



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

Your reference:

Our reference: HKWSD201/50/107534

Date: 3 September 2021

Attention: Mr Y M 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.36

We refer to emails of 12 August and 1 September 2021 attaching Monthly EM&A Report No.36 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



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SUSTAINABILITY  
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水務署

Water Supplies Department

**Contract No. 13/WSD/16**

**Mainlaying in Tseung Kwan O**

**Monthly EM&A Report No. 36**  
**(Period from 1 to 31 July 2021)**

August 2021

(Rev. 0)

	<b>Prepared by:</b>	<b>Certified by:</b>
<b>Name</b>	Charlene Lai	Jacky Leung
<b>Position</b>	Environmental Team	Environmental Team Leader
<b>Signature</b>		
<b>Date:</b>	14/08/2021	14/08/2021

## Revision History

<b>0</b>	1 <sup>st</sup> Submission	14 August 2021
<b>Rev.</b>	<b>DESCRIPTION OF MODIFICATION</b>	<b>DATE</b>

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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 36<sup>th</sup> 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 2021 to 31 July 2021.
- 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	Location	Works Conducted in the reporting month
Portion H of the Project Site	TKO 137 Pit B	<ul style="list-style-type: none"> <li>• Pipe Jacking by TBM was conducted.</li> </ul>
Portion J of the Project Site	Wan Po Rd – Workfront 1	<ul style="list-style-type: none"> <li>• Pipe trench excavation and pipe laying were in-progress.</li> </ul>
	Wan Po Rd – Workfront 2	<ul style="list-style-type: none"> <li>• Pipe trench excavation and pipe laying were in-progress.</li> </ul>
	Wan Po Rd – Workfront 3	<ul style="list-style-type: none"> <li>• Pipe trench excavation and pipe laying were in-progress.</li> </ul>
	Wan Po Rd – Workfront 4	<ul style="list-style-type: none"> <li>• Pipe trench excavation and pipe laying were in-progress.</li> </ul>
	Wan Po Rd – Pit A	<ul style="list-style-type: none"> <li>• Pit excavation and ELS works were in-progress.</li> </ul>
	Wan Po Rd – Pit B	<ul style="list-style-type: none"> <li>• Pit excavation works were conducted.</li> </ul>
	Wan Po Rd – Pit D	<ul style="list-style-type: none"> <li>• Pit excavation and ELS works were in-progress.</li> </ul>
	Landfill Stage 1 – Area A	<ul style="list-style-type: none"> <li>• Construction works for 900HSV chamber were conducted.</li> </ul>

Location	Location	Works Conducted in the reporting month
	Landfill Stage 1 – Area B	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying were in-progress.</li> </ul>
	Cycle Track – Workfront 1	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying were in-progress.</li> </ul>
	Cycle Track – Workfront 2	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying were in-progress.</li> </ul>
	Pung Loi Rd – Pit WPR1	<ul style="list-style-type: none"> <li>Trial pit works and removal of abandoned CLP cable were conducted.</li> </ul>
	Velodrome – Pit J1A	<ul style="list-style-type: none"> <li>Setting up work for trenchless works by hand-shield was conducted</li> </ul>
	Velodrome – Pit M	<ul style="list-style-type: none"> <li>Pipe jacking preparation works were conducted.</li> <li>Commencement of Micro Tunnel Boring Machine (MTBM) pipe jacking works</li> </ul>
	Velodrome – Pit O	<ul style="list-style-type: none"> <li>Construction works for rescue pit for TBM were conducted.</li> </ul>
	Velodrome – Pit P	<ul style="list-style-type: none"> <li>Pipe jacking preparation works.</li> </ul>
	Mau Wu Tsai – Workfront 1	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying works were conducted.</li> </ul>
	Po Lam Road (A0)	<ul style="list-style-type: none"> <li>Concrete carriageway reinstatement works were conducted.</li> </ul>
	Po Lam Road (D1)	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying works were conducted.</li> </ul>
	Po Lam Road (B5)	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying works were conducted.</li> </ul>
	Tsui Lam Road	<ul style="list-style-type: none"> <li>Trial pit works were conducted.</li> <li>Reinstatement work of trial pit was conducted</li> </ul>
	TKO Primary Service Reservoir	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying works were conducted.</li> <li>Trial pit excavation works were conducted.</li> </ul>

A6. The major environmental impacts brought by the above construction works include:

- Construction dust and noise generation from saw cutting of concrete surface, mainlaying of pipes, TBM break through, excavation and drilling works
- Waste generation from the construction activities
- 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 saw cutting of concrete surface, mainlaying of pipes, TBM break through, excavation and drilling works through regular water spraying and covering dusty materials with tarpaulin sheet
  - Reduction of noise from equipment and machinery on-site
  - Sorting and storage of general refuse and construction waste
  - Treatment of wastewater through water treatment facilities before discharge

#### **Summary of Exceedance & Investigation & Follow-up**

- A8. Noise monitoring was conducted in the reporting month for NSR4 Creative Secondary School on 2, 8, 16, 20 and 28 July 2021 as construction works were conducted within 300m to the noise sensitive receiver. No project-related exceedance of the Action and Limit Level was recorded during the reporting period.
- A9. No examinations were scheduled in the reporting month for NSR4 Creative Secondary School. Academic School Calendar can be found in **Appendix O**.

#### **Complaint Handling and Prosecution**

- A10. One project-related environmental complaint was received and the site condition of the concerned area was reviewed by ET. ET noted that although there was no excavation works on-going or scheduled recently, clearance works and works that create disturbance to ground surface were previously conducted. To prevent the muddy water discharge from the construction site, the contractor has implemented and enhanced the mitigation measures to cater for any upcoming rainstorms or heavy precipitation from the site. Sandbags are placed along the site boundary and submersible pump is provided to direct the runoff to the wastewater treatment tank before reusing or discharging into the designated discharge point. Cement application to exposed earth within the site was also observed during the inspection on 13 August 2021, which was being implemented to prevent erosion caused by the precipitation. The temporarily exposed slope and areas were covered by tarpaulin.
- A11. Neither notifications of summons nor prosecution was received for the Project in the reporting month.

#### **Reporting Change**

- A12. There were no changes reported that may affect the on-going EM&A programme.

**Summary of Upcoming Key Issues and Key Mitigation Measures**

A13. Key works in August 2021 (the next reporting month) for the Project will include the followings:

Location	Location	Forecast Works in Next Reporting Month
Portion H of the Project Site	TKO 137 Pit B	<ul style="list-style-type: none"> <li>• Pipe jacking works by TBM will be continued.</li> </ul>
Portion J of the Project Site	Wan Po Rd – Workfront 1	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying will be conducted.</li> </ul>
	Wan Po Rd – Workfront 2	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Wan Po Rd – Workfront 3	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Wan Po Rd – Workfront 4	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Wan Po Rd – Pit A	<ul style="list-style-type: none"> <li>• Excavation and ELS works will be conducted.</li> </ul>
	Wan Po Rd – Pit B	<ul style="list-style-type: none"> <li>• Pit excavation works will be continued.</li> <li>• Preparation works for pipe jacking will be conducted.</li> </ul>
	Wan Po Rd – Pit D	<ul style="list-style-type: none"> <li>• Excavation and ELS works will be conducted.</li> </ul>
	Landfill Stage 1 – Area A	<ul style="list-style-type: none"> <li>• 900HSV Chamber construction works will be conducted.</li> </ul>
	Landfill Stage 1 – Area B	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Cycle Track – Workfront 1	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Cycle Track – Workfront 2	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Velodrome – Pit J1A	<ul style="list-style-type: none"> <li>• Trenchless works by hand-shield</li> </ul>
	Velodrome – Pit K	<ul style="list-style-type: none"> <li>• Pipe laying works will be commenced.</li> </ul>
	Velodrome – Pit L	<ul style="list-style-type: none"> <li>• Pipe laying works will be commenced.</li> </ul>
	Velodrome – Pit M	<ul style="list-style-type: none"> <li>• Pipe jacking works will be continued.</li> </ul>
	Velodrome – Pit O	<ul style="list-style-type: none"> <li>• Construction of rescue pit for TBM will be conducted.</li> </ul>
	Velodrome – Pit P	<ul style="list-style-type: none"> <li>• MTBM pipe jacking will be commenced.</li> </ul>
	Mau Wu Tsai – Workfront 1	<ul style="list-style-type: none"> <li>• Trench excavation and pipe mainlaying works will be conducted.</li> </ul>
	Po Lam Road (D1)	<ul style="list-style-type: none"> <li>• Trench backfilling and reinstatement will be continued.</li> </ul>
	Po Lam Road (B5)	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
TKO Primary Service Reservoir	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>	

- A14. The major environmental impacts brought by the above construction works will include:
- Construction dust and noise generation of saw cutting of concrete surface, mainlaying of pipes, drilling activities, TBM break through and excavation works.
  - Waste generation from construction activities
  - Impact on water quality from construction activities
- A15. 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 saw cutting of concrete surface, mainlaying of pipes, drilling activities 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
  - 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 fresh water 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 10km long 1200mm diameter fresh water 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 36<sup>th</sup> Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 July 2021 to 31 July 2021.

1.3 Project Organization

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

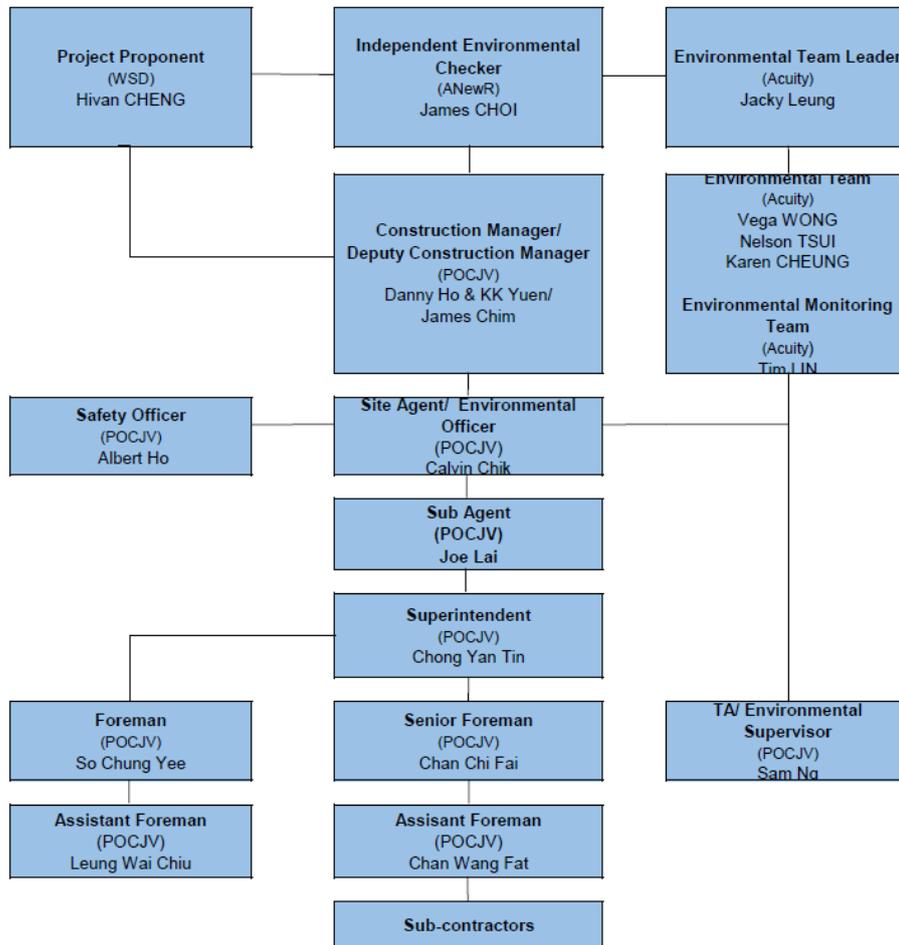


Figure 1.1 Project Organization Chart

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

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	Location	Works Conducted in the reporting month
Portion H of the Project Site	TKO 137 Pit B	<ul style="list-style-type: none"> <li>• Pipe Jacking by TBM was conducted.</li> </ul>
Portion J of the Project Site	Wan Po Rd – Workfront 1	<ul style="list-style-type: none"> <li>• Pipe trench excavation and pipe laying were in-progress.</li> </ul>
	Wan Po Rd – Workfront 2	<ul style="list-style-type: none"> <li>• Pipe trench excavation and pipe laying were in-progress.</li> </ul>
	Wan Po Rd – Workfront 3	<ul style="list-style-type: none"> <li>• Pipe trench excavation and pipe laying were in-progress.</li> </ul>
	Wan Po Rd – Workfront 4	<ul style="list-style-type: none"> <li>• Pipe trench excavation and pipe laying were in-progress.</li> </ul>
	Wan Po Rd – Pit A	<ul style="list-style-type: none"> <li>• Pit excavation and ELS works were in-progress.</li> </ul>
	Wan Po Rd – Pit B	<ul style="list-style-type: none"> <li>• Pit excavation works were conducted.</li> </ul>
	Wan Po Rd – Pit D	<ul style="list-style-type: none"> <li>• Pit excavation and ELS works were in-progress.</li> </ul>
	Landfill Stage 1 – Area A	<ul style="list-style-type: none"> <li>• Construction works for 900HSV chamber were conducted.</li> </ul>
	Landfill Stage 1 – Area B	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying were in-progress.</li> </ul>
	Cycle Track – Workfront 1	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying were in-progress.</li> </ul>
	Cycle Track – Workfront 2	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying were in-progress.</li> </ul>
	Pung Loi Rd – Pit WPR1	<ul style="list-style-type: none"> <li>• Trial pit works and removal of abandoned CLP cable were conducted</li> </ul>
	Velodrome – Pit J1A	<ul style="list-style-type: none"> <li>• Setting up work for trenchless works by hand-shield was conducted</li> </ul>
	Velodrome – Pit M	<ul style="list-style-type: none"> <li>• Pipe jacking preparation works were conducted.</li> <li>• Commencement of Micro Tunnel Boring Machine (MTBM) pipe jacking works</li> </ul>

Location	Location	Works Conducted in the reporting month
	Velodrome – Pit O	<ul style="list-style-type: none"> <li>Construction works for rescue pit for TBM were conducted.</li> </ul>
	Velodrome – Pit P	<ul style="list-style-type: none"> <li>Pipe jacking preparation works.</li> </ul>
	Mau Wu Tsai – Workfront 1	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying works were conducted.</li> </ul>
	Po Lam Road (A0)	<ul style="list-style-type: none"> <li>Concrete carriageway reinstatement works were conducted.</li> </ul>
	Po Lam Road (D1)	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying works were conducted.</li> </ul>
	Po Lam Road (B5)	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying works were conducted.</li> </ul>
	Tsui Lam Road	<ul style="list-style-type: none"> <li>Trial pit works were conducted.</li> <li>Reinstatement work of trial pit was conducted</li> </ul>
	TKO Primary Service Reservoir	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying works were conducted.</li> <li>Trai pit excavation works were conducted.</li> </ul>

### 1.5 Summary of Environmental Status

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

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

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Variation of Environmental Permit	EP no.: EP-503/2015/A	Throughout the Contract	-
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation (Form NA)	Ref no.: 423775	Throughout the Contract	-
Chemical Waste Producer Registration	WPN: 5213-839-P3287-01	Throughout the Contract	-
Billing Account for Disposal of Construction Waste	A/C no.: 7029491	Throughout the Contract	-
Water Discharge Licence	WT00032336-2018	Until 31 Dec 2023	-
Construction Noise Permit (Wan Po Road, Wan O Road and Chun Yat Street)	GW-RE0277-21	Until 30 Sep 2021	-
Construction Noise Permit (Tseung Kwan O Area 137, N.T.)	GW-RE0383-21	Until 30 Sep 2021	-
Construction Noise Permit (Hong Kong Velodrome)	GW-RE0494-21	Until 16 Nov 2021	-

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 Monitoring 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.

In accordance with the EM&A Manual, baseline noise level at the noise monitoring stations were established as presented in the Baseline Monitoring Report. Impact noise monitoring will be conducted once per week in the form of 30-minute measurements Leq, L10 and L90 levels recorded at each monitoring station between 0700 and 1900 on normal weekdays.

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 2, 8, 16, 20 and 28 July 2021 as construction works were conducted within 300m to the noise sensitive receiver. Detailed monitoring results can be found in **Appendix G**.

No examinations were scheduled in the reporting month for NSR4 Creative Secondary School. Academic School Calendar can be found in **Appendix O**.

## 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 would follow the requirements as stipulated in the valid CNPs if works have to be conducted during 1900-0700 in all days or any time on Sundays or general holidays.

Construction noise level was measured in terms of the A-weighted equivalent continuous sound pressure level (LAeq). Leq<sub>30min</sub> 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 Leq <sub>5min</sub> /Leq <sub>30min</sub> (average of 6 consecutive Leq <sub>5min</sub> )	Leq, L <sub>10</sub> & L <sub>90</sub>

## 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.

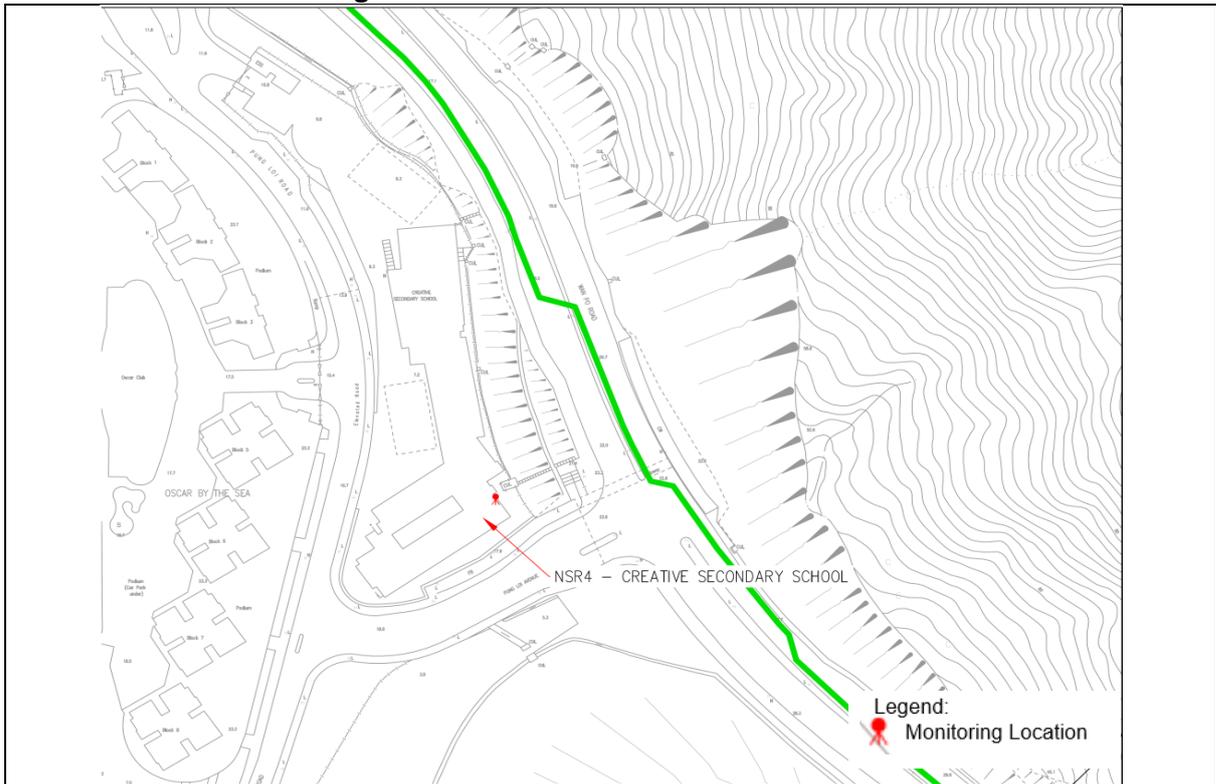
According to the environmental findings detailed in the EIA report and Baseline Monitoring Report, the designated locations for the construction noise monitoring are listed in **Table 2.2** below.

**Table 2.2 Noise Monitoring Location**

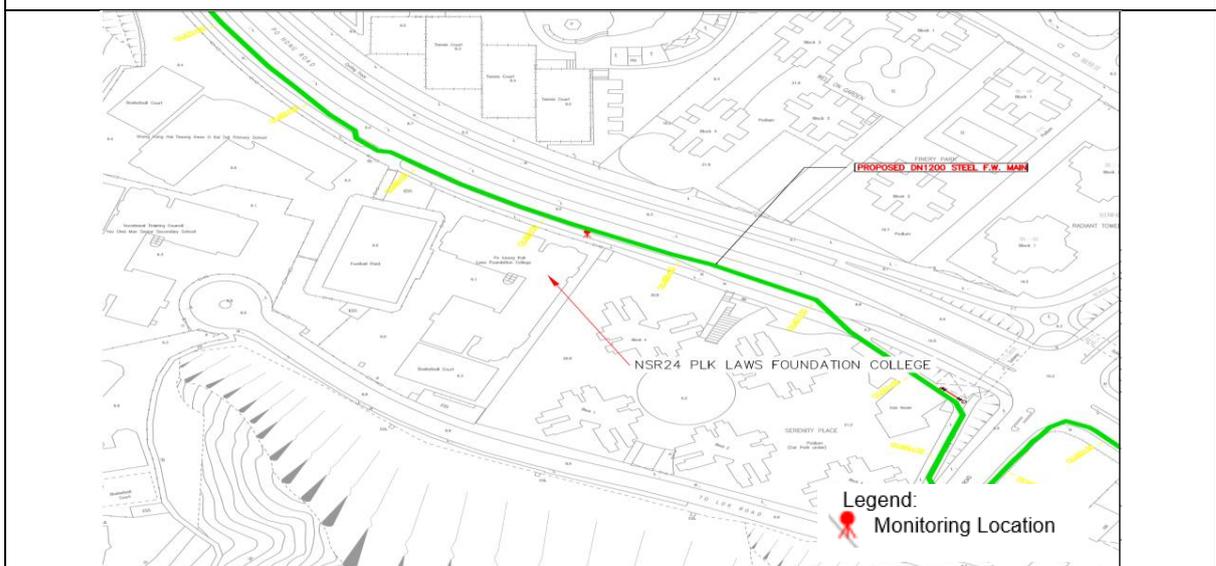
NSR ID	Noise Sensitive Receivers	Monitoring Location	Position
NSR 4	Creative Secondary School	Roof Floor	1 m from facade

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

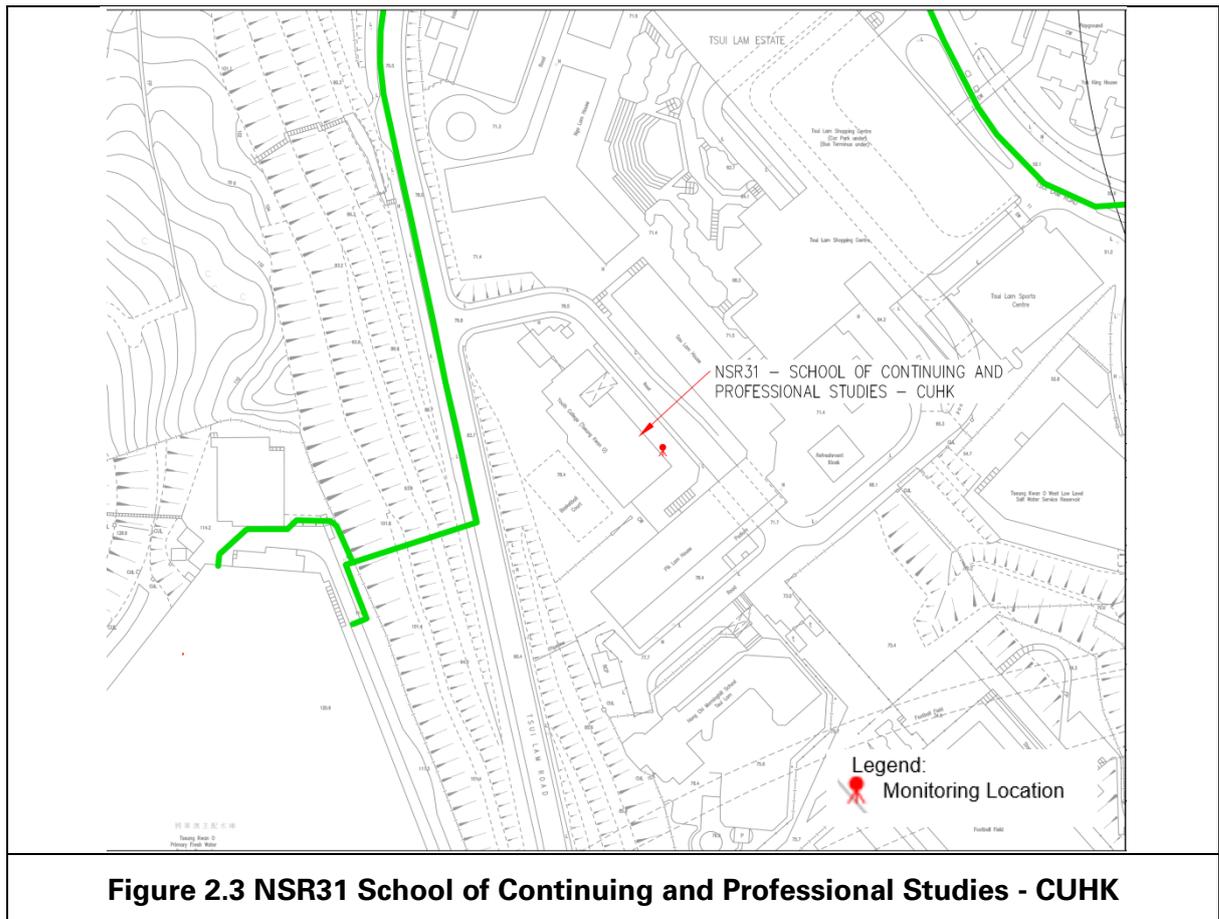
Three noise monitoring locations for impact monitoring at the nearby sensitive receivers are shown in **Figure 2.1-2.3**.



**Figure 2.1 NSR4 Creative Secondary School**



**Figure 2.2 NSR24 PLK Laws Foundation College**



#### 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 were 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 would be 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	Calibration Certificate Expiry Date	Detection Limit
Sound Level Meter	Scarlet ST-11D	820200	18/01/2021	17/01/2022	27-140 dB(A)
Sound Level Meter	NTi XL2	A2A-13663-E0	09/09/2020	08/09/2021	30-130 dB(A)
Sound Level Meter	Lutron SL-4033SD	1491835	07/12/2020	06/12/2021	30-130 dB(A)
Sound Level Meter Calibrator	Pulsar 105	63705	06/08/2020	05/08/2021	Nil
Pocket Wind Meter Anemometer	Kestrel 1000 Wind Meter	Nil	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"> <li>70 dB(A) for school and</li> <li>65 dB(A) during examination period</li> </ul>
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 conducted in the reporting month for NSR4 – Creative Secondary School on 2, 8, 16, 20 and 28 July. Detailed monitoring results are presented in **Appendix G**.

No examinations were scheduled in the reporting month for NSR4 Creative Secondary School. Academic School Calendar can be found in **Appendix O**.

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

### 3. WASTE MANAGEMENT

3.1 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 the 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 <sup>3</sup> )	Chemical Waste (in '000kg)	Non-inert C&D Materials			
			Others, e.g. General Refuse disposed at Landfill (in '000m <sup>3</sup> )	Recycled materials		
				Paper/card board (in '000kg)	Plastics (in '000kg)	Metals (in '000kg)
July-21	2.003	0.000	0.005	0.052	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. In this reporting period, 764 times of monitoring was recorded.

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 4.20**.

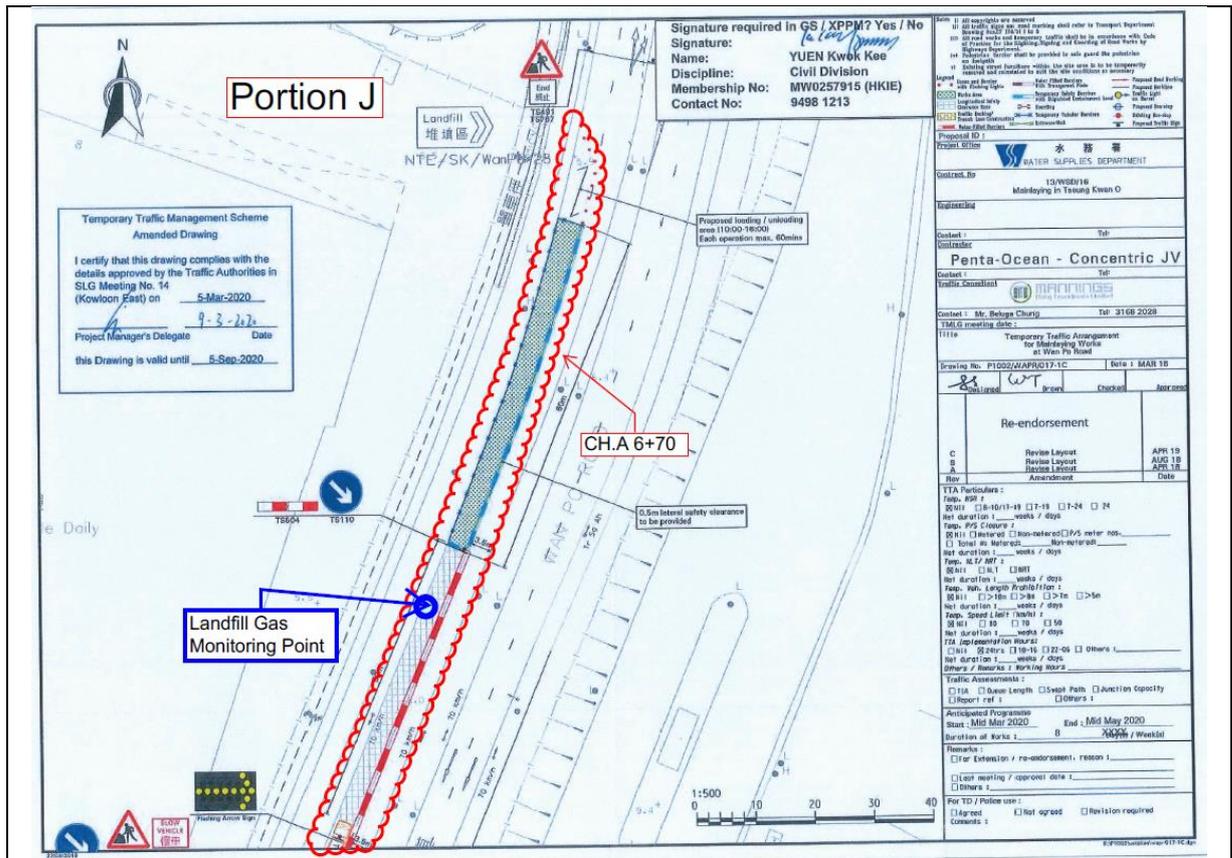


Figure 4.1 Monitoring Location - CH.A 6+70

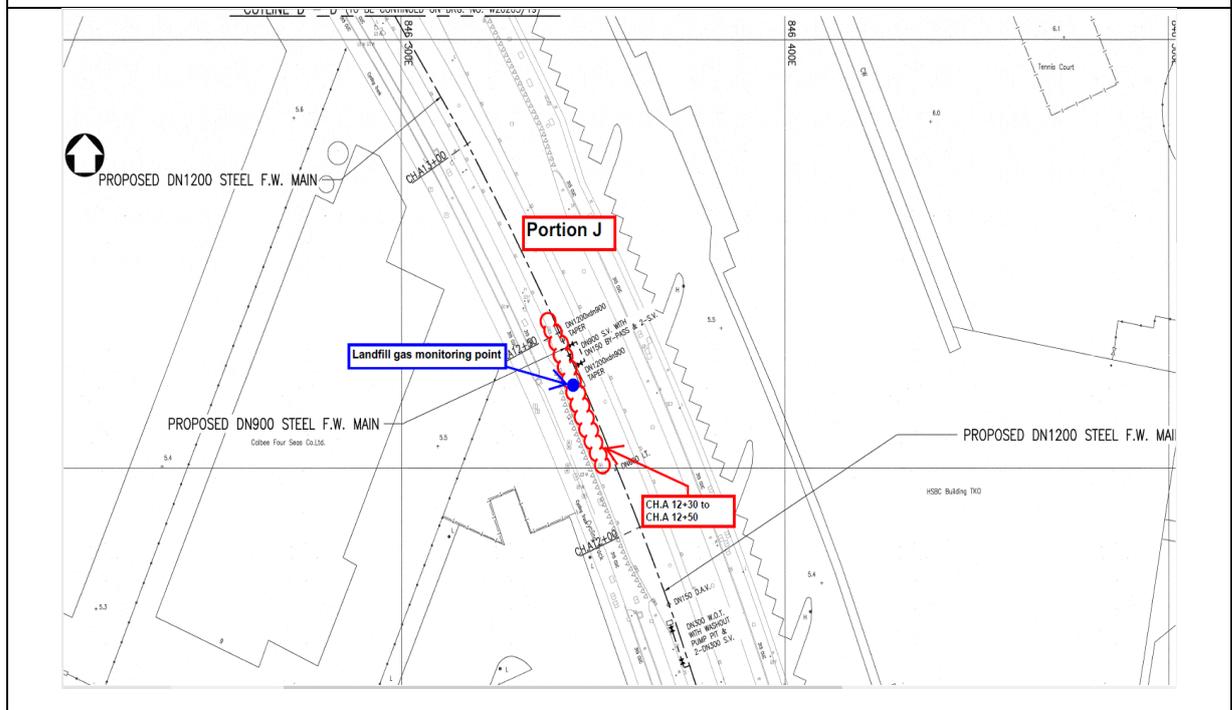


Figure 4.2 Monitoring Location - CH.A 12+30 ~ 12+50

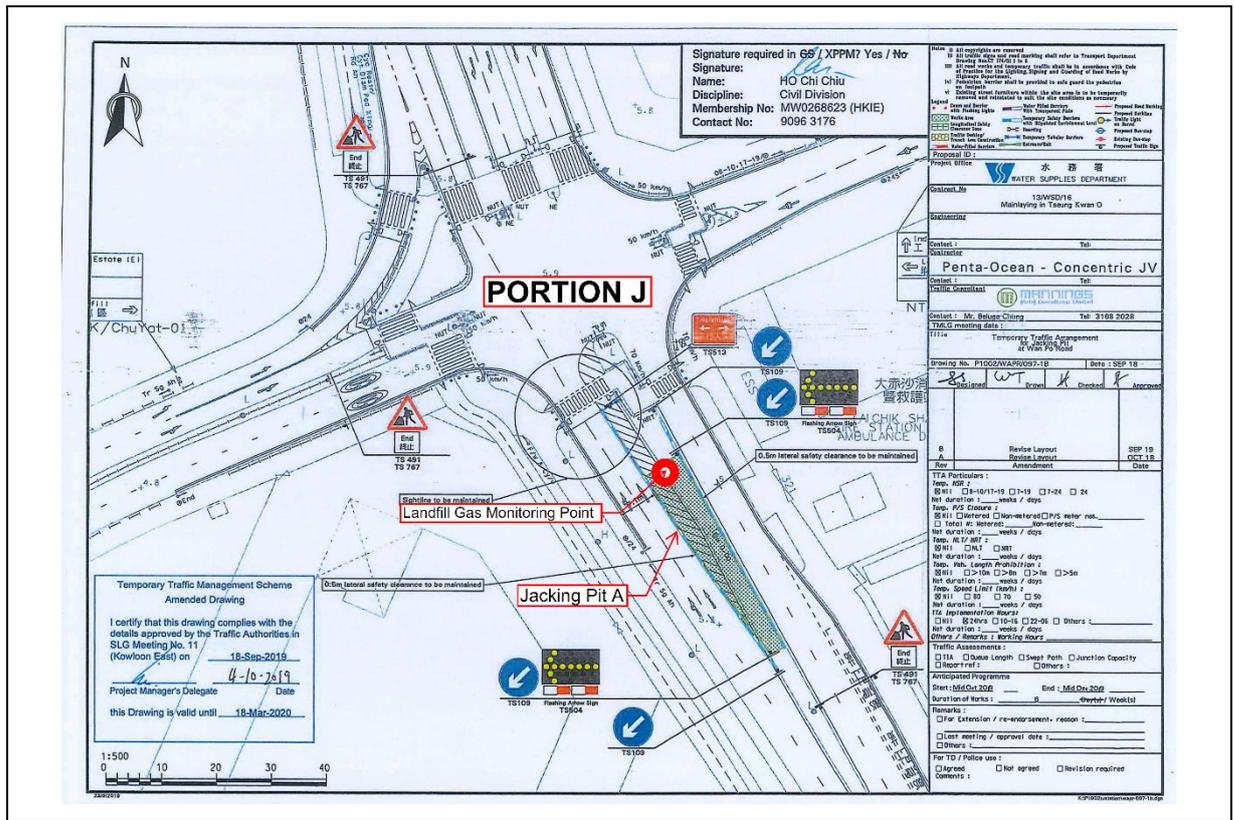


Figure 4.3 Monitoring Location – CH.A 13+50 ~ 14+00 (Pit A)

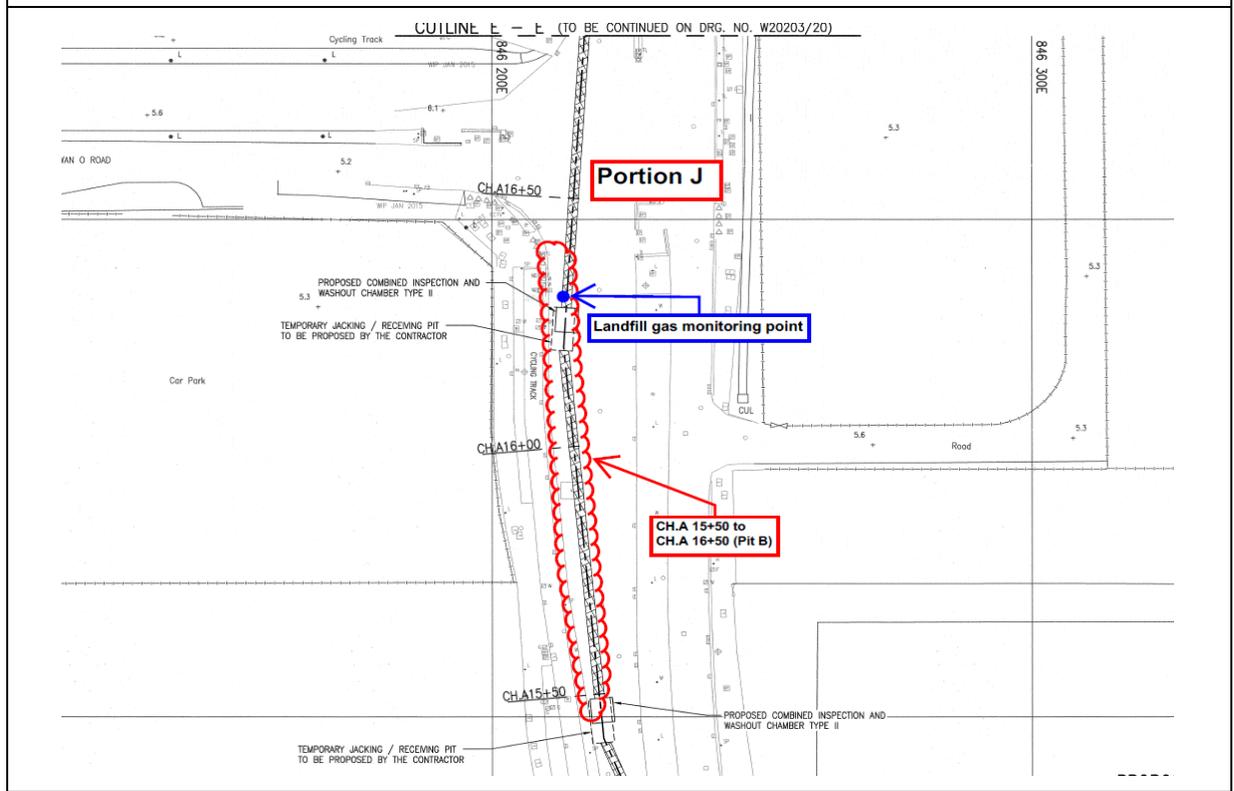


Figure 4.4 Monitoring Location – CH.A 15+50 ~ 16+50 (Jacking Pit B)

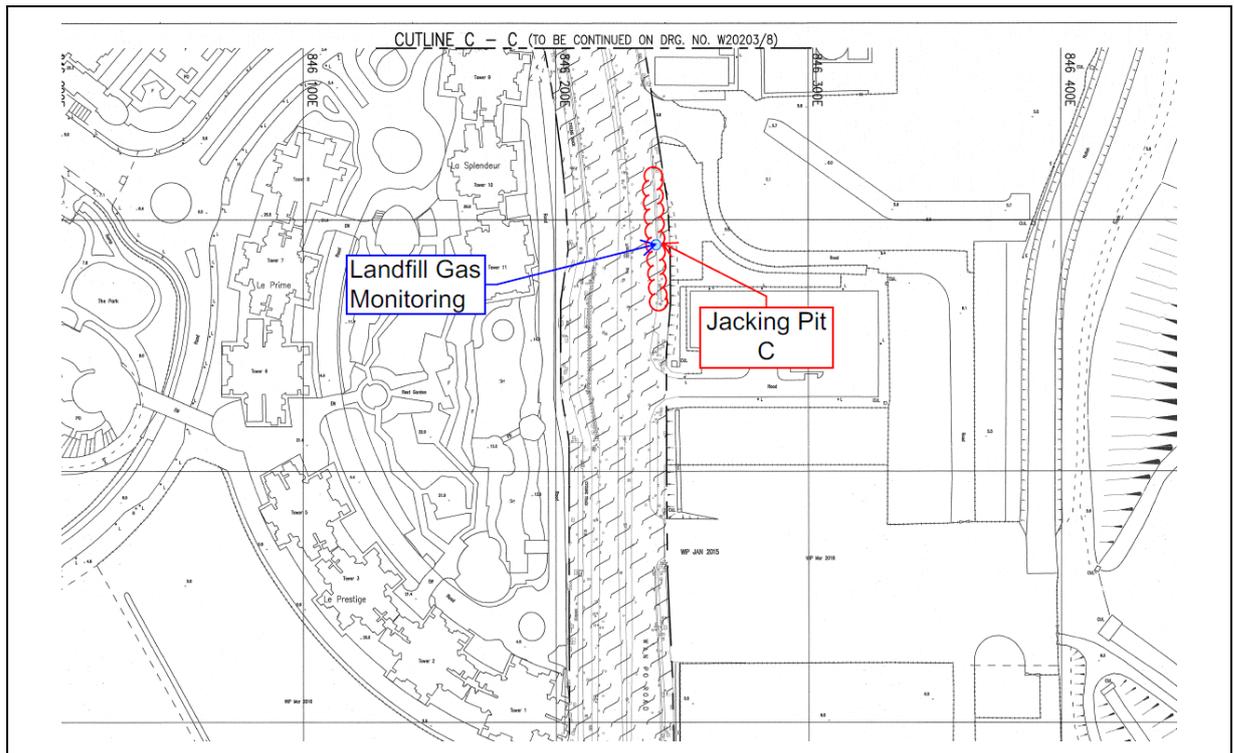


Figure 4.5 Monitoring Location – CH.A 19+15 ~19+50 (Pit C)

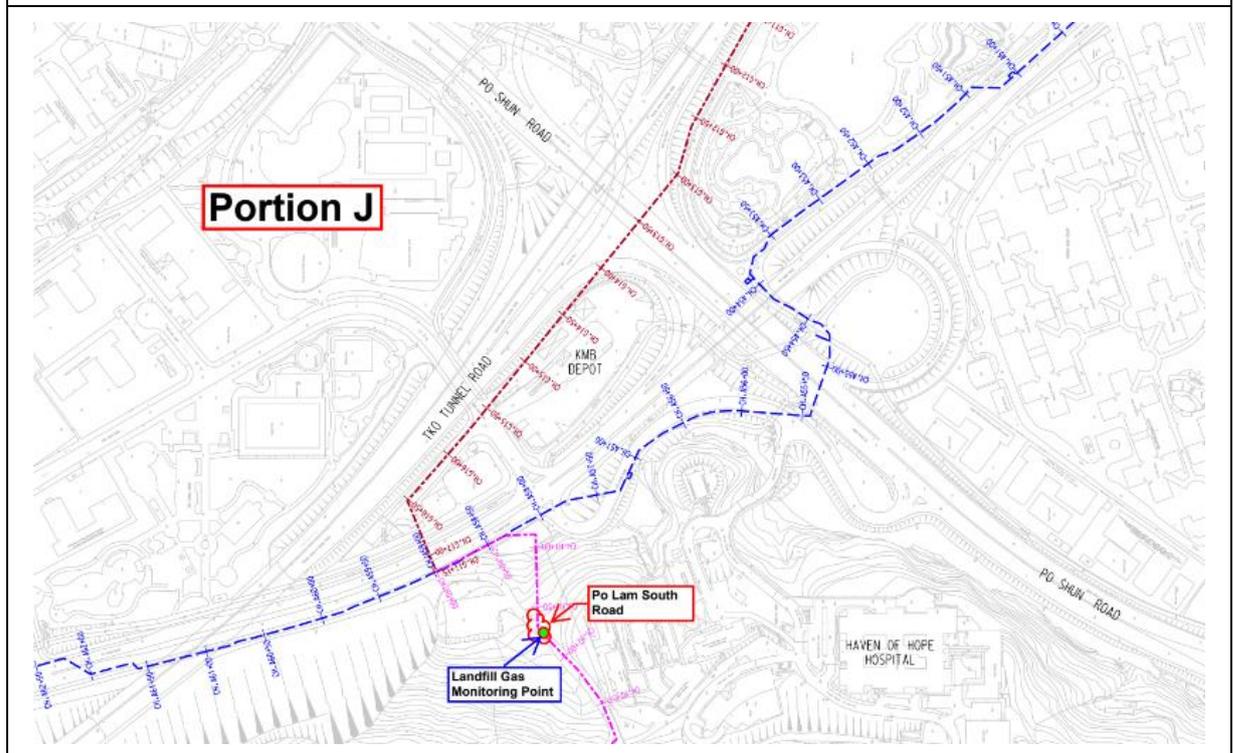


Figure 4.6a Monitoring Location – Mau Wu Tsai 1



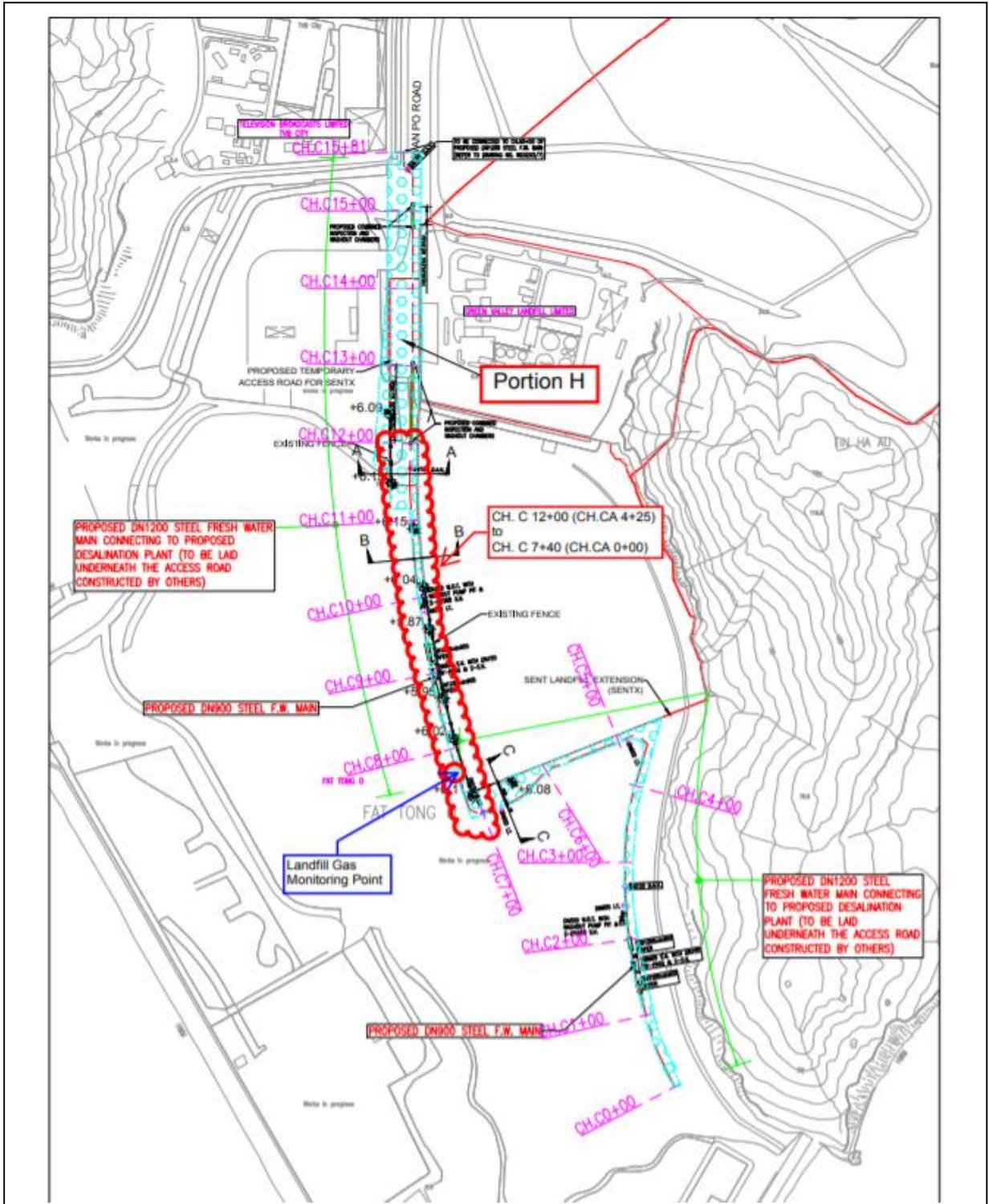


Figure 4.7 Monitoring Location –CH.CA 0+00 to CH.CA 04+25 (CH.C 7+40 ~ 12+00)

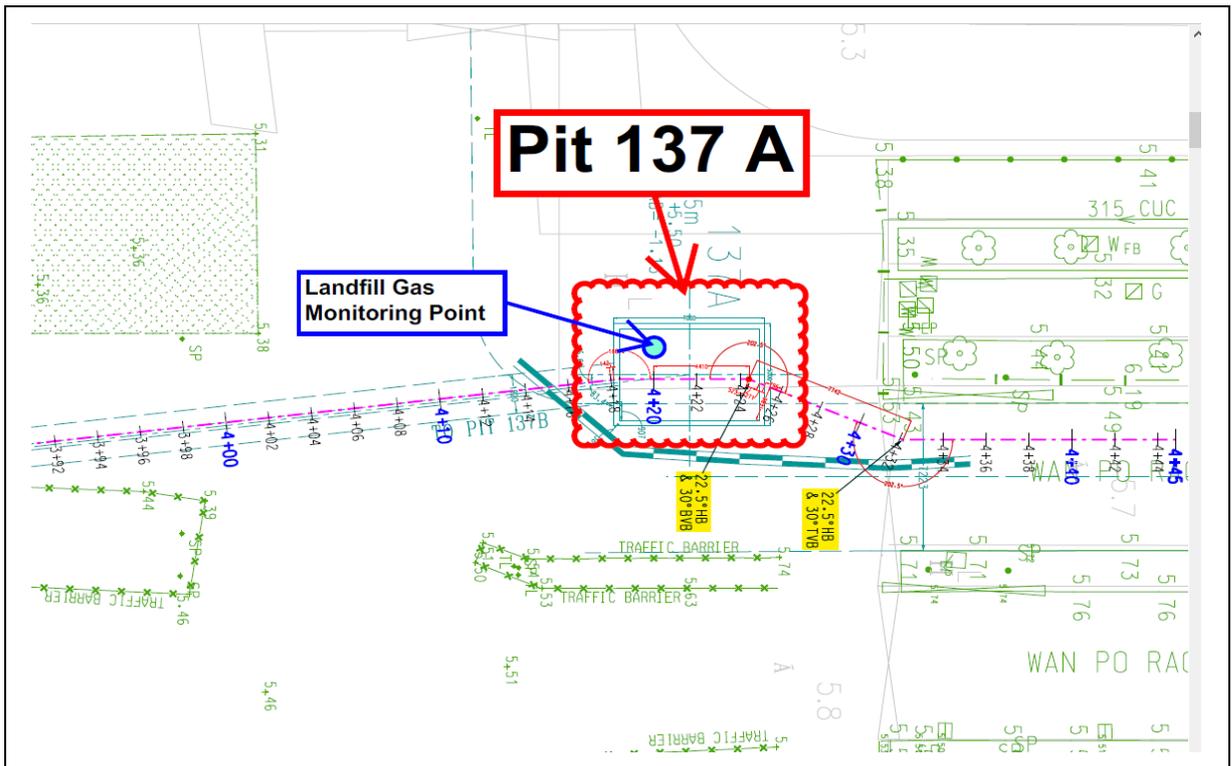


Figure 4.8a Monitoring Location – Pit 137A (137 Pit A)

