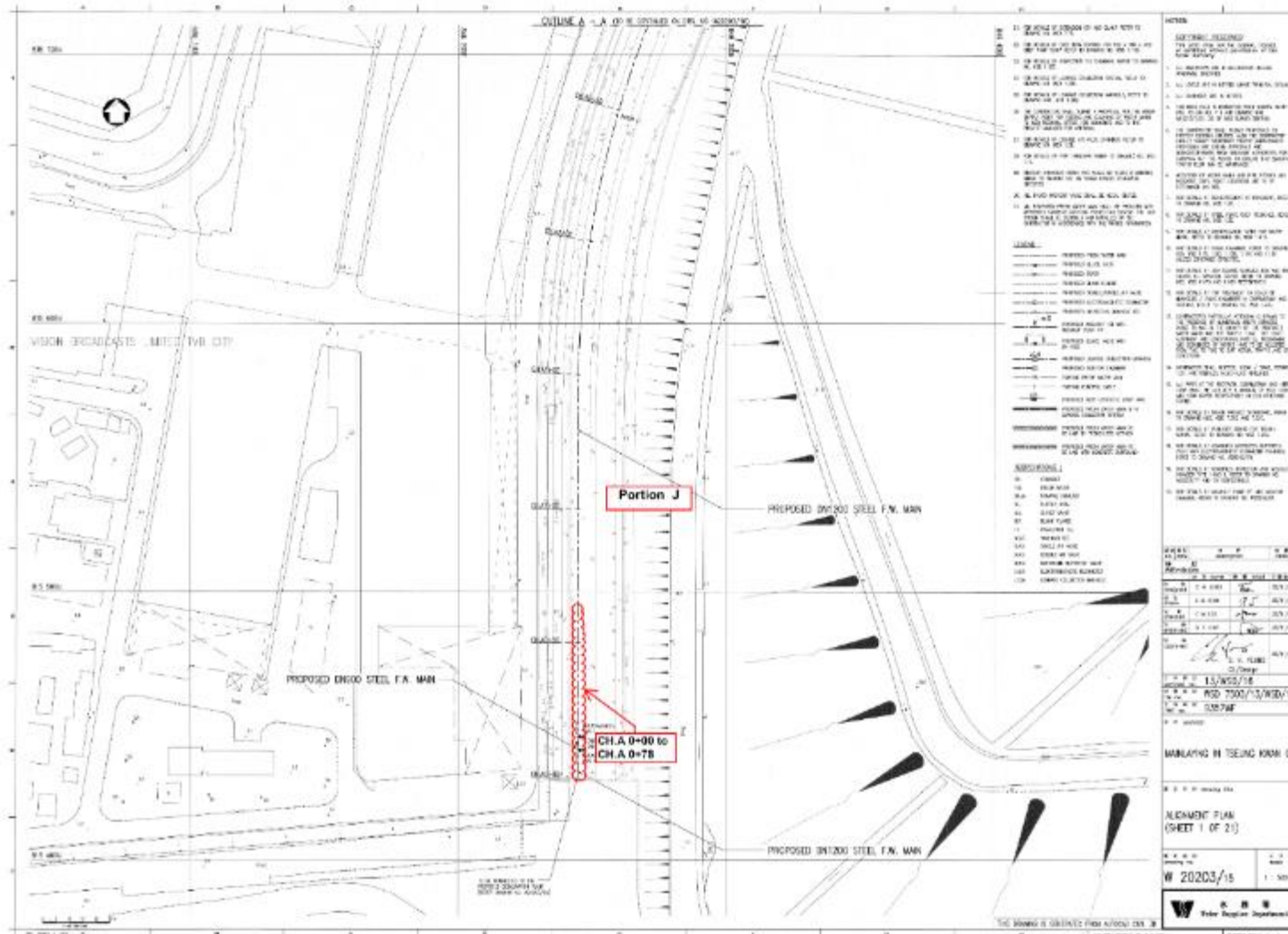


Figure B2. Location Plan for Portion J - CH.A 0+00 to CH.A 0+78

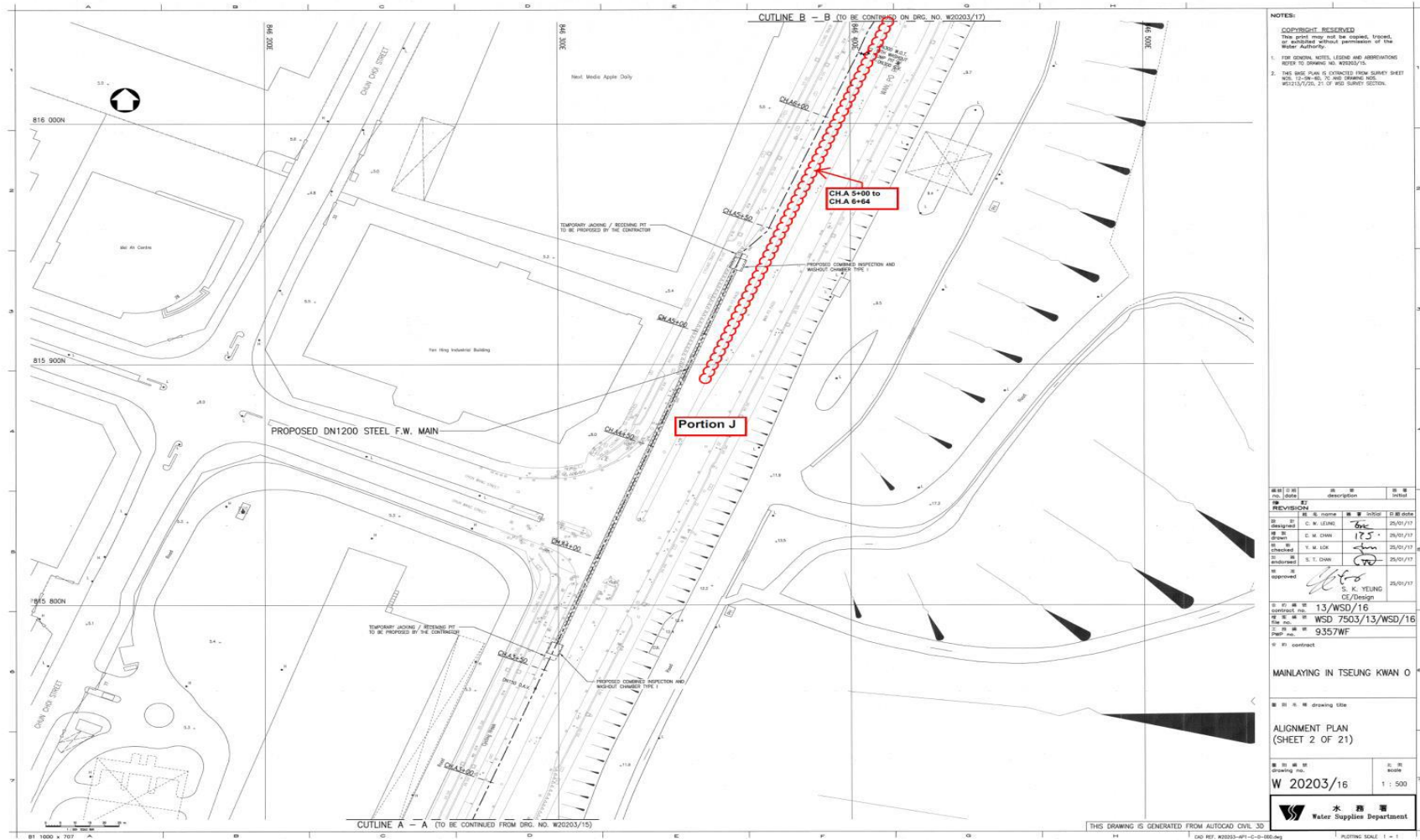


Figure B3. Location Plan for Portion J - CH.A 5+00 to CH.A 6+64

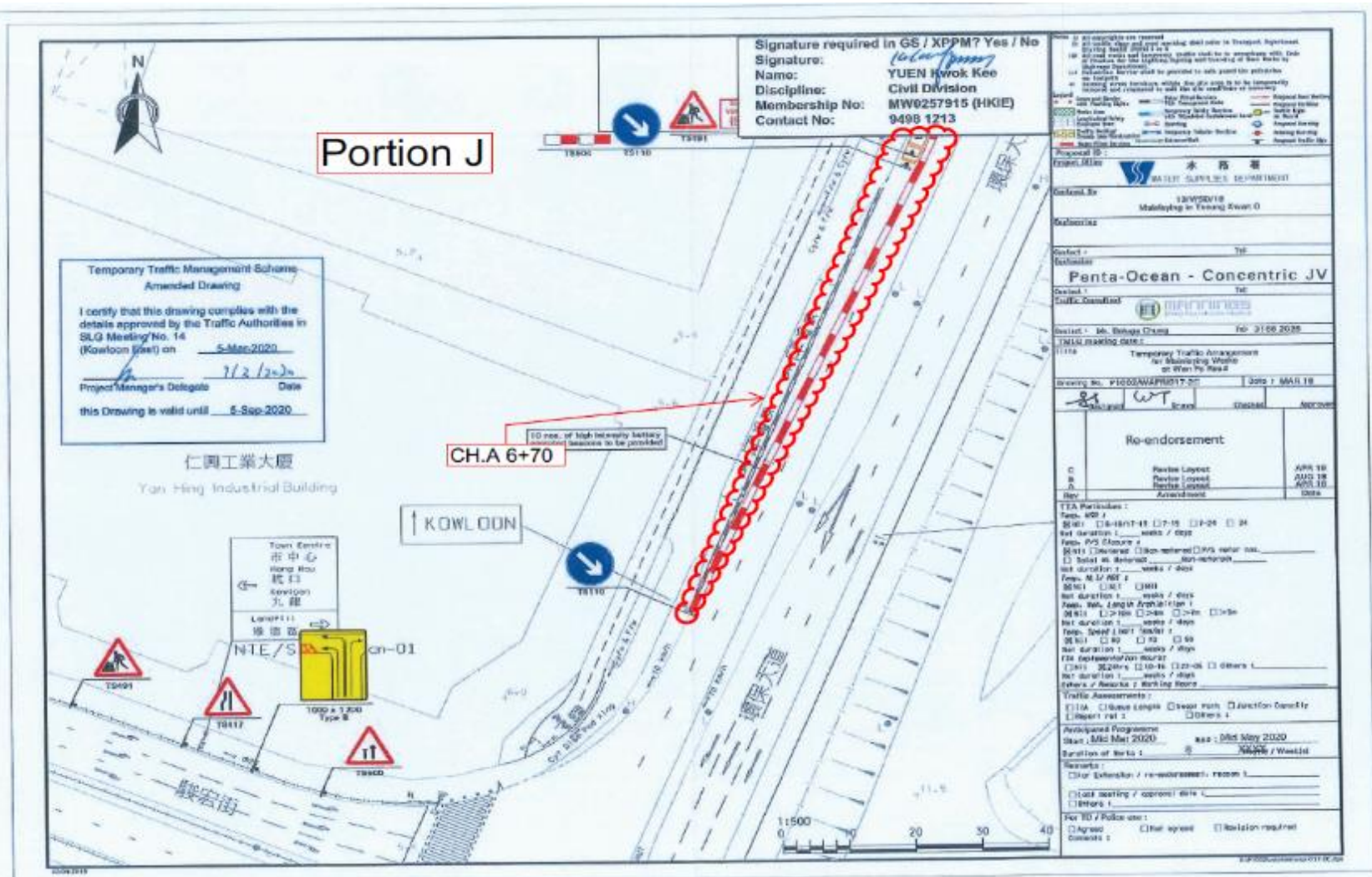


Figure B5. Location Plan for Portion J - CH.A 6+70

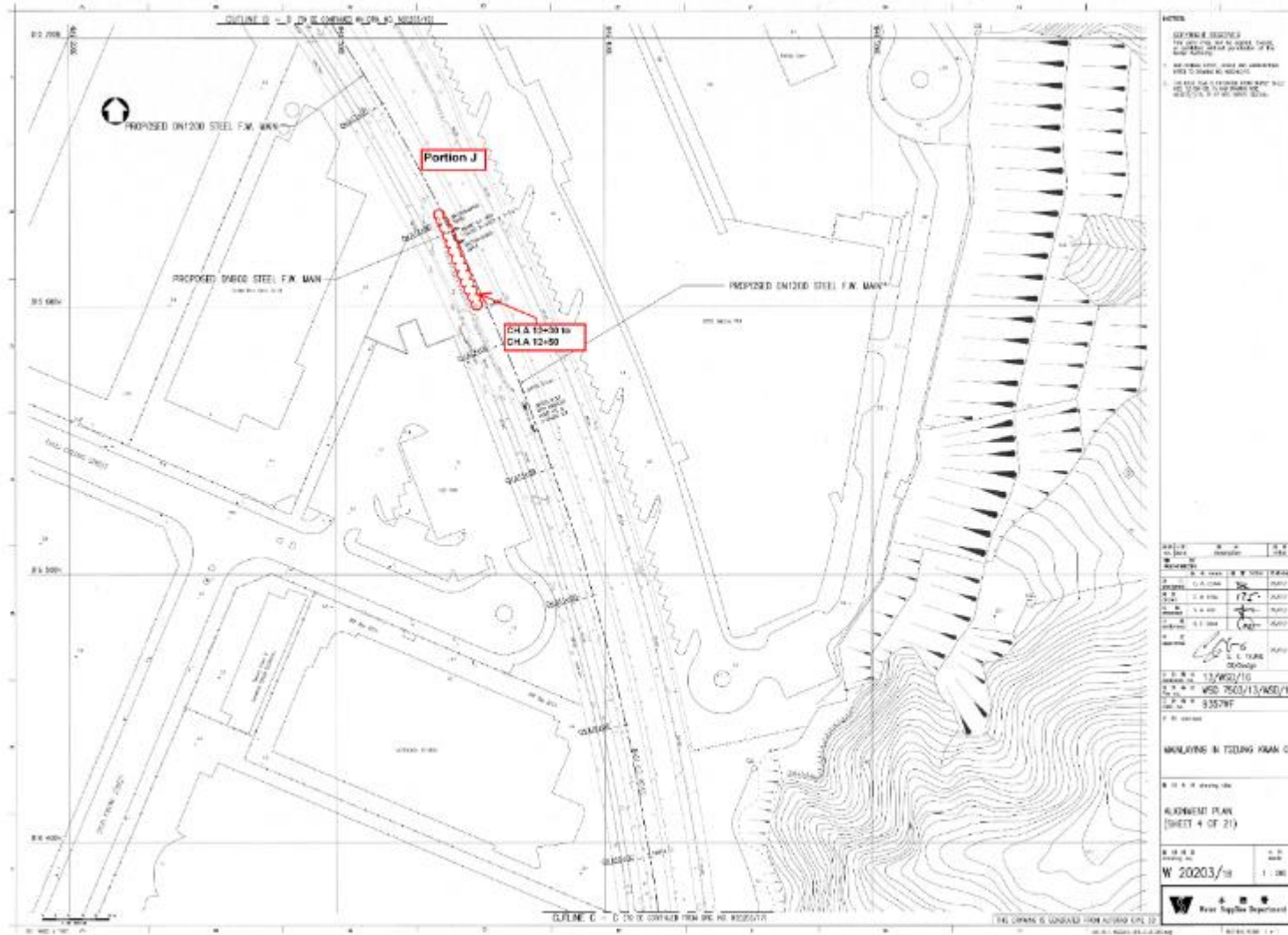


Figure B6. Location Plan for Portion J - CH.A 12+30 to CH.A 12+50

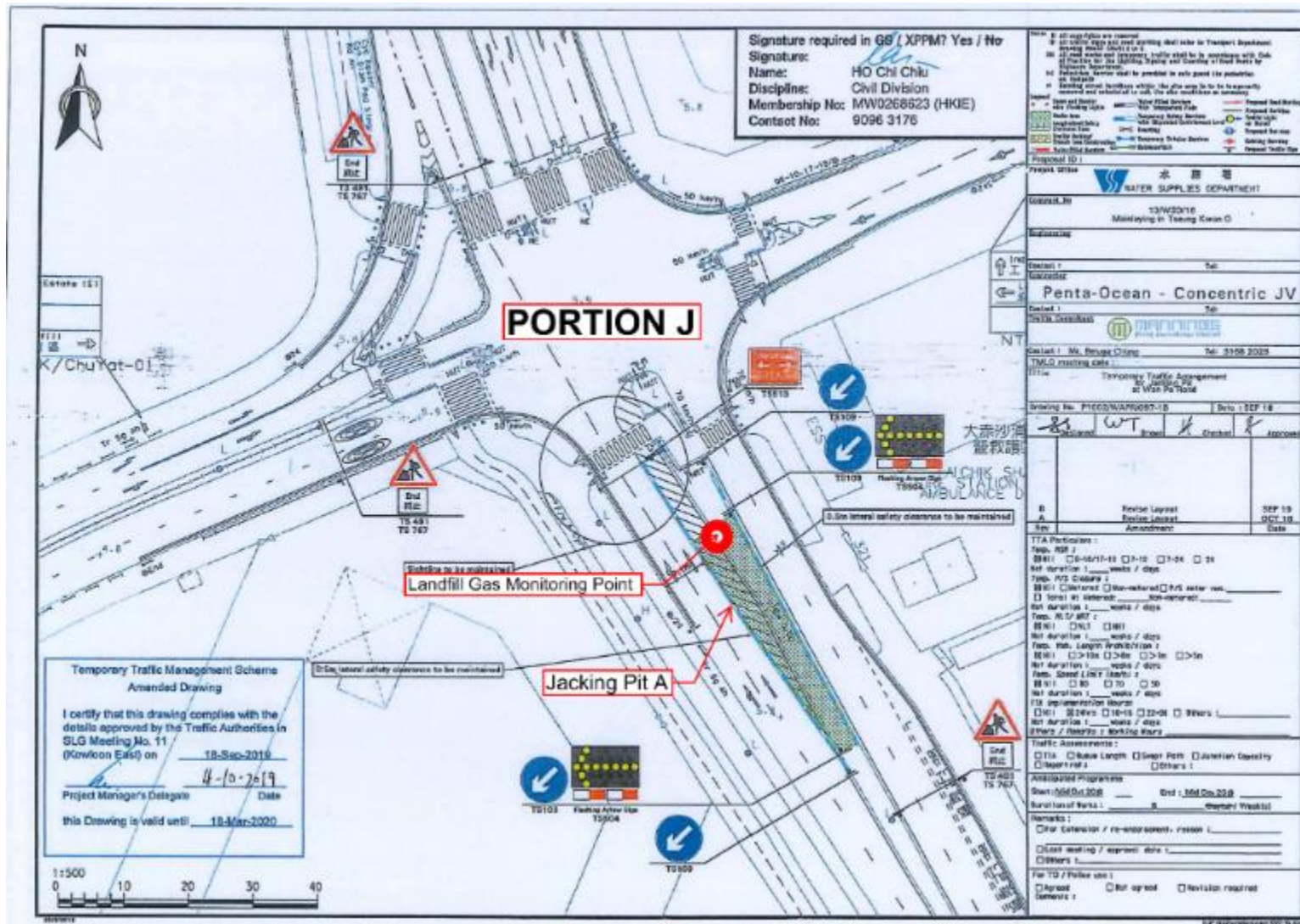


Figure B7. Location Plan for Portion J – CH. A13+50 to CH.A 14+00 (Pit A)

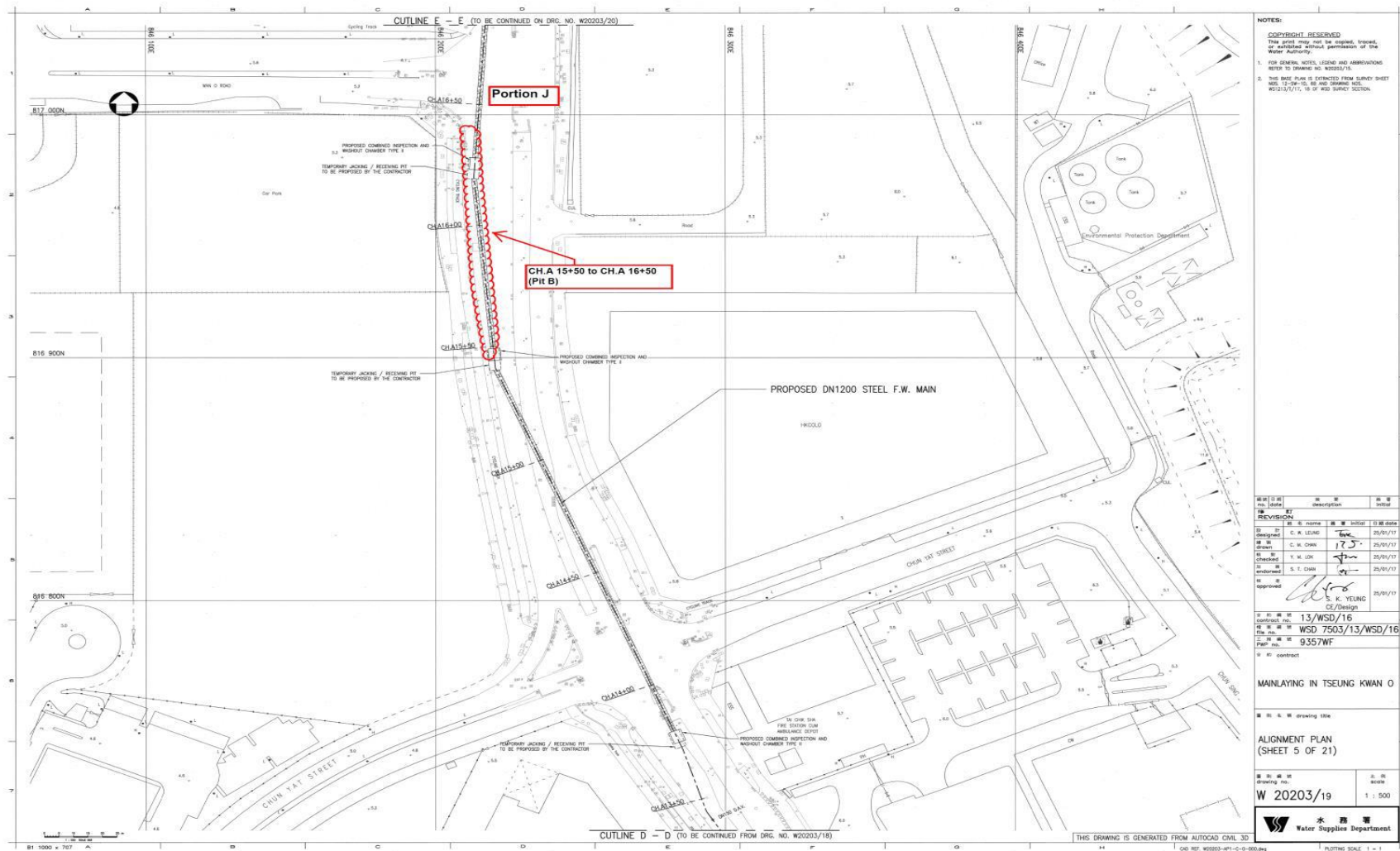


Figure B8. Location Plan for Portion J – CH. A15+50 to CH.A 16+50 (Pit B)

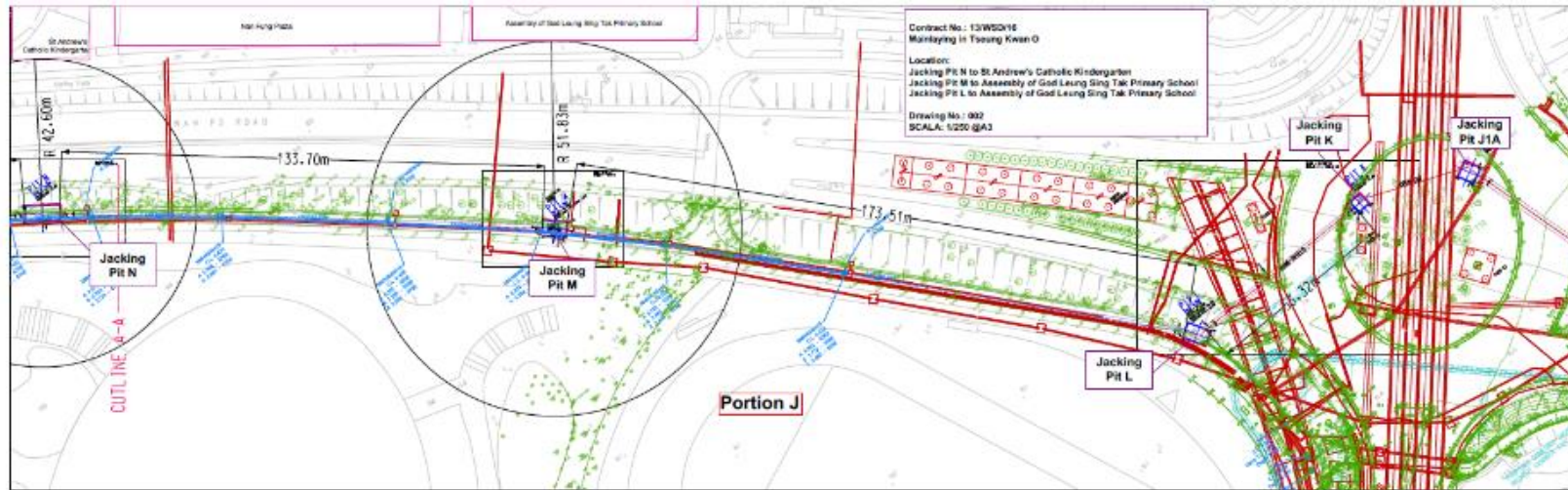


Figure B8a. Location Plan for Portion J – Pit L-M-N, K, J1A

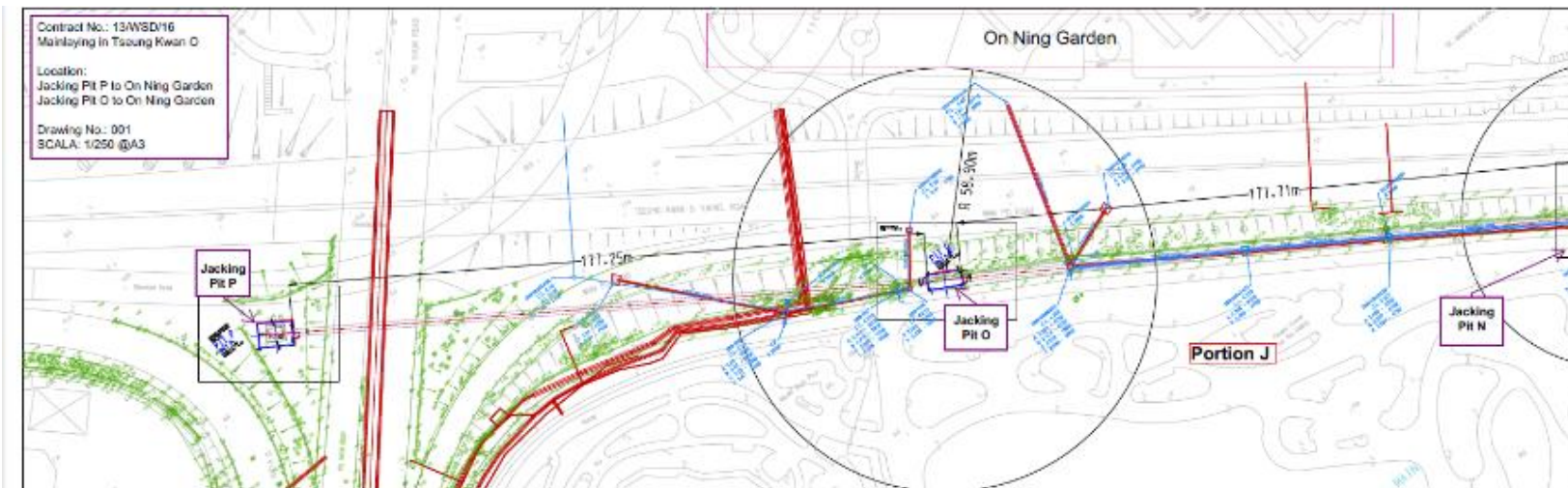


Figure B8b. Location Plan for Portion J – Pit N-O-P

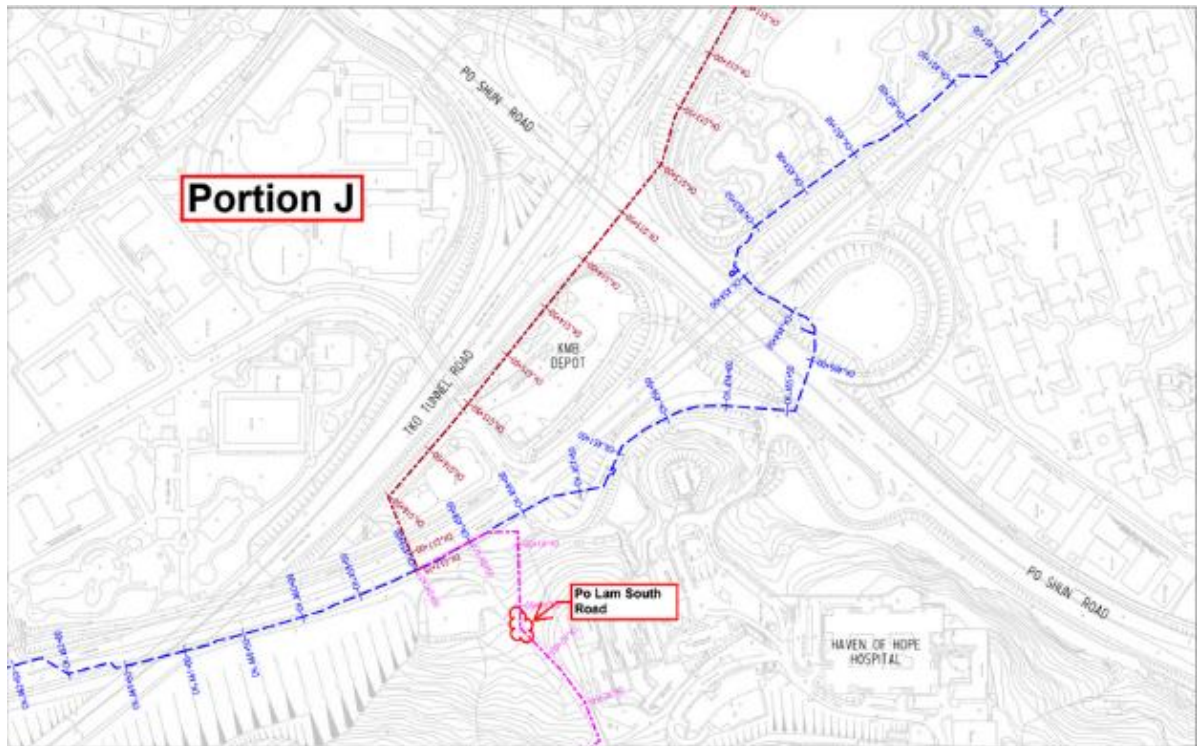


Figure B9a. Location Plan for Mau Wu Tsai 1

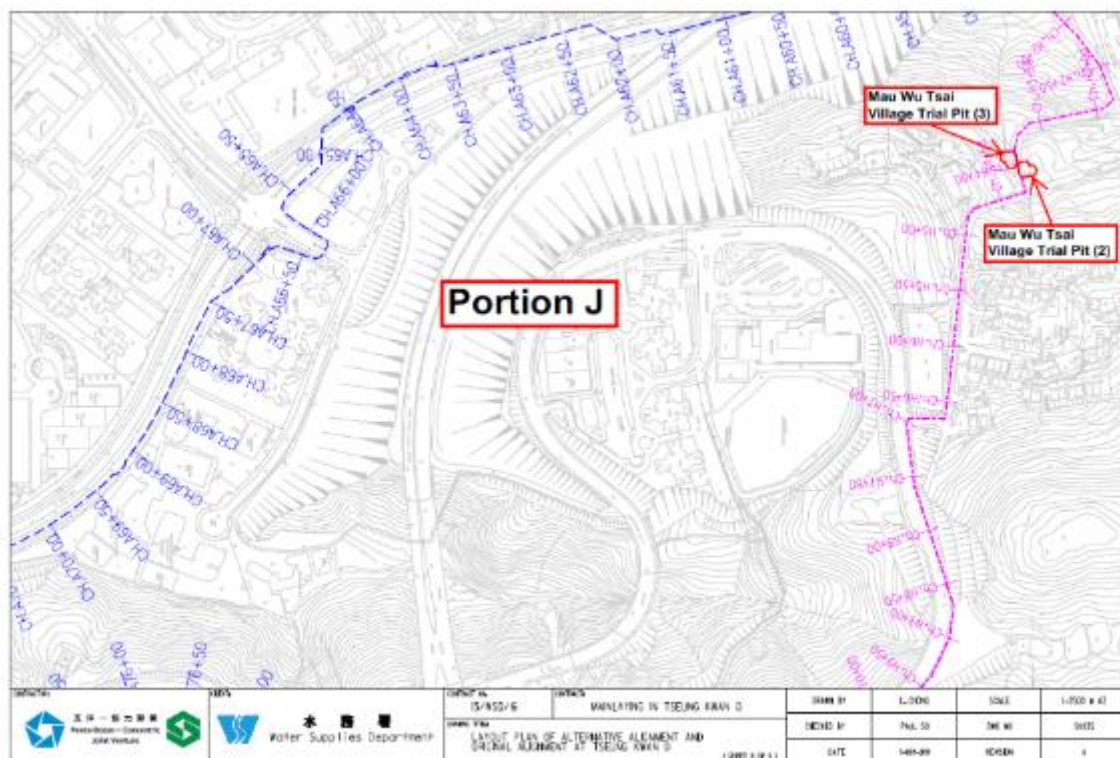


Figure B9b. Location Plan for Mau Wu Tsai 2 & 3

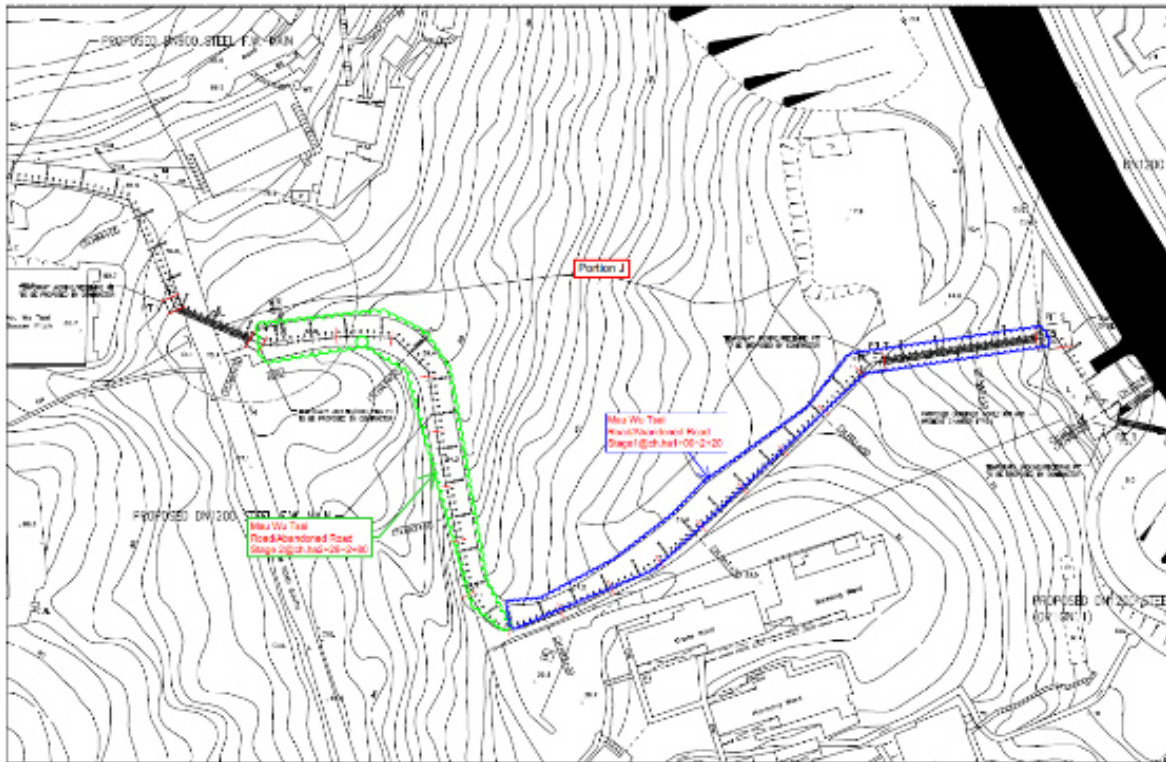


Figure B9c. Abandoned Mau Wu Tsai Road



Figure B10. Monitoring Location – Po Lam South Road

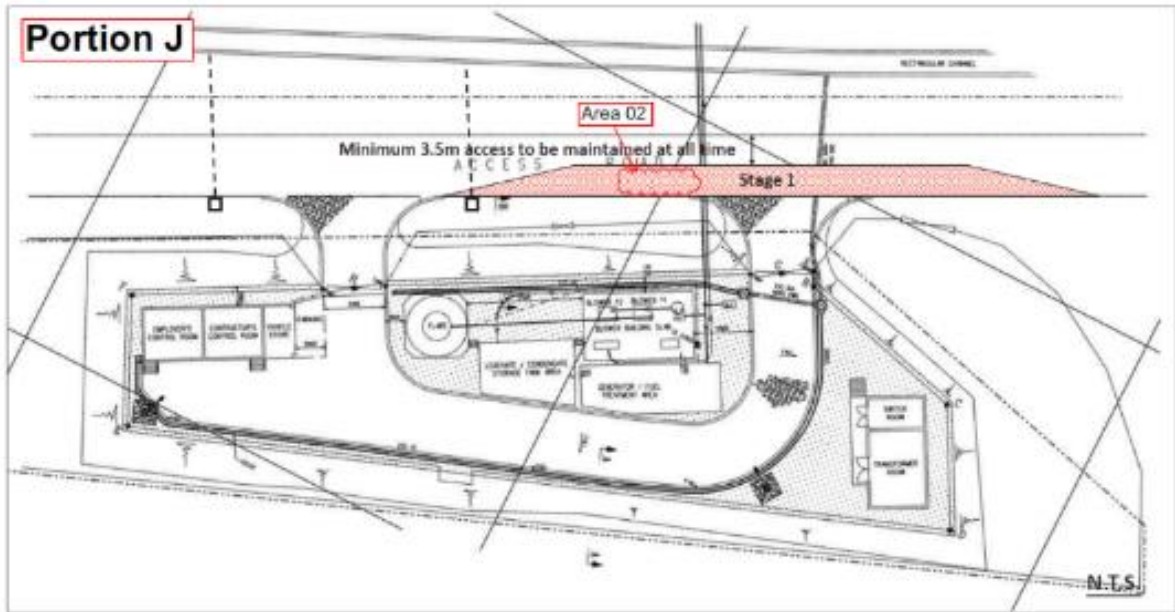


Figure B11. Monitoring Location – Area A02

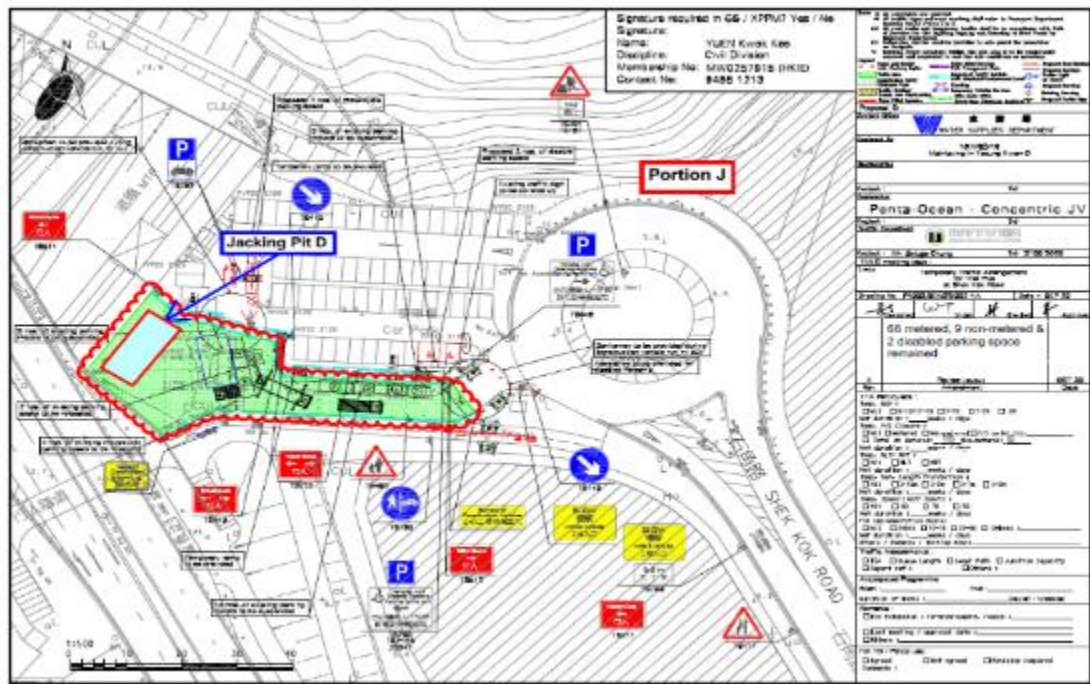


Figure B12. Location Plan for Jacking Pit D

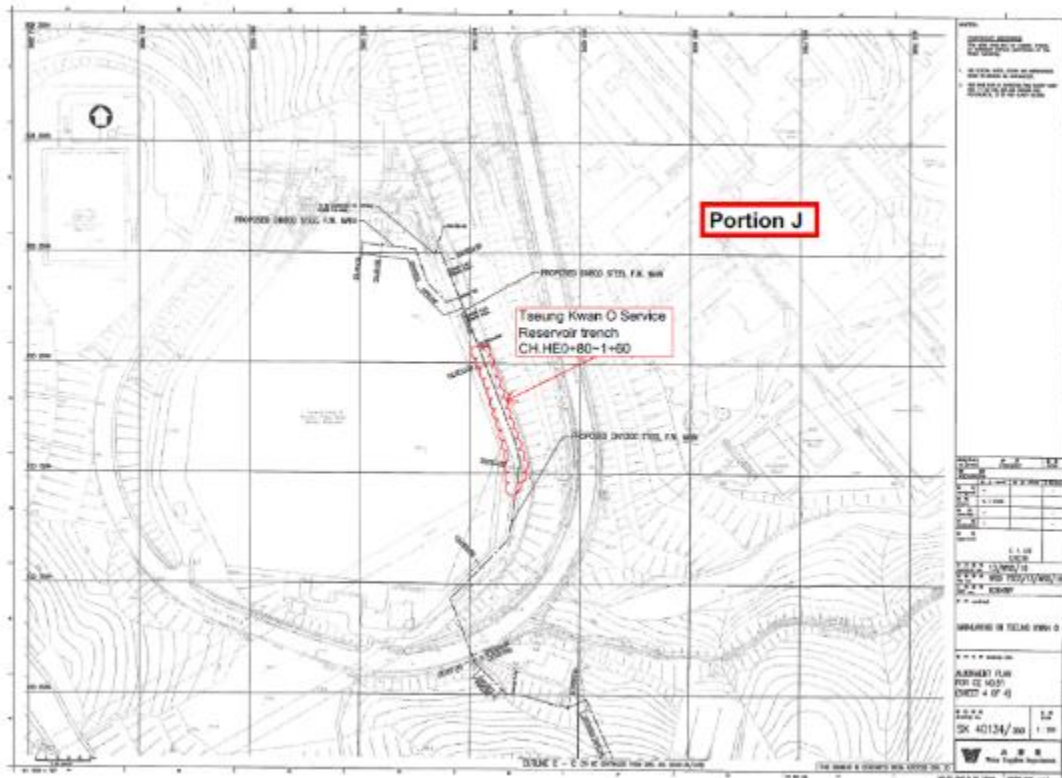


Figure B13. Location Plan for CH.HE0+80-1+60

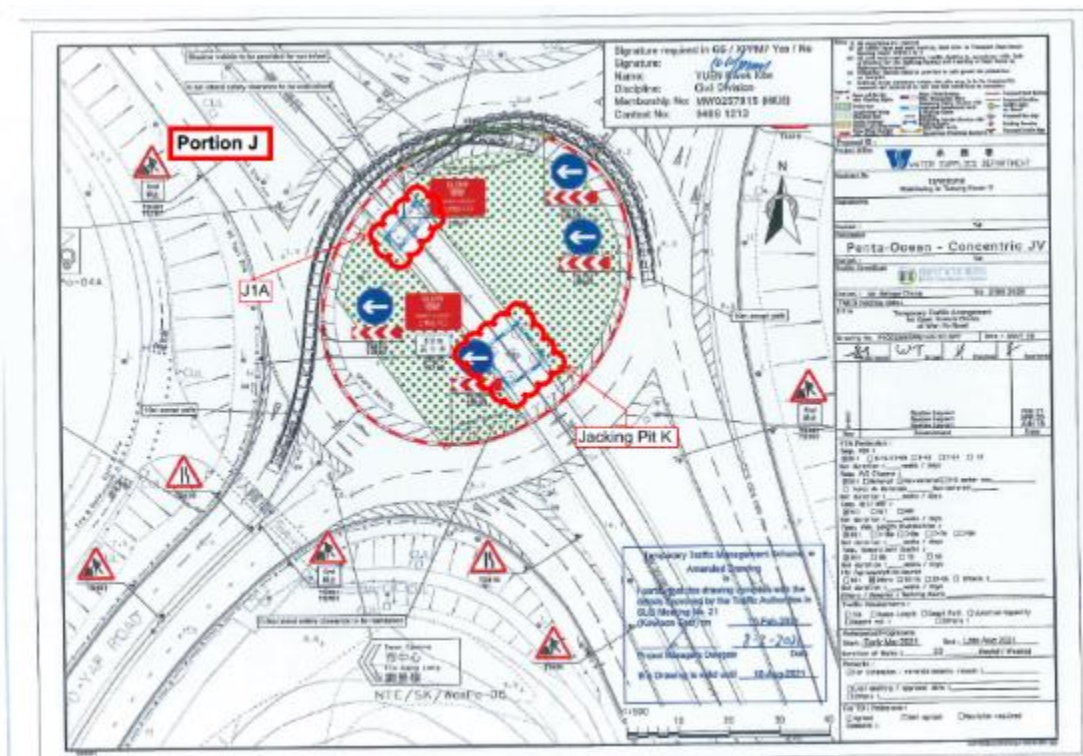


Figure B14. Location Plan for Pit K

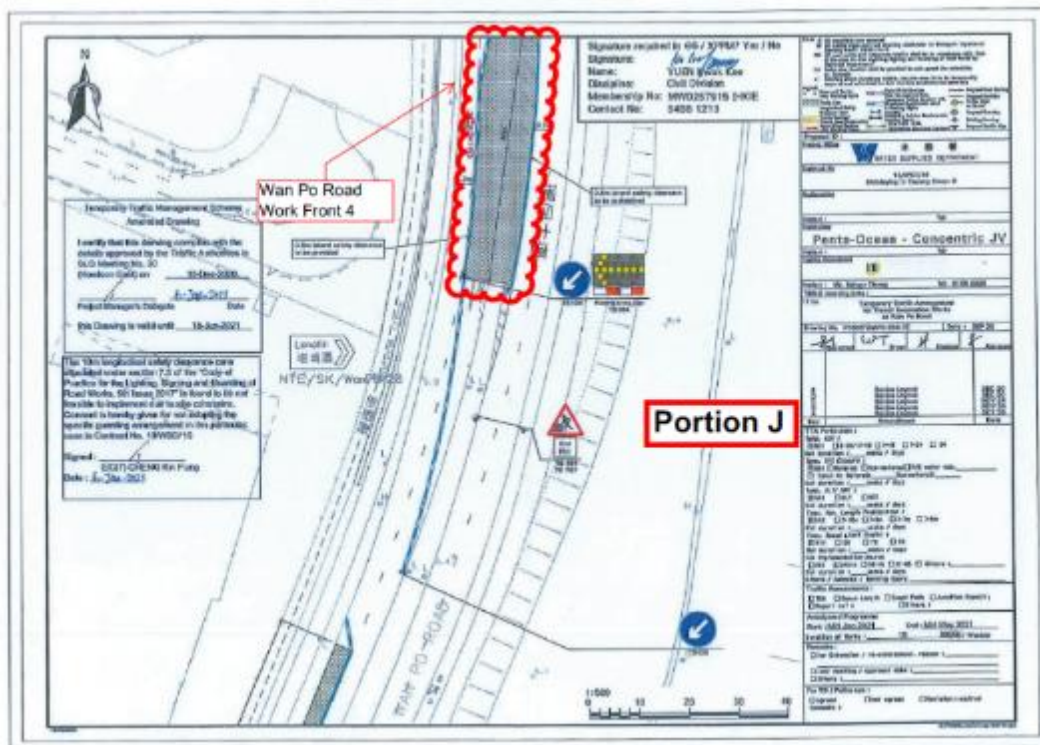


Figure B15. Location Plan for Wan Po Road 4

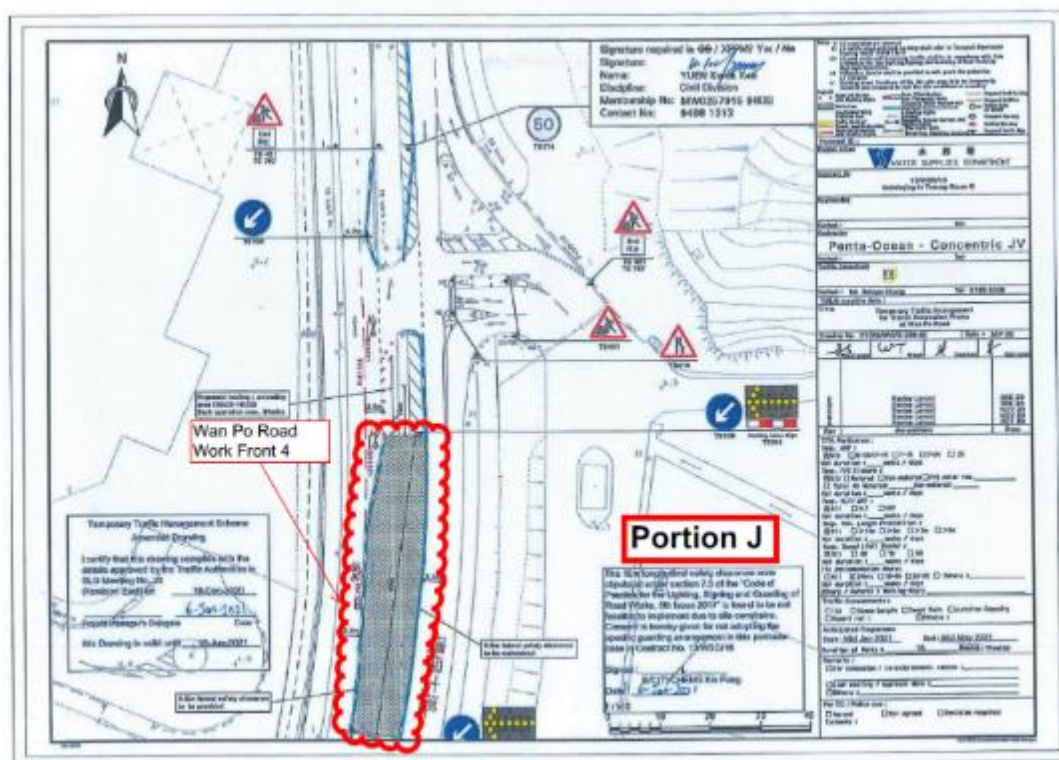


Figure B16. Location Plan for Wan Po Road 4

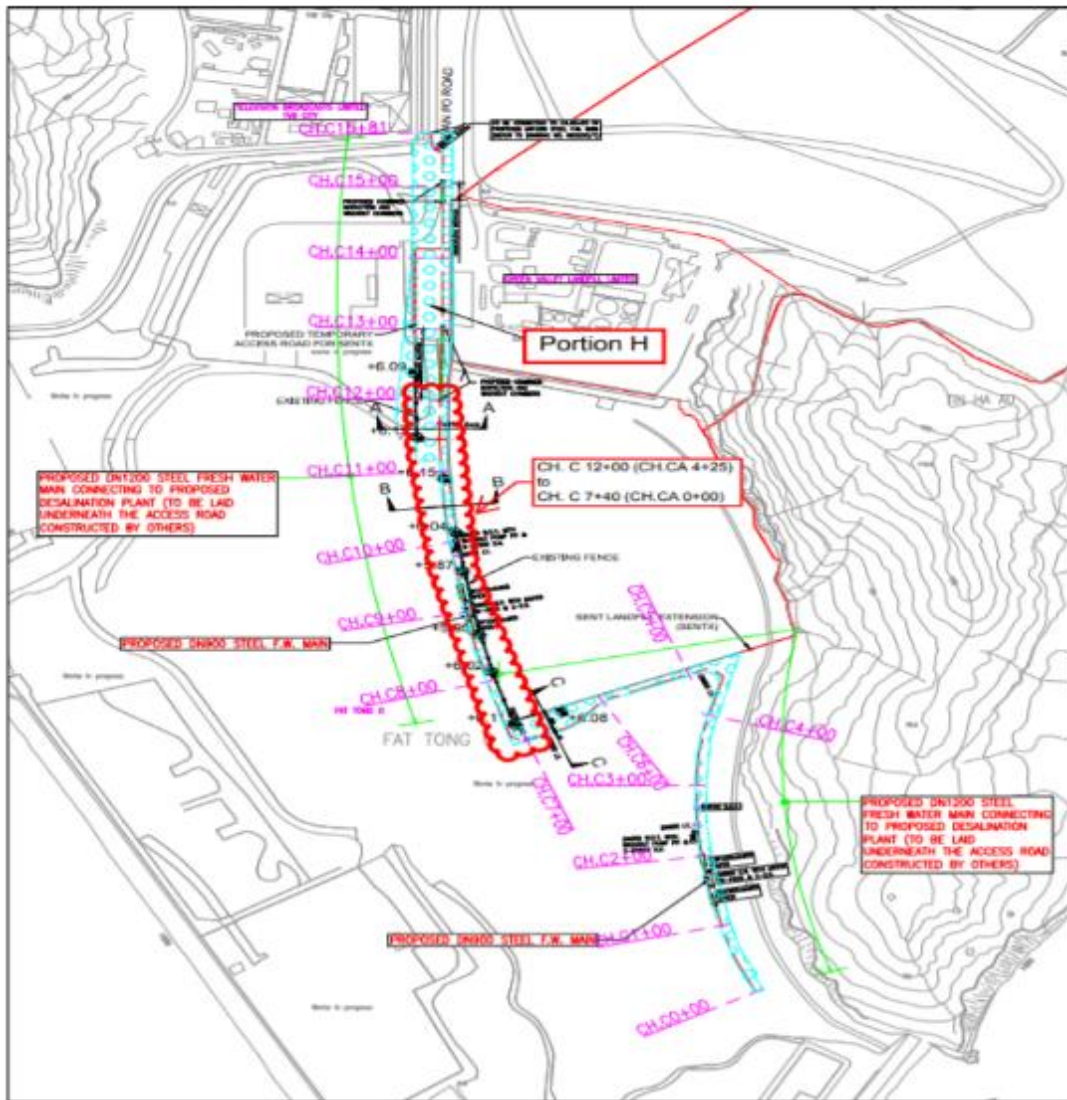


Figure B17. Location Plan for Portion H– CH.C 7+40~CH.C 12+00 (CH.CA 0+00 ~ CH.CA4+25)

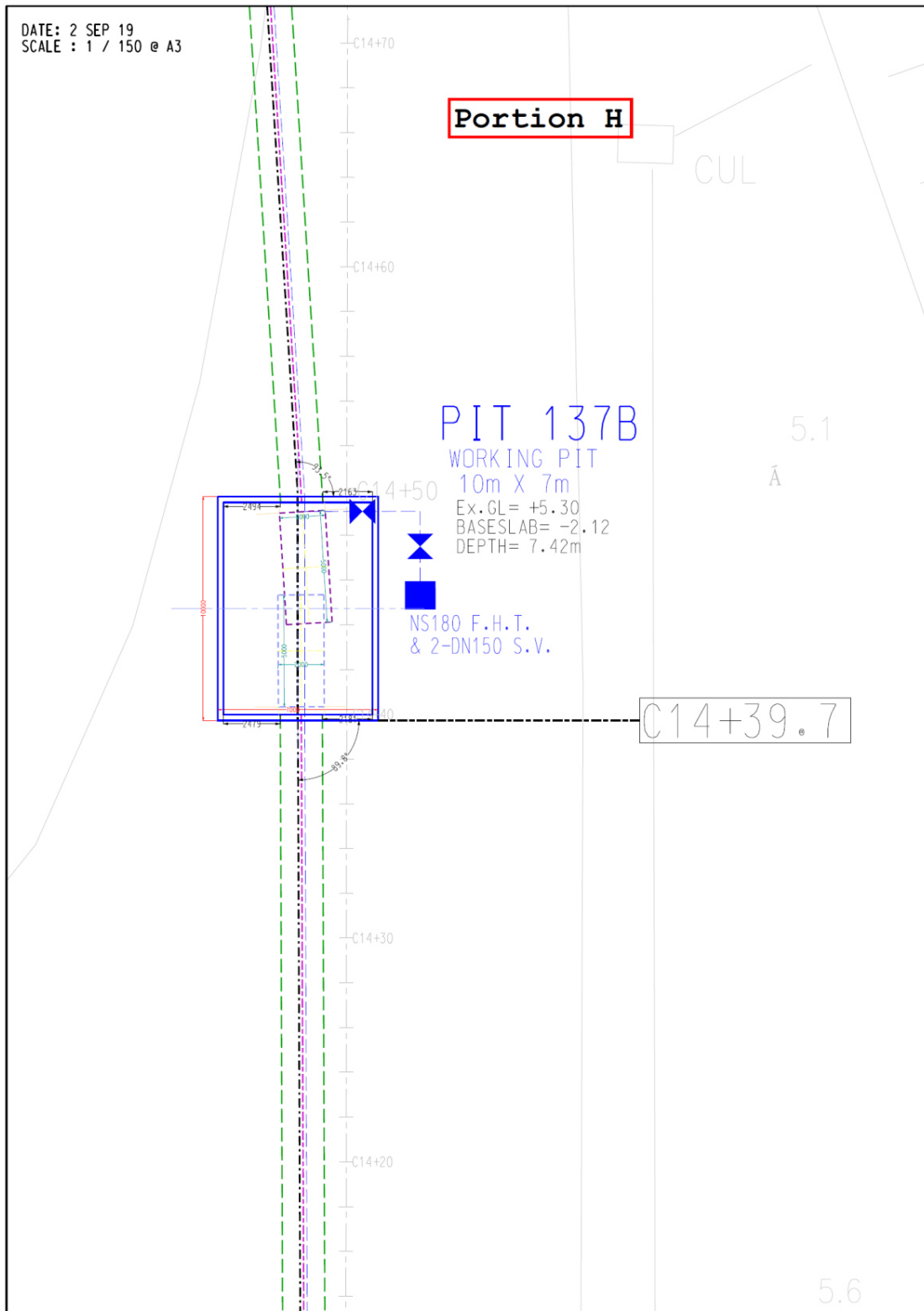


Figure B18. Location Plan for Portion H- Pit 137B

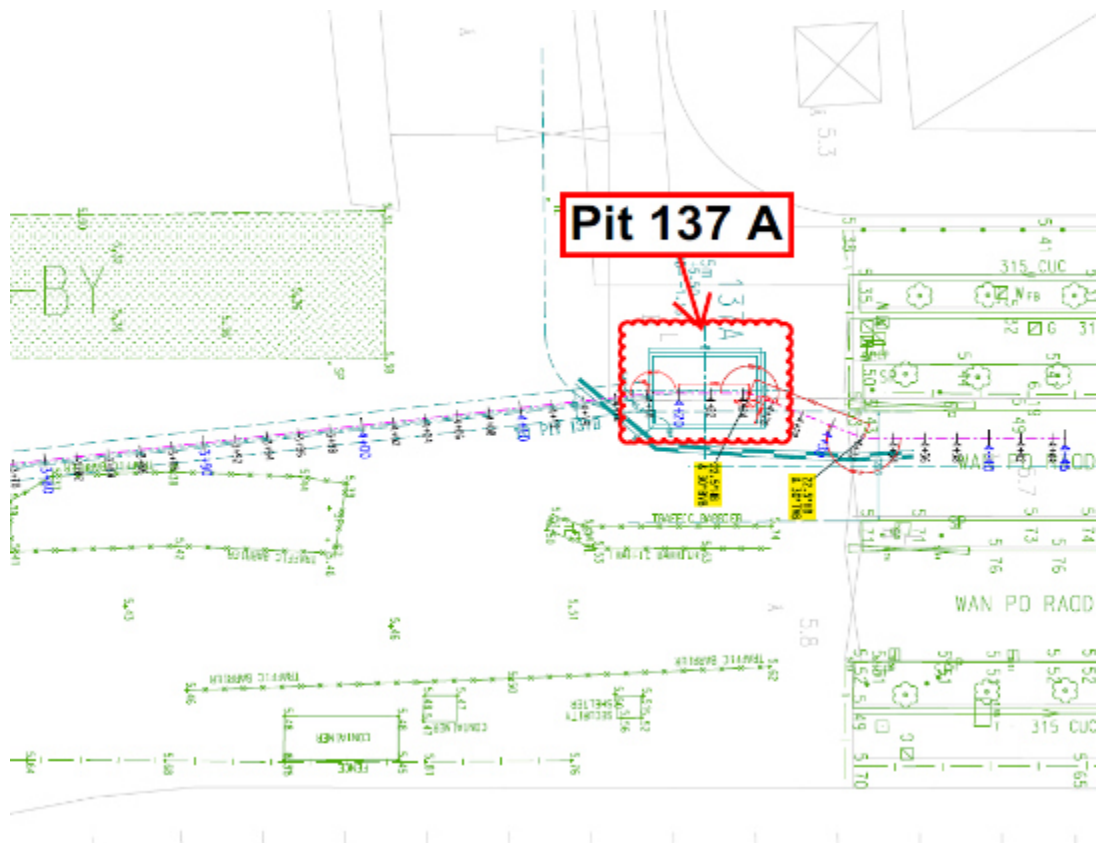


Figure B19. Location Plan for Portion H- Pit 137A

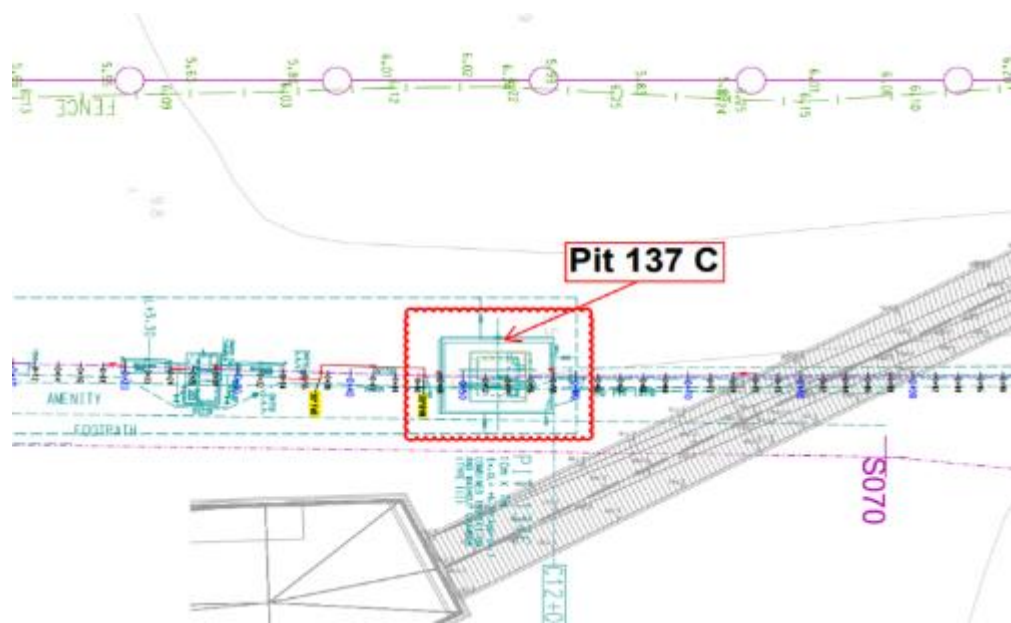


Figure B20. Location Plan for Portion H- Pit 137C

Appendix C

Summary of Implementation Status of Environmental Mitigation

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 devices 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 after observation	
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	