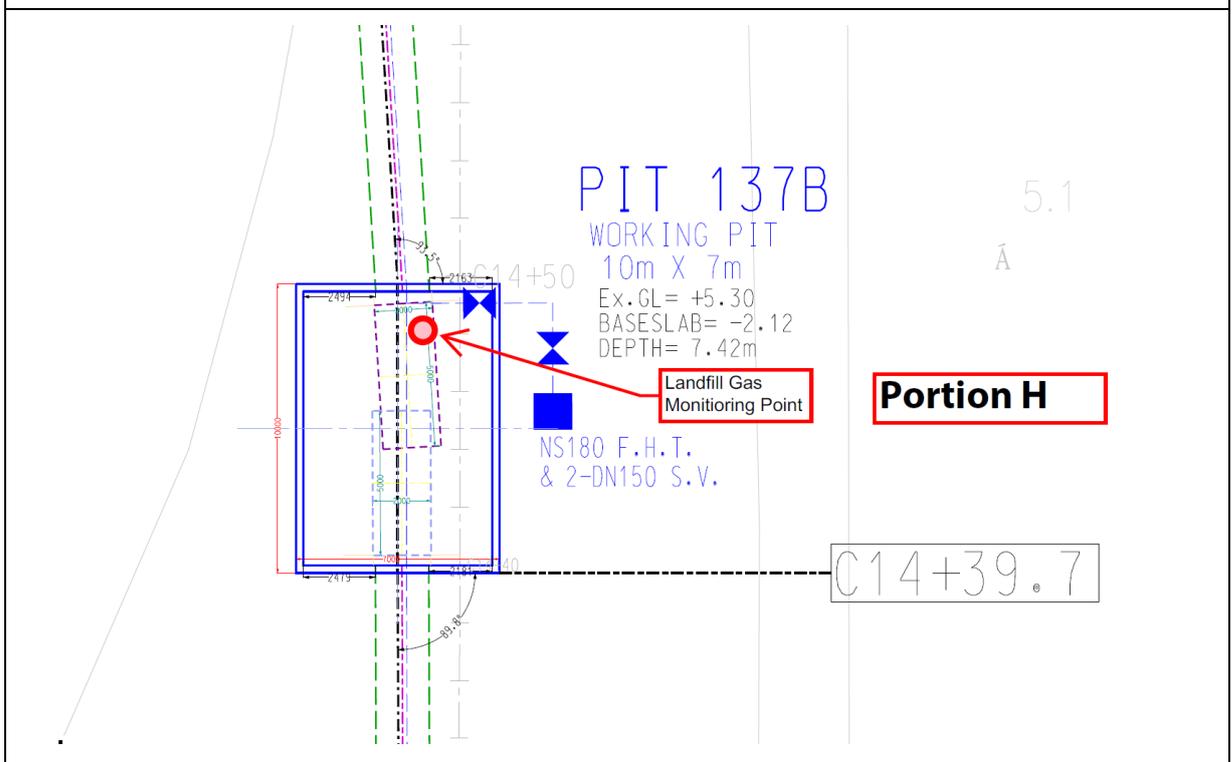


Figure 4.8b Monitoring Location – Pit 137B (137 Pit B)



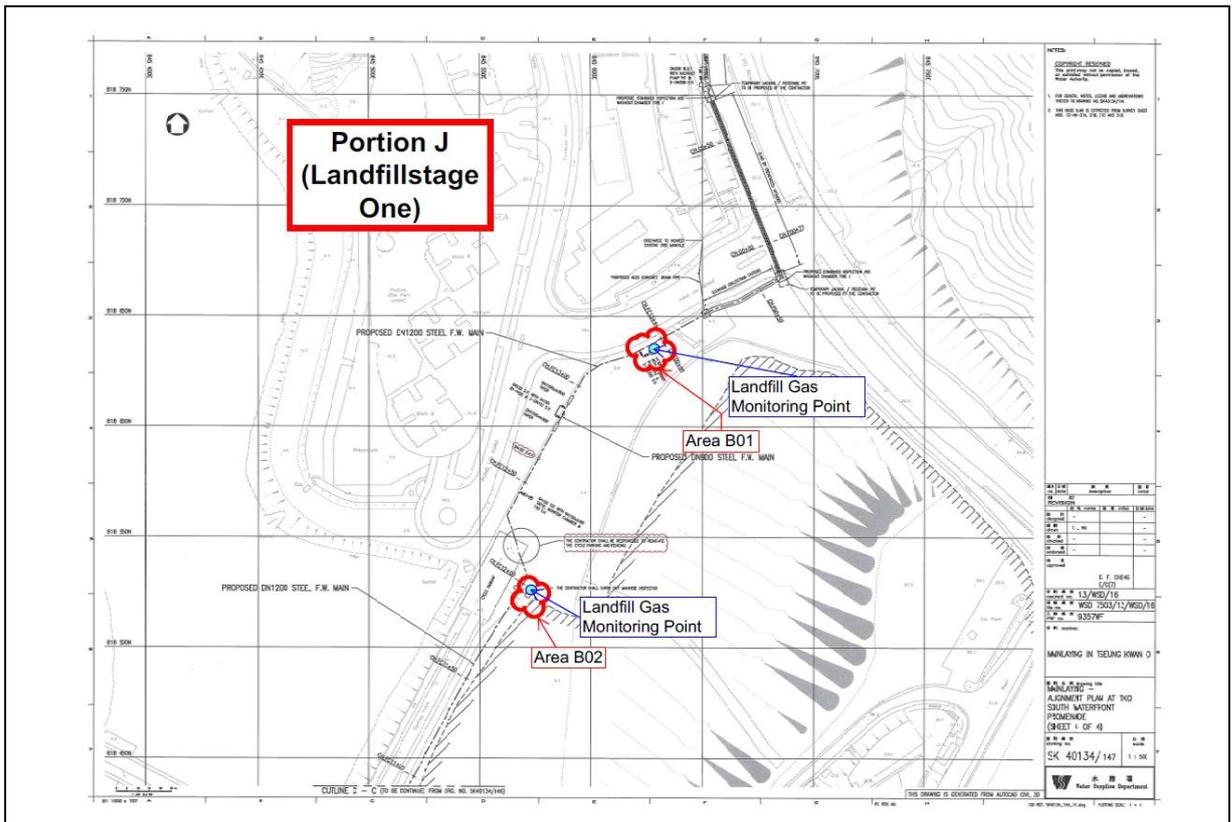


Figure 4.10a Monitoring Location – Landfill Stage 1 (Area B01-B02)

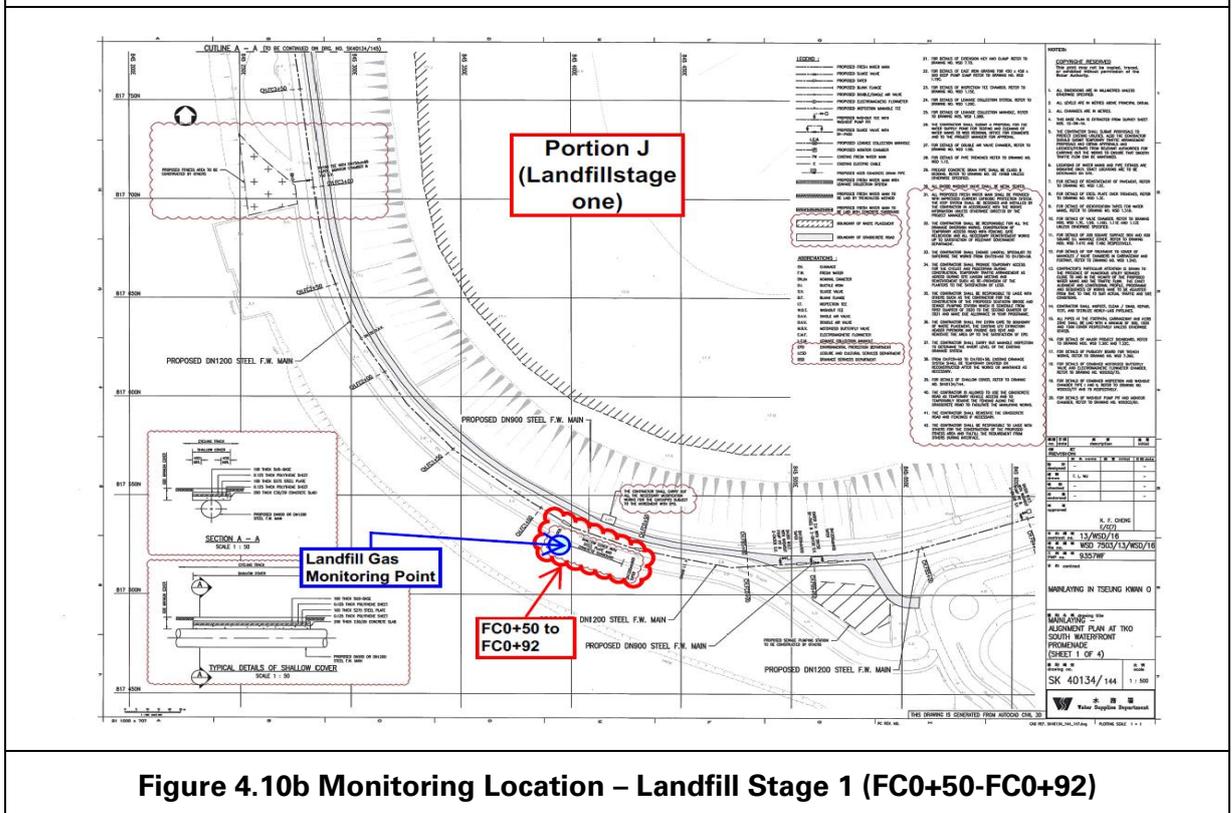


Figure 4.10b Monitoring Location – Landfill Stage 1 (FC0+50-FC0+92)

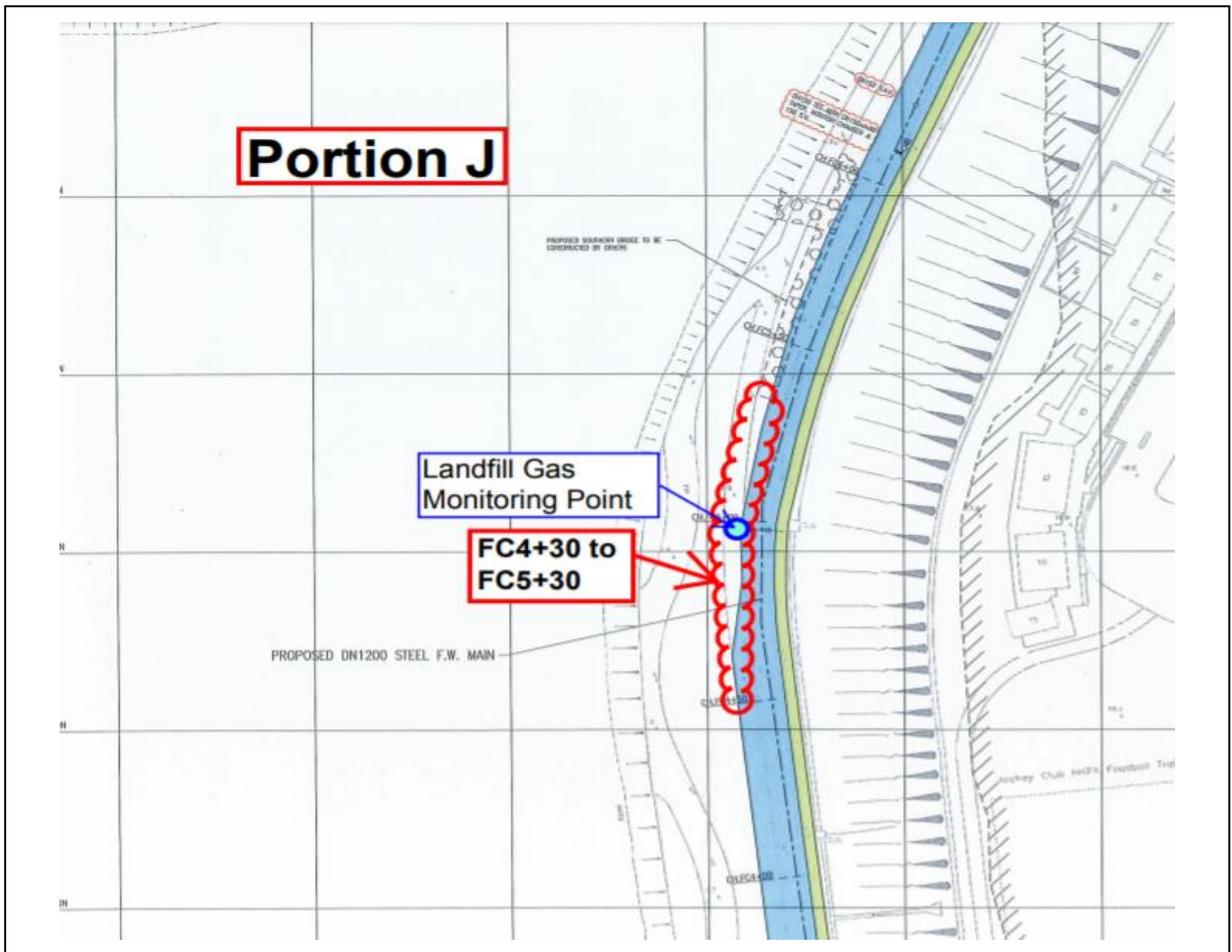


Figure 4.10c Monitoring Location – Landfill Stage 1 (FC4+30-FC5+30)

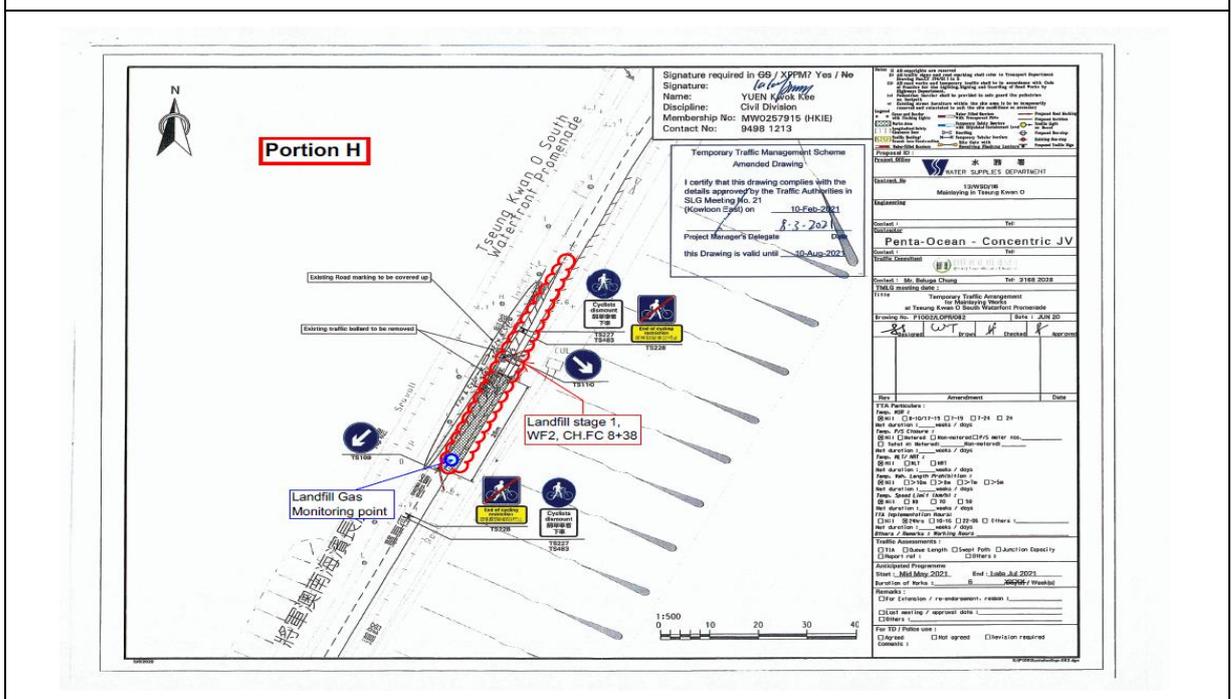
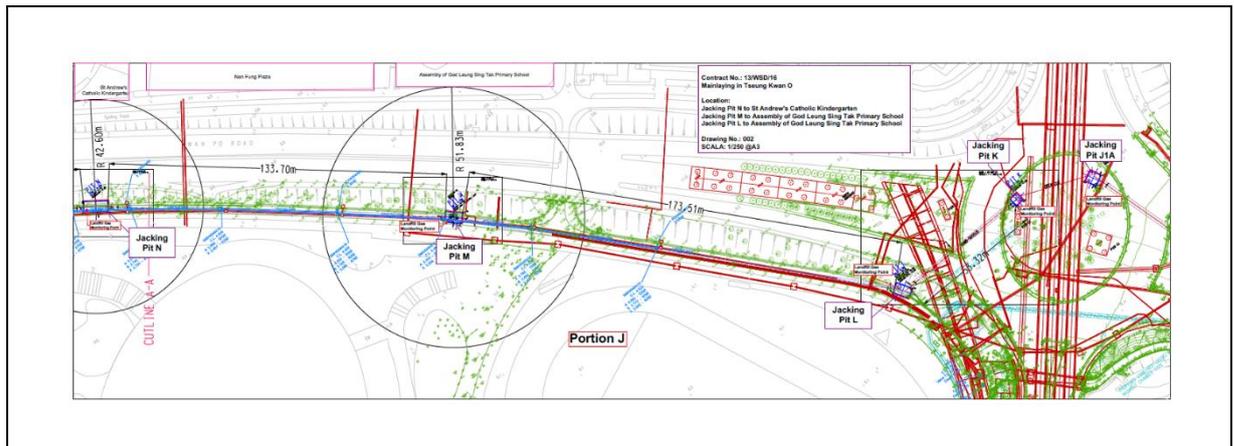
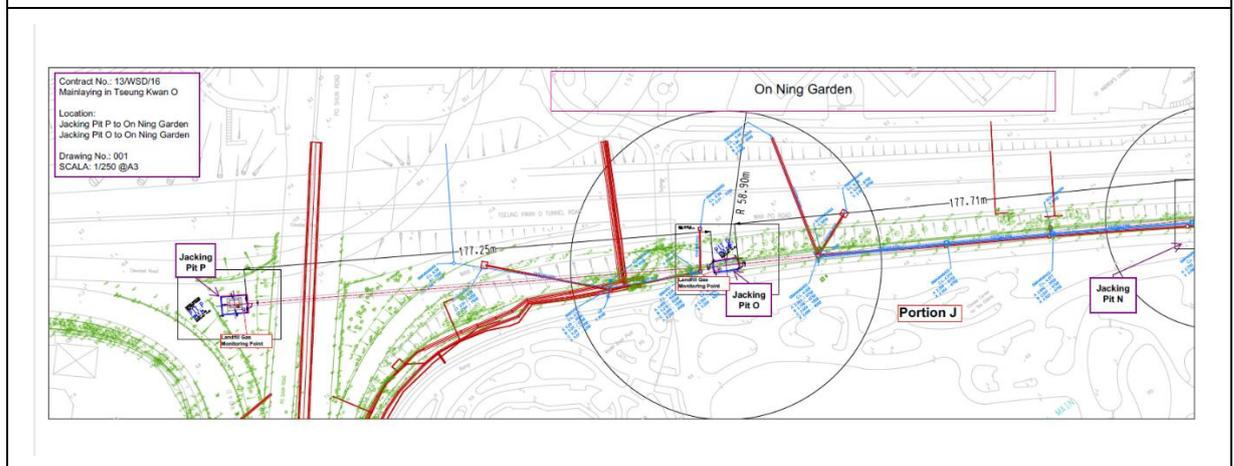


Figure 4.10d Monitoring Location – Landfill Stage 1 (FC8+38)



**Figure 4.11a Monitoring Location – Pit L-M-N, J1A, K**



**Figure 4.11b Monitoring Location – Pit N-O-P**

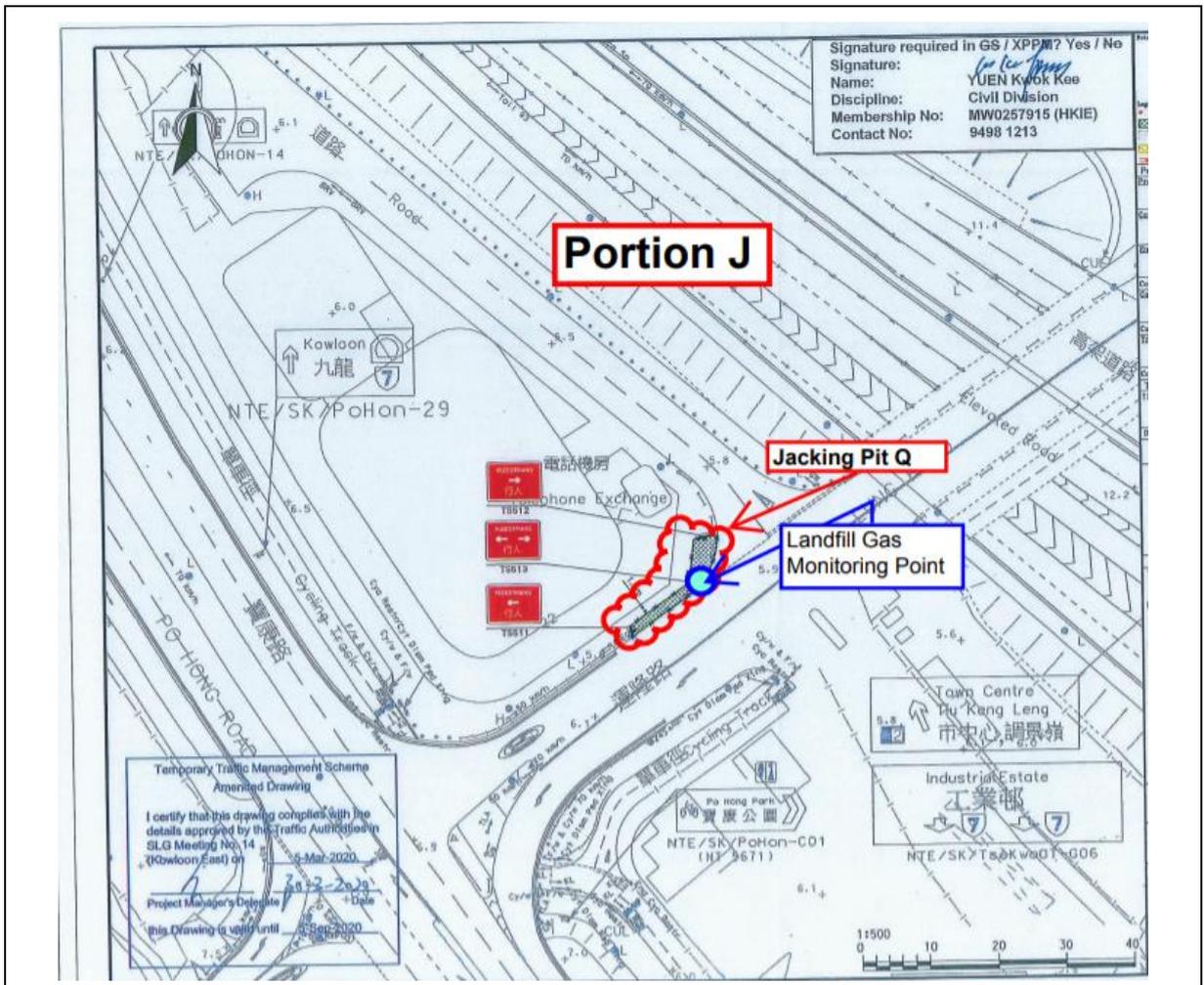


Figure 4.11c Monitoring Location – Pit Q

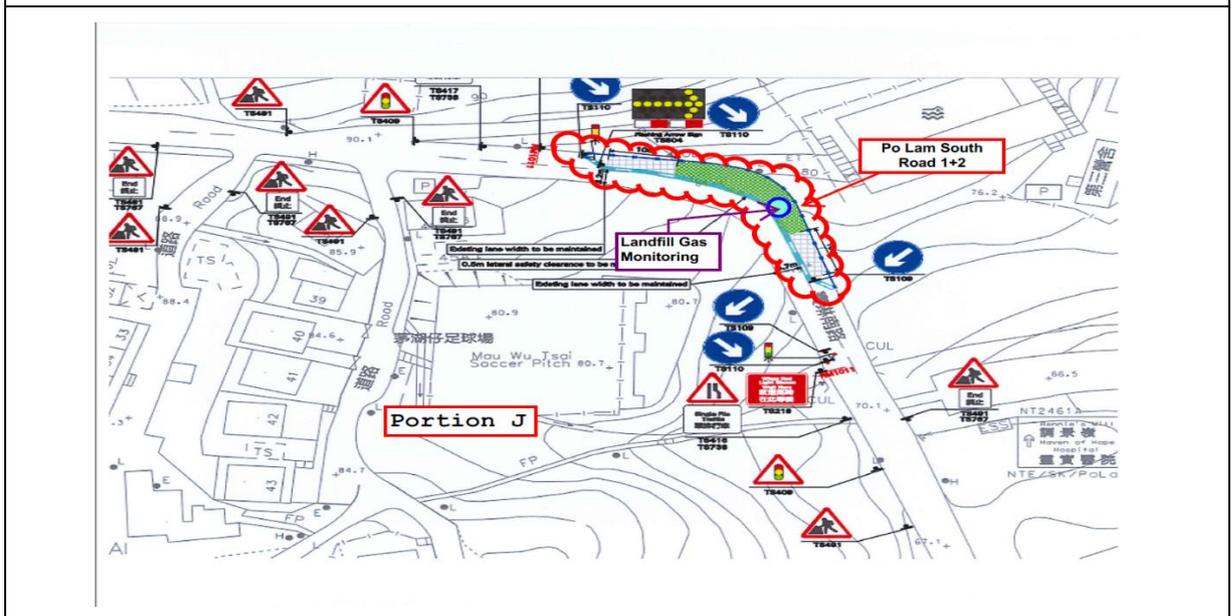


Figure 4.12 Po Lam South Road

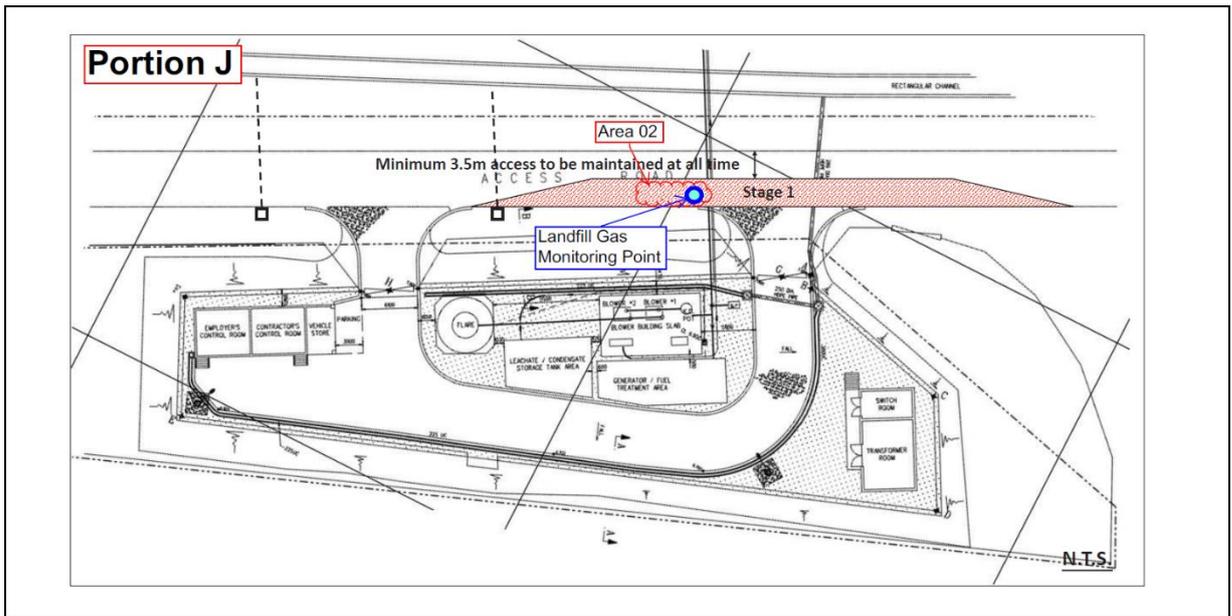


Figure 4.13 Monitoring Location – Area A02

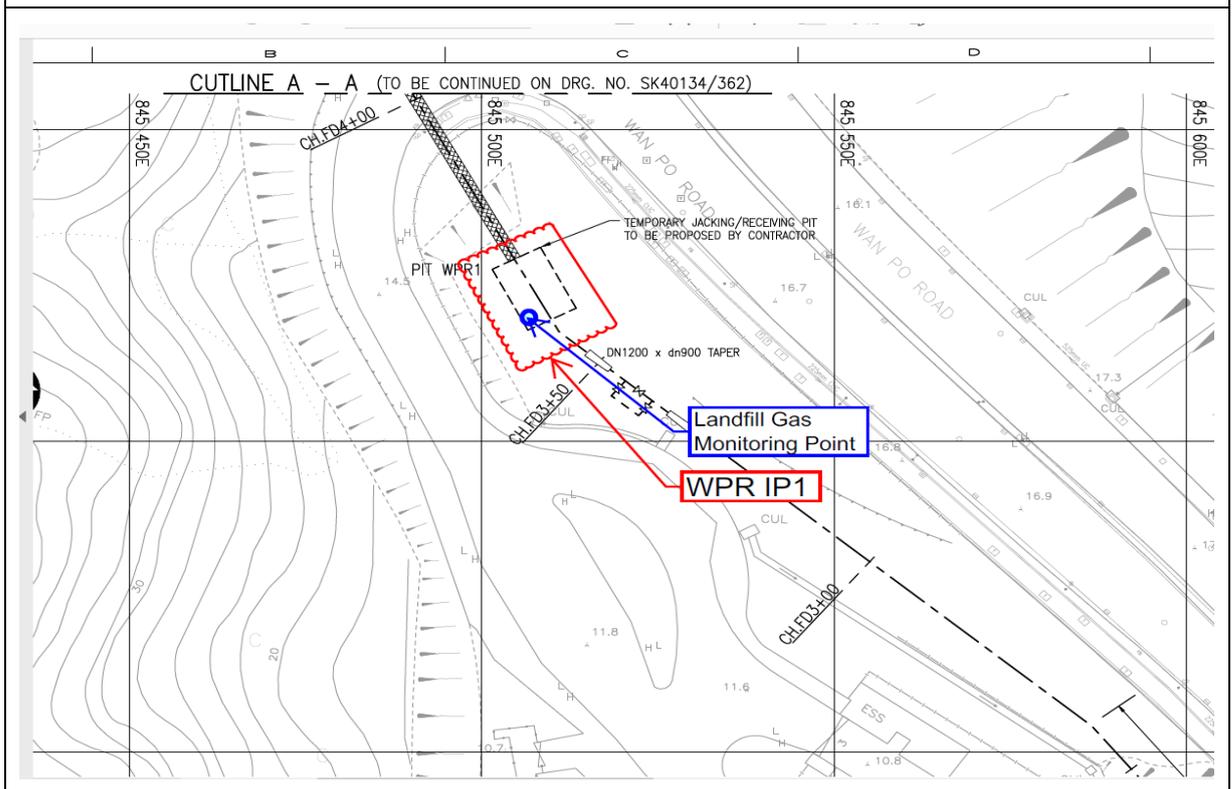


Figure 4.14 Monitoring Location – WPR IP1



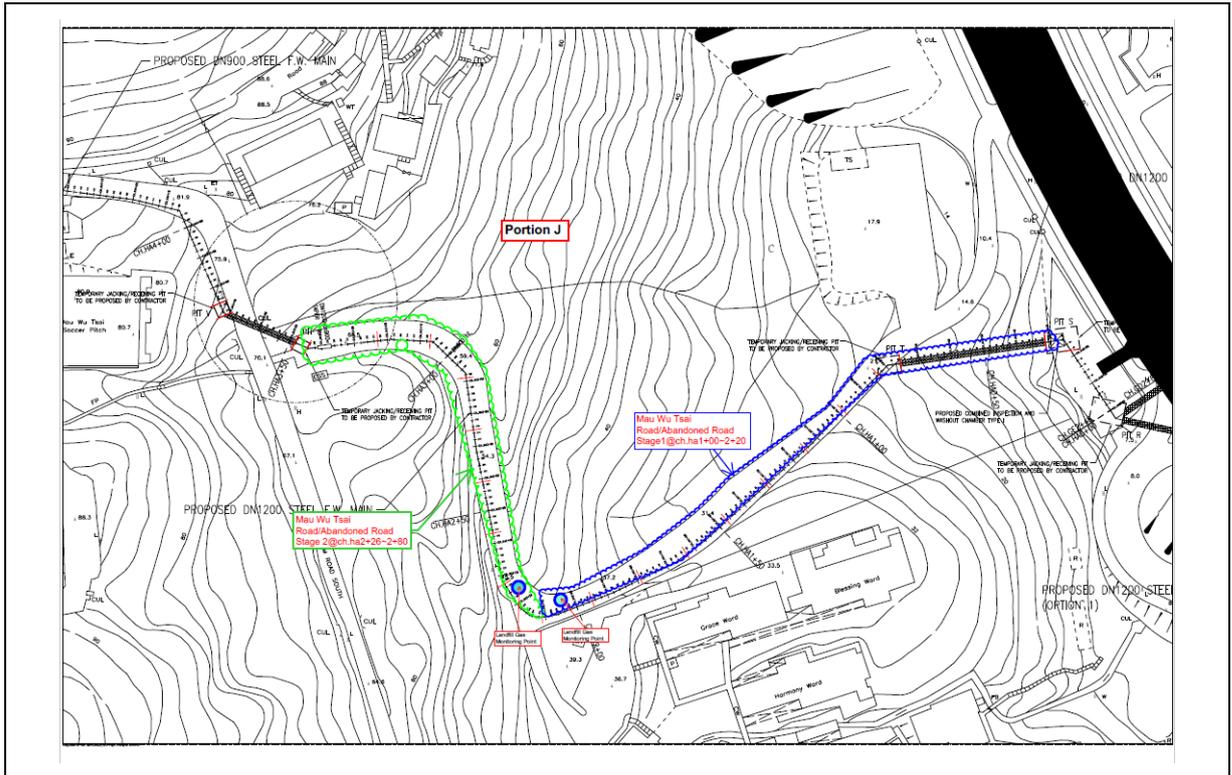


Figure 4.17 Monitoring Location – Mau Wu Tsai Abandoned Road

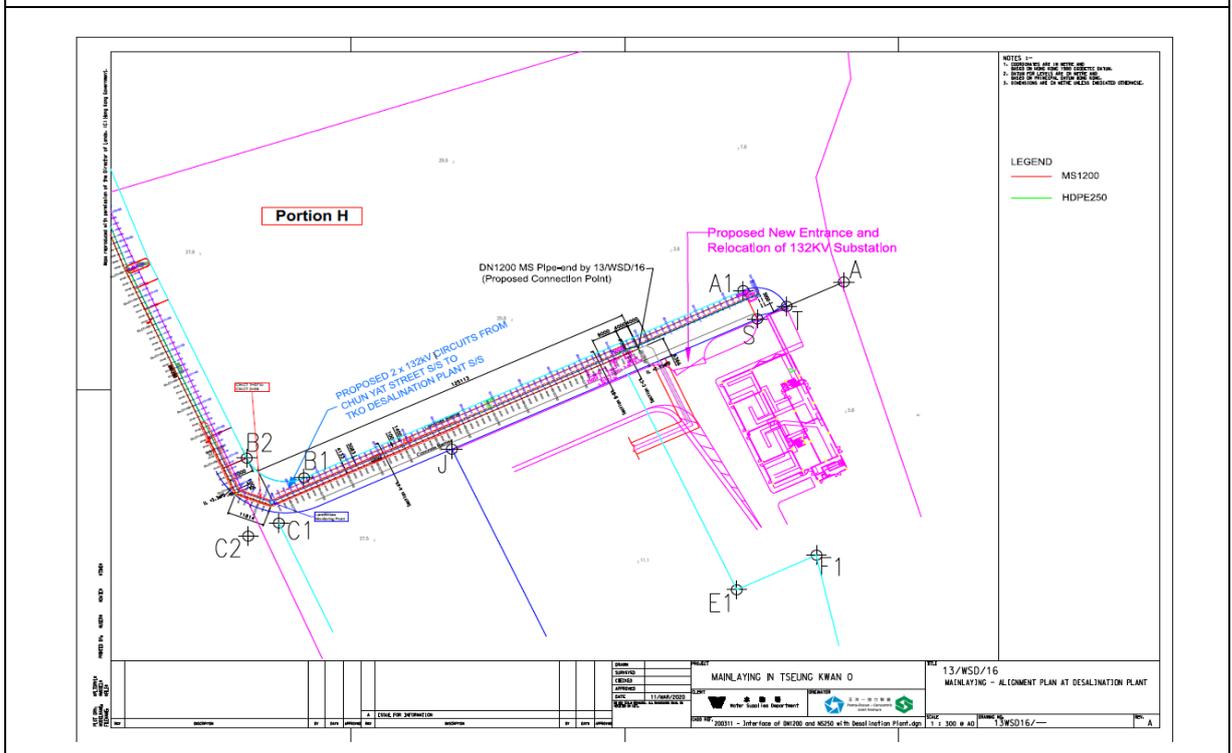


Figure 4.18a Monitoring Location - CH.CT 0+07 ~ 2+58

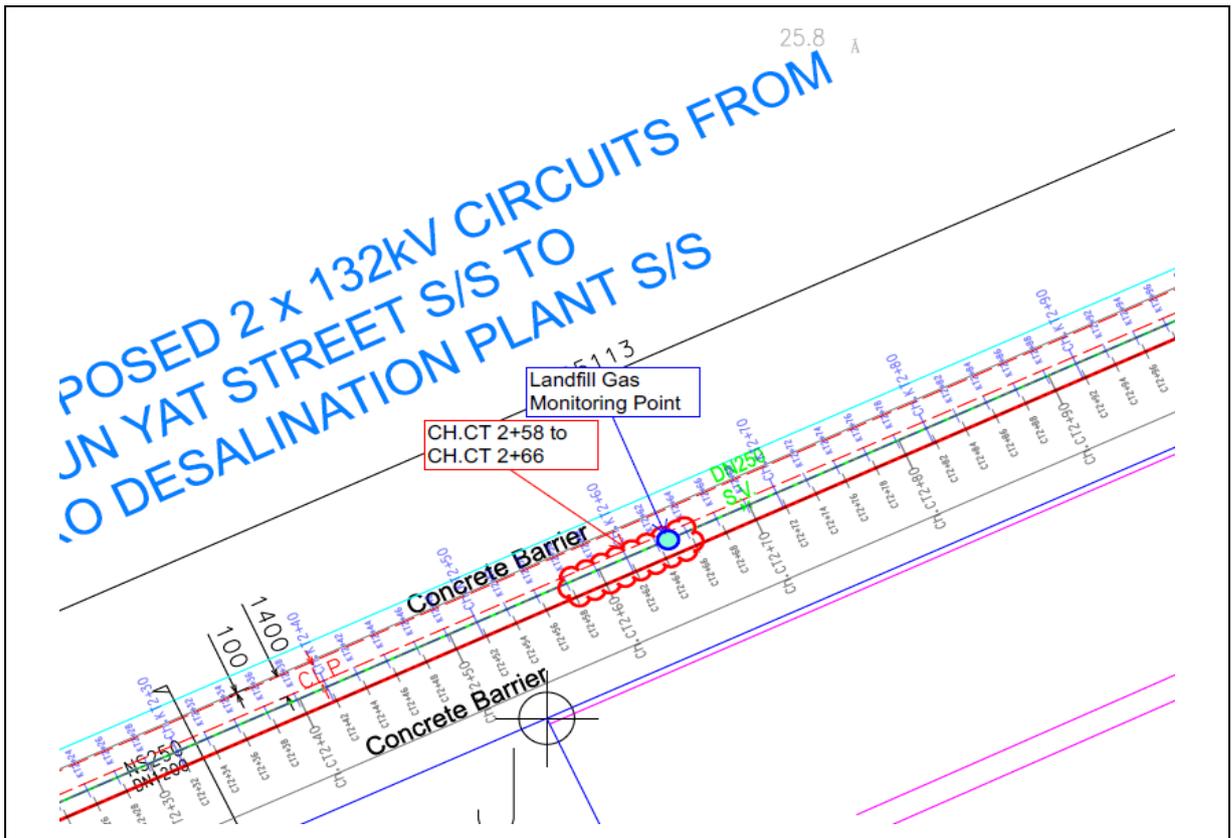


Figure 4.18b Monitoring Location - CH.CT 2+58 ~ 2+66

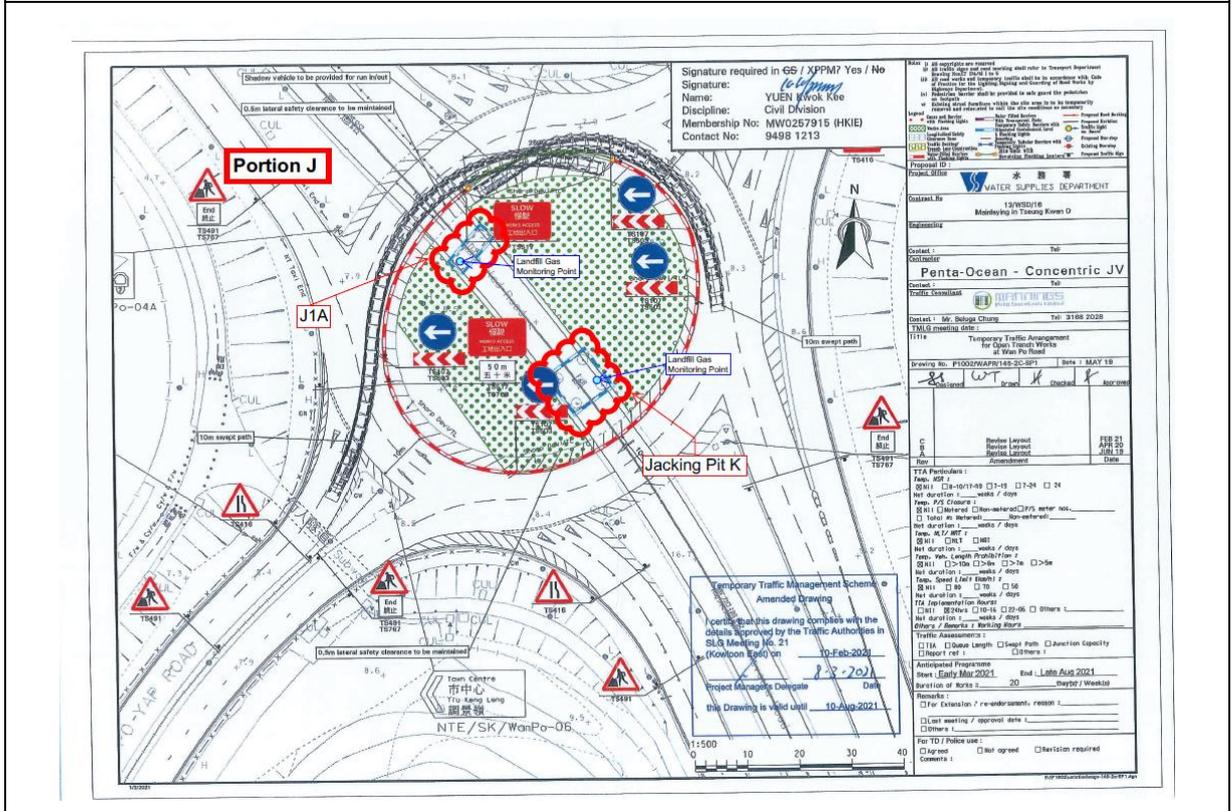
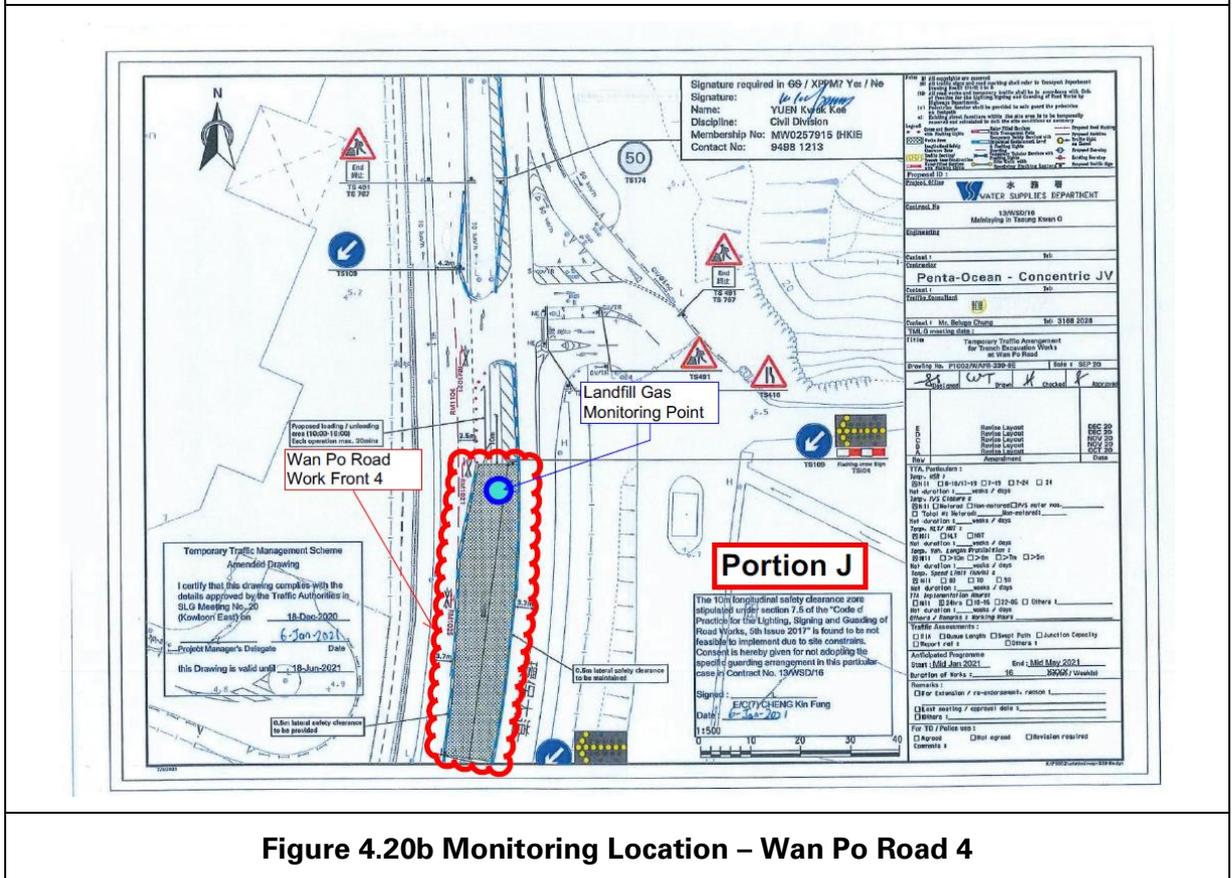
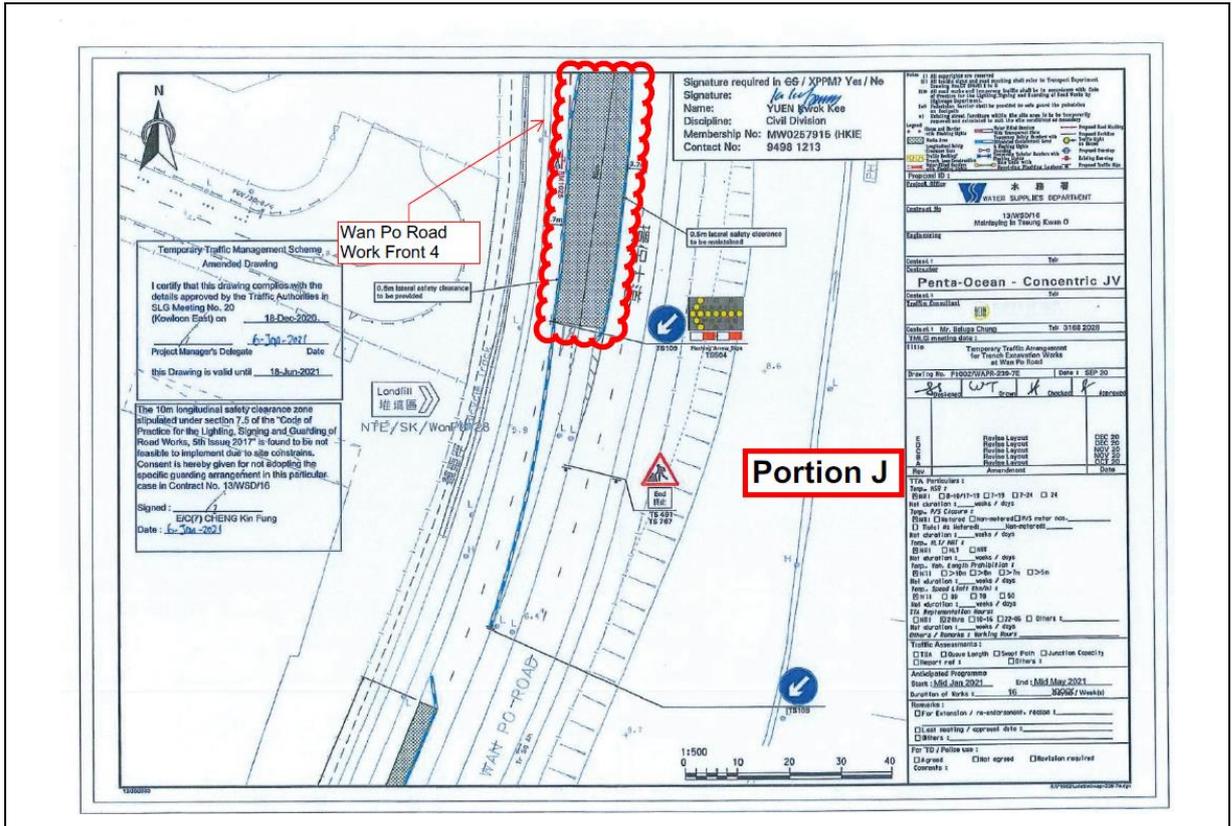


Figure 4.19 Monitoring Location - Pit K



#### 4.3 Monitoring Parameters

LFG 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 <sub>2</sub> )	<19% O <sub>2</sub>	<19% O <sub>2</sub>
Methane (CH <sub>4</sub> )	>10% LEL	>80% LEL
Carbon Dioxide (CO <sub>2</sub> )	>0.5% CO <sub>2</sub>	>1.5% CO <sub>2</sub>

#### 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**

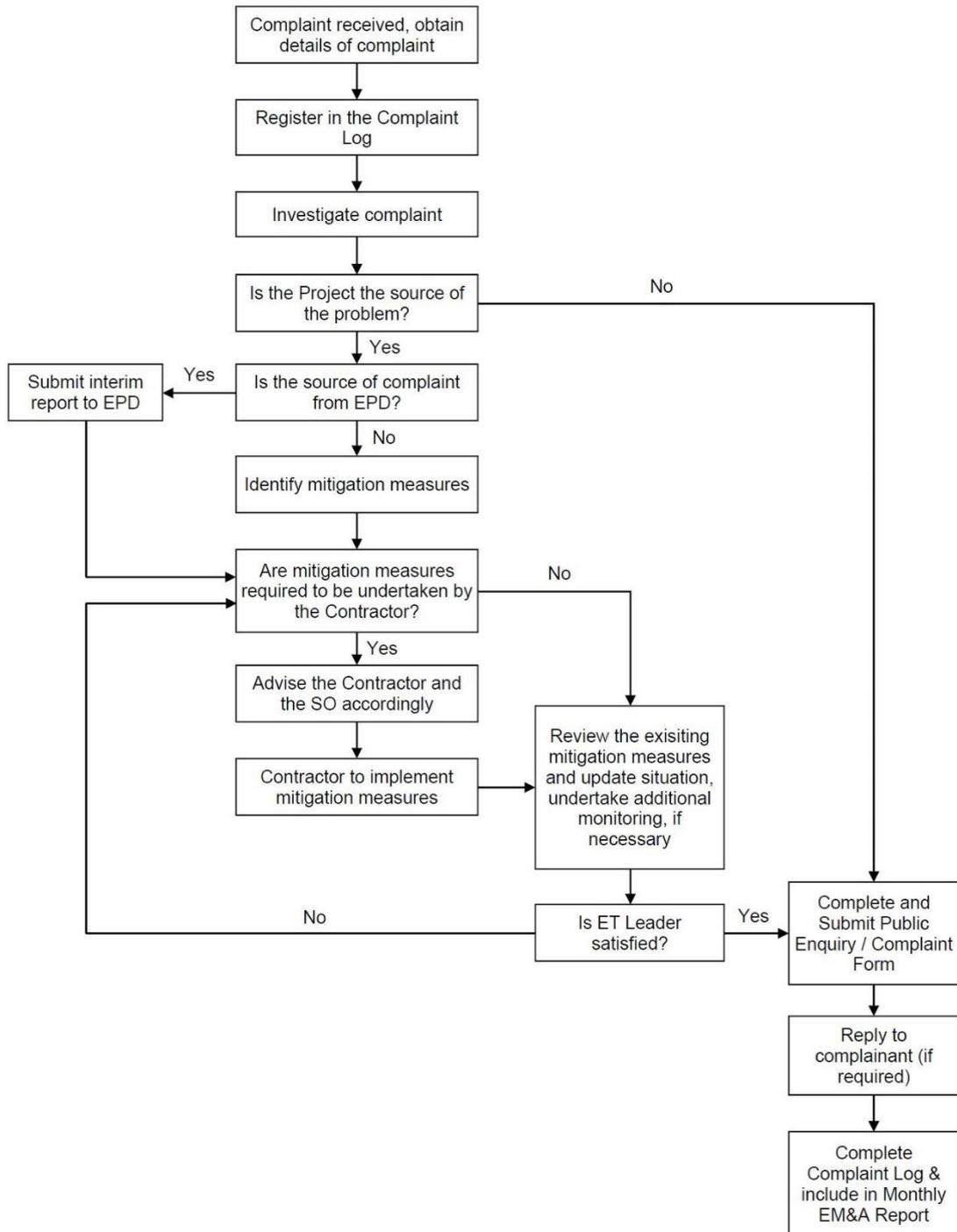
Equipment	Brand and Model	Calibration Expiry Date
Portable Gas Detector	QRAE III	27 July 2021
Portable Gas Detector	QRAE III	27 July 2022
MultiRAE Lite	PGM-6208	06 April 2022

#### 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 764 times. All the measured results were presented in **Appendix J** and were within the Action and Limit Levels.