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	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	
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	Air Pollution Control (Construction Dust)
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	
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 after observation	-

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)/ (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		
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	Saw cutting 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.	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 reminder	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 reminder	-
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	DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness.
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

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	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	Land site/ During construction	Contractor(s)		✓		Implemented	Waste Disposal Ordinance (Cap 354)
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 ETWB TC(W) No. 34/2002 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)

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	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
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)

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 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 Wastes
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	
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	
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	

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 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 minimise odour, pest and litter impacts.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	-
S8.5	Recycling bins will be provided at strategic locations within the Site to facilitate recovery of recyclable materials (including aluminium can, waste paper, 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)/ Environmental Team (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: - 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.
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 metre.	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 instrument, appropriately calibrated and capable of measuring the concentrations of methane, carbon dioxide and oxygen.	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	Implemented
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 grilled 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

S12.7	The manholes and utility pits within the Project Site and along the fresh water 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	

Appendix D

Impact Monitoring Schedule of the Reporting Month

Contract No. 13/WSD/16
Mainlaying in Tseung Kwon O
Environmental Monitoring Schedule (July 2023)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8 Impact Noise Monitoring
9	10	11	12	13	14 Impact Noise Monitoring	15
16	17	18	19	20 Impact Noise Monitoring	21	22
23	24	25	26 Impact Noise Monitoring	27	28	29
30	31					

Appendix E

Noise Monitoring Equipment Calibration Certificate

Certificate of Calibration

for

Description: *Sound Level Meter*
Manufacturer: *Lutron*
Type No.: *SL-4033SD (Serial No.: I.588921)*

Submitted by:

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

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

- Within (A-Weighting, 31.5Hz – 8kHz)**
 Outside

the allowable tolerance.