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

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



**Figure 5.1 Environmental Complaint Handling Procedure**

- 5.2 Impact monitoring for noise impact was conducted in the reporting month for NSR4 – Creative Secondary School on 2, 8, 16, 20 and 28 July 2021 as construction works were conducted within 300m to the noise sensitive receiver. Detailed monitoring results can be found in **Appendix G**.
- 5.3 No examinations were scheduled in the reporting month for NSR4 Creative Secondary School. Academic School Calendar can be found in **Appendix O**.
- 5.4 No project-related exceedance of the Action Level was recorded during the reporting period.
- 5.5 One project-related environmental complaint was received and the site condition of the concerned area was reviewed by ET. ET noted that although there was no excavation works on-going or scheduled recently, clearance works and works that create disturbance to ground surface were previously conducted. To prevent the muddy water discharge from the construction site, the contractor has implemented and enhanced the mitigation measures to cater for any upcoming rainstorms or heavy precipitation from the site. Sandbags are placed along the site boundary and submersible pump is provided to direct the runoff to the wastewater treatment tank before reusing or discharging into the designated discharge point. Cement application to exposed earth within the site was also observed during the inspection on 13 August 2021, which was being implemented to prevent erosion caused by the precipitation. The temporarily exposed slope and areas were covered by tarpaulin.
- 5.6 No notification of summons and prosecution was received in the reporting period.
- 5.7 Statistics on complaints and regulatory compliance are summarized in **Appendix K**.

## **6. EM&A SITE INSPECTION**

- 6.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, site inspections were carried out on 2, 8, 16, 22 and 27 July 2021 at the site portions list in **Table 6.1** below.

**Table 6.1 Site Inspection Record**

<b>Date</b>	<b>Inspected Site Portion</b>	<b>Time</b>
02 July 2021	Portion F and J	9:30am – 12:30pm
08 July 2021	Portion J and H	9:30am – 12:00pm
16 July 2021	Portion J	9:30am – 12:00pm
22 July 2021	Portion J	9:30am – 12:30pm
27 July 2021	Portion J	9:20am – 12:15pm

6.2 One joint site inspection with IEC was carried out on 27 July 2021.

6.3 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
02 July 2021	<ol style="list-style-type: none"> <li>1. Chemicals were not placed inside a drip tray at Portion F, Wan Po Road 4, Landfill Stage 1 Area A and CH.FC 4+50.</li> <li>2. Environmental permit was not observed at the site entrance/exit at Wan Po Road 4, Pit A.</li> <li>3. Gully was not covered with geo-textile and sandbags at Wan Po Road 3.</li> <li>4. Untreated wastewater was observed discharging from the site area at Wan Po Road 3.</li> <li>5. Construction boundary was not protected by sandbags fully at Jacking Pit B.</li> </ol>	<ol style="list-style-type: none"> <li>1. Chemicals were placed in the drip tray or removed.</li> <li>2. Environmental permit was observed.</li> <li>3. Gully was covered with geo-textile and sandbags.</li> <li>4. No water was discharged from the construction site.</li> <li>5. Construction boundary was protected by sandbags fully.</li> </ol>
08 July 2021	<ol style="list-style-type: none"> <li>1. Environmental permit was not observed at the exit or entrance at Wan Po Road 2.</li> <li>2. Untreated water was observed discharging from the site at Wan Po Road 3. A sedimentation tank or water treatment facilities should be added.</li> <li>3. Chemicals were not placed on a drip tray at Wan Po Road 3.</li> <li>4. Construction boundary was not fully protected by sandbags at Wan Po Road 3.</li> </ol>	<ol style="list-style-type: none"> <li>1. Environmental permit was observed.</li> <li>2. No water was discharged from the construction site</li> <li>3. Chemicals were removed.</li> <li>4. Construction boundary was fully protected by sandbags.</li> </ol>
16 July 2021	<ol style="list-style-type: none"> <li>1. Environmental permit was not observed at Pit L (Hong Kong Velodrome).</li> </ol>	<ol style="list-style-type: none"> <li>1. Environmental permit was observed.</li> <li>2. Drip tray was cleaned.</li> </ol>

Date	Environmental Observations	Follow-up Status
	2. Regular cleaning of drip tray should be conducted to prevent overflow of trapped materials at Pit O. (Hong Kong Velodrome). 3. Regular cleaning of deposited materials in the water sedimentation tank to allow efficient drainage at Pit O should be conducted (Hong Kong Velodrome). 4. Oil leakage was observed at Pit N (Hong Kong Velodrome).	3. Deposited materials in the water sedimentation tank was cleaned. 4. Oil leakage was cleaned.
22 July 2021	1. Environmental permit was not observed at the site entrance/exit at Pit Y. 2. Chemical was not observed in a drip tray at Pit O.	1. Environmental permit was observed. 2. Chemical was removed.
27 July 2021	No major observations were reported.	

6.4 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**.

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

## 7. FUTURE KEY ISSUES

7.1 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	Location	Forecast Works in Next Reporting Month
Portion H of the Project Site	TKO 137 Pit B	<ul style="list-style-type: none"> <li>• Pipe jacking works by TBM will be continued.</li> </ul>
Portion J of the Project Site	Wan Po Rd – Workfront 1	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying will be conducted.</li> </ul>
	Wan Po Rd – Workfront 2	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Wan Po Rd – Workfront 3	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Wan Po Rd – Workfront 4	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Wan Po Rd – Pit A	<ul style="list-style-type: none"> <li>• Excavation and ELS works will be conducted.</li> </ul>
	Wan Po Rd – Pit B	<ul style="list-style-type: none"> <li>• Pit excavation works will be continued.</li> <li>• Preparation works for pipe jacking will be conducted.</li> </ul>
	Wan Po Rd – Pit D	<ul style="list-style-type: none"> <li>• Excavation and ELS works will be conducted.</li> </ul>
	Landfill Stage 1 – Area A	<ul style="list-style-type: none"> <li>• 900HSV Chamber construction works will be conducted.</li> </ul>
	Landfill Stage 1 – Area B	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Cycle Track – Workfront 1	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Cycle Track – Workfront 2	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>
	Velodrome – Pit J1A	<ul style="list-style-type: none"> <li>• Trenchless works by hand-shield</li> </ul>
	Velodrome – Pit K	<ul style="list-style-type: none"> <li>• Pipe laying works will be commenced.</li> </ul>
	Velodrome – Pit L	<ul style="list-style-type: none"> <li>• Pipe laying works will be commenced.</li> </ul>
	Velodrome – Pit M	<ul style="list-style-type: none"> <li>• Pipe jacking works will be continued.</li> </ul>
	Velodrome – Pit O	<ul style="list-style-type: none"> <li>• Construction of rescue pit for TBM will be conducted.</li> </ul>
	Velodrome – Pit P	<ul style="list-style-type: none"> <li>• MTBM pipe jacking will be commenced.</li> </ul>
	Mau Wu Tsai – Workfront 1	<ul style="list-style-type: none"> <li>• Trench excavation and pipe mainlaying works will be conducted.</li> </ul>
	Po Lam Road (D1)	<ul style="list-style-type: none"> <li>• Trench backfilling and reinstatement will be continued.</li> </ul>
	Po Lam Road (B5)	<ul style="list-style-type: none"> <li>• Trench excavation and pipe laying works will be conducted.</li> </ul>

	TKO Primary Service Reservoir	<ul style="list-style-type: none"> <li>Trench excavation and pipe laying works will be conducted.</li> </ul>
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7.2 The major environmental impacts brought by the above construction works will include:

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

7.3 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 saw cutting of concrete surface, mainlaying of pipes, drilling activities, TBM break through and excavation works
- Reduction of noise from equipment and machinery on-site
- Sorting and storage of general refuse and construction waste
- Treatment of wastewater with water treatment facilities before discharge

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

7.5 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.

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

## 8. CONCLUSION AND RECOMMENDATIONS

- 8.1 This is the 36<sup>th</sup> monthly Environmental Monitoring and Audit (EM&A) Report presenting the EM&A works undertaken during the period from 1 July 2021 to 31 July 2021, in accordance with the EM&A Manual and the requirement under EP-503/2015/A.
- 8.2 Impact monitoring for noise impact was conducted in the reporting month for NSR4 – Creative Secondary School on 2, 8, 16, 20 and 28 July 2021 as construction works were conducted within 300m to the noise sensitive receiver. Detailed monitoring results can be found in **Appendix G**.
- 8.3 No examinations were scheduled in the reporting month for NSR4 Creative Secondary School. Academic School Calendar can be found in **Appendix O**.
- 8.4 No project-related exceedance of the Action Level was recorded during the reporting period.
- 8.5 Weekly environmental site inspection was conducted during the reporting period. Minor deficiencies were observed during site inspection and were rectified. The environmental performance of the project was therefore considered satisfactory.
- 8.6 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, dust suppression mitigations and proper materials storage.
- 8.7 One project-related environmental complaint was received and the site condition of the concerned area was reviewed by ET. ET noted that although there was no excavation works on-going or scheduled recently, clearance works and works that create disturbance to ground surface were previously conducted. To prevent the muddy water discharge from the construction site, the contractor has implemented and enhanced the mitigation measures to cater for any upcoming rainstorms or heavy precipitation from the site. Sandbags are placed along the site boundary and submersible pump is provided to direct the runoff to the wastewater treatment tank before reusing or discharging into the designated discharge point. Cement application to exposed earth within the site was also observed during the inspection on 13 August 2021, which was being implemented to prevent erosion caused by the precipitation. The temporarily exposed slope and areas were covered by tarpaulin.
- 8.8 No notification of summons or prosecution was received since the commencement of the Contract.
- 8.9 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

# Contract No. 13/WSD/16

## Mainlaying in Tseung Kwan O

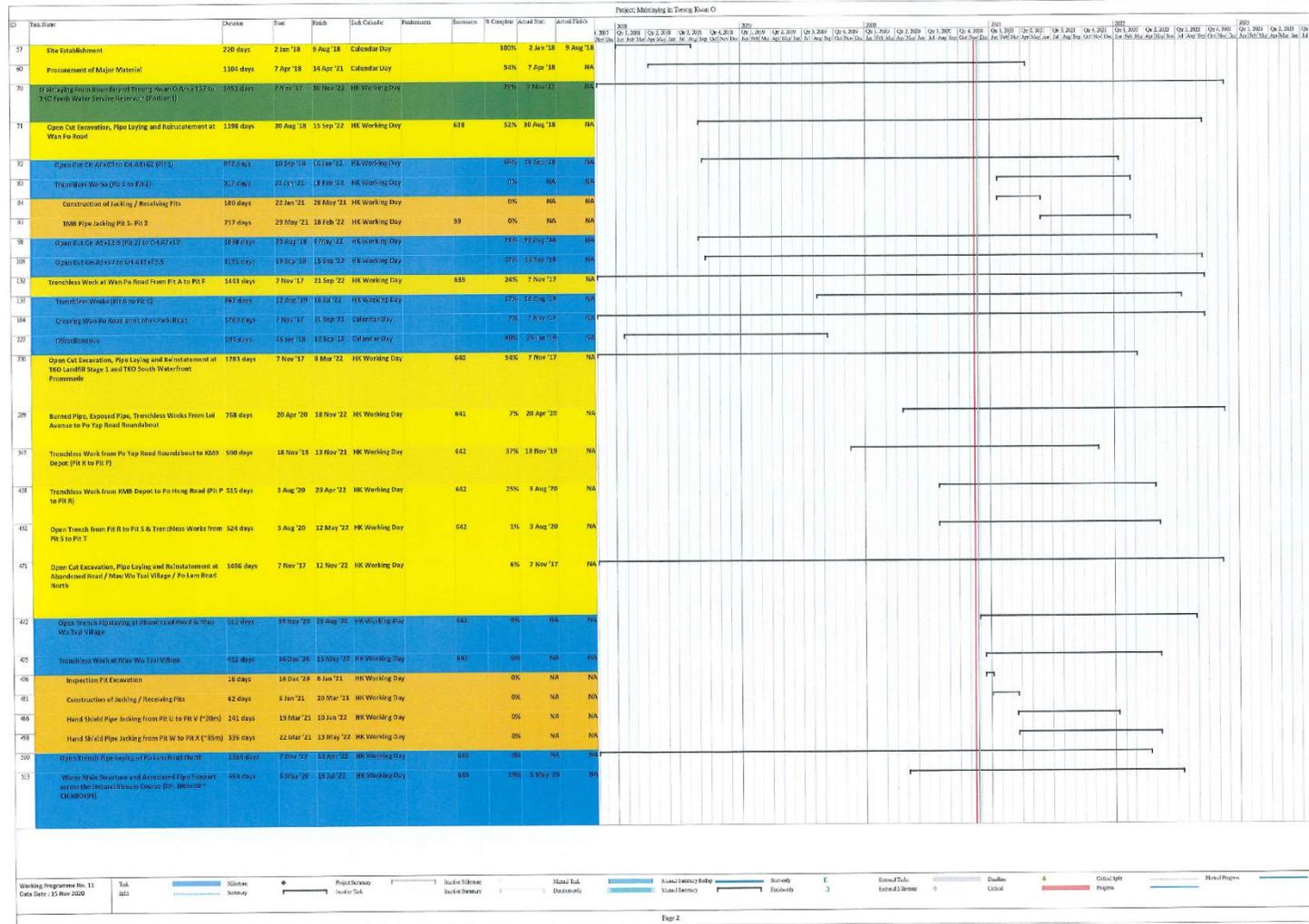
### Monthly EM&A Report No.36



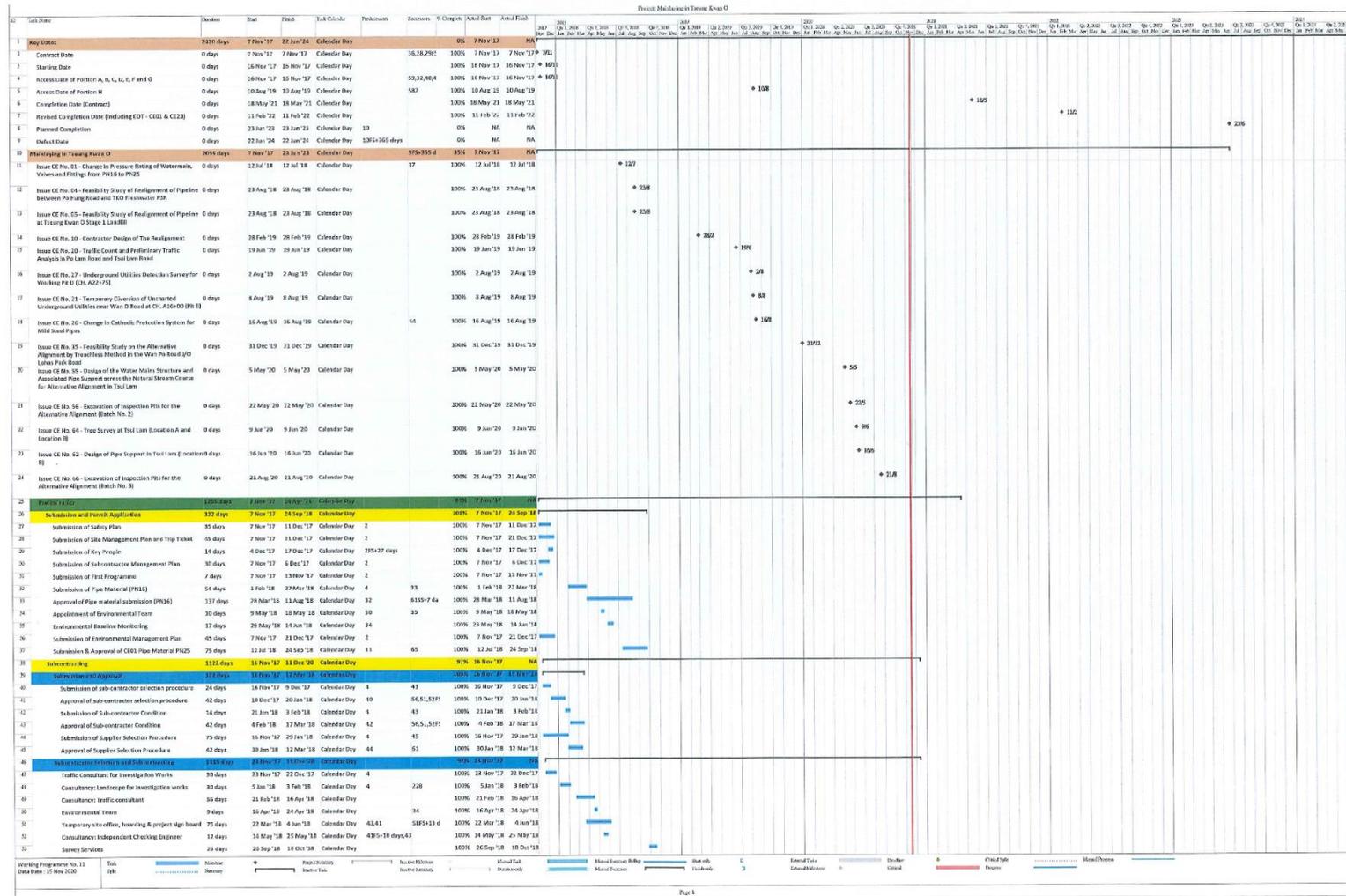
Project: Mainlaying in Tseung Kwan O									
Task Name	Duration	Start	Finish	Task Category	Predecessors	Successors	% Complete	Actual Start	Actual Finish
<b>Key Dates</b>	2420 days	7 Nov '17	22 Jun '24	Calendar Day			0%	7 Nov '17	N/A
Contract Date	0 days	7 Nov '17	7 Nov '17	Calendar Day		46,28,29F	100%	7 Nov '17	7 Nov '17
Starting Date	0 days	16 Nov '17	16 Nov '17	Calendar Day			100%	16 Nov '17	16 Nov '17
Access Date of Portion A, B, C, D, E, F and G	0 days	16 Nov '17	16 Nov '17	Calendar Day		59,72,40,4	100%	16 Nov '17	16 Nov '17
Access Date of Portion H	0 days	10 Aug '19	10 Aug '19	Calendar Day		382	100%	10 Aug '19	10 Aug '19
Completion Date (Contract)	0 days	18 May '21	18 May '21	Calendar Day			100%	18 May '21	18 May '21
Revised Completion Date (Including EOT - CE01 & CE23)	0 days	11 Feb '22	11 Feb '22	Calendar Day			100%	11 Feb '22	11 Feb '22
Planned Completion	0 days	23 Jun '23	23 Jun '23	Calendar Day	10		0%	NA	NA
Defect Date	0 days	22 Jun '24	22 Jun '24	Calendar Day		10F+365 days	0%	NA	NA
<b>Mainlaying in Tseung Kwan O</b>	2055 days	7 Nov '17	23 Jun '23	Calendar Day		315,365 d	35%	7 Nov '17	N/A
Issue CE No. 03 - Change in Pressure Rating of Watermain, Valves and Fittings from P100 to P162	0 days	12 Jul '18	12 Jul '18	Calendar Day		37	100%	12 Jul '18	12 Jul '18
Issue CE No. 04 - Feasibility Study of Realignment of Pipeline between Po Hung Road and TKO Freshwater PSR	0 days	23 Aug '18	23 Aug '18	Calendar Day			100%	23 Aug '18	23 Aug '18
Issue CE No. 05 - Feasibility Study of Realignment of Pipeline at Tseung Kwan O Stage 1 Landfill	0 days	23 Aug '18	23 Aug '18	Calendar Day			100%	23 Aug '18	23 Aug '18
Issue CE No. 10 - Contractor Design of Trench Realignment	0 days	28 Feb '19	28 Feb '19	Calendar Day			100%	28 Feb '19	28 Feb '19
Issue CE No. 20 - Traffic Count and Preliminary Traffic Analysis in Po Lam Road and Tsui Lam Road	0 days	19 Jun '19	19 Jun '19	Calendar Day			100%	19 Jun '19	19 Jun '19
Issue CE No. 27 - Underground Utilities Detection Survey for Working Pit D (CH A22+75)	0 days	2 Aug '19	2 Aug '19	Calendar Day			100%	2 Aug '19	2 Aug '19
Issue CE No. 21 - Temporary Diversion of Uncharted Underground Utilities near Wan O Road at CL A16+00 (P18 B)	0 days	8 Aug '19	8 Aug '19	Calendar Day			100%	8 Aug '19	8 Aug '19
Issue CE No. 26 - Change in Cathodic Protection System for Mild Steel Pipes	0 days	16 Aug '19	16 Aug '19	Calendar Day		51	100%	16 Aug '19	16 Aug '19
Issue CL No. 35 - Feasibility Study on the Alternative Alignment by Trenchless Method in the Wan Po Road I/O Lohas Park Road	0 days	31 Dec '19	31 Dec '19	Calendar Day			100%	31 Dec '19	31 Dec '19
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	5 May '20	5 May '20	Calendar Day			100%	5 May '20	5 May '20
Issue CE No. 56 - Examination of Inspection Pits for the Alternative Alignment (Batch No. 2)	0 days	22 May '20	22 May '20	Calendar Day			100%	22 May '20	22 May '20
Issue CE No. 64 - Tree Survey at Tsui Lam (Location A and Location B)	0 days	9 Jun '20	9 Jun '20	Calendar Day			100%	9 Jun '20	9 Jun '20
Issue CE No. 62 - Design of Pipe Support in Tsui Lam (Location B)	0 days	16 Jun '20	16 Jun '20	Calendar Day			100%	16 Jun '20	16 Jun '20
Issue CE No. 66 - Examination of Inspection Pits for the Alternative Alignment (Batch No. 3)	0 days	21 Aug '20	21 Aug '20	Calendar Day			100%	21 Aug '20	21 Aug '20
<b>Finalist/Contractor</b>	3555 days	7 Nov '17	19 Aug '21	Calendar Day			50%	7 Nov '17	19 Aug '21
<b>Submission and Permit Application</b>	322 days	7 Nov '17	24 Sep '18	Calendar Day			100%	7 Nov '17	24 Sep '18
<b>Subcontracting</b>	1122 days	16 Nov '17	11 Dec '20	Calendar Day			97%	16 Nov '17	NA
<b>Submission and Approval</b>	177 days	16 Nov '17	17 Nov '18	Calendar Day			100%	16 Nov '17	17 Nov '18
<b>Subcontractor Selection and Subcontracting</b>	1153 days	23 Nov '17	11 Dec '20	Calendar Day			97%	23 Nov '17	NA



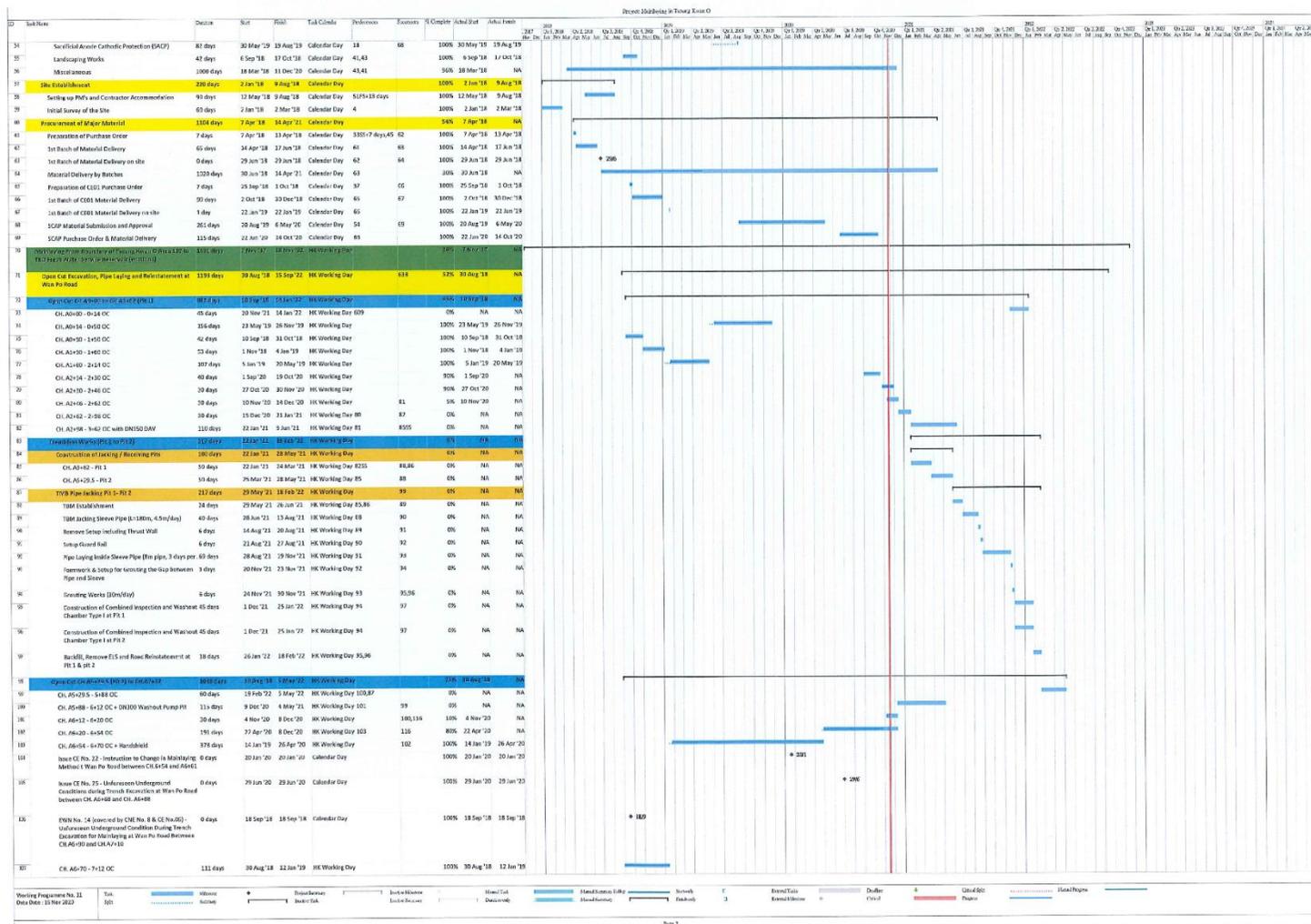
**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



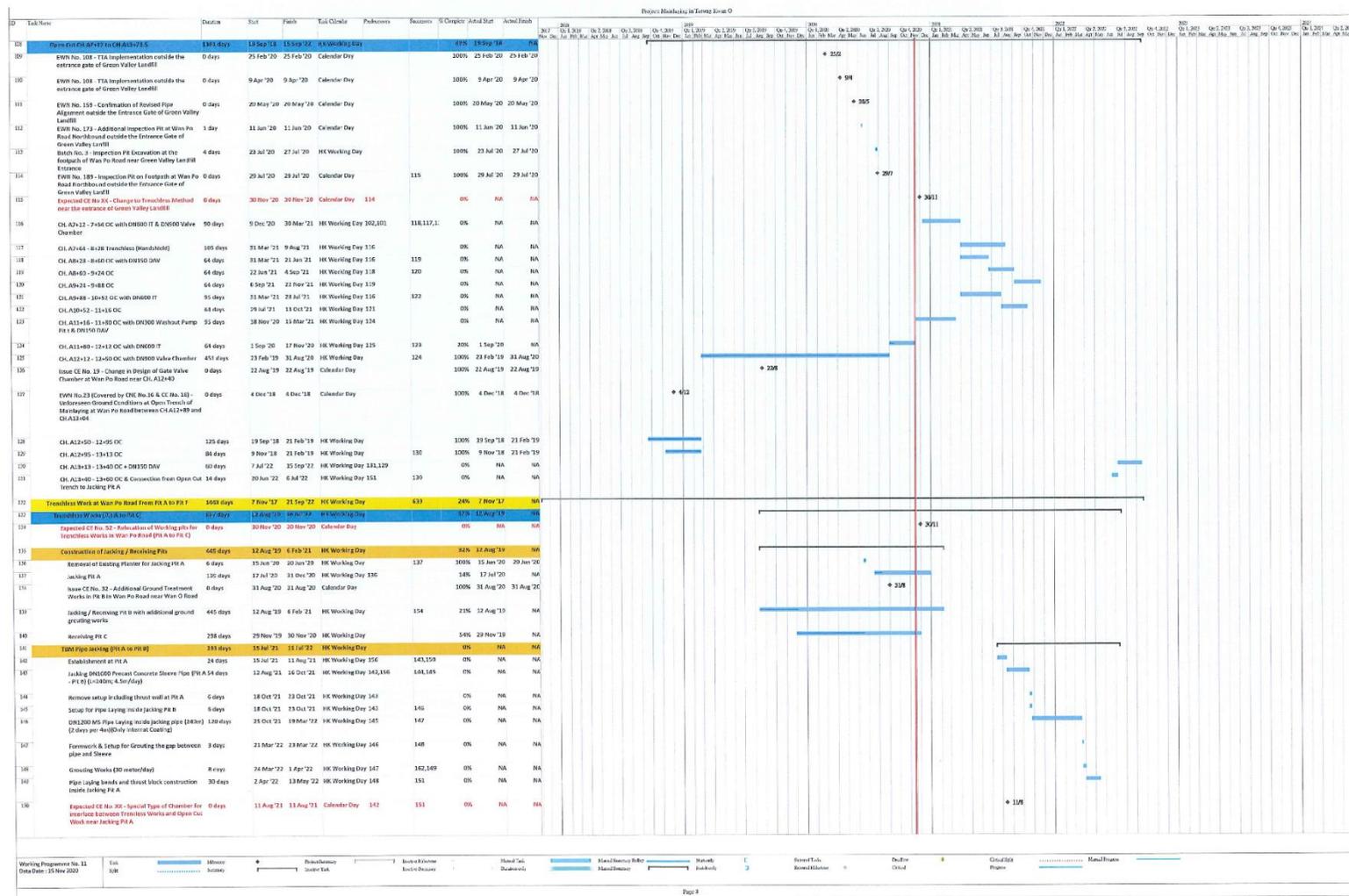
# Contract No. 13/WSD/16 Mainlaying in Tseung Kwan O Monthly EM&A Report No.36



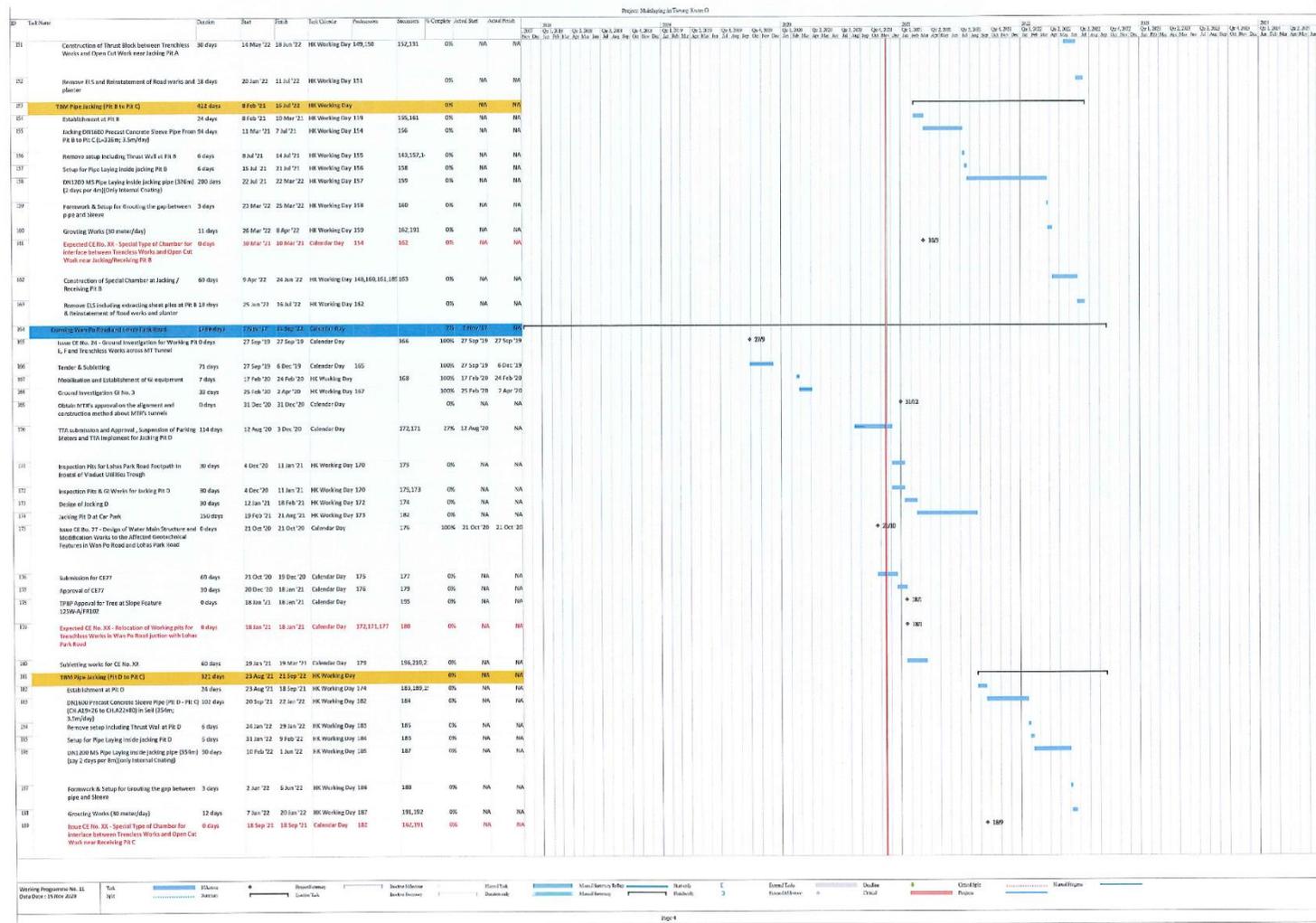
# Contract No. 13/WSD/16 Mainlaying in Tseung Kwan O Monthly EM&A Report No.36



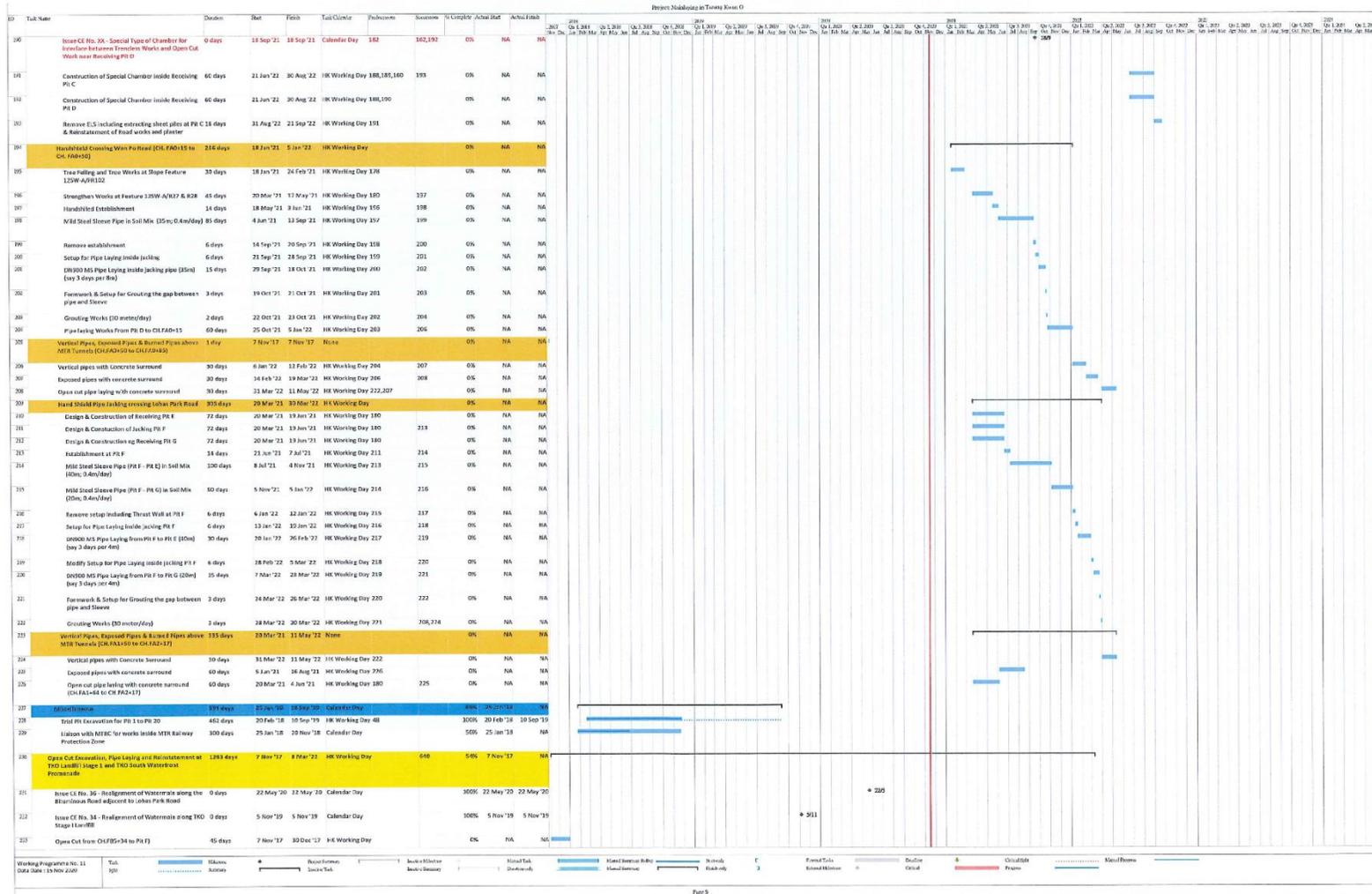
# Contract No. 13/WSD/16 Mainlaying in Tseung Kwan O Monthly EM&A Report No.36



**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**





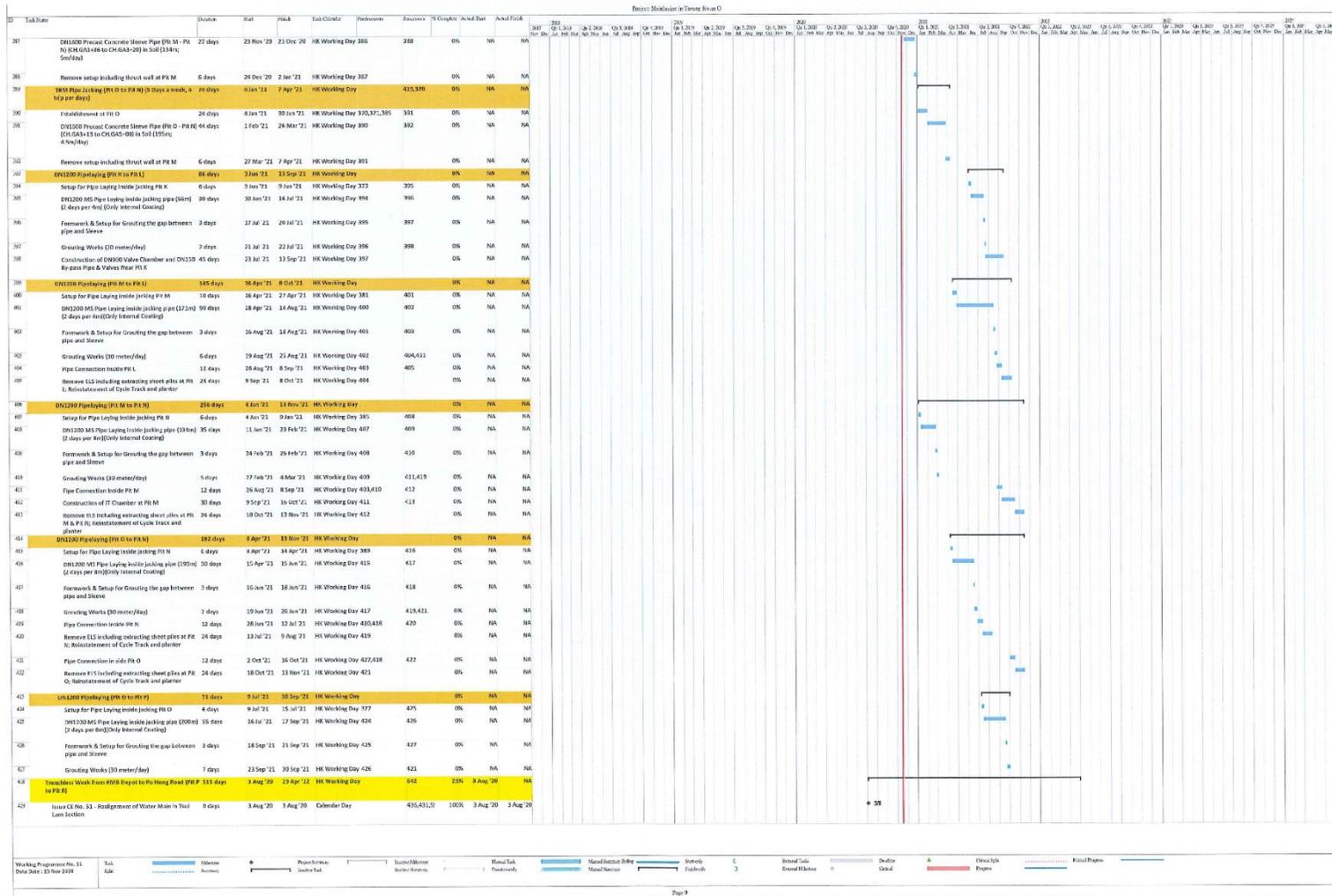




# Contract No. 13/WSD/16

## Mainlaying in Tseung Kwan O

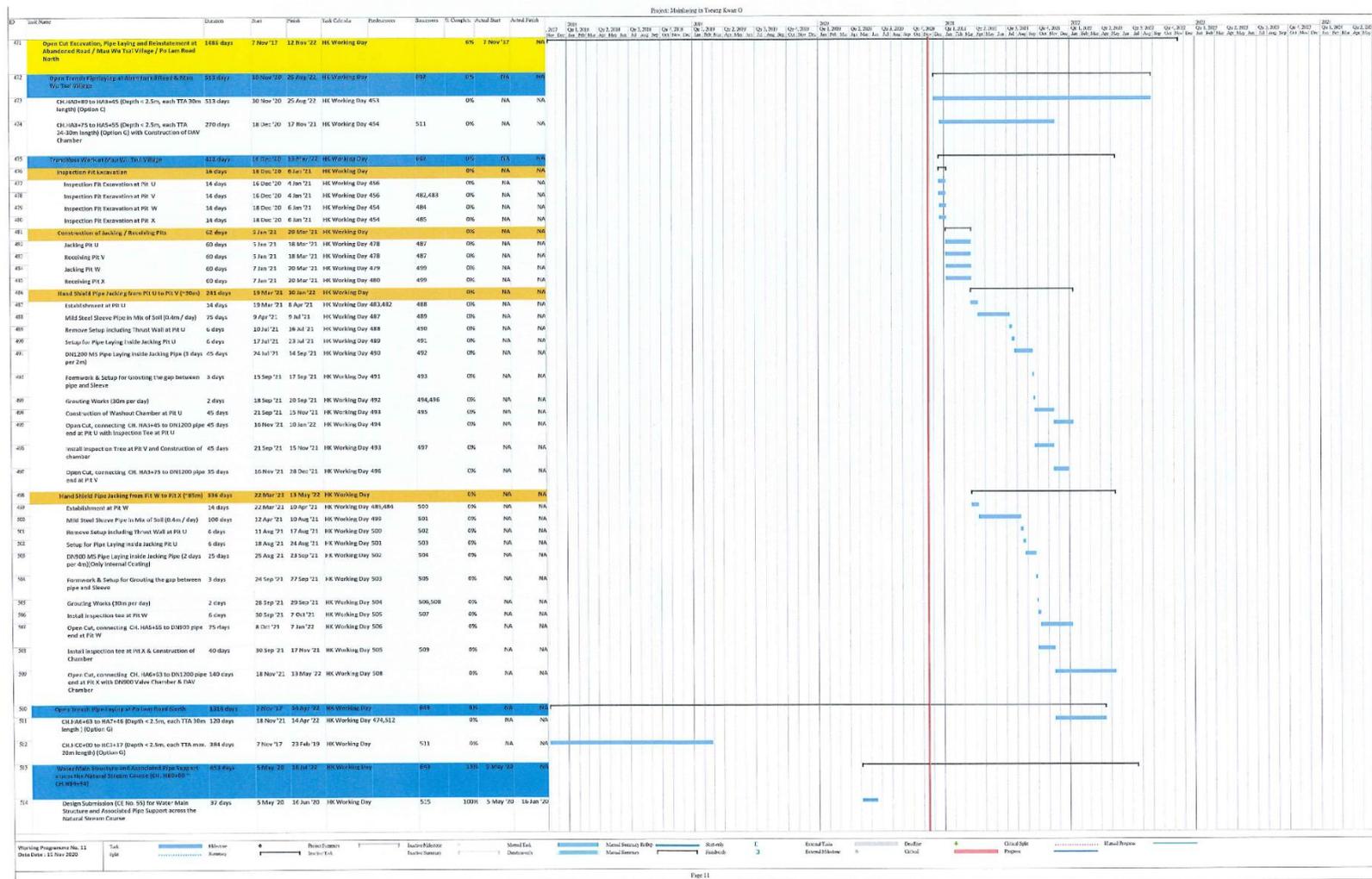
### Monthly EM&A Report No.36



**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



# Contract No. 13/WSD/16 Mainlaying in Tseung Kwan O Monthly EM&A Report No.36





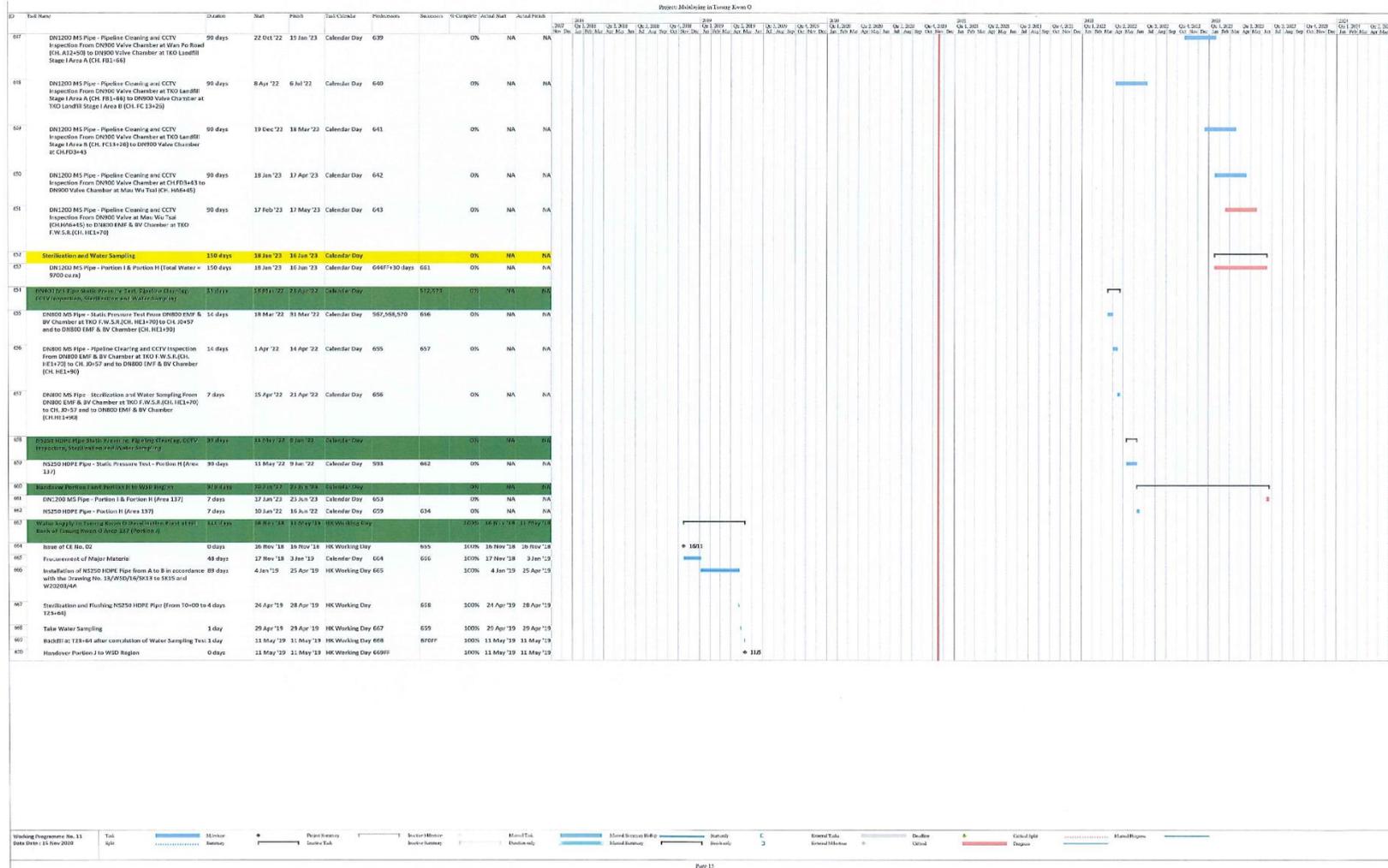




# Contract No. 13/WSD/16

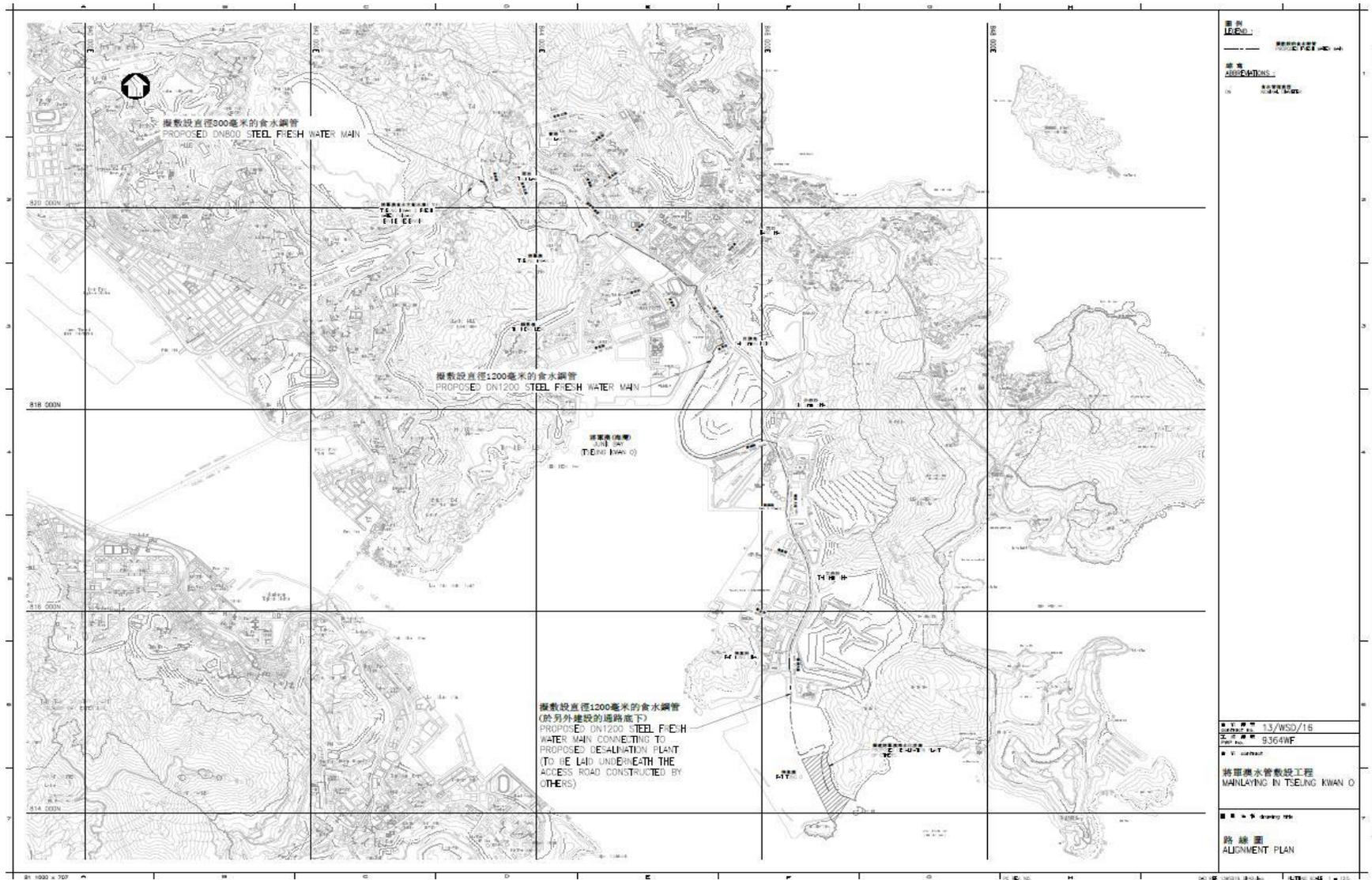
## Mainlaying in Tseung Kwan O

### Monthly EM&A Report No.36

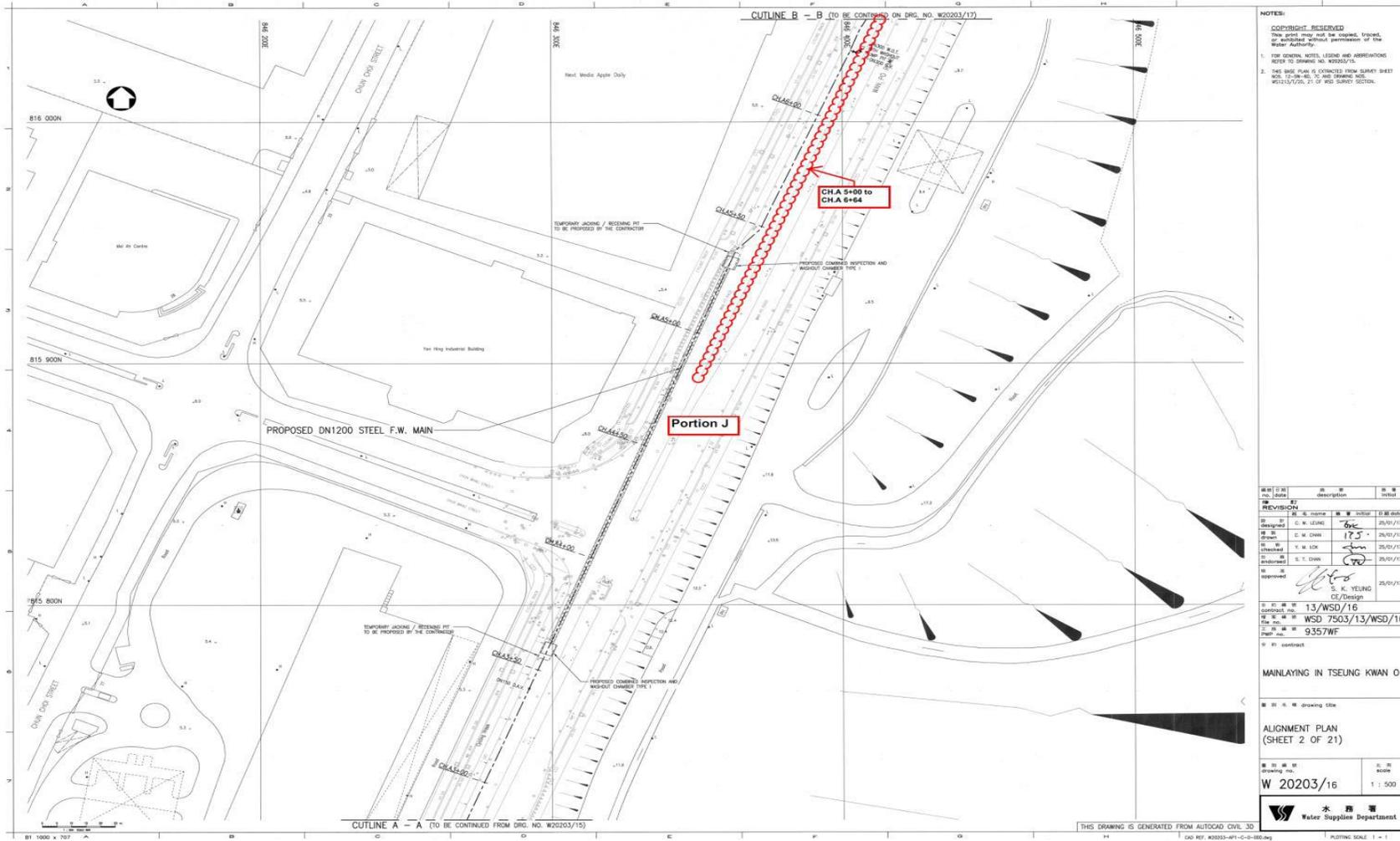


## Appendix B

# Overview of Mainlaying in Tseung Kwan O







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 1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS REFER TO DRAWING NO. W20203/15.  
 2. THIS BASE PLAN IS EXTRACTED FROM SURVEY SHEET NO. 12-106-461 TO THE STRAIGHT NO. 101213/126, 21 OF WSD SURVEY SECTION.