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

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

Date of receipt: 16 March 2023

Date of calibration: 21 March 2023

Date of NEXT calibration: 20 March 2024

Calibrated by: _____
Calibration Technician

Certified by: _____
*Mr. Ng Yan Wa
Laboratory Manager*

Date of issue: 21 March 2023

Certificate No.: APJ22-157-CC002



Page 1 of 4

1. Calibration Precaution:

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

2. Calibration Conditions:

Air Temperature: 22.0 °C
 Air Pressure: 1006 hPa
 Relative Humidity: 61.8 %

3. Calibration Equipment:

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

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)				Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA SPL	Fast	94	1000	94.2	±0.4	

Linearity

Setting of Unit-under-test (UUT)				Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA SPL	Fast	94	1000	94.2	Ref	
			104		104.3	±0.3	
			114		114.3	±0.3	

Time Weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA SPL	Fast	94	1000	94.2	Ref	
		Slow			94.2	±0.3	

Frequency Response

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	31.5	54.0	-39.4±2.0
					63	67.2	-26.2±1.5
					125	77.7	-16.1±1.5
					250	85.5	-8.6±1.4
					500	91.1	-3.2±1.4
					1000	94.2	Ref
					2000	95.0	+1.2±1.6
					4000	94.0	+1.0±1.6
					8000	90.1	-1.1+2.1; -3.1

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBC	SPL	Fast	94	31.5	92.1	-3.0±2.0
					63	94.4	-0.8±1.5
					125	95.1	-0.2±1.5
					250	95.2	-0.0±1.4
					500	94.9	-0.0±1.4
					1000	94.2	Ref
					2000	93.6	-0.2±1.6
					4000	91.9	-0.8±1.6
					8000	87.9	-3.0+2.1; -3.1

Calibration Results Applied

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

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.15
	63 Hz	± 0.10
	125 Hz	± 0.10
	250 Hz	± 0.05
	500 Hz	± 0.10
	1000 Hz	± 0.05
	2000 Hz	± 0.10
	4000 Hz	± 0.15
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.10
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

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



CALIBRATION CERTIFICATE

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

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

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

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



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

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

The certificate shall not be reproduced except in full, without the written approval of the issuing laboratory.

The calibration laboratory who issued this calibration certificate conforms to ISO/IEC 17025:2017.

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

CALIBRATION RESULT

1. Sound pressure level (with reference standard microphone)

Measured value	Expanded uncertainty *1
93.99 dB	0.09 dB

Specified secondary standard microphone:

Type : 4160

Serial number : 2973341

Reference Sound pressure : 2×10^{-5} Pa

*1 Defines an interval estimated to have a level of confidence of approximately 95 %.

Coverage factor $k=2$

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

BE OUT OF JCSS CALIBRATION

1. Frequency

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

Working measurement standard universal counter:

Type : 53132A

Serial number : MY40005574

(JCSS Calibration Certificate No. 2208001889940)

2. Total distortion

Measured value
0.2 %

Working measurement standard distortion meter:

Type : VA-2230A

Serial number : 11076061

(A2LA Calibration Certificate No. 1502-03109)

- closing -

Appendix F

Event / Action Plan for Noise Exceedance

Event and Action Plan for Construction Noise Monitoring

Event	Action			
	ET	IEC	ER	Contractor
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 analyzed 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"> Notify IEC, ER, EPD and Contractor Identify the source(s) of impact by reviewing all the relevant monitoring data and the corresponding construction activities. Exceedances should also be confirmed by immediate verification in the field as far as practical. Repeat measurement to confirm findings Increase monitoring frequency Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. inform IEC, ER and EPD the cause & actions taken for the exceedances Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> Discuss amongst ER, ET, and Contractor on the potential remedial actions Review Contractor's remedial actions to assure their effectiveness and advise the ER & ET accordingly Supervise the implementation of the remedial measures 	<ol style="list-style-type: none"> Confirm receipt of notification of exceedance in writing Notify Contractor Require Contractor to propose remedial measures for the analyzed noise problem Ensure remedial measures are properly implemented If exceedance continuous, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is aborted 	<ol style="list-style-type: none"> Take immediate action to avoid further exceedance Identify practicable measures to minimize the noise impact. Submit proposals for remedial actions to ER within three working days of notification Implement the agreed proposals Resubmit proposal if problem still not under control Stop the relevant portion of works as determined by the ER until the exceedance is abated

Appendix G

Noise Monitoring Data

Table G 1 Summary of Noise Monitoring Result

Date	Time	Weather	Leq-5min, dB(A)						Leq-30min, dB(A)	L10-30mins, dB(A)	L90-30mins, dB(A)	Limit Level, dB(A)*	Noise Meter
			Reading (1)	Reading (2)	Reading (3)	Reading (4)	Reading (5)	Reading (6)					
08/07/2023	10:30 - 11:00	Sunny	64.1	63.8	63.5	63.1	64.5	64.0	63.9	67.7	59.0	70.0	Lutron, SL-4033SD
14/07/2023	10:55 - 11:25	Sunny	63.2	60.4	61.5	62.7	61.8	61.1	61.9	64.0	59.9	70.0	Lutron, SL-4033SD
20/07/2023	10:27 - 10:57	Cloudy	62.8	62.8	64.7	63.5	63.8	62.9	63.5	67.4	59.1	70.0	Lutron, SL-4033SD
26/07/2023	10:41 - 11:11	Fine	64.8	65.2	64.1	64.4	63.2	65.5	64.6	67.5	58.8	70.0	Lutron, SL-4033SD

Remarks:

*No examinations were scheduled for NSR4 Creative Secondary School in the reporting month.

Appendix H

Waste Flow Table

Appendix H – 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.

Appendix I

Landfill Gas Monitoring Equipment Calibration Certificate



路達國際有限公司

ROTTER INTERNATIONAL LIMITED

香港新界葵涌葵昌路58-70號永祥工業大廈10樓B室

Unit B, 10/F., Wing Cheung Industrial Building, 58-70 Kwai Cheong Road, Kwai Chung, New Territories, HK

Tel: (852) 2751 7770 Fax: (852) 2756 2051 E-mail: rotter@rotter.com.hk

Calibration Report - Gas Detector

PGM-2500 (QRAE III) --- LEL/O2/CO/H2S

UNIT INFORMATION :

Customer:	Penta Ocean Construction Co Ltd	Serial #:	M02A001708	Model:	QRAE III
		Firmware:	V2.12	Sensor:	LEL/O2/CO/H2S
		Cal date:	28-Jul-2022	Inspected:	Teddy

SENSOR DATA :

	LEL sensor (ME)	O2 sensor	CO sensor (Tox1)	H2S sensor (Tox2)
Calibration dates:	28-Jul-2022	28-Jul-2022	28-Jul-2022	28-Jul-2022
After Calibration levels:	50%	18.00%	50 ppm	10.0 ppm
Alarm levels (Low):	10.00%	19.50%	35 ppm	10 ppm
Alarm levels (High):	20.00%	23.50%	200 ppm	20 ppm
TWA Level :	--	--	35 ppm	10 ppm
STEL Level :	--	--	100 ppm	15 ppm

Status:

Pump Speed	Low	Back Light	Manual
Clock	Yes	Measure	Average

LEL Gas Selection

LEL Calibration Gas	Methane	LEL measurement Gas	Methane
LEL Custom Gas	LEL_custom_gas	LEL Custom Factor	1.0

Gas types used : 4-Gas Mix: (18% O2, 50ppm CO, 10ppm H2S, 50% LEL CH4, BAL N2) Gas lot #WO350201-3

*** Fresh Air Calibration is highly recommended to proceed prior for measurement each time.

Replaced Parts:

Notes:

The unit was calibrated and checked under good working condition

**Next calibration due on or before 27 July 2023

Serviced by Teddy Wong
Rotter International Ltd





路達國際有限公司
ROTTER INTERNATIONAL LIMITED

香港新界葵涌葵昌路58-70號永祥工業大廈10樓B室

Unit B, 10/F., Wing Cheung Industrial Building, 58-70 Kwai Cheong Road, Kwai Chung, New Territories, HK
 Tel: (852) 2751 7770 Fax: (852) 2756 2051 E-mail: rotter@rotter.com.hk

Calibration Report - Gas Detector

PGM-2500 (QRAE III) --- LEL/O2/CO/H2S

UNIT INFORMATION :

Customer:	Penta Ocean Construction Co Ltd	Serial # :	M02A001708	Model :	QRAE III
		Firmware :	V2.14	Sensor :	LEL/O2/CO/H2S
		Cal date :	28-Jul-2023	Inspected:	Teddy

SENSOR DATA :

	LEL sensor (ME)	O2 sensor	CO sensor (Tox1)	H2S sensor (Tox2)
Calibration dates:	28-Jul-2023	28-Jul-2023	28-Jul-2023	28-Jul-2023
After Calibration levels	51%	18.10%	50 ppm	10.0 ppm
Alarm levels (Low):	10.00%	19.50%	35 ppm	10 ppm
Alarm levels (High):	20.00%	23.50%	200 ppm	20 ppm
TWA Level :	--	--	35 ppm	10 ppm
STEL Level :	--	--	100 ppm	15 ppm

Status:

Pump Speed	Low	Back Light	Manual
Clock	Yes	Measure	Average

LEL Gas Selection

LEL Calibration Gas	Methane	LEL measurement Gas	Methane
LEL Custom Gas	LEL_custom_gas	LEL Custom Factor	1.0

Gas types used : 4-Gas Mix: (18% O2, 50ppm CO, 10ppm H2S, 50% LEL CH4, BAL N2) Gas lot :302-402538759-74
 *** **Fresh Air Calibration** is highly recommended to proceed prior for measurement each time.

Replaced Parts:

Notes:

The unit was calibrated and checked under good working condition

**Next calibration due on or before 27 July 2024

Serviced by Teddy Wong
 Rotter International Ltd



PROMAT (HK) LTD

寶時(香港)有限公司

901 New Trend Centre, 704 Prince Edward Road East, San Po Kong, Kowloon, HK
Tel.: 2661 2392 Fax.: 2661 2086 email : sales@promat.hk http://www.promat.hk/



Your Solution To Testing Instrument

VERIFICATION CERTIFICATE OF CO2 Analyzer

Report No. : 22040
Date : 17/11/2022
Client : Penta Ocean Concentric JV

EQUIPMENT TO BE VERIFIED

Equipment Name : CO2 Analyzer
Supplier : TES
Model No. : 1307H
Serial No. : 200901259
Date of Verification : 17/11/2022
Due Verification : 16/11/2023

VERIFICATION DEVICES USED

Reference Equipment	: CO2 in N2	CO2 in N2
Supplier	: NorLab	NorLab
Model No.	: H1013500PN	H1013.3VN
Lot #	: 0-353-790	1-006-27
Expiry date	: 12/2/2024	10/3/2025
Accuracy	: Within +/-2%	Within +/-2%

ENVIRONMENTAL CONDITION

Ambient Temp : 25°C
Relative Humidity : 57%

Verification Result

Test Number	Concentration (Mole%)	Results
Test 1	500ppm	505ppm
Test 2	0.50%	0.52%

Remarks

- 1 The Gas reference used in this verification has traceable accuracy to Manufacturer Standard
- 2 The above equipment was operated by the competent person
- 3 Promat is Registered ISO9001:2015 Quality Management System in Sales, Repair and Calibration Services

Certification

Verification by


Ms. Ning Lee / Service Coordinator

Checked by


Mr. Hei Kong / Technical Engineer



Calibration Certificate

Cert. Ref. No.: BW/XT/3RD/17974

Date: 2022 09 02

Customer: Renopipe Construction Company Limited

Purchase Order No.: SME-C-20-21-6/2020-76554

九龍觀塘海濱道133號萬兆豐中心6樓K2室

Date: 2020 07 07 INVOICE NO: AP

Email: damonhuang@renopipe.com.hk

Attn: Damon Huang

Tel: 3998 3193

Fax: 3998 3225

Mobile Phone

User Details:

Gas Detector Model: XT-XWHM-Y-OR

Serial No.: MA220-012709

Pump S/N: 420373

Calibration Record:

Inpection before calibration	Visual inspection	Functional Test
Basic Unit - Case, Clip & Display etc.	OK	OK
Battery and charge etc.	OK	OK
Motorized Pump	OK	OK
Other items		

Type of Sensor	Expiry Date
Oxygen Sensor	
CO & H2S Sensor	
Combustible(LEL) Sensor	

Type of calibration	Date of calibration	H2S (ppm)	CO (ppm)	O2 (%)	LEL (%)
3rd Calibration	2022 09 02	25	100	18	50
Result of Calibration		OK	OK	OK	OK

Calibration Cost: (As per attached invoice) F.O.C

Calibration remarks: Oxygen sensor replaced by new one
Warranty : Oxygen Sensor 1 years warranty

Next calibration date of this instrument will be : 2023 09 02

IMPORTANT NOTES TO BW GAS DETECTOR USERS

USERS MUST READ THE OPERATOR'S MANUAL THOROUGHLY BEFORE OPERATING THIS EQUIPMENT AND FOLLOW THEIR OWN SAFETY SUPERVISOR'S INSTRUCTION TO WORK.

All gas detection instrumentation on the market requires periodic calibration to accurately measure gas. Calibration is only as accurate as the test gas used. BW Technologies quality test gases are made to the highest accuracy and trace-ability to N. I.S.T. Standards.

Calibrated By: Sara Tse

Service Hotline: 2592 2120 Ms. Tse - Service Dept.

Asia Pacific Industrial Safety EquipmentUnit B, 1/F., Hing Yip Centre, 31 Hing Yip Street,
Kwun Tong, Kowloon, Hong Kong
Tel:2592 2100 Fax: 3165 8960**Asia Technologies**
亞洲科技

Appendix J

Landfill Gas Monitoring Data

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	3/7/2023	0830	Rain/Fine	0	0	0	20.9	19 / 1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	20 / 1010	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	18 / 1009	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	20 / 1010	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	18 / 1010	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	17 / 1009	5.5

Name & Designation

Signature

Date 3-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	4 / 7 / 2023	0830	Rain/Fine	0	0	0	20.9	17 / 1009	5.5
	√	1330	Rain/Fine	0	0	0	20.9	19 / 1009	5.5
	√	1700	Rain/Fine	0	0	0	20.9	18 / 1010	5.5
Area B	√	0830	Rain/Fine	0	0	0	20.9	19 / 1009	5.5
	√	1330	Rain/Fine	0	0	0	20.9	20 / 1010	5.5
	√	1700	Rain/Fine	0	0	0	20.9	17 / 1009	5.5

Name & Designation

Signature

Date 4-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	5/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1010	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	20/1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	18/1009	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	20/1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	19/1010	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	18/1010	5.5

Name & Designation

Field Operator: KK Wong (Competent Person)

Signature



Date 5-7-2023

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	6 / 7 / 2023	0830	Rain/Fine	0	0	0	20.9	19 / 1010	5.5
	√	1330	Rain/Fine	0	0	0	20.9	17 / 1009	5.5
	√	1700	Rain/Fine	0	0	0	20.9	18 / 1009	5.5
Area B	√	0830	Rain/Fine	0	0	0	20.9	20 / 1009	5.5
	√	1330	Rain/Fine	0	0	0	20.9	19 / 1010	5.5
	√	1700	Rain/Fine	0	0	0	20.9	17 / 1010	5.5

Name & Designation

Signature

Date

6-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	7/7/2023	0830	Rain/Fine	0	0	0	20.9	17/10/0	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	18/1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	20/10/0	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	18/10/0	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	20/1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	19/1009	5.5

Name & Designation

Signature

Date 7-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet


Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	10/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1010	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	20/1010	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	18/1009	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	18/1010	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	20/1009	5.5

Name & Designation

Field Operator: KK Wong (Competent Person)

Signature


Date 10-7-2023

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	11 / 7 / 2023	0830	Rain/Fine	0	0	0	20.9	18 / 1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	17 / 1010	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	19 / 1010	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	19 / 1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	18 / 1010	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	18 / 1009	5.5

Name & Designation

Signature

Date 11-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	12/7/2023	0830	Rain/Fine	0	0	0	20.9	18/1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	19/1010	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	20/1010	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	19/1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	18/1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	19/1009	5.5

Name & Designation

Signature

Date 12-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	12/7/2023	0830	Rain/Fine	0	0	0	20.9	19 / 1010	5.5
	v	1330	Rain/Fine	0	0	0	20.9	20 / 1010	5.5
	v	1700	Rain/Fine	0	0	0	20.9	18 / 1009	5.5
Area B	v	0830	Rain/Fine	0	0	0	20.9	18 / 1009	5.5
	v	1330	Rain/Fine	0	0	0	20.9	19 / 1010	5.5
	v	1700	Rain/Fine	0	0	0	20.9	19 / 1010	5.5

Name & Designation

Signature

Date 13-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	14/7/2023	0830	Rain/Fine	0	0	0	20.9	17 / 1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	20 / 1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	18 / 1010	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	19 / 1010	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	18 / 1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	20 / 1009	5.5

Name & Designation

Signature

Date 14-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	18/7/2023	0830	Rain/ Fine	0	0	0	20.9	17/1009	5.5
	✓	1330	Rain/ Fine	0	0	0	20.9	19/1010	5.5
	✓	1700	Rain/ Fine	0	0	0	20.9	18/1010	5.5
Area B	✓	0830	Rain/ Fine	0	0	0	20.9	18/1009	5.5
	✓	1330	Rain/ Fine	0	0	0	20.9	19/1009	5.5
	✓	1700	Rain/ Fine	0	0	0	20.9	20/1010	5.5

Name & Designation

Signature

Date 18-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	19/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	20/1010	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	18/1010	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	17/1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	18/1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	19/1010	5.5

Name & Designation

Signature

Date 19-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	20/7/2023	0830	Rain /Fine	0	0	0	20.9	19/1010	5.5
	✓	1330	Rain /Fine	0	0	0	20.9	20/1010	5.5
	✓	1700	Rain /Fine	0	0	0	20.9	18/1009	5.5
Area B	✓	0830	Rain /Fine	0	0	0	20.9	17/1009	5.5
	✓	1330	Rain /Fine	0	0	0	20.9	19/1010	5.5
	✓	1700	Rain /Fine	0	0	0	20.9	19/1009	5.5

Name & Designation

Signature

Date 20-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	21 / 7 / 2023	0830	Rain/Fine	0	0	0	20.9	20 / 1009	5.5
	√	1330	Rain/Fine	0	0	0	20.9	19 / 1010	5.5
	√	1700	Rain/Fine	0	0	0	20.9	18 / 1010	5.5
Area B	√	0830	Rain/Fine	0	0	0	20.9	19 / 1009	5.5
	√	1330	Rain/Fine	0	0	0	20.9	20 / 1010	5.5
	√	1700	Rain/Fine	0	0	0	20.9	19 / 1009	5.5

Name & Designation

Signature

Date 21-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	24/7/2023	0830	Rain/Fine	0	0	0	20.9	19/10/0	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	20/10/0	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	17/10/0	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	18/10/0	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	19/10/0	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	18/10/0	5.5

Name & Designation

Signature

Date 24-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	25/7/2023	0830	Rain/Fine	0	0	0	20.9	17/1009	5.5
	√	1330	Rain/Fine	0	0	0	20.9	20/1009	5.5
	√	1700	Rain/Fine	0	0	0	20.9	19/1010	5.5
Area B	√	0830	Rain/Fine	0	0	0	20.9	18/1009	5.5
	√	1330	Rain/Fine	0	0	0	20.9	19/1010	5.5
	√	1700	Rain/Fine	0	0	0	20.9	20/1009	5.5

Name & Designation

Signature

Date 25/7/2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	26/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1009	5.5
	γ	1330	Rain/Fine	0	0	0	20.9	20/1010	5.5
	γ	1700	Rain/Fine	0	0	0	20.9	17/1010	5.5
Area B	γ	0830	Rain/Fine	0	0	0	20.9	18/1010	5.5
	γ	1330	Rain/Fine	0	0	0	20.9	19/1009	5.5
	γ	1700	Rain/Fine	0	0	0	20.9	19/1009	5.5

Name & Designation

Signature

Date 26-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

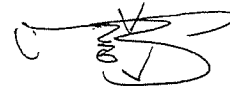
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	27/7/2023	0830	Rain/Fine	0	0	0	20.9	18/1009	5.5
	v	1330	Rain/Fine	0	0	0	20.9	20/1010	5.5
	v	1700	Rain/Fine	0	0	0	20.9	17/1009	5.5
Area B	v	0830	Rain/Fine	0	0	0	20.9	19/1009	5.5
	y	1330	Rain/Fine	0	0	0	20.9	18/1010	5.5
	y	1700	Rain/Fine	0	0	0	20.9	17/1010	5.5

Name & Designation

Signature

Date 27-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	28/7/2023	0830	Rain/Fine	0	0	0	20.9	18/1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	17/1010	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	19/1009	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	20/1010	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	18/1010	5.5

Name & Designation

Signature

Date 28-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	31/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1010	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	20/1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	18/1009	5.5
Area B	✓	0830	Rain/Fine	0	0	0	20.9	17/1010	5.5
	✓	1330	Rain/Fine	0	0	0	20.9	18/1009	5.5
	✓	1700	Rain/Fine	0	0	0	20.9	19/1010	5.5

Name & Designation

Signature

Date 31-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Area 137 Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

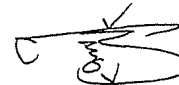
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	3/7/2023	0830	Rain/Fine	0	0	0	20.9	17/1009	8.4
	✓	1330	Rain/Fine	0	0	0	20.9	19/1010	8.4
	✓	1700	Rain/Fine	0	0	0	20.9	20/1010	8.4
Area 137 Pit B	✓	0830	Rain/Fine	0	0	0	20.9	18/1009	8.6
	✓	1330	Rain/Fine	0	0	0	20.9	18/1010	8.6
	✓	1700	Rain/Fine	0	0	0	20.9	19/1010	8.6
Area 137 Pit C	✓	0830	Rain/Fine	0	0	0	20.9	18/1009	10
	✓	1330	Rain/Fine	0	0	0	20.9	20/1010	10
	✓	1700	Rain/Fine	0	0	0	20.9	19/1010	10

Name & Designation

Signature

Date 3-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Area 137 Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	4/7/2023	0830	Rain/Fine	0	0	0	20.9	19 / 1009	8.4
	✓	1330	Rain/Fine	0	0	0	20.9	18 / 1010	8.4
	✓	1700	Rain/Fine	0	0	0	20.9	17 / 1010	8.4
Area 137 Pit B	✓	0830	Rain/Fine	0	0	0	20.9	18 / 1009	8.6
	✓	1330	Rain/Fine	0	0	0	20.9	20 / 1010	8.6
	✓	1700	Rain/Fine	0	0	0	20.9	19 / 1010	8.6
Area 137 Pit C	✓	0830	Rain/Fine	0	0	0	20.9	18 / 1009	10
	✓	1330	Rain/Fine	0	0	0	20.9	20 / 1010	10
	✓	1700	Rain/Fine	0	0	0	20.9	17 / 1010	10

Name & Designation

Signature

Date

4-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Area 137 Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
Area 137 Pit A	5/7/2023	0830	Rain /Fine	0	0	0	20.9	18/1009	8.4
	✓	1330	Rain /Fine	0	0	0	20.9	17/1009	8.4
	✓	1700	Rain /Fine	0	0	0	20.9	19/1010	8.4
Area 137 Pit B	✓	0830	Rain /Fine	0	0	0	20.9	19/1010	8.6
	✓	1330	Rain /Fine	0	0	0	20.9	18/1010	8.6
	✓	1700	Rain /Fine	0	0	0	20.9	20/1009	8.6
Area 137 Pit C	✓	0830	Rain /Fine	0	0	0	20.9	17/1010	10
	✓	1330	Rain /Fine	0	0	0	20.9	18/1009	10
	✓	1700	Rain /Fine	0	0	0	20.9	19/1009	10

Name & Designation

Signature

Date 5-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Area 137 Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	6/7/2023	0830	Rain/Fine	0	0	0	20.9	17/1009	8.4
	√	1330	Rain/Fine	0	0	0	20.9	18/1010	8.4
	√	1700	Rain/Fine	0	0	0	20.9	20/1010	8.4
Area 137 Pit B	√	0830	Rain/Fine	0	0	0	20.9	18/1010	8.6
	√	1330	Rain/Fine	0	0	0	20.9	19/1009	8.6
	√	1700	Rain/Fine	0	0	0	20.9	19/1010	8.6
Area 137 Pit C	√	0830	Rain/Fine	0	0	0	20.9	18/1009	10
	√	1330	Rain/Fine	0	0	0	20.9	19/1010	10
	√	1700	Rain/Fine	0	0	0	20.9	20/1010	10

Name & Designation

Signature

Date

6-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Area 137 Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	7/7/2023	0830	Rain /Fine	0	0	0	20.9	19/10/0	8.4
	✓	1330	Rain /Fine	0	0	0	20.9	20/1009	8.4
	✓	1700	Rain /Fine	0	0	0	20.9	17/10/0	8.4
Area 137 Pit B	✓	0830	Rain /Fine	0	0	0	20.9	18/10/0	8.6
	✓	1330	Rain /Fine	0	0	0	20.9	19/1009	8.6
	✓	1700	Rain /Fine	0	0	0	20.9	18/10/0	8.6
Area 137 Pit C	✓	0830	Rain /Fine	0	0	0	20.9	19/10/0	10
	✓	1330	Rain /Fine	0	0	0	20.9	18/1009	10
	✓	1700	Rain /Fine	0	0	0	20.9	17/10/0	10

Name & Designation

Signature

Date

7-7-2023

Field Operator:

KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Area 137 Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

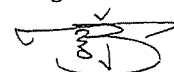
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	10/7/2023	0830	Rain/Fine	0	0	0	20.9	17/1009	8.4
	√	1330	Rain/Fine	0	0	0	20.9	19/1010	8.4
	√	1700	Rain/Fine	0	0	0	20.9	18/1010	8.4
Area 137 Pit B	√	0830	Rain/Fine	0	0	0	20.9	19/1009	8.6
	√	1330	Rain/Fine	0	0	0	20.9	20/1010	8.6
	√	1700	Rain/Fine	0	0	0	20.9	17/1010	8.6
Area 137 Pit C	√	0830	Rain/Fine	0	0	0	20.9	18/1009	10
	√	1330	Rain/Fine	0	0	0	20.9	20/1010	10
	√	1700	Rain/Fine	0	0	0	20.9	19/1010	10

Name & Designation

Signature

Date 10-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Area 137 Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	11/7/2023	0830	Rain /Fine	0	0	0	20.9	17/10/0	8.4
	✓	1330	Rain /Fine	0	0	0	20.9	18/10/0	8.4
	✓	1700	Rain /Fine	0	0	0	20.9	20/10/0	8.4
Area 137 Pit B	✓	0830	Rain /Fine	0	0	0	20.9	18/10/0	8.6
	✓	1330	Rain /Fine	0	0	0	20.9	19/10/0	8.6
	✓	1700	Rain /Fine	0	0	0	20.9	19/10/0	8.6
Area 137 Pit C	✓	0830	Rain /Fine	0	0	0	20.9	18/10/0	10
	✓	1330	Rain /Fine	0	0	0	20.9	19/10/0	10
	✓	1700	Rain /Fine	0	0	0	20.9	20/10/0	10

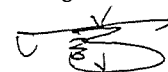
Name & Designation

Signature

Date

11-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Area 137 Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

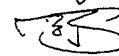
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
Area 137 Pit A	12/7 / 2023	0830	Rain/Fine	0	0	0	20.9	19/10/0	8.4
	√	1330	Rain/Fine	0	0	0	20.9	20/10/0	8.4
	√	1700	Rain/Fine	0	0	0	20.9	18/10/0	8.4
Area 137 Pit B	√	0830	Rain/Fine	0	0	0	20.9	19/10/0	8.6
	√	1330	Rain/Fine	0	0	0	20.9	18/10/0	8.6
	√	1700	Rain/Fine	0	0	0	20.9	17/10/0	8.6
Area 137 Pit C	√	0830	Rain/Fine	0	0	0	20.9	18/10/0	10
	√	1330	Rain/Fine	0	0	0	20.9	19/10/0	10
	√	1700	Rain/Fine	0	0	0	20.9	20/10/0	10

Name & Designation

Signature

Date 12-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Area 137 Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	R/T/2023	0830	Rain/Fine	0	0	0	20.9	18/1009	8.4
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	8.4
	✓	1700	Rain/Fine	0	0	0	20.9	17/1010	8.4
Area 137 Pit B	✓	0830	Rain/Fine	0	0	0	20.9	19/1010	8.6
	✓	1330	Rain/Fine	0	0	0	20.9	20/1010	8.6
	✓	1700	Rain/Fine	0	0	0	20.9	18/1009	8.6
Area 137 Pit C	✓	0830	Rain/Fine	0	0	0	20.9	17/1009	10
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	10
	✓	1700	Rain/Fine	0	0	0	20.9	18/1009	10

Name & Designation

Signature

Date 13-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Area 137 Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	14/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1010	8.4
	✓	1330	Rain/Fine	0	0	0	20.9	20/1010	8.4
	✓	1700	Rain/Fine	0	0	0	20.9	18/1009	8.4
Area 137 Pit B	✓	0830	Rain/Fine	0	0	0	20.9	18/1010	8.6
	✓	1330	Rain/Fine	0	0	0	20.9	19/1010	8.6
	✓	1700	Rain/Fine	0	0	0	20.9	17/1009	8.6
Area 137 Pit C	✓	0830	Rain/Fine	0	0	0	20.9	18/1009	10
	✓	1330	Rain/Fine	0	0	0	20.9	20/1010	10
	✓	1700	Rain/Fine	0	0	0	20.9	19/1009	10

Name & Designation

Signature

Date

14-7-2023

Field Operator: KK Wong (Competent Person)

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Area 137 Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	18/7/2023	0830	Rain/ Fine	0	0	0	20.9	18 / 1009	8.4
	✓	1330	Rain/ Fine	0	0	0	20.9	19 / 1010	8.4
	✓	1700	Rain/ Fine	0	0	0	20.9	20 / 1010	8.4
Area 137 Pit B	✓	0830	Rain/ Fine	0	0	0	20.9	19 / 1009	8.6
	✓	1330	Rain/ Fine	0	0	0	20.9	18 / 1009	8.6
	✓	1700	Rain/ Fine	0	0	0	20.9	20 / 1010	8.6
Area 137 Pit C	✓	0830	Rain/ Fine	0	0	0	20.9	17 / 1009	10
	✓	1330	Rain/ Fine	0	0	0	20.9	18 / 1010	10
	✓	1700	Rain/ Fine	0	0	0	20.9	19 / 1009	10

Name & Designation

Signature

Date 18-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Area 137 Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	19/7/2023	0830	Rain/Fine	0	0	0	20.9	18/1009	8.4
	√	1330	Rain/Fine	0	0	0	20.9	20/1010	8.4
	√	1700	Rain/Fine	0	0	0	20.9	17/1010	8.4
Area 137 Pit B	√	0830	Rain/Fine	0	0	0	20.9	19/1009	8.6
	√	1330	Rain/Fine	0	0	0	20.9	18/1010	8.6
	√	1700	Rain/Fine	0	0	0	20.9	19/1010	8.6
Area 137 Pit C	√	0830	Rain/Fine	0	0	0	20.9	17/1009	10
	√	1330	Rain/Fine	0	0	0	20.9	20/1009	10
	√	1700	Rain/Fine	0	0	0	20.9	18/1009	10

Name & Designation

Signature

Date 19-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Area 137 Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	20/7/2023	0830	Rain /Fine	0	0	0	20.9	17/1009	8.4
	✓	1330	Rain /Fine	0	0	0	20.9	18/1010	8.4
	✓	1700	Rain /Fine	0	0	0	20.9	20/1009	8.4
Area 137 Pit B	✓	0830	Rain /Fine	0	0	0	20.9	18/1009	8.6
	✓	1330	Rain /Fine	0	0	0	20.9	20/1010	8.6
	✓	1700	Rain /Fine	0	0	0	20.9	19/1010	8.6
Area 137 Pit C	✓	0830	Rain /Fine	0	0	0	20.9	18/1010	10
	✓	1330	Rain /Fine	0	0	0	20.9	19/1009	10
	✓	1700	Rain /Fine	0	0	0	20.9	20/1009	10

Name & Designation

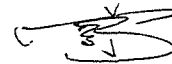
Signature

Date 20-7-2023

Field Operator: KK Wong (Competent Person)

Laboratory Staff:

Checked by:



Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Area 137 Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	21/7 / 2023	0830	Rain /Fine	0	0	0	20.9	18 / 10/0	8.4
	✓	1330	Rain /Fine	0	0	0	20.9	17 / 1009	8.4
	✓	1700	Rain /Fine	0	0	0	20.9	19 / 1009	8.4
Area 137 Pit B	✓	0830	Rain /Fine	0	0	0	20.9	19 / 10/0	8.6
	✓	1330	Rain /Fine	0	0	0	20.9	18 / 10/0	8.6
	✓	1700	Rain /Fine	0	0	0	20.9	20 / 1009	8.6
Area 137 Pit C	✓	0830	Rain /Fine	0	0	0	20.9	19 / 1009	10
	✓	1330	Rain /Fine	0	0	0	20.9	18 / 10/0	10
	✓	1700	Rain /Fine	0	0	0	20.9	17 / 10/0	10

Name & Designation

Signature

Date 21-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Area 137 Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

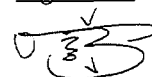
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
Area 137 Pit A	24/7/2023	0830	Rain/Fine	0	0	0	20.9	17/1009	8.4
	√	1330	Rain/Fine	0	0	0	20.9	18/1010	8.4
	√	1700	Rain/Fine	0	0	0	20.9	20/1009	8.4
Area 137 Pit B	√	0830	Rain/Fine	0	0	0	20.9	19/1009	8.6
	√	1330	Rain/Fine	0	0	0	20.9	17/1010	8.6
	√	1700	Rain/Fine	0	0	0	20.9	18/1010	8.6
Area 137 Pit C	√	0830	Rain/Fine	0	0	0	20.9	18/1010	10
	√	1330	Rain/Fine	0	0	0	20.9	17/1009	10
	√	1700	Rain/Fine	0	0	0	20.9	19/1009	10