REV. NO.	DATE	DESCRIPTION	BY	CHECKED
1	25/01/17	DESIGNED	C. W. LEUNG	OK
2	25/01/17	DRAWN	C. W. CHAN	175
3	25/01/17	CHECKED	T. W. CHAN	OK
4	25/01/17	APPROVED	S. T. CHAN	OK
5	25/01/17	APPROVED	S. K. YELING	ICE Design

PROJECT NO. 13/WSD/16  
 CONTRACT NO. WSD 7503/13/WSD/16  
 DRAWING NO. 9357WF  
 CONTRACT

MAINLAYING IN TSEUNG KWAN O  
 DRAWING TITLE  
 ALIGNMENT PLAN  
 (SHEET 2 OF 21)

PROJECT NO. W 20203/16  
 DRAWING NO. 9357WF  
 SCALE 1 : 500  
 WATER SUPPLIES DEPARTMENT

Figure B3a. Location Plan for Portion J - CH.A 5+00 to CH.A 6+64

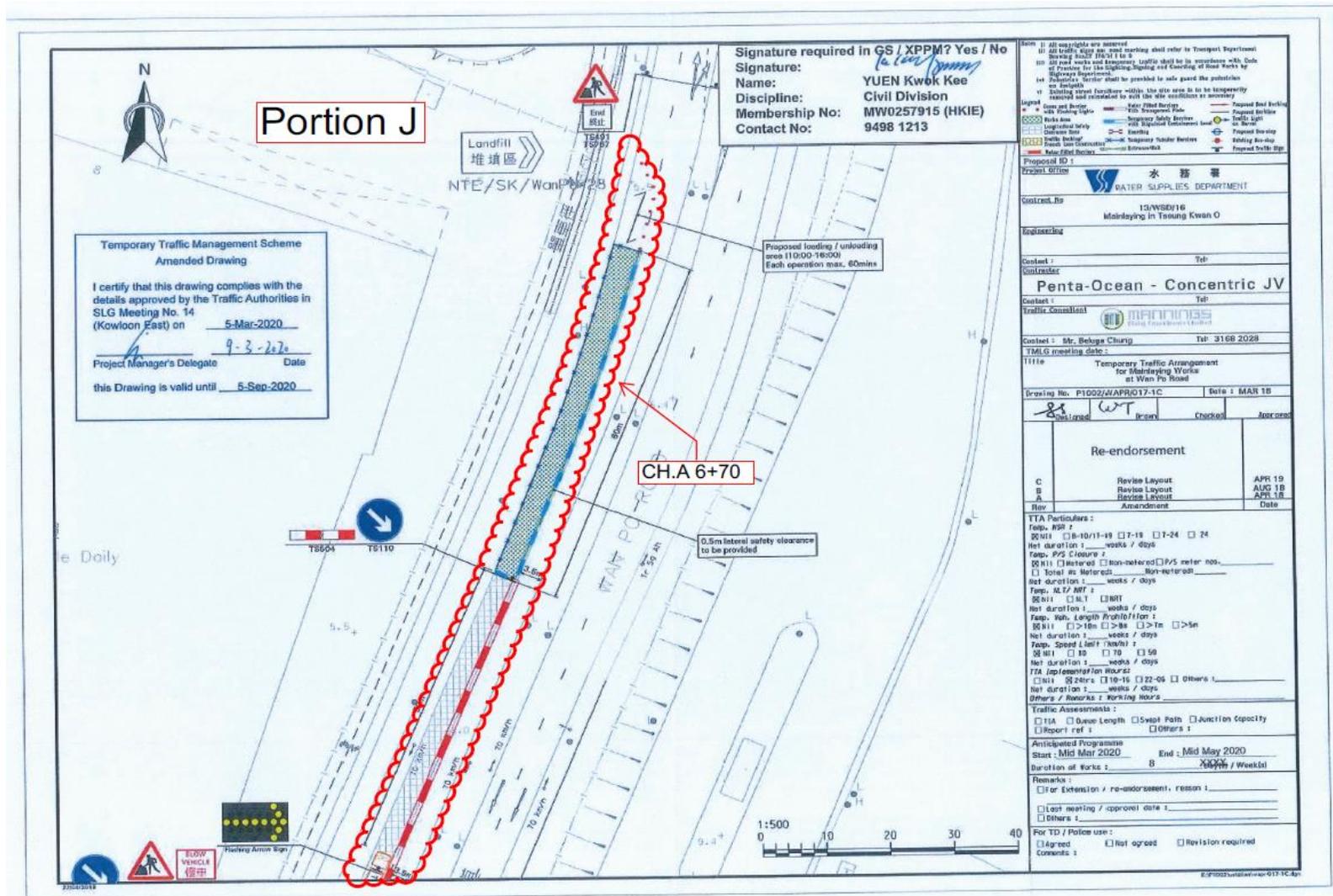
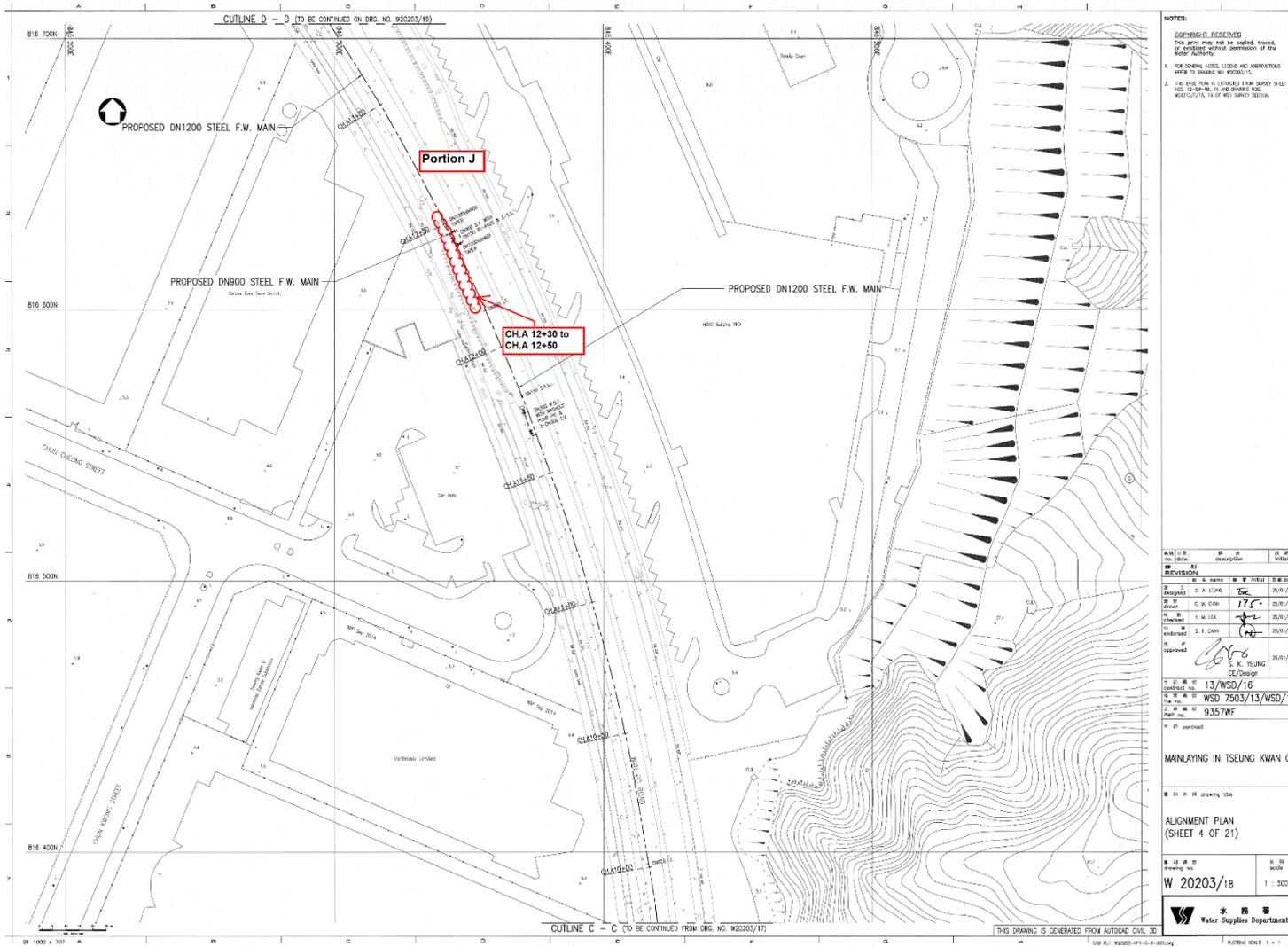


Figure B3b(i). Location Plan for Portion J - CH.A 6+70





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2. FOR SPINNING, LAYING, AND ABREVIATIONS REFER TO DRAWING NO. WSD0203/16.
3. SEE EXISTING PLAN FOR CHANGES FROM SURVEY SHEET NO. 12-30-01 TO THE DRAWING NO. WSD0203/16, 17, 18 OF THE SAME REGION.

REV. NO.	DATE	BY	DESCRIPTION	NO. OF SHEETS
1	25/09/17	C. A. LUK	ISSUE FOR PERMIT	1
2	25/09/17	C. A. LUK	ISSUE FOR PERMIT	1
3	25/09/17	V. M. LOK	ISSUE FOR PERMIT	1
4	25/09/17	S. T. CHAN	ISSUE FOR PERMIT	1

13/WSD/16  
 WSD 7503/13/WSD/16  
 9357WF  
 CE/Design  
 S. K. YEUNG  
 25/09/17

MAINLAYING IN TSEUNG KWAN O  
 ALIGNMENT PLAN  
 (SHEET 4 OF 21)  
 W 20203/18  
 1:500  
 Water Supplies Department

Figure B4. Location Plan for Portion J - CH.A 12+30 to CH.A 12+50

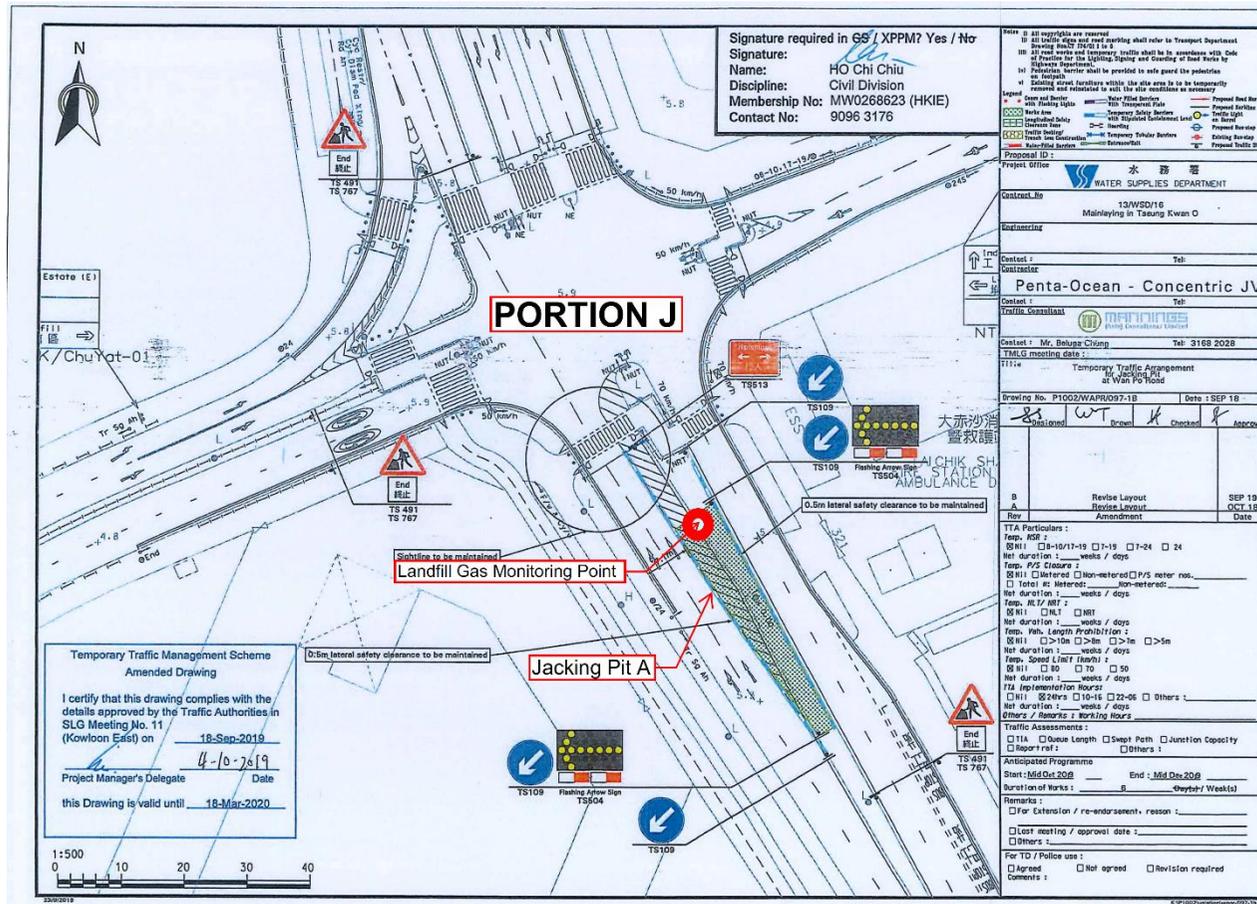
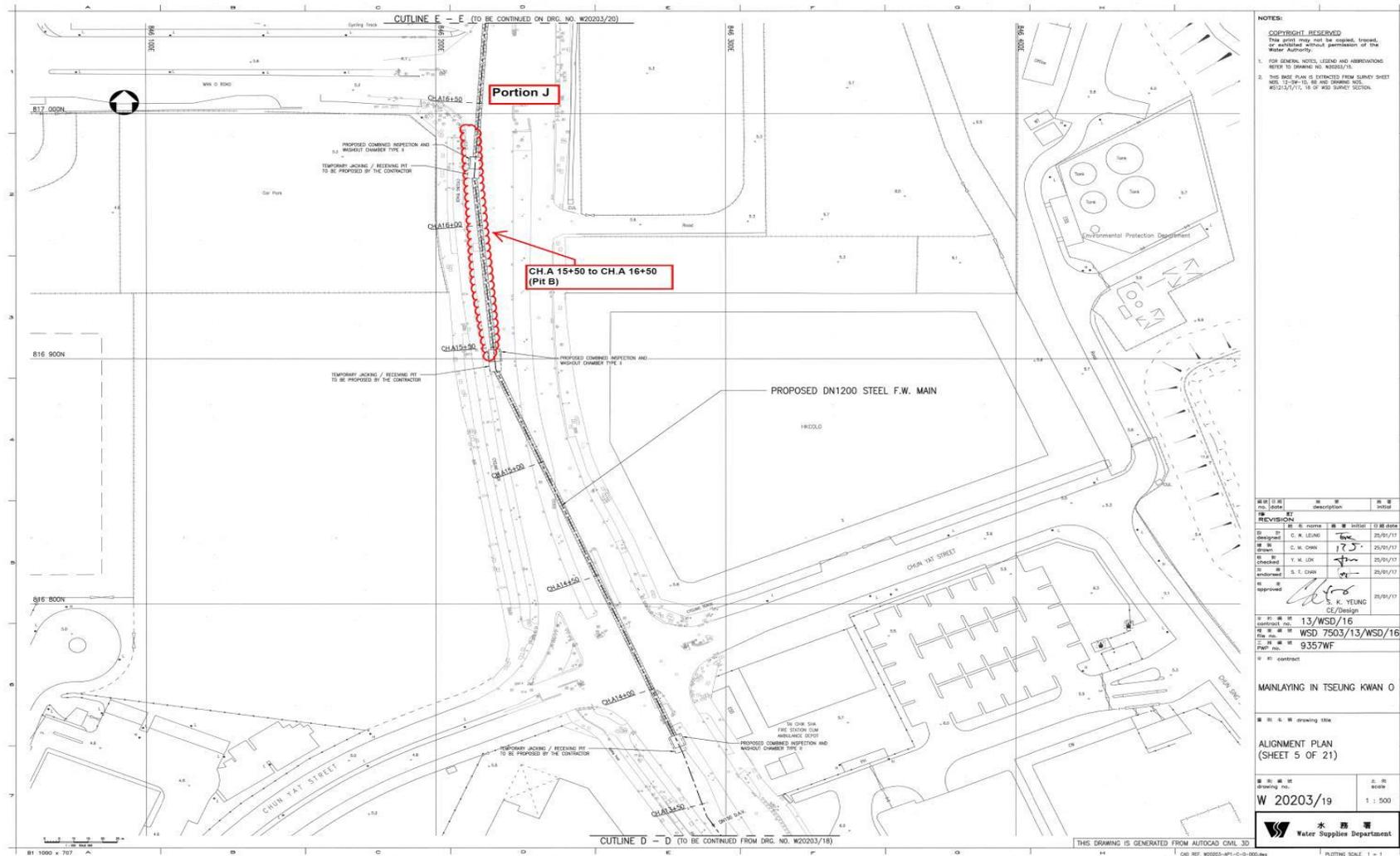


Figure B5. Location Plan for Portion J – CH. A13+50 to CH.A 14+00 (Pit A)



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 1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS REFER TO DRAWING NO. WSD0715.  
 2. THIS BASE PLAN IS EXTRACTED FROM SURVEY SHEET NO. 12/19-15, 16 AND DRIVING NO. WS212/1/11, 15 OF WSD SURVEY SECTION.

項目 / 項目名稱	說明 / 說明	日期 / 日期
設計 / 設計	設計	25/09/17
校核 / 校核	校核	25/09/17
批准 / 批准	批准	25/09/17

13/WSD/16  
 WSD 7503/13/WSD/16  
 9357WF

MANLAYING IN TSEUNG KWAN O

ALIGNMENT PLAN  
 (SHEET 5 OF 21)

W 20203/19  
 1 : 500

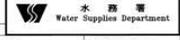


Figure B6. Location Plan for Portion J – CH. A15+50 to CH.A 16+50 (Pit B)

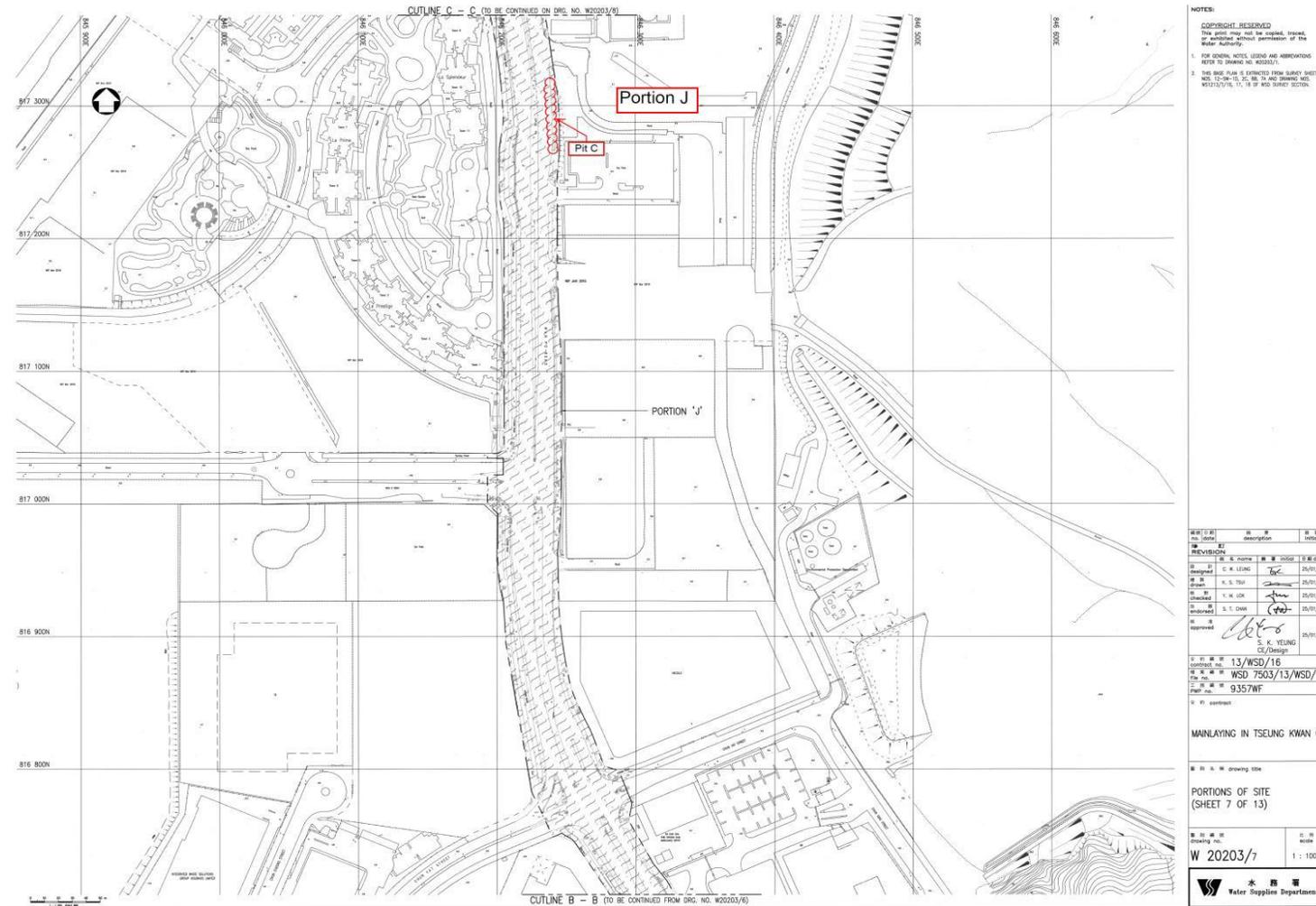


Figure B7. Location Plan for Portion J – CH.A 19+15 to CH.A 19+50 (Pit C)

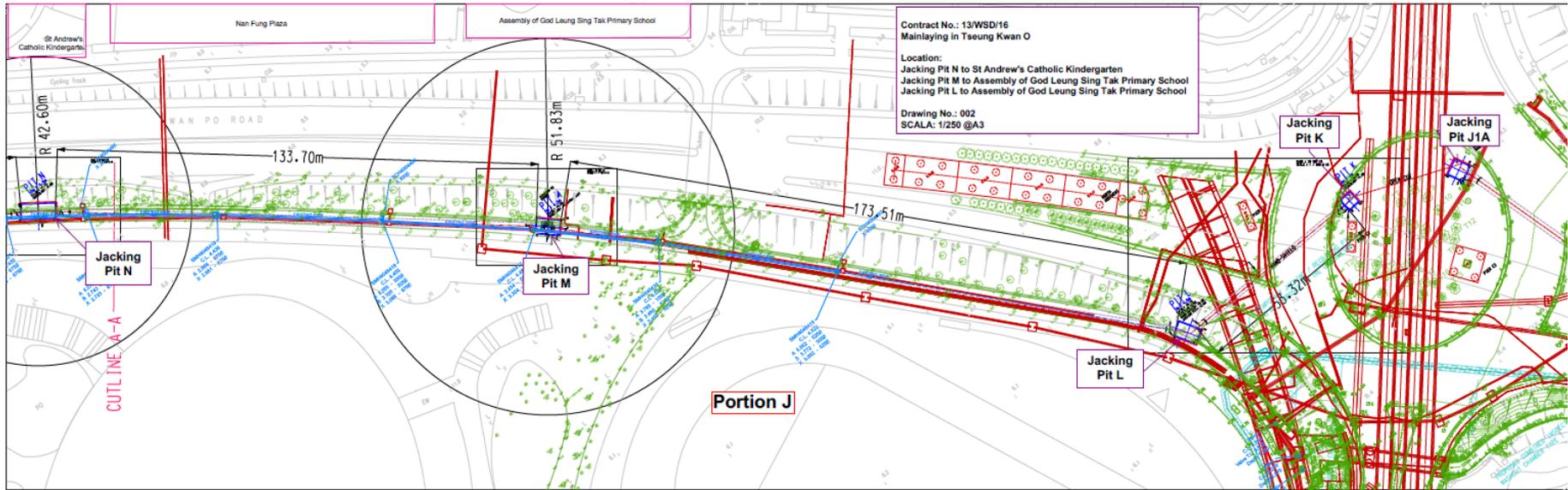


Figure B8a. Location Plan for Portion J – Pit L-M-N, K, J1A

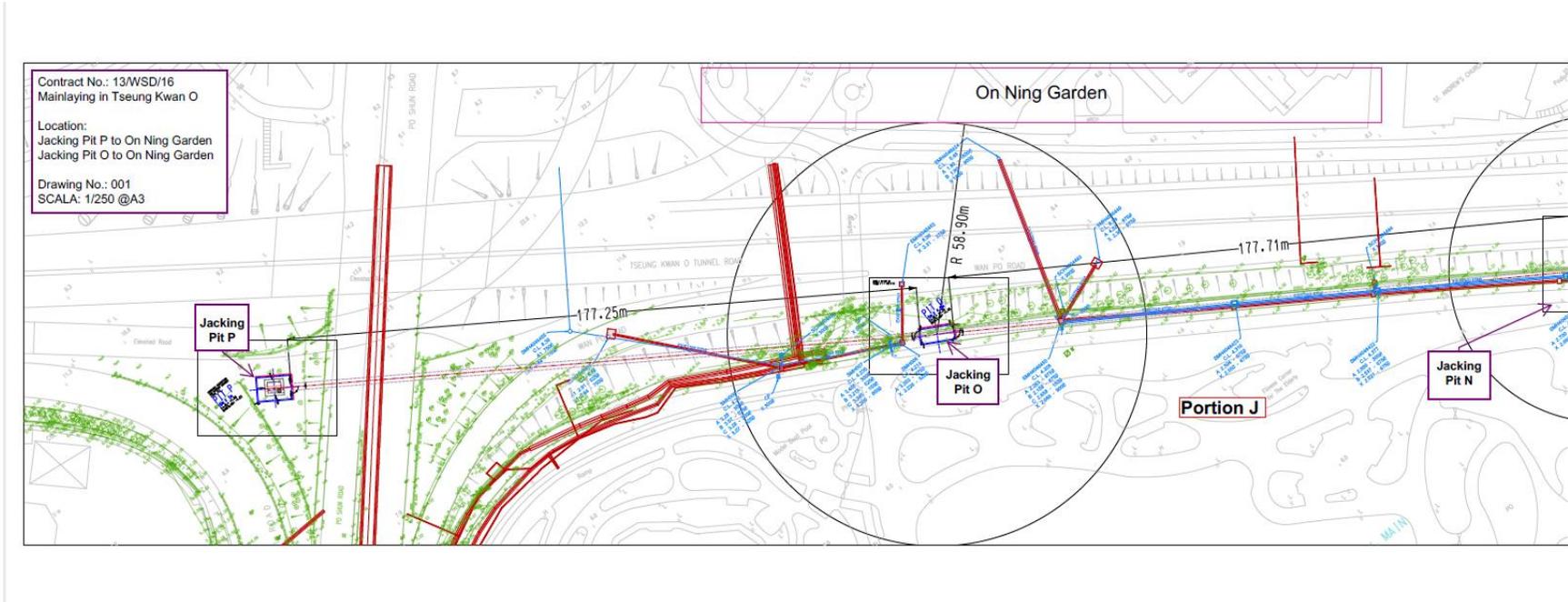


Figure B8b. Location Plan for Portion J – Pit N-O-P



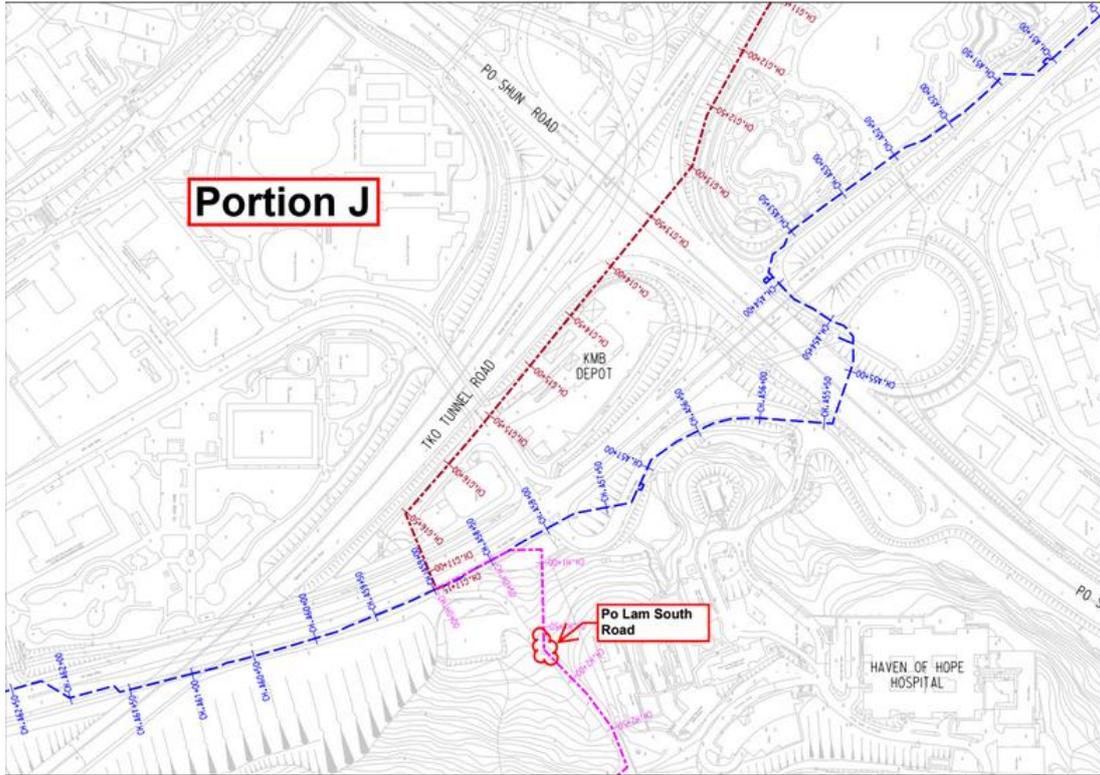


Figure B9a. Location Plan for Mau Wu Tsai 1

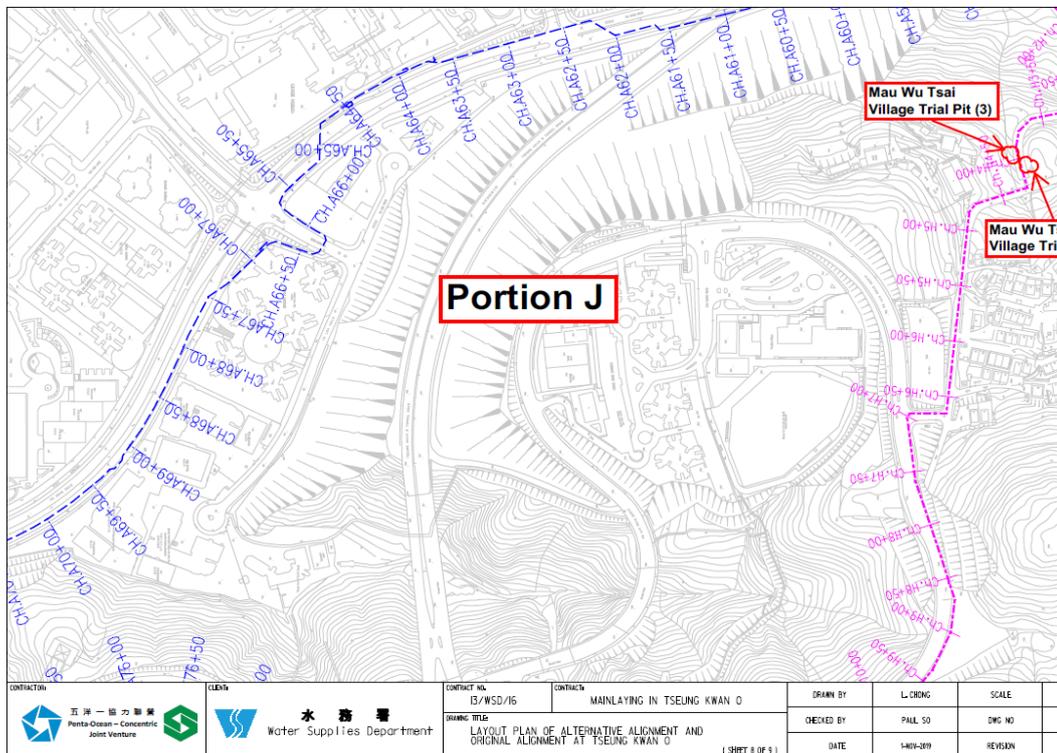


Figure B9b. Location Plan for Mau Wu Tsai 2 & 3





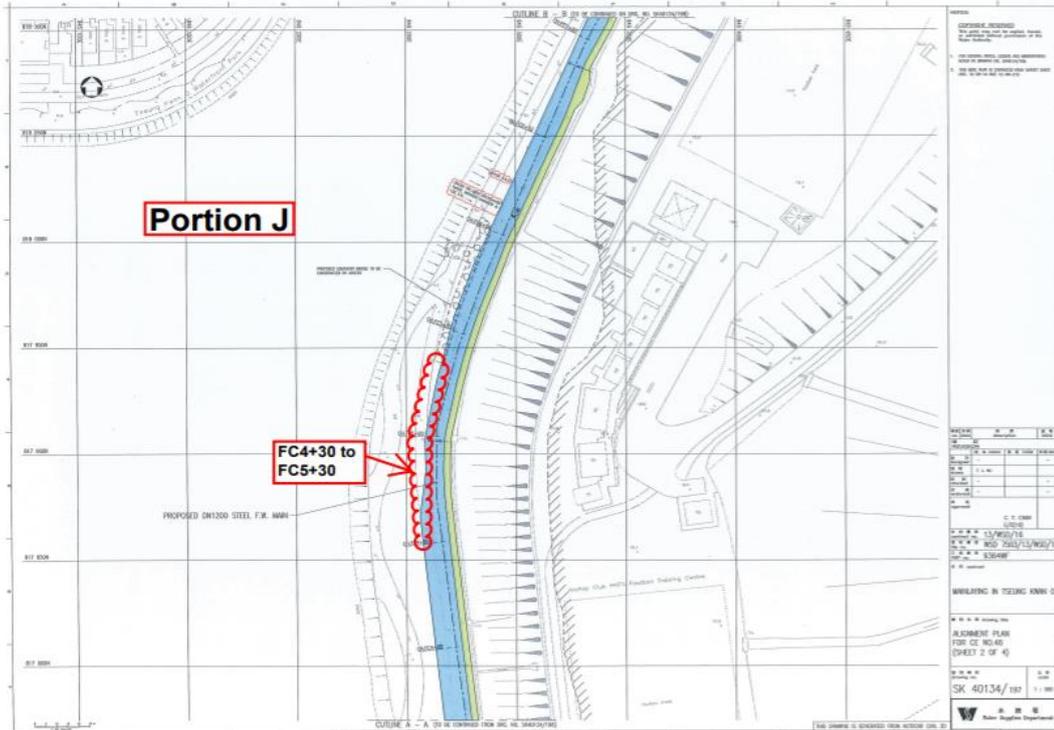


Figure B11c. Location Plan – Landfill Stage 1 (Area FC4+30 -FC5+30)

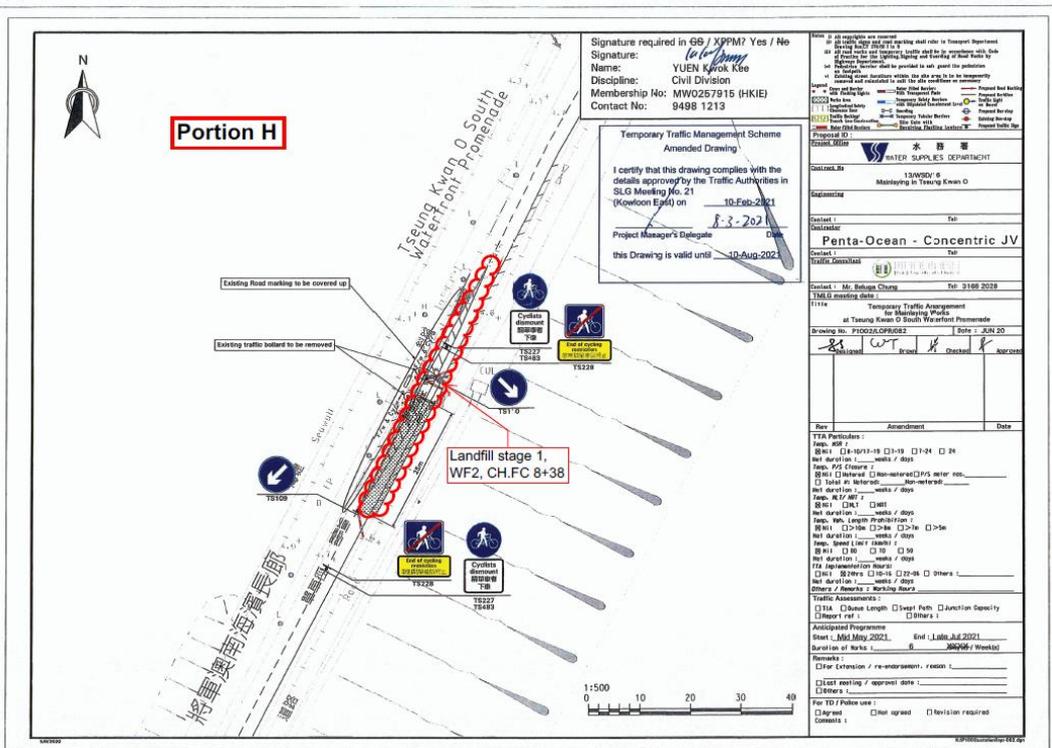


Figure B11d. Location Plan – Landfill Stage 1 (Area FC8+38)

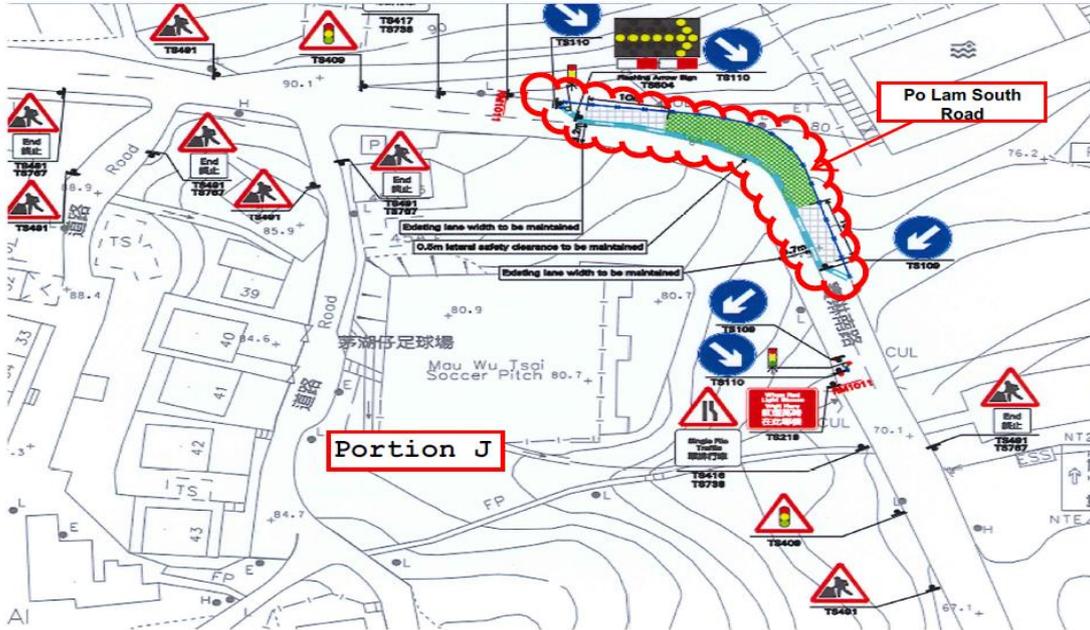


Figure B12. Monitoring Location – Po Lam South Road

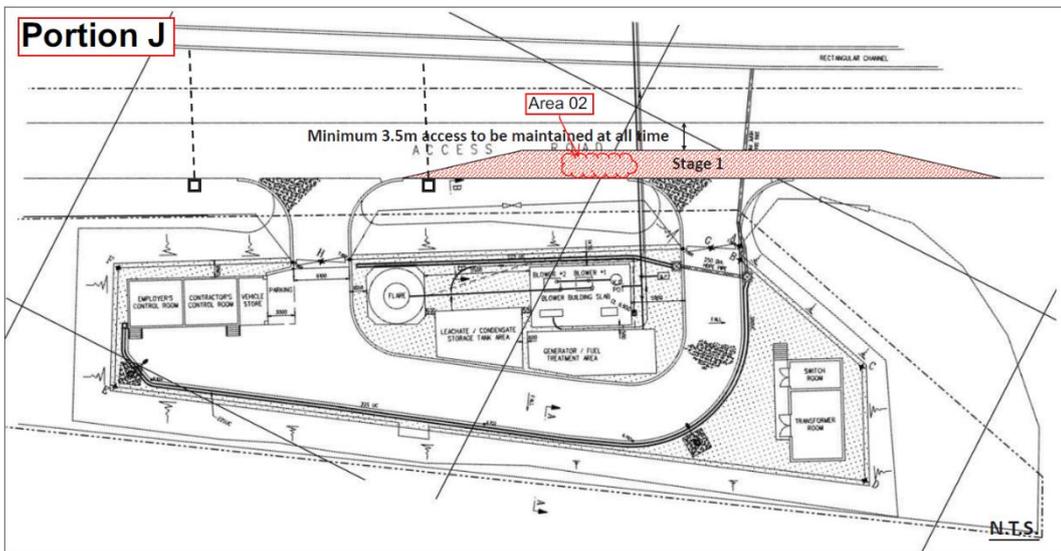


Figure B13. Monitoring Location – Area A02

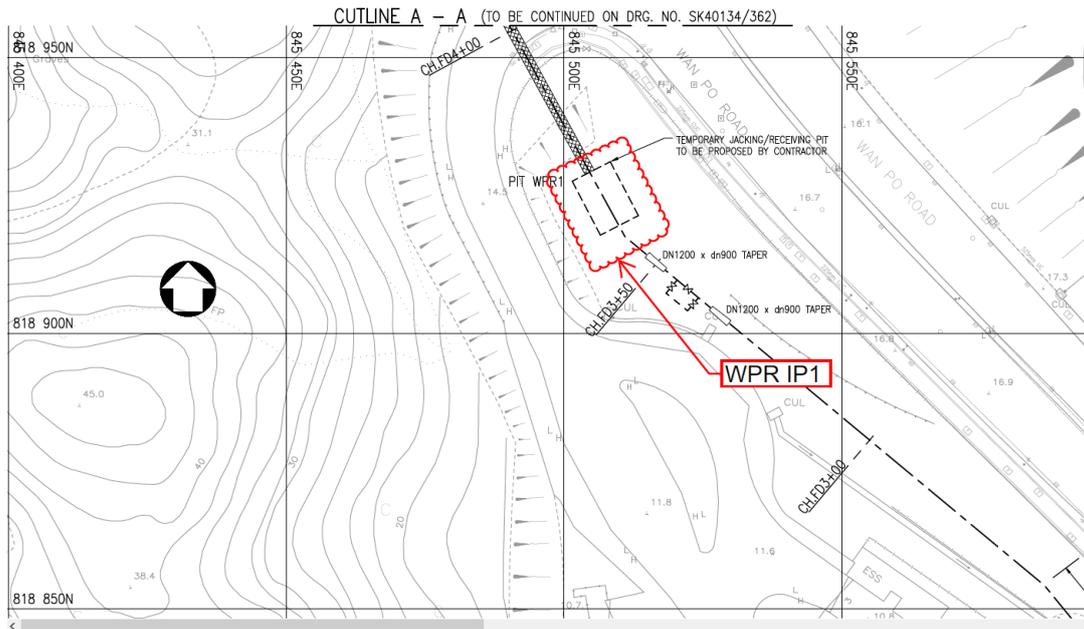


Figure B14. Location Plan for WPR IP1

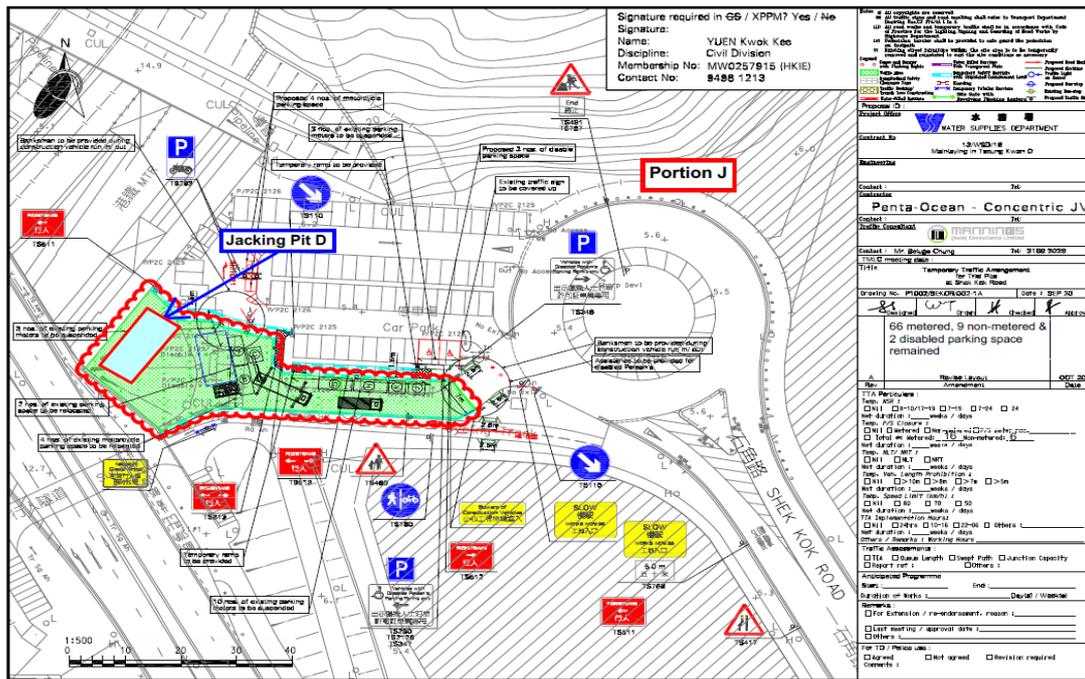


Figure B15. Location Plan for Jacking Pit D

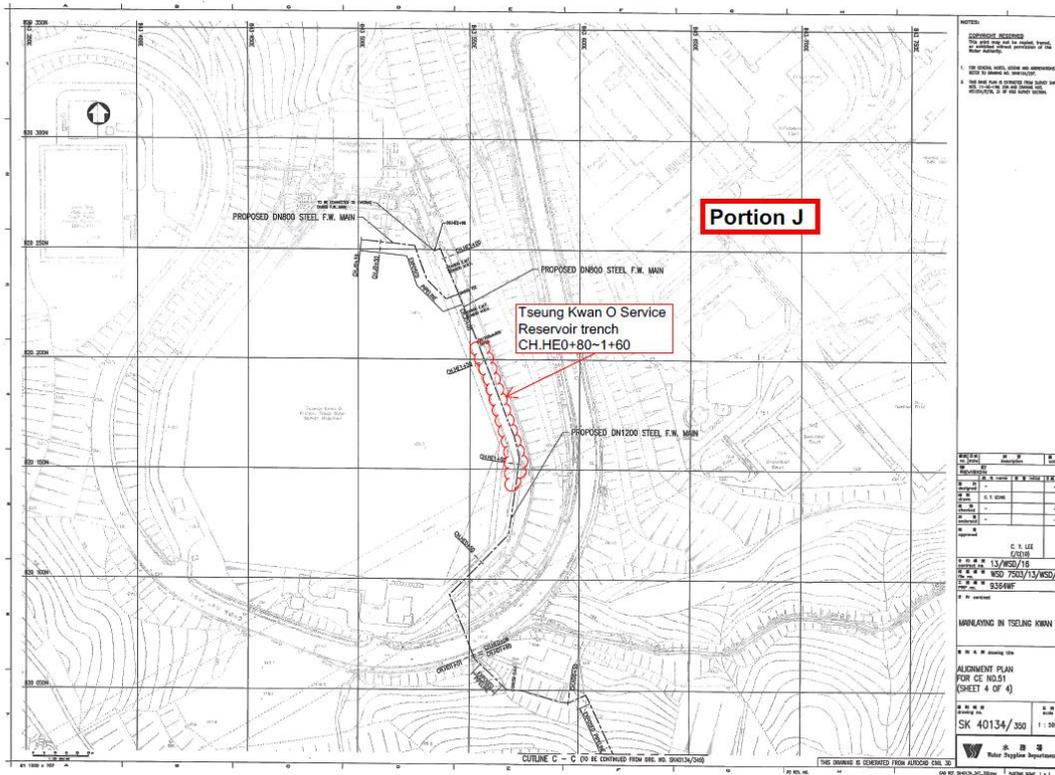


Figure B16. Location Plan for CH.HE0+80-1+60

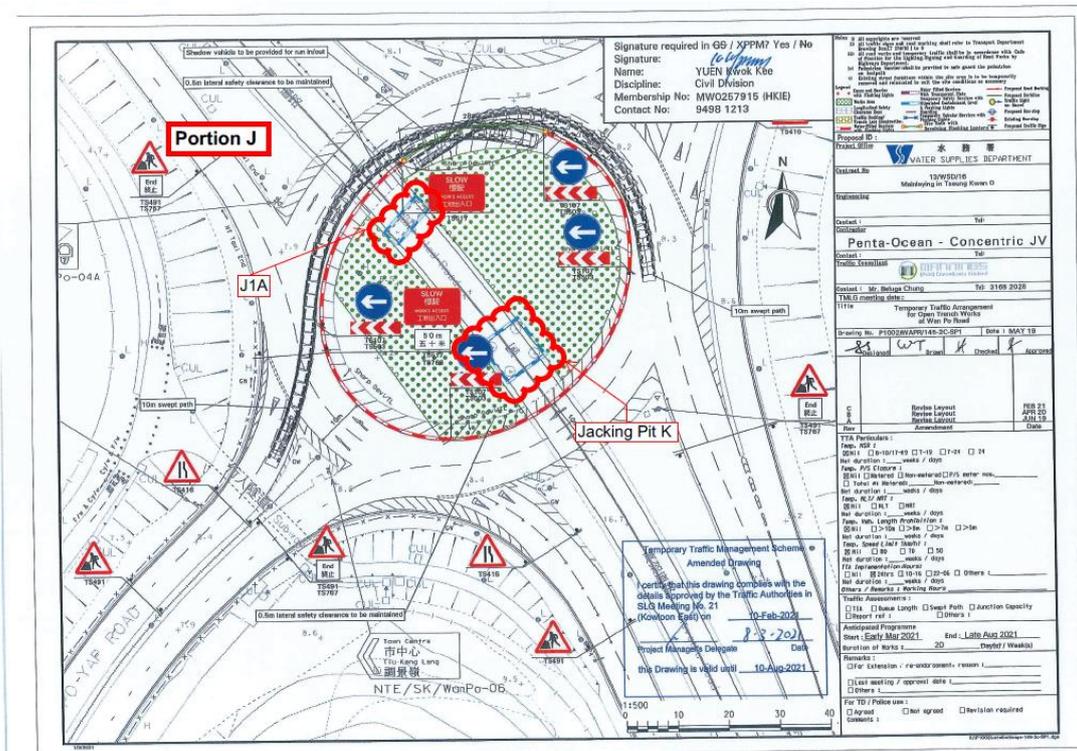


Figure B17. Location Plan for Pit K

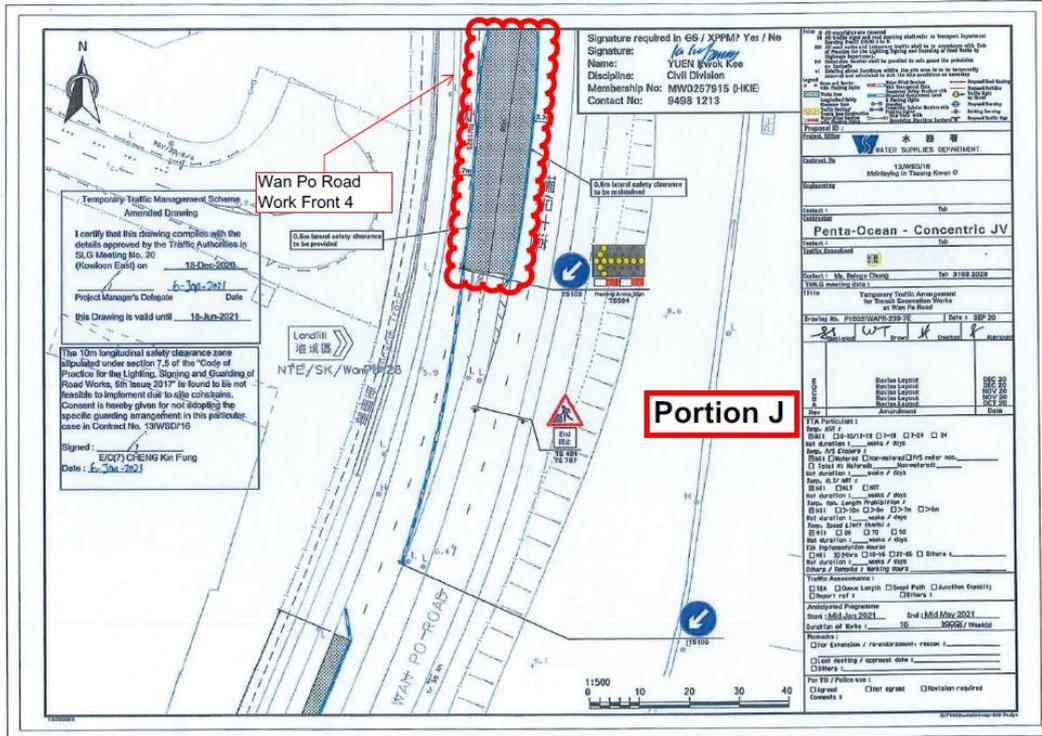


Figure B18a. Location Plan for Wan Po Road 4

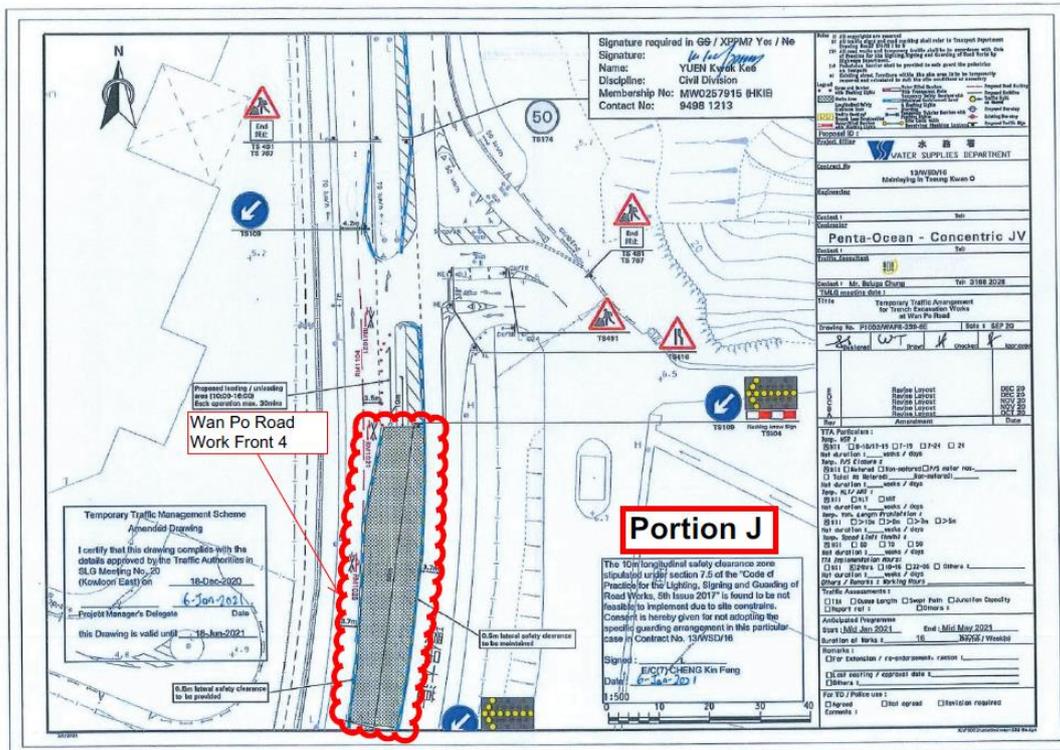


Figure B18b. Location Plan for Wan Po Road 4

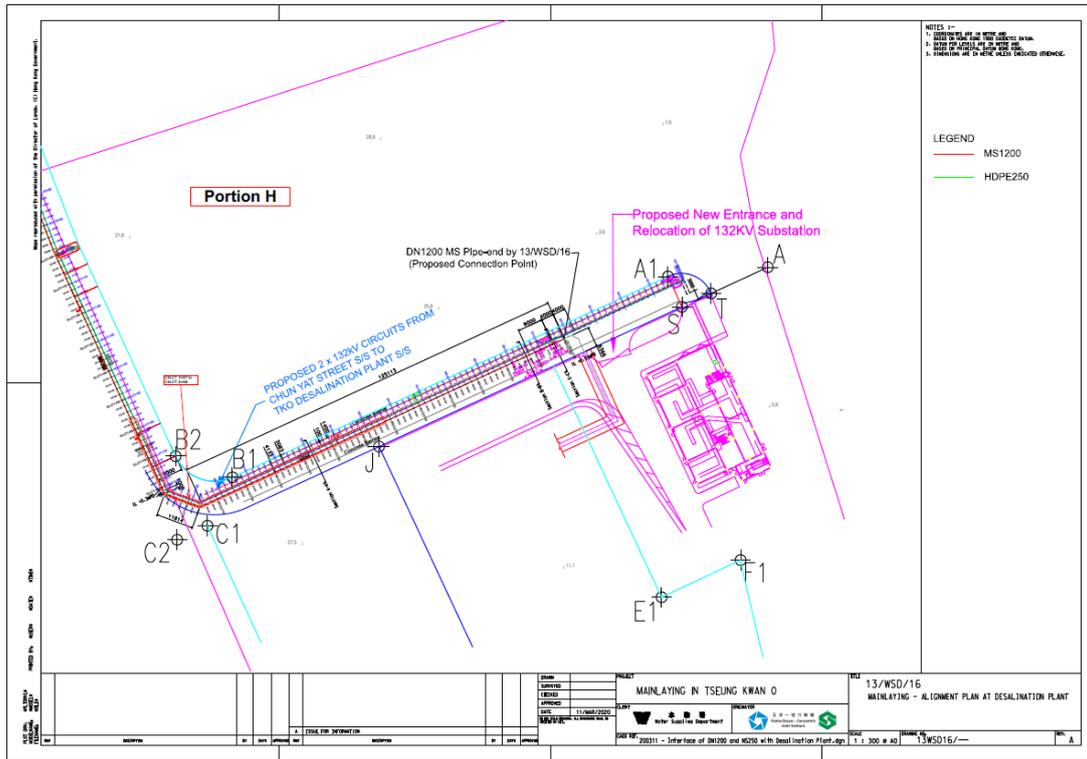


Figure B19a. Location Plan for CH.CT 0+07 – 2+58



Figure B19b. Location Plan for CH.CT 2+58 – 2+66

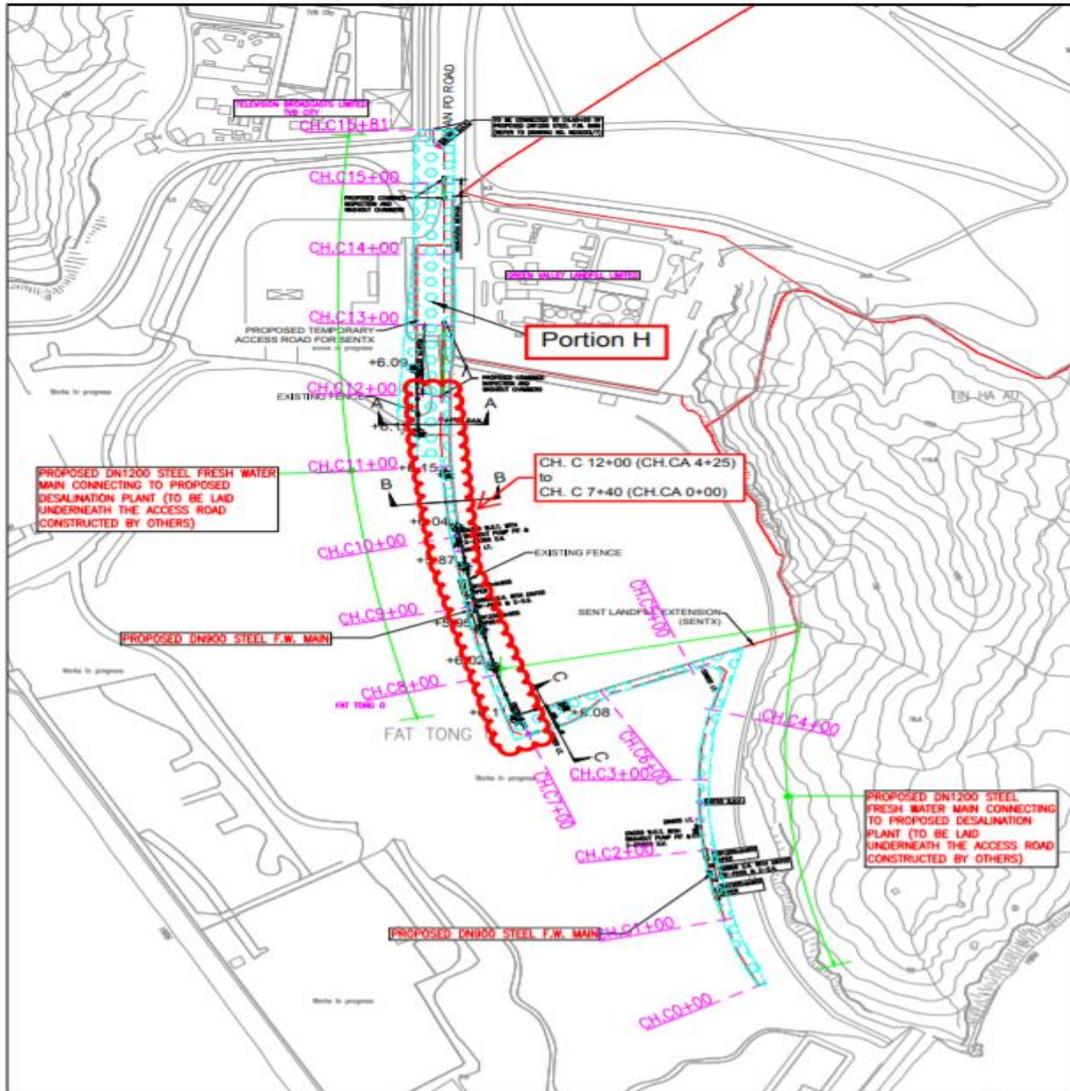


Figure B20. Location Plan for Portion H– CH.C 7+40~CH.C 12+00 (CH.CA 0+00 ~ CH.CA4+25)

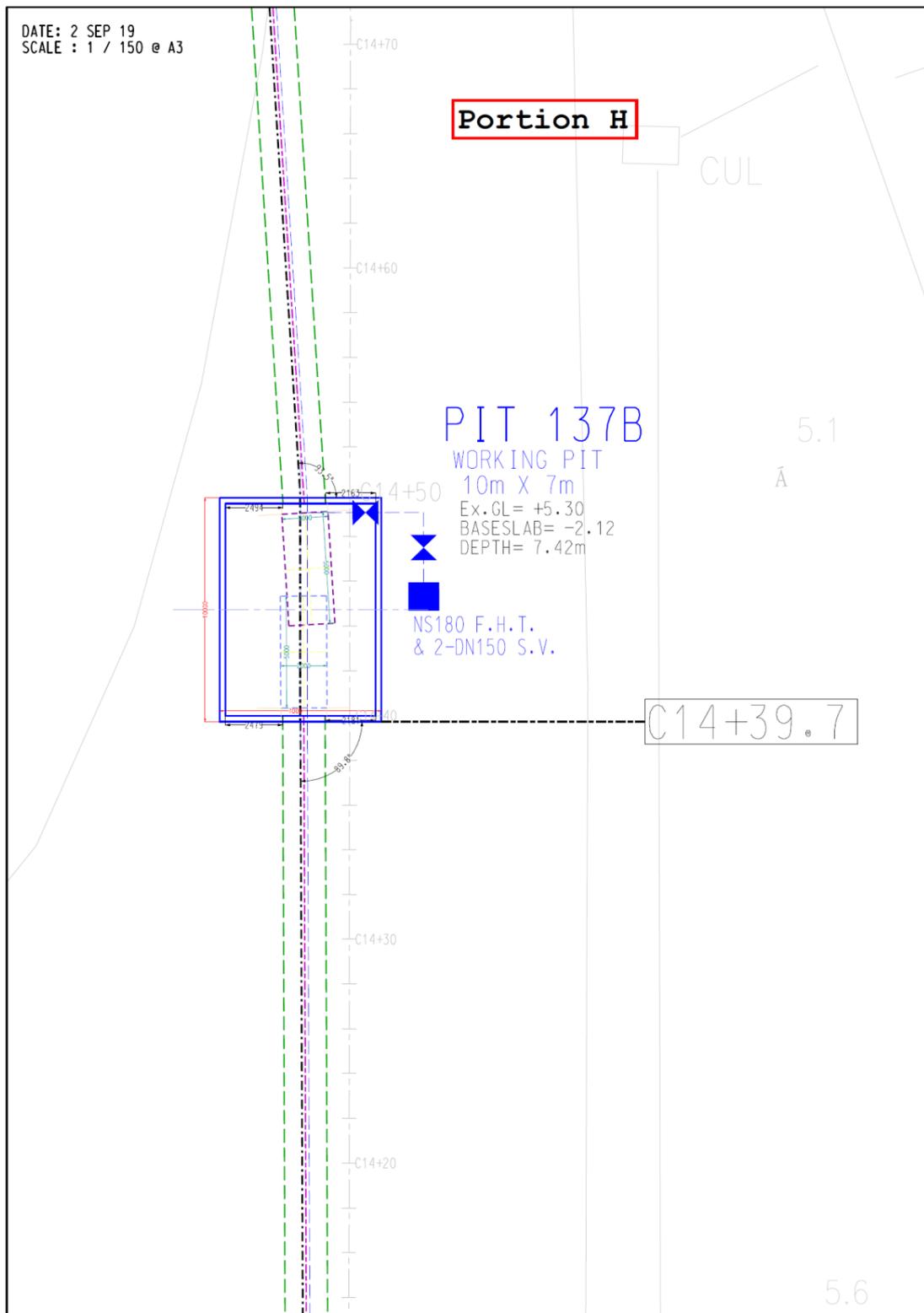


Figure B21a. Location Plan for Portion H- Pit 137B

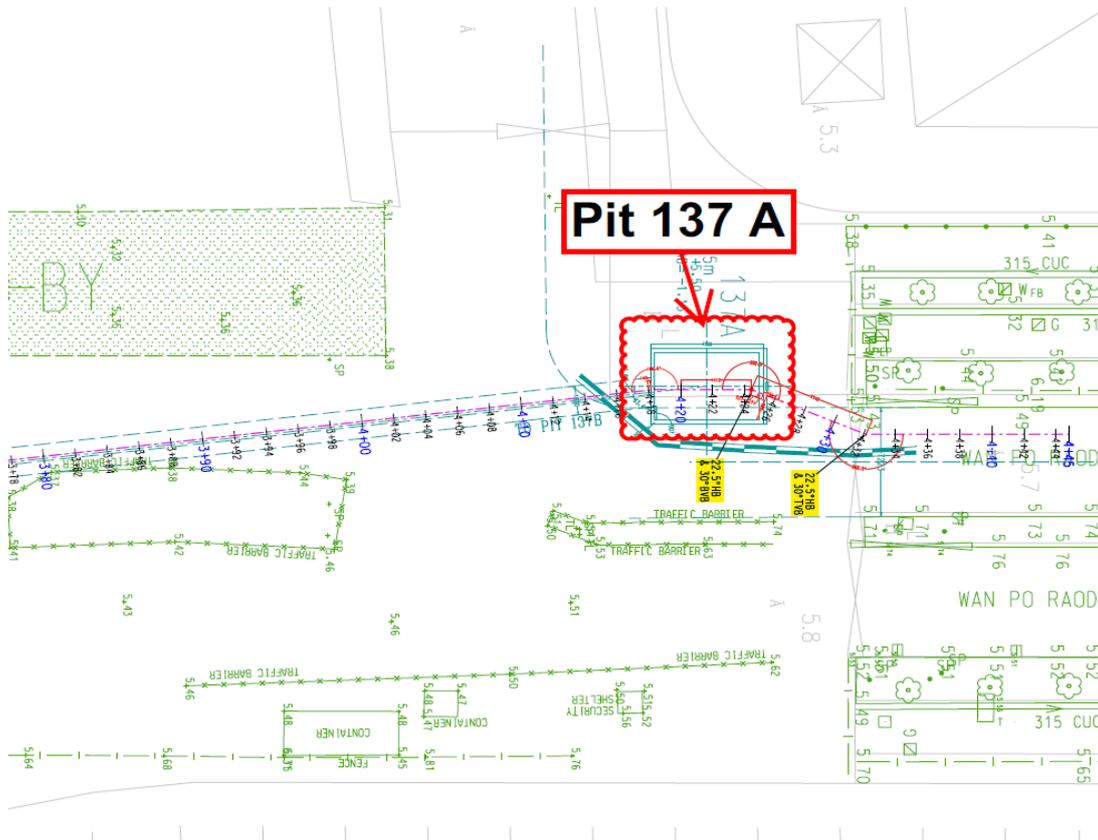


Figure B21b. Location Plan for Portion H- Pit 137A

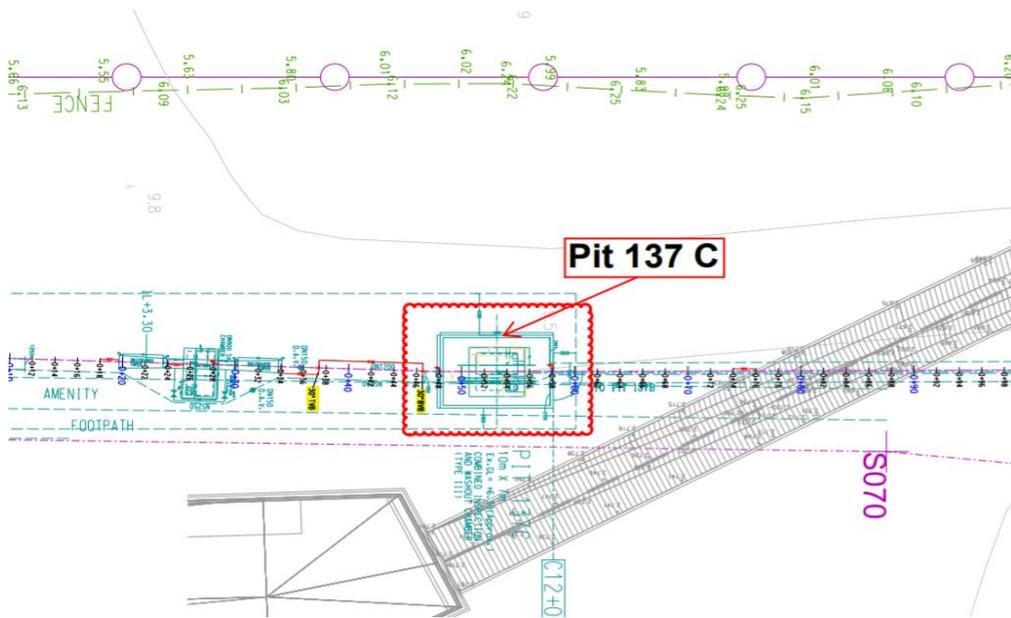


Figure B21c. Location Plan for Portion H- Pit 137C

## Appendix C

# Summary of Implementation Status of Environmental Mitigation

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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		
<b>Air Quality</b>								
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)		✓		NA	
S4.8.1	The area where dusty work takes place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after dusty activities as far as practicable.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	Dropping heights for excavated materials should be controlled to a practical height to minimize the fugitive dust arising from unloading.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	During transportation by truck, materials should not be loaded to a level higher than the side and tail boards, and should be dampened or covered before transport.	Land site/ During Construction	Contractor(s)		✓		Implemented	
S4.8.1	Wheel washing device should be provided at the exits of the work sites. Immediately before leaving a construction site, every vehicle shall be washed to remove any dusty material from its body and wheels as far as practicable.	Land site/ During Construction	Contractor(s)		✓		N/A	

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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	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)	✓	✓		N/A	
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	
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)		✓		N/A	
S4.8.1	All exposed areas will be kept wet always to minimise 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

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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	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	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	
S4.10	To ensure proper implementation of the recommended dust mitigation measures and good construction site practices during the construction phase, environmental site audits on weekly basis is recommended throughout the construction period.	Land site/ During construction	Contractor(s)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	

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

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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		
<b>Noise</b>								
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	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Mobile plant, if any, will be sited as far away from NSRs as possible.	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
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	A Practical Guide for the Reduction of Noise from Construction Works,
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	A Practical Guide for the Reduction of Noise from Construction Works,
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	A Practical Guide for the Reduction of Noise from Construction Works,
S5.7	Use of Quiet Powered Mechanical Equipment (QPME).	Noise control/ During construction	Contractor(s)		✓		Implemented	A Practical Guide for the Reduction of Noise from Construction Works,
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	Noise control/ During construction	Contractor(s)		✓		N/A	A Practical Guide for the Reduction of Noise from Construction Works,

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
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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		
	than its height. The noise barrier material should have a superficial surface density of at least 7 kg m <sup>-2</sup> and have no openings or gaps.							
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	A Practical Guide for the Reduction of Noise from Construction Works,
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	A Practical Guide for the Reduction of Noise from Construction Works
S5.7	PMEs will not be used at the works areas near educational institutions with residual impact (ie 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	A Practical Guide for the Reduction of Noise from Construction Works
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 <sup>-2</sup> may be used for screening the noise from operation of the saw/groover, concrete.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		N/A	
S5.9	Sawcutting pavement, breaking up of pavement, excavation /shoring, pipe laying, backfilling, reinstatement (concrete) and pipe jacking shall be scheduled outside the examination period.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		Implemented	

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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 (eg summer holiday, Easter holiday or Christmas holiday, etc) as far as practicable. Scheduling the construction work for the four schools.	Noise control/ Pre-construction/ During construction	Contractor(s)	✓	✓		Implemented	
S5.10	A noise monitoring programme shall be implemented for the construction phase.	Designated monitoring stations as defined in EM&A Manual/During construction phase	Environmental Team (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)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	-

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<b>Water Quality</b>								
S6.9	Dredged marine sediment will be disposed of in a gazetted marine disposal area in accordance with marine dumping permit conditions of the Dumping at Sea Ordinance (DASO).	Marine Dredging/ During construction	Contractor(s)		✓		N/A	Dumping at Sea Ordinance (DASO)
S6.9	Disposal vessels will be fitted with tight bottom seals in order to prevent leakage of material during transport.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	Barges will be filled to a level, which ensures that material does not spill over during transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	After dredging, any excess materials will be cleaned from decks and exposed fittings before the vessel is moved from the dredging area.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	All vessels should be well maintained and inspected before use to limit any potential discharges to the marine environment.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	All vessels must have a clean ballast system.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	No discharge of sewage/grey wastewater should be allowed. Waste water from potentially contaminated area on working vessels should be minimized and collected. These kinds of wastewater should be brought back to port and discharged at appropriate collection and treatment system.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-
S6.9	No soil waste is allowed to be disposed overboard.	Marine Dredging/ During construction	Contractor(s)		✓		N/A	-

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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, rectified after observation and 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	-

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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	-
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	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters
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, rectified after observation	-

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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)/ Environmental Team (ET) & Independent Environmental Checker (IEC)		✓		Implemented	-

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<b>Waste Management</b>								
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 mobilisation/ 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 mobilisation/ 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)		✓		Implemented	Chapters 2 & 3 Code of Practice on the Packaging Labelling & Storage of

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								Chemical Wastes published under the Waste Disposal Ordinance (Cap 354), Section 35
S8.5	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.	Land site/ During construction	Contractor(s)		✓		Implemented, rectified after observation. Reminder issued.	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 waste paper 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	All areas/ During	Contractor(s)		✓		Implemented,	-

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	potential for damage or contamination of construction materials.	construction					rectified after observation	
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	A Sediment Quality Report (SQR) for sampling and chemical testing of the sediment will be prepared and submitted to the EPD for approval. The approved detailed sampling and chemical testing will be carried out prior to the commencement of the dredging activities to confirm the sediment disposal method.	Marine works/ During construction	Contractor(s)		✓		N/A	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The management of dredged/ excavated sediment management requirement from <i>ETWB TC(W) No. 34/2002</i> will be incorporated in the Specification of the Contract Documents.	Marine works/ During construction	WSD/ Contractor(s)		✓		Implemented	ETWB TC(W) No. 34/2002 and Dumping at Sea Ordinance (DASO)
S8.5	The contractor will open a billing account with EPD in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation for the payment of disposal charges.	Contract mobilisation/ During construction	Contractor(s)		✓		Implemented	Cap 354N Waste Disposal (Charges for Disposal of Construction Waste) Regulation
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) / Environmental Team (ET) & Independent Environmen		✓		Implemented	ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites

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			tal Checker (IEC)					
S8.5	A recording system (similar to summary table as shown in Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005) for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established during the construction phase.	All area/ During construction	Contractor(s)		✓		Implemented	Annex 5 and Annex 6 of Appendix G of ETWB TC(W) No. 19/2005
S8.5	Inert C&D materials (public fill) will be reused within the Project as far as practicable.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Public fill and construction waste shall be segregated and stored in different containers or skips to facilitate reuse or recycling of materials and their proper disposal.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	Specific areas of the work site will be designated for such segregation and storage if immediate use is not practicable.	All area/ During construction	Contractor(s)		✓		Implemented	-
S8.5	To reduce the potential dust and water quality impacts of site formation works, C&D materials will be wetted as quickly as possible to the extent practice after filling.	All area/ During construction	Contractor(s)		✓		Implemented	Air Pollution Control (Construction Dust) Regulation (Cap 311R); WPCO (Cap 358)
S8.5	Open stockpiles of excavated/ fill materials or construction wastes on-site should be covered with tarpaulin or similar fabric.	Land site/ During Construction, particularly dry season	Contractor(s)		✓		Implemented	Air Pollution Control (Construction Dust) Regulation (Cap 311R)
S8.5	Chemical waste container shall be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	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	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling

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								and Storage of Chemical Wastes
S8.5	A label in English and Chinese shall be displayed on the chemical container in accordance with instructions prescribed in Schedule 2 of the Regulations.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
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	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
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	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Storage areas for chemical waste shall have adequate ventilation.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
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	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of

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								Chemical Wastes
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	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
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	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Handling and Storage of Chemical Wastes
S8.5	Adequate number of waste containers will be provided to avoid over-spillage of waste.	All area/ During construction/ During operation	Contractor(s)/ WSD		✓	✓	Implemented	DEVB TC(W) No. 8/2010 Enhanced Specification for Site Cleanliness and Tidiness.
S8.5	A reputable waste collector will be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to 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	All facilities/ During	ET/ IEC		✓		Implemented	-

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	contractors' performance on waste management, a waste inspection and audit programme will be implemented throughout the construction phase.	construction						

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<b>Ecology</b>								
S9.7	For slope mitigation works within the Clear Water Bay Country Park, to avoid tree felling and damages to trees, the exact locations of the flexible barrier foundation plates, soil nails and rock dowels can be adjusted during detailed design, and a setback distance from existing trees is recommended to be maintained as far as practical. A detailed specification describing the exact locations of the flexible barrier foundation plates, soil nails and rock dowels will be prepared to illustrate how the setback distance from existing trees would be implemented for tree avoidance.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		Implemented	-
S9.7	Pruning of tree canopies along the alignment of the flexible barriers shall be limited to a minimum.	Slope mitigation works area/ During construction	Contractor(s)		✓		Implemented	
S9.7	The alignment of flexible barriers shall be optimized to preserve all species of conservation interest and minimize the impact to the existing vegetation as far as practicable. All individuals of <i>Marsdenia lachnostoma</i> within the slope mitigation areas shall be retained <i>in-situ</i> , by positioning the alignment of flexible barrier at a minimum 1.5m in a radius away from these individuals.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		N/A	-
S9.7 and 9.10	At the detailed design stage prior to the commencement of the slope mitigation works, a vegetation survey shall be carried out at the slope mitigation areas within the Clear Water Bay Country Park to assess the condition and identify the location of each individual of <i>Marsdenia lachnostoma</i> and other flora species of conservation interest that may be directly affected by the construction works.	Slope mitigation works area/ During detailed design/ During construction	Contractor(s)	✓	✓		Implemented	-
S9.7	Temporary fencing will be installed to fence off	Slope mitigation works	Contractor(s)		✓		N/A	-

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	the concerned species either in groups of individually within the works area and in the close proximity to prevent from being damaged and disturbed during construction. A sign identifying the site shall be attached to the fence and flagging tape shall be attached to the individuals to visualize their locations.	area/ During construction						
S9.7 and S9.10	A specification for fencing and demarcating individuals of <i>Marsdenia lachnostoma</i> (or other flora species of conservation interest, if found) adjacent to the proposed alignment of the flexible barriers will be prepared to protect the species.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	Induction training shall also be provided to all site personnel in order to brief them on this flora of conservation interest including the locations and their importance.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
S9.7	The resident site supervisory staff will closely monitor the conditions of concerned individuals during construction of flexible barriers in the close proximity.	Slope mitigation works area/ During construction	Contractor(s)		✓		N/A	-
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	-

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				D	C	O		
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	-
S9.7	Affected habitats within the Clear Water Bay Country Bay shall be reinstated by hydro-seeding and planting of climbers and native shrub seedlings where practical upon completion of the slope mitigation works.	All area/ During construction	Contractor(s)		✓		N/A	-

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

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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		
<b>Landscape &amp; Visual</b>								
S11.10 & 11.11	The construction area and area allowed for temporary structures, such as the contractor's office, will be minimized to a practical minimum. (MM1)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	At the detailed design stage, the design team will seek to minimize the landscape footprint of the Project and above ground facilities, while satisfying all other requirements. (MM2)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	Design principles will be adopted to take into account the surrounding area, particularly Clear Water Bay Country Park behind and the nearby waterfront, with due consideration given to: - green roofs where practical (ie without equipment on the roof); - roadside planting; - aesthetic treatment of all structures; - vertical greening; screen planting along application site; and - landscape enhancement with amenity planting where practical including planting along the edge (site boundary) fence with native shrubs where feasible, - to reduce their visual impact and blend them into the surrounding landscape. (MM3)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-
S11.10 & 11.11	All trees within the Project Site or the potential slope mitigation works area will be carefully protected during construction according to DEVB TCW No. 10/2013 – Tree Preservation (MM4)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	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	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	DEVB TC(W) No. 10/2013

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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		
	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)							
S11.10 & 11.11	Any slope mitigation works necessary to address natural terrain hazards, will be minimized to minimize any potential environmental impact to the Country Park e.g. soil nailing and rock stabilization will aim to avoid existing trees e.g. should any restoration of vegetation be necessary, the best planting matrix with native species will be established, with the aim of resembling the existing vegetation. (MM6)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	N/A	
S11.10 & 11.11	Dredging works for the installation of intake structures and outfall diffusers should be minimized to avoid or reduce any potential environmental impacts to as low as reasonably practicable (ALARP). The intake and outfall structures (e.g. intake openings and diffuser heads) will be prefabricated and transferred to site for installation. (MM7)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	N/A	
S11.10 & 11.11	All night-time lighting will be reduced to a practical minimum both in terms of number of level and will be hooded and directional. (MM8)units and lux level and will be hooded and directional. (MM8)	All area/ Detailed design/ During construction/ During operation	WSD/ Contractor(s)	✓	✓	✓	Implemented	-

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

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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		
<b>Landfill Gas Hazard</b>								
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	

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



EIA Reference	Recommended Environmental Protection Measures/ Mitigation Measures	Objectives of the recommended measures & main concerns to address	Implementation Agent	Implementation Stage			Implementation Status	Relevant Legislation & Guidelines
				D	C	O		
S12.7	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	All area/ Detailed design/ During construction/ During operation	Contractor(s)	✓	✓	✓	N/A	

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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		
	pathway for landfill gas and hence gridded metal covers should be used.							
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	

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

## Appendix D

# Impact Monitoring Schedule of the Reporting Month

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

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

# Appendix E

## Noise Monitoring Equipment Calibration Certificate



**綜合試驗有限公司**  
**SOILS & MATERIALS ENGINEERING CO., LTD.**  
 香港新界葵涌永基路22-24號郡林閣集團大廈全幢  
 The Whole Block of YLK Group Building, Nos. 22-24 Wing Kei Road, Kwai Chung, New Territories, Hong Kong.  
 Tel: (852) 2873 6860 Fax: (852) 2555 7533 E-mail: smec@cigismec.com Website: www.cigismec.com



## CERTIFICATE OF CALIBRATION

Certificate No.: 20CA0803 01 Page: 1 of 2

### Item tested

Description: Acoustical Calibrator (Class 1)  
 Manufacturer: Pulsar Instruments Ltd.  
 Type/Model No.: 105  
 Serial/Equipment No.: 63705  
 Adaptors used: -

### Item submitted by

Customer: Acuity Sustainability Consulting Limited.  
 Address of Customer: -  
 Request No.: -  
 Date of receipt: 03-Aug-2020

Date of test: 06-Aug-2020

### Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	11-May-2021	SCL
Preamplifier	B&K 2673	2743150	03-Jun-2021	CEPREI
Measuring amplifier	B&K 2610	2346941	03-Jun-2021	CEPREI
Signal generator	DS 360	33873	19-May-2021	CEPREI
Digital multi-meter	34401A	US36087050	19-May-2021	CEPREI
Audio analyzer	8903B	GB41300350	18-May-2021	CEPREI
Universal counter	53132A	MY40003662	18-May-2021	CEPREI

### Ambient conditions

Temperature: 22 ± 1 °C  
 Relative humidity: 55 ± 10 %  
 Air pressure: 1005 ± 5 hPa

### Test specifications

- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTPO04-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

### Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on page 2 of this certificate.

Approved Signatory:  Date: 07-Aug-2020 Company Chop: 

Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.





**CERTIFICATE OF CALIBRATION**

NO. 20200519040

Name of Product: Sound Level Meter  
 Model: ST-11D  
 Serial Number: 820200  
 Specification: Class 1  
 Conclusion: Pass  
 Date of calibration: 2021-01-18  
 Due Date: 2022-01-17



Calibrated by:

- I. This report certifies that all calibration equipment used in the test is traceable with the internal ISO9001 procedures and meet all specification given in the Manual(s) or respectively surpass them and applies only to the unit identified above.
- II. This certificate is produced with advanced equipment & procedures which permit comprehensive quality assurance verification of all data supplied herein.
- III. This certificate of calibration shall not be reproduced except in full, without written permission of the Scarlet Tech Co Ltd Taiwan.

- 1. Preliminary inspection: OK
- 2. Type & serial No. of Microphone: AWA14425-27998
- 3. Adjustments to indicated sound levels:  
 Type of Calibrator B&K 4211  
 Sound Pressure Level 93.8 dB  
 Equivalent Free-field Sound Level (reference environment conditions) 93.8 dB
- 4. Measuring up limit: 140 dBA
- 5. Frequency weightings (Acoustic signal tests for Z weighting, other electric signal tests.)

Nominal frequency /Hz	Frequency weighting / dB			Nominal frequency /Hz	Frequency weighting / dB		
	A	C	Z		A	C	Z
10	-71.0	-14.4	-0.9	1000	0.0	-0.1	-0.3
20	-50.4	-6.1	-0.1	2000	1.2	-0.2	0.2
31.5	-39.8	-3.1	0.0	4000	1.0	-0.9	0.3
63	-26.2	-0.9	0.3	8000	-1.0	-3.2	-0.5
125	-16.0	-0.3	0.1	12500	-4.5	-6.4	-0.7
250	-8.6	-0.1	0.1	16000	-9.6	-11.5	-1.3
500	-3.7	-0.1	0.1	20000	-23.9	-25.9	-0.8

**6. Self-generated noise**

Microphone replaced by electrical input signal device

8.9 dB(A)	16.6 dB(C)	19.8 dB(F)
-----------	------------	------------

**7. F&S Weighting**

Rate of the F weighting decrease ( dB/s )	35.2
Rate of the S weighting decrease ( dB/s )	4.4
Deviation of F&S	0.0

**8. Level Linearity (A-weighting at frequency 1 kHz)**

Reference sound level 90.0 dB

Max error at 10dB steps upper reference sound level -0.1 dB

Max error at 1dB steps within 5dB of the upper limit linear operating range 0.0 dB

Max error at 10dB steps below reference sound level 0.1 dB

Max error at 1dB steps within 5dB upper the lower limit linear operating range 0.2 dB

**9. Tone burst response (A Weighting) :**

Single Toneburst duration /ms	Toneburst response /dB			
	$L_{Amax}-L_A$	$L_{Aonset}-L_A$	$L_A-L_A$	$L_{Aend}-L_A$
500	0.0	-4.0	-2.9	-7.0
200	-1.0	-7.4	-6.9	-7.0
50	-18.0	-26.9	-26.9	-7.0
10	-27.2	-	-36.0	-7.0

**10. Peak C sound level (500Hz)**

Cycle	One cycle	nominal value	Positive half	nominal value	Negative half	nominal value
$L_{Cpeak-LC}(dB)$	3.5	3.5	2.3	2	2.3	2.4

11. Overload indication: Pass

12. Statistical analysis function:

Sweep signal maximum indicated sound level: 112.0 dB

Sweep amplitude: 40 dB

Scan cycle time: 60 S; Measurement period: 180 S.

Items	Measured value/dB	Theoretical calculated value/dB	Error/dB
$L_{Aeq,T}$	103.2	103.2	0.0



## Certificate of Calibration

for

Description: *Sound Level Meter*  
Manufacturer: *NTi Audio*  
Type No.: *XL2 (Serial No.: A2A-13663-E0)*  
Microphone: *ACO 7052 (Serial No.: 73912)*  
Preamplifier: *NTi Audio MA220 (Serial No.: 5735)*

Submitted by:

Customer: *Acuity Sustainability Consulting Limited*  
Address: *Unit C, 11/F, Ford Giory Plaza, No. 37-39 Wing Hong Street,  
Cheung Sha Wan, Kowloon, Hong Kong*

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

- Within  
 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: *08 September 2020*

Date of calibration: *09 September 2020*

Calibrated by:   
Calibration Technician

Certified by:   
Mr. Ng Yan Wa  
Laboratory Manager

Date of issue: *09 September 2020*

Certificate No.: *AP120-104-CC001*



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: 23.8°C  
 Air Pressure: 1008 hPa  
 Relative Humidity: 62.5%

**3. Calibration Equipment:**

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2388467	AV200041	HOKLAS

**4. Calibration Results**

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dBA	SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dBA	SPL	Fast	94	1000	94.0	Ref
				104		104.0	±0.3
				114		114.0	±0.3

Time Weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dBA	SPL	Fast	94	1000	94.0	Ref
			Slow			94.0	±0.3

Certificate No.: APJ20-104-CU001



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Room 422, Leader Industrial Centre, 57-59 Au Pui Wan Street, Fo Tan, Sha Tin, N.T., Hong Kong  
 Tel: (852) 2668 3423 Fax: (852) 2668 6946  
 Homepage: <http://www.aat-lab.com> E-mail: [info@aat-lab.com](mailto:info@aat-lab.com)



Frequency Response

Linear Response

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dB	SPL	Fast	94	31.5	94.2	±2.0
					63	94.3	±1.5
					125	94.3	±1.5
					250	94.2	+1.4
					500	94.1	+1.4
					1000	94.0	Ref
					2000	93.8	±1.6
					4000	93.6	±1.6
				8000	93.4	-2.1; -3.1	

A-weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dBA	SPL	Fast	94	31.5	54.8	-39.4 ±2.0
					63	68.0	-26.2 ±1.5
					125	78.1	-16.1 ±1.5
					250	85.5	-8.6 ±1.4
					500	90.8	-3.2 ±1.4
					1000	94.0	Ref
					2000	95.0	+1.2 ±1.6
					4000	94.6	+1.0 ±1.6
				8000	92.3	-1.1 -2.1; -3.1	

C-weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dB	SPL	Fast	94	31.5	91.2	-3.0 ±2.0
					63	93.4	-0.8 ±1.5
					125	94.1	-0.2 ±1.5
					250	94.1	-0.0 ±1.4
					500	94.1	-0.0 ±1.4
					1000	94.0	Ref
					2000	93.6	-0.2 ±1.6
					4000	92.8	-0.8 ±1.6
				8000	90.4	-3.0 ±2.1; -3.1	

Certificate No.: APJ20-104-CC001



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Room 422, Leader Industrial Centre, 57-59 Au Pui Wan Street, Fo Tan, Shatin, N.T., Hong Kong  
Tel: (852) 2668 3423 Fax: (852) 2668 6946  
Homepage: <http://www.aalab.com> E-mail: [enquiry@aalab.com](mailto:enquiry@aalab.com)



5. *Calibration Results Applied*

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

Uncertainties of Applied Value:

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

Certificate No.: APJ20-104-CC001



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Room 422, Leader Industrial Centre, 57-59 Au Pui Wan Street, Fo Tan, Shatin, N.T., Hong Kong  
 Tel: (852) 2668 5423 Fax: (852) 2668 6946

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

## Certificate of Calibration

for

**Description:** Sound Level Meter  
**Manufacturer:** Lutron  
**Type No.:** SL-4033SD (Serial No.: I491835)  
**Submitted by:**  
**Customer:** Acuity Sustainability Consulting Limited  
**Address:** Unit 1'08, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.

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

- Within  
 Outside

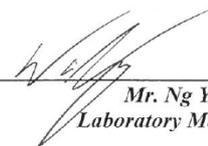
the allowable tolerance.

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: 02 December 2020

Date of calibration: 07 December 2020

Calibrated by:   
Calibration Technician

Certified by:   
Mr. Ng Yan Wa  
Laboratory Manager

Date of issue: 07 December 2020

Certificate No.: APJ20-140-CC001



Page 1 of 4

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

**1. Calibration Precaution:**

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

**2. Calibration Conditions:**

Air Temperature: 23.5 °C  
 Air Pressure: 1006 hPa  
 Relative Humidity: 62.5 %

**3. Calibration Equipment:**

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4225	2288467	AV200041	HOKI A5

**4. Calibration Results**

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
40-140	dBA	SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
40-140	dBA	SPL	Fast	94	1000	94.0	Ref
				104		104.0	±0.3
				114		114.0	±0.3

Time Weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
40-140	dBA	SPL	Fast	94	1000	94.0	Ref
			Slow			94.0	±0.3

Certificate No.: AP/20-170-CC001



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Frequency Response

A-weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
40-140	dBA	SPL	Fast	94	31.5	55.1	-39.4±2.0
					63	67.9	-26.2±1.5
					125	78.0	-16.1±1.5
					250	85.5	-8.6±1.4
					500	91.1	-3.2±1.4
					1000	94.0	Ref
					2000	94.3	+1.2±1.6

C-weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
40-140	dBC	SPL	Fast	94	31.5	91.7	-3.0±2.0
					63	94.0	-0.8±1.5
					125	94.7	-0.2±1.5
					250	94.9	-0.0±1.4
					500	94.5	-0.0±1.4
					1000	94.0	Ref
					2000	92.3	-0.2±1.6

Certificate No.: AP/20-140/CC001



Page 3 of 4

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



### 5. Calibration Results Applied

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

Uncertainties of Applied Value:

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

The uncertainties are evaluated for a 95% confidence level.

Note:

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

Certificate No.: APJ20-140-CC001



Page 4 of 4

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



 **Certificate of Conformity**

**This instrument was produced under rigorous factory production control and documented standard procedures. It was individually visually inspected, leak tested and function tested for display, backlight, button and software performance. The accuracy of each of its primary measurements was individually calibrated and/or tested against standards traceable to the National Institute of Standards and Technology ("NIST") or calibrated intermediary standards. This instrument is certified to have performed at the time of manufacture in compliance with the following specifications as they apply to this meter's specific model, measurements and features.**

**Methods Used in Calibration and Testing**

**Wind Speed:**

The Kestrel Weather & Environmental Meter impeller installed in this unit was individually tested in a subsonic wind tunnel operating at approximately 300 fpm (1.5 m/s) and 1200 fpm (6.1 m/s) monitored by a Gill Instruments Model 1350 ultrasonic time-of-flight anemometer. The Standard's maximum combined uncertainty is +/-1.04% within the airspeed range 706.6 to 3023.9 fpm (3.59 to 19.93 m/s), and +/-1.66% within the airspeed range 166.6 to 706.6 fpm (0.85 to 3.59 m/s).

**Temperature:**

Temperature response is verified in comparison with a Eutechnics 4600 Precision Thermometer or a standard Kestrel 4000 Weather & Environmental Meter calibrated weekly against the Eutechnics 4600. The Eutechnics 4600 is calibrated annually and is traceable to NIST with a system accuracy of +/- 0.05 °C.