Name & Designation

Signature

Date 24-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Area 137 Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	25/7/2023	0830	Rain /Fine	0	0	0	20.9	19/1010	8.4
	✓	1330	Rain /Fine	0	0	0	20.9	20/1010	8.4
	✓	1700	Rain /Fine	0	0	0	20.9	18/1009	8.4
Area 137 Pit B	✓	0830	Rain /Fine	0	0	0	20.9	18/1009	8.6
	✓	1330	Rain /Fine	0	0	0	20.9	19/1010	8.6
	✓	1700	Rain /Fine	0	0	0	20.9	17/1009	8.6
Area 137 Pit C	✓	0830	Rain /Fine	0	0	0	20.9	18/1010	10
	✓	1330	Rain /Fine	0	0	0	20.9	20/1009	10
	✓	1700	Rain /Fine	0	0	0	20.9	18/1009	10

Name & Designation

Signature

Date

25-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Area 137 Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	26/7/2023	0830	Rain /Fine	0	0	0	20.9	18/1009	8.4
	v	1330	Rain /Fine	0	0	0	20.9	17/1009	8.4
	v	1700	Rain /Fine	0	0	0	20.9	20/1010	8.4
Area 137 Pit B	v	0830	Rain /Fine	0	0	0	20.9	19/1010	8.6
	v	1330	Rain /Fine	0	0	0	20.9	18/1010	8.6
	v	1700	Rain /Fine	0	0	0	20.9	19/1009	8.6
Area 137 Pit C	v	0830	Rain /Fine	0	0	0	20.9	17/1009	10
	v	1330	Rain /Fine	0	0	0	20.9	20/1009	10
	v	1700	Rain /Fine	0	0	0	20.9	18/1010	10

Name & Designation

Signature

Date

26-7-2023

Field Operator: KK Wong (Competent Person)

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Area 137 Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

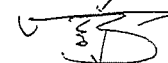
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	27/7/2023	0830	Rain /Fine	0	0	0	20.9	18/10/0	8.4
	✓	1330	Rain /Fine	0	0	0	20.9	20/1009	8.4
	✓	1700	Rain /Fine	0	0	0	20.9	19/1009	8.4
Area 137 Pit B	✓	0830	Rain /Fine	0	0	0	20.9	17/10/0	8.6
	✓	1330	Rain /Fine	0	0	0	20.9	14/10/0	8.6
	✓	1700	Rain /Fine	0	0	0	20.9	18/1009	8.6
Area 137 Pit C	✓	0830	Rain /Fine	0	0	0	20.9	17/1009	10
	✓	1330	Rain /Fine	0	0	0	20.9	19/1009	10
	✓	1700	Rain /Fine	0	0	0	20.9	18/10/0	10

Name & Designation

Signature

Date 27-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Area 137 Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	28/7/2023	0830	Rain/Fine	0	0	0	20.9	17/1010	8.4
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	8.4
	✓	1700	Rain/Fine	0	0	0	20.9	20/1010	8.4
Area 137 Pit B	✓	0830	Rain/Fine	0	0	0	20.9	18/1010	8.6
	✓	1330	Rain/Fine	0	0	0	20.9	17/1009	8.6
	✓	1700	Rain/Fine	0	0	0	20.9	19/1010	8.6
Area 137 Pit C	✓	0830	Rain/Fine	0	0	0	20.9	18/1009	10
	✓	1330	Rain/Fine	0	0	0	20.9	20/1009	10
	✓	1700	Rain/Fine	0	0	0	20.9	19/1010	10

Name & Designation

Signature

Date 28-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Area 137 Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area 137 Pit A	3/7/2023	0830	Rain/Fine	0	0	0	20.9	17/10/0	8.4
	✓	1330	Rain/Fine	0	0	0	20.9	18/1009	8.4
	✓	1700	Rain/Fine	0	0	0	20.9	>0/1009	8.4
Area 137 Pit B	✓	0830	Rain/Fine	0	0	0	20.9	18/10/0	8.6
	✓	1330	Rain/Fine	0	0	0	20.9	>0/1009	8.6
	✓	1700	Rain/Fine	0	0	0	20.9	19/1009	8.6
Area 137 Pit C	✓	0830	Rain/Fine	0	0	0	20.9	18/10/0	10
	✓	1330	Rain/Fine	0	0	0	20.9	17/10/0	10
	✓	1700	Rain/Fine	0	0	0	20.9	19/1009	10

Name & Designation

Signature

Date 31-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	3/7/2023	0830	Rain/Fine	0	0	0	20.9	18 / 1009	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	20 / 1010	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	19 / 1010	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	17 / 1009	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	18 / 1009	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	19 / 1009	3.6

Name & Designation

Signature

Date 3/7/2023

Field Operator: KK Wong (Competent Person)

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	4/7/2023	0830	Rain/Fine	0	0	0	20.9	17/10/0	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	20/1009	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	18/10/0	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	20/10/0	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	19/1009	3.6

Name & Designation

Signature

Date 4-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPRTTA 4	5/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1009	3.7
	√	1330	Rain/Fine	0	0	0	20.9	18/1010	3.7
	√	1700	Rain/Fine	0	0	0	20.9	20/1010	3.7
WPRTTA 5	√	0830	Rain/Fine	0	0	0	20.9	18/1010	3.6
	√	1330	Rain/Fine	0	0	0	20.9	19/1009	3.6
	√	1700	Rain/Fine	0	0	0	20.9	20/1009	3.6

Name & Designation

Signature

Date 5-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

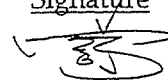
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPRTTA 4	6/7/2023	0830	Rain/Fine	0	0	0	20.9	20/1010	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	18/1009	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	19/1009	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	19/1010	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	17/1010	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	20/1009	3.6

Name & Designation

Signature

Date 6-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	7/7/2023	0830	Rain/Fine	0	0	0	20.9	18/10/0	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	19/10/0	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	20/10/0	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	19/10/0	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	17/10/0	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	18/10/0	3.6

Name & Designation

Signature

Date 7-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPRTTA 4	10/7/2023	0830	Rain/Fine	0	0	0	20.9	17/1009	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	18/1010	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	19/1010	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	18/1009	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	17/1010	3.6

Name & Designation

Signature

Date 10-7-2023

Field Operator: KK Wong (Competent Person)

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	11/7/2023	0830	Rain/Fine	0	0	0	20.9	18/1009	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	20/1010	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	19/1010	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	19/1009	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	18/1010	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	17/1010	3.6

Name & Designation

Signature

Date

11/7/2023

Field Operator:

KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPRTTA 4	12/7/2023	0830	Rain/Fine	0	0	0	20.9	19/10/0	3.7
	v	1330	Rain/Fine	0	0	0	20.9	20/1009	3.7
	v	1700	Rain/Fine	0	0	0	20.9	18/1009	3.7
WPRTTA 5	v	0830	Rain/Fine	0	0	0	20.9	19/1009	3.6
	v	1330	Rain/Fine	0	0	0	20.9	18/10/0	3.6
	v	1700	Rain/Fine	0	0	0	20.9	17/10/0	3.6

Name & Designation

Signature

Date 12/7/2023

Field Operator: KK Wong (Competent Person)

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

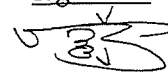
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPRTTA 4	13/7/2023	0830	Rain/Fine	0	0	0	20.9	20/1010	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	17/1009	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	18/1010	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	20/1010	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	19/1009	3.6

Name & Designation

Signature

Date 13-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

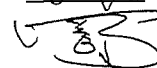
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	14/7/2023	0830	Rain/Fine	0	0	0	20.9	17/1009	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	19/1010	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	20/1010	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	18/1009	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	20/1009	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	19/1010	3.6

Name & Designation

Signature

Date 14-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	18/7/2023	0830	Rain/ Fine	0	0	0	20.9	18 / 1010	3.7
	✓	1330	Rain/ Fine	0	0	0	20.9	17 / 1009	3.7
	✓	1700	Rain/ Fine	0	0	0	20.9	20 / 1009	3.7
WPRTTA 5	✓	0830	Rain/ Fine	0	0	0	20.9	19 / 1009	3.6
	✓	1330	Rain/ Fine	0	0	0	20.9	18 / 1010	3.6
	✓	1700	Rain/ Fine	0	0	0	20.9	19 / 1010	3.6

Name & Designation

Signature

Date 18-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

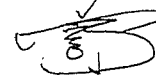
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	19/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1009	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	20/1010	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	18/1010	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	19/1009	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	18/1010	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	20/1010	3.6

Name & Designation

Signature

Date 19-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPRITA 4	20/7/2023	0830	Rain /Fine	0	0	0	20.9	17/1100	3.7
	✓	1330	Rain /Fine	0	0	0	20.9	19/1009	3.7
	✓	1700	Rain /Fine	0	0	0	20.9	20/1009	3.7
WPRITA 5	✓	0830	Rain /Fine	0	0	0	20.9	18/11010	3.6
	✓	1330	Rain /Fine	0	0	0	20.9	19/11010	3.6
	✓	1700	Rain /Fine	0	0	0	20.9	18/11009	3.6

Name & Designation

Signature

Date 20-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	21/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1010	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	18/1009	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	17/1009	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	20/1010	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	17/1009	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	19/1009	3.6

Name & Designation

Signature

Date 21-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPRTTA 4	24/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1009	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	18/1009	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	20/1010	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	20/1010	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	18/1009	3.6

Name & Designation

Signature

Date 24-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16

Mainlaying in Tseung Kwan O

Penta-Ocean - Concentric Joint Venture

Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O

Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	25/7/2023	0830	Rain/Fine	0	0	0	20.9	19/1010	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	20/1009	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	18/1009	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	20/1010	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	17/1009	3.6

Name & Designation

Signature

Date 25/7/2023

Field Operator:

KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPRTTA 4	26/7/2023	0830	Rain/Fine	0	0	0	20.9	18/10/0	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	20/10/0	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	19/10/0	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	17/10/0	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	19/10/0	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	18/10/0	3.6

Name & Designation

Signature

Date 26-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	27/7/2023	0830	Rain/Fine	0	0	0	20.9	17/10/0	3.7
	y	1330	Rain/Fine	0	0	0	20.9	18/1009	3.7
	y	1700	Rain/Fine	0	0	0	20.9	20/1009	3.7
WPRTTA 5	y	0830	Rain/Fine	0	0	0	20.9	19/10/0	3.6
	y	1330	Rain/Fine	0	0	0	20.9	18/10/0	3.6
	y	1700	Rain/Fine	0	0	0	20.9	17/1009	3.6

Name & Designation

Signature

Date

27-7-2023

Field Operator:

KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	28/7/2023	0830	Rain/Fine	0	0	0	20.9	18/10/0	3.7
	✓	1330	Rain/Fine	0	0	0	20.9	19/1009	3.7
	✓	1700	Rain/Fine	0	0	0	20.9	20/10/0	3.7
WPRTTA 5	✓	0830	Rain/Fine	0	0	0	20.9	19/10/0	3.6
	✓	1330	Rain/Fine	0	0	0	20.9	20/1009	3.6
	✓	1700	Rain/Fine	0	0	0	20.9	18/1009	3.6

Name & Designation

Signature

Date 28/7/2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Wan Po Road Gas Monitoring - Field Measurement Recording Sheet

Sampling equipment used:	Dates calibrated
XT-XWHM-Y-OR	2/9/2022

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

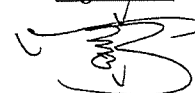
Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	
WPRTTA 4	31/7/2023	0830	Rain/Fine	0	0	0	20.9	19/10/0	3.7
	v	1330	Rain/Fine	0	0	0	20.9	18/1009	3.7
	v	1700	Rain/Fine	0	0	0	20.9	20/1009	3.7
WPRTTA 5	v	0830	Rain/Fine	0	0	0	20.9	18/10/0	3.6
	v	1330	Rain/Fine	0	0	0	20.9	20/10/0	3.6
	v	1700	Rain/Fine	0	0	0	20.9	19/1009	3.6

Name & Designation

Signature

Date 31-7-2023

Field Operator: KK Wong (Competent Person)



Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
P4M - 2500 (GRAE111)	28-7-2022
1307H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit A	11/7/2023	08:30	Fine / Rainy	0	0	0	20.9	29 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
							/		
							/		
							/		
							/		
							/		
							/		
							/		
							/		
							/		
							/		

Field Operator: Name & Designation Wong Wai Sing Signature Peter Date 11/7/2023

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM - 2500 (QRAE111)	28-7-2022
1307 H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit A	12/7/2023	08:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
							/		
							/		
							/		
							/		
							/		
							/		
							/		
							/		
							/		

Field Operator: Name & Designation Wong Wai Sing Signature Peter Date 12/7/2023

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM - 2500 (GRAE111)	28-7-2022
1307 H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit A	13/7/2023	08:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
							/		
							/		
							/		
							/		
							/		
							/		
							/		
							/		
							/		

Field Operator: Name & Designation Wong Wai Sing Signature Peter Date 13/7/2023

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM - 2500 (GRAE111)	28-7-2022
1307 H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit A	17/7/23	08:30	Fine / Rainy	0	0	0	20.9	28 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	28 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	28 / 999	9
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Field Operator: Name & Designation Wang Wai Sing Signature Peter Date 17/7/23

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM - 2500 (GRAEILL)	28-7-2022
1307H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit A	21/7/2023	08:30	Fine / Rainy	0	0	0	20.9	28 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	29 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	29 / 999	9
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Field Operator: Name & Designation Wong Wai Sing Signature Peter Date 21/7/2023

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM - 2500 (QRAE111)	28-7-2022
1307 H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit A	23/7/23	08:30	Fine / Rainy	0	0	0	20.9	29 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
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Field Operator: Name & Designation Wong Wai Sing Signature Peter Date 23/7/2023

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM - 2500 (GRAE111)	28-7-2022
1307 H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit A	24/7/2023	08:30	Fine / Rainy	0	0	0	20.9	28 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
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Field Operator: Name & Designation Wong Wai Sing Signature Peter Date 24/7/2023

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring - Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM - 2500 (GRAE III)	28-7-2022
1307 H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit A	25/7/2023	08:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
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Field Operator: Name & Designation Wong Wai Sing Signature Peter Date 25/7/2023

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM - 2500 (QRAE111)	28-7-2023
1307H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit. A	28/7/23	08:30	Fine / Rainy	0	0	0	20.9	29 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	31 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	31 / 999	9
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Name & Designation Signature Date
 Field Operator: Wong Wai Sing Peter 28/7/23
 Laboratory Staff:
 Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM - 2500 (GRAE111)	28-7-2023
1307 H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit A	29/7/2023	08:30	Fine / Rainy	0	0	0	20.9	27 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	29 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	29 / 999	9
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Field Operator: Name & Designation Wang Wai Sing Signature Peter Date 29/7/2023

Laboratory Staff:

Checked by:

Contract no. 13/WSD/16
 Mainlaying in Tseung Kwan O
 Penta-Ocean - Concentric Joint Venture
Landfill Gas Monitoring –Field Measurement Recording Sheet

Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE111)	28-7-2023
1307H	17-11-2022

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon dioxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Pit A	31/7/2023	08:30	Fine / Rainy	0	0	0	20.9	28 / 999	9
		13:30	Fine / Rainy	0	0	0	20.9	32 / 999	9
		16:30	Fine / Rainy	0	0	0	20.9	30 / 999	9
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Field Operator: Name & Designation Wong Wai Sing Signature Peter Date 31/7/2023

Laboratory Staff:

Checked by:

Appendix K

Complaint Log and Regulatory Compliance Proforma

Table K-1 Statistical Summary of Environmental Complaints

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

Table K-2 Statistical Summary of Environmental Summons

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

Table K-3 Statistical Summary of Environmental Prosecution

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

Appendix L

Site Inspection Proforma

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 3/7/2023

Inspected by:

ET: Howard Chan

WSD: Mr. W-T. Au

Contractor: Mr. Ken Ma

IEC: _____

Inspection Time: 09:30-10:30

Weather							
Condition	<input checked="" type="checkbox"/> Sunny	<input type="checkbox"/> Fine	<input type="checkbox"/> Overcast	<input type="checkbox"/> Drizzle	<input type="checkbox"/> Rain	<input type="checkbox"/> Storm	<input type="checkbox"/> Hazy
Temperature	<input type="checkbox"/> 82	°C		Humidity	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Low
Wind	<input type="checkbox"/> Calm	<input checked="" type="checkbox"/> Light	<input type="checkbox"/> Breeze	<input type="checkbox"/> Strong			

		N/A	Yes	No	Remarks
0.00	General				
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.00	Construction Dust				
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.02	Are screenings, enclosures, water spraying, or vacuum cleaning devices provided to dusty construction works for dust suppression?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are wheel-washing facilities with high-pressure water jets provided at all sites exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Is wheel-washing provided to all vehicles leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are road section near the site exit free from dusty material?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>RO2</u>
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.12	Does the operation of plants on site free form dark smoke emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.16	Are hoardings of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Is open burning prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
2.00	Construction Noise (Airborne)				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.02	Are the PME's operating on site well-maintained to minimize the generation of excessive noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.03	Are plants throttled down or turned off when not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are silencers, mufflers and enclosures provided to plants?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Are the hoods, cover panels and inspection hatches of PME's closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are all construction noise permit(s) applied for percussive piling work?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.00	Water Quality				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.02	Is effluent discharged according to the effluent discharge license?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Is surface runoff diverted to sedimentation facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.07	Is the drainage system properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
3.12	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Is runoff from wheel-washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.15	Is oil leakage or spillage prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.17	Are the oil interceptors/ grease traps properly maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.23	Is concrete washing water properly collected and treated prior to discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.00	Waste Management				
4.01	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.03	Is chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are all containers for chemical waste properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.07	Is drip tray provided for chemical storage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.09	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.12	Is a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
4.13	Are sufficient general refuse disposal/collection points provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.14	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.17	Are C&D wastes sorted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.18	Are C&D waste disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.00	Landscape and Visual				
5.01	Are Is site hoarding provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.03	Is construction light oriented away from the sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.05	Are damages to trees outside site boundary due construction works avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.06	Are excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	R21
5.08	Are surgery works carried out for damaged trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.00	Ecology				
6.01	Is site runoff properly treated to prevent any silly runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.02	Are silt trap installed and well-maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.04	Are construction works restricted to works area which are clearly defined?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.00	Overall				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

Remark / Observation(s) / Recommendation and Non-compliance(s) of Weekly Site Inspection:

Reminders:

P01: The Contractor was reminded to properly maintain the tree protection zone at Pt Y.

P02: The Contractor was reminded to clean the mud deposited on cycle track.

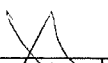
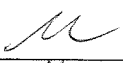

Signatures:

ET
Representative

Contractor's
Representative

WSD's
Representative

IEC's
Representative

(Name: ~~Howard Chan~~) (Name: Ken Ma) (Name: Anwar) (Name:)

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 12/07/2023
Inspection Time: 9:50 - 10:30

Inspected by:

ET: Grace Ling

WSD: Mrs Tse Ka Chun

Contractor: Mr. Ken Ma

IEC: _____

Weather							
Condition	<input checked="" type="checkbox"/> Sunny	<input type="checkbox"/> Fine	<input type="checkbox"/> Overcast	<input type="checkbox"/> Drizzle	<input type="checkbox"/> Rain	<input type="checkbox"/> Storm	<input type="checkbox"/> Hazy
Temperature	<u>32.5</u> C		Humidity	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Low	
Wind	<input type="checkbox"/> Calm	<input checked="" type="checkbox"/> Light	<input type="checkbox"/> Breeze	<input type="checkbox"/> Strong			

		N/A	Yes	No	Remarks
0.00	General				
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.00	Construction Dust				
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.02	Are screenings, enclosures, water spraying, or vacuum cleaning devices provided to dusty construction works for dust suppression?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are wheel-washing facilities with high-pressure water jets provided at all sites exits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Is wheel-washing provided to all vehicles leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Are road section near the site exit free from dusty material?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.12	Does the operation of plants on site free form dark smoke emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>0.01</u>
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.16	Are hoardings of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Is open burning prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
2.00	Construction Noise (Airborne)				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.02	Are the PME's operating on site well-maintained to minimize the generation of excessive noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.03	Are plants throttled down or turned off when not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are silencers, mufflers and enclosures provided to plants?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Are the hoods, cover panels and inspection hatches of PME's closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are all construction noise permit(s) applied for percussive piling work?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.00	Water Quality				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.02	Is effluent discharged according to the effluent discharge license?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.06	Is surface runoff diverted to sedimentation facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.07	Is the drainage system properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
3.12	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.14	Is runoff from wheel-washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.15	Is oil leakage or spillage prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.17	Are the oil interceptors/ grease traps properly maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.23	Is concrete washing water properly collected and treated prior to discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.00	Waste Management				
4.01	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.03	Is chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are all containers for chemical waste properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.07	Is drip tray provided for chemical storage?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	002
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.09	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.12	Is a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
4.13	Are sufficient general refuse disposal/collection points provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.14	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Kol
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.17	Are C&D wastes sorted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.18	Are C&D waste disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.00	Landscape and Visual				
5.01	Are Is site hoarding provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.03	Is construction light oriented away from the sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.05	Are damages to trees outside site boundary due construction works avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.06	Are excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.08	Are surgery works carried out for damaged trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.00	Ecology				
6.01	Is site runoff properly treated to prevent any silly runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.02	Are silt trap installed and well-maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.04	Are construction works restricted to works area which are clearly defined?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.00	Overall				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

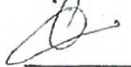


Remark / Observation(s) / Recommendation and Non-compliance(s) of Weekly Site Inspection:

Reminder: RO1: The Contractor shall do the daily cleaning in the site area.

Observation: The smoke emission from the generator was observed during the site inspection. The Contractor should repair the generator to reduce emission. The Contractor also remind that the smoke emission from the plant shall not exceed Shule 1 on the Rangelmann Chart continuously for 30 seconds at any time.

Observation: The contractor should store the chemical waste in the drip tray in O2.

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
			
(Name: Grace Wong)	(Name: Ken Ma)	(Name: Tse Ka Chun) Asst ICS	(Name:)

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 20-7-2023

Inspected by: ET: Howard Chan

WSD: _____

Inspection Time: 15:00-16:00

Contractor: Mr. Ken Man

IEC: _____

Weather							
Condition	<input checked="" type="checkbox"/> Sunny	<input type="checkbox"/> Fine	<input type="checkbox"/> Overcast	<input type="checkbox"/> Drizzle	<input type="checkbox"/> Rain	<input type="checkbox"/> Storm	<input type="checkbox"/> Hazy
Temperature	<input type="checkbox"/> 25 C	Humidity	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Moderate	<input type="checkbox"/> Low		
Wind	<input type="checkbox"/> Calm	<input checked="" type="checkbox"/> Light	<input type="checkbox"/> Breeze	<input type="checkbox"/> Strong			

		N/A	Yes	No	Remarks
0.00	General				
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.00	Construction Dust				
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.02	Are screenings, enclosures, water spraying, or vacuum cleaning devices provided to dusty construction works for dust suppression?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are wheel-washing facilities with high-pressure water jets provided at all sites exits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Del</u>
1.05	Is wheel-washing provided to all vehicles leaving the site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Del</u>
1.06	Are road section near the site exit free from dusty material?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Del</u>
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.12	Does the operation of plants on site free form dark smoke emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are hoardings of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Is open burning prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
2.00	Construction Noise (Airborne)				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.03	Are plants throttled down or turned off when not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are silencers, mufflers and enclosures provided to plants?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are all construction noise permit(s) applied for percussive piling work?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.00	Water Quality				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.02	Is effluent discharged according to the effluent discharge license?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.06	Is surface runoff diverted to sedimentation facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.07	Is the drainage system properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
3.12	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.14	Is runoff from wheel-washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.15	Is oil leakage or spillage prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.17	Are the oil interceptors/ grease traps properly maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.23	Is concrete washing water properly collected and treated prior to discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.00	Waste Management				
4.01	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.03	Is chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are all containers for chemical waste properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.07	Is drip tray provided for chemical storage?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.09	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.12	Is a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
4.13	Are sufficient general refuse disposal/collection points provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.14	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.17	Are C&D wastes sorted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.18	Are C&D waste disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.00	Landscape and Visual				
5.01	Are Is site hoarding provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.03	Is construction light oriented away from the sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.05	Are damages to trees outside site boundary due construction works avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.06	Are excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.08	Are surgery works carried out for damaged trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.00	Ecology				
6.01	Is site runoff properly treated to prevent any silly runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.02	Are silt trap installed and well-maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.04	Are construction works restricted to works area which are clearly defined?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.00	Overall				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

Remark / Observation(s) / Recommendation and Non-compliance(s) of Weekly Site Inspection:

Observation:

001: Vehicles should be cleaned before leaving the construction site to minimize the deposition of mud on public road. (Shek Kok Road Pt D)


Signatures:


ET
Representative


Contractor's
Representative

WSD's
Representative

IEC's
Representative


(Name: Howard Chan)


(Name: Ken Ma)


(Name: Kin Fai)

(Name:)

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST

Inspection Date: 24/07/2025 Inspected by: ET: Grace Wang WSD: Mr. Alex Kim Hon
 Inspection Time: 14:00 - 15:30 Contractor: Mr. Ken Ma IEC: Mr. Alex Chan

Weather	
Condition	<input checked="" type="checkbox"/> Sunny <input type="checkbox"/> Fine <input type="checkbox"/> Overcast <input type="checkbox"/> Drizzle <input type="checkbox"/> Rain <input type="checkbox"/> Storm <input type="checkbox"/> Hazy
Temperature	<u>32.3</u> °C <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low
Wind	<input checked="" type="checkbox"/> Calm <input type="checkbox"/> Light <input type="checkbox"/> Breeze <input type="checkbox"/> Strong

		N/A	Yes	No	Remarks
0.00	General				
0.01	Is the current Environmental Permit displayed conspicuously at all vehicle site entrances/exits for public's information at any time?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.00	Construction Dust				
1.01	Are dusty materials, such as excavated materials, building debris and construction materials, and exposed earth surface properly covered to prevent dust emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.02	Are screenings, enclosures, water spraying, or vacuum cleaning devices provided to dusty construction works for dust suppression?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are wheel-washing facilities with high-pressure water jets provided at all sites exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.05	Is wheel-washing provided to all vehicles leaving the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.06	Are road section near the site exit free from dusty material?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.07	Are all main haul roads inside the site paved or sprayed with water to minimize dust emission during vehicle movement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.10	Are the working areas for uprooting of trees, shrubs, or vegetation or the removal of boulders, poles, pillars sprayed with water to maintain the entire surface wet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Is exposed earth properly treated within six months after the last construction activity on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.12	Does the operation of plants on site free form dark smoke emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or day PFA covered or sheltered on top and 3 sides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.15	Are de-bagging, batching and mixing processes of bagged cement carried out in sheltered areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.16	Are hoardings of at least 2.4m high provided along the site boundary adjoining areas accessible by the public?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.17	Is open burning prohibited?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
2.00	Construction Noise (Airborne)				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.02	Are the PMEs operating on site well-maintained to minimize the generation of excessive noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.03	Are plants throttled down or turned off when not in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.04	Are the plants known to emit noise strongly in one direction oriented to face away from NSRs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Are silencers, mufflers and enclosures provided to plants?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Are the hoods, cover panels and inspection hatches of PMEs closed during operation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.08	Are purposely-built site hoarding construction with appropriate materials provided along the site boundary?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Are noisy operation properly scheduled to minimize exposure and cumulative impacts to nearby sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Are valid noise emission label(s) affixed to all hand-held breakers operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.11	Are valid noise emission label(s) affixed to all air compressors operating on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.12	Are all construction noise permit(s) applied for percussive piling work?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.13	Are construction noise permit(s) applied for general construction works during restricted hours?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.14	Are valid construction noise permit(s) displayed at all vehicular exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.00	Water Quality				
3.01	Is effluent discharge license obtained for wastewater discharge from site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.02	Is effluent discharged according to the effluent discharge license?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are sand/silt removal facilities such as sand/silt traps and sediment basins provided to remove sand/silt particles from runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	KOL
3.06	Is surface runoff diverted to sedimentation facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.07	Is the drainage system properly maintained?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.09	Are exposed soil surface protected by paving as soon as possible to reduce the potential of soil erosion?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.11	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
3.12	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.13	Are open stockpiles of construction materials on site covered by tarpaulin or similar fabric during construction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Ro1
3.14	Is runoff from wheel-washing facilities avoided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.15	Is oil leakage or spillage prevented?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.17	Are the oil interceptors/ grease traps properly maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.18	Are debris and rubbish generated on site collected, handled and disposed of properly to avoid them entering the streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.19	Are all fuel tanks and storage areas provided with locks and be sited on sealed areas, within bunds of capacity equal to 110% of the storage capacity of the largest tank?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.20	Are tanks, containers, storage area bunded and the locations locked as far as possible from the sensitive watercourse and stormwater drains?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.21	Are sufficient chemical toilets provided on site to handle sewage from construction work force?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.22	Are sewage disposal and toilet maintenance of the portable chemical toilets provided by the licensed contractors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.23	Is concrete washing water properly collected and treated prior to discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.00	Waste Management				
4.01	Is a trip-ticket system implemented to monitor the disposal of C&D and solid wastes at public filling facilities and landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.02	Is a recording system implemented to record the amount of wastes generated, recycled and disposed of?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.03	Is chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are all containers for chemical waste properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.07	Is drip tray provided for chemical storage?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	001
4.08	Is chemical waste storage area used solely for storage of chemical waste and properly labelled?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.09	Are incompatible chemical wastes stored in different areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.10	Is the chemical waste storage area enclosed on at least 3 sides and adequately ventilated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.11	Is an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or of 20% by volume of the chemical waste stored in that area, whichever is the greatest, provide?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.12	Is a routine cleaning and maintenance programme implemented for drainage systems, sump pits, and oil interceptors?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

		N/A	Yes	No	Remarks
4.13	Are sufficient general refuse disposal/collection points provided on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.14	Is general refuse disposed of properly and regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.15	Are appropriate measures adopted to minimize windblown litter and dust during transportation of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.16	Are individual collectors for aluminum cans, plastic bottles and packaging material and office paper provided to encourage waste segregation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.17	Are C&D wastes sorted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.18	Are C&D waste disposed of properly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.19	Are unused C&D materials or chemicals recycled or reused to reduce the quantity of waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.20	Are public fill and C&D waste reuse on site as far as practicable to avoid disposal off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.21	Are the construction materials stored properly to minimize the potential for damage or contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.22	Is a dumping license obtained to deliver public fill to public filling areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.00	Landscape and Visual				
5.01	Are Is site hoarding provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.02	Are vegetation disturbance minimized or soil protected to reduce potential soil erosion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.03	Is construction light oriented away from the sensitive receivers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.04	Is grass hydroseeding provided to slopes as soon as the completion of works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.05	Are damages to trees outside site boundary due construction works avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.06	Are excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.07	Are the retained and transplanted tree(s) properly protected and in good conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.08	Are surgery works carried out for damaged trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.00	Ecology				
6.01	Is site runoff properly treated to prevent any silly runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.02	Are silt trap installed and well-maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.03	Are stockpiles properly covered to avoid generating silty runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.04	Are construction works restricted to works area which are clearly defined?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.00	Overall				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Contract No.: 13/WSD/16 Mainlaying in Tseung Kwan O

Remark / Observation(s) / Recommendation and Non-compliance(s) of Weekly Site Inspection:

Reminder = Ro/

The sandbags shall be provided to prevent muddy runoff into discharge point in Pit D1.

Observation 01: The chemical container should be stored in drip tray in Pit M.

Signatures:

ET Representative



(Name: Greg Honey)

Contractor's Representative



(Name: Ken Ma)

WSD's Representative



(Name: Alex Kumwira)

IEC's Representative



(Name: Alex Chan)

Appendix M

Proactive Environmental Protection Proforma

Proactive Environmental Protection for the Next Reporting Month

Reporting Period	Activity	Major Environmental Impact	Environmental Mitigation Measure
1- 31 August 2023	<ul style="list-style-type: none"> - Excavation of trench - Mainlaying of pipe - Backfilling of the trench 	<ul style="list-style-type: none"> - Construction dust - Noise generation; - Construction waste - Impact of water quality - Ecology 	<ul style="list-style-type: none"> - Dust suppression by regular wetting and water spraying - Reduction of noise from equipment and machinery on-site - Sorting and storage of general refuse and construction waste - Chemical shall be stored properly with drip tray. - Treatment of water with water treatment facilities before discharge. - Rainwater pumped from trench should be discharged via waster water treatment facilities. - Retained tree shall be carefully protected and tree protect zone should be established.

Appendix N

Impact Monitoring Schedule of Next Reporting Month

Contract No. 13/WSD/16
Mainlaying in Tseung Kwon O
Tentative Environmental Monitoring Schedule (August 2023)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1 Impact Noise Monitoring	2	3	4	5
6	7	8	9	10	11	12 Impact Noise Monitoring
13	14	15	16	17	18 Impact Noise Monitoring	19
20	21	22	23	24 Impact Noise Monitoring	25	26
27	28	29	30 Impact Noise Monitoring	31		

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