**Direction / Heading**

The sensitivity of the magnetic directional sensor is verified at the component level by applying a magnetic field to the sensor and measuring the signal output at 4 points, as well as after assembly by orienting the unit to the cardinal directions and measuring the magnetic field output. In both cases, the compass output must be accurate to within +/- 5 degrees.

**Relative Humidity:**

Relative humidity receives a two-point calibration in humidity and temperature controlled chambers at 75.3% RH and 32.8% RH at 25° C. The calibration tanks are monitored with an Edgetech Model 2002 DewPrime II Standard Chilled Mirror Hygrometer. Following calibration, performance is further verified at an RH of approximately 43.2% against the Edgetech Hygrometer. The Edgetech Hygrometer is calibrated annually and is traceable to NIST with a maximum relative expanded uncertainty of +/- 0.2% RH.

**Barometric Pressure:**

Pressure response is verified against a Vaisala PTB210A Digital Barometer or a standard Kestrel 4000 Weather & Environmental Meter calibrated weekly against the Vaisala Barometer. The Vaisala Barometer is calibrated annually and is traceable to NIST with an accuracy of +/-0.15 hPa at +20°C defined as the root sum of the squares (RSS) of end point non-linearity, hysteresis error, repeatability error and calibration uncertainty at room temperature.

**Approved By:**

  
Michael Naughton, Engineering Manager

The enclosed Kestrel Weather & Environmental Meter was manufactured by Neisen-Kotlerman Co. at its facilities located at 21 Creek Circle, Boothwyn, PA 19061 USA.



# 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"> <li>Carry out investigation to identify the source and cause of the complaint/ exceedance(s)</li> <li>Notify IEC, ER, and Contractor and report the results of investigation to the Contractor, ER and the IEC</li> <li>Discuss with the Contractor and IEC for remedial measures required</li> <li>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</li> </ol>	<ol style="list-style-type: none"> <li>Review the analyzed results submitted by the ET</li> <li>Review the proposed remedial measures by the Contractor and advise the ER accordingly</li> <li>Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>Confirm receipt of Notification of Exceedance in writing</li> <li>Require Contractor to propose remedial measures for the analysed noise problem</li> <li>Ensure remedial measures are properly implemented</li> </ol>	<ol style="list-style-type: none"> <li>Submit noise mitigation proposals, if required, to the IEC and ER</li> <li>Implement noise mitigation proposals.</li> </ol>	

Limit Level	<ol style="list-style-type: none"> <li>Notify IEC, ER, EPD and Contractor</li> <li>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.</li> <li>Repeat measurement to confirm findings</li> <li>Increase monitoring frequency</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented.</li> <li>inform IEC, ER and EPD the cause &amp; actions taken for the exceedances</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>Discuss amongst ER, ET, and Contractor on the potential remedial actions</li> <li>Review Contractor's remedial actions to assure their effectiveness and advise the ER &amp; ET accordingly</li> <li>Supervise the implementation of the remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>Confirm receipt of notification of exceedance in writing</li> <li>Notify Contractor</li> <li>Require Contractor to propose remedial measures for the analyzed noise problem</li> <li>Ensure remedial measures are properly implemented</li> <li>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</li> </ol>	<ol style="list-style-type: none"> <li>Take immediate action to avoid further exceedance</li> <li>Identify practicable measures to minimize the noise impact. Submit proposals for remedial actions to ER within three working days of notification</li> <li>Implement the agreed proposals</li> <li>Resubmit proposal if problem still not under control</li> <li>Stop the relevant portion of works as determined by the ER until the exceedance is abated</li> </ol>
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# Appendix G

## Noise Monitoring Data

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



Date	Time	Weather	Leq-5min, dB(A)						Leq-30min, dB(A)	L1030mins, dB(A)	L9030mins, dB(A)	Limit Level, dB(A)	Noise Meter
			Reading (1)	Reading (2)	Reading (3)	Reading (4)	Reading (5)	Reading (6)					
02/07/2021	09:20 - 09:50	cloudy	68.3	68.7	69.2	68.6	68.9	67.4	68.6	71.9	60.8	70.0	NTi XL2 13663, Lutron SL-4033SD
08/07/2021	11:18 - 11:48	Sunny	67.4	69.6	65.5	67.9	68.6	68	68.0	71.5	58.7	70.0	NTi XL2 13663
16/07/2021	11:03 - 11:33	Sunny	67.6	68.6	67.4	69.0	66.6	67.9	67.9	71.1	60.7	70.0	NTi XL2 13663
20/07/2021	11:10 - 11:40	cloudy	66.7	68.3	69.7	69.0	68.0	68.9	68.5	71.2	63.5	70.0	NTi XL2 13663
28/07/2021	11:16 - 11:46	Sunny	66.0	69.1	65.5	69.4	68.7	68.1	68.0	71.4	60.2	70.0	Scarlet ST-11D

Remarks:

\*No examinations were scheduled for NSR4 Creative Secondary School in the reporting month. Academic School Calendar can be found in Appendix O.

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# Appendix H

## Waste Flow Table

**Monthly Summary Waste Flow Table**

Name of Department: WSD Contract No. / Works Order No.: 13/WSD/16

**Monthly Summary Waste Flow Table for July 2021**

Month	Actual Quantities of <u>Inert</u> Construction Waste Generated Monthly					
	Total Quantity Generated (see Note 4)	Hard Rock and Large Broken Concrete (see Note 3)	Reused in the Contract	Reused in other Projects	Disposed of as Public Fill	Imported Fill (see Note 1)
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )
2018	1.157	0.063	0.000	0.000	1.157	0.518
2019	5.178	0.043	2.211	0.000	2.520	3.200
2020	13.173	1.506	0.291	0.000	12.878	1.323
Jan 2021	2.438	0.120	0.000	0.000	2.438	0.127
Feb-2021	1.702	0.224	0.000	0.000	1.702	0.537
Mar-2021	2.780	0.163	0.000	0.000	2.780	1.361
Apr-2021	2.338	0.271	0.222	0.000	2.116	0.629
May-2021	2.265	0.125	0.360	0.000	1.906	0.340
Jun-2021	2.017	0.135	0.221	0.000	1.796	1.148
Jul-2021	2.003	0.059	0.109	0.000	1.894	1.352
Total for 2021	15.543	1.097	0.912	0.000	14.632	5.494

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



Month	Actual Quantities of <u>Non-inert</u> Construction Waste Generated Monthly				
	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. General Refuse disposed at Landfill
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
2018	0.000	0.417	0.000	0.000	0.139
2019	0.000	0.062	0.000	0.000	0.102
2020	0.000	0.606	0.000	0.000	0.043
Jan 2021	0.000	0.065	0.000	0.000	0.006
Feb-2021	0.000	0.058	0.000	0.000	0.012
Mar-2021	0.000	0.055	0.000	0.000	0.002
Apr-2021	0.000	0.045	0.000	0.000	0.008
May-2021	0.000	0.049	0.000	0.000	0.006
Jun-2021	0.000	0.051	0.000	0.000	0.000
Jul-2021	0.000	0.052	0.000	0.000	0.005
<b>Total for 2021</b>	<b>0.000</b>	<b>0.375</b>	<b>0.000</b>	<b>0.000</b>	<b>0.039</b>

Notes:

1. The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
2. Plastic refer to plastic bottles/containers, plastic sheets/foam from packaging materials.
3. Broken concrete for recycling into aggregate.

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



4. “Total Quantity Generated” only refers to the actual quantities of inert C&D materials generated monthly excluding those that will be recycled (Hard Rock and Large Broken Concrete, Reused in the Contract, Reused in other Projects). Imported fill will not be included in “Total Quantity Generated” as those C&D materials are not generated from this project.
5. C&D materials in tonnes are converted to meter cube (m<sup>3</sup>) on a scale of 0.5.
6. Source and types of Imported Fill in the reporting month
  - i. K. Wah Quarry Company Limited: (Soil) 1290.1 m<sup>3</sup> (2580.16 tonnes/42 cars)
  - ii. K. Wah Quarry Company Limited: (Sub-base) 61.61 m<sup>3</sup> (123.22 tonnes/2 cars)
7. Hard Rock and Large Broken Concrete are disposed to public fill, the breakdown of C&D materials disposed to public fill is shown as below:

Type of C&D Materials	Description of C&D Materials	C&D Waste Disposed (Volume) (m <sup>3</sup> )
Inert	Bentonite	26.50
	Broken Concrete	59.85
	Broken Rock	--
	Mixed Construction Waste (>50% inert)	--
	Building Debris	--
	Mixed Rock and Soil	1130.60
	Reclaimed Asphalt Pavement	203.40
	Slurry	200.05
	Soil	274.00
	<b>TOTAL =</b>	<b>1894.40</b>
Non-inert	<b>TOTAL =</b>	<b>4.80</b>

# Appendix I

**Landfill  
Equipment  
Certificate**

**Gas**

**Monitoring  
Calibration**



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 # :	M02A016735	Model :	QRAE III
		Firmware :	V2.14	Sensor :	LEL/O2/CO/H2S
		Cal date :	28-Jul-2020	Inspected:	Teddy

**SENSOR DATA :**

	LEL sensor (ME)	O2 sensor	CO sensor (Tox1)	H2S sensor (Tox2)
Calibration dates:	28-Jul-2020	28-Jul-2020	28-Jul-2020	28-Jul-2020
After Calibration levels	50%	18.00%	50 ppm	10.1 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 #13333090 Cyl# 18  
 \*\*\* 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 date on or before 27 July 2021

Serviced by  Teddy Wong  
 Rotter International Ltd



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-2021	Inspected:	Teddy

**SENSOR DATA :**

	LEL sensor (ME)	O2 sensor	CO sensor (Tox1)	H2S sensor (Tox2)
Calibration dates:	28-Jul-2021	28-Jul-2021	28-Jul-2021	28-Jul-2021
After Calibration levels	50%	17.90%	50 ppm	10.1 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 #1412983 Cyl# 15  
 \*\*\* 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 2022

Serviced by  Teddy Wong  
 Rotter International Ltd

# Honeywell Protection Through Detection

1349 Moffett Park Drive,  
 Sunnyvale, CA 94089 USA  
 Main: 408-952-8200

www.raesystems.com

## Calibration and Test Certificate

**Product Name:** MultiRAE Lite  
**Model Number:** PGM-6208  
**Serial Number:** M01C031772  
**Calibration/Inspection Date:** 6/4/2021

**Calibration Gases:**

#	Gas	Concentration	Balance	Lot#
1	Hydrogen Sulfide( H <sub>2</sub> S )	10ppm	Nitrogen( N <sub>2</sub> )	20210508
2	Carbon Monoxide( CO )	50ppm		
3	Oxygen( O <sub>2</sub> )	18%		
4	Methane( CH <sub>4</sub> )	50%LEL		
5	Sulfur Dioxide( SO <sub>2</sub> )	5ppm	Nitrogen( N <sub>2</sub> )	20210114
6	Carbon Dioxide( CO <sub>2</sub> )	5000ppm	Nitrogen( N <sub>2</sub> )	20201203

**Test Results:**

#	Sensor	Span	UOM
1	LEL	51	%LEL
2	SO <sub>2</sub>	5.2	ppm
3	COSH (H <sub>2</sub> S / CO)	10.1 / 51	ppm
4	Pb O <sub>2</sub>	17.8	%
5	CO <sub>2</sub>	4900	ppm

*This instrument has been calibrated using valid calibration gases and instrument manual operation procedures. Test and calibration data is on file with the manufacturer, RAE Systems.*

Approved By:

*Tran Hanh*  
 86-05-51832593



# Appendix J

## Landfill Gas Monitoring Data

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	2-7-2021	0830	Fine	0	0	0	20.9	29 / 1007	5.5
	2-7-2021	1550	Fine	0	0	0	20.9	32 / 1006	5.5
	2-7-2021	1700	Fine	0	0	0	20.9	32 / 1005	5.5
Area B	2-7-2021	0845	Fine	0	0	0	20.9	29 / 1007	2.5
	2-7-2021	1545	Fine	0	0	0	20.9	32 / 1006	2.5
	2-7-2021	1645	Fine	0	0	0	20.9	32 / 1005	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])		2-7-2021
Laboratory Staff:			
Checked by:	C. F. Chow (Foreman)		2-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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-250C (GRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 3+3B	2/7/2021	0855	Fine	0	0	0	20.9	27 / 1005	2.5
	2/7/2021	1355	Fine	0	0	0	20.9	31 / 1005	2.5
CH.FC 0+4	2/7/2021	0700	Fine	0	0	0	20.9	29 / 1005	2.5
	2/7/2021	1400	Fine	0	0	0	20.9	31 / 1005	2.5
Pit C	2/7/2021	0925	Fine	0	0	0	20.9	29 / 1005	3
	2/7/2021	1425	Fine	0	0	0	20.9	31 / 1005	3
137 P17C	2/7/2021	0945	Fine	0	0	0	20.9	29 / 1005	3
	2/7/2021	1445	Fine	0	0	0	20.9	31 / 1005	3
137 P17B	2/7/2021	0955	Fine	0	0	0	20.9	29 / 1005	3.6
	2/7/2021	1455	Fine	0	0	0	20.9	31 / 1005	3.6
137 P17A	2/7/2021	1005	Fine	0	0	0	20.9	29 / 1005	3.3
	2/7/2021	1505	Fine	0	0	0	20.9	31 / 1005	3.3
WPR1	2/7/2021	1015	Fine	0	0	0	20.9	29 / 1005	2.8
	2/7/2021	1515	Fine	0	0	0	20.9	31 / 1005	2.8

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))            2/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE II)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 2	21/7/2021	10:25	fine	0	0	0	20.9	29 / 1014	3.5
	21/7/2021	15:25	fine	0	0	0	20.9	31 / 1015	3.5
WPR 3	21/7/2021	10:45	fine	0	0	0	20.9	29 / 1017	2.8
	21/7/2021	15:45	fine	0	0	0	20.9	31 / 1018	2.8
Pit A	21/7/2021	10:55	fine	0	0	0	20.9	29 / 1017	5
	21/7/2021	15:55	fine	0	0	0	20.9	31 / 1018	5
Pit B	21/7/2021	11:05	fine	0	0	0	20.9	29 / 1019	3.6
	21/7/2021	16:05	fine	0	0	0	20.9	31 / 1018	3.6
								/	
								/	
								/	
								/	
								/	

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])           21/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	3-7-2021	0830	Fine	0	0	0	20.9	29 / 1007	5.5
	3-7-2021	1330	Fine	0	0	0	20.9	32 / 1006	5.5
	3-7-2021	1700	Fine	0	0	0	20.9	30 / 1005	5.5
Area B	3-7-2021	0845	Fine	0	0	0	20.9	29 / 1007	2.5
	3-7-2021	1345	Fine	0	0	0	20.9	32 / 1006	2.5
	3-7-2021	1645	Fine	0	0	0	20.9	32 / 1005	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])		3-7-2021
Laboratory Staff:			
Checked by:	c.f. chan (Foreman)		3-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



Contract no. 13/WSD/16  
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 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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH. PC 01A	3/7/2021	0835	Fine	0	0	0	20.9	30 / 1005	2.5
	3/7/2021	1335	Fine	0	0	0	20.9	30 / 1005	2.5
CH. PC 01A	3/7/2021	0900	Fine	0	0	0	20.9	30 / 1005	2.5
	3/7/2021	1400	Fine	0	0	0	20.9	30 / 1005	2.5
PIT C	3/7/2021	0925	Fine	0	0	0	20.9	30 / 1005	2.5
	3/7/2021	1425	Fine	0	0	0	20.9	30 / 1005	2
137 PIT C	3/7/2021	0945	Fine	0	0	0	20.9	30 / 1005	7
	3/7/2021	1445	Fine	0	0	0	20.9	30 / 1005	7
137 PIT B	3/7/2021	0955	Fine	0	0	0	20.9	30 / 1005	8.6
	3/7/2021	1455	Fine	0	0	0	20.9	30 / 1005	8.6
137 PIT B	3/7/2021	1005	Fine	0	0	0	20.9	30 / 1005	8.3
	3/7/2021	1505	Fine	0	0	0	20.9	30 / 1005	8.3
WPR 1	3/7/2021	1015	Fine	0	0	0	20.9	30 / 1005	2.8
	3/7/2021	1515	Fine	0	0	0	20.9	30 / 1005	2.8

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))           3/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE II)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WR2	3/2/2021	1028	fine	0	0	0	20.9	30 / 1007	3.5
	3/2/2021	1028	fine	0	0	0	20.9	32 / 1005	3.5
WR3	3/7/2021	1043	fine	0	0	0	20.9	30 / 1007	2.8
	3/7/2021	1046	fine	0	0	0	20.9	30 / 1007	2.8
PCA	3/7/2021	1055	fine	0	0	0	20.9	30 / 1007	5
	3/7/2021	1055	fine	0	0	0	20.9	30 / 1007	5
P1B	3/7/2021	1105	fine	0	0	0	20.9	30 / 1007	3.6
	3/7/2021	1105	fine	0	0	0	20.9	30 / 1005	3.6
								/	
								/	
								/	
								/	

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))            3/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	5-7-2021	0830	Fine	0	0	0	20.9	28 / 1008	5.5
	5-7-2021	1330	Fine	0	0	0	20.9	31 / 1027	5.5
	5-7-2021	1720	Fine	0	0	0	20.9	31 / 1025	5.5
Area B	5-7-2021	0845	Fine	0	0	0	20.8	28 / 1028	2.5
	5-7-2021	1345	Fine	0	0	0	20.9	31 / 1027	2.5
	5-7-2021	1645	Fine	0	0	0	20.6	31 / 1025	2.5

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer (Reno/Pipa))      [Signature]      5-7-2021  
 Laboratory Staff:  
 Checked by:      C. F. Chiu (Foreman)      [Signature]      5-7-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

**Contract No. 13/WSD/16**  
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Contract no. 13/WSD/16  
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 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 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission					Temp (°C) / Pressure (mbar)	Remark Depth (m)
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)		
CH 500 016A	5/7/2021	0853	Fine	0	0	0	20.9	31 / 1006	2.5
	5/7/2021	1325	Fine	0	0	0	20.9	32 / 1006	2.5
CH 500 016A	5/7/2021	0900	Fine	0	0	0	20.9	31 / 1006	2.5
	5/7/2021	1400	Fine	0	0	0	20.9	32 / 1006	2.5
PTC	5/7/2021	0925	Fine	0	0	0	20.9	31 / 1006	8
	5/7/2021	1425	Fine	0	0	0	20.9	32 / 1006	8
137 PTC	5/7/2021	0945	Fine	0	0	0	20.9	31 / 1006	7
	5/7/2021	1443	Fine	0	0	0	20.9	32 / 1006	7
137 PTC	5/7/2021	0955	Fine	0	0	0	20.9	31 / 1006	2.6
	5/7/2021	1455	Fine	0	0	0	20.9	32 / 1006	2.6
137 PTC	5/7/2021	1005	Fine	0	0	0	20.9	31 / 1006	2.3
	5/7/2021	1505	Fine	0	0	0	20.9	32 / 1006	2.3
WPR 1	5/7/2021	1015	Fine	0	0	0	20.9	31 / 1006	2.3
	5/7/2021	1525	Fine	0	0	0	20.9	32 / 1006	2.3

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])      *[Signature]*      5/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
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Contract no. 13/WSD/16  
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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O  
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 2	5/7/2021	1025	Fine	0	0	0	20.8	31 / 1008	2.3
	5/7/2021	1025	Fine	0	0	0	20.8	31 / 1008	2.5
WPR 3	5/7/2021	1045	Fine	0	0	0	20.8	31 / 1008	2.8
	5/7/2021	1045	Fine	0	0	0	20.8	31 / 1008	2.8
WPR 4	5/7/2021	1055	Fine	0	0	0	20.8	31 / 1008	3
	5/7/2021	1055	Fine	0	0	0	20.8	31 / 1008	3
WPR 5	5/7/2021	1105	Fine	0	0	0	20.8	31 / 1008	2.6
	5/7/2021	1105	Fine	0	0	0	20.8	31 / 1008	2.6

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe)) *[Signature]*      5/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O  
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	6-7-2021	0830	Fine	0	0	0	20.9	30 / 1007	5.5
	6-7-2021	1330	Fine	0	0	0	20.9	31 / 1006	5.5
	6-7-2021	1700	Fine	0	0	0	20.9	28 / 1005	5.5
Area B	6-7-2021	0845	Fine	0	0	0	20.9	30 / 1006	2.5
	6-7-2021	1345	Fine	0	0	0	20.9	31 / 1006	2.5
	6-7-2021	1645	Fine	0	0	0	20.9	28 / 1005	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])		6-7-2021
Laboratory Staff:			
Checked by:	C. F. Chan (Foreman)		6-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
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Contract no. 13/WSD/16  
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 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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
OK-1C 10B	6/7/2021	1355	Fine	0	0	0	20.8	30 / 1007	2-5
OK-1C 10B	6/7/2021	1355	Fine	0	0	0	20.8	31 / 1008	2-5
OK-1C 10B	6/7/2021	1400	Fine	0	0	0	20.8	30 / 1007	2-5
10C	6/7/2021	1400	Fine	0	0	0	20.8	31 / 1008	2-5
	6/7/2021	1405	Fine	0	0	0	20.8	31 / 1008	2-5
OK-1C 10C	6/7/2021	1405	Fine	0	0	0	20.8	30 / 1007	2-5
10B	6/7/2021	1405	Fine	0	0	0	20.8	31 / 1008	2-5
	6/7/2021	1455	Fine	0	0	0	20.8	31 / 1008	2-6
OK-1C 10A	6/7/2021	1505	Fine	0	0	0	20.8	31 / 1008	2-6
	6/7/2021	1510	Fine	0	0	0	20.8	30 / 1007	2-5
WPP-1	6/7/2021	1515	Fine	0	0	0	20.8	31 / 1008	2-5
	6/7/2021	1515	Fine	0	0	0	20.8	31 / 1008	2-8

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RencPipe])      [Signature]      6/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
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Contract no. 13/WSD/16  
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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O  
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
W922	6/7/2021	1025	fine	0	0	0	20.9	30 / 100	2.5
	6/7/2021	1025	fine	0	0	0	20.9	31 / 100	2.5
W923	6/7/2021	1045	fine	0	0	0	20.9	30 / 100	2.8
	6/7/2021	1045	fine	0	0	0	20.9	31 / 100	2.8
W924	6/7/2021	1055	fine	0	0	0	20.9	30 / 100	5
	6/7/2021	1055	fine	0	0	0	20.9	30 / 100	5
W925	6/7/2021	1105	fine	0	0	0	20.9	30 / 100	2.6
	6/7/2021	1105	fine	0	0	0	20.9	30 / 100	2.6
								/	/
								/	/
								/	/
								/	/
								/	/

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RencPipe])      *[Signature]*      6/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
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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 (QRAE II)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	7-7-2021	0830	Fine	0	0	0	20.9	27 / 1009	5.5
	7-7-2021	1330	Fine	0	0	0	20.9	30 / 1009	5.5
	7-7-2021	1700	Fine	0	0	0	20.9	30 / 1008	5.5
Area B	7-7-2021	0845	Fine	0	0	0	20.9	27 / 1009	2.5
	7-7-2021	1345	Fine	0	0	0	20.9	30 / 1009	2.5
	7-7-2021	1645	Fine	0	0	0	20.9	30 / 1008	2.5

	Name & Designation	Signature	Date
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])		7-7-2021
Laboratory Staff:			
Checked by:	C.F. Chan (Foreman)		7-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-PC 0138	7/7/2021	0855	Fine	0	0	0	20.9	30 / 1010	2.5
	7/7/2021	0955	Fine	0	0	0	20.9	32 / 1010	2.5
CH-PC 0164	7/7/2021	0930	Fine	0	0	0	20.9	30 / 1010	2.5
	7/7/2021	0940	Fine	0	0	0	20.9	32 / 1008	2.5
WT-PC	7/7/2021	0925	Fine	0	0	0	20.9	30 / 1010	2
	7/7/2021	1005	Fine	0	0	0	20.9	32 / 1008	2
WT-PT C	7/7/2021	0945	Fine	0	0	0	20.9	30 / 1010	2
	7/7/2021	1005	Fine	0	0	0	20.9	32 / 1008	2
WT-PT K	7/7/2021	0955	Fine	0	0	0	20.9	30 / 1010	2.6
	7/7/2021	1055	Fine	0	0	0	20.9	32 / 1008	2.6
WT-PT A	7/7/2021	1005	Fine	0	0	0	20.9	30 / 1010	2.3
	7/7/2021	1005	Fine	0	0	0	20.9	32 / 1008	2.3
WPE1	7/7/2021	1010	Fine	0	0	0	20.9	30 / 1010	2.3
	7/7/2021	1015	Fine	0	0	0	20.9	32 / 1008	2.3

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])      [Signature]      7/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
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 Penta-Ocean - Concentric Joint Venture  
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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O  
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR2	7/7/2021	1025	Fine	0	0	0	20.9	30 / 1010	3.5
	7/7/2021	1325	Fine	0	0	0	20.9	30 / 1008	3.5
WPR3	7/7/2021	1040	Fine	0	0	0	20.9	30 / 1010	2.8
	7/7/2021	1345	Fine	0	0	0	20.9	30 / 1008	2.8
P-1A	7/7/2021	1055	Fine	0	0	0	20.9	30 / 1010	5
	7/7/2021	1355	Fine	0	0	0	20.9	30 / 1008	5
P-1B	7/7/2021	1105	Fine	0	0	0	20.9	30 / 1010	3.6
	7/7/2021	1605	Fine	0	0	0	20.9	30 / 1008	3.6
								/	
								/	
								/	
								/	
								/	

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [RenoPipe]) Signature Date 7/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
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Contract no. 13/WSD/16  
 Mainlaying in Tseung Kwan O  
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**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 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	8-7-2021	0830	Fine	0	0	0	20.9	28 / 1012	2.5
	8-7-2021	1550	Fine	0	0	0	20.9	30 / 1012	2.5
	8-7-2021	1700	Fine	0	0	0	20.9	30 / 1010	2.5
Area E	8-7-2021	0845	Fine	0	0	0	20.9	28 / 1012	2.5
	8-7-2021	1345	Fine	0	0	0	20.9	30 / 1012	2.5
	8-7-2021	1645	Fine	0	0	0	20.9	30 / 1010	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])		8-7-2021
Laboratory Staff:			
Checked by:	C. F. Chan (Foreman)		8-7-2021

**Contract No. 13/WSD/16**  
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Name of site: 13/WSD/16 - Mainlaying in Tseung Kwan O  
 Date of measurement:

Sampling equipment used:	Dates calibrated
PGM-2500 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC SW	8/7/2021	0855	Fine	0	0	0	20.9	31 / 1012	2.5
CHFC SW	8/7/2021	1355	Fine	0	0	0	20.9	32 / 1010	2.5
CHFC SW	8/7/2021	0900	Fine	0	0	0	20.9	31 / 1010	2.5
CHFC SW	8/7/2021	1400	Fine	0	0	0	20.9	32 / 1010	2.5
WT C	8/7/2021	0905	Fine	0	0	0	20.9	31 / 1010	8
WT C	8/7/2021	1425	Fine	0	0	0	20.9	32 / 1010	8
WT P1C	8/7/2021	0940	Fine	0	0	0	20.9	31 / 1012	7
WT P1C	8/7/2021	1445	Fine	0	0	0	20.9	32 / 1010	7
WT P1B	8/7/2021	0955	Fine	0	0	0	20.9	31 / 1012	8.6
WT P1B	8/7/2021	1455	Fine	0	0	0	20.9	32 / 1010	8.6
WT P1A	8/7/2021	1005	Fine	0	0	0	20.9	31 / 1012	8.3
WT P1A	8/7/2021	1505	Fine	0	0	0	20.9	32 / 1010	8.3
WT P1	8/7/2021	1010	Fine	0	0	0	20.9	31 / 1012	2.48
WT P1	8/7/2021	1515	Fine	0	0	0	20.9	32 / 1010	2.48

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RencPipe])      8/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 2	8/7/2021	1025	Fine	0	0	0	20.9	31 / 1012	3.5
	8/7/2021	1028	Fine	0	0	0	20.9	32 / 1010	3.5
WPR 3	8/7/2021	1045	Fine	0	0	0	20.9	31 / 1012	2.8
	8/7/2021	1045	Fine	0	0	0	20.9	32 / 1010	2.8
PRP	8/7/2021	1053	Fine	0	0	0	20.9	31 / 1012	5
	8/7/2021	1055	Fine	0	0	0	20.9	32 / 1010	5
PRP B	8/7/2021	1105	Fine	0	0	0	20.9	31 / 1012	2.6
	8/7/2021	1105	Fine	0	0	0	20.9	32 / 1010	2.6
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								/	
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Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])      *[Signature]*      8/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
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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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	9-7-2021	0830	Fine	0	0	0	20.9	29/1011	2.5
	9-7-2021	1330	Fine	0	0	0	20.9	32/1010	2.5
Area B	9-7-2021	1700	Fine	0	0	0	20.9	31/1009	2.5
	9-7-2021	0845	Fine	0	0	0	20.9	29/1011	2.5
	9-7-2021	1345	Fine	0	0	0	20.9	32/1010	2.5
	9-7-2021	1645	Fine	0	0	0	20.9	31/1009	2.5
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	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RencPipe])		9-7-2021
Laboratory Staff:			
Checked by:	C. F. Chan (Foreman)		9-7-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

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**Contract No. 13/WSD/16**  
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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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-F-010	9/7/2021	0855	Fine	0	0	0	20.9	32 / 1011	2.5
CH-F-010	9/7/2021	1355	Fine	0	0	0	20.9	33 / 1008	2.5
CH-F-010	9/7/2021	0100	Fine	0	0	0	20.9	32 / 1011	2.5
CH-F-010	9/7/2021	1400	Fine	0	0	0	20.9	33 / 1008	2.5
Pit C	9/7/2021	0825	Fine	0	0	0	20.9	32 / 1011	8
Pit C	9/7/2021	1425	Fine	0	0	0	20.9	33 / 1008	8
B7 pit C	9/7/2021	0745	Fine	0	0	0	20.9	32 / 1011	7
B7 pit B	9/7/2021	0915	Fine	0	0	0	20.9	33 / 1008	7
B7 pit B	9/7/2021	1435	Fine	0	0	0	20.9	32 / 1011	8.6
B7 pit A	9/7/2021	1005	Fine	0	0	0	20.9	33 / 1008	8.6
B7 pit A	9/7/2021	1505	Fine	0	0	0	20.9	32 / 1011	8.3
WPR1	9/7/2021	1015	Fine	0	0	0	20.9	33 / 1008	8.3
WPR1	9/7/2021	1515	Fine	0	0	0	20.9	32 / 1011	2.8

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])      *[Signature]*      9/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE II)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 2	9/7/2020	12:25	fine	0	0	0	20.8	32 / 1011	3.5
	9/7/2020	15:35	fine	0	0	0	20.8	33 / 1008	3.5
WPR 3	9/7/2020	10:45	fine	0	0	0	20.8	32 / 1011	2.8
	9/7/2020	18:15	fine	0	0	0	20.8	33 / 1008	2.8
PR1A	9/7/2020	10:55	fine	0	0	0	20.8	32 / 1011	5
	9/7/2020	15:55	fine	0	0	0	20.8	33 / 1008	5
PR1B	9/7/2020	11:05	fine	0	0	0	20.8	32 / 1011	3.6
	9/7/2020	16:05	fine	0	0	0	20.8	33 / 1008	3.6
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								/	/
								/	/
								/	/

Name & Designation                      Signature                      Date

Field Operator:                      Ting Wai Kin (Safety Office: RenoPipe) *A*                      9/7/2020

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
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**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition:	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	10-7-2021	0830	Fine	0	0	0	20.9	30 / 1010	5.5
	10-7-2021	1330	Fine	0	0	0	20.9	32 / 1010	5.5
	10-7-2021	1700	Fine	0	0	0	20.9	31 / 1009	5.5
Area B	10-7-2021	0845	Fine	0	0	0	20.9	30 / 1010	2.5
	10-7-2021	1345	Fine	0	0	0	20.9	32 / 1010	2.5
	10-7-2021	1645	Fine	0	0	0	20.9	31 / 1009	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])		10-7-2021
Laboratory Staff:			
Checked by:	C. F. Chan (Foreman)		10-7-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
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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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
U1-PC 8730	10/7/2021	0855	Fine	0	0	0	20.9	31 / 1011	2.5
U1-PC 8730	10/7/2021	0955	Fine	0	0	0	20.9	31 / 1009	2.5
U1-PC 8730	10/7/2021	1000	Fine	0	0	0	20.9	31 / 1011	2.5
	10/7/2021	1000	Fine	0	0	0	20.9	31 / 1008	2.5
	10/7/2021	0925	Fine	0	0	0	20.9	31 / 1011	2
	10/7/2021	1025	Fine	0	0	0	20.9	31 / 1011	2
U7-PC 1	10/7/2021	0945	Fine	0	0	0	20.9	31 / 1011	2
	10/7/2021	1045	Fine	0	0	0	20.9	31 / 1009	2
U7-PC 2	10/7/2021	0955	Fine	0	0	0	20.9	31 / 1011	2.6
	10/7/2021	1055	Fine	0	0	0	20.9	31 / 1011	2.6
U7-PC 3	10/7/2021	1005	Fine	0	0	0	20.9	31 / 1011	2.6
	10/7/2021	1005	Fine	0	0	0	20.9	31 / 1011	2.6
U7-PC 4	10/7/2021	1015	Fine	0	0	0	20.9	31 / 1011	2.6
	10/7/2021	1015	Fine	0	0	0	20.9	31 / 1011	2.6
	10/7/2021	1015	Fine	0	0	0	20.9	31 / 1011	2.6
	10/7/2021	1015	Fine	0	0	0	20.9	31 / 1011	2.6

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])      *[Signature]*      10/7/2021

Laboratory Staff:

Checked by:



**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	12-7-2021	0830	Fine	0	0	0	20.9	30/1012	5.5
	12-7-2021	1330	Fine	0	0	0	20.9	33/1011	5.5
	12-7-2021	1520	Fine	0	0	0	20.9	32/1008	5.5
Area B	12-7-2021	0845	Fine	0	0	0	20.9	30/1012	2.5
	12-7-2021	1345	Fine	0	0	0	20.9	33/1010	2.5
	12-7-2021	1645	Fine	0	0	0	20.9	32/1008	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer (RenoPipe))		12-7-2021
Laboratory Staff:			
Checked by:	CHIN CHI TAI (Foreman)		12-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-PC 0155	12/7/2021	0855	Fine	0	0	0	20.9	31 / 1011	2.5
CH-PC 0155	12/7/2021	0953	Fine	0	0	0	20.9	31 / 1011	2.5
CH-PC 0155	12/7/2021	0950	Fine	0	0	0	20.9	31 / 1011	2.5
CH-PC 0155	12/7/2021	1400	Fine	0	0	0	20.9	31 / 1011	2.5
PT D	12/7/2021	0915	Fine	0	0	0	20.9	31 / 1011	1
PT D	12/7/2021	1415	Fine	0	0	0	20.9	31 / 1011	1
PT C	12/7/2021	0925	Fine	0	0	0	20.9	31 / 1011	1.5
PT C	12/7/2021	1425	Fine	0	0	0	20.9	31 / 1011	1.5
137 PTC	12/7/2021	0945	Fine	0	0	0	20.9	31 / 1011	3
137 PTC	12/7/2021	1445	Fine	0	0	0	20.9	31 / 1011	3
137 PTC	12/7/2021	0955	Fine	0	0	0	20.9	31 / 1011	2.5
137 PTC	12/7/2021	1455	Fine	0	0	0	20.9	31 / 1011	2.5
137 PTC	12/7/2021	1605	Fine	0	0	0	20.9	31 / 1011	2.5
137 PTC	12/7/2021	1505	Fine	0	0	0	20.9	31 / 1011	2.5

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RencPipe])           12/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPK 1	12/17/2021	1015	fine	0	0	0	20.9	31 / 1011	2.8
	12/17/2021	1015	fine	0	0	0	20.9	31 / 1011	2.8
WPK 2	12/17/2021	1025	fine	0	0	0	20.9	31 / 1011	3.5
	12/17/2021	1025	fine	0	0	0	20.9	31 / 1011	3.5
WPK 3	12/17/2021	1045	fine	0	0	0	20.9	31 / 1011	2.8
	12/17/2021	1045	fine	0	0	0	20.9	31 / 1011	2.8
pit A	12/17/2021	1055	fine	0	0	0	20.9	31 / 1011	5
	12/17/2021	1055	fine	0	0	0	20.9	31 / 1011	5
pit B	12/17/2021	1105	fine	0	0	0	20.9	31 / 1011	2.6
	12/17/2021	1105	fine	0	0	0	20.9	31 / 1011	2.6

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe]) *[Signature]*      12/17/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
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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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	13-7-2021	0830	Fine	0	0	0	20.9	32/1007	5.5
	13-7-2021	1330	Fine	0	0	0	20.9	32/1008	5.5
	13-7-2021	1700	Fine	0	0	0	20.9	32/1007	5.5
Area B	13-7-2021	0845	Fine	0	0	0	20.9	30/1009	2.5
	13-7-2021	1445	Fine	0	0	0	20.9	32/1008	2.5
	13-7-2021	1645	Fine	0	0	0	20.9	32/1007	2.5
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							/		
							/		

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])      *[Signature]*      13-7-2021  
 Laboratory Staff:  
 Checked by:      *[Signature]* (Inspector)      *[Signature]*      13-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
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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 (QRAE II)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC P13B	13/7/2021	0855	Fine	0	0	0	20.9	32 / 1007	2.5
	13/7/2021	1355	Fine	0	0	0	20.9	34 / 1007	2.5
CH.FC D164	13/7/2021	0900	Fine	0	0	0	20.9	32 / 1007	2.5
	13/7/2021	1400	Fine	0	0	0	20.9	34 / 1007	2.5
P1E D	13/7/2021	0915	Fine	0	0	0	20.9	32 / 1007	1
	13/7/2021	1415	Fine	0	0	0	20.9	34 / 1007	1
P1E C	13/7/2021	0925	Fine	0	0	0	20.9	32 / 1007	8
	13/7/2021	1425	Fine	0	0	0	20.9	34 / 1007	8
137 P1E C	13/7/2021	0945	Fine	0	0	0	20.9	32 / 1007	7
	13/7/2021	1445	Fine	0	0	0	20.9	34 / 1007	7
137 P1E B	13/7/2021	0955	Fine	0	0	0	20.9	32 / 1007	8.6
	13/7/2021	1455	Fine	0	0	0	20.9	34 / 1007	8.6
137 P1E A	13/7/2021	1005	Fine	0	0	0	20.9	32 / 1007	8.3
	13/7/2021	1505	Fine	0	0	0	20.9	34 / 1007	8.3

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer (RenoPipe))		13/7/2021
Laboratory Staff:			
Checked by:			

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
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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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	13/7/2021	1015	Fine	0	0	0	20.9	32 / 1009	2.8
	13/7/2021	1015	Fine	0	0	0	20.9	34 / 1007	2.8
WPR 2	13/7/2021	1025	Fine	0	0	0	20.9	32 / 1009	2.5
	13/7/2021	1025	Fine	0	0	0	20.9	34 / 1007	2.5
WPR 3	13/7/2021	1045	Fine	0	0	0	20.9	32 / 1009	2.8
	13/7/2021	1045	Fine	0	0	0	20.9	34 / 1007	2.8
Pit A	13/7/2021	1055	Fine	0	0	0	20.9	32 / 1009	5
	13/7/2021	1055	Fine	0	0	0	20.9	34 / 1007	5
Pit B	13/7/2021	1105	Fine	0	0	0	20.9	32 / 1009	2.6
	13/7/2021	1105	Fine	0	0	0	20.9	34 / 1007	2.6

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])	<i>[Signature]</i>	13/7/2021
Laboratory Staff:			
Checked by:			

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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:	Datos calibrated
PGM-2500 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	14-7-2021	0830	Fine	0	0	0	20.9	30 / 1008	2.5
	14-7-2021	1330	Fine	0	0	0	20.9	30 / 1008	2.5
	14-7-2021	1720	Fine	0	0	0	20.9	32 / 1006	2.5
Area B	14-7-2021	0845	Fine	0	0	0	20.9	30 / 1008	2.5
	14-7-2021	1345	Fine	0	0	0	20.9	30 / 1008	2.5
	14-7-2021	1645	Fine	0	0	0	20.9	32 / 1006	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer (RenoPipe))	<i>[Signature]</i>	14-7-2021
Laboratory Staff:			
Checked by:	CHEN CHI HUI (Foreman)	<i>[Signature]</i>	14-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE II)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-FC P/B	14/7/2021	0855	Fine	0	0	0	20.9	31 / (100)	2.5
	14/7/2021	1355	Fine	0	0	0	20.9	33 / (100)	2.5
CH-FC O+B	14/7/2021	0900	Fine	0	0	0	20.9	31 / (100)	2.5
	14/7/2021	1400	Fine	0	0	0	20.9	33 / (100)	2.5
P/C D	14/7/2021	0915	Fine	0	0	0	20.9	31 / (100)	1
	14/7/2021	1415	Fine	0	0	0	20.9	33 / (100)	1
P/C C	14/7/2021	0925	Fine	0	0	0	20.9	31 / (100)	8
	14/7/2021	1425	Fine	0	0	0	20.9	33 / (100)	8
137 P/C	14/7/2021	0945	Fine	0	0	0	20.9	31 / (100)	7
	14/7/2021	1445	Fine	0	0	0	20.9	33 / (100)	7
137 P/B	14/7/2021	0955	Fine	0	0	0	20.9	31 / (100)	8.6
	14/7/2021	1455	Fine	0	0	0	20.9	33 / (100)	8.6
137 P/A	14/7/2021	1005	Fine	0	0	0	20.9	31 / (100)	8.3
	14/7/2021	1505	Fine	0	0	0	20.9	33 / (100)	8.3

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))            14/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	14/7/2021	1015	Fine	0	0	0	20.9	31 / 100	2.8
	14/7/2021	1015	Fine	0	0	0	20.9	31 / 100	2.8
WPR 2	14/7/2021	1025	Fine	0	0	0	20.9	31 / 100	3.5
	14/7/2021	1025	Fine	0	0	0	20.9	31 / 100	3.5
WPR 3	14/7/2021	1045	Fine	0	0	0	20.9	31 / 100	2.8
	14/7/2021	1045	Fine	0	0	0	20.9	31 / 100	2.8
Pit A	14/7/2021	1055	Fine	0	0	0	20.9	31 / 100	5
	14/7/2021	1055	Fine	0	0	0	20.9	31 / 100	5
Pit B	14/7/2021	1105	Fine	0	0	0	20.9	31 / 100	3.6
	14/7/2021	1105	Fine	0	0	0	20.9	31 / 100	3.6

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])            14/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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-250C (GRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	15-7-2021	0830	Fine	0	0	0	20.9	31 / 1009	5.5
	15-7-2021	1330	Fine	0	0	0	20.9	33 / 1008	5.5
	15-7-2021	1700	Fine	0	0	0	20.9	32 / 1007	5.5
Area B	15-7-2021	0845	Fine	0	0	0	20.9	31 / 1009	2.5
	15-7-2021	1345	Fine	0	0	0	20.9	31 / 1008	2.5
	15-7-2021	1645	Fine	0	0	0	20.9	32 / 1007	2.5

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))      [Signature]      15-7-2021  
 Laboratory Staff:  
 Checked by:      CHAN CHI TAI (Foreman)      [Signature]      15-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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: PGM-2500 (QRAE III)	Dates calibrated 28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-FC 04B	15/7/2021	0855	Fine	0	0	0	20.9	32 / 100	2.5
		1255	Fine	0	0	0	20.9	34 / 100	2.5
CH-FC 04B4	15/7/2021	0900	Fine	0	0	0	20.9	32 / 100	2.5
		1400	Fine	0	0	0	20.9	34 / 100	2.5
PTC D	15/7/2021	0915	Fine	0	0	0	20.9	32 / 100	1
		1415	Fine	0	0	0	20.9	34 / 100	1
PTC C	15/7/2021	0925	Fine	0	0	0	20.9	32 / 100	8
		1425	Fine	0	0	0	20.9	34 / 100	8
137 PTC	15/7/2021	0945	Fine	0	0	0	20.9	32 / 100	7
		1445	Fine	0	0	0	20.9	34 / 100	7
137 PTC B	15/7/2021	0955	Fine	0	0	0	20.9	32 / 100	8-6
		1455	Fine	0	0	0	20.9	34 / 100	8-6
137 PTC A	15/7/2021	1005	Fine	0	0	0	20.9	32 / 100	8-3
		1505	Fine	0	0	0	20.9	34 / 100	8-3

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])		15/7/2021
Laboratory Staff:			
Checked by:			

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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: PGM-2500 (QRAE III)	Dates calibrated 28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	15/7/2021	1015	fine	0	0	0	20.9	32 / 1001	2.8
WPR 2	15/7/2021	1015	fine	0	0	0	20.9	34 / 1001	2.8
	15/7/2021	1025	fine	0	0	0	20.9	32 / 1001	3.5
WPR 3	15/7/2021	1025	fine	0	0	0	20.9	34 / 1001	3.5
	15/7/2021	1045	fine	0	0	0	20.9	32 / 1001	2.8
pit A	15/7/2021	1045	fine	0	0	0	20.9	34 / 1001	2.8
	15/7/2021	1055	fine	0	0	0	20.9	34 / 1001	5
pit B	15/7/2021	1055	fine	0	0	0	20.9	34 / 1001	5
	15/7/2021	1105	fine	0	0	0	20.9	32 / 1001	3.6
	15/7/2021	1605	fine	0	0	0	20.9	34 / 1000	3.6

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])      *[Signature]*      15/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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-250C (GRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	16-7-2021	0830	Rain	0	0	0	20.9	29 / 1010	2.5
	16-7-2021	1330	Rain	0	0	0	20.9	30 / 1008	2.5
	16-7-2021	1700	Rain	0	0	0	20.9	29 / 1006	2.5
Area B	16-7-2021	0845	Rain	0	0	0	20.9	29 / 1010	2.5
	16-7-2021	1345	Rain	0	0	0	20.9	30 / 1008	2.5
	16-7-2021	1645	Rain	0	0	0	20.9	29 / 1006	2.5

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))      *[Signature]*      16-7-2021

Laboratory Staff:

Checked by:      *Chan Kai Fat (Forster)*      *[Signature]*      16-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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: PGM-2500 (QRAE II)	Dates calibrated 28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-FC #08	16/7/2021	0855	Rain	0	0	0	20.9	30 / 1009	2.5
	16/7/2021	1255	Rain	0	0	0	20.9	30 / 1007	2.5
CH-FC #064	16/7/2021	0900	Rain	0	0	0	20.9	30 / 1009	2.5
	16/7/2021	1400	Rain	0	0	0	20.9	30 / 1007	2.5
PTC D	16/7/2021	0915	Rain	0	0	0	20.9	30 / 1009	1
	16/7/2021	1415	Rain	0	0	0	20.9	30 / 1007	1
PTC C	16/7/2021	0925	Rain	0	0	0	20.9	30 / 1007	8
	16/7/2021	1425	Rain	0	0	0	20.9	30 / 1007	8
137 PTC	16/7/2021	0945	Rain	0	0	0	20.9	30 / 1007	7
	16/7/2021	1445	Rain	0	0	0	20.9	30 / 1007	7
137 PTC B	16/7/2021	0955	Rain	0	0	0	20.9	30 / 1007	8-6
	16/7/2021	1455	Rain	0	0	0	20.9	30 / 1007	8-6
137 PTC A	16/7/2021	1005	Rain	0	0	0	20.9	30 / 1007	8-3
	16/7/2021	1505	Rain	0	0	0	20.9	30 / 1007	8-3

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))           16/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	16 / 7 / 2021	1015	Rain	0	0	0	20.9	30 / 100	2-4
	16 / 7 / 2021	1515	Rain	0	0	0	20.9	30 / 100	2-4
WPR 2	16 / 7 / 2021	1025	Rain	0	0	0	20.9	30 / 100	3-5
	16 / 7 / 2021	1525	Rain	0	0	0	20.9	30 / 100	3-5
WPR 3	16 / 7 / 2021	1045	Rain	0	0	0	20.9	30 / 100	2-3
	16 / 7 / 2021	1545	Rain	0	0	0	20.9	30 / 100	2-3
PIT A	16 / 7 / 2021	1055	Rain	0	0	0	20.9	30 / 100	5
	16 / 7 / 2021	1555	Rain	0	0	0	20.9	30 / 100	5
PIT B	16 / 7 / 2021	1105	Rain	0	0	0	20.9	30 / 100	3-6
	16 / 7 / 2021	1605	Rain	0	0	0	20.9	30 / 100	3-6

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe]) *[Signature]*      16 / 7 / 2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	17-7-2021	0830	Fine	0	0	0	20.9	29 / 1006	2.5
	17-7-2021	1330	Fine	0	0	0	20.9	29 / 1005	2.5
	17-7-2021	1700	Fine	0	0	0	20.9	28 / 1004	2.5
Area B	17-7-2021	0845	Fine	0	0	0	20.9	29 / 1006	2.5
	17-7-2021	1345	Fine	0	0	0	20.9	29 / 1005	2.5
	17-7-2021	1645	Fine	0	0	0	20.9	28 / 1004	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])	<i>[Signature]</i>	17-7-2021
Laboratory Staff:			
Checked by:	CHAN CHI FAI (Foreman)	<i>[Signature]</i>	17-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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: PGM-2500 (QRAE III)	Dates calibrated 28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-EC 016B	17/7/2021	0855	Fine	0	0	0	20.9	21 / 1006	2.5
CH-EC 016A	17/7/2021	1355	Fine	0	0	0	20.9	30 / 1004	2.5
		0900	Fine	0	0	0	20.9	29 / 1006	2.5
PTE D	17/7/2021	1400	Fine	0	0	0	20.9	30 / 1004	2.5
		0915	Fine	0	0	0	20.9	28 / 1006	1
PTE C	17/7/2021	1415	Fine	0	0	0	20.9	30 / 1004	1
		0925	Fine	0	0	0	20.9	28 / 1006	8
137 PTE C	17/7/2021	1435	Fine	0	0	0	20.9	30 / 1004	8
		0945	Fine	0	0	0	20.9	28 / 1006	7
137 PTE B	17/7/2021	1445	Fine	0	0	0	20.9	30 / 1004	7
		0955	Fine	0	0	0	20.9	28 / 1006	6-6
137 PTE A	17/7/2021	1455	Fine	0	0	0	20.9	30 / 1004	6-6
		1005	Fine	0	0	0	20.9	28 / 1006	6-3
	17/7/2021	1505	Fine	0	0	0	20.9	30 / 1004	6-3

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])		17/7/2021
Laboratory Staff:			
Checked by:			

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
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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 (QRAE II)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	17/7/2021	1015	Fine	0	0	0	20.9	29 / 1006	2.8
	17/7/2021	1015	Fine	0	0	0	20.9	30 / 1004	2.8
WPR 2	17/7/2021	1025	Fine	0	0	0	20.9	21 / 1006	3.5
	17/7/2021	1525	Fine	0	0	0	20.9	30 / 1004	3.5
WPR 3	17/7/2021	1045	Fine	0	0	0	20.9	21 / 1006	2.8
	17/7/2021	1545	Fine	0	0	0	20.9	30 / 1004	2.8
Pit A	17/7/2021	1055	Fine	0	0	0	20.9	21 / 1006	5
	17/7/2021	1555	Fine	0	0	0	20.9	30 / 1004	5
Pit B	17/7/2021	1105	Fine	0	0	0	20.9	21 / 1006	3.6
	17/7/2021	1605	Fine	0	0	0	20.9	30 / 1004	3.6

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))      *[Signature]*      17/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	19-7-2021	0830	Fine	0	0	0	20.9	26 / 1002	2.5
	19-7-2021	1330	Fine	0	0	0	20.9	25 / 1002	2.5
	19-7-2021	1700	Fine	0	0	0	20.9	25 / 1001	2.5
Area B	19-7-2021	0845	Fine	0	0	0	20.9	26 / 1002	2.5
	19-7-2021	1345	Fine	0	0	0	20.9	25 / 1002	2.5
	19-7-2021	1645	Fine	0	0	0	20.9	25 / 1001	2.5

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RencPipe))      *TW*      19-7-2021

Laboratory Staff:

Checked by:      C.F. Chan (Freeman)      *CF*      19-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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-25C0 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 83B	19/7/2021	0855	Fine	0	0	0	20.9	27/100	2.5
		1355	Fine	0	0	0	20.9	27/100	2.5
CH.FC 0464	19/7/2021	0900	Fine	0	0	0	20.9	27/100	2.5
		1400	Fine	0	0	0	20.9	27/100	2.5
PTE D	19/7/2021	0915	Fine	0	0	0	20.9	27/100	1
		1415	Fine	0	0	0	20.9	27/100	1
PTE C	19/7/2021	0925	Fine	0	0	0	20.9	27/100	8
		1425	Fine	0	0	0	20.9	27/100	8
137 PTE	19/7/2021	0945	Fine	0	0	0	20.9	27/100	7
		1445	Fine	0	0	0	20.9	27/100	7
137 PTE B	19/7/2021	0955	Fine	0	0	0	20.9	27/100	8.6
		1455	Fine	0	0	0	20.9	27/100	8.6
137 PTE A	19/7/2021	1005	Fine	0	0	0	20.9	27/100	8.3
		1505	Fine	0	0	0	20.9	27/100	8.3

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])           19/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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-2800 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	19/7/2021	1015	Fine	0	0	0	20.9	27 / 100	2-8
WPR 2	19/7/2021	1035	Fine	0	0	0	20.9	27 / 100	2-8
WPR 3	19/7/2021	1055	Fine	0	0	0	20.9	27 / 100	3-5
Pit A	19/7/2021	1045	Fine	0	0	0	20.9	27 / 100	2-8
		1045	Fine	0	0	0	20.9	27 / 100	2-8
Pit B	19/7/2021	1055	Fine	0	0	0	20.9	27 / 100	5
		1105	Fine	0	0	0	20.9	27 / 100	5
		1105	Fine	0	0	0	20.9	27 / 100	3.6
		1605	Fine	0	0	0	20.9	27 / 100	3.6

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])      *[Signature]*      19/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



Contract no. 13/WSD/16  
 Mainlaying in Tseung Kwan O  
 Penta-Ocean - Con. centric 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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	20-7-2021	0830	Rain	0	0	0	20.9	25/1003	5.5
	20-7-2021	1330	Rain	0	0	0	20.9	24/1003	5.5
	20-7-2021	1700	Rain	0	0	0	20.9	25/1001	5.5
Area B	20-7-2021	0845	Rain	0	0	0	20.9	25/1003	2.5
	20-7-2021	1345	Rain	0	0	0	20.9	24/1000	2.5
	20-7-2021	1645	Rain	0	0	0	20.9	25/1001	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])	<i>[Signature]</i>	20-7-2021
Laboratory Staff:			
Checked by:	C.F. Chan (Foreman)	<i>[Signature]</i>	20-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balanced gas (%)	Flammable gas (methane %)	Carbon monoxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 838	20/7/2021	0855	Rain	0	0	0	20.9	26 / (100)	2.5
CH.FC 0164	20/7/2021	1355	Rain	0	0	0	20.9	26 / (100)	2.5
	20/7/2021	0900	Rain	0	0	0	20.9	26 / (100)	2.5
pit D	20/7/2021	1400	Rain	0	0	0	20.9	26 / (100)	2.5
	20/7/2021	0915	Rain	0	0	0	20.9	26 / (100)	1
pit C	20/7/2021	1415	Rain	0	0	0	20.9	26 / (100)	1
	20/7/2021	0925	Rain	0	0	0	20.9	26 / (100)	8
137 pit C	20/7/2021	1425	Rain	0	0	0	20.9	26 / (100)	8
	20/7/2021	0945	Rain	0	0	0	20.9	26 / (100)	7
137 pit B	20/7/2021	1445	Rain	0	0	0	20.9	26 / (100)	7
	20/7/2021	0955	Rain	0	0	0	20.9	26 / (100)	8.6
137 pit A	20/7/2021	1455	Rain	0	0	0	20.9	26 / (100)	8.6
	20/7/2021	1005	Rain	0	0	0	20.9	26 / (100)	8.3
	20/7/2021	1505	Rain	0	0	0	20.9	26 / (100)	8.3

Name & Designation: Ting Wai Kin (Safety Officer [RenoPipe])  
 Signature:   
 Date: 20/7/2021

Field Operator:   
 Laboratory Staff:   
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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: PGM-2500 (QRAE III)	Dates calibrated 28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	20/7/2021	1015	Rain	0	0	0	20.9	26 / 100	2.8
	20/7/2021	1015	Rain	0	0	0	20.9	26 / 100	2.8
WPR 2	20/7/2021	1025	Rain	0	0	0	20.9	26 / 100	3.5
	20/7/2021	1025	Rain	0	0	0	20.9	26 / 100	3.5
WPR 3	20/7/2021	1045	Rain	0	0	0	20.9	26 / 100	2.8
	20/7/2021	1045	Rain	0	0	0	20.9	26 / 100	2.8
Pit A	20/7/2021	1055	Rain	0	0	0	20.9	26 / 100	5
	20/7/2021	1055	Rain	0	0	0	20.9	26 / 100	5
Pit B	20/7/2021	1105	Rain	0	0	0	20.9	26 / 100	3.6
	20/7/2021	1105	Rain	0	0	0	20.9	26 / 100	3.6

	Name & Designation	Signature	Date
Field Operator:	Ting Wai Kin (Safety Officer [Renopipe])		20/7/2021
Laboratory Staff:			
Checked by:			

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	21-7-2021	0850	Rain	0	0	0	20.9	26/100%	5.5
	21-7-2021	1350	Rain	0	0	0	20.9	27/100%	5.5
Area B	21-7-2021	1700	Rain	0	0	0	20.9	27/100%	5.5
	21-7-2021	0845	Rain	0	0	0	20.9	28/100%	2.5
	21-7-2021	1345	Rain	0	0	0	20.9	29/100%	2.5
	21-7-2021	1645	Rain	0	0	0	20.9	29/100%	2.5
								/	
								/	
								/	
								/	
								/	
								/	
								/	

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))      [Signature]      21-7-2021  
 Laboratory Staff:  
 Checked by:      C.F. Chan (Foreman)      [Signature]      21-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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-2560 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-EC 83B	21/7/2021	0855	Rain	0	0	0	20.9	27 / 1004	2.5
	21/7/2021	1355	Rain	0	0	0	20.9	27 / 1002	2.5
CH-EC 0164	21/7/2021	0900	Rain	0	0	0	20.9	27 / 1004	2.5
	21/7/2021	1400	Rain	0	0	0	20.9	27 / 1004	2.5
pit D	21/7/2021	0915	Rain	0	0	0	20.9	27 / 1004	1
	21/7/2021	1415	Rain	0	0	0	20.9	27 / 1002	1
pit E	21/7/2021	0925	Rain	0	0	0	20.9	27 / 1004	8
	21/7/2021	1425	Rain	0	0	0	20.9	27 / 1002	8
137 pit C	21/7/2021	0945	Rain	0	0	0	20.9	27 / 1004	7
	21/7/2021	1445	Rain	0	0	0	20.9	27 / 1002	7
137 pit B	21/7/2021	0955	Rain	0	0	0	20.9	27 / 1004	8-6
	21/7/2021	1455	Rain	0	0	0	20.9	27 / 1002	8-6
137 pit A	21/7/2021	1005	Rain	0	0	0	20.9	27 / 1004	8-3
	21/7/2021	1505	Rain	0	0	0	20.9	27 / 1002	8-3

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])           21/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	21/7/2021	1015	Rain	0	0	0	20.9	27 / 1004	2.8
WPR 2	21/7/2021	1515	Rain	0	0	0	20.9	27 / 1002	2.8
	21/7/2021	1025	Rain	0	0	0	20.9	27 / 1004	3.5
WPR 3	21/7/2021	1525	Rain	0	0	0	20.9	27 / 1002	3.5
	21/7/2021	1045	Rain	0	0	0	20.9	27 / 1004	2.8
Pit A	21/7/2021	1545	Rain	0	0	0	20.9	27 / 1004	2.8
	21/7/2021	1055	Rain	0	0	0	20.9	27 / 1002	5
Pit B	21/7/2021	1855	Rain	0	0	0	20.9	27 / 1003	5
	21/7/2021	1105	Rain	0	0	0	20.9	27 / 1004	3.6
	21/7/2021	1605	Rain	0	0	0	20.9	27 / 1002	3.6

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe]) *[Signature]*      21/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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-2530 (QRAE III)	29 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	22-7-2021	0830	Fine	0	0	0	20.9	28/1000	2.5
	22-7-2021	1330	Fine	0	0	0	20.9	31/1001	2.5
	22-7-2021	1700	Fine	0	0	0	20.9	31/999	2.5
Area B	22-7-2021	0845	Fine	0	0	0	20.9	29/1000	2.5
	22-7-2021	1545	Fine	0	0	0	20.9	31/1001	2.5
	22-7-2021	1645	Fine	0	0	0	20.9	31/999	2.5

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))      [Signature]      22-7-2021  
 Laboratory Staff:  
 Checked by:      C.F. Chan (Foreman)      [Signature]      22-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-EC 83B	22/7/2021	0855	Fine	0	0	0	20.9	30 / 1002	2.5
	22/7/2021	1355	Fine	0	0	0	20.9	32 / 1000	2.5
CH-EC 0464	22/7/2021	0900	Fine	0	0	0	20.9	30 / 1002	2.5
	22/7/2021	1400	Fine	0	0	0	20.9	32 / 1000	2.5
PIT D	22/7/2021	0915	Fine	0	0	0	20.9	30 / 1002	1
	22/7/2021	1415	Fine	0	0	0	20.9	32 / 1000	1
PIT C	22/7/2021	0925	Fine	0	0	0	20.9	30 / 1002	8
	22/7/2021	1425	Fine	0	0	0	20.9	32 / 1000	8
137 PIT C	22/7/2021	0945	Fine	0	0	0	20.9	30 / 1002	7
	22/7/2021	1445	Fine	0	0	0	20.9	32 / 1000	7
137 PIT B	22/7/2021	0955	Fine	0	0	0	20.9	30 / 1000	8.6
	22/7/2021	1455	Fine	0	0	0	20.9	32 / 1000	8.6
137 PIT A	22/7/2021	1005	Fine	0	0	0	20.9	30 / 1001	8.3
	22/7/2021	1505	Fine	0	0	0	20.9	32 / 1000	8.3

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])           22/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	22/7/2021	1015	Fine	0	0	0	20.9	30 / 1002	2.8
		1515	Fine	0	0	0	20.9	32 / 1000	2.8
WPR 2	22/7/2021	1025	Fine	0	0	0	20.9	30 / 1002	3.5
		1525	Fine	0	0	0	20.9	32 / 1000	3.5
WPR 3	22/7/2021	1045	Fine	0	0	0	20.9	30 / 1000	2.8
		1545	Fine	0	0	0	20.9	32 / 1000	2.8
Pit A	22/7/2021	1055	Fine	0	0	0	20.9	30 / 1000	5
		1555	Fine	0	0	0	20.9	32 / 1000	5
Pit B	22/7/2021	1105	Fine	0	0	0	20.9	30 / 1002	3.6
		1605	Fine	0	0	0	20.9	32 / 1000	3.6
								/	
								/	

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipes])		22/7/2021
Laboratory Staff:			
Checked by:			

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	23-7-2021	0850	Fine	0	0	0	20.9	29/999	2.5
	23-7-2021	1350	Fine	0	0	0	20.9	33/997	2.5
	23-7-2021	1700	Fine	0	0	0	20.9	39/996	2.5
Area B	23-7-2021	0845	Fine	0	0	0	20.9	29/999	2.5
	23-7-2021	1345	Fine	0	0	0	20.9	33/997	2.5
	23-7-2021	1645	Fine	0	0	0	20.9	33/996	2.5

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))           23-7-2021  
 Laboratory Staff:  
 Checked by:      C. F. Chan (Foreman)           23-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-FC 83B	23/7/2021	0855	Fine	0	0	0	20.9	31 / 999	2.5
	23/7/2021	1355	Fine	0	0	0	20.9	33 / 999	2.5
CH-FC 0164	23/7/2021	0900	Fine	0	0	0	20.9	31 / 999	2.5
	23/7/2021	1400	Fine	0	0	0	20.9	33 / 999	2.5
PIT D	23/7/2021	0915	Fine	0	0	0	20.9	31 / 999	1
	23/7/2021	1415	Fine	0	0	0	20.9	33 / 999	1
PIT C	23/7/2021	0925	Fine	0	0	0	20.9	31 / 999	3
	23/7/2021	1425	Fine	0	0	0	20.9	33 / 999	3
137 PIT C	23/7/2021	0945	Fine	0	0	0	20.9	31 / 999	1
	23/7/2021	1445	Fine	0	0	0	20.9	33 / 999	1
137 PIT B	23/7/2021	0955	Fine	0	0	0	20.9	31 / 999	8.6
	23/7/2021	1455	Fine	0	0	0	20.9	33 / 999	8.6
137 PIT A	23/7/2021	1005	Fine	0	0	0	20.9	31 / 999	8.3
	23/7/2021	1505	Fine	0	0	0	20.9	33 / 999	8.3

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])           23/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample Location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	23/7/2021	1015	Fine	0	0	0	20.9	31 / 999	2.8
	23/7/2021	1515	Fine	0	0	0	20.9	33 / 999	2.8
WPR 2	23/7/2021	1025	Fine	0	0	0	20.9	31 / 999	3.5
	23/7/2021	1525	Fine	0	0	0	20.9	33 / 999	3.5
WPR 3	23/7/2021	1045	Fine	0	0	0	20.9	31 / 999	2.5
	23/7/2021	1545	Fine	0	0	0	20.9	31 / 999	2.8
Pit A	23/7/2021	1055	Fine	0	0	0	20.9	31 / 999	5
	23/7/2021	1555	Fine	0	0	0	20.9	33 / 999	5
Pit B	23/7/2021	1105	Fine	0	0	0	20.9	31 / 999	3.6
	23/7/2021	1605	Fine	0	0	0	20.9	33 / 999	3.6
								/	/
								/	/
								/	/

Name & Designation                      Signature                      Date

Field Operator:                      Ting Wai Kin (Safety Officer (RenoPipe)) *[Signature]*                      23/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	24-7-2021	0830	Fine	0	0	0	20.9	26 / 998	2.5
	24-7-2021	1330	Fine	0	0	0	20.9	32 / 997	2.5
	24-7-2021	1700	Fine	0	0	0	20.9	32 / 996	2.5
Area B	24-7-2021	0845	Fine	0	0	0	20.9	26 / 998	2.5
	24-7-2021	1345	Fine	0	0	0	20.9	29 / 997	2.5
	24-7-2021	1645	Fine	0	0	0	20.9	32 / 996	2.5

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))      *[Signature]*      24-7-2021  
 Laboratory Staff:  
 Checked by:      *C.F. Chan (Foreman)*      *[Signature]*      24-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH.FC 83B	24/7/2021	0855	Fine	0	0	0	20.9	30 / 999	2.5
	24/7/2021	1355	Fine	0	0	0	20.9	32 / 999	2.5
CH.FC 0164	24/7/2021	0900	Fine	0	0	0	20.9	30 / 999	2.5
	24/7/2021	1400	Fine	0	0	0	20.9	32 / 999	2.5
PTC D	24/7/2021	0915	Fine	0	0	0	20.9	30 / 999	2.5
	24/7/2021	1415	Fine	0	0	0	20.9	32 / 999	2.5
PTC C	24/7/2021	0925	Fine	0	0	0	20.9	30 / 999	8
	24/7/2021	1425	Fine	0	0	0	20.9	32 / 999	8
137 PTC	24/7/2021	0945	Fine	0	0	0	20.9	30 / 999	7
	24/7/2021	1445	Fine	0	0	0	20.9	32 / 999	7
137 PTA B	24/7/2021	0955	Fine	0	0	0	20.9	30 / 999	8.6
	24/7/2021	1455	Fine	0	0	0	20.9	32 / 999	8.6
137 PTA A	24/7/2021	1005	Fine	0	0	0	20.9	30 / 999	8.3
	24/7/2021	1505	Fine	0	0	0	20.9	32 / 999	8.3

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RencPipe])		24/7/2021
Laboratory Staff:			
Checked by:			

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	24/7/2021	1015	fine	0	0	0	20.9	30 / 999	2.8
	24/7/2021	1035	fine	0	0	0	20.9	32 / 999	2.8
WPR 2	24/7/2021	1025	fine	0	0	0	20.9	30 / 999	3.5
	24/7/2021	1525	fine	0	0	0	20.9	32 / 999	3.5
WPR 3	24/7/2021	1045	fine	0	0	0	20.9	30 / 999	2.8
	24/7/2021	1545	fine	0	0	0	20.9	32 / 999	2.8
Pit A	24/7/2021	1055	fine	0	0	0	20.9	30 / 999	5
	24/7/2021	1555	fine	0	0	0	20.9	32 / 999	5
Pit B	24/7/2021	1105	fine	0	0	0	20.9	30 / 999	3.6
	24/7/2021	1605	fine	0	0	0	20.9	32 / 999	3.6
								/	
								/	

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])		24/7/2021
Laboratory Staff:			
Checked by:			

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	26-7-2021	0850	Fine	0	0	0	20.9	29 / 994	5.5
	26-7-2021	1350	Fine	0	0	0	20.9	30 / 997	5.5
	26-7-2021	1700	Fine	0	0	0	20.9	31 / 996	5.5
Area B	26-7-2021	0845	Fine	0	0	0	20.9	29 / 994	2.5
	26-7-2021	1345	Fine	0	0	0	20.9	30 / 997	2.5
	26-7-2021	1645	Fine	0	0	0	20.9	31 / 996	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer (RenoPipe))	<i>[Signature]</i>	26-7-2021
Laboratory Staff:			
Checked by:	C. Fokam (Foreman)	<i>[Signature]</i>	26-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



Contract no. 13/WSD/16  
 Mainlaying in Tseung Kwan O  
 Perita-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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-FC 838	26/7/2021	0855	Fine	0	0	0	20.9	31 / 995	2.5
		1355	Fine	0	0	0	20.9	33 / 995	2.5
CH-FC 0164	26/7/2021	0900	Fine	0	0	0	20.9	31 / 997	2.5
		1400	Fine	0	0	0	20.9	33 / 995	2.5
pit D	26/7/2021	0915	Fine	0	0	0	20.9	31 / 997	2.5
		1415	Fine	0	0	0	20.9	33 / 995	2.5
pit C	26/7/2021	0925	Fine	0	0	0	20.9	31 / 997	B
		1425	Fine	0	0	0	20.9	33 / 995	B
137 pit C	26/7/2021	0945	Fine	0	0	0	20.9	31 / 997	F
		1445	Fine	0	0	0	20.9	33 / 995	F
137 pit B	26/7/2021	0955	Fine	0	0	0	20.9	31 / 997	8.6
		1455	Fine	0	0	0	20.9	33 / 995	8.6
137 pit A	26/7/2021	1005	Fine	0	0	0	20.9	31 / 997	8.3
		1505	Fine	0	0	0	20.9	33 / 995	8.3

Name & Designation      Signature      Date  
 Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))            26/7/2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	26/7/2021	1015	Fine	0	0	0	20.9	31 / 997	2.8
	26/7/2021	1015	Fine	0	0	0	20.9	33 / 995	2.8
WPR 2	26/7/2021	1025	Fine	0	0	0	20.9	31 / 997	3.5
	26/7/2021	1025	Fine	0	0	0	20.9	33 / 995	3.5
WPR 3	26/7/2021	1045	Fine	0	0	0	20.9	31 / 997	2.8
	26/7/2021	1045	Fine	0	0	0	20.9	33 / 995	2.8
Pit A	26/7/2021	1055	Fine	0	0	0	20.9	31 / 997	5
	26/7/2021	1055	Fine	0	0	0	20.9	33 / 995	5
Pit B	26/7/2021	1105	Fine	0	0	0	20.9	31 / 997	3.6
	26/7/2021	1105	Fine	0	0	0	20.9	33 / 995	3.6
								/	
								/	
								/	

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))      *[Signature]*      26/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Bal ance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	27-7-2021	0830	Fine	0	0	0	20.9	30 / 997	5.5
	27-7-2021	1330	Fine	0	0	0	20.9	34 / 995	5.5
	27-7-2021	1700	Fine	0	0	0	20.9	32 / 995	5.5
Area B	27-7-2021	0845	Fine	0	0	0	20.9	30 / 997	2.5
	27-7-2021	1345	Fine	0	0	0	20.9	34 / 995	2.5
	27-7-2021	1645	Fine	0	0	0	20.9	32 / 995	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer (RenoPipe))	<i>[Signature]</i>	27-7-2021
Laboratory Staff:			
Checked by:	C. Fichan (Foreman)	<i>[Signature]</i>	27-7-2021

ENVIRONMENTAL RESOURCES MANAGEMENT

ENVIRONMENTAL PROTECTION DEPARTMENT

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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
FGM-2500 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-FC 838B	27/7/2021	0855	Fine	0	0	0	20.9	32 / 997	2.5
		1355	Fine	0	0	0	20.9	34 / 996	2.5
CH-FC 0764	27/7/2021	0900	Fine	0	0	0	20.9	32 / 997	2.5
		1400	Fine	0	0	0	20.9	34 / 996	2.5
PFC D	27/7/2021	0915	Fine	0	0	0	20.9	32 / 997	2.5
		1415	Fine	0	0	0	20.9	34 / 996	2.5
PFC C	27/7/2021	0925	Fine	0	0	0	20.9	32 / 997	8
		1425	Fine	0	0	0	20.9	34 / 996	8
137 PFC	27/7/2021	0945	Fine	0	0	0	20.9	32 / 997	7
		1445	Fine	0	0	0	20.9	34 / 996	7
137 PFC B	27/7/2021	0955	Fine	0	0	0	20.9	32 / 997	8.6
		1455	Fine	0	0	0	20.9	34 / 996	8.6
137 PFC A	27/7/2021	1005	Fine	0	0	0	20.9	32 / 997	8.3
		1505	Fine	0	0	0	20.9	34 / 996	8.3

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))            27/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2020

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	27/7/2021	1015	Fine	0	0	0	20.9	32 / 997	2.8
WPR 2	27/7/2021	1035	Fine	0	0	0	20.9	34 / 996	2.8
	27/7/2021	1025	Fine	0	0	0	20.9	32 / 997	3.5
WPR 3	27/7/2021	1025	Fine	0	0	0	20.9	34 / 996	3.5
	27/7/2021	1045	Fine	0	0	0	20.9	32 / 997	2.8
Pit A	27/7/2021	1045	Fine	0	0	0	20.9	34 / 996	2.8
	27/7/2021	1055	Fine	0	0	0	20.9	32 / 997	5
Pit B	27/7/2021	1055	Fine	0	0	0	20.9	34 / 996	5
	27/7/2021	1105	Fine	0	0	0	20.9	32 / 997	3.6
	27/7/2021	1605	Fine	0	0	0	20.9	34 / 996	3.6

Name & Designation                      Signature                      Date

Field Operator:                      Ting Wai Kin (Safety Officer [RenoPipe]) *[Signature]*                      27/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



Contract no. 13/WSD/16  
 Mainlaying in Tseung Kwan O  
 Penta-Ocean - Co-centric 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 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	28-7-2021	0830	Fine	0	0	0	20.9	31 / 997	5.5
	28-7-2021	1330	Fine	0	0	0	20.9	33 / 996	5.5
	28-7-2021	1700	Fine	0	0	0	20.9	30 / 995	5.5
Area B	28-7-2021	0845	Fine	0	0	0	20.9	31 / 997	2.5
	28-7-2021	1345	Fine	0	0	0	20.9	33 / 996	2.5
	28-7-2021	1645	Fine	0	0	0	20.9	30 / 995	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer (RencPipe))	<i>[Signature]</i>	28-7-2021
Laboratory Staff:			
Checked by:	<i>[Signature]</i> (Foreman)	<i>[Signature]</i>	28-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-FC 01B3	28/7/2021	0855	Fine	0	0	0	20.9	31 / 99.8	2.5
CH-FC 01B4	28/7/2021	1355	Fine	0	0	0	20.9	33 / 99.8	2.5
		0900	Fine	0	0	0	20.9	31 / 99.8	2.5
pit D	28/7/2021	1400	Fine	0	0	0	20.9	33 / 99.7	2.5
		0915	Fine	0	0	0	20.9	31 / 99.8	2.5
pit C	28/7/2021	1415	Fine	0	0	0	20.9	33 / 99.7	2.5
		0925	Fine	0	0	0	20.9	31 / 99.8	8
137 pit C	28/7/2021	1425	Fine	0	0	0	20.9	33 / 99.7	8
		0945	Fine	0	0	0	20.9	31 / 99.8	7
137 pit B	28/7/2021	1445	Fine	0	0	0	20.9	33 / 99.7	7
		0955	Fine	0	0	0	20.9	31 / 99.8	8.6
137 pit A	28/7/2021	1455	Fine	0	0	0	20.9	33 / 99.7	8.6
		1005	Fine	0	0	0	20.9	31 / 99.8	8.3
	28/7/2021	1505	Fine	0	0	0	20.9	33 / 99.7	8.3

Name & Designation: Ting Wai Kin (Safety Officer [RenoPipe])  
 Signature:   
 Date: 28/7/2021  
 Field Operator:  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide (%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	28/7/2021	1015	Fine	0	0	0	20.9	31 / 998	2.8
	28/7/2021	1015	Fine	0	0	0	20.9	33 / 997	2.8
WPR 2	28/7/2021	1025	Fine	0	0	0	20.9	31 / 998	3.5
	28/7/2021	1525	Fine	0	0	0	20.9	33 / 997	3.5
WPR 3	28/7/2021	1045	Fine	0	0	0	20.9	31 / 998	2.8
	28/7/2021	1545	Fine	0	0	0	20.9	33 / 997	2.8
Pit A	28/7/2021	1055	Fine	0	0	0	20.9	31 / 998	5
	28/7/2021	1355	Fine	0	0	0	20.9	33 / 997	5
Pit B	28/7/2021	1105	Fine	0	0	0	20.9	31 / 998	3.6
	28/7/2021	1605	Fine	0	0	0	20.9	33 / 997	3.6

	Name & Designation	Signature	Date
Field Operator:	Ting Wai Kin (Safety Officer (RenoPipe))	<i>[Signature]</i>	28/7/2021
Laboratory Staff:			
Checked by:			

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	29-7-2021	0830	Fine	0	0	0	20.9	29/1000	2.5
	29-7-2021	1430	Fine	0	0	0	20.9	29/1000	2.5
	29-7-2021	1700	Fine	0	0	0	20.9	28/998	2.5
Area B	29-7-2021	0845	Fine	0	0	0	20.9	29/1000	2.5
	29-7-2021	1345	Fine	0	0	0	20.9	29/999	2.5
	29-7-2021	1645	Fine	0	0	0	20.9	28/998	2.5

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))      *[Signature]*      29-7-2021

Laboratory Staff:

Checked by:      *C.F. Chan (Foreman)*      *[Signature]*      29-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-FC 838	29/7/2021	0855	Fine	0	0	0	20.9	30 / 999	2.5
	29/7/2021	1255	Fine	0	0	0	20.9	31 / 999	2.5
CH-FC 0464	29/7/2021	0900	Fine	0	0	0	20.9	30 / 1001	2.5
	29/7/2021	1400	Fine	0	0	0	20.9	31 / 999	2.5
prc D	29/7/2021	0915	Fine	0	0	0	20.9	30 / 1001	2.5
	29/7/2021	1415	Fine	0	0	0	20.9	31 / 999	2.5
prc C	29/7/2021	0925	Fine	0	0	0	20.9	30 / 1001	8
	29/7/2021	1425	Fine	0	0	0	20.9	31 / 999	8
137 prc C	29/7/2021	0945	Fine	0	0	0	20.9	30 / 1001	7
	29/7/2021	1445	Fine	0	0	0	20.9	31 / 1001	7
137 prc B	29/7/2021	0955	Fine	0	0	0	20.9	31 / 1001	8.6
	29/7/2021	1455	Fine	0	0	0	20.9	31 / 999	8.6
137 prc B	29/7/2021	1005	Fine	0	0	0	20.9	30 / 1001	8.3
	29/7/2021	1505	Fine	0	0	0	20.9	31 / 999	8.3

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))           29/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	29/7/2021	1015	Fine	0	0	0	20.9	30 / 1001	2.8
	29/7/2021	1035	Fine	0	0	0	20.9	31 / 999	2.8
WPR 2	29/7/2021	1025	Fine	0	0	0	20.9	30 / 1001	3.5
	29/7/2021	1025	Fine	0	0	0	20.9	31 / 999	3.5
WPR 3	29/7/2021	1045	Fine	0	0	0	20.9	30 / 1001	2.8
	29/7/2021	1045	Fine	0	0	0	20.9	31 / 999	2.8
Pit A	29/7/2021	1055	Fine	0	0	0	20.9	30 / 1001	5
	29/7/2021	1055	Fine	0	0	0	20.9	31 / 999	5
Pit B	29/7/2021	1105	Fine	0	0	0	20.9	30 / 1001	3.6
	29/7/2021	1605	Fine	0	0	0	20.9	31 / 999	3.6

Name & Designation                      Signature                      Date

Field Operator:                      Ting Wai Kin (Safety Officer [RencPipe]) *[Signature]*                      29/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	30-7-2021	0850	Rain	0	0	0	20.5	26 / 1502	5.5
	30-7-2021	1330	Rain	0	0	0	20.5	29 / 1501	5.5
	30-7-2021	1700	Rain	0	0	0	20.5	29 / 1550	5.5
Area B	30-7-2021	0848	Rain	0	0	0	20.5	26 / 1502	2.5
	30-7-2021	1345	Rain	0	0	0	20.5	29 / 1501	2.5
	30-7-2021	1645	Rain	0	0	0	20.5	29 / 1600	2.5

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer (RenoPipe))      *[Signature]*      30-7-2021

Laboratory Staff:

Checked by:      *C. Fickan (Foreman)*      *[Signature]*      30-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CH-Fc 0130	30/7/2021	0855	Rain	0	0	0	20.9	29 / 1002	2-5
	30/7/2021	1155	Rain	0	0	0	20.9	30 / 1000	2-5
CH-Fc 0164	30/7/2021	0900	Rain	0	0	0	20.9	29 / 1002	2-5
	30/7/2021	1400	Rain	0	0	0	20.9	30 / 1000	2-5
ptt D	30/7/2021	0915	Rain	0	0	0	20.9	29 / 1002	2-5
	30/7/2021	1415	Rain	0	0	0	20.9	30 / 1001	2-5
ptt C	30/7/2021	0925	Rain	0	0	0	20.9	29 / 1002	8
	30/7/2021	1425	Rain	0	0	0	20.9	30 / 1001	8
137 ptt C	30/7/2021	0945	Rain	0	0	0	20.9	29 / 1002	7
	30/7/2021	1445	Rain	0	0	0	20.9	30 / 1000	7
137 ptt B	30/7/2021	0955	Rain	0	0	0	20.9	29 / 1002	8-6
	30/7/2021	1455	Rain	0	0	0	20.9	30 / 1001	8-6
137 ptt A	30/7/2021	1005	Rain	0	0	0	20.9	29 / 1002	8-3
	30/7/2021	1505	Rain	0	0	0	20.9	30 / 1000	8-3

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer [RenoPipe])	<i>[Signature]</i>	30/7/2021
Laboratory Staff:			
Checked by:			

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	30/7/2021	1015	Rain	0	0	0	20.9	21 / 1001	2.8
	30/7/2021	1315	Rain	0	0	0	20.9	30 / 1000	2.8
WPR 2	30/7/2021	1025	Rain	0	0	0	20.9	21 / 1001	3.5
	30/7/2021	1525	Rain	0	0	0	20.9	30 / 1000	3.5
WPR 3	30/7/2021	1045	Rain	0	0	0	20.9	21 / 1001	2.8
	30/7/2021	1545	Rain	0	0	0	20.9	30 / 1000	2.8
Pit A	30/7/2021	1055	Rain	0	0	0	20.9	21 / 1001	5
	30/7/2021	1555	Rain	0	0	0	20.9	30 / 1000	5
Pit B	30/7/2021	1105	Rain	0	0	0	20.9	21 / 1002	3.6
	30/7/2021	1605	Rain	0	0	0	20.9	30 / 1000	3.6

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [RenoPipe])      *[Signature]*      30/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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-2600 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
Area A	31-7-2021	0830	Fine	0	0	0	20.9	27/1001	5.5
	31-7-2021	1330	Fine	0	0	0	20.9	31/1000	5.5
	31-7-2021	1700	Fine	0	0	0	20.9	30/998	5.5
Area B	31-7-2021	0845	Fine	0	0	0	20.9	28/1001	2.5
	31-7-2021	1345	Fine	0	0	0	20.9	31/1000	2.5
	31-7-2021	1645	Fine	0	0	0	20.9	30/999	2.5

	<u>Name &amp; Designation</u>	<u>Signature</u>	<u>Date</u>
Field Operator:	Ting Wai Kin (Safety Officer (RenoPipe))	<i>[Signature]</i>	31-7-2021
Laboratory Staff:			
Checked by:	C. F. Chan (Foreman)	<i>[Signature]</i>	31-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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 (QRAE III)	28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
CHFC 048	31/7/2021	0855	Fine	0	0	0	20.9	30 / 1001	2-5
	31/7/2021	1355	Fine	0	0	0	20.9	31 / 999	2-5
CHFC 046	31/7/2021	0900	Fine	0	0	0	20.9	30 / 1001	2-5
	31/7/2021	1400	Fine	0	0	0	20.9	31 / 999	2-5
prt D	31/7/2021	0915	Fine	0	0	0	20.9	30 / 1001	2-5
	31/7/2021	1415	Fine	0	0	0	20.9	31 / 999	2-5
prt C	31/7/2021	0925	Fine	0	0	0	20.9	30 / 1001	8
	31/7/2021	1425	Fine	0	0	0	20.9	31 / 999	8
137 prt C	31/7/2021	0945	Fine	0	0	0	20.9	30 / 1001	7
	31/7/2021	1445	Fine	0	0	0	20.9	31 / 999	7
137 prt B	31/7/2021	0955	Fine	0	0	0	20.9	30 / 1001	8-6
	31/7/2021	1455	Fine	0	0	0	20.9	30 / 999	8-6
137 prt A	31/7/2021	1005	Fine	0	0	0	20.9	30 / 1001	8-3
	31/7/2021	1505	Fine	0	0	0	20.9	31 / 999	8-3

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer [Reno-Pipa]) *[Signature]*      31/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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: PGM-2500 (QRAE III)	Dates calibrated 28 Jul 2021

Sample location	Date of measurement	Sampling time	Monitoring wells / Surface Gas Emission						
			Weather condition	Balance gas (%)	Flammable gas (methane %)	Carbon monoxide(%)	Oxygen (%)	Temp (°C) / Pressure (mbar)	Remark Depth (m)
WPR 1	31/7/2021	1015	Fine	0	0	0	20.9	31 / 1001	2.8
	31/7/2021	1015	Fine	0	0	0	20.9	31 / 999	2.8
WPR 2	31/7/2021	1025	Fine	0	0	0	20.9	31 / 1001	3.5
	31/7/2021	1525	Fine	0	0	0	20.9	31 / 999	3.5
WPR 3	31/7/2021	1045	Fine	0	0	0	20.9	31 / 1001	2.8
	31/7/2021	1545	Fine	0	0	0	20.9	31 / 999	2.8
Pit A	31/7/2021	1055	Fine	0	0	0	20.9	31 / 1001	5
	31/7/2021	1555	Fine	0	0	0	20.9	31 / 999	5
Pit B	31/7/2021	1105	Fine	0	0	0	20.9	31 / 1001	3.6
	31/7/2021	1605	Fine	0	0	0	20.9	31 / 999	3.6

Name & Designation      Signature      Date

Field Operator:      Ting Wai Kin (Safety Officer, RenoPipe)      *[Signature]*      31/7/2021

Laboratory Staff:

Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
Area A	2-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	2-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	2-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	2-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	2-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	2-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	2-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	2-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	2-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 2-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 MO1C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	2 -7-2021	10:25	0.64	3.5	
		15:25	0.04		
WPR 3	2 -7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	2 -7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	2 -7-2021	11:05	0.04	3.6	
		16:05	0.04		

Field Operator: Name & Designation  
 Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 2 -7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	3 -7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	3 -7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	3 -7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	3 -7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	3 -7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	3 -7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	3 -7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	3 -7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	3 -7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 3 -7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide ( % )	Depth (m)	Remark
WPR 2	3 -7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	3 -7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	3 -7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	3 -7-2021	11:05	0.04	3.6	
		16:05	0.04		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 3 -7-2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
Area A	5-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	5-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	5-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	5-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	5-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	5-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	5-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	5-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	5-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 5-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide ( % )	Depth (m)	Remark
WPR 2	5 -7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	5 -7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	5 -7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	5 -7-2021	11:05	0.04	3.6	
		16:05	0.04		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 5 -7-2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide ( % )	Depth (m)	Remark
Area A	6-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	6-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	6-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	6-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	6-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	6-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	6-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	6-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	6-7-2021	10:15	0.04	2.9	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation

Signature

Date

*[Signature]*

6-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
WPR 2	6-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	6-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	6-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	6-7-2021	11:05	0.04	3.6	
		16:05	0.04		

Field Operator: Name & Designation  
 Ting Wai Kin (Safety Officer [Renopipe])

Laboratory Staff: Signature

Checked by: Date  
 6-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide ( % )	Depth (m)	Remark
Area A	7-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	7-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	7-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	7-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	7-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	7-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	7-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	7-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	7-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 7-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	7-7-2021	10:25	0.0%	3.5	
		15:25	0.0%		
WPR 3	7-7-2021	10:45	0.0%	2.8	
		15:45	0.0%		
Pit A	7-7-2021	10:55	0.0%	5	
		15:55	0.0%		
Pit B	7-7-2021	11:05	0.0%	3.6	
		16:05	0.0%		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer (Renopipe)) Signature Date 7-7-2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	7-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	8-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	8-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	8-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	8-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	8-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	8-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	8-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	8-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation  
 Ting Wai Kin (Safety Officer [Renopipe])

Signature

Date  
 8-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	8-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	8-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	8-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	8-7-2021	11:05	0.04	3.6	
		16:05	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 8-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	9-7-2021	8:30	0.0%	5.5	
		13:30	0.0%		
		17:00	0.0%		
Area B	9-7-2021	8:45	0.0%	2.5	
		13:45	0.0%		
		16:45	0.0%		
CH.FC 8+38	9-7-2021	8:55	0.0%	2.5	
		13:55	0.0%		
CH.FC 0+64	9-7-2021	9:00	0.0%	2.5	
		14:00	0.0%		
Pit C	9-7-2021	9:25	0.0%	8	
		14:25	0.0%		
137 Pit C	9-7-2021	9:45	0.0%	7	
		14:45	0.0%		
137 Pit B	9-7-2021	9:55	0.0%	8.6	
		14:55	0.0%		
137 Pit A	9-7-2021	10:05	0.0%	8.3	
		15:05	0.0%		
WPR 1	9-7-2021	10:15	0.0%	2.8	
		15:15	0.0%		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation

Signature

Date

†

9-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide ( % )	Depth (m)	Remark
WPR 2	9-7-2021	10:25	0.0%	3.5	
		15:25	0.0%		
WPR 3	9-7-2021	10:45	0.0%	2.8	
		15:45	0.0%		
Pit A	9-7-2021	10:55	0.0%	5	
		15:55	0.0%		
Pit B	9-7-2021	11:05	0.0%	3.6	
		16:05	0.0%		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 9-7-2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
Area A	10-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	10-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	10-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	10-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	10-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	10-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	10-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	10-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	10-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 10-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	16-7-2021	10:25	0.0%	3.5	
		15:25	0.0%		
WPR 3	17-7-2021	10:45	0.0%	2.8	
		15:45	0.0%		
Pit A	17-7-2021	10:55	0.0%	5	
		15:55	0.0%		
Pit B	17-7-2021	11:05	0.0%	3.6	
		16:05	0.0%		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 17-7-2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide (%)	Depth (m)	Remark
Area A	12-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	12-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	12-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	12-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	12-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	12-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	12-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	12-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	12-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 12-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	12-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	12-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	12-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	12-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	12-7-2021	9:15	0.04	1	
		14:15	0.04		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 12-7-2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide (%)	Depth (m)	Remark
Area A	13-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	13-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	13-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	13-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	13-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	13-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	13-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	13-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	13-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation

Signature

Date

†

13-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	13-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	13-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	13-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	13-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	13-7-2021	09:10	0.04	1	
		14:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation  
 Ting Wai Kin (Safety Officer [Renopipe])

Signature

Date  
 13-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	14-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	14-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	14-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	14-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	14-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	14-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	14-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	14-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	14-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 14-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	14-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	14-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	14-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	14-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	14-7-2021	9:15	0.04	1	
		14:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 14-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	15-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	15-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	15-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	15-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	15-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	15-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	15-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	15-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	15-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation

Signature

Date

✍

15-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	15-7-2021	10:25	0.0%	3.5	
		15:25	0.0%		
WPR 3	15-7-2021	10:45	0.0%	2.8	
		15:45	0.0%		
Pit A	15-7-2021	10:55	0.0%	5	
		15:55	0.0%		
Pit B	15-7-2021	11:05	0.0%	3.6	
		16:05	0.0%		
Pit D	15-7-2021	09:15	0.0%	1	
		14:15	0.0%		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 15-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide (%)	Depth (m)	Remark
Area A	16-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	16-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		18:45	0.04		
CH.FC 8+38	16-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	16-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	16-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	16-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	16-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	16-7-2021	10:05	0.04	8.5	
		15:05	0.04		
WPR 1	16-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 -7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	16-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	16-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	16-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	16-7-2021	11:05	0.04	3.6	
		16:05	0.04		
PHD	16-7-2021	9:15	0.04	1	
		14:15	0.04		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 16-7-2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
Area A	17-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	17-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	17-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	17-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	17-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	17-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	17-7-2021	9:55	0.04	8.5	
		14:55	0.04		
137 Pit A	17-7-2021	10:05	0.04	8-3	
		15:05	0.04		
WPR 1	17-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 17-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MutiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
WPR 2	17-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	17-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	17-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	17-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	17-7-2021	13:17	0.04	1	
		14:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 17-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
Area A	19-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	19-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	19-7-2021	8:55	0.00	2.5	
		13:55	0.04		
CH.FC 0+64	19-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	19-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	19-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	19-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	19-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	19-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 19-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	19-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	19-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	19-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	19-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	19-7-2021	9:15	0.04	1	
		14:15	0.04		

Field Operator: Name & Designation  
 Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 19-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
Area A	20-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	20-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	20-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	20-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	20-7-2021	9:25	0.04	2	
		14:25	0.04		
137 Pit C	20-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	20-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	20-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	20-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 20-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
WPR 2	20-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	20-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	20-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	20-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	20-7-2021	11:15	0.04	1	
		14:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation

Signature

Date

20-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
Area A	21-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	21-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	21-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	21-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	21-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	21-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	21-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	21-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	21-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation

Signature

Date

21-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
WPR 2	21-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	21-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	21-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	21-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	21-7-2021	9:15	0.04	1	
		14:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 21-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
Area A	22-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	22-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	22-7-2021	8:55	0.04	2.5	
CH.FC 0+64	22-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	22-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	22-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	22-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	22-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	22-7-2021	10:15	0.04	28	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 22-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (ppm)		
WPR 2	22-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	22-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	22-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	22-7-2021	11:05	0.04	3.6	
		16:05	0.04		
RD	22-7-2021	9:15	0.04	1	
		14:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation

Signature

Date

22-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
Area A	23-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	23-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	23-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	23-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	23-7-2021	9:25	0.04	3	
		14:25	0.04		
137 Pit C	23-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	23-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	23-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	23-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation

Signature

Date

23-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
WPR 2	23-7-2021	10:25	0.04	3.3	
		15:25	0.04		
WPR 3	23-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	23-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	23-7-2021	11:05	0.04	7.6	
		16:05	0.04		
Pit D	23-7-2021	9:15	0.04	1	
		14:15	0.04		

Field Operator: Name & Designation  
 Ting Wai Kin (Safety Officer [Renopipe])

Laboratory Staff: Signature

Checked by: Date  
 23-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (ppm)		
Area A	24-7-2021	8:30	6.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	24-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	24-7-2021	8:55	0.04	2.5	
CH.FC 0+64	24-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	24-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	24-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	24-7-2021	9:55	0.04	2.6	
		14:55	0.04		
137 Pit A	24-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	24-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation

Signature

Date

*(Handwritten Signature)*

24-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
WPR 2	24-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	24-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	24-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	24-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	24-7-2021	9:15	0.04	1	
		14:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 24-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (ppm)		
Area A	26-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	26-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	26-7-2021	8:55	0.04	2.5	
CH.FC 0+64	26-7-2021	13:55	0.04	2.5	
		9:00	0.04		
Pit C	26-7-2021	14:00	0.04	2.5	
		9:25	0.04		
137 Pit C	26-7-2021	14:25	0.04	2	
		9:45	0.04		
137 Pit B	26-7-2021	14:45	0.04	7	
		9:55	0.04		
137 Pit A	26-7-2021	14:55	0.04	8.6	
		10:05	0.04		
WPR 1	26-7-2021	15:05	0.04	8.3	
		10:15	0.04		
		15:15	0.04	2.8	

Field Operator: Name & Designation  
 Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 26-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide ( % )		
WPR 2	26-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	26-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	26-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	26-7-2021	11:05	0.04	3.6	
		16:05	0.04		
RD	26-7-2021	9:15	0.04	2.5	
		14:18	0.04		

Field Operator: Name & Designation  
 Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 26-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (%)		
Area A	27-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	27-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	27-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	27-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	27-7-2021	9:25	0.04	2	
		14:25	0.04		
137 Pit C	27-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	27-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	27-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	27-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Name & Designation  
 Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 27-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (ppm)		
WPR 2	27-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	27-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	27-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	27-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	27-7-2021	9:15	0.04	2.5	
		14:15	0.04		

Field Operator: Name & Designation  
 Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 -7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultIRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (ppm)		
Area A	23-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	23-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	23-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	23-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	23-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	23-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	23-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	23-7-2021	10:05	0.04	8.5	
		15:05	0.04		
WPR 1	23-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Name & Designation

Signature

Date

23-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (ppm)		
WPR 2	28-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	28-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	28-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	28-7-2021	11:05	0.04	3.6	
		16:05	0.04		
P&D	28-7-2021	9:15	0.04	2.5	
		14:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 28-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide ( % )	Depth (m)	Remark
Area A	27-7-2021	8:30	0.04%	5.5	
		13:30	0.04%		
		17:00	0.04%		
Area B	27-7-2021	8:45	0.04%	2.5	
		13:45	0.04%		
		18:45	0.04%		
CH.FC 8+38	27-7-2021	8:55	0.04%	2.5	
		13:55	0.04%		
CH.FC 0+64	27-7-2021	9:00	0.04%	2.5	
		14:00	0.04%		
Pit C	27-7-2021	9:25	0.04%	8	
		14:25	0.04%		
137 Pit C	27-7-2021	9:45	0.04%	7	
		14:45	0.04%		
137 Pit B	27-7-2021	9:55	0.04%	8.6	
		14:55	0.04%		
137 Pit A	27-7-2021	10:05	0.04%	8.3	
		15:05	0.04%		
WPR 1	27-7-2021	10:15	0.04%	2.0	
		15:15	0.04%		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 2-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide ( % )	Depth (m)	Remark
WPR 2	29-7-2021	10:25	0.04%	3.5	
		15:25	0.04%		
WPR 3	28-7-2021	10:45	0.04%	2.8	
		15:45	0.04%		
Pit A	28-7-2021	10:55	0.04%	5	
		15:55	0.04%		
Pit B	28-7-2021	11:05	0.04%	3.6	
		16:05	0.04%		
Pit D	29-7-2021	9:15	0.04%	2.5	
		14:15	0.04%		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff: Signature   
 Checked by: Date 29-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide (%)	Depth (m)	Remark
Area A	30-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	30-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	30-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	30-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	30-7-2021	9:25	0.04	8	
		14:25	0.04		
137 Pit C	30-7-2021	9:45	0.04	7	
		14:45	<del>0.04</del> 0.04		
137 Pit B	30-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	30-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	30-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Name & Designation  
 Field Operator: Ting Wai Kin (Safety Officer [Renopipe])  
 Laboratory Staff:  
 Checked by:

Signature

Date  
 30-7-2021

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (ppm)		
WPR 2	30-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	30-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	30-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	30-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	30-7-2021	09:15	0.04	2.5	
		14:15	0.04		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date 30-7-2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 MC1C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission Carbon Dioxide ( % )	Depth (m)	Remark
Area A	31-7-2021	8:30	0.04	5.5	
		13:30	0.04		
		17:00	0.04		
Area B	31-7-2021	8:45	0.04	2.5	
		13:45	0.04		
		16:45	0.04		
CH.FC 8+38	31-7-2021	8:55	0.04	2.5	
		13:55	0.04		
CH.FC 0+64	31-7-2021	9:00	0.04	2.5	
		14:00	0.04		
Pit C	31-7-2021	9:25	0.04	0	
		14:25	0.04		
137 Pit C	31-7-2021	9:45	0.04	7	
		14:45	0.04		
137 Pit B	31-7-2021	9:55	0.04	8.6	
		14:55	0.04		
137 Pit A	31-7-2021	10:05	0.04	8.3	
		15:05	0.04		
WPR 1	31-7-2021	10:15	0.04	2.8	
		15:15	0.04		

Field Operator: Name & Designation Ting Wai Kin (Safety Officer [Renopipe]) Signature Date -7-2021  
 Laboratory Staff:  
 Checked by:

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

Sampling equipment used:	Dates calibrated
MultiRAE Lite, PGM-6208 M01C031772	6/4/2021

Sampling Location	Date of Measurement	Sampling time	Monitoring wells/ Surface Gas Emission	Depth (m)	Remark
			Carbon Dioxide (1%)		
WPR 2	31-7-2021	10:25	0.04	3.5	
		15:25	0.04		
WPR 3	31-7-2021	10:45	0.04	2.8	
		15:45	0.04		
Pit A	31-7-2021	10:55	0.04	5	
		15:55	0.04		
Pit B	31-7-2021	11:05	0.04	3.6	
		16:05	0.04		
Pit D	31-7-2021	9:15	0.04	2.5	
		14:15	0.04		

Field Operator: Ting Wai Kin (Safety Officer [Renopipe])      Name & Designation  
 Laboratory Staff:      Signature  
 Checked by:      Date 31-7-2021

# Appendix K

## Complaint Log and Regulatory Compliance Proforma

**Statistical Summary of Environmental Complaints**

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
01 July 2021 - 31 July 2021	1	3	<p>One project-related environmental complaint was received and the site condition of the concerned area was reviewed by ET. ET noted that although there was no excavation works on-going or scheduled recently, clearance works and works that create disturbance to ground surface were previously conducted. To prevent the muddy water discharge from the construction site, the contractor has implemented and enhanced the mitigation measures to cater for any upcoming rainstorms or heavy precipitation from the site. Sandbags are placed along the site boundary and submersible pump is provided to direct the runoff to the wastewater treatment tank before reusing or discharging into the designated discharge point. Cement application to exposed earth within the site was also observed during the inspection on 13 August 2021, which was being implemented to prevent erosion caused by the precipitation. The temporarily exposed slope and areas were covered by tarpaulin.</p>

**Statistical Summary of Environmental Summons**

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Details
01 July 2021 - 31 July 2021	0	0	N/A

**Statistical Summary of Environmental Prosecution**

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
01 July 2021 - 31 July 2021	0	0	N/A

# Appendix L

## Site Inspection Proforma



**Acuity Sustainability Consulting Limited**

Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.  
 D: 2333-6823 | F: 2333-1316 | E: general@acuityhk.com | www.acuityhk.com

**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

**WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST**

Inspection Date: 02/07/2021 Inspected by: E: Charmene Law WSD: Tseng Kin Fai  
 Contractor: Sam Ng IEC: N/A

Inspection Time: 09:30 - 12:30

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	<u>31</u> °C	Humidity	<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	Photo/Remarks
0.00	<b>General</b>				
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"/>	<u>Obs (2)</u>
0.02	Is ET Leader's log-book kept readily available for inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.00	<b>Construction Dust</b>				
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Compared.</u>
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"/>	<u>No dusty construction works observed</u>
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"/>	<u>not seen / small emitting plant / construction activity observed</u>
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>paved</u>
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"/>	<u>Compared, compared with last week</u>
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"/>	<u>✓ / N/A / M / Obs</u>

02/07



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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or dry PFA covered or sheltered on top and 3 sides?	<input checked="" type="checkbox"/>	<input 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 hoarding 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"/>	
<b>2.00</b>	<b>Construction Noise (Airborne)</b>				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓ noise label
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"/>	noise label ✓ proper maintenance
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"/>	✓ no impaction to parties near to NSR
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 type="checkbox"/>	<input checked="" 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 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"/>	
<b>3.00</b>	<b>Water Quality</b>				
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 type="checkbox"/>	<input type="checkbox"/>	not
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Obs(4)

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (5)
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 type="checkbox"/>	<input type="checkbox"/>	obs (4)
3.07	Is the drainage system properly maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Obs (3)
3.08	Are construction works carefully programmed to minimize soil excavation works during rainy seasons?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.11	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	(consider 1) obs (1)
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (1) (consider 1)
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"/>	
<b>4.00</b>	<b>Waste Management</b>				
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"/>	

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
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 the Contractor registered as a chemical waste producer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are all containers for chemical waste properly labelled?	<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	Are 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"/>	remainder (?)
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 checked="" type="checkbox"/>	<input 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"/>	

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
<b>5.00</b>	<b>Landscape and Visual</b>				
5.01	Are 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 checked="" type="checkbox"/>	<input 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	Is 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 checked="" 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"/>	
<b>6.00</b>	<b>Ecology</b>				
6.01	Is site runoff properly treated to prevent any silty runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Obs (4)
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 checked="" type="checkbox"/>	<input 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"/>	
<b>7.00</b>	<b>Overall</b>				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

portion F  
 ↓  
 WPK 1  
 ↓  
 WPK 2  
 ↓  
 WPK 4  
 ↓  
 Pit A.  
 ↓  
 WPK 3  
 ↓  
 Landfill  
 FC

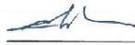
Observation(s)

- (1) chemicals were not placed inside a drip tray at portion F. *WPK 1, Landfill, Area A, FC0+92*
- (2) Environmental permit was not observed at the site entrance / ~~exit~~ exit at WPK 4, *Pit A*
- (3) Gully was not covered with geotextile & sandbags at WPK 3.
- (4) wastewater was observed discharging from site area, at WPK 3 *drained*
- (5) construction boundary was not protected by sandbags fully at WPK 3

Reminders(s)

- (1) The main contractor was reminded to cover the gully fully at WPK 1
- (2) The main contractor was reminded to clean the drip trays regularly at WPK 3.

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
			<i>N/A</i>
(Name: Challenge Law)	(Name: Sam Ng)	(Name: <i>Wong Kin Fai</i> )	(Name: N/A)

02/07

DEFAULT



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PK

**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

**WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST**

Inspection Date: 08/07/2021 Inspected by: ET: Charlene Lai WSD: Chin Cheuk Ki  
 Inspection Time: 09:30 - 12:00 Contractor: Sam Ng IEC: NA

Weather	<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"/> <u>3</u> C	Humidity	<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	Photo/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 type="checkbox"/>	<input type="checkbox"/>	<u>Obs (1)</u>
0.02	Is ET Leader's log-book kept readily available for inspections?	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>dusty materials were kept wet to limit dust emission</u>
1.02	Are screenings, enclosures, water spraying or vacuum cleaning devices provided to dusty construction works for dust suppression?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Screening etc.</u>
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"/>	<u>no fume/smoke emitting plant/construction activities</u>
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>paved</u>
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"/>	<u>early in operation were kept wet to limit dust emission</u>
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>no covers were provided</u>
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"/>	<u>NA/Min (obs)</u>

08/07

DEFAULT



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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or dry PFA covered or sheltered on top and 3 sides?	<input checked="" type="checkbox"/>	<input 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 hoarding 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"/>	
2.00	<b>Construction Noise (Airborne)</b>				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓ Quiet labels
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"/>	✓ Regular inspection
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"/>	✓ NO risk to nearby receptors from the noise
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓ already
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 type="checkbox"/>	<input checked="" 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 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 permits displayed at all vehicular exits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.00	<b>Water Quality</b>				
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 type="checkbox"/>	<input type="checkbox"/>	obs (✓)
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (✓)

02/07



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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (4)
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 type="checkbox"/>	<input type="checkbox"/>	obs (2)
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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.11	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	obs (3)
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs (2)
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"/>	
<b>4.00</b>	<b>Waste Management</b>				
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"/>	

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
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 the Contractor registered as a chemical waste producer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are all containers for chemical waste properly labelled?	<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	Are 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"/>	
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 checked="" type="checkbox"/>	<input 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"/>	

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**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
<b>5.00</b>	<b>Landscape and Visual</b>				
5.01	Are 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 checked="" type="checkbox"/>	<input 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	Is 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"/>	
<b>6.00</b>	<b>Ecology</b>				
6.01	Is site runoff properly treated to prevent any silty runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs 6/29
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 checked="" type="checkbox"/>	<input 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"/>	
<b>7.00</b>	<b>Overall</b>				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observation(s)

(1) Environmental permit was not observed at exit/entrance ~~at~~ WPR 2.

(2) Untreated water was ~~not~~ observed discharging from the site at WPR 3.  
 A sedimentation tank / water treatment facilities should be added.

(3) Chemicals were not placed at a drip tray at WPR 3.

(4) Construction boundary was not fully protected by sandbags at WPR 3.

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
			N/A
(Name: Charlotte Leung)	(Name: Sam Ng)	(Name: Cheuk Ki)	(Name: N/A)

137B  
 ↓  
 137C  
 ↓  
 WPR 2  
 ↓  
 WPR 3

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

**WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST**

Inspection Date: 16/07/2017 Inspected by: ET: Chau Ka-chai WSD: C.W. Lai  
 Contractor: Sun Ng IEC: NA  
 Inspection Time: 09:30 - 12:00

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>31</u> °C Humidity <input checked="" type="checkbox"/> High <input 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	Photo/Remarks
0.00	<b>General</b>				
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 type="checkbox"/>	<input type="checkbox"/>	<u>obs (1)</u>
0.02	Is ET Leader's log-book kept readily available for inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.00	<b>Construction Dust</b>				
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"/>	<u>no dusty construction works were observed</u>
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"/>	<u>no fume/smoke emitting plant / construction activities were observed</u>
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>paved</u>
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"/>	<u>no (shelving / transfer of dusty materials) observed</u>
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"/>	<u>no dump trucks observed</u>
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 from dark smoke emission?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>✓/None (obs)</u>

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		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or dry 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 hoarding 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"/>	
<b>2.00</b>	<b>Construction Noise (Airborne)</b>				
2.01	Are quiet plant/s adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓ QPME label
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"/>	✓ Repair injection
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"/>	no visit to portion
2.05	Are moveable barriers provided to screen NSRs from plant or noisy operations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	near to NSR
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	no PME operation during visit
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 type="checkbox"/>	<input checked="" 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 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"/>	
<b>3.00</b>	<b>Water Quality</b>				
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"/>	obs (3)

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		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, back-filled in short sections after excavation?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	nb (2, 14)
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	nb (2, 14)
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"/>	
<b>4.00</b>	<b>Waste Management</b>				
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"/>	

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		N/A	Yes	No	Photo/Remarks
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 the Contractor registered as a chemical waste producer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are all containers for chemical waste properly labelled?	<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	Are 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"/>	
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 checked="" type="checkbox"/>	<input 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"/>	

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**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



**Acuity Sustainability Consulting Limited**

Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.  
 O: 2333-6823 | F: 2333-1316 | E: general@acuityhk.com | www.acuityhk.com

**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
<b>5.00</b>	<b>Landscape and Visual</b>				
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 checked="" type="checkbox"/>	<input 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	Is excavation works carried out manually instead of machinery operation within 2.5m vicinity of any preserved trees?	<input checked="" type="checkbox"/>	<input checked="" 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"/>	
<b>6.00</b>	<b>Ecology</b>				
6.01	Is site runoff properly treated to prevent any silty runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	obs
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"/>	
<b>7.00</b>	<b>Overall</b>				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observation(s)

(1) Environmental permit was not observed at Pit L (H.K. Velodrome)

(2) Regular cleaning of drip tray should be conducted to prevent overflow of trapped materials at pit O. (H.K. Velodrome)

(3) Regular cleaning of ~~the~~ deposited materials in the water sedimentation tank to allow effluent drainage at H.K. Velodrome should be conducted. (pit O)

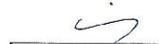
(4) Oil leakage was observed at Pit N (H.K. Velodrome)

Reminders

(1) Handpicking was reminded at pit N (H.K. Velodrome)

(2) The main contractor shall consider to ~~increase~~ the ~~capacity~~ sedimentation tank with larger treating capacity to <sup>change</sup> ensure proper treatment of wastewater before discharge at Pit M. (H.K. Velodrome)

Signatures:

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
			N/A
(Name: <i>Chapman, L.</i> )	(Name: <i>Smith</i> )	(Name: <i>C.W. Yip</i> ) WSD/16	(Name: <i>N/A</i> )

H.K. Velodrome.

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

**WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST**

Inspection Date: 22/07/2022 Inspected by: ET: Chau Hong Lai WSD: Annon Tak  
 Contractor: SKM Ng IEC: N/A

Inspection Time: 09:30 - 12:30

**Weather**

Condition:  Sunny  Fine  Overcast  Drizzle  Rain  Storm  Hazy

Temperature: 30 °C Humidity:  High  Moderate  Low

Wind:  Calm  Light  Breeze  Strong

		N/A	Yes	No	Photo/Remarks
<b>0.00</b>	<b>General</b>				
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 type="checkbox"/>	<input type="checkbox"/>	<u>Obs (1)</u>
0.02	Is ET Leader's log-book kept readily available for inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>1.00</b>	<b>Construction Dust</b>				
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Screening water spraying</u>
1.03	Are fumes or smoke emitting plants or construction activities shielded by a screen?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>paved</u>
1.08	Are water spraying provided immediately prior to any loading or transfer of dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>NO. Dump trucks observed</u>
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"/>	<u>✓ ARMM report</u>

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.14	Are stock of more than 20 bags of cement or dry PFA covered or sheltered on top and 3 sides?	<input checked="" type="checkbox"/>	<input 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 hoarding 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"/>	
<b>2.00</b>	<b>Construction Noise (Airborne)</b>				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	✓ noise label (APMS)
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"/>	✓ regular inspection
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"/>	no visit to parties that is near to NSR.
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 type="checkbox"/>	<input checked="" 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 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"/>	
<b>3.00</b>	<b>Water Quality</b>				
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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no water was discharged
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.11	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	Obs 13
3.16	Are there any measures to prevent the release of oil and grease into the storm drainage system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Obs 17
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	<b>Waste Management</b>				
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"/>	

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
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 the Contractor registered as a chemical waste producer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are all containers for chemical waste properly labelled?	<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	Are 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"/>	
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 checked="" type="checkbox"/>	<input 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"/>	

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
<b>5.00</b>	<b>Landscape and Visual</b>				
5.01	Are Is site boarding 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 checked="" type="checkbox"/>	<input 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	Is 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"/>	
<b>6.00</b>	<b>Ecology</b>				
6.01	Is site runoff properly treated to prevent any silty 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"/>	
<b>7.00</b>	<b>Overall</b>				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observation(s)

(1) Environmental permit was not observed at site entrance/exit at Pit Y.  
 (2) chimney was not observed in a drip tray at Pit D

Reminder(s)

(1) Regular cleaning of drip tray should be conducted at Pit Y, Pit P, Pit O  
 (2) The M&E contractor was ~~terminated~~ recommended to increase the water sedimentation tank capacity to treat wastewater before discharge at Pit O.

**Signatures:**

IT Representative	Contractor's Representative	WSD's Representative	IEC's Representative
			
(Name: Charlotte Lai)	(Name: Sam Ng)	(Name: An Wong)	(Name: N/A)

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

**WEEKLY ENVIRONMENTAL INSPECTION CHECKLIST**

Inspection Date: 27/07/2011 Inspected by: E.I: Charlene Lai WSD: Alex Kwinn  
 Contractor: Sun Ng IEC: Louis Kwinn

Inspection Time: 09:20-12:15

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 checked="" type="checkbox"/> 32 C						
Humidity		<input checked="" type="checkbox"/> High	<input 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	Photo/Remarks
<b>0.00 General</b>					
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"/>	
0.02	Is ET Leader's log-book kept readily available for inspections?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>1.00 Construction Dust</b>					
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Dusty materials are kept wet &amp; compacted to limit dust emission.</i>
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"/>	<i>no dusty construction works observed.</i>
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"/>	<i>no fume/smoke emitting plant construction activities observed.</i>
1.04	Are wheel-washing facilities with high-pressure water jets provided at all site 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>paved.</i>
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"/>	<i>dusty materials were kept wet as road by transfer of dusty materials.</i>
1.09	Are covers provided to all dump trucks carrying dusty materials when entering and leaving the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>no dump trucks observed.</i>
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"/>	<i>✓ no smoke</i>

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**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

		N/A	Yes	No	Photo/Remarks
1.13	Are vehicles travelling at speed not exceeding 15km/hr within the site?	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 hoarding 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"/>	
<b>2.00</b>	<b>Construction Noise (Airborne)</b>				
2.01	Are quiet plants adopted on site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	/OPME label
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"/>	/regular inspection
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"/>	? No visit to noise points on or near NSR
2.05	Are movable 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No operation of PME observed
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 type="checkbox"/>	<input checked="" 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 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"/>	
<b>3.00</b>	<b>Water Quality</b>				
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	? No water discharge in site observed
3.03	Is wastewater discharge from site properly treated prior to discharge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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		N/A	Yes	No	Photo/Remarks
3.04	Are perimeter channels provided to intercept storm runoff from outside the site?	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.10	Are temporary access roads protected by crushed gravel?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.11	Are exposed slope surface properly protected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.12	Is trench excavation avoided in the wet season as far as practicable, or if necessary, backfilled in short sections after excavation?	<input type="checkbox"/>	<input checked="" 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"/>	<i>Labelling</i>
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"/>	
<b>4.00</b>	<b>Waste Management</b>				
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"/>	

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		N/A	Yes	No	Photo/Remarks
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 the Contractor registered as a chemical waste producer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.04	Are chemical waste separated from other waste and collected by a licensed chemical waste collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are trip tickets for chemical waste disposal available for inspection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Is chemical waste reused and recycled on site as far as practicable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are all containers for chemical waste properly labelled?	<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, provided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.12	Are 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"/>	
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 checked="" 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"/>	

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		N/A	Yes	No	Photo/Remarks
<b>5.00</b>	<b>Landscape and Visual</b>				
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 checked="" type="checkbox"/>	<input 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	Is 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"/>	
<b>6.00</b>	<b>Ecology</b>				
6.01	Is site runoff properly treated to prevent any silty runoff?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>no water discharge observed</i>
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"/>	
<b>7.00</b>	<b>Overall</b>				
7.01	Is the EM&A properly implemented in general?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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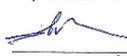
**Contract no. 13/WSD/16 Mainlaying in Tseung Kwan O**

Remark / Follow up of Observation(s) and Non-compliance(s) of Last Weekly Site Inspection:

Observation(s)  
 No major observations were reported on the respective day.

Reminded:  
 (1) Stagnant water on top of the water sedimentation tank tarpaulin sheet cover should be cleaned to prevent hygiene and safety concerns. (PRE D)

**Signatures:**

ET Representative	Contractor's Representative	WSD's Representative	IEC's Representative
			
(Name: Christine Lau)	(Name: Sam Ho)	(Name: Alex Kwan)	(Name: Louis Kwan)

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# Appendix M

## Proactive Environmental Protection Proforma

**Proactive Environmental Protection for the Next Reporting Month**

Reporting Period	Activity	Major Environmental Impact	Environmental Mitigation Measure
1 August 2021 - 31 August 2021	<ul style="list-style-type: none"> <li>- Excavation of trench</li> <li>- Mainlaying of pipe</li> <li>- Backfilling of the trench</li> <li>- Work fronts for open trench</li> <li>- Work fronts for pipe jacking</li> </ul>	Construction dust and noise generation; construction wastes; impact of water quality	<ul style="list-style-type: none"> <li>- Dust suppression by regular wetting and water spraying</li> <li>- Reduction of noise from equipment and machinery on-site</li> <li>- Sorting and storage of general refuse and construction waste</li> <li>- Treatment of water with water treatment facilities before discharge</li> </ul>

## Appendix N

# Impact Monitoring Schedule of Next Reporting Month (Tentative)

**Contract No. 13/WSD/16**  
**Mainlaying in Tseung Kwan O**  
**Monthly EM&A Report No.36**



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

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

# Appendix O

## Academic Calendar(s)

**Contract No. 13/WSD/16  
Mainlaying in Tseung Kwan O  
Monthly EM&A Report No.36**



CREATIVE SECONDARY SCHOOL CALENDAR 2020-2021								
Month	Day	Su	Mo	Tu	We	Th	Fr	Sa
August	2							
		9	10	11	12	13	14	15
		16	17	18	19	20	21	22
		23	24A	25B	26C	27D	28E	29
	30	31F						
								19/8 First School day
September	2			1A	2B	3C	4D	5
	3	6	7E	8F	9A	10B	11C	12
		13	14D	15E	16F	17A	18B	19
	4	20	21C	22D	23E	24F	25A	26
	5	27	28B	29C	30			
								28/9 F1/MY1 3-Way Conference, 30/9 Staff Development Day 1 1/10 National Day. 2/10 The Day following Mid-Autumn Festival
October		4	5D	6E	7F	8A	9B	10
	6	11	12C	13D	14E	15F	16A	17
		18	19	20	21	22	23	24
	7	25	26	27B	28C	29D	30E	31
								13/10 F6 3-Way Conference 19-24 Term Break 26/10 Chung Yeung Festival Holiday.
November	8	1	2F	3A	4B	5C	6D	7
		8	9	10E	11F	12A	13B	14
	9	15	16C	17D	18E	19F	20A	21
	10	22	23B	24C	25D	26E	27F	28
	11	29	30A					
				1B	2C	3D	4D	5
December	12	6	7E	8F	9A	10B	11C	12
		13	14D	15E	16F	17A	18B	19
		20	21	22	23	24	25	26
		27	28	29	30	31		
								15/12 F4 3-Way Conference 25/12 Christmas Day 16/12 The First Weekday after Christmas Day 21/12-2/1 Christmas & New Year Holiday
January						1	2	
	13	3	4C	5D	6E	7F	8A	9
	14	10	11B	12C	13D	14E	15F	16
	15	17	18A	19B	20C	21D	22E	23
	16	24	25F	26A	27B	28C	29D	30
		31						
								1/1 New Year's Day 7/1 F3 3-Way Conference, 6-19/1 F6 HKDSE & IBDP Mock Exams
February	17		1E	2F	3A	4B	5C	6
		7	8D	9E	10	11	12	13
		14	15	16	17	18	19	20
	18	21	22F	23A	24B	25C	26D	27
	28							
								12-15 New year Holiday. 10-20/2 Chinese New Year Holiday
March	19		1E	2F	3A	4B	5C	6
		7	8D	9E	10F	11A	12B	13
	20	14	15C	16D	17E	18F	19A	20
		21	22	23	24	25	26	27
	21	28	29B	30C	31D			
								4/3 F2 3-Way Conference, 5/3 Last school day for F6 HKDSE students
April						1	2	3
		4	5	6	7	8	9	10
	22	11	12E	13F	14A	15B	16C	17
		18	19D	20E	21F	22A	23B	24
		23	25	26C	27D	28E	29F	30A
May	24	2	3B	4C	5D	6E	7F	8
	25	9	10A	11B	12C	13D	14E	15
	26	16	17F	18A	19B	20C	21D	22
		23	24D	25E	26F	27A	28B	29
	27	30	31C					
								27/4 F1/MY1 3-Way Conference 30/4-19/5 F6 IBDP May Exams 1/5 Labour Day 4-17/5 F5 HKDSE Final Exams
June	28	6	7B	8C	9D	10E	11F	12
	29	13	14	15A	16B	17C	18D	19
		20	21E	22F	23A	24B	25C	26
		27	28D	29E	30F			
								14/06 Tuen Ng Festival
July						1	2	3
		4	5	6	7	8	9	10
		11	12	13	14	15	16	17
		18	19	20	21	22	23	24
		25	26	27	28	29	30	31
August		1	2	3	4	5	6	7
		8	9	10	11	12	13	14
		15	16	17	18	19	20	21
		22	23	24	25	26	27	28
		29	30	31				

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[https://1e833fb1-5af5-4de8-901f-f9aeda4354b2.filesusr.com/ugd/611a22\\_ea5d81f9881541de9c3c7049ba46860d.pdf](https://1e833fb1-5af5-4de8-901f-f9aeda4354b2.filesusr.com/ugd/611a22_ea5d81f9881541de9c3c7049ba46860d.pdf)

# Appendix O

## Interim Report(s)

### **Interim Report on Environmental Complaint**

Project Title	Proposed Desalination Plant in TKO Area 137 for Contract 13/WSD/16 Mainlaying in Tseung Kwan O
Source of Complaint	Email from EPD to WSD dated on 28 July 2021
Location of Incident	Construction Site near to Mau Wu Tsai of Po Lam Road South at Tseung Kwan O
Complaint Code	13/WSD/16_C003
Complaint description	EPD has received a complaint from a member of the public regarding the discharge of stormwater with suspended particles, or in general muddy water from the construction site near to Mau Wu Tsai of Po Lam Road South at Tseung Kwan O on 09 July 2021 (Site Plan attached in Appendix A).
Investigation finding	<p>Our Environmental Team under WSD Contract No. 13/WSD/16 received the complaint case on 29 July 2021 and carried out the complaint investigation from 29 July 2021.</p> <p>The site diary showed that shoring plate cutting works for hand shield tunneling were carried out at the concerned area on 09 July 2021, which has no use of water and disturbance to ground surface. It has no record of leakage of muddy water as reported by the Contractor.</p> <p>The site condition of the concerned area was reviewed. We noted that although there was no excavation works on-going or scheduled recently, clearance works and works that create disturbance to ground surface were previously conducted. To prevent the muddy water discharge from the construction site, the contractor has implemented and enhanced the mitigation measures to cater for any upcoming rainstorms or heavy precipitation from the site. Sandbags are placed along the site boundary and submersible pump is provided to direct the runoff to the wastewater treatment tank before reusing or discharging into the designated discharge point.</p> <p>Site inspection at the concerned area has been carried out by ET on 13 August 2021. There was precipitation during the site walk, while no runoff of muddy water was observed at the site boundary.</p> <p>Also, cement application to exposed earth within the site was observed during the inspection, which was being implemented to prevent erosion caused by the precipitation. The temporarily exposed slope and areas were covered by tarpaulin.</p> <p>The Contractor has been reminded to inspect regularly and maintain the above water pollution mitigation measures, especially during or after rainstorms.</p>
Actions taken / to be taken	The Contractor has been recommended by WSD to take immediate preventive measures to enhance stormwater management for construction sites (e.g. cover any stockpiled materials within the construction site with tarpaulin).

	Moreover, ET will perform spot checking on the concerned area on the implementation status of mitigation measures. Contractor is reminded to comply with all regulations and requirement stipulated in the EM&A Manual.
Prepared by	Charlene Lai
Date	06 August 2021

Appendix A – Site Layout of Concerned Area



Appendix B – Photo Records from Site Inspection

Cement being applied to exposed surface:



Appendix B – Photo Records from Site Inspection (cont’)

Sandbags placed along the site boundary and submersible pump to direct runoff:

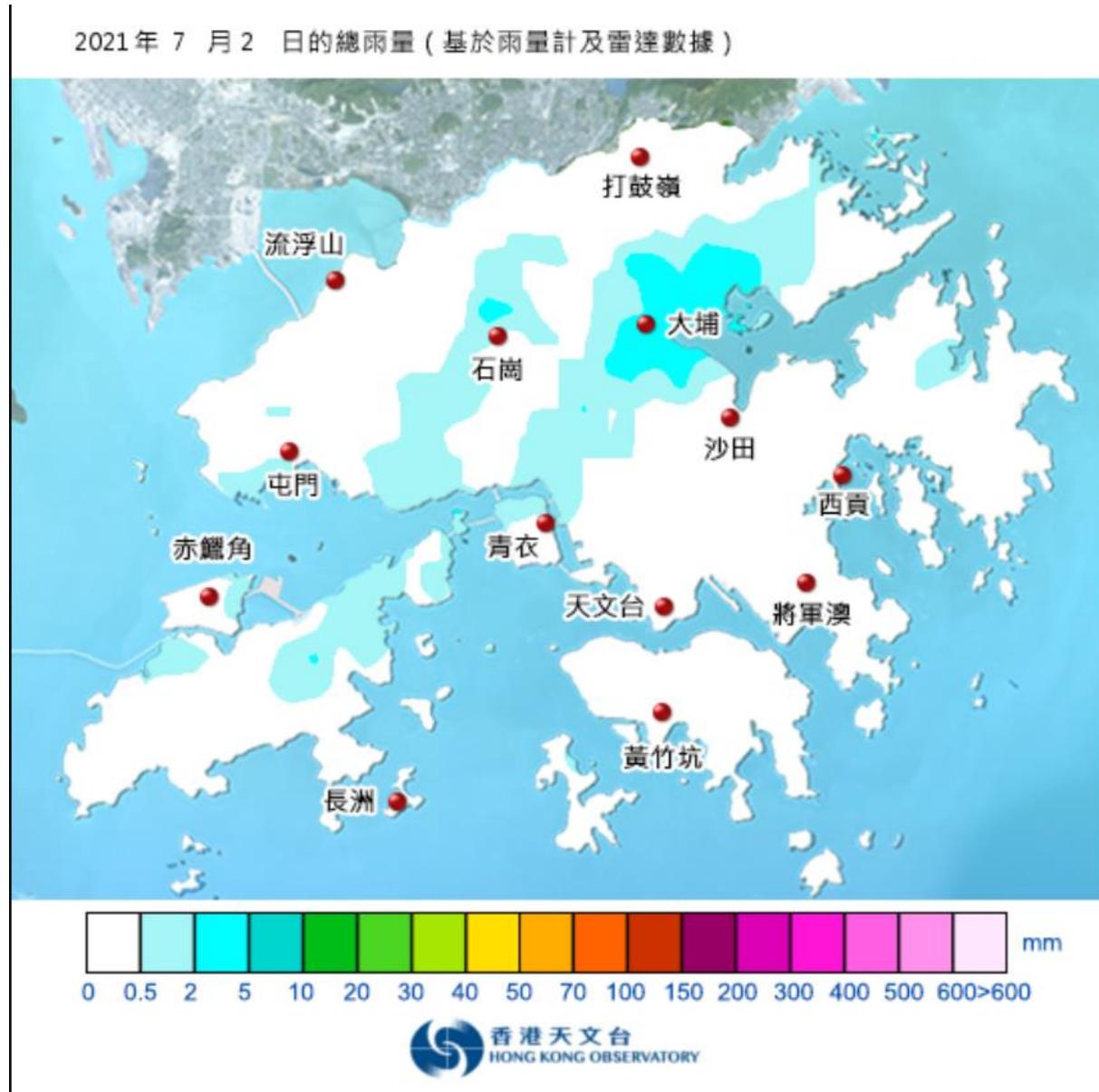


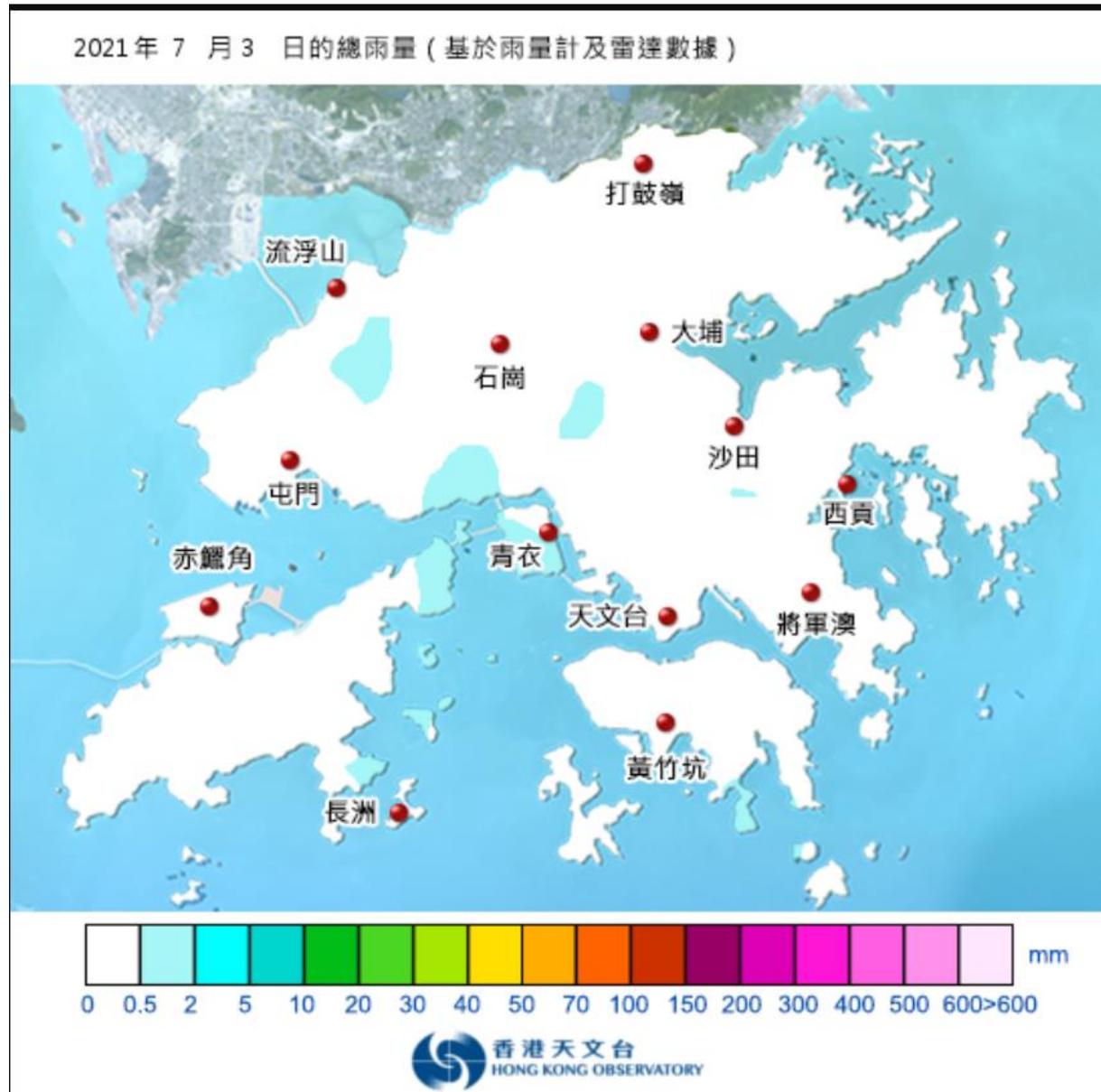
Appendix C – Site Diary on 09 July 2021

	HA3+80	HA4+50	Po Lam Road South	0209	Place concrete to bend block	1	L13	2	P81	1	L13	2	P81	LH
				0213	Breaking up rock in trench	5	L01	1	P04	5	L01	1	P04	LH
					Bankman at (00:00 to 08:00 & 16:00 to 24:00)			4	P01			4	P01	LH
								1	P40			1	P40	LH
								1	P22			1	P22	LH
														LH
25			Po Lam Road C2 & D1	0906	Erection of working platform	2	L01	1	P04	2	L01	1	P04	LH
				0221	Dispose artificial hard materials off site	1	L06	1	P31			1	P31	LH
				0312	External repairs to steel pipes with epoxy coatings			1	P22			1	P22	LH
				0213	Breaking up rock in trench			1	P80			1	P80	LH
				0806	Point cloud survey			1	P40			1	P40	LH
								1	P28			1	P28	LH
								1	P02			1	P02	LH
						3	L25			3	L25			PW
			Po Lam Road B4 & B5	0208	Break up concrete carriageway	2	L01	1	P04	2	L01	1	P04	LH
				0221	Dispose artificial hard materials off site			1	P31	1	L06	1	P31	LH
				0214	Excavate soil trench			1	P80			1	P80	LH
								1	P40			1	P40	LH
								1	P22			1	P22	LH
								1	P73			1	P73	LH
26	HC3+20	HC3+80	Po Lam Road A0 Near Tsui Lam	0802	No site activities			2	P04			2	P04	LH
								1	P27			1	P27	LH
								1	P30			1	P30	LH
								1	P01			1	P01	LH
								1	P45			1	P45	LH
			Po Lam Road		Set up for hand shield tunneling	3	L01	1	P04	3	L01	1	P04	LH
			Jacking Pit X		Shoring plate cutting for hand shield tunneling	1	L10	1	P40	1	L10	1	P40	LH
								1	P22			1	P22	LH
								2	P04			2	P04	LH
			Trial Pit	0802	No site activities									
			Tsui Lam Road											
			Tseung Kwan O Servoir Reservoir	0802	No site activities									
			Trial Pit 1											
			Tseung Kwan O Servoir Reservoir	0802	No site activities									
			Trial Pit 2											
27	HE0+25	HE1+60	Tseung Kwan O Servoir Reservoir	0208	Break up concrete carriageway	4	L01	1	P04	4	L01	1	P04	LH
				0701	General site clearance	1	L06	1	P80	1	L06	1	P80	LH
				0347	Make M.S. pipe bend	1	L05	1	P40	1	L05	1	P40	LH
						1	L10	1	P22	1	L10	1	P22	LH
								1	P02			1	P02	LH
								1	P01			1	P01	LH
								1	P28			1	P28	LH
								1	P31			1	P31	LH
								1	P27			1	P27	LH
			Tseung Kwan O Servoir Reservoir	0802	No site activities									
			TPPA											

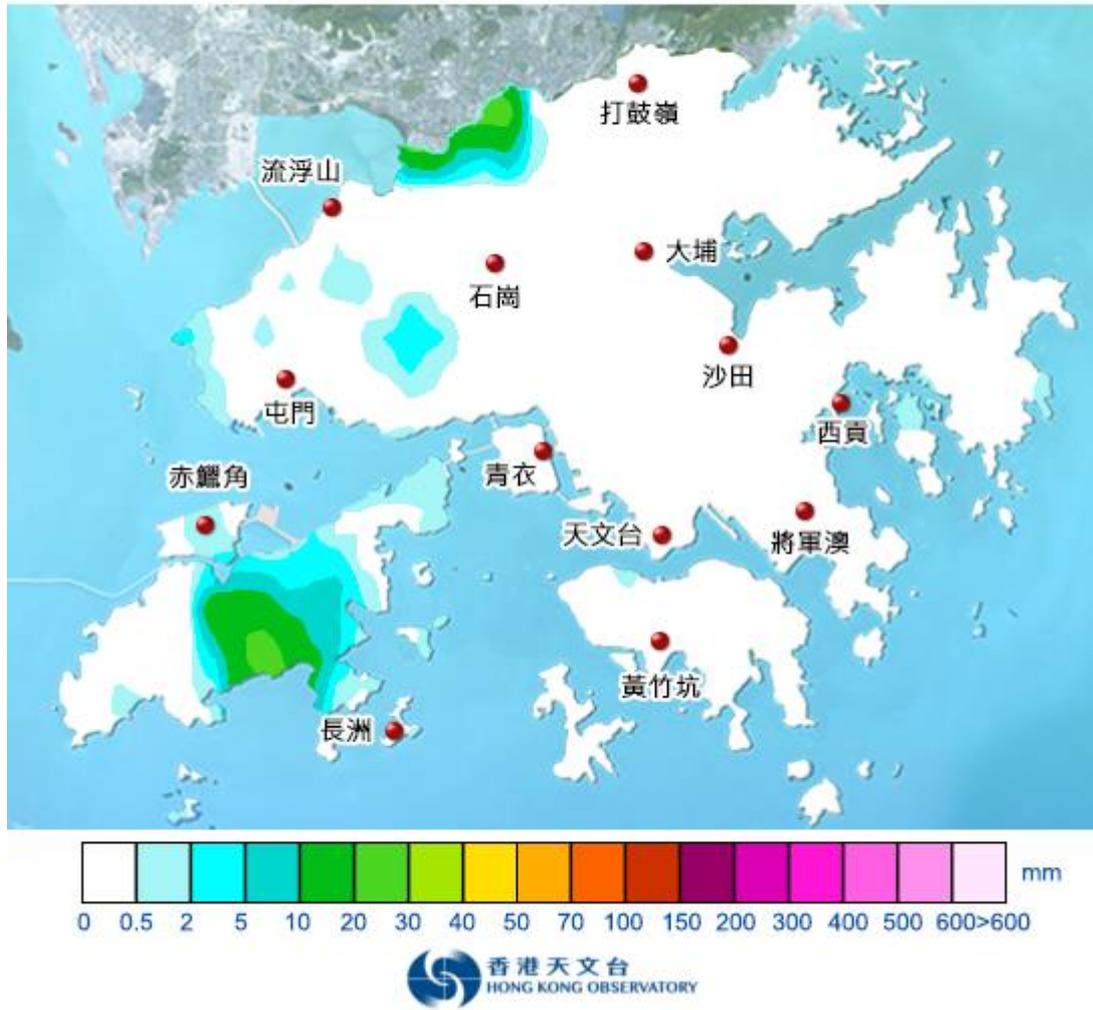
Appendix D – Weather Conditions for the Past Seven Days Prior to the Complaint has been Received

(Sourced from <http://www.weather.org.hk/dailyrain.html>)

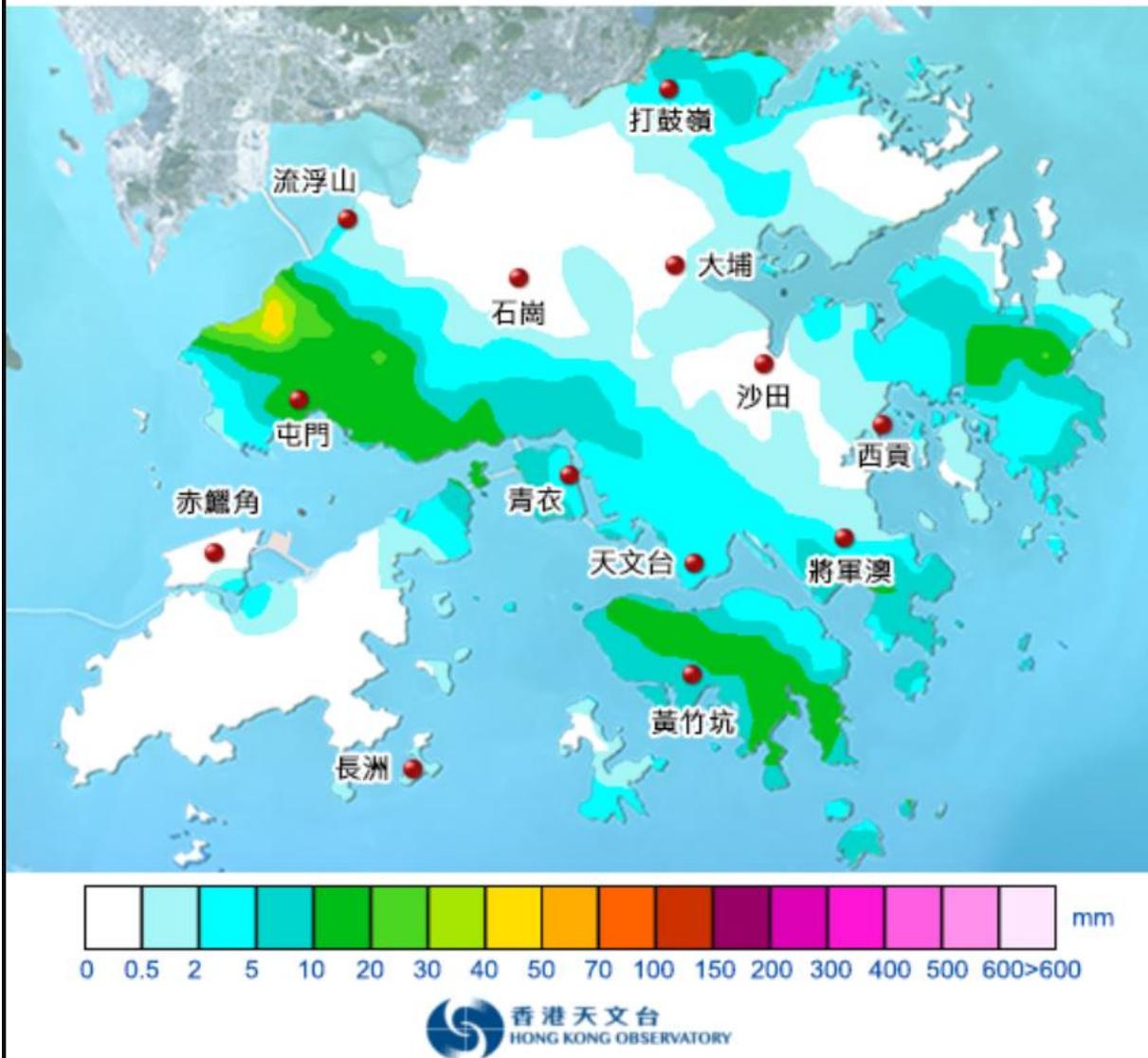




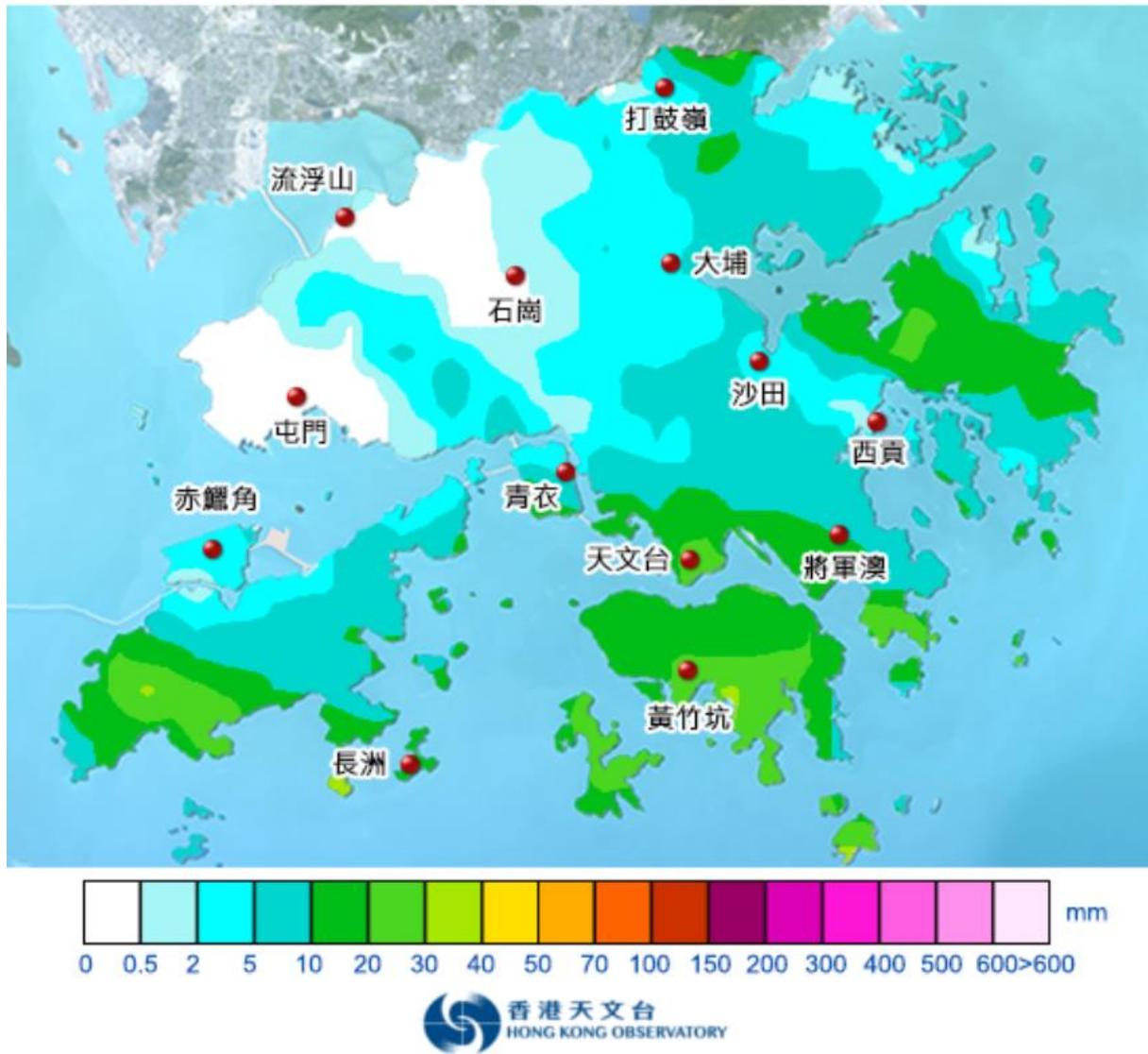
2021年7月4日的總雨量(基於雨量計及雷達數據)



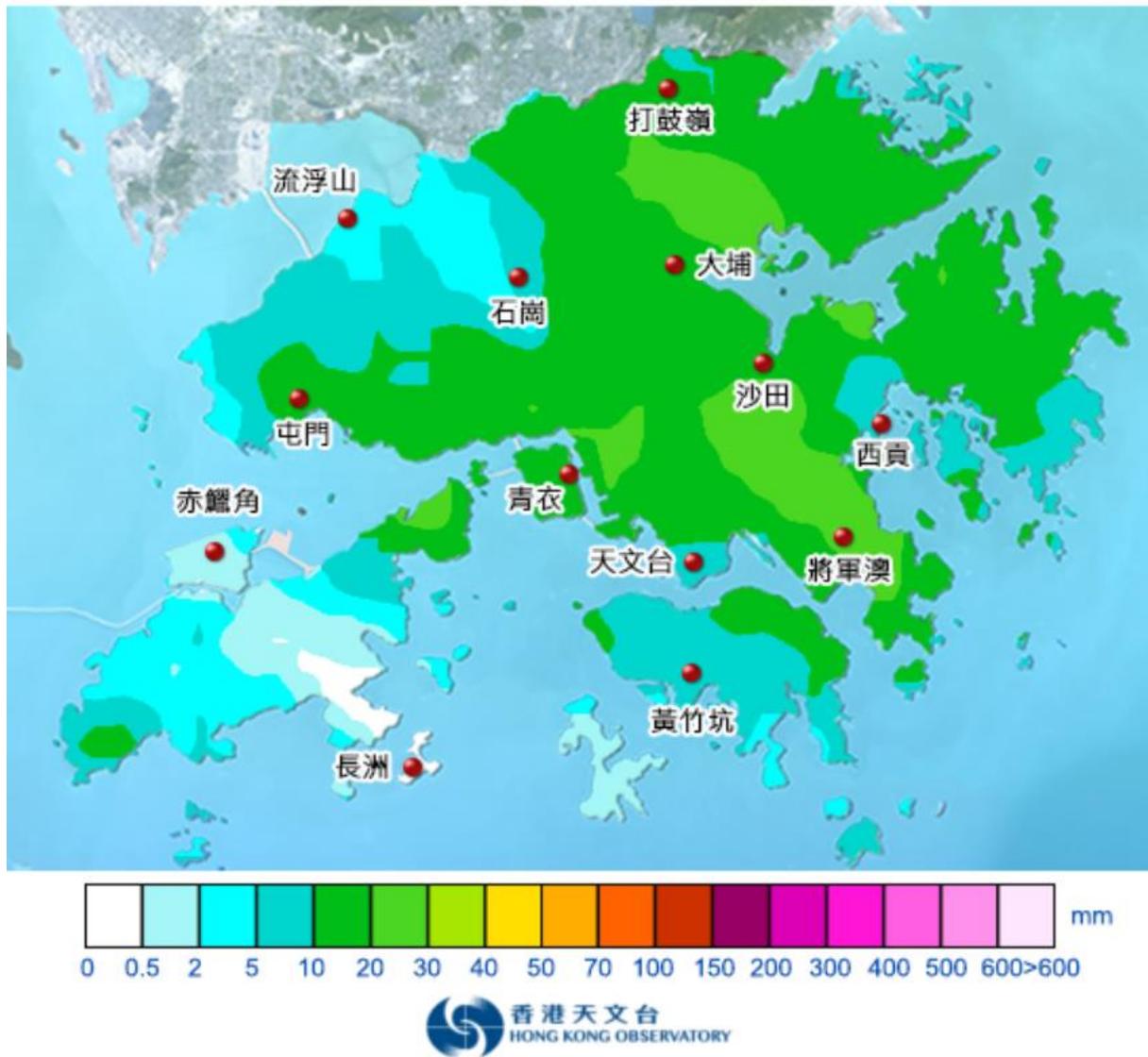
2021年7月5日的總雨量(基於雨量計及雷達數據)



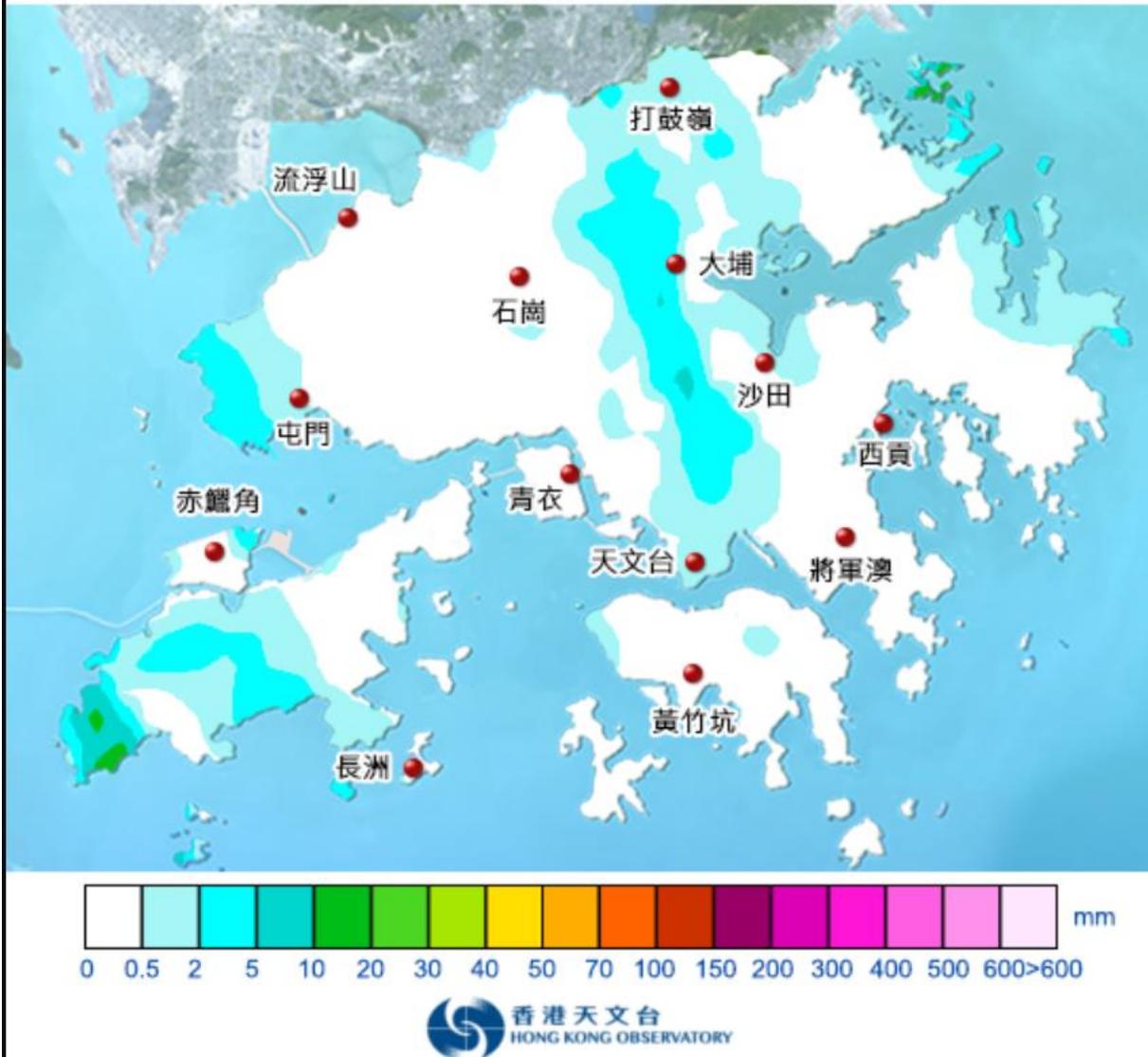
2021年7月6日的總雨量 (基於雨量計及雷達數據)



2021年7月7日的總雨量 (基於雨量計及雷達數據)



2021年7月8日的總雨量(基於雨量計及雷達數據)



2021年7月9日的總雨量 (基於雨量計及雷達數據)